HISTORY AND NOMENCLATURE OF AVIAN FAMILY-GROUP NAMES

WALTER J. BOCK

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HISTORY AND NOMENCLATURE OF AVIAN FAMILY-GROUP NAMES

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ABSTRACT

The Standing Committee on Ornithological Nomenclature chaired by Walter Bock undertook an analysis of the nomenclatural history of avian family-group names.

The primary results are (1) the establishment of a complete list of avian family-group names with authors, dates, and citations to the original papers, (2) discussion of problem family-group names, (3) an index to avian family-group names, (4) a historical analysis of avian family-group nomenclature, and (5) a historical analysis of the International Commission on Zoological Nomenclature as it related to family-group nomenclature.

The second result is the basis for an application to the International Commission on Zoological Nomenclature to adopt formally the presented list of avian family-group names as the official base-line dated 1 January 1994 for all future nomenclatural decisions relating to avian family-group names.

Third is the use of this historical survey of avian family-group names as a test case to demonstrate the suitability of regulations in the Code pertaining to family-group names in the absence, as well as in the availability, of full historical knowledge of family-group names in a larger taxon. It is shown that these regulations are not workable without a detailed knowledge of nomenclatural history, and because such histories are not available for most groups of animals, current regulations in the Code pertaining to family-group names are not workable.

Lastly, recommendations are offered for modifications in the rules of zoological nomenclature to achieve greater continuity, stability, and universality of family-group names without the need for complete historical investigations of these names in each group of animals. These suggestions include establishment of stare decisis clauses and of base-line lists of family-group for family-group names for each group of animals.

I. INTRODUCTION

Zoological nomenclature affects the work of all zoologists, yet only a minuscule fraction of one percent of zoologists deal directly with problems associated with scientific names of animals. Generally, most zoologists dismiss, out of hand, all nomenclatural matters as being dry and tedious especially when compared to the diversity of exciting research topics available to them. Yet nomenclature can be highly engrossing particularly when one becomes ensnared in a historical tangle of zoological groups, names applied to them, and the ever changing concepts of categories and taxa. The precise rules and formal logic governing decisions on the use of zoological names are attractive to some workers and can become a ruling passion for a few, with occasional results that unfortunately decrease rather than increase ease of information interchange among zoologists.

Communication—information exchange—among zoologists is the core of zoological nomenclature; everything else pales in light of the importance of communication. This central attribute of nomenclature is all too often forgotten by some nomenclaturists who become engrossed in fine points of the rules of zoological nomenclature and in their precise application to names possessing a complex history, and who believe that strict adherence to these rules is the be all and end all of zoological nomenclature. Communication among individuals is the core of human sociality, and central to all communication are sets of symbols (languages); members of the social group must agree on the meaning and use of each symbol (word) in the language set. Long-time stability in meaning of these words is essential if records of communication are kept and used over long periods of time. As stated forcefully by Ludwig Wittgenstein in his analysis of the philosophy of language (Wittgenstein, 1958; Kripke, 1982), if a person does not accept and use the consensus meaning of words in a language, then that person has automatically placed himself outside the social group—the person has become a loner, an outcast, a pariah. This statement applies equally to all users of a language as well as to the lexicographer, the nomenclaturist, and the inventor of new symbols and words. These specialized wordsmiths cannot hope to impose their preferred meaning and usage on the entire group of users, but serve to record

and order the established usage of the language by members of the group.

As indicated by its title, this study presents the results of a historical and analysis of a set of symbols central to the work of all ornithologists—the scientific names applied to avian family-level taxa. Names for avian taxa have special importance for avian biologists because these words transcend the boundaries of all subdisciplines within ornithology. As stressed by Sabrosky (1947), family-group names are most essential for general comparative studies for species-rich groups such as the orders of insects. But this also holds true for smaller groups such as the class of birds with some 9000 species. Scientific names of avian subspecies, species, and genera are essential for recording our knowledge of the particular biological attributes of diverse forms of birds. But names of families and other higher-level taxa are central to summarizing this knowledge and to formulating biological generalizations about birds. Ornithologists are equally interested in the details of the migratory pattern of the species *Parula americana* and in generalizations about the breeding biology of the family Parulidae.

Ornithologists, as all zoologists, are far less acquainted with nomenclatural history and rules for family-group names than those for species-group and genus-group names; hence an introduction is appropriate. No better means of introduction is possible than to quote directly from the *International Code of Zoological Nomenclature* (International Commission on Zoological Nomenclature, 1985a, henceforth referred to as the Code and cited as "ICZN, 1985a" and providing either page or article citation):

> The family group includes all taxa at the ranks of superfamily, family, subfamily, tribe and any other rank below superfamily and above genus that may be desired, such as subtribe (see also Article 10d) [ICZN, 1985a: Art. 35(a)]

Further:

> A name established for a taxon at any rank in the family group is deemed to be simultaneously established with the same author and date for taxa based on the same name-bearing type (type genus) at other ranks in the family group, with appropriate mandatory change of suffix [Art. 34a]. [ICZN, 1985a: Art. 36(a)]

Thus family-group names [Art. 35] apply equally to all taxa—from subtribes to superfamilies—at categorical levels above the generic and below the ordinal. It does not matter what name was given to the family-level category, even if it was a vague one such as host, series or group, so long as it is clear that these categories were meant to lie between the genus- and the order-levels. Nor does it matter how the family-group name was formed, i.e., what ending was used, as long as the family-group name was based on the name of the type genus. The principle of coordination [Art. 36] means that once a family-group name is established with its type genus for a taxon within the family group, that name, together with the original author, date, and type genus, applies to taxa at all levels (superfamilies, families, subfamilies, tribes, subtribes, etc) in the family group containing that type genus regardless of who may have first proposed the taxa at different levels. Hence, Rafinesque proposed Laridae in 1815 for the family containing gulls and terns. Thus Laroidea Rafinesque, 1815 is used for the superfamily, Larinae Rafinesque, 1815 for the subfamily, and Larini Rafinesque, 1815 for the tribe, all containing the type genus *Larus*. Many workers (e.g., Brodkorb 1963–78) had erroneously given as the author and date of the taxon name, the first person to use the family-group name for these taxa at different categorical levels, and/or placed the author's name in parentheses if the name is used for a taxon at a different level than originally proposed. These practices are at variance with the Code. Moreover, it is strictly wrong to accept or conserve a family group name (e.g., Leptosomatidae Filipjev, 1916) at one categorical level and to reject or suppress the same name (e.g., Leptosomatini Filipjev, 1916) at another categorical level as was done by the ICZN (Opinion 1068; Melville and Smith, 1987: 19). The names Leptosomatidae Filipjev, 1916 and Leptosomatini Filipjev, 1916 are one and the same in terms of zoological nomenclature [Art. 36(a)], and cannot be simultaneously conserved and suppressed (Bock, in press d).

Family-group names have been of far less interest to zoological systematists and nomenclaturists. Prior to 1961, the formal nomenclatural rules governing their employ-

ment had been rather simple compared to those covering specific and generic names. Moreover, the histories of family-group names as well as for ordinal and higher categorical names in zoology are poorly known compared to those for species-group and genus-group names.

Ornithologists have been fortunate in possessing a set of well-established avian familial and ordinal names for over 100 years which has greatly eased communication among avian biologists. Considerable differences have and still exist in our understanding of avian familial classification, especially for many passerine groups, which affect use of these names. Limits of the Muscicapidae or of the Sylviidae vary greatly from author to author, or the genera included within the turdid thrushes differ according to diverse workers. Therefore the reader must examine carefully the contents of studies dealing with such families, not simply accept the conclusions attributed to each family-group name. It is not possible to rely only on the names used for many family-level taxa, one must also know the content of these taxa as recognized by each author (compare the classifications advocated by Wetmore, 1960; Storer, 1971, Peters et al., 1931–1986; Sibley and Ahlquist, 1990; and Sibley and Monroe, 1990). Hence the need for standard sequences for comparative analyses and communication between workers (see Mayr and Bock, 1994). But these differences are the consequence of taxonomic decisions rather than strictly nomenclatural ones which is the subject of this analysis.

Family-group nomenclature is as difficult for the International Commission on Zoological Nomenclature as it is for individual zoologists, including ornithologists, judging from the problems experienced by the ICZN in dealing with avian family-group names over the past four decades. There are no reason why avian family-group names would pose greater difficulties than those of other groups of animals; hence, these problems must be common to names for all animals group. Simply put, many quandaries in the nomenclature of family-group names arise because of an overall lack of a good historical knowledge of family-group names in zoology coupled with the strict set of complex rules proposed in the first edition of the Code (ICZN, 1961) and revised in subsequent editions (ICZN, 1964, 1985a), including, but not limited to, the application of priority to family-group names beginning in 1961. Some zoologists, such as Baker (1956), Myers and Leviton (1962: 290), and Temple (1962) have expressed strong reservations about the extension of priority to family-group names. Temple analyzed the effects of regulations in the new Code affecting family-group names, as for example the wording of Article 13 of the Code which extended the requirement for availability of a new name published after 1930, as stated in Article 25 of the Règles from species-group and genus-group names, to all names covered by the Code and made this requirement retroactive for 30 years for family-group names. He showed that this new regulation would have disastrous effects on trilobite family-group names. Baker analyzed the family-group names for the Pulmonata, illustrating many problems, e.g., a number of well-established names in this group would be junior synonyms of old and little used names. He pointed out that under the Règles that: "Names above the genera, since they were less numerous, wisely were left to scientific judgment," and concluded: "Thus, as in genera, the rule of priority, if applied also to families, would favor the careless splitter, and establish names impetuously applied to aberrant and isolated forms." Myers and Leviton (1962: 290) stated that: "Long experience in both herpetology and ichthyology show that such an extension of priority for familial names will take zoologists into a maze of old group names which often cannot be clearly recognized as of familial (or any other) hierarchical grade." This has certainly been the case for avian nomenclature. Professor J. Chester Bradley (1962: 178), then President of the ICZN, stated that: "The Law of Priority is no sacrosanct principle," and pointed out that numerous and serious problems would result from compulsory application of the priority to family-group names. Bradley stated that such compulsory application would seriously hinder important taxonomic work, citing a letter from an eminent zoologist [almost certainly Professor George G. Simpson working on mammals] who decided reluctantly that he must forego an intended revision of his classification of a class of ver-

tebrates because although he was unwilling to transgress the Code of Zoological Nomenclature, he simply did not wish to devote the estimated three years of research needed to determine the history of family-group names (about 700) in this class (see also, Mayr, 1969). I suspect that such a project would have taken more than three years! Bradley stated forcefully and correctly that the labor needed to ascertain priority of family-group names in zoology would be quite sterile and urged strongly the establishment of a simple procedure to add well-established family-group names to the "Official List of family-group names in zoology" as rapidly as possible. Unfortunately, his suggested amendments to the Code (Bradley, 1962: 179) were not accepted.

In their efforts to apply the new rules of zoological nomenclature (ICZN, 1961, 1964, 1985a) to avian family-group names, the ICZN has made errors in almost every opinion issued since the first one in which Meropidae Rafinesque, 1815 was conserved (1954; Direction 6). Responsibility for these mistakes lies equally with zoologists submitting applications to the ICZN, the ICZN and its Secretariat, and advisors to this body. For example, before undertaking a close analysis of Rafinesque (1815; "that indefatigable proposer of unidentifiable names" as characterized by Baker, 1956) and prior to the discovery of Leach (1820) who also used the name Lariidae, I incorrectly informed the Secretary of the ICZN that the avian family-group name Laridae was originally proposed by Vigors (1825). Fortunately, Dr. L. B. Holthuis pointed out that Rafinesque (1815) was the first worker to propose Lariidae (although some strong residual doubts linger on the acceptability of any avian names proposed in Rafinesque's 1815 publication); this citation was used in Opinion 1515, 23 September 1988 resolving the homonymy between Laridae Rafinesque, 1815 and Laraini LeConte, 1861 (Insecta, Coleoptera). Most of the errors in decisions affecting avian family-group names are not serious and do not affect the basic conclusions reached by the ICZN in spite grumbling of some strict prioritists. But some are serious and may require additional study, as shown by the decision of the ICZN to place the name "Aglaiinae Swainson, 1837" on the Official index of rejected and invalid family-group names in zoology (Opinion 1079, Melville, 1977a; see below, Section VIII. B. Problem Avian Family-Group Names: Agelaiinae). In this case, Aglaiinae is simply a misspelling by Swainson for Agelaiinae and hence was never available for zoological nomenclature. As pointed out by Baker (1956), Swainson's spelling of scientific names was "habitually eccentric." As expressed repeatedly by Oberholser (1920), Bradley, Baker, Myers, and Leviton, members of previous and the present Standing Committees on Ornithological Nomenclature, and many other workers, the necessary knowledge of the history of family-group names required to apply the provisions of the Code correctly to these names simply does not exist. Acquiring this knowledge would require an exhaustive search and analysis of the literature of each group of animals. Most systematists are understandably reluctant to undertake such an analysis. Furthermore, most zoologists are not in the position to do this task which requires access to libraries possessing outstanding collections of zoological publications beginning in 1800.

In 1961, the first major revision since 1901 of the rules of zoological nomenclature was published as the first edition of the *International Code of Zoological Nomenclature* which replaced the *Règles internationales de la Nomenclature zoologique* (International Commission of Zoological Nomenclature, 1902; see also Blanchard, 1905 which is the carefully edited and republished version of the rules originally published in 1902, and Stiles, 1905 which provides detailed explanations of these rules). Blanchard (1905) is the accepted official version of the rules of zoological nomenclature, hereafter referred to simply as the Règles. The 1905 Règles differs from the 1902 version in the arrangement of some of the articles and in language, but not in meaning. The Règles, beginning with Blanchard, 1905 and modified several times at subsequent zoological congresses, the last revision being in 1930, served as the official rules of nomenclature until publication of the new Code in 1961. Considerable doubt exists on the validity of the changes in the Règles adopted at the 1948 and 1953 congresses because these modifications in the Règles were never published properly as re-

quired by resolutions voted on by the Section of Nomenclature of these congresses. As discussed below, I accept the position that the 1948 and 1953 modifications were never official and that the last official modification in the Règles was in 1930. The new Code (ICZN, 1961) included many important changes in the regulations governing the formation, availability, and use of family-group names in zoology. One, *but only one*, of these modifications from the Règles for family-group names was the extension of priority to these names. Many zoologists have reacted to the new Code as if the only change pertinent for family-group names was the extension of priority to these names—an invalid conclusion because several additional and important new rules in the 1961 Code strongly limit simple application of strict priority to family-group names. The new Code contains a number of other provisions regulating the formation, acceptance, and use of family-group names.

It should be emphasized that in the new Code (ICZN, 1961), priority was extended only to family-group names and not to those of higher categorical levels (ordinal and above). Moreover, all indications since 1961 suggest that priority will not be applied to ordinal and higher-level names in future editions of the Code contrary to the conclusion of Dundee (1989). The decision to exclude names above those of the family group was reached at the XVth International Congress of Zoology, London, 1958, and differed from the conclusions published in the Copenhagen decisions (Hemming, 1953b) in which ordinal and higher categorical names were included within the purview of zoological nomenclature and priority was applied to these higher level names. But the Copenhagen Decisions were only provisional at best (they were never official, contrary to assertions by Hemming, see below) and were clearly superseded in 1961 (ICZN, 1961: Art. 84). Hence, the position taken by Brodkorb (1963–78; and elsewhere) and followed by a number of other avian paleontologists that avian ordinal names should be treated as if they were governed by priority under the Code has absolutely no justification under the official rules of zoological nomenclature.

The decision to extend priority to family-group names in 1961 was in direct contrast to existing provisions of the Règles under which family-group names changed with modification in the name of the type genus (see Mayr, 1989a, for comments on modifying basic nomenclatural procedures). The application of priority [Art. 23] to family-group names was made without an strong stare decisis ("grandfather") clause to conserve existing valid family-group names which had been changed previously according to provisions in the Règles and had become well-established prior to 1961. However, a weak stare decisis clause was included in the 1st and 2nd editions of the Code, namely:

> If a zoologist observes that the strict application of the Law of Priority to two or more synonymous family-group names would upset general usage, he is to request the Commission to decide which name is to be accepted for the Official List of Family-Group Names in Zoology. [ICZN, 1961, 1963: Art. 23(d)(ii)]

Even this weak stare decisis clause was dropped in the 3rd edition with the major changes in Article 23, and was replaced with the clear statement specifying the limits of priority, namely:

> Purpose.—The Principle of Priority is to be used to promote stability and is not intended to be used to upset a long-accepted name in its accustomed meaning through the introduction of an unused name that is its senior synonym. An author who considers that the application of the Principle of Priority would disturb stability or universality or cause confusion is to maintain existing usage and refer the case to the Commission for a ruling [Article 79c]. [ICZN, 1985a: Art. 23(b)]

When any well-established family-group names become threatened because of the priority of an unused senior synonym [Art. 23(a, b), and Art. 40(b)], zoologists are to apply [= actually, *must apply*] to the ICZN for a decision on the names under the plenary powers of the ICZN [Art. 79]. Hence it is quite clear that in extending priority to family-group names, the ICZN *never intended that well-established names be rejected in favor of unused senior synonyms*, but that all such cases are to be examined carefully and referred to the ICZN for action. Unfortunately any provisions in the Code which require judgment on the part of zoologists, do not work because for a number of zoologists discovery of any unused senior synonym never upsets general

usage, stability, and universality. That is, for these zoologists, no name ever became well-established regardless of the number of years of consistent usage. The history of zoological nomenclature clearly demonstrates that any provisions of the Code depending on the judgment of zoologists destroy completely all usefulness of those provisions of the Code and will decrease stability and universality of nomenclature. No edition of the Code included explicit regulations on the treatment of well-established family-group names relative to senior synonyms, and hence these well-established names are continuously in danger at the hands of strict prioritists.

A number of well-known avian family-group names fall into this category because they do not possess strict priority among the set of available synonyms for a particular family-level taxon. Most ornithologists have dealt with this problem by continuing to use the well-established family-group names, feeling that following the letter of the rules (requirements of Art. 79) was not possible without undertaking extensive historical research. Although this procedure was far closer to the spirit and the actual statement of the new Code as applied to family-group names than any other approach, it was based far more on a "do-nothing" policy than on a well-reasoned philosophy. On the other hand, a small group of workers (e.g., Brodkorb, 1963–78), erroneously believing that they were in compliance with the new Code, argued for strict priority for all avian family-group names and proposed a number of changes in these names without undertaking the careful analysis of nomenclatural history required for lasting decisions. Moreover, contrary to claims of these strict prioritists, they did not follow the Code and were in violation of provisions stated clearly in the Preamble (ICZN, 1961, 1985a), Article 23(d) (ICZN, 1961), Article 23(b) (ICZN, 1985a), and Article 40(b) (ICZN, 1961, 1985a). The approach advocated by these prioritists has every potential for developing into an unnecessary and decades-long nomenclatural chaos for avian family-group names.

The extent of this potential chaos can be demonstrated in several ways. First are the large number of well-established avian family-group names which would have to be modified if strict priority would be insisted on. These include: Mergidae or Anseridae for Anatidae, Mycteriidae for Ciconiidae, Vulturidae for Cathartidae, Pavonidae for Phasianidae, Ptilinopodinae for Tretoninae, Tauracidae for Musophagidae, Geococcyginae for Neomorphinae, Podagerinae for Chordeilinae, Atelornithinae for Brachypteraciinae, Scleruridae for Furnariidae, Upucerthiinae for Furnariinae, Sclerurinae for Philydorinae, Thamnophilidae for Formicariidae, Platyrinchidae for Tyrannidae, Platyrinchinae for Elaeniinae, Myiagridae or Terpsiphonidae for Monarchidae, Tichodromidae for Sittidae, Loxiinae for Cardueli-nae, Pytiliidae or Lonchuridae for Estrildidae, Pytiliinae for Estrildinae, and Zonaeginthinae for Poephilinae. And there are names, such as Procellariidae, Tringinae, Bucconidae, and Nectariniidae, for which the type genus is uncertain and hence the use of these family-group names is in serious question. Second, are a series of names used in Brodkorb (1963–78) and accepted by some workers but which are either invalid or contain numerous errors as to the author or date. Brodkorb failed to realize a number of potential changes mentioned just above. Moreover, a number of modifications in the valid family-group names advocated by Brodkorb are simply wrong if one follows the Code correctly. These include his Oceanitidae for Hydrobatidae, Caracariinae for Polyborinae, Halcyonidae for Alcedinidae, Scyalopodidae for Rhinocryptidae, Querulidae for Cotingidae, Coerebidae for Parulidae, and Tanagridae for Thraupidae. Moreover a large number of avian family-group names cited in his monograph are credited to the wrong author or publication which could add to potential problems. Lastly, as mentioned above, most of the decisions reached by the ICZN on avian family-group names contained errors in authors and dates for these names which would eventually have to be corrected. Communication among ornithologists and the ease of using the older literature would be seriously impaired if this potential chaos in family-group nomenclature was permitted to develop.

An impasse in usage of avian family-group names developed almost immediately following publication of the new Code in 1961.

By broad consensus, and almost by default, its solution was left to the Standing Committee on Ornithological Nomenclature (SCON) of the International Ornithological Committee (IOC), but this committee did nothing for two decades. Finally, at the 1982 International Ornithological Congress in Moscow (Bock, 1985), the SCON decided to undertake the work necessary to stabilize avian family-group names under the full rules of the Code, resulting in the present historical analysis.

The primary purpose of this research is (1) to establish a complete list of avian family-group names with authors, dates, and citations to the original papers, (2) to discuss problem family-group names, (3) to provide an index to avian family-group names, (4) to analyze the history of avian family-group nomenclature, and (5) to provide a history of zoological nomenclature and of the International Commission on Zoological Nomenclature as it pertains to family-group names. It must be emphasized that the history of the ICZN presented here must necessarily include a number of interpretations on my part from the evidence available to me and therefore represents my understanding of these historical events. Doubtless other workers, possessing their own interpretations of these events and possibly having material not available to me, will disagree with some of my conclusions. But these differences are unavoidable in historical analyses especially when all the factual information is not readily available.

The second purpose is to provide the necessary foundation for an application to the International Commission on Zoological Nomenclature to adopt formally the presented list of avian family-group names as the official base-line dated 1 January 1994 for all future nomenclatural decisions relating to avian family-group names under the provisions stated in the Preamble, Article 24(b), Article 40(b), and Article 79 of the Code (ICZN, 1985a). This application will be in agreement with the concepts currently being developed by the ICZN for establishing base-line lists of names in each group of animals to stabilize their nomenclature. It must be emphasized clearly and strongly that until a decision is reached by the ICZN, this list and the associated nomenclatural suggestions are strictly unofficial. This application (Bock, in press c) will be submitted to the ICZN at the time of publication of this monograph.

The third purpose of this study is to use this historical survey of avian family-group names as a test case of the suitability of regulations in the Code pertaining to family-group names (ICZN, 1961, 1964, 1985a) in the absence, as well as in the availability, of full historical knowledge of family-group names in an animal taxon, in this case a class of vertebrates—the Aves.

The fourth purpose is to use the information obtained from the analysis of the family-group names for an animal taxon (Aves) as the basis on which to recommend modifications in the rules of zoological nomenclature applying to family-group names so as to achieve greater continuity, stability, and universality of these names. These suggestions are included in this monograph and have already been submitted to the Editorial Committee of the ICZN for consideration.

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A compilation of the nomenclatural history of a set of zoological names such as avian family-group names can never be achieved alone but is heavily dependent on the invaluable assistance of numerous friends and colleagues. At least several of these names would have escaped my attention had they not been pointed out to me by colleagues. I would like to express my sincere thanks to everyone who has aided during this project—those who mentioned a single publication to examine for family-group names to those who spent many hours checking the manuscript, commenting on diverse points, and discussing numerous problems of zoological nomenclature. The completeness and value of this history of avian family-group names has been enhanced by the contributions of everyone who provided me with information from their knowledge of avian systematics and nomenclature.

Historical studies, far more than other scientific endeavors, depend absolutely on library work and hence on the librarians in charge of the collections used. My greatest appreciation goes to the many persons who

assisted me in locating old and dusty books which had not been taken off the shelves for many years and sometimes not for many decades. I am especially indebted to the librarians at the American Museum of Natural History and at the Museum of Comparative Zoology (Rare Book Room), Harvard University, the two institutions at which I did the vast majority of my research. These workers cheerfully and efficiently searched for volumes I could not locate, directed me to useful bibliographic sources, and answered all of my questions even after I became an obvious pest. Clearly this project would not have been completed without their contribution.

My search for avian family-group names started with a set of file cards containing information on many names and references to the literature which were complied some time during the 1965–66 by Mr. W. E. Jolly under the direction of Professor Ernst Mayr. I would like to thank Mr. Jolly, who is unknown to me except for his name, for the initial work done on locating avian family-group names and some of the basic literature, Professor Ernst Mayr (Museum of Comparative Zoology) for initiating this project, and the late Dr. Eugene Eisenmann (Department of Ornithology, American Museum of Natural History) for retaining and thereby making this file available to me which made the beginning of this analysis far easier.

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1820 Leach list of avian family-group names; this list was the object of a four-year search and was central to the completion of the list of avian family-group names. Without the Leach list, this history of avian family-group names would have lacked its critical beginning and in a sense would have remained rootless. Dr. James L. Gulledge (Ithaca, NY) provided computer assistance throughout the analysis and especially in the final preparation of the photo-ready manuscript pages using computer based desk-top publishing programs. Mr. Steven Gregory (Northampton, UK) kindly checked my list of family-group names against his list and read the manuscript carefully for errors. I would like to express my appreciation and sincere thanks to all these friends and colleagues.

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Finally, it should be understood without saying that the responsibilities for the accuracy of the information and conclusions presented in this publication are strictly mine. These conclusions and opinions do not necessarily represent the opinions of other members of the Standing Committee on Ornithological Nomenclature, the International Ornithological Committee, or any persons thanked in the acknowledgments.

II. HISTORY OF ZOOLOGICAL NOMENCLATURE FOR TAXA ABOVE THE GENERIC LEVEL

A. HISTORY OF THE USE OF FAMILY-GROUP TAXA AND FAMILY-GROUP NAMES IN ZOOLOGY

The history of family-level taxa and of family-group names in zoology is not well known because this aspect of systematics and nomenclature has been of considerably less interest to zoological taxonomists. A brief introductory history is essential to before the problems associated with avian family-group names can be analyzed properly. This history has two quite distinct parts: (1) that related to the use of the family level as a taxonomic category between the genus and the order in the classificatory system of Linnaeus; and (2) that related to the formal scientific names applied to these family-level taxonomic groups for animals. Brief, but excellent treatments of this history can be found in Mayr et al. (1953: 271–5), Mayr (1969), and Blackwelder (1967) all of which I have used extensively.

A concept of families as a categorical rank between those of the Linnaean genus and order had been in common use by botanists in a few years following its initial use by de Jussieu (1789; see Mayr et al., 1953: 271; Chamberlin, 1952: 34) in the late 18th century. But zoologists did not accepted this idea for another 10 years. The family concept was introduced into zoological classification by Latreille in 1796, although he did not give formal names to these groups (Oberholser, 1920; Mayr et al., 1953: 272). In 1800, Duméril [table 5 at the end of Cuvier's (1800) textbook on animal comparative morphology] classified insects into orders and families, but did not propose "proper scientific names" for the families; rather he used French vernacular names not based on the name of an included genus. [Please note that this citation carefully is given under Cuvier (1800) and also under Duméril (1800) because tracing this reference had been most difficult as this book can be listed under either author in library card catalogs.]

The practice of forming family-group names for animals as descriptive latinized terms not based on the name of an included genus or as nonlatinized vernacular names based on the name of an included genus was followed for several decades largely by French zoologists, partly because these workers held negative views about the Linnaean system. Some German and other continental workers followed the French approach. This practice

continues to cause great problems for workers attempting to trace the history of family-group names and to synonymize these names under present-day formal rules of zoological nomenclature. At least 15 years passed after Latreille introduced the concept of the family-level group between the Linnaean genus and order into zoological classification before this idea was considered seriously by the pioneering zoologists in macrosystematics. And it was not until the 1830s or later that the new concept of the family-level taxon was accepted by a majority of zoologists, including ornithologists.

The history of names used for family-level groups is even more complex. Early workers were most inconsistent in the names applied or the endings used even if they were fully consistent in the use of family-level groups. At least 25 years (1811–1836) passed after the introduction of the concept of the family category into ornithological classification until the employment of a consistent and sound system of family-group names by most avian systematists.

William Kirby (1815), a British entomologist, is to be credited with the idea of uniform names for family-level groups (Mayr et al., 1953: 272). In a paper read on 19 March 1811 before the Linnean Society of London, he proposed the use of the uniform patronymic ending "idae" for zoological family-group names attached to the stem of the name of an included (= type) genus. Kirby referred to the earlier suggestion of Latreille who advocated the use of subdivisions of orders above the level of genera with the comment (1815: 88, fn), stating that:

> It will appear, I fear, an unreasonable addition to this already long note, but I cannot help further observing upon this subject, that the student in entomology labours under peculiar disadvantages to which the botanist is a stranger, from the small number of orders into which the class of insects is divided. These animals, I imagine, fall not too far short of plants in number of species, and yet we have only eight orders under which to arrange them; whereas the botanist has twenty-four classes divided into innumerable orders, which shortens his labours wonderfully. This is a powerful plea for the adoption of new orders, where nature leads the way; and I think if each order were divided into denominate sections (by which I mean sections that have a name) it would be a great improvement, and very much facilitate the study of this science. M. Latreille has led the way here, and done very much for us, but, as is often the case with new inventions, his system is not sufficiently simple for general use: his names, likewise, have not that harmony and uniformity of termination which is necessary to make them easily retained by the memory. If we adopted a patronymic appellation for these sections, for instance, Coleoptera Scarabaeidae, Coleoptera, Staphylinidae, Coleoptera Sphaeridiadae, Orthoptera, Gryllidae, &c. it would be liable to no objection of this kind: and the subsections, rather than the primary ones, might be founded upon the number of the joints of the tarsi, and those genera that are nearly related, for instance *Aleochara* Gravenh. and *Pselaphus* Fab. might be kept together, instead of being placed widely asunder, as they are upon the present system.

The "patronymic appellation" suggested by Kirby is based on the generic name as the stem and uses the termination "idae" formed on the Greek plural meaning "like."

Fleming, in a textbook on zoology, likewise argued in favor of forming the patronymic familial name on the oldest established generic name and in favor of the termination "idae" rather than the also used ending "ides" because a number of generic names end in "es" whereas none end in "idae". He stated (Fleming, 1822, 2: 158–159) that:

> In the construction of Families, which consist of genera, related to each other by certain common properties, the introduction of new terms is easily avoided, by denominating them by the name of the oldest established genera, and bestowing upon a patronymic termination as des or dae. The latter is generally preferred as a termination, since it never occurs in generic names; while the former, being of frequent occurrence, may, if employed, occasion mistakes.

Even though he provided an excellent statement on the use of families and on the formation of family-group names in the early part of the 19th century, Fleming failed to follow his own ideas in his major textbook on animals (Fleming, 1822). In his discussion on the diversity of birds, Fleming did not recognized families as a standard level between the order and the genus and used only six properly formed avian family-group names in his two volumes, generally mentioned as asides in his treatment. Had Fleming followed his own excellent suggestions on the recognition of family-level taxa and the proper formation of family-group names, he would be credited as the author of a large number of family names in zoology including ornithology.

If taxonomists followed Fleming's strong suggestion of using the oldest available generic name as the foundation of the patronymic familial name, much future nomenclatural research, such as the current study, could have been avoided. Nevertheless, it should also be pointed out that even if workers had tried hard to base family-group names on the oldest generic name, much change in the family-group names still would have resulted. During the 19th century many changes in generic names took place as older synonyms were discovered, homonyms clarified, and modification made during the mid-19th century on the starting date for zoological nomenclature from Linnaeus, 1766 (12th ed.) to Linnaeus, 1758 (10th ed.). In the early decades of the 20th century, several workers still urged the use of the oldest genus as the type for the family (e.g., McAtee, 1921). Even today, the strong recommendation was made to me that the Code be modified so that family-group name be based on the oldest available generic name within the family-level taxon. This rule would have been an excellent one had it been followed from the early days of Kirby (1815) and Fleming (1822), but its introduction at the present time, or even early in this century, would result in far more confusion than any advantages gained (see also, Mayr et al., 1953: 273–274; Sabrosky, 1939, 1947). The ICZN had also considered this suggestion carefully during its deliberations on the new Code and has rejected it.

During the first third of the 19th century, the "idae" ending found favor rapidly among zoologists over other endings in use at that time largely because of its consistent usage by the quinarians who developed a number of early classifications of animals in which the family was a important systematic unit. This practice began with the *Horae Entomologicae, or Essays on the Annulose Animals* by William Sharp MacLeay (1819–21; MacLeay, 1825, stated that he developed his ideas on the quinary system and presumably the use of family names in 1817) and was continued largely by entomologists and ornithologists, such as Vigors (1825) and Swainson (1824, 1831, 1836, 1837a). The brief classic period of the quinarian approach to classification, which lasted from 1820 to 1840, but lingered on in the United Kingdom and Germany until the 1860s, provided very few general contributions to theoretical concepts of systematics and practical classifications of organisms, such as birds (see Stresemann, 1950, 1975); hence it has been dismissed as unimportant by many historians of biology. But neither did any other schools of systematics make any significant contributions to basic systematic theory prior to Darwinian evolutionary theory. Yet the quinarians, and essentially the British members of this group, were absolutely central in furthering the concept of family-level categories in zoology and in establishing consistent use of the "idae" and "inae" endings for families and subfamilies in zoological nomenclature. Thereby quinarians made a greater contribution to zoological nomenclature and classification than most other pre-Darwinians systematists.

At the time British entomologists and ornithologists were establishing consistently formed names with standard endings for families and subfamilies based on the name of an included genus (these were not necessarily labeled as type genera at this time), other zoologists, mainly the French and some Germans, were rather inconsistent. These workers either used vernacular family names, or Latin descriptive terms with no connection to the names of included genera, or vernacular names based on the name of an included genus but not latinized. French workers, especially, insisted (and many still do; e.g., Berlioz, 1950) on using an "idés" ending to the stem of a generic name. Such names are available, even if not fully latinized, if proposed prior to 1900 [ICZN, 1985a, Art. 11(f)(iii)], but one must be very cautious in checking the formation of many early family-group names by these workers. In most French zoological works prior to 1830, the family-group names are clearly vernacular names which are not based on the name of an included genus even when the family name and that of an included generic name are similar. These cases must be determined by a careful examination of all of the family names used by a particular author in each publication in order to ascertain whether the French vernacular name for the particular family of animals is based on the same Latin word as the scientific name for the genus or on the

stem of the generic name. Such analyses have been done in this study. A number of family-group names in zoology, including ornithology, have been credited to early systematists, when in actuality careful examination of all family-group names in the particular publication will demonstrate that these name have been improperly formed under the rules in both the earlier Règles and the later Code, and hence are unavailable for purposes of zoological nomenclature. If it can be shown that an author has been consistent in using vernacular names not formed on the stem of the name of an included genus, then none of the names proposed in the particular publication can be used in zoological nomenclature even if they appear to have been properly formed (ICZN, 1902; Blanchard, 1905; ICZN, 1961, 1985a). This excludes, of course, pre-1900 nonlatinized names formed by adding "idés" to the stem of the name of an included genus which are avialable names. The Code (ICZN, 1985a) covers most of these cases quite fully with the exception of those vernacular names which accidentally appear to be formed on the name of an included genus.

B. AVIAN FAMILY-GROUP NAMES

1. The Beginnings

The introduction of the family concept into ornithological classification dates from Illiger (1811), who unfortunately did not use a consistent set of names for the families he recognized. The discussions of avian systems of classification prior to 1800 by Daudin (1800) and prior to 1825 by Wood (1836) do not reveal any use of the family category in avian classification prior to Illiger. Illiger's names are descriptive terms and hence are unavailable for the purposes of zoological nomenclature. Following Illiger, many workers did not use the family category or did not use properly formed names until after 1835. These include Vieillot, 1816, 1816–19, 1818, 1825; Cuvier, 1817 (? = 1816), 1829; Temminck, 1820–40; L'Herminier, 1827; Bonaparte, 1826, 1827, 1830; Wagler, 1830; and Lesson, 1831b. After Illiger advocated the use of family-level groups for birds in 1811, two separate developments occurred.

The first advance following Illiger came in the form of a small pamphlet published privately in Palerme (Palermo), Sicily, by C. S. Rafinesque [-Schmaltz] in 1815, entitled *Analyse de la nature, ou tableau de l'univers et des corps organise's.* [The ornithological section, pp. 61–72, 219, has been reprinted in The Auk, see Richmond, 1909.] This pamphlet was certainly not well known in the years following its publication because Rafinesque mailed out only a small number of copies to friends and well-known zoologists. Almost immediately after publication of this work, Rafinesque left Sicily for the United States, and his entire supply of this pamphlet was lost at sea, together with his personal belongings, library and collections. Serious question can be raised as to whether Rafinesque's *Analyse de la Nature* was properly published and distributed under the rules of zoological nomenclature; I doubt seriously that it was. The *Analyse* is a most idiosyncratic work and there are serious question about the availability of many of the generic and family names used in it. Rafinesque clearly denoted families and subfamilies of birds below the orders he recognized, labeling these groups unambiguously as family-level taxa. And he listed the genera included in each family-level group, leaving no doubt as to the relationship between the genera and the name of each family-level group. The fact that many of the generic names used by Rafinesque in this publication are nomina nuda, and others may be misspellings, does not detract from the clearly given relationship between genera and families. He used a peculiar set of endings for the names applied to these families and subfamilies which does not deter from these names being available for zoological nomenclature. A careful analysis of these names reveals that a number are simply latinized descriptive names and hence have no standing in zoological nomenclature. But, it could be argued that other names proposed by Rafinesque are properly formed as latinized family-group names based on the stem of an included genus and hence are available; some of these names have already been accepted by some zoologists, e.g., by the ICZN, as available family-group names. Yet a careful examination of all family-group names used by Rafinesque leaves the question of whether he formed any of them on the stem of an included genus in some considerable

doubt. However, because some of these names have already been accepted, the benefit of doubt is best given to this borderline publication by accepting those family-group names which appear to have been based on the name of an included genus as nomenclaturally available names under the rules of the Code; twenty-three avian family-group names used in Rafinesque (1815), including the very doubtful Anseriinae based on *Anseria*, will be accepted. Thus Rafinesque's 1815 work must be considered as the most tentative beginnings of avian family-level nomenclature although it is clear that this pamphlet apparently had little to no influence on Rafinesque's contemporaries. None of the early works which I have seen (prior 1840) mentioned Rafinesque's 1815 paper or clearly attributed family-group names to Rafinesque. It is doubtful whether any zoologists who proposed avian family-group names prior to 1830 ever saw Rafinesque's 1815 pamphlet, or if they had seen it, whether they paid any attention to it. Indeed, it is doubtful that any ornithologist gave serious attention to Rafinesque's pamphlet before it was reprinted by Richmond (1909).

The second, and in my strong opinion, the real beginning of avian family-level nomenclature in the sense of continuity, occurred in the United Kingdom between the years 1820 and 1825. This involved the first regular use of properly formed family-group names for birds with consistent endings, as all previous attempts used names only doubtfully formed on the stem of a type genus and used a diversity of endings. This second beginning was centered largely around quinarians and/or workers closely associated with William S. MacLeay. These workers include William Elford Leach (1790–1836) who was never a quinarian as far as I could determine from his writings, but who was well acquainted with MacLeay and his circle. Leach can be regarded as the father of avian family-group nomenclature. The first list of properly formed avian family-group names clearly based on the name of an included genus and with consistent "idae" endings is that of Leach (1820) under the intriguing title of the *Eleventh Room* forming part of the 17th edition of the *Synopsis of the Contents of the British Museum.* This paper is of special interest because of its author and because of its mysterious status. After obtaining strong indications of its existence from several ornithological papers published in the 1820s, I spent over four years searching for this paper even after receiving assurances from the archivists in the British Museum (Natural History) that they did not know of such a list published by Leach. [Their negative response was to my request for a separate book or an article published under Leach's name, whereas the actual article is an unsigned section of a general guide; the failure to locate it does not in any way reflect on the abilities of the archivists in the British Museum.] The Synopsis of Objects is a guidebook for the general public to the exhibition rooms of the British Museum which went through numerous editions during the 19th century. The section on the Eleventh Room, which contains the collection of British Zoology, is unsigned, but it is clearly attributable to Mr. Leach who was at that time Assistant Keeper of Zoology at the British Museum and the only person who could have written this part of the *Synopsis*. These names should probably be credited to "Anonymous" rather than to Leach under a strict adherence to the Code, but I feel that it is fitting, proper, and necessary to credit them to William Elford Leach because he is the first worker who provided a list of properly formed names which can be taken to be the real beginnings of nomenclature of avian family-group names. Moreover, many zoologists, including close associates of Mr. Leach in the period of 1820–1840 (e.g., Horsfield, 1822; Vigors 1825a; Boie, 1826), have attributed these names to him, so that there is no question, at least not in my mind, that Mr. Leach was the author of this section of the *Synopsis* and hence of these avian family-group names. This list of names was repeated unchanged in a series of editions (18th, 1821; 19th, 1821; 20th, 1822) of the *Synopsis*. After Mr. Leach resigned his position at the British Museum in 1822, the format of the description of the Eleventh Room changed, as shown in the 23rd edition, 1824; I have not been able to examine the two intervening editions, the 21st and 22nd, but suspect that the change came in one of these two editions.

In his earlier papers, Leach (1815, 1818) did not use the family category consistently,

but used divisions and subdivisions, clearly groups above the genus but generally without names. Or he used the ending "ides" for tribes, and mentioned families only by numbers. But he did not use consistently formed family-group names. Although not a quinarian himself, Leach was closely associated with the group affiliated with MacLeay if not with MacLeay directly, and must have been influenced by the consistent use by members of this group of family-group names formed by adding the ending "idae" to the stem of an included generic name. Leach's list of 1820 appeared immediately after the publication of MacLeay's book in 1819 which must have been known to him.

Following Leach, the next series of avian family-group names was proposed by Thomas Horsfield (1821a; 1822; 1821–24), an American doctor who traveled to Java and other areas in the Far East and eventually to the United Kingdom, and who published extensively on the birds of Java and southeast Asia. Horsfield acknowledged the assistance of Leach, stating (1821a; 1822: 143) that:

> In the examination of the subjects, and in the complication of this essay, I have to acknowledge the assistance which I have received from Dr. Leach. In the description of the families I followed the order adopted by that celebrated naturalist in the arrangement of the objects of ornithology at the British Museum.

All of the family-group names used by Horsfield in this paper are attributed by him to Leach. However, Horsfield did not mention, as was the custom of the time, the specific paper of Leach's from which these names were taken, or whether these names were simply taken from the labels used on storage or display cases for birds in the British Museum. Once the 1820 paper of Leach was discovered, it became clear from these comments that Horsfield had most likely referred to the list provided by Leach (= "the order adopted by that celebrated naturalist in the arrangement of objects. . .") in the 17th edition of the guide to the contents of the British Museum (Leach, 1820) rather than to the labels on the birds arranged in the Eleventh Room. It is also clear from his publications that Horsfield was a close associate of W. S. MacLeay, and hence would have been influenced by Leach to use properly formed family-group names.

Mathews and Iredale (1918) claimed that the early Polish ornithologist Felix P. Jarocki (1821) published a series of avian family-group names. An examination of this volume demonstrated clearly that although Jarocki indeed did describe avian orders and families as stated by Mathews and Iredale, he did not use properly formed family-group names based on the stem of an included generic name; hence his family-group names are not available for the purposes of zoological nomenclature.

C. A. Fleming wrote an early textbook of zoology, including a detailed classification and synopsis of animal groups. He mentioned W. E. Leach as an important zoologist (1822, vol 2: 1 of the preface), indicating an acquaintance with Leach's formation of family-group names. Although he discussed nomenclature of family-group names and especially the best form for these names, Fleming did not use the family level in his discussion of the diversity of animals, including birds. I have only been able to discover six properly formed avian family-group names in Fleming's two volumes. Had he followed the principles of recognizing and naming families which he stated so clearly and elegantly, Fleming would be credited as the author of many avian family names, as he presented a full discussion of avian diversity, including the family level, as was known at that time.

The next major work in avian classification to use properly formed family-group names, certainly as to the date it was read before the Linnean Society of London (3 December 1823), was that of N. A. Vigors (1785–1840) who presented a detailed analysis (1825a) of the classification of birds based on MacLeay's quinary system in which he used many of Leach's names and proposed a number of additional ones. Although Vigors appeared to be a member of the group centered around MacLeay, he seemed to be a distant one as he was absent from London and England for much of the period between 1820 and 1830 when the initial development of properly formed avian family-group names took place. Vigors published a full classification of birds with detailed discussion and reasons for his conclusions, and proposed many new family-group names. Some of these names were mentioned only in the text with a simple "i"

ending to the stem of the generic name, leaving some doubt as to whether these names referred to a suprageneric group or to a generic plural. However, in the absence of contrary evidence and because other workers have accepted them, these names will be accepted herein as family-group names. No well-established family-group names are disturbed by this decision.

At the same time, another member of the group around MacLeay, and perhaps the most ardent advocate within ornithology of the quinary system, William Swainson (1789–1855) published extensively on avian classification from 1824 until 1840, and proposed a number of family-group names in these papers. Swainson was an excellent taxonomist, but he was unfortunately very erratic in proposing and spelling generic and family-group names, often using the same generic name with apparently different type species. Swainson supported himself largely by his writing during the period between 1825 and 1840 by writing a number of books on natural history, mainly birds until he emigrated to New Zealand in 1840. After emigrating, he devoted his attention to his farm in New Zealand and other local matters and to my knowledge did not publish any articles or books on natural history—certqainly not in ornithology. Swainson's sloppiness in nomenclature was doubtless the consequence of extensive writing, but insufficient time devoted to proofreading. His propensity for sloppiness in nomenclature has caused a number of later problems, but all those associated with family-group names were solved readily.

The end of the initial period can be dated about 1830, at which time 119 family-group names had already been proposed of which 78 are still in use. Of the 276 currently recognized family-level taxa in birds, 90 had been recognized and named by 1830. Some additional family-level taxa were recognized, but not acceptably named. The initial period was dominated by British ornithologists who were either quinarians or closely associated with the quinarian circle. Only a small number available avian family-group names were proposed by other workers, e.g., Rafinesque and Lesson, during the initial period although a number of workers discussed avian classification on the familial level and used family names, but improperly formed and hence unavailable ones. These papers are not considered herein because a clear distinction must be made between the history of avian classification and the history of avian family-group nomenclature; only the latter is the subject of this monograph.

2. Early History

The next period extends from 1830 to the beginning of the 1870s; its end can be dated by the publication of Gray's *Handlist of genera and species of birds, distinguishing those contained in the British Museum* (1869–1871). This period of avian systematics was dominated by two workers, George Robert Gray (1808–1872) and Prince Charles Lucien Bonaparte (1803–1857). Both workers published a number of classifications for birds in which numerous new avian family-group names were proposed in addition to numerous species and genera (Gray and Gray, 1844–68; Gray, 1840, 1841, 1844–49, 1855, and culminating in 1869–71; Bonaparte, 1840a, 1840b, 1842–43, 1849, 1850a, 1850b, 1853, and culminating in 1850–57; *Conspectus generum avium* is the major and the last publication of Charles L. Bonaparte, which was left unfinished at the time of his death in 1857 and was never completed by any other worker. The second volume ends abruptly on page 232, in the Laridae at the end of the description of the genus *Adelarus*; see Finsch, 1865 for an index to this work). Both Gray (1840, 1841, 1869–71) and Bonaparte (1850–57) attempted to provide a classification of birds of the world on the generic level, listing all genera and with a comprehensive, but not necessarily complete, list of species (Bock, 1990b).

Interestingly, Bonaparte did not use properly formed family-group names in his early papers (e.g., 1826, 1827, 1830), but first used such names in his 1831 paper, after which he was completely consistent in his use of properly formed family-group names. Bonaparte was an exile from France until later in his life and hence may have been influenced far less by traditions of French zoologists than by British and American workers because of his early ornithological work in the United States

(Philadelphia). Both Gray and Bonaparte were interested in arranging the ever increasing number of species and genera of birds being described and hence were faced with establishing a complete and detailed classification of birds at the ordinal, familial, and generic levels. As a result, both workers were splitters at the familial level, and introduced a plethora of names, many of which are still in use but also including numerous junior synonyms. Gray proposed a total of 70 names of which 20 were for family-level taxa proposed for the first time and 27 are names still used. Bonaparte proposed 203 new names of which 49 were for groups first recognized by him and 45 are names currently used. Reichenbach described 86 new names, more than Gray, but of these only 7 were for newly recognized taxa and 9 are still currently recognized.

Bonaparte was rather casual in his use of names and introduced many synonyms for groups already named, including by himself, even in papers published a few months apart (Bonaparte, 1838b, 1840a, and 1840b; or 1849, and 1850b; the latter papers are single double folio sheets printed on one side only and unpaginated. They are often confused with one another and with his 1854a paper, all of which have the same title but contain quite different classifications). In these papers Bonaparte (1838b, 1840a, 1840b, 1849, 1850b) presented several divergent classificatory schemes often with different names for the same groups. His *Conspectus systematis ornithologiae* (Bonaparte, 1854a) appears to be a preliminary publication of the index or the table of contents for his magnum opus *Conspectus generum avium* (Bonaparte, 1850–57). It provided a complete classification of birds which was left unfinished in the *Conspectus generum avium* at the time of Bonaparte's death; however, the classification in the *Conspectus systematis ornithologiae* does differ somewhat from that used in his *Conspectus generum avium.*

Gray was more consistent in names used for family-level taxa and hence is credited with fewer synonyms. In his Handlist, Gray (1869–71) cited the author and date for family-group names; this information has been used by some recent workers (e.g., Brodkorb) without further checking. However, Gray never claimed that he undertook a thorough analysis of avian family-group names and their synonyms, and that he intended this information to represent an accurate statement on the original author and date of publication of avian family-group names. In any case, comparing the information in Gray (1869–71) with that in the present list reveals so many errors in the former work that Gray's Handlist cannot be used as a reliable source for the first publication of avian family-group names without additional checking.

During this period, important contributions were made by several other ornithologists. These include the two reviews of avian classification by Sundevall (1836 and 1872), a little-known catalog of generic types by Selby (1840), several papers and a catalog (1852) by Blyth, several papers and a catalog (1850–63) by Cabanis and Heine, and a series of illustrated summaries of birds of the world by Reichenbach between 1848 and 1863 (see Reichenbach, 1870; and Meyer, 1879, for bibliographies). The publications of Reichenbach present a major nomenclatural headache because these works were published in numerous, undated small parts (apparently with even fewer pages than the normal fascicle) and no way exists to date them precisely (see Meyer, 1879); the best that can be done is to use the information on when each appeared (which is usually different from that given on the title page and among different bibliographiers of avian systematic works).

By the end of this early period, about 1870, the basic set of avian family-group names had been established; indeed, most of the currently used names for avian families had been proposed by 1850. By 1850, 433 family-group names had been proposed and 208 currently recognized family-level taxa had been recognized and named, of which 178 names are still in use. By 1870, 755 names had been proposed; and 241 currently recognized family-level taxa had been recognized for which 215 of the proposed names are still in use. Table 1 provides a summary of the names proposed by the 12 authors most active during this period, as well as those most active after 1870. Table 2 summarizes the total number of names proposed by every decade up to 1870, and subsequently every three decades until 1992. Table 3 provides a sum-

mary of the avian family-group names published year-by-year beginning with the initial publication of Rafinesque in 1815 until 1992 with totals and cumulative numbers for each decade.

The currently valid names depend, of course, on the classification accepted, and many ornithologists may disagree with these listings; again such details do not matter much as the general trends shown in these two tables which would change little regardless of the classification followed. Note that some ambiguity exists in the assignment of some workers to the "pre-1870" and the "post-1870" groups, because a few ornithologists bridge the date separating these two periods. A total of 187 currently valid avian family-group names were proposed and a total of 207 (two-thirds) of the currently recognized avian family-level groups were recognized for the first time by the 12 most active authors up to 1870. Note that these 12 authors proposed a total of 625 avian family-group names, which is just under half of the total 1330 such names published to date. Indeed, the basic system of family-level taxa of birds is due to these 12 avian systematists. Eight ornithologists, Rafinesque, Leach, Vigors, Swainson, Bonaparte, Sundevall, Gray and Reichenbach, proposed a total of 551 (or 41.4% of 1330) avian family-group names, of which 190 (or 68.8% of 276) were taxa proposed for the first time and 171 (or 62.0%) of family-group names currently valid. The other four, Horsfield, Blyth, Cabanis, and Chenu and des Murs proposed 74 (5.6%) family-group new names, of which 17 (6.2%) were for groups first recognized by these workers and 16 (5.8%) are still valid names.

3. Later History

The later history of avian family-group nomenclature covers the period starting approximately 1870 and extending to the present, 1992, a period of 120 years. Possibly the period of the Later History could be further subdivided into two segments—the latter part of the 19th century from 1870 to 1910 which is the period dominated by S. Bowler Sharpe and the 20th century from 1910 to the present. The demarcation between the Early and the Later Periods of avian family-group nomenclature is taken to be the publication of Gray's *Handlist of genera and species of birds*, and his retirement from the British Museum followed by the beginning of Sharpe's long tenure at the British Museum which instituted a major upsurge in ornithological activity (*see* Stresemann, 1975). The first 50 years of this latter period was dominated by S. Bowdler Sharpe, and the publication of the *Catalogue of the Birds in the British Museum.* (1874–1898) and finally of the *Hand-list of the genera and species of birds.* (Sharpe, 1899–1909). During this period, S. F. Baird, P. L. Sclater, Léon Olphe-Galliard, and Leonhard Stejneger also had major roles in avian family-group nomenclature. However, the workers who made the greatest contributions to our knowledge of avian classification after 1870 provided few new names as most of the groups recognized today had been named by the end of the early period. The 15 workers, publishing the most new names (a total of 401 or 30.2%) since 1870, recognized and named only 17 (6.2%) new groups and proposed 34 (12.3%) currently valid names (many of these are the result of nomenclatural changes in the names of the type genera). Sclater and Ridgway described three new family-level taxa apiece and Mathews and Iredale, four.

Following Sharpe, the first 30 years in the 20th century was dominated by Robert Ridgway for New World birds and G. M. Mathews for Australasian birds. And since 1930, the largest number of names were proposed by Hans von Boetticher, René Verheyen, and Hans Wolters, a total of 116 (8.7%) of which only three (1.1%) are for newly recognized groups and four (1.4%) are currently valid names. New names for avian family-level taxa has continued almost steadily since 1870 (tables 1, 2, 3) with a total of 575 (43%) names proposed during this period. However most of the names proposed during the past 120 years are junior synonyms and most of the 61 (22.1%) still valid names proposed between 1870 and 1992 are for small subfamilies and tribes of birds, or are replacement names (a total of 30 or 10.9%) for groups recognized earlier.

4. Overview

The total number of family-level taxa recognized in this classification is 276 (nominal subfamilies and tribes are not counted again) with the total number of families being 163 (92 nonpasserine families and 71 passerine families). The classification includes 171 additional subfamilies and tribes (total, counting all subtaxa) or 113 additional nominal subfamilies and tribes (not counting the 58 nominal subfamilies and tribes for a total of 276 different valid taxon names for family-level groups). Thus, a grand total of 334 recognized avian family-level taxa exist (counting all taxa, including the nominal groups) or 276 different avian family-group names. Of the 163 currently recognized families, 137 (84.0%) had been recognized by 1850 (see discussion below). A total of 1330 family-group names have been proposed for avian family-level taxa.

It is interesting to examine the family-level taxa recognized and named since 1850. Of the 30 (10.9%) new family-level taxa currently recognized which were first delimited and named from 1850 to 1860, only 14 (8.6%) are currently accepted families. These include: the Haladromidae Bonaparte, 1850 (= Pelecanoididae Gray, 1871); the Mesitidae Bonaparte, 1850 (= Mesitornithidae Wetmore, 1960); the Muscipetidae Reichenbach, 1850 (= Monarchidae Bonaparte, 1854); the Nyctibiidae Chenu and des Murs, 1851; the Macropterygidae Blyth, 1852 (= Hemiprocnidae Oberholser, 1906); the Balaenicipitidae Bonaparte, 1853; the Aegothelidae Bonaparte, 1853; the Mimidae Bonaparte, 1853; the Zosteropidae Bonaparte, 1853; the Acanthizidae Bonaparte, 1854; the Procellariidae Bonaparte, 1854 (*Procellaria* Linnaeus, 1766 *pelagica)* = (Hydrobatidae Mathews, 1912); the Rhynchaeidae Brehm, 1855, (= Rostratulidae Mathews, 1913-4); the Pedionomidae Bonaparte, 1856; and the Ibidorhynchidae Bonaparte 1856. Of these 14 families, only the Monarchidae, Mimidae, Hydrobatidae, Zosteropidae, and Acanthizidae are groups of any size. Even most of the subfamilies recognized during this period are small taxa. From 1860 to the present, 42 family-level taxa were first recognized and named, of which only 12 are families. These include: the Dulidae P. L. Sclater, 1862; the Dromaiidae Huxley, 1868; the Rhynochetidae Carus, 1868; the Philepittidae Sharpe, 1870; the Acanthisittidae Sundevall, 1872; the Rhipiduridae Sundevall, 1872; the Atrichiidae Newton, 1875 (= Atrichornithidae Stejneger, 1885); the Ephthianuridae Legge, 1887; the Remizidae Olphe-Galliard, 1891; the Petroicidae Mathews, 1919-20; the Struthideidae Mathews, 1924 (= Grallinidae Mathews, 1930); and the Rhabdornithidae Greenway, 1967. Of these 12 families, only the Rhipiduridae and Petroicidae are groups of any size. Hence, since 1850, only 26 avian families have been recognized and named, of which the last one is the Rhabdornithidae Greenway, 1967 which had long been considered to be an isolated form within the oscine birds.

From 1850 until 1994, a total of 68 avian family-level taxa have been recognized and named, which is just one taxon every two years; from 1860 until 1993, the number drops sharply to 42 family-level groups or one taxon per every three years. For families, the numbers are an average of one taxon for every 5 years from 1850 until 1994 (a total of 26 families), and one taxon per every 10 years from 1860 until 1994 (a total of 12 families). Actually the last family-level taxon in the standard avian classification followed in this analysis was recognized and named in 1976, some 18 years prior to the end of the time period included this analysis. These figures depend, of course, on the classification which one accepts.

Of the 68 family-level taxa first proposed since 1850, 26 are families, and of the 42 taxa first proposed since 1860, 12 are families. Of these 26 families, only the Monarchidae, Mimidae, Zosteropidae, Acanthizidae, Hydrobatidae, Rhipiduridae, and Petroicidae are groups of any size. The Remizidae and Grallinidae are smaller groups, possessing ten or fewer species each arranged in three to four genera. Basically, the families of birds had been recognized by 1860, only 50 years after the beginnings of avian family-level classification and only 40 years after the start of proper family-level nomenclature. To be sure, these early classifications were not

as definite as may be suggested by these statements, and a number of the named groups have varied greatly in their composition over the years. But, no matter how one recognizes the limits of avian family-level taxa and when these groups have been delimited for the first time, the result is that most of the families of birds were described prior to the publication of Darwin's *On the Origin of Species*. Of the 276 currently recognized family-level avian taxa, 234 (84.8%) were recognized prior to 1860 (including 149 or 91.4% of the 163 currently recognized families) and 206 (74.6%) of the currently used avian family-group names had been proposed by that date. Only four families of birds were proposed during the past 100 years of which the Petroicidae are the only group of any size and diversity. Thus, the foundations of avian family-level classification and nomenclature were the results of pre-evolutionary systematic analyses.

5. Synonyms

Avian family-level nomenclature reflects a history of classification in which the groups have been greatly over-split, as well as having several different names proposed for the same group; hence an abundance of synonyms, a total of 1330 family-group names, exist for avian family-level taxa. If the total of 1330 names proposed for birds is divided by the 163 recognized families, one obtains 8.16 names per family and 4.819 synonyms per recognized group (including all subfamilies and tribes, not including the nominal groups, the 1330 names divided by 276 recognized taxa). The number of names per group ranges from one to 91 for families and one to 87 for subgroups (tribes and subfamilies). The largest number of synonyms are for the Accipitridae with 45 names (the Accipitrinae have 44), the Anatidae with 60, the Phasianidae with 41, the Columbidae with 50, the Psittacidae with 60, the Trochilidae with 91 (the Trochilinae have 87), the Turdidae with 32, and the Emberizidae with 52. These groups are exceptional as almost all taxa (262) have less than 25 synonyms, and most have 15 or fewer synonyms.

The hummingbirds are perhaps the best example of the overabundance of family-level names available for birds. This is a large

TABLE 1
Summary of Family-Group Names of Authors Most Active Before and After 1870[a]

Author	Proposed	Current[b]	First[c]
	Before 1870		
Rafinesque	23	20	24
Leach	17	16	16
Horsfield	7	6	7
Vigors	48	29	30
Swainson	56	16	30
Bonaparte	203	45	49
Sundevall	48	9	14
Gray	70	27	20
Blyth	22	2	3
Reichenbach	86	9	7
Cabanis	23	5	5
Chenu & Des Murs	22	3	2
TOTALS:	625	187	207
	After 1870		
Baird	12	2	1
Mulsant et al.	35[d]	—	—
Simon	22[d]	—	—
Olphe-Galliard	35	4	2
Reichenow	15	1	—
Sclater	19	3	3
Sharpe	12	1	1
Stejneger	8	3	—
Ridgway	44	6	3
Poche	19	1	—
Mathews & Iredale	52	9	4
v. Boetticher	17	1	—
Verheyen	49	2	2
Wolters	50	1	1
Sibley	14	—	—
TOTALS:	401	34	17

[a] Summary of the avian family-group names proposed by the 12 authors most active before 1870 and by the 12 authors most active after 1870. A few of these authors bridge the dividing date and have been assigned to the period in which they were most active. The columns give the total number of names proposed, the number of names still in use and the number of currently recognized avian family-level taxa first named by each author. Note that some authors, e.g., Vigors, Swainson, Bonaparte, named more groups than currently valid family-group names. This results from many of the original names being replaced under Article 5 of the Règles because the original valid name of the nominal genus was subsequently replaced by a senior synonym. The 12 most active authors prior to 1870 proposed 625 names, just under half of the 1300 family-group names available for birds.

[b] Currently accepted names proposed by the author.

[c] Currently accepted taxa first recognized by the author.

[d] All hummingbirds.

family with numerous small genera, and badly in need of a truly modern revision; currently three ornithologists are actively working on the classification of the group, but the results have not yet been published. The series of classifications of the Trochilidae published by several French ornithologists, Mulsant, Verreaux and Verreaux, Eudes-Deslongchamps, Boucard, and Simon all of who were enthusiastic amateur workers, resulted in a large number of junior synonyms and probably some unavailable names for this family in which ornithologists currently recognize only two subfamilies and no tribes. Perhaps reasonable subdivisions (tribes) exist for the larger of these two subfamilies, the Trochilinae, but it is most doubtful that 46 or 50 family-level subdivisions exist in the hummingbirds as recognized by Simon (1921) or by Mulsant (1875). The large series of hummingbird names resulted from a combination of these workers recognizing a very large number of family-level subdivisions within the family which varied among the several classifications even by the same authors (e.g., Mulsant et al., 1866 and Mulsant, 1875), the recognition of different valid names for the same type genus, and the use of different names for the same family-level group. Together these few workers proposed 63 of the 91 synonyms published for the Trochilidae. Reichenbach and Bonaparte were responsible for 15 additional names. All other authors published only 13 names for hummingbirds, including the only two currently valid ones.

Of the 276 different family-level taxa, 27 families and 47 subfamilies and tribes do not have any junior synonyms. Most of these are family-level taxa with a single genus, or are family-level taxa recognized relatively late after most of the generic nomenclatural shuffling had been completed. The largest groups lacking junior synonyms are the Rhipiduridae and the Platysteirinae, again groups with few genera and/or recognized rather late in this history of avian classification.

Taxa with only one synonym (= no junior synonyms) include 27 families and 47 subfamilies and tribes and those with two synonym are 26 and 29, respectively. Probably half of these the taxa with two synonyms have a junior synonym because of a change in the name of the type genus—hence the synonym in the family-group name is a direct result of a change in the generic name, and not because a different family-group name was proposed. Indeed 45 changes in avian family-group names have been the direct result of strictly nomenclatural changes, many of which were the consequence of the decision to use the 10th edition of Linnaeus (1758) as the starting point of zoological nomenclature rather than the 12th edition (1766) which had been widely accepted by most zoologists during the first half of the 19th century.

Table 4 provides a summary of the number of synonyms for families and all groups up to six synonyms (up to five junior synonyms) per group. All taxa with up to six synonyms account for 82.2% of all taxa (total 276) and 68.7% of the families (total 163). Most of these groups are reasonably small with a limited number of genera and hence a restriction on the number of names which could be pro-

TABLE 2
Cumulative Totals of Family-Group Names by 10 Year Periods (1820-1870) and 30 Year Periods (1870-1990)[a]

Year	Proposed	Current[b]	First[c]
By 1820:	40	35	40
By 1830:	119	78	90
By 1840:	298	148	178
By 1850:	433	178	208
By 1860:	680	206	234
By 1870:	755	215	241
By 1900:	932	235	252
By 1930:	1116	258	263
By 1960:	1235	271	272
By 1994:	1330	276	276

[a] Summary by decades until 1870 and by 30 year periods until the present of the total number of avian family-group names proposed, of the number of still currently used family-group names and of the number of currently recognized avian family-level taxa first recognized. Note that by 1860, the dawn of modern biology and of Darwinian evolution, 206 of the 276 currently used names had already been proposed and 234 of the 276 currently recognized family-level taxa had already been recognized. Yet only 680 or just over half of the 1300 family-group names had been proposed; 650 have been published between 1861 and the present, testifying to the continuing oversplitting typical for most of avian classification. Avian macrosystematics was well established by preevolutionary systematists.

[b] Currently accepted names proposed.

[c] Currently accepted names first recognized.

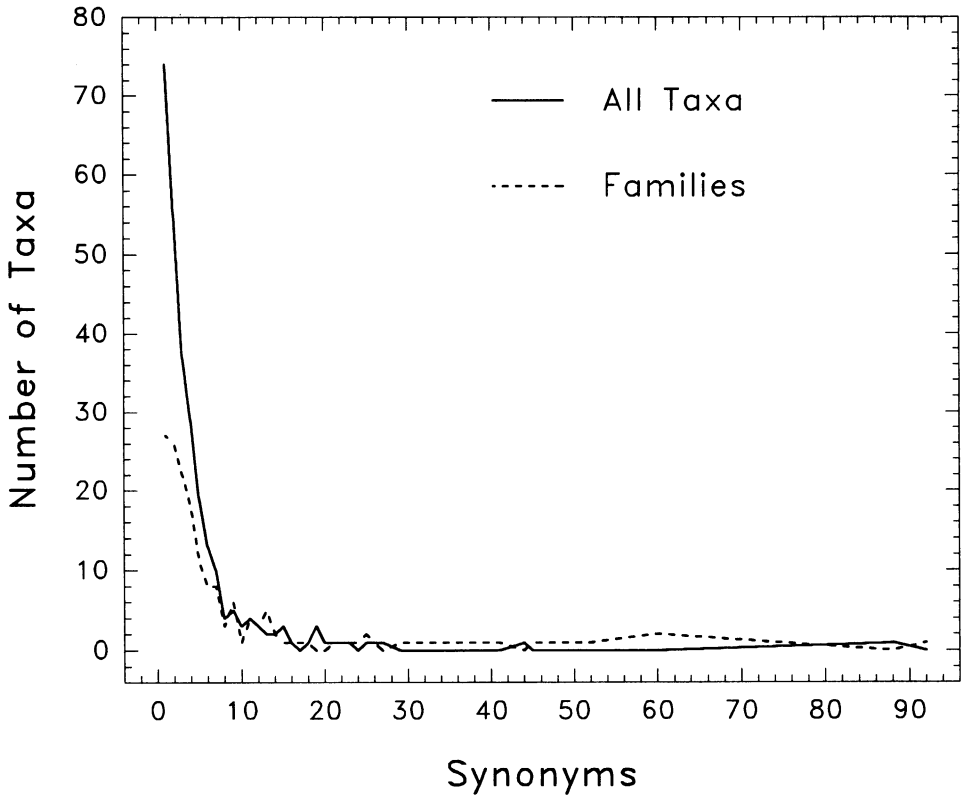

Fig. 1. Distribution of number of all taxa and of families (vertical axis) is plotted against the number of synonyms (horizontal axis); the numbers are from table 5. Note that the curve for all taxa is the typical hollow-distribution curve, but with a somewhat slower dropoff than seen in most such curves. However, the curve for families has an initial plateau followed by a slower drop-off and a long tail toward right. This appears to stem largely from the consequence of families possessing 2 or 3 synonyms because of name changes resulting from modification in the valid name of the nominate genus and the regulation given in Article 5 of the Règles. In the absence of this type of change in family-group names, the curve of family names would be a typical hollow-distribution and that for all taxa would have a steeper drop-off.

posed. Note that these 227 family-level taxa account for only 585 of the 1330 or 44.0% of all family-group names proposed for birds. The 20 largest family-level taxa (counting only the monotypic taxa at all levels) account for 420 names or 31.6% of the 1330 family-group names. The 112 families containing up to six synonyms account for only 320 or 24.1% of the 1330 family-group names. Yet the 20 largest families account for 642 or 48.3% of these names. Almost all groups with a diversity of genera have had a larger number of family-group names described over the years, a reflection of the great over-splitting and inconsistency which has characterized avian classification. The number of synonyms per taxa is given in table 5 and the distribution plotted (fig. 1), both for all family-level taxa and for families only. The counts are separated for all monotypic family-level taxa (276) and for families only (163). The curve for number of taxa plotted against number of synonyms for all monotypic family-level taxa displays the typical hollow-distribution curve, but not that for families which has an short initial plateau up to three synonyms, and then a slower drop-off.

TABLE 3
Summary of Recognized Family-Group Names by Year of Description

Year	Current[a]	First[b]	All[c]
1811	—	—	—
1812	—	—	—
1813	—	—	—
1814	—	—	—
1815	19	24	23
1816	—	—	—
1817	—	—	—
1818	—	—	—
1819	—	—	—
1820	16	16	17
Decade total	35	40	40
1821	3	2	3
1822	2	6	5
1823	1	1	1
1824	2	4	6
1825	26	27	45
1826	—	—	3
1827	2	5	3
1828	6	4	12
1829	1	1	1
1830	—	—	—
Decade total	43 (78)[d]	50 (90)	79 (119)
1831	19	30	55
1832	1	3	4
1833	2	2	5
1834	—	—	—
1835	—	2	4
1836	8	13	22
1837	5	8	15
1838	7	8	21
1839	3	1	6
1840	25	21	47
Decade total	70 (148)	88 (178)	179 (298)
1841	1	1	10
1842	5	6	11
1843	—	—	2
1844	1	1	2
1845	—	—	—
1846	1	1	10
1847	4	6	13
1848	1	1	15
1849	13	9	45
1850	4	5	27
Decade total	30 (178)	30 (208)	135 (433)
1851	3	2	11
1852	—	2	32
1853	9	7	64
1854	8	8	81
1855	—	1	14
1856	4	3	18

TABLE 3—(*Continued*)

Year	Current[a]	First[b]	All[c]
1857	1	1	8
1858	2	1	8
1859	—	—	—
1860	1	1	11
Decade total	28 (206)	26 (234)	247 (680)
1861	—	—	1
1862	1	2	22
1863	2	2	8
1864	—	—	5
1865	—	—	1
1866	—	—	20
1867	1	—	6
1868	2	2	2
1869	—	—	5
1870	3	1	5
Decade total	9 (215)	7 (241)	75 (755)
1871	1	—	2
1872	3	3	28
1873	1	—	9
1874	—	—	3
1875	—	1	21
1876	—	—	—
1877	—	—	1
1878	—	—	—
1879	—	—	2
1880	2	2	2
Decade total	7 (222)	6 (247)	68 (823)
1881	1	—	7
1882	—	—	8
1883	—	—	5
1884	—	—	11
1885	3	—	6
1886	—	—	6
1887	2	1	7
1888	1	—	11
1889	—	—	5
1890	—	—	5
Decade total	7 (229)	1 (248)	71 (894)
1891	3	2	17
1892	—	—	1
1893	—	—	5
1894	—	—	—
1895	—	—	1
1896	1	1	8
1897	1	—	1
1898	1	1	2
1899	—	—	1
1900	—	—	2
Decade total	6 (235)	4 (252)	38 (932)

TABLE 3—(*Continued*)

Year	Current[a]	First[b]	All[c]
1901	2	1	11
1902	1	1	7
1903	—	—	1
1904	2	1	25
1905	—	—	—
1906	2	—	2
1907	3	2	7
1908	1	—	5
1909	—	—	1
1910	—	—	—
Decade total	11 (246)	5 (257)	59 (991)
1911	—	—	10
1912	3	—	7
1913	2	1	8
1914	—	—	5
1915	—	—	3
1916	—	—	4
1917	—	1	5
1918	—	—	2
1919	1	1	8
1920	—	—	6
Decade total	6 (252)	3 (260)	58 (1049)
1921	1	—	25
1922	—	—	24
1923	—	—	1
1924	1	1	5
1925	1	1	1
1926	—	—	1
1927	—	—	1
1928	—	—	—
1929	—	—	—
1930	3	1	9
Decade total	6 (258)	3 (263)	67 (1116)
1931	—	—	2
1932	—	—	—
1933	—	—	—
1934	—	—	1
1935	—	—	1
1936	—	—	3
1937	—	—	—
1938	1	1	1
1939	—	—	2
1940	—	—	1
Decade total	1 (259)	1 (264)	11 (1127)
1941	—	—	—
1942	—	—	1
1943	1	1	3
1944	—	—	—
1945	—	—	1

TABLE 3—(*Continued*)

Year	Current[a]	First[b]	All[c]
1946	1	—	17
1947	1	—	5
1948	—	—	5
1949	1	1	3
1950	—	—	6
Decade total	4 (263)	2 (266)	41 (1168)
1951	2	2	3
1952	—	—	1
1953	—	—	8
1954	—	—	—
1955	—	—	3
1956	2	2	14
1957	1	1	11
1958	—	—	7
1959	1	—	10
1960	2	1	10
Decade total	8 (271)	6 (272)	67 (1235)
1961	—	—	1
1962	1	1	1
1963	—	—	2
1964	—	—	1
1965	—	—	—
1966	—	—	—
1967	1	1	1
1968	1	—	2
1969	—	—	—
1970	1	1	1
Decade total	4 (275)	3 (275)	9 (1244)
1971	—	—	—
1972	—	—	—
1973	—	—	—
1974	—	—	—
1975	—	—	11
1976	1	1	7
1977	—	—	9
1978	—	—	1
1979	—	—	2
1980	—	—	11
Decade total	1 (276)	1 (276)	41 (1285)
1981	—	—	2
1982	—	—	1
1983	—	—	12
1984	—	—	—
1985	—	—	10
1986	—	—	6
1987	—	—	—
1988	—	—	6
1989	—	—	—
1992	—	—	5
1993	—	—	1
Decade total	0 (276)	0 (276)	43 (1328)

TABLE 3—(*Continued*)

Year	Current[a]	First[b]	All[c]
			2[e]
TOTALS	276	276	1330

[a] Number of currently valid avian family-group names described that year.
[b] Number of currently accepted avian family-level taxa recognized that year.
[c] Total number of avian family-group names described that year.
[d] Cumulative totals are in parentheses.
[e] Names attributed to authors; year unknown.

TABLE 4
Number of Synonyms (≤6) for All Taxa and for Families[a]

	All Taxa				Families			
S[g]	Taxa[b]	%[c]	Names[d]	%[e]	Taxa[b]	%[f]	Names[d]	%[e]
1	74	26.8	74	5.6	27	16.6	27	2.0
2	55	19.9	110	8.3	26	16.0	52	3.9
3	37	13.4	111	8.3	22	13.5	66	5.0
4	29	10.5	116	8.7	18	11.0	72	5.4
5	19	6.9	95	7.1	11	6.7	55	4.1
6	13	4.7	78	5.9	8	4.9	48	3.6
	227	82.2	585	44.0	112	68.7	320	24.1

[a] Includes the currently valid name of each taxon for all family-level taxa and for families.
[b] The number of taxa with 1 to 6 synonyms.
[c] The percentage of these taxa relative to all taxa (N = 276).
[d] The number of names represented by these synonyms.
[e] The percentage of these names relative to all names (N = 1330).
[f] the percentage of these family taxa relative to all family taxa (N = 167).
[g] Number of synonyms.

TABLE 5
Number of Family-Group Synonyms[a]

S[b]	All Taxa		Names	Families		Names
1	74	(40[c]; 43[d])	74	27	(20[c]; 7[d])	27
2	55	(33; 22)	110	26	(15; 11)	52
3	37	(26; 11)	111	22	(12; 10)	66
4	29	(20; 9)	116	18	(10; 8)	72
5	19	(14; 5)	95	11	(7; 4)	55
6	13	(7; 6)	78	8	(3; 5)	48
7	10	(4; 6)	70	8	(3; 5)	56
8	4	(2; 2)	32	3	(1; 2)	24
9	5	(3; 2)	45	6	(4; 2)	54
10	3	(1; 2)	30	1	(1; 0)	10
11	4	(2; 2)	44	4	(3; 1)	44
12	3	(1; 2)	36	3	(1; 2)	36
13	2	(2; 0)	26	5	(2; 3)	65
14	2	(0; 2)	28	2	(0; 2)	28
15	3	(2; 1)	45	1	(0; 1)	15
16	1	(1; 0)	16	1	(1; 0)	16
17	—	—	—	1	(0; 1)	17
18	1	(0; 1)	18	1	(0; 1)	18
19	3	(1; 2)	57	—		—
20	1	(0; 1)	20	—		—
21	1	(0; 1)	21	1	(0; 1)	21
23	1	(1; 0)	23	1	(0; 1)	23
24	—		—	1	(1; 0)	24
25	1	(0; 1)	25	2	(1; 1)	50
26	1	(1; 0)	26	1	(1; 0)	26
27	1	(0; 1)	27	—		—
29	—		—	1	(0; 1)	29
32	—		—	1	(0; 1)	32
41	—		—	1	(1; 0)	41
44	1	(1; 0)	44	—		—
45	—		—	1	(1; 0)	45
50	—		—	1	(1; 0)	50
52	—		—	1	(0; 1)	52
60	—		—	2	(2; 0)	120
88	1	(1; 0)	88	—		—
92	—		—	1	(1; 0)	92
			2[e]			
TOTALS	276	(163; 113)	1330	163	(92; 71)	1330

[a] The second column gives the number of all taxa with the subdivision into the numbers of nonpasserine taxa and passerine taxa in parentheses (third column). The total number of names is given in the fourth column. The fifth column gives the number of families with the subdivision into the number of nonpasserine and passerine taxa in parentheses (sixth column), and finally the total number of names in the seventh column. The total number of names in columns 4 and 7 each add up to 1330.

[b] Number of synonyms.

[c] Number of nonpasserine family-level taxa.

[d] Number of passerine family-level taxa.

[e] Two family-group synonyms not included in any subfamilies or tribes.

III. HISTORY OF ACTIONS TAKEN BY THE INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE

A. INTRODUCTION

1. The International Commission on Zoological Nomenclature and Its Règles

One of the tasks set before the first International Congress of Zoology held in Paris, 1889, was to consider the questions of developing a single unified set of rules of zoological nomenclature and of establishing an international body to oversee the formation and management of these rules (ICZ, 1889). The leadership in this work was assumed by Professor R. Blanchard (France) who chaired the nomenclatural committee, was the first President of the International Commission on Zoological Nomenclature and edited the French version of the original Règles (Blanchard, 1905). Although largely unknown among present day zoologists, Professor Blanchard must be regarded as the father of International Zoological Nomenclature. He prepared an extensive report on the status of zoological nomenclature for the first zoological congress which included a unified set of regulations (Blanchard, 1889: 419–424) which he hoped would be acceptable to all zoologists. These rules included only one regulation pertaining to family-group names, specifying only that these names are formed on the stem of the name of the type genus, with an "idae" ending for families and an "inae" ending for subfamilies. At the second International Congress of Zoology, Moscow, 1892 (ICZ, 1892), Blanchard (1892) presented a second report, which included a revised set of regulations which contained a second rule for family-group names specifying that the name of a family changes with the replacement of the name of the type genus to maintain congruence between the names of the type genus and the family. The status of these codes is vague because they were not adopted formally by either congress; clearly they were never official.

In 1895, acting on a motion presented by Professor M. Schulze (ICZ, 1896: 93–95), the IIIrd International Congress of Zoology (Leiden, 1895) authorized and appointed an International Commission on Zoological Nomenclature (ICZN) consisting of five zoologists under the chair of Professor R. Blanchard and charged this commission to examine existing problems in zoological nomenclature, to draft a unified set of regulations and to report their findings to the following congress. Dr. Charles Wardell Stiles (Washington, DC) was appointed Secretary to the ICZN, a position he held for the next 40 years. The first task facing this newly appointed body was to draft a formal set of rules governing the formation and use of scientific names for animal taxa which would be acceptable world-wide for all groups of animals, living and fossil. The difficulty was not that such regulations did not exist, but quite the contrary. Several excellent codes [e.g., Strickland, 1842a (see also 1837); Douville, 1881; Anonymous (Société Zoologique de France), 1881; Anonymous (AOU), 1886; and that of the Deutsche Zoologische Gesellschaft, 1894], were formally adopted by diverse national and international groups, and several informal codes (e.g., Dall, 1877) had been proposed, but these codes differed in some central points, and were accepted by different groups of zoologists. An excellent history of these early codes of zoological nomenclature is presented in the introduction to the A.O.U. Code (Anonymous, 1886; see also, Anonymous, 1908; Stiles, 1905). The situation at the end of the 19th century was unstable and could have led to ever greater chaos in zoological nomenclature if allowed to continue. What was needed was a single unified set of regulations acceptable to all zoologists, and the only international group with sufficient prestige to promulgate a united code was the newly organized International Congress of Zoology. The report of the International Commission on Zoological Nomenclature (ICZ, 1898) was considered at the IVth Congress (Cambridge, United Kingdom, 1898) and for reasons not given in the Proceedings, the decision was made not to consider the proposed drafts of the rules of nomenclature

at this congress. At the recommendation of Secretary Stiles, the proposed Règles were referred back to the commission for further consideration. However, the commission was enlarged to 15 members still under the chairmanship of Professor R. Blanchard and the secretaryship of C. W. Stiles. The commission was permanently established at the VIth Congress at Berne, 1904 and remained a part of the International Congress of Zoology until its final congress in 1972 (the XVIIth Congress at Monaco). Formal adoption of the new international rules of nomenclature, the *Règles Internationales de la Nomenclature*, occurred at the Vth International Congress of Zoology, Berlin, 1901 (ICZ, 1902: 882–890). The texts of the Règles as proposed at the Paris (1889) and the Moscow (1892) congresses (Blanchard, 1889, 1892) were discussed in detail at the Berlin congress and several modifications were adopted before the Règles had been adopted formally by the Section on Nomenclature (Stiles, 1902: 886; 1905). The newly adopted international rules of zoological nomenclature were first published simultaneously in official French, English and German texts in the Proceedings of the Vth International Congress of Zoology under the title of *Règles internationales de la Nomenclature zoologique* (ICZN, 1902) with a forward (Matschie, 1902) providing a brief history of the efforts of the committee under the leadership of Professor R. Blanchard since its inception at the 1889 zoological congress. An editorial committee headed by Professor Blanchard reviewed, reorganized and edited this initial edition of the Règles. The generally recognized official edition of the Règles was subsequently published in simultaneous French (edited by Blanchard), English (edited by Stiles) and German (edited by Maehrenthal) versions three years later (Blanchard, 1905). Stiles (1905) re-published the new rules with detailed explanations and a short history of their development.

It should be noted that the International Commission on Zoological Nomenclature was established at the IIIth ICZ, Leiden, 1895, as an independent group drawing its authority from the International Congress of Zoology (ICZ), the only existing international body of zoologists, and was expanded to 15 members at the IVth ICZ, Cambridge, 1898. The ICZN reported to the ICZ through the Section on Nomenclature (SN) of the congress. (Some zoologists, including some members of the ICZN, would describe the Commission as semi-independent or quasi-independent of the International Congress of Zoology. This point can be debated, but I feel that what is clear is that the congress exerted its legitimate authority over the Commission in election of new members and approving changes in the rules of nomenclature.) Until the demise of International Congresses of Zoology following the XVIIth congress in 1972 [actually the demise of these congresses followed the XVIth congress in 1963—the XVIIth was held mainly to settle matters relating to the ICZN, etc.], election of commissioners of the ICZN and adoption of amendments to the rules of nomenclature were voted by zoologists attending sessions of the Section on Nomenclature of the ICZN. The ICZ and its SN possessed no other authority over the ICZN and was not empowered to make any other decisions on the organization and operation of the ICZN. The SN was a most informal body of zoologists for which voting membership was obtained simply by being a member of the zoological congress and being in the room during the period in which the SN was in session. This informal organization was advantageous in that any interested member of the zoological congress could participate in the deliberations of the SN and could vote on critical issues affecting zoological nomenclature. However, this system was disadvantageous in that the group of zoologists voting on nomenclatural matters lacked any coherency, and that it was easily possible for a session of the SN to be packed with zoologists to vote on a particular issue, as occurred during the XIVth congress, Copenhagen, 1954, and the XVIth congress, Washington, 1963.

Aside from members of the ICZN being elected by and amendments to the Règles being voted on by members of the SN, the ICZN was and still is a fully independent body with full control of its internal matters and organization, including election of its officers, appointment of persons working for the ICZN, establishment of its base of operation (a secretariat, etc.), and methods of publishing its findings and decisions. Understanding the re-

lationship between the ICZ and the ICZN is critical to proper comprehension of events between 1935 and 1960 leading to the revision and publication of the new Code in 1961. Of special importance are actions taken by the presidents of the XIVth (1953) and XVth (1958) congresses which had major implications for the operation of the ICZN as will be discussed below. At the time of the demise of the International Congresses of Zoology in the late 1960s, a final congress (the XVIIth, 1972) was held in Monaco with the major purpose being to allow a regular meeting of the ICZN and of the SZ of the congress, to consider the future of the ICZN, and to transfer authority for the ICZN from the ICZ to some other suitable international body. At this congress, authority for the ICZN, including election of members and voting on future Codes, was transferred to the International Union of Biological Sciences (IUBS). Information about the current association of the ICZN to the International Union of Biological Sciences and its delegated authority from the General Assembly of that Union can be found in the 3rd edition of the Code (1985; see also the report of the Special Session; Melville, 1974).

2. Post-1905 Codes of Nomenclature

It is interesting that at the annual meeting of the American Ornithologists' Union in November, 1905, its Council instructed its Check-list Committee "to consider the advisability of revising certain Canons of the A.O.U. Code of Nomenclature [= Anonymous, 1886] in order to better adapt them to present conditions of Zoölogical Nomenclature". (Anonymous, 1908a: v). Presumably this last phrase referred to the newly published Règles (ICZN, 1902; Blanchard, 1905) as special mention was subsequently made to article 30 as amended by the VIIth International Congress of Zoology, Boston 1907, of the International Code of Zoölogical Nomenclature (not the Règles) as it was always denoted by the A.O.U. Check-list Committee (Anonymous, 1908a). These revised Canons were published in July, 1908 with the brief mention that "The latest and by far the most authoritative Code, that of the Nomenclature Commission of the International Zoölogical Congress, issued in 1906 [= ? Blanchard, 1905], embodies all its [= the Code of the A.O.U.] principles and contains nothing antagonistic to them". (Anonymous, 1908a: xxiii). It is unclear why the A.O.U. felt it was necessary to reissue its Code of Nomenclature several years after the Règles were published (ICZN, 1902) and had received widespread acceptance among zoologists. And although the provisions in the Règles may have contained nothing antagonistic to the revised A.O.U. Code, nothing was said whether the reverse was true—that is, whether the two sets of rules were identical. And nothing was said about the consequences of basing nomenclatural decisions on a set of rules different from those in the Règles. The Règles and the A.O.U. Code are clearly not identical as shown by Canon XVI (Anonymous, 1908a: xlviii) of the revised A.O.U. Code which states that priority is only partially operative for names above the genus-group which has no counterpart in the Règles, and Canon XXX (Anonymous, 1908a: lv–lix) which extends the concept of homonymy to those names those differing by one letter contrary to the Règles [Art. 34 and 35] which treat most names with single letter differences as nonhomonyms. In the remarks on individual canons, numerous references were made to the British Association (= Stricklandian) Code, some to that of the Société Zoologique de France (1881), a few to that of the Congrès Géologique International (Douvillé, 1881), but only one (p. l) to the Règles as far as I have been able to determine.

The revised A.O.U. Code of Nomenclature was a curious anachronism when it was published, and it is doubtful that any zoologists, including American ornithologists, really followed it. Nevertheless, the A.O.U. Code as originally published in 1886 and slightly revised in 1908, continued to be followed by the A.O.U. Check-list Committee, presumably at the insistence of the Washington-based core members of the committee, at least through the publication of the fifth edition of the Check-list of North American birds (Anonymous, 1957: v). The A.O.U. Code was followed fully in the third edition (Anonymous, 1910: 7) and, under the chairmanship of Witmer Stone, followed only "partly" in the fourth edition (Anonymous, 1931: vii).

In that edition, the A.O.U. Check-list Committee stated that: "The International Code of Nomenclature which corresponds closely with the A.O.U. Code has been adopted as a basis for the nomenclature of the Check-list but where the latter Code is more explicit and carries its rulings to further details it has been followed. Cases not explicitly covered by the Codes have been decided by a majority vote of the Committee without attempting to formulate definite rules." The difference between this statement and the actions of other A.O.U. Check-list Committees in preparing both earlier and later editions of their Check-list eludes me. But again for the fifth edition (Anonymous, 1957: v) under the chairmanship of Alexander Wetmore, an almost complete return was made to the A.O.U. Code. The only exception was the "One-letter Rule" which was stated in this edition of the A.O.U. Check-list to be the only provision differing significantly in the two Codes (Anonymous, 1957: v, fn). After careful deliberation, the A.O.U. Check-list Committee decided to adopt the provision in the Règles "in order to establish conformity for names of wide-ranging bird groups which appear in check-lists dealing with other parts of the world."

That the A.O.U. Check-list Committees maintained their paternalistic attitude toward the A.O.U. Code through the publication of the fifth edition in 1957 has some interesting psychological attributes. It is unknown whether many other North American ornithologists followed the lead of the A.O.U. Check-list Committee, or even were aware of its decision on this matter. James L. Peters serves as an interesting example, as he was a member of the A.O.U. Check-list Committee since March 1929 until his death in 1952. Moreover, Peters had been elected a member of the ICZN in September 1933, had been elected temporary Secretary at the International Congress of Zoology in 1935, Assistant Secretary in 1936, Vice President in March, 1945 and President in July, 1948 and remained a member of the ICZN and its president until his death in 1952 (see Anonymous, 1952). Presumably he supported the work of the ICZN, including the role of the Règles as the final arbitrator of zoological nomenclature. In his Check-list of birds of the world (Peters, 1931: vii), Peters stated that he "followed the International Code of Zoölogical Nomenclature except for the application of Article 28. . ." Rather than accepting the concept of "first reviser," he used information whenever available to decide on the prior name, even line priority, to decide on the validity of names published on the same date. Yet during this entire time, Peters apparently supported, or at least acquiesced to, the continued use of a different code of nomenclature for the A.O.U. Check-list.

Finally with the publication of the new Code of Nomenclature in 1961 (ICZN, 1961) and presumably under the influence of Dr. Eugene Eisenmann (a member of the A.O.U. Check-list Committee since 1963 and its chairman since 1966 as well as a member of the ICZN since 30 January 1968), the A.O.U. gave up its separate Code at some time during the 1960s and followed the ICZN Code in the sixth edition of its check-list (Anonymous, 1983: xxi).

It is equally curious that an entomological code of nomenclature (Banks and Caudell, 1912) was developed, but it is not at all clear whether this code was ever adopted formally by any national or international group. This code contains many provisions not present in the Règles, such as a number of rules regarding family-group names (Oberholser, 1920: 143). Other entomological codes were proposed, but never adopted formally by any group (Linsley, 1942; see also Chamberlin, 1952); interestingly, Linsley appears to favor strongly the adoption of such a code. Again, it is unclear how frequently entomologists followed the entomological code rather than the Règles, what the effect of these different codes had been on entomological names, and when this special code was abandoned by entomologists. Moreover, how many such additional codes existed in the first part of the 20th century, and when these special codes (e.g. paleontology, the Douvillé code) were given up by workers in the several fields in favor of the Règles are not known with any certainty. These post-1900 special codes of nomenclature were not mentioned in Mayr et al. (1953) or Blackwelder (1967) in spite of their extensive histories of zoological nomenclature.

3. The Need for a History

Understanding the regulations pertaining to family-group names in the previous Règles and the reasons for changes of these provisions to those in the new Code (ICZN, 1961, 1964, 1985) can be achieved best via a thorough analysis of the history of the ICZN, of its Secretariat, and of zoological nomenclature during the 15 year effort to replace the then outdated (at 1948) Règles with a completely new set of rules of zoological nomenclature. This effort began at the 1948 ICZ in Paris and ended with the publication of the first edition of the new Code in 1961 following their adoption at the 1958 ICZ in London. To present this history properly, it is necessary to start somewhat earlier and to examine in some detail the history of zoological nomenclature beginning in 1935 at the last zoological congress (XIIth, Lisbon) prior to World War II (see Hemming, 1936, 1943a, c, d, e). In this analysis, I will focus primarily on nomenclatural rules dealing with family-group names, but some broader discussion is required to comprehend the central issue of family-group names. A thorough history of zoological nomenclature and/or of the ICZN is not available at this time and at the time this analysis was made, I knew of no current projects on this subject. Much later when this monograph was essentially completed, I learned that the former Secretary of the ICZN and former head of its Secretariat, the late Mr. R. V. Melville [1914–1993], was preparing a history of the ICZN; I did not discussed my analysis or his project with Mr. Melville, and do not know of its current status. (My understanding is that Mr. Melville completed at least a rough draft of this history before his death in 1993, and that Berry Nye, a member of the ICZN has agreed to complete this work.) An early history was presented by Stejneger (1924), a later one by Hemming (1943a), and a brief history of the rules of nomenclature including preparation of the new Code by Stoll (1961). My analysis will be selective and will be restricted largely to the rules affecting family-group names and the efforts to develop a new set of rules. I make no pretense of presenting a complete history of the ICZN or of zoological nomenclature.

The sources used in this historical analysis were restricted largely to published material, mainly in the *Bulletin of Zoological Nomenclature* (BZN) and other material published by the ICZN, such as the Copenhagen decisions (Hemming, 1953b), and the several editions of the Code (ICZN, 1961, 1964, 1985), to a series of books (Mayr et al., 1953; Blackwelder, 1967; Mayr, 1969; Usinger, 1972: 105–115; Mayr and Ashlock, 1991), journal articles (including Stejneger, 1924; Hemming, 1943a), and reports of the actions taken by the ICZN at its meetings during zoological congresses as published in proceedings of these congresses and in the *Bulletin of Zoological Nomenclature*. This information was supplemented by extensive interviews with Professor Ernst Mayr and Dr. Curtis Sabrosky both of whom were deeply involved with the revision of the rules of nomenclature beginning with the Colloquium on Nomenclature at the Copenhagen Congress in 1953 and with the working of the ICZN as commissioners, as members of the Editorial Committee for the new Code (Sabrosky), and as President of the ICZN (Sabrosky). It was not possible because of a lack of time and funds to examine unpublished material in the archives of the ICZN and elsewhere (e.g., Smithsonian Institution Archives; papers of Usinger, and of Linsley, two entomologists deeply interested in family-name nomenclature). I do not know whether Usinger left any papers pertaining to his work in zoological nomenclature. If not, this loss is a serious one as Usinger was one of the very few persons who took part in the 1948, 1953, and 1958 congresses and one who objected strongly to the methods used by Hemming to push action on a new set of rules of nomenclature. This gap in my research is unfortunate because many unsolved puzzles in this history, such as details on deliberations of major issues, and votes taken at meetings of the ICZN and of the Nomenclature Colloquia at the 1948, 1953, and 1958 ICZ, might be solved with access to unpublished material available in archives of the ICZN and elsewhere. Although the scope of this history as well as the source material is limited, I feel that the ma-

jor conclusions reached are valid and that they provide an understanding of the history and problems of the current nomenclatural regulations pertaining to family-group names. The conclusions presented represent my interpretations of the materials available to me. Other workers may well reach quite different conclusions from the same materials; it is impossible to say what conclusions would be reached with additional material.

B. RULES OF NOMENCLATURE

1. Formal Regulations Affecting Family-Group Names

The nomenclatural rules of the Règles relative to family-group names were quite simple, especially when compared to the detailed provisions of the present Code (ICZN, 1961, 1964, 1985). These rules were first published simultaneously in French, English, and German in the Proceedings of the Vth International Congress of Zoology under the title of *Règles internationales de la nomenclature zoologique* (ICZN, 1902). An editorial committee headed by Professor Blanchard reviewed, reorganized and edited this initial edition of the Règles. The generally recognized official edition of the Règles was subsequently published in simultaneous French, English, and German versions three years later (Blanchard, 1905). It differs from the 1902 version in wording and arrangement of the articles, but not in content and meaning. A comparison of the two editions reveals that the 1905 one is far superior in clarity and logical arrangement of the provisions. All future amendments, all official republications of the Règles, including Stiles (1905; 1929) and Hemming (1958a), and all unofficial publications and translations of the Règles (Anonymous, 1926; Schenk and McMasters, 1936; Keen and Muller, 1948; Richter, 1948) are based on the 1905 edition. Although family-group names were included in the Règles from the beginning, the few simple provisions covered only the formation of family-group names and their changes resulting from synonymy of names of the type genus. Otherwise, family-group names were scarcely mentioned and regulated in the early (pre-1961) rules of zoological nomenclature. The full wording of the official rules (Blanchard, 1905: 29) dealing with family-group names in the Règles is:

> II. Family and Subfamily Names
>
> 4.–The name of a family is formed by adding the ending idae, the name of a subfamily by adding inae, to the stem [changed from the original "root" at 1910 congress; Hemming, 1958: iii] of the name of its type genus.
>
> 5.–The name of a family or subfamily is to be changed when the generic name serving as type is changed.

This wording is basically that presented in the proposed rules at the 2nd International Congress of Zoology, Moscow, 1892 (Blanchard, 1892) and remained unchanged for the next 60 years until publication of the major revision of the rules of zoological nomenclature (ICZN, 1961) which began at the XIII International Congress of Zoology, Paris, 1948 (Hemming, 1949a, 1950c, 1953b, 1958a; Follett, 1955). Note that family-group names were never covered by the principles of homonymy and priority in the Règles, two of the major working rules in zoological nomenclature. Nothing is said about requirements for availability of these names, that the family-group name is formed on the stem of the genitive singular form of the generic name, and the procedure to be followed if two family-level taxa are merged—e.g., which of the two names is to be used for the combined family. And Article 5 confuses the type genus with the name of the type genus; the "generic name" does not serve as the type of the family-group name, but rather it is the type (nominal) genus regardless of the name by which this genus may be called at a later time. Although many suggestions were made to modify the Règles relative to family-group names beginning as early as 1920, these modifications were not accepted by the ICZN and the SN for unknown reasons.

2. Informal Regulations Affecting Family-Group Names

In addition to these brief formal rules for the acceptance and use of family-group names in zoology, several informal conventions have been broadly accepted from earliest days of zoological nomenclature. Usually but not always, a typical genus for the family possessing one of the oldest, if not the oldest, generic name in the family was chosen as the type

(= nominal) genus for the family-group name. It is interesting that during the early decades of the 20th century, many workers were concerned with rules governing selection of the type genus of family-group names. Once chosen, the same (nominal) type genus should be maintained for the family-level group in spite of any and all modifications in the name of that genus (e.g., Art. 5 of the Règles). If the name of the type genus changed because of synonymy, the name of the family-group was changed accordingly to maintain concordance between the name of the type genus and that of the family-level taxon (Art. 5 of the Règles). Nothing was stated in the Règles of proper procedure if the name of the type genus was rejected as a junior homonym, but informally the family-group name was retained with the original name [= the senior homonym] of the type genus even if this involved a change in type genera and even application of the family-group name to a different family. If family-level groups are merged, the family-group name of the most typical members was usually used for the composite group even if it was not the oldest family-group name or if it was not based on the oldest generic name. These informal rules, although incomplete, resulted in considerable stability of family-group names in many groups of organisms. In birds, for example, the names for most avian families and for many subfamilies had been largely stabilized before the end of the 19th century. It is interesting that among entomologists, a strong objection to the existing rules had its beginnings in Article 5 of the Règles speficying that the name of the family-level taxon must be changed with modification in the generic name to maintain concordance between the family-group and the genus-group names (Sabrosky, 1939, 1947).

Although implied in Article 5 of the Règles, these rules, both formal and informal, were silent about another critical consideration, namely that once a genus was chosen as the type for a family-group name, then that (nominal) genus always remained the type genus for the particular family-group name, regardless of changes in the name of this type genus. That is, the type in zoological nomenclature is a definite object (= the type genus—the particular nominal taxon) and not the name for this object (= the generic name); and once the type is designated for a name, the type cannot be changed (except and quite exceptionally by use of the plenary powers of the ICZN; see Art. 61; ICZN, 1985). Perhaps, although I doubt it, systematists were so firmly in agreement with this concept, that they deemed it to be superfluous to state the obvious in the Règles. Rather, I suspect strongly that this important distinction between the type genus as the name-bearer versus the type genus as the name-giver was simply overlooked in the formulation of nomenclatural rules, and that this distinction was simply forgotten by most systematists in many critical situations.

Unfortunately prior to 1961, another informal rule was followed almost universally by avian systematists (and probably by zoological systematists in general) which violated the type concept in zoological nomenclature as codified in the Règles and later in the Code (ICZN, 1961, 1964, 1985: Chap. XIII). This additional informal rule was that the family-group name remained tightly coupled with the name of the nominal genus (rather than with the nominal genus) when the original name of the nominal genus was involved in a homonymy. In such cases, the family-group name was transferred to a different type genus possessing the senoir homonym, even if this meant that the family-group name was applied to another family-level taxon. This informal rule differs from changes in the application of the family-group name from one family-level taxon to another with change in the taxonomic position of the nominal genus which is completely justified. If the nominal genus is placed in a different family-level taxon, then the family-group name must be moved from original family-level taxon to the new one as was the case of the name Peltohyatinae which was switched from the Glareolidae to the Charadriidae with the move of the genus *Peltohyas* from one family to the other. But the transfer of the family-group name from the original nominal genus to a different one if the name of the original nominal genus is discovered to be a junior homonym is not justified and is simply wrong according to the basic aspects of the type concept in zoological nomenclature. Hence when the generic name *Ibis* Cuvier, 1816, used for

a genus within the present-day Threskiornithidae, was discovered to be a junior homonym of the generic name *Ibis* Lacépède, 1799 (= *Mycteria* Linnaeus, 1758), used for a genus within the present-day Ciconiidae, the family-group name Ibididae Degland, 1849 (*Ibis* Cuvier, 1816) was retained (coupled) with the original generic name, *Ibis* which now applied to a different genus. The correct procedure would have been to retain the family-group name Ibididae with the original nominal genus now known as *Threskiornis* G. R. Gray, 1842. In reality, Ibididae Degland, 1849 (*Ibis* Cuvier, 1816) is unavailable because its type genus is a junior homonym. The family-group name "Ibididae," generally considered to be a junior synonym of Ciconiidae Sundevall, 1836, should be cited as Ibididae auct., post-1850 [not Degland, 1849] (*Ibis* Lacépède, 1799), not as Ibididae Degland, 1849 (*Ibis* Lacépède, 1799), or not as Ibididae Degland, 1849 (*Ibis* Cuvier, 1816)]. Only the last is the correct citation of Degland's Ibididae which should be placed as an unavailable family-group name in the synonymy of Threskiornithidae Poche, 1904 (*Threskiornis* Gray, 1842). Ibididae auct., post-1850 (*Ibis* Lacépède, 1799), which is placed in the synonymy of Ciconiidae, is not a junior homonym of Ibididae Degland, 1849 (*Ibis* Cuvier, 1816) because the latter name is not available.

This informal rule associated with homonymy of generic names confuses the two distinct functions of the type genus for family-group names, namely (a) that the type genus serves as the nomenclatural type—the name-bearer—as do holotypes for specific names and type species for generic names, and (b) that the name of the type genus serves as the name-giver for the family-group name in that the family-group name is formed on the name of the type genus—a unique property of the type-genus in zoological nomenclature [ICZN, 1985, Art. 11(f); Blanchard, 1905; Art. 4]. These dual functions of the type genus have not been well considered in either the provisions and discussions of the earlier Règles (Blanchard, 1905; etc.) or of the new Code (ICZN, 1961, 1964, 1985) in which attention was given primarily to the function of the nominal genus as the name-bearing type (see also, ICZN, 1985, Art. 40, and Chapts. XIII and XIV; and discussion below). Nor are these two different functions of the type genus discussed clearly or even at all in the major English-language texts on zoological systematics. The informal, but incorrect, rule of coupling the family-group name with the name of the type genus has been the source for many of the most vexing problems in avian family-group nomenclature.

Perhaps this misunderstanding and misuse of the nomenclatural type concept is a consequence of major modifications occurring during the second half of the 19th century in ideas about the type concept in systematic biology and nomenclature. The type concept changed gradually from the ideas of idealistic typology (prior to Darwin's *On the Origin of Species* in 1859; but retained by many biologists for a number of decades after 1860) to the restricted concept of the type as the nomenclatural name-bearer with no theoretical scientific meaning (see Mayr, 1989a, for an excellent discussion of difficulties arising in zoological nomenclature because of modifications in conceptual thinking without changes in the employed words). Almost certainly, this change in thinking about the type concept by zoologists had not been completed in 1901 when the Règles were formulated and adopted, or even for some decades later. Even today many zoologists confuse these two concepts of the type. Hence it is not completely surprising that zoological nomenclaturists failed to make the necessary distinction between the nominate genus as the name-bearer and as the name-giver.

3. Pre-1948 Criticisms of Family-Group Regulations

From the almost complete lack of changes in the Règles concerning family-group names compared to other modifications, one could gain the impression that zoologists were happy with these family-group regulations and that no serious problems existed dealing with these names. This impression would be false because serious complaints and well-argued criticisms of these regulations were published in a series of scholarly papers, mainly by entomologists, beginning only a few years following the publication of the official rules (Blanchard, 1905) and continuing to just be-

fore the XIIth ICZ, 1948. Moreover, rules governing family-group names in some of the alternative post-1905 codes, such as The Entomological Code (see the comments in Oberholser, 1920: 44), and in several criticisms of the Règles were well-considered. Most of these proposed modifications were finally incorporated in the new Code (ICZN, 1961). If these proposed changes had been enacted as part of the Règles, much future chaos in family-group nomenclature would have been avoided. At the present time, one can only speculate why the ICZN did not accept any of the proposed modification in the regulations affecting family-group names prior to the major rewriting of the rules beginning in 1948.

As early as 1911, Horváth (1911, 1912) proposed that family-group names be subjected to priority and other central rules of zoological nomenclature. Needham (1911, 1912, 1928), Bradley et al. (1912), Wheeler (1913) and Heikertinger (1916a,b, 1924a, b, 1943) suggested the use of a Principle of Continuity to select and stabilize scientific zoological, including family-group, names. A few years later, Van Duzee (1916) published a clear discussion of problems in family-group nomenclatures and a simple set of rules covering most of the potential problems. Oberholser (1917a) commented briefly on not changing a family-group name simply because of the transfer into a family-level taxon of an older genotype, and subsequently (1920) presented a similar analysis accepting most of Van Duzee's ideas as well as the rules in The Entomological Code. Moreover, Oberholser (1920: 144) clearly recognized the necessity of undertaking a thorough historical survey of family-group names to establish the earliest date for the use of each name. He realized that simply adopting a set of proper rules governing family-group names was not sufficient to insure stability of these names; knowledge of dates of publications of these names was also essential. Casey (1920) commented favorably on Oberholser's proposal with the exception of his idea on dealing with family-group homonyms resulting from similar generic names (e.g., *Picus* versus *Pica*). Melander (1929) presented a detailed history of ideas on family-group nomenclature, but without providing a definite set of recommendations. Other comments were published by Lyon (1920), McAtee (1921), Kaston (1938) and Grensted (1947).

Perhaps the most important discussions on nomenclatural rules for family-group names in zoology were the scholarly papers by Sabrosky (1939, 1947, 1954). Sabrosky (1947: 153) stressed that "Family names are among the most widely used of all the technical names for animals or groups of animals." and that their stability was central to much comparative work and communication in zoology. The basis for Sabrosky's proposals for more detailed rules governing family-group names was a major nomenclatural problem in the order Diptera stemming from the late discovery of a earlier paper (1800) by Meigen in which many generic names for dipteran flies had priority over those generic names used in a 1803 paper by Meigen. The problem was that many important and well-established family-group names of dipteran flies were based on generic names in the Meigen 1803 paper, which under the Règles had to be changed with modification in the name of the nominal genus published in the Meigen 1800 paper (Sabrosky, 1939: 603–611). Sabrosky argued that stability in family-group names is of major significance for the general entomologist because these names rather than generic or specific names were the foundations for most comparative analyses. The problem raised by Sabrosky is exactly the same existing for birds, and presumably many other groups of animals, when zoologists accepted the 10th edition of Linnaeus (1758) rather than the 12th edition (1766) as the starting point for zoological nomenclature. As will be discussed, a large number of changes in avian family-group names occurred during the last century simply because of this shift in the beginning of zoological nomenclature. Sabrosky pointed out the needless instability that results from the application of Article 5 of the Règles, and even favored the use of nomina conservanda as a better method of maintaining stability and universality than the strict application of any general principle. He discussed (Sabrosky, 1939, 1947) a series of extant nomenclatural questions for family-group names and proposed a series of regulations which he believed would solve most of these problems

and provide the foundation for stability of family-group names in zoology. These included establishment of priority for family-group names, and separating priority of the family-group name and priority of the name of the nominate genus (repeal of Art. 5 of the Règles). The comments by Sabrosky (1953) in answer to the call for suggestions on family-group names is basically the same as his 1947 paper and was received by the ICZN in a letter dated 14th March 1946 well prior to the 1948 congress. It is not surprising that, with the exception of his suggestion for dealing with family-group names found to be junior homonyms, the basic ideas advocated by Sabrosky in these papers have become incorporated into the current Code.

C. THE ICZN BETWEEN 1935 AND 1948

1. The XIIth Congress, Lisbon, 1935

Zoologists met at the XIIth International Congress of Zoology, Lisbon, 1935, without any realization that the events of a major world war would delay the next congress for thirteen years until 1948, a time of a completely new world order and the beginning of a period of rapid change in zoology. Moreover zoologists interested in nomenclature did not realize that the composition and operation of the ICZN would have modified drastically with the establishment of a secretariat in London under an active secretary, Mr. F. Hemming, the appearance of two series of publications, including a new *Bulletin of Zoological Nomenclature*, and a new set of officers. And overall interest in zoological systematics, nomenclature, and the International Commission on Zoological Nomenclature would be greatly reduced because of numerous new developments in zoology following World War II. Only four commissioners (K. Jordan, J. Pellegrin, J. L. Peters, L. Stejneger) were present at the Lisbon meeting, none of whom would attend any future meetings of the ICZN. Two new commissioners, F. Hemming and W. T. Calman were elected, and several alternate members, including J. C. Bradley, were named. No modifications of the Règles were proposed at the meetings of the ICZN at the 1935 congress, but significant changes occurred in the composition of the commission. At this meeting, Karl Jordan (Tring Museum, Tring, U. K.) who was elected president of the ICZN in 1929, continued in this post in spite of his advancing years (over 70 years of age). But the important change was the absence of Secretary C. W. Stiles (of the U.S. National Museum, Washington, DC) from the meeting of the ICZN and his resignation as secretary due to ill health; he agreed to remain in this post until a new secretary was elected. Dr. Stiles became secretary of the ICZN at its formation in 1895 and served in this capacity with distinction for the next 40 years, attending every meeting of the Commission until advancing years and illness forced him to miss the 1935 congress. Almost single handedly, Stiles had formulated the style and procedure of the ICZN, which were slow and deliberate, but succeeded in winning the respect of the zoological community for the ICZN and its work. The stature and accepted authority of the Règles and the ICZN was almost entirely due to the efforts of Secretary Stiles. Mr. James L. Peters (Museum of Comparative Zoology, Harvard University, Cambridge, MA) was elected temporary secretary, and the newly elected commissioner Francis Hemming (London, UK), his assistant. However, even during the XIIth ICZ in Lisbon, it was clear that Peters's election was very temporary—actually a transparent fraud as he did nothing in this position. It was agreed that Mr. Hemming would assist Mr. Peters in the discharge of his duties of secretary, but Hemming had already assumed the full role of secretary of the ICZN at the time of the Lisbon congress. He wrote the report of the ICZN published in the proceedings of the XIIth congress (Hemming, 1936), and presented the greetings from the English-speaking zoologists to the Portuguese hosts of the congress (Hemming, in Jorge, 1936: 215–216); his dominant role in the ICZN was clear from the beginning. The following year (1936) Mr. Hemming was unanimously elected Secretary and Mr. Peters, Assistant Secretary of the ICZN.

2. Francis Hemming (1893–1964)

Sometime in the 1920s, Francis Hemming, a lawyer by profession and a wealthy amateur lepidopterist, became interested in zoological nomenclature because of problems he expe-

rienced in ascertaining the valid names for genera in variuos groups of butterflies. Prior to the 1935 congress, Karl Jordan, President of the Commission, urged Hemming to offer his services to the ICZN which was first as a member and almost immediately as Secretary, a position he held until just before the 1958 zoological congress in London (Riley, 1964). Hemming accepted President Jordan's offer, was elected a member of the ICZN in 1935 at the first session of the SN, and attended the remaining four sessions. He was destined to have a major direct impact on the commission for a quarter century until his retirement as Secretary of the ICZN in 1958 (Hemming, 1958k), an indirect effect for the next 25 years via his chosen successor, Richard Melville, and a continuing influence until the present time through the organization and operating procedures of the Secretariat of the ICZN and the establishment of the publication series of the ICZN, including the *Bulletin of Zoological Nomenclature*. Hemming was a person of many talents, and without question possessed a complex personality; I can only report on Hemming's characteristics second-hand using, in part, comments in Usinger (1972), Blackwelder (1967), Riley (1964), reading his published reports, and reading between the lines. Hemming was a person of great abilities and dedication, enormous capacities for hard work over many hours, immense stamina, ability to do without sleep for long periods, great organizational abilities and an excellent memory. He was direct, loud, forceful, aggressive, exceedingly dictatorial and had to be in charge of any situation; he simply was not a team player (a good committee member). He apparently never could admit that any combination of other members of the commission understood the rules of nomenclature better then he did. Hemming was a lawyer and approached nomenclatural problems with the typical adversarial attitude of a lawyer wanting to win his case.

A clear goal set by Hemming for the ICZN and himself was the production of a code of nomenclatural rules written in tight legalistic language—a juristic code. Moreover, Hemming was a British civil service administrator, par excellence, and knew how to operate superbly within this system, including all of its intricacies. [Sir Humphrey Appleby, the Permanent Secretary of the Department of Administrative Affairs and Civil Service nemesis of Cabinet Minister James Hacker of *Yes Minister* fame (Lynn and Jay, 1981), appears to reflect these abilities of Mr. Hemming.] Hemming thought and wrote automatically in the complex jargon of the British civil service system. Position was apparently all-important to him, as can be seen in his reports of the meetings of the ICZN and of the Section on Nomenclature of the 1948 ICZ (Hemming, 1950c, 1950–59) in which Hemming always referred to himself in the third person as respectively "THE ACTING PRESIDENT (MR. FRANCIS HEMMING)" in sessions of the Nomenclatural Colloquia (Hemming, 1950c), or as "THE PRESIDENT (MR. FRANCIS HEMMING)" in meetings of the Session on Nomenclature (Hemming, 1950-59). Both reports are liberally peppered with these expressions. Most important is that Hemming was not a trained zoologist and appeared not to comprehend fully either scientific research or the role of zoological nomenclature within the complete spectrum of communication among zoologists. He was verbose, complex, and obtuse in his writings, apparently a believer in the rule: "Why write it simply, when complex will do just as well". His written applications, comments, and opinions of ICZN decisions were long, repetitive, and complex, providing no more information than the succinct, direct opinions written by Stiles, but being far more difficult to read and comprehend. As a lawyer, Hemming appeared to be unhappy if there were any loose threads left in a decision even if they did not have any close relevance to the case at hand. The result was overly long and unnecessarily complex applications, decisions, position papers, and reports written by Hemming, as is shown by his long comment (Hemming, 1952c) on the two page application to suppress *Colymbus* Linnaeus, 1758 (Meinertzhagen et al., 1952), the elaborate application (Ride et al., 1956) to provide a neotype for *Anas punctata* which was an exceedingly simple matter, and his very lengthy commentary (Hemming, 1957b) on the application to suppress *Calandra* (Insecta). Titles to these papers are long and an everlasting

horror for the bibliographer (e.g., Hemming, 1953d). Unfortunately, in my opinion, the combination of Hemming's bad characteristics overwhelmed his truly excellent positive traits, making most difficult evaluation of his lasting contribution to zoological nomenclature and the ICZN.

3. The London Secretariat

As decided at the Lisbon meeting and following the election of Mr. Hemming as Secretary of the ICZN, the Secretariat was moved from Washington, DC, USA, where it had been located since the beginning of the ICZN, to London, United Kingdom, where it remains to the present day. Mr. Hemming immediately and actively began his work as Secretary, hoping especially to clear up the seemingly never-ending backlog of cases before the ICZN. However, because of the press of other duties facing Mr. Hemming, the Secretariat was not fully operational until the spring of 1939. That year, doubtless because of the obvious signs of forthcoming international armed conflict in Europe, it was necessary for the Commission (that is, the Secretary) to undertake special actions to continue the essential work in zoological nomenclature (which many would have considered to be relatively unimportant during this period of global upset). During that year, Mr. Hemming met with President Jordan to decide on the future course of the ICZN (Hemming, 1944) and of its Secretariat. A number of decisions were reached apparently unilaterally by Jordan and Hemming, without any input from the rest of the ICZN. These decisions essentially placed Mr. Hemming in full control of the ICZN, not only of its Secretariat. President Jordan had reached an advanced age, was becoming increasingly deaf, and was glad to leave the tiresome duties of the ICZN to the young and energetic Secretary.

In September 1939 with the onset of World War II in Europe, Mr. Hemming assumed more essential duties for the British government during the early war years. The Secretariat of the ICZN was subsequently closed until the summer of 1942 when a start was made on clearing up the accumulated backlog of nomenclatural problems and applications (Hemming, 1944: xli). The work of the Commission continued as best as possible during the war and post-war years, but at a far lower level of activity. However, as can be seen in retrospect, Mr. Hemming had started before 1939 to work on his unstated agenda of establishing the Secretariat of the ICZN and himself as the dominant power in zoological nomenclature, and simultaneously diminishing the authority of the ICZN. It is abundantly clear that Mr. Hemming did many things of great benefit to zoological nomenclature and the ICZN during his tenure as Secretary, but it is equally clear that he caused immense difficulties for the ICZN, some of which have lasted to the present day.

As expected, no published documents testify to these motives and actions. All that can be done is to interpret the activities of Mr. Hemming from the time of his assumption of the duties of Secretary of the ICZN in 1936 until his resignation from this position in 1958. Clearly the available facts are subject to other interpretations and other workers may disagree with my conclusions as to the motives and activities of Mr. Hemming and their long range consequences. I will not debate any of these interpretations until the availability of additional documents which I had not been able to examine for this project because funds and time were not available for a study period in London.

4. Founding the Bulletin of Zoological Nomenclature

An immediate problem facing Hemming when he became Secretary in 1936 was how to publish actions undertaken by the ICZN. Prior to 1935, decisions of the ICZN were published by the Smithsonian Institution which had the advantage of incurring no cost to the ICZN, but having the disadvantage of being a potentially nonpermanent arrangement which it proved to be. No information was found in published sources available to me whether any discussions or arrangements took place between the ICZN and the Smithsonian Institution to continue publication of the applications and decisions of the ICZN in the publication series of the U.S. National Museum (Smithsonian Institution), as had been the case under Secretary Stiles. Thus it

is not clear whether the possibility of continued publication by the Smithsonian Institution was available or whether Hemming simply chose not to do so; I suspect the latter. In the early 1940s, Hemming undertook an ambitious publication program of reissuing the decisions of the ICZN as an independent series. However he was still limited in not having a publication outlet for the actions of the Commission—publication of new applications, comments on these applications, decisions of the ICZN, reports of the ICZN, etc. This lack of a definite publication outlet was clearly a serious drawback for the Commission and a major hindrance to its work. In 1943, Hemming decided to establish an independent journal for the Commission, the *Bulletin of Zoological Nomenclature* (Jordan, 1943). This was a courageous and wise decision on Hemming's part. It should be noted, however, that for many years after the founding of the BZN, the decisions of the ICZN continued to be published in a separate series, *Opinions and Declarations Rendered by the International Commission on Zoological Nomenclature*, published between 1942 and 1959.

The several publication series of the ICZN were the only major source of regular income for the ICZN, and Hemming was successful in making these series a profitable undertaking. However, this approach proved eventually to be a major sore point because many institutions around the world could not afford the high cost of these publications. Considerable criticism was expressed about the verbosity of these publications and their high cost, and a showdown occurred at the 1958 ICZ. Lord Hurcomb, President of the International Trust for Zoological Nomenclature (ITZN), was asked to investigate and to institute methods to reduce the size and cost of the *Bulletin of Zoological Nomenclature*.

5. Establishing the International Trust for Zoological Nomenclature

Finances were a major problem for the ICZN, and plagued Hemming continuously during his tenure as Secretary. The ICZN did not have a regular source of income and was not properly established in any country as a nonprofit organization. It did not have a treasurer or any financial organization. Presumably, Stiles handled all of these matters simply as an adjunct to his scientific office at the U.S. National Museum, and was able to cover all expenses of the ICZN within his administrative and scientific budgets. Hence the ability of Hemming to deal with burgeoning financial matters was severely limited. He established the International Trust for Zoological Nomenclature in 1947 with himself as director, as a nonprofit organization in the United Kingdom to handle all financial matters for the ICZN, including its Secretariat. As such, this was a wise decision. But, as will be discussed below, Hemming used the ITZN as a means to circumvent the ICZN in that decisions were made and actions were taken in the name of the ITZN which should have been done under the auspices of the ICZN. These actions included calling and running the nomenclatural colloquia at the 1953 and 1958 congresses, and appointing personnel of the Secretariat.

6. The International Commission of Zoological Nomenclature

Although no possibilities existed for a meeting of the ICZN between 1935 and 1948, changes were made in the composition of this body. Several new members and officers were elected over the years. As mentioned above, Hemming was elected as Secretary of the ICZN in 1936, and Peters as Assistant Secretary, although it is not clear why he was elected because Peters did not do anything in this capacity. The position of Vice President of the ICZN was created at the 1935 congress, and Commissioner Stiles was elected to this position in 1939. After Stiles' death, Peters was elected as Vice President in 1945. Although Peters was subsequently elected President of the ICZN in 1948 following Jordan's resignation, there is no evidence suggesting that Peters played an active role in the ICZN after the 1935 congress when he last attended an ICZN meeting. Because of his increasing age and growing deafness, Dr. Jordan was less and less able to exercise his role as President of the Commission after the 1935 congress. Responsibility for the ICZN fell more and more on Secretary Hemming who was eager to accept them and who had become by 1948

the most knowledgeable and most powerful person in the ICZN. Hemming's dominant position relative to ICZN presidents continued until Hemming's resignation as Secretary in 1958. It should be noted that during the entire tenure of Mr. Hemming as Secretary of the ICZN, presidents of the ICZN were quiet, shy persons who were no match for its forceful, loud, and active secretary. It is not clear whether Mr. Hemming pushed the elections of Mr. Peters and of Professor Bradley as presidents of the ICZN to insure his ready domination of the ICZN, or whether their elections were independent of Mr. Hemming's plans.

By 1948, the Commission had not met for over a decade, all business was conducted by mail through Hemming, and several commissioners had died or resigned during this time. Most commissioners elected between 1935 and 1948 had never attended a meeting of the ICZN, and most likely did not know the procedural rules of the commission as provided in the By-laws. Hemming was clearly in control and felt that he could dictate the future direction of the ICZN and of zoological nomenclature when the first post-war zoological congress was announced for Paris in 1948.

7. By-laws of the Commission

The procedural rules of operation governing the ICZN, as codified in its By-laws, deserve a special comment because they played (actually did not play) a central role in the 1948 meeting of the ICZN at the Paris ICZ. It should be noted that one of the more elusive subjects on which to obtain information for this history of the ICZN was the By-laws. The original By-laws of the ICZN were adopted at the 1910 ICZ at Graz (Stiles, 1912: 321). Stiles (1912, 1929b) outlined the procedure for instituting proposed amendments to the Règles in some detail. According to the Washington Nomenclatural Discussion Group (Steering Committee, 1950: 28) these By-laws were revised in 1939, but essentially maintained the same wording as the original ones. It is not clear whether anyone had the authority to modify the By-laws during the period between the 1935 and the 1948 zoological congresses, whether the By-laws were actually revised in 1939, and whether the revised By-laws were ever published. I doubt that the By-laws were revised during this period because I do not know who would have had the authority to do so and I know of no publication of any revised By-laws of the ICZN between 1912 and 1965. Certainly Jordan and Hemming did not have the authority by themselves to revise the By-laws, and Hemming appeared to follow accepted rules closely in his activities as Secretary of the ICZN. The By-laws could have been modified by a mail vote of the ICZN in 1939 and not reported because no ready vehicle for publication had not existed at that time. But, when Hemming founded the *Bulletin of Zoological Nomenclature*, he published in full detail the several actions taken by Professor Jordan and himself during the years between 1935 and 1945. I could not find any mention of changes in the By-laws in the report on the 1939 conference between Jordan and Hemming (Hemming, 1943e) or in his detailed report of the meetings of the ICZN at the 1935 ICZ, Lisbon (Hemming, 1936, 1943d).

For the By-laws to have been revised during the period between 1935 and 1948 and for this action not to have been reported fully in the BZN simply does not agree with Mr. Hemming's well-established pattern of behavior of reporting all of his formal activities undertaken for the ICZN in complete bureaucratic detail. Therefore, no evidence is known to me which suggests that these revised By-laws were actually published, if they were indeed ever revised (see Usinger, 1972: 108). Hence, I can only conclude that the comment by the Washington Nomenclatural Discussion Group on the 1939 revision of the By-laws is in error. (Dr. Sabrosky informed me by letter that his recollection was that a new set By-laws were adopted in 1939; hence the existence of the 1939 By-laws is still unresolved.) Mr. Hemming realized clearly that the By-laws of the ICZN were in serious need of revision in 1948, and a number of proposed amendments and additions were discussed during the meetings of the 1948 meetings of the ICZN (e.g., Hemming, 1950c: 323–328; see below, Section E.3). These amendments to the By-laws were passed by the ICZN and by the SN of the ICZ. But as far as I can determine, the pro-

cedure of amending the By-laws was not carried to completion because these revisions were never published properly as stipulated by the SN (see Hemming, 1950c, 1950d, 1950–59). Moreover, no further (published) mention of By-laws was made by Hemming or other members of the ICZN until the end of the meeting of the ICZN at the 1958 ICZ, London. Hence I can only conclude that the ICZN operated under the unrevised 1910 By-laws until after 1963. Development of the currently accepted Constitution and By-laws of the ICZN will be discussed below in Section III.J.4 on the XVth ICZ, London.

8. Plans for Meeting of ICZN at XIIIth ICZ, Paris, 1948

Not much published information is available about the plans for this meeting. However, Mr. Hemming had travelled to North America during the winter of 1947–48 and met with zoologists in Canada and the United States to discuss the forthcoming meeting (Hemming, 1947). The brief notice published in *Science* did not contain even the most general account of the agenda for the 1948 meeting of the ICZN. Agenda papers for the 1948 meeting were only published two years after the congress (Hemming, 1950a). No published evidence is available supporting the claim that Mr. Hemming or anyone else (? Jordan, Peters) responsible for planning the meetings of the ICZN at the 1948 Paris ICZ had, prior to that congress, informed members of the ICZN and/or zoologists interested in zoological nomenclature of plans to undertake a major revision of the Règles at the 1948 zoological congress. Professor Usinger (1972) who was in London just prior to the 1948 meeting of the ICZN and was appointed as an Alternate Commissioner for the meeting was not provided with any information about the plans for this meeting until he met Mr. Hemming by chance outside his hotel in Paris the evening before the opening of the congress and the first session of the ICZN. At this time Mr. Hemming handed Professor Usinger a thick stack of mimeographed papers constituting the agenda items for the meeting; this included the proposed modification of the Règles. This was the first indication received by Professor Unsinger and other commissioners of Mr. Hemming's plans to revise the Règles at the 1948 congress.

D. STATUS OF ICZN AND OF THE RÈGLES IN 1948

1. Introduction

In 1948 when consideration was given to major changes in the Règles, family-group names possessed a peculiar status among names used by systematists for zoological taxa. In contrast to names for higher level groups (orders and above), family-group names had been included in the Règles ever since they were adopted in 1901, but these names were not covered by many important provisions of the Règles, such as priority and homonymy. Hence as zoological names included under the Règles, family-group names were neither fish nor fowl. Clearly in 1948, no one would suggest that family-group names be excluded from the provisions of nomenclatural regulations, but on the other hand if these names were to be included in these rules, most workers (see Sabrosky, 1939, 1947) believed that they should be fully covered by the rules of nomenclature, including priority independently of the priority of the names of nominal genera. A few workers (e.g., Sabrosky, 1939, 1947) had very definite ideas of changes that should be made in the rules regulating family-group names and why. In this case, it was to protect a number of well-established family-group names in the Diptera from change resulting from the application of Article 5 of the Règles to changes in the valid name of many nominate genera from names used by Meigen in 1803 to names used earlier by Meigen in 1800. It is clear from Sabrosky's analysis (1939) that family-group names for the Diptera were is a serious state of instability during the 1930s largely because of Article 5 which would have been prevented if family-group names were governed by priority independently of the priority of genus-group names. Although the arguments presented by Sabrosky are basically sound and would solve many difficulties in family-name nomenclature, he apparently pushed his ideas without any analysis of their consequences for family-group names in all groups of animals. Most workers did not con-

sider or, most likely, had no comprehension of the effect of modifications in the regulations on all zoological family-group names, especially on the continuity of usage of well-established names in all groups. If family-group names had not been included within the coverage of the Règles prior to 1948, I suspect strongly that the revision of the rules begun at the Paris congress would not have considered family-group, order-group and other higher level names. Most likely, zoologists would have decided to exclude family-group names as was eventually done for names of orders and higher level taxa. Thus the important issues to consider in this historical analysis of changes in the Règles are not *why* priority and other regulations were extended to family-group names, but *how* these regulations were extended to family-group names in the new Code and what considerations were given to maintain continuity, stability and universality of well-established taxonomic names for family-level groups.

2. Status of the Règles in 1948

The rules of zoological nomenclature were seriously out of date by 1948, and no available official set of regulations existed in published form since the 1927 Congress in Budapest (Stiles, 1929a). This publication was not readily available to most systematists. These rules were available in some unofficial forms (Anonymous 1926; Schenk and McMasters 1936; Keen and Muller, 1948, and in most major European languages), but not all of these publications included the latest amendments to the Règles. Many changes in these rules were made in various decisions reached by the ICZN subsequent to 1935. Because these diverse changes were published as separate opinions, these modifications in the Règles were difficult for the general systematist to understand even if he\she had all of the publications available. Basically the rules of zoological nomenclature had become a complex set of case-law regulations scattered in opinions rendered by the ICZN over several decades. It is surprising that any zoologist was able to apply the rules of zoological nomenclature aside from the simplest cases. Moreover, the diverse modifications in the Règles proposed since the 1935 congress had to be approved by a vote of the membership of the Section on Nomenclature at the next ICZ before they could become permanent. And problems in zoological nomenclature had become increasingly difficult as the years passed, especially as several different schools of nomenclatural thought developed; these ranged from workers who believed absolutely in strict priority to those who favored continuity of nomenclatural usage, including conservation of well-established names and suppression of forgotten names. By 1948 a growing number of zoologists believed that the many decades of application of priority to zoological names had not solved the problems in zoological nomenclature and that stability in nomenclature was actually decreasing with continued application of strict priority in all cases. Publication of a new edition of the Règles was an important item in the agenda of the Secretary, being mentioned by Hemming (1943b) in his estimate of the expenditures required for the ICZN to complete its outstanding commitments, and again listed prominently by Hemming (1945) in the report of activities of the ICZN for 1944. The sense of his comments in 1943 and 1945 was that the ICZN had decided to publish an official edition of the Règles in French and English as they existed at that time. The impression was given that this project was well underway with the French text already completed and that once existing problems in the English translation were overcome, publication of the new edition would be undertaken without delay. Although a strong argument could have been presented that one of the important tasks facing the ICZN after re-establishment of international normalcy following the end of World War II was a thorough review and revision of the Règles, I know of no published statements by Hemming prior to the 1848 congress that he planned an extensive revision of the Règles be undertaken by the ICZN during their meeting at the 1948 Paris ICZ (see Steering Committee, 1950). Nor do I know of any evidence that the revised French text was actually completed and seen by any interested zoologist. And it is not clear what this revised French text could contain as no one had the authority prior to the meeting of

the SN at the 1948 ICZ to approve any modifications in the Règles.

3. Status of International Commission on Zoological Nomenclature in 1948

Even more than the Règles, the ICZN was in a sad state of disrepair when it met at the 1948 Paris Congress of Zoology. President Jordan was old (87 years) and totally deaf, and did not attend the congress; he would not have been able to chair the meetings of the ICZN if he had been there. Vice President Peters did not attend, nor did a majority of the members of the ICZN. Recall that in the summer of 1948, most European countries had not yet recovered from the ravishes of World War II, and a large number of zoologists, even those from North America, were unable to attend this congress. Only five members of the ICZN (F. Hemming, H. Boschma, J. C. Bradley, L. di Caporiacco and P. Rode) were able to attend and one of these, Professor Rode, was so involved with congress business that he was unable to take part in meetings of the ICZN (Hemming, 1950c: 2); he never had a role in the ICZN thereafter as he died in 1950 (1950, BZN 2: 4). Bradley was to play an important future role as president of the ICZN and as preparer of the first draft of the new Code after the 1953 congress, but he never had a strong direct role in meetings of the ICZN during zoological congresses. Dr. H. Lemche was appointed as an Alternate Member and was subsequently elected as a full member of the Commission during the 1948 congress. He played an important future role in the preparation of the Code as a leader of European zoologists stressing the importance of continuity of nomenclature. Although Stoll (1961: xiv) gave the impression that he was present at the 1948 meetings, neither N. R. Stoll nor C. W. Sabrosky were listed as being present at the 1948 meetings; both workers were subsequently deeply involved with work on the new Code and eventually wrote the draft that formed the foundation of the first edition of the new Code. A majority of members of the ICZN attending these meetings were alternative Commissioners (a total of 11; Hemming, 1950c: 4), most of whom were informed of their appointment immediately prior to the congress or at the congress, and hence had little time to prepare for these meetings. No information is available on how these Alternate Commissioners were chosen and by whom. Clearly there were serious restrictions on the choice of Alternate Commissioners as the membership of the Paris congress was limited because of the abilities of individual zoologists to attend. Presumably Alternate Commissioners were zoologists who were from the same country, who were as far as possible interested in the same group of animals as the absent Commissioners, who would be attending the XIIIth congress, and who had some interest in nomenclature. Usinger, an Alternative Commissioner, was able to attend the Paris Congress because he happened to be on sabbatical leave in London. He was notified a few weeks prior to the congress, and spend most of the subsequent evenings preparing for these meetings (Usinger, 1972: 106–108), but without any conception of the agenda prepared by Hemming.

Clearly the ICZN had major tasks before it during the 1948 congress—such as to review and reorganize its membership, to revise its rules of operation, to prepare for future work, and to consider the most pressing cases of zoological nomenclature. These tasks were more than sufficient to occupy fully the Commissioners of the ICZN especially considering the long hiatus since the 1935 meeting of the ICZN and the extensive change in the composition of the commission. It would have been possible to introduce the idea of revising the Règles, and even to present a broad outline of items to be considered in this revision and a sketch of possible procedures to prepare the revision (which in reality were all that was accomplished at this congress toward revision of the Règles). But it was completely ludicrous for anyone to believe that the unprepared regular and alternate Commissioners of the ICZN could achieve a complete revision of the Règles in addition to their other tasks at the 1948 congress. The sensible procedure would have been to appoint a committee to prepare a draft, with explanations, for a new set of regulations to be considered at the following zoological congress. Future events demonstrate that the attempts of Mr. Hemming to force a full revision of the rules of zoological nomenclature

during the 1948 congress resulted in a significant delay in this work until 1961 and, very fortunately, resulted in a Code quite different from that envisioned by Hemming.

E. THE XIIIth CONGRESS, PARIS, 1948

1. Introduction

Zoologists had decided to organize the XIIIth International Congress of Zoology in Paris, July 1948, at a time before the European countries had really recovered from the devastation and upset of the Second World War. Preparation time for this congress must have been most limited. Not only could relatively few European zoologists attend, but also few North American workers. But since the decision was made to hold a zoology congress, it was necessary for the ICZN to hold formal meetings at the congress. Secretary Hemming (1950a) prepared carefully and thoroughly for the 1948 meeting of the ICZN. The published documents for the agenda filled a volume of 250 pages of the *Bulletin of Zoological Nomenclature*, but this material was published only two years after the congress; this material was not available to most, if any, of members other than Hemming, regular or alternate, of the ICZN prior to the meetings. Each member of the ICZN received at the congress a large pile of mimeographed papers constituting the agenda for the ICZN meetings; presumably these were the same materials subsequently published (Hemming, 1950a). As stated by Usinger (1972: 108), he did not know what to expect at the sessions of the ICZN and was totally surprised when he learned upon his arrival in Paris that Hemming planned a complete revision of the Règles in addition to the normal full business of the commission. One wonders whether conscientious members of the ICZN attending this congress were able to listen to any scientific papers or interact with any other zoologists.

The first session of the ICZN was devoted to presenting the regular Commissioners of the ICZN attending, listing those who could not attend, introducing the Alternate Commissioners and other formal matters. The first action requested by Hemming at the second session was a vote to suspend the By-laws (Hemming, 1950c: 7–8) on the grounds that the ICZN was faced with a heavy agenda and the most expedient procedures should be used, including some joint sessions with the Section on Nomenclature. [This technique had been used earlier at the Lisbon meeting, when the By-laws were suspended briefly during the session of 28 October 1935 (Hemming, 1943d: 11).] This proposal was accepted (Usinger, 1972: 108) although as Usinger pointed out, most or all of members of the Commission with the exception of Hemming did not know the contents of the By-laws or the consequences of suspending the By-laws. Clearly in this matter and many others both at the 1948 and the 1953 meetings of the ICZN (including the Nomenclatural Colloquium), members accepted Mr. Hemming's interpretation of procedural matters and voted to accept the proposals he made. In the published report, it was specifically mentioned that suspension of the By-laws removed the need to have proposed amendments to the Règles placed before the ICZN a year prior to their being presented to a congress. It is not at all certain whether this information was made known to members of the ICZN prior to their vote on suspension of the By-laws. However, suspension of the By-laws could not be used to omit action by the ICZN on proposals properly filed with the Secretariat as had been done by zoologists from the Smithsonian Institution. The request by Hemming to suspend the By-laws and his failure to bring these proposals before the ICZN was the foundation for the major controversy involving the Washington Nomenclature Discussion Group which erupted following the 1948 congress.

2. Reorganization of the ICZN

Clearly the first and most important order of business facing the ICZN at the 1948 congress was its reorganization. The ICZN had to determine which commissioners could continue to serve, elect new commissioners and officers of the ICZN, revise the By-laws, and plan the future business of the ICZN, including establishing a sequence of priorities of matters to be dealt with over the next several years in preparation for the 1953 congress. The 1953 congress would be attended by more zoologists and members of the com-

mission, and sufficient time would be available prior to it for proper preparation for major undertakings such as a revision of the Règles. Many of these issues were covered in the 1948 meetings of the ICZN (Hemming, 1950c). However, careful deliberation on these several important topics was compromised at the 1948 meeting because Hemming had planned to undertake a full revision of the Règles, which no one was really prepared to do and which would required much of the time available for meetings of the ICZN. A few important items should be mentioned and discussed.

The first action taken by Hemming (1950c: 11–13) was to obtain retroactive approval by the ICZN of the emergency actions taken by President Jordan and himself in 1939 (Hemming, 1943e). It is a bit interesting, and indeed amusing, why Hemming acted in such a formal fashion for decisions made a decade earlier and for which no further actions or approval were necessary.

Second was the re-election of extant members of the ICZN and election of new members which went reasonably well, but not without some most questionable actions instigated by Hemming and accepted by the ICZN and the SN (see Blackwelder, 1967: 383). Under the emergency powers assumed by Hemming in 1939 with Jordan's concurrence, Hemming (1950c: 13) had decided not to include Professor Rudolf Richter (Frankfurt a. M., Germany) in the class of 1949 to be re-elected in 1948 simply on the grounds that he was German. (Yet Hemming still listed Professor Richter as a member of the ICZN in volumes of the BZN published as late as 1950.) Subsequently and again at the instigation of Hemming, the ICZN and the SN (Hemming, 1950c: 18–19) voted not to re-elect Professor Richter (Germany) and Professor Teiso Esaki (Japan) to the ICZN on the grounds that they were German and Japanese respectively. This action placed a black mark against Hemming and the ICZN as they decided on the apparent guilt of these members of the Commission for presumed actions taken during World War II in the total absence of any evidence. [Personal inquiries that I made in Frankfurt and elsewhere in Germany revealed no hints of any improprieties on the part of Professor Richter during World War II. I was also informed by Professor Otto Kraus that Professor M. Caullery, President of the XIIIth ICZ sent an immediate letter of apology to Professor Richter. However, no such apology or retraction of the action taken by the ICZN was published by this body.] In removing him as a commissioner, the ICZN lost the services of Professor Richter, a most devoted and knowledgeable scholar of zoological nomenclature (see Richter, 1948). Professor T. Esaki was re-elected to the Commission on 17 April 1950 (1950, BZN 2: 5) and took part in the 1953 Colloquium on Nomenclature. Professor Richter was invited to attend the Copenhagen Colloquium, but declined this invitation. He was replaced on the ICZN by Professor Robert Mertens (of the Senckenberg Museum, Frankfurt am Main, West Germany—the same institute to which Professor Richter belonged) who was elected on 5 July 1950 (1950, BZN 2: 5).

With the resignation of Karl Jordan as President, officers of the ICZN had to be elected. The commission decided to create the new position of Honorary Life-President and to elect Karl Jordan to this position. Although Jordan resigned as a commissioner in May 1950 (1950, BZN 2: 4) he remained Honorary Life President until his death on 12 January 1959. Vice-President J. L. Peters (USA) was elected President, F. Hemming (UK) re-elected Secretary and A. do Amaral (Brazil) elected Vice-President. The office of Assistant Secretary was left unfilled. This office was not filled again until after Hemming retired as Secretary of the ICZN in 1958.

3. By-laws of the ICZN

Another major problem facing the ICZN was updating its By-laws. It is unclear whether the By-laws were revised since the 1910 Graz ICZ. Extensive discussion was given to the matter of the nomination, qualifications, etc. of members of the ICZN (Hemming, 1950c: 35–49), to procedures of voting (pp. 49-51), to matters of priority, etc. (pp. 323–328). Some of these suggestions provide a good reflection of Hemming's basic outlook on organizational matters, such as the grounds for removing a person as commissioner, namely:

(c) The office of a member of the Commission shall be vacated:—
(i) if, on conviction in a Court of Law, other than a Court established in time of war by an Occupying Power, he is sentenced to a term of imprisonment;
(ii) if he becomes bankrupt;
(iii) if he is found lunatic or becomes insane;
(iv) if by notice in writing he resigns his membership of the Commission. (Hemming (1950c: 49).

Aside from the fact that many zoologists consider all members of the ICZN to be insane based on the decisions rendered by this body or simply because they agreed to serve as commissioners, one wonders what the first three reasons have to do with the ability of a person to carry out the duties of a commissioner. [It should be noted that at their meeting at the XVIth congress in 1963, the ICZN suggested that Dr. F. Prantl (Czechoslovakia), who was imprisoned for unknown reasons, might be replaced as a commissioner if all attempts to ascertain the reasons for his imprisonment failed, "since a Commissioner to be effective must be a persona grata with his own government". (China, 1964a: 164–5). The logic of this argument escapes me. Why would any national government be concerned in the least with zoological nomenclature? Moreover, it is not clear to me on what authority the ICZN was acting in 1963 in removing Dr. Prantl as a Commissioner of the ICZN.] It should be noted that these complex reasons for removing members of the ICZN were never enacted, and bankrupt or insane zoologists can continue to serve as commissioners of the ICZN.

Subsequently the ICZN turned its attention to the By-laws of the Commission, listing a number of items to be included (Hemming, 1950c: 59–61; 323–328). The Secretary was requested to draft a revised text of the By-laws as soon as convenient and circulate them to members of the Commission for approval. After the By-laws were approved by the ICZN, they were to be printed and offered for sale. To my knowledge, this work was never carried out during Mr. Hemming's tenure as secretary. It is not clear whether any of the actions taken on the By-laws of the ICZN at the 1948 zoological congress represent official amendments of the 1910 By-laws; my feeling is that the proposed changes in these By-laws at the 1948 congress were never properly adopted. Although some procedural matters of the ICZN were discussed at the 1953 Nomenclatural Colloquium (Hemming, 1953B: 86–92), no further discussions of By-laws or a constitution were held at the XIVth Zoological Congress in Copenhagen (1953) or the XVth Congress in London (1958).

In his draft of the new Code, Bradley (1957: 245–270; under Art. 29) included a detailed set of "organic rules" (? = a constitution) for the ICZN. These proposals were reduced considerably and appeared in the new Code as Section XVII entitled The International Commission on Zoological Nomenclature (ICZN, 1961: Arts. 76–82, pp. 83–89). The final article in this section (Art. 92; p. 89) mentioned a Constitution and By-laws of the ICZN and how these can be amended. But the Code did not include a constitution (organic articles) and/or a set of By-laws, nor have these been published elsewhere since the original By-laws (Stiles, 1912). And to my knowledge, no constitution existed for the ICZN in 1961, and the By-laws were still those adopted in 1910 (see below, Section III.J.4).

4. Revision of the Règles

When the members of the ICZN arrived in Paris, a sizeable part of the large pile of mimeographed papers they received formed the draft of a proposed extensive revision of the Règles. This proposal came as a surprise to most, if not all members of the ICZN other than Mr. Hemming, including the regular members of the Commission (Usinger, 1972: 108). The members of the ICZN were simply not able to undertake such a massive task without considerable preparation prior to the congress, especially since a majority of the Commission members at the 1948 congress were Alternate Members lacking direct experience in deliberations within the Commission [subsequent protests of Hemming (1950e) notwithstanding]. Nevertheless, Hemming pushed forward toward his objective, using his prepared text as the foundation for the revision. Yet it was obvious that, even with the preparations made by Hemming, major problems existed in the rules of zoological nomenclature which simply could not

be solved at the 1948 meeting. One of these was the entire matter of family-group names. The decision was reached (Hemming, 1950c: 138–139) that the Secretary be requested to undertake a study of family-group names. Subsequently other difficulties in the Règles were identified. In total, seven major problem areas were identified, and the Secretary was requested to undertake studies of each, prepare, and publish reports on each for consideration by the ICZN at their next meeting (Hemming, 1952a, 1953b: 9–10). These major problems should have signaled to everyone the futility of continuing to press for the adoption of these extensive modifications to the Règles, but Hemming persevered and obtained votes of adoption of the new rules from both the ICZN and from the Section on Nomenclature (Hemming, 1949a). The decision was made that the draft of these amendments was to be submitted to a group of jurists for editing and preparation of a revised draft, then communicated to members of the ICZN and to all Alternate Members serving at the 1948 congress for approval, and finally be published by the ITZN. The amendments were to go into force immediately on publication, but only after this entire process was carried out, including publication of the new rules separate from any proceedings of the 1948 zoological congress (Hemming, 1949a). The publication of the approved amendments in the proceedings of the ICZN meetings and of the Section on Nomenclature meetings would not be sufficient for enactment of the new rules. Zoologists and the ICZN were advised to guide themselves in their work by the proposals as published in the report of the 1948 meetings of the ICZN (Hemming, 1950c) as if the revised Règles were already published and in place (Hemming, 1950f). This advice was misplaced because, although Hemming considered these amendments to be in place, the above procedure was never taken to completion and the revised Règles were never officially published during Hemming's tenure as secretary. Between 1948 and 1961 when the new Code was published (ICZN, 1961), the only valid rules of zoological nomenclature in force were the pre-1948 Règles, in spite of any comments to the contrary by Hemming and others. It has been reported to me by Sabrosky that he understood that the draft of the 1948 amendments was submitted to jurists and a revised text was prepared by this board of jurists. But this draft was never submitted to the ICZN and the 1948 Alternate Members serving at the 1948 congress, and has apparently been seen by very few people, if indeed it ever existed. Sabrosky never saw the juridical draft of the rules and could only report its existence by hearsay. In any case, hopes for a revised Règles soon after the 1948 congress were never realized.

F. AFTERMATH OF THE 1948 CONGRESS

1. Introduction

In his autobiography, Professor Usinger (1972: 109–110) noted that during the 1948 congress, he feared that Hemming was progressing too rapidly in pushing for adoption of the new rules of nomenclature; consequently Usinger attempted to enlist the assistance of Professor J. Chester Bradley to present a motion outlining a procedure by which the results of the meetings of the ICZN in Paris would be submitted to the entire membership of the ICZN for their comments and vote. [Note that Usinger, p. 109, erred when he stated that Bradley was President of the ICZN in 1948 and could have presided over these meetings if he had chosen to do so. This is not correct. Following the resignation of Karl Jordan, Mr. J. L. Peters was elected President of the ICZN. Professor Bradley was elected President only on 27 November 1952 following the death of President Peters on 19 April 1952. Usinger apparently confused aspects of the 1948 meeting of the ICZN with those of the 1953 Colloquium on Nomenclature when Bradley was President of the ICZN, but still did not preside at the colloquium.] Usinger (1972: 110) stated that the results of the 1948 meetings of the ICZN at the Paris ICZ had set off a bitter controversy which he predicted at the end of the Paris congress. This controversy involved two different groups of zoologists and focused on two distinct matters which will be discussed separately. Usinger's assessment of the achievements of the ICZN at the 1948 Paris Congress are quite different from the glowing report submitted by Hemming (1949a) to the

zoological congress which implied that completion of the draft of the new Règles was imminent.

2. The Smithsonian Institution group

The first announcement of the results of the 1948 ICZN meetings, at least in North America, were several reports by Hemming (e.g., 1948, 1949b; citation to other letters can be found in the reply by the Washington Steering Committee, 1950); these reports sparked part of the controversy expected by Usinger. One expects that Usinger played a major role in its development by briefing his entomological colleagues, especially those advocating strict application of priority, on the consequences of the 1948 ICZN meetings. This controversy began with a published criticism by the discussion group of zoologists interested in nomenclature at the U.S. National Museum, Washington, D.C. (Steering Committee, 1949) of the procedures used by Hemming and accepted by the ICZN and the SN at the 1948 Paris ICZ. The Washington Steering Committee was concerned mainly with the failure of the ICZN under Hemming to follow established procedure which specified that all proposed amendments to the Règles had to be filed with the ICZN a year prior to the congress at which they are to be considered. Further, members of the Washington Committee were annoyed that properly submitted proposals from their group (Blackwelder et al., 1947, 1948; Sabrosky and Sailer, 1948) were not placed on the agenda by Hemming, and thereby were not considered by the ICZN at the 1948 congress. This criticism led to a series of letters to the editor of *Science* (Hemming, 1950; Hindle and Riley, 1950; di Caporiacco, 1950; and Bradley, 1950), most supporting the actions taken by Hemming. But it should be noted that most authors of these letters had taken part in the 1948 ICZN meetings and were simply defending themselves. Reference was made to earlier letters of Hemming (1947, 1948, 1949b, see also Steering Committee, 1949 for additional citations), the existing Bylaws (Stiles, 1912) and procedures for submitting amendments to the Règles (Stiles, 1913, 1929). The Washington Group (Steering Committee, 1950) replied to the abovementioned letters and stated that none of the answering letters dealt with their major thesis that Hemming and the ICZN failed to follow proper procedures in adopting the amendments to the Règles at the 1948 congress. This letter appeared to be the end of the published portion of this controversy, but was not its termination by far. It is not possible to ascertain with certainty, what events served as causes for development of nomenclatural matters during this period, but it appears most likely that the criticism raised by the Washington Group was one of the important factors which prevented the final vote by the ICZN on the edited draft of the revised rules (if it ever existed) and the proper publication of the amendments of the Règles passed at the 1948 Paris Congress as had been specified by the congress (see Hemming 1950f).

Regardless of their position on particular rules of zoological nomenclature which was not an issue in this controversy, members of the Washington Group were fully justified in their criticism of the disregard for accepted procedures of the ICZN and of the haste used by Hemming in his attempt to modify the Règles at the 1948 congress. Hemming's actions showed a great lack of concern for the ICZN and for zoologists in general, and demonstrated, at least to me in retrospect, the existence of an unspoken agenda of Hemming to establish himself as the ultimate arbitrator of zoological nomenclature. No time was gained by pushing for a revision of the Règles at the 1948 meeting because the Colloquia on Nomenclature in 1953 and 1958, as well as the zoological congresses in these years, paid scarce attention to the decisions reached in 1948. And the new Code which was eventually published 13 years later only after the end of Hemming's tenure as Secretary of the ICZN, showed scant resemblance to the changes proposed in 1948. But much was lost in that the controversy following the 1948 congress led to deep and totally unnecessary splits between diverse groups of zoologists interested in nomenclature as well as to problems in the Code related to continuity of nomenclature which have lasted until the present day.

3. The Scandinavian-American Group

The second part of the controversy dealt with aspects of nomenclatural rules them-

selves and involved a enormous groundswell of support from many zoologists for major modifications in the rules. These zoologists were dissatisfied with some of the provisions in the Règles which they believed led to numerous changes in names simply for nomenclatural purposes and to the serious detriment of communication between all zoologists (see Mayr et al., 1953: Chap. 11 for an excellent discussion of the pros and cons of the principle of priority). The problem revolved largely around a conflict between a small group of "nomenclaturists" (specialists in nomenclature and largely "prioritists" who believed strongly that priority was the only way to achieve stability in nomenclature) and the large bulk of zoologists who used scientific names of animals in their daily work and communication. This loose group of dissatisfied Scandinavian-American zoologists argued that although priority was needed for zoological nomenclature, its strict and unyielding application resulted in numerous unnecessary changes in scientific names for animals and in a needless burdening of zoologists with additional names before final stability was reached. Moreover, it should be noted, that zoologists would continued to be burdened with these additional names even after establishment of final stability because of the necessity to use the older literature in which the earlier valid names were used. They argued that priority had to be tempered with strong rules supporting continuity in usage of well-established names in zoology. This position was not a new one but dated back to the early years of the 20th century when a firm principle of continuity was advocated (Bradley et al., 1912). It was supported by a large group of zoologists in the United States under the leadership of Professor K. P. Schmidt (1950) of the Chicago Natural History Museum and a second group of European zoologists, mainly from the Scandinavian countries, led by Professors Henning Lemche and Ragnar Spärck (1950) of the Zoological Museum in Copenhagen Denmark. It should be noted that not all zoologists in North America and Scandinavia were members of this group; many agreed with the approach to nomenclature advocated by the Washington Group.

Proponents supporting the two opposing positions of the controversy centering around the strict application of priority attended the 1953 Nomenclatural Colloquium held just prior to the 1953 ICZ in Copenhagen where they had ample possibilities to argue their diverse points of view. Unfortunately the very different positions of the Washington Group and of the American-Scandinavian Group were confused in reports of these meetings, giving the impression that there was a single unified opposition to the procedures advocated by Mr. Hemming as Secretary of the ICZN. Each of these opposition groups contributed importantly to the Copenhagen meetings which can only be understood in light of the matters raised by each group. By insisting that attention be given to proper procedures, the Washington Group insured that these meetings be opened to all interested zoologists. The development of a new set of rules would be based on full discussion by all interested zoologists followed by careful drafting of the final manuscript by nomenclatural specialists. And by focusing attention on the problems of communication between zoologists in the face of excessive name changes because of strictly nomenclatural decisions, the American-Scandinavian Group pushed for major changes in the rules supporting continuity of usage of well-established names.

These two groups did not present a united front and frequently argued at cross purposes to each other both at the 1953 Copenhagen and the 1958 London congresses. This, combined with a weak president of the ICZN, permitted Mr. Hemming to complete much of his program for the ICZN before his retirement in 1958 just prior to the London congress. Nevertheless, the Washington Group succeeded by having the final manuscript of the new Code written clearly and simply by an editorial committee of specialists, and the American-Scandinavian Group succeeded by having strong language supporting continuity of usage included in the Code.

G. PREPARATION FOR THE 1953 CONGRESS

1. Introduction

Even before the end of the 1948 meetings of the ICZN, it was abundantly apparent to any reasonable person that it was not possible

to produce a completely revised Règles based on the work done at the Paris zoological congress. Too many major nomenclatural problems were left unresolved at that meeting. The Secretary was requested to research seven cases, publish his findings in the BZN, and request comments from zoologists (Hemming, 1952a, d, e, 1953b: 9–10, 1953d). These cases included means by which greater stability in zoological nomenclature could be obtained (= continuity of nomenclature; case 1), family-group names (case 3), and names for groups at levels above the family (i.e., orders and higher; case 4) all of which are of particular interest to this monograph. (Note that these case numbers from Hemming, 1953b: 9–10, differ from the case numbers given in Hemming, 1952b [e.g., case 7 = 1; case 2 = 3 and case 3 = 4]; the former case numbers are those in Hemming, 1952a and the latter used in comments published in the *Bulletin of Zoological Nomenclature* and the Copenhagen decisions.) Hemming duly researched and published on these cases and requested comments from zoologists which were published at great length in the BZN. Unfortunately, most of these comments were published so immediately prior to the XIVth International Zoological Congress in Copenhagen, 1953, that they never reached zoologists in time for careful study and preparation for the nomenclatural meetings at that congress.

2. Family-Group Names

Hemming (1952b) published the results of his analysis of family-group names on 15 March 1952 and requested comments by zoologists. These comments were published in July 1953 as case 3 in the BZN, vol. 8(6/9), but again too late to reach zoologists before the congress. Only the more important comments will be cited; these include Sabrosky (1953; which is basically the same as Sabrosky, 1948), Grensted (1953; which is basically the same as Grensted, 1947), Kevan (1953), Bairstow (1953), Moore (1953), Zimmer, (1953), Blackwelder (1953), Follett (1953), Michener (1953), Bradley (1953), and Hemming (1953a). Of interest is mention of a manuscript by E. Gordon Linsley and R. L. Usinger which was sent to Hemming but apparently never submitted formally for publication. Linsley and Usinger had prepared a manuscript at the time of the 1948 congress or shortly thereafter on the subject of family-group names but requested that it not be published at that time (1950 BZN, 4: 273). This manuscript was not resubmitted as a document under case 3 (1953 BZN 8(6/9): 187) but its essence was said to be published as Appendix 1 in Follett (1953).

These comments published under case 3 covered a broad range of opinions with some authors (e.g., L. B. Holthuis) favoring strict priority for family-group names and others (e.g., H. Lemche) against an extension of priority to family-group names. Sabrosky (1947, 1953) presented a rather complete set of regulations for achieving stability of family-group names which became the basis of these regulations eventually published in the new Code. Some general agreement existed such as on the endings to use for subfamilies and families (but not tribes and superfamilies) and on retaining the original family-group name even with changes in the name of the nominal genus because of synonymy (i.e., divorce of priority of generic names from priority of family-group names). But almost all of these proposals were silent on major questions such as how should zoologists treat family-group names which were well-established at the date when the new Code became effective, the acceptance of family-group names proposed earlier which did not meet the newly accepted standards, the distinction between the type genus as the name-giver and as the name-bearer (the nominal genus), and whether the new provisions for family-group names should be made retroactive. Basically, as can be determined from the comments published under case 3 and from the Copenhagen decisions, little attention was given to the major question of continuity of nomenclature as it affected family-group names. Possibly this lack of attention resulted from the consideration given to the matter of continuity of nomenclature as a separate case (case number 1 in Hemming 1953b: 9) on securing greater stability in zoological nomenclature (continuity of nomenclature). However, because this matter was most critical for family-group names because they had been subjected to so little regulation under the Règles and one of

these rules (Art. 5 of the Règles) was certain to be changed radically, one would have expected more concern from zoologists about continuity of nomenclature in their comments on family-group names. Indeed, I have the feeling that nomenclatural problems associated with family-group names were scarcely discussed by zoologists at the 1953 and 1958 Nomenclatural Colloquia. Unfortunately, because detailed proceedings of these meetings were never published, we may never know the extent of discussions on family-name nomenclature. Moreover, with advocates of strict priority gaining control in the development of the Code, the provisions of case 1 were almost completely deleted from the Code, leaving the question of continuity of nomenclature of family-group names very largely ignored in the new Code.

3. Related Case Analyses

Herein I wish to mention only two related cases, one dealing with securing greater stability in nomenclature (= continuity of nomenclature; case 1, Hemming 1952e, 1953b: 9) and the other covering names for orders and higher level taxa of animals (case 4, Hemming, 1952d, 1953b: 9). Although Hemming's summary on greater stability was published in 1952, comments by zoologists were published only in 1954 (Hemming, 1954) well after the Copenhagen congress. Hemming's (1952d) summary for ordinal and higher names appeared shortly after that for family-group names (Hemming, 1952b), and comments on this case by zoologists were published the next year (Hemming, 1953c). Opinions as to whether to include names for taxa above the family-group level in the regulations for zoological nomenclature were sharply divided and the proposals indicated that even those zoologists in favor extending the rules to cover names for taxa above the family-group were strongly divided in how to accomplish this task.

H. THE XIVth CONGRESS, COPENHAGEN, 1953

1. Introduction

In contrast to the 1948 congress in Paris, preparations for discussions of zoological nomenclature at the 1953 congress in Copenhagen were public and thorough, involving numerous zoologists, not just a few commissioners of the ICZN. To insure ample discussion of the rules of nomenclature and to reach agreement on a set of concrete proposals to be presented to the members of the Section on Nomenclature at the 1953 International Congress of Zoology, a Colloquium on Zoological Nomenclature was organized by the ITZN to be held from 29 July 1953 to 12 August 1953, immediately prior to the congress. Sixteen sessions of the colloquium were held prior to the opening of the congress on 5 August and five additional meetings were held jointly with the Section on Nomenclature of the congress, with the last (21th) session of the colloquium being on 12 August, the final day of the congress. The colloquium was well planned and invitations were sent to a large number of institutions and individual zoologists (Hemming, 1953b: 109–118). A total of 51 zoologists attended, but the number who were regular attendees at most meetings was perhaps two-thirds of the total.

However, the preparations for the Nomenclatural Colloquium started late, with Hemming's summaries on the seven major cases authorized at the 1948 congress appearing only in late 1951 and 1952. And the requested comments by zoologists were published so immediately prior to the congress that interested workers either did not receive copies of the BZN or did not have time to study these volumes carefully before their departure for Copenhagen. Hence serious question exists on the usefulness of the elaborate preparations for the 1953 congress undertaken by Hemming. Quite likely these elaborate preparations were all for naught as far as they were used in the deliberations during the Nomenclatural Colloquium. Their major value appeared to be for historical analyses such as the present one. Comments made by both Dr. Sabrosky and Professor Mayr were that each member of the colloquium received a large pile of mimeographed documents at the start of the meeting, but that members really did not refer to these documents. Rather during the course of the meeting, they took their clues on points to be discussed from Mr. Hemming who once again occupied the po-

dium. Zoologists interested in nomenclature knew that a full discussion of the rules would take place at the 1953 congress and hence could prepare by private discussions and analyses. However, the elaborate and costly preparations developed under Mr. Hemming were essentially useless and many zoologists arrived at the Nomenclatural Colloquium in Copenhagen being little better prepared than those attending the 1948 meetings in Paris.

2. The Role of the ICZN

Organization and running of the colloquium appears to be a continuation of Hemming's plan to diminish the stature of the ICZN and to reinforce his position as the central arbitrator of zoological nomenclature. All of the planning and organization for the colloquium was done under the auspices of the International Trust for Zoological Nomenclature, not of the International Commission for Zoological Nomenclature. And the publication of the Copenhagen decisions (Hemming, 1953b) was done completely in the name of the ITZN as if the ICZN did not exist or did not matter. Invitations were sent out by the ITZN, not by the ICZN. These actions greatly exceed the purpose and role of the ITZN as a financial body for the ICZN and imposed directly on the authority of the ICZN. But this procedure permitted Hemming to work independently of the Commission because he and the ITZN were virtually synonymous. As the director and the only real power within the ITZN, Hemming had a completely free hand in planning and running the colloquium. President J. L. Peters had showed little interest in running the ICZN and apparently permitted Hemming complete authority in these plans; Peters did not attend a meeting of the ICZN after the 1935 meeting until his death in 1952, and there is little evidence that he gave much, if any, direct attention to the running of the ICZN and its Secretariat after he was elected Vice-president in 1945 and President in 1948. Professor J, Chester Bradley was elected President of the ICZN late in 1952, after the death of J. L. Peters and well after plans for the colloquium were well underway. Moreover, Bradley was a shy, mild mannered person and no match for the loud, boisterous Hemming in a public dispute; apparently, Bradley was willing to yield the running of the 1953 Nomenclatural Colloquium as well as the ICZN to Hemming which seriously diminished the stature of the ICZN at this congress as well as at the 1958 London congress. Hemming automatically assumed the chair of the colloquium, presumably on the pretext that this meeting was called by the ITZN, not the ICZN, and ran the meetings much as he did five years earlier in Paris (Usinger, 1972: 111) in spite of President Bradley being present at this meeting. Indeed, neither of the photographs of members of the zoological colloquium published in the Copenhagen decisions (Hemming 1953b) included Bradley and he is mentioned only once (p. 97) as being "President of the International Commission." This is in sharp contrast to the numerous references to Hemming, to the International Trust for Zoological Nomenclature, and even to Professor R. Spärck, President of the International Congress of Zoology.

3. Conflicting Approaches to Stability

Few zoologists interested in zoological nomenclature attended the 1948 zoological congress in Paris and even fewer knew that an attempt would be made to revise the Règles. Moreover in the three years since the end of World War II, most zoologists had far more important concerns than to worry about details of zoological nomenclature. But when planning for the 1953 Copenhagen zoological congress were started and zoologists knew that a major effort was to be made to revise the Règles, many workers gave considerable thought to these rules, communicated with colleagues, and discussed them at national and other meetings. The controversy which erupted after the 1948 congress (see above) had the beneficial effect of alerting a broad spectrum of zoologists, not only specialists, to problems of nomenclature. A most important development in the years following the 1948 congress was a broad groundswell among zoologists against strict application of the principle of priority in zoological nomenclature and in favor of rules supporting continuity of usage of well-established names (Schmidt, 1950; Lemche and Spärck 1950)

as discussed above, see Section II.F.2. Several prominent zoologists attending the 1953 Nomenclatural Colloquium supported this position and argued for changes in the rules which would favor continuity of well-established names in the face of priority. These workers and a large number of zoologists taking part in the sessions of the Section of Nomenclature provided a significant thrust at the 1953 Copenhagen Congress which for the first time in the history of zoological nomenclature advocated continuity of nomenclature rather than a complete reliance on priority.

It would be completely wrong to leave the impression that only those workers favoring continuity of nomenclature were concerned with stability as a goal of nomenclature and of nomenclatural rules. Quite the contrary is true. All zoologists interested in nomenclature profess strong support for stability of nomenclature. Differences exist in the methods of achieving this goal of stability. At least three major groups of nomenclatural thought on how best to achieve stability were represented at the 1953 Nomenclatural Colloquium; two of these have already been mentioned above (see Section II.F). These three groups may be characterized as:

(A) A small group, mainly some members from the United Kingdom and contentional Europe, who supported the position of Mr. Hemming and a strong Secretariat which would have a dominant role in zoological nomenclature. Mr. Hemming had a distinct approach to achieve stability in zoological nomenclature which involved the development of official lists of conserved names and official indices of rejected names. This approach has much merit and is rather similar to ideas being considered by the ICZN at the present time. To my knowledge, however, Hemming never outlined how such lists of conserved and rejected names were to be constructed and never formulated definite rules of nomenclature which fitted the development and use of such lists into the other regulations. Most likely, Mr. Hemming envisioned development of such lists as the responsibility of the Secretariat of the ICZN, providing an even more central role of this body in zoological nomenclature. Official lists and indices of conserved generic and specific names were established at the Paris Congress (Hemming, 1950a, c) and of conserved family-group names at the Copenhagen Congress (Hemming, 1953b: 37), but these are simply statements that such lists shall be established, and do not say how these lists shall be put together and the status of names on these lists. Unfortunately the status of these lists of conserved names in zoology is unclear to the present day. Resolution of this matter could increase continuity and stability of zoological nomenclature considerably.

(B) A large group, comprising members from Scandinavia, Germany, and North America united under the leadership of Professor H. Lemche (Denmark) and Professor K. P. Schmidt (USA), and including Professor E. Mayr (USA) and Professor R. Mertens (Germany; although he did not attend the colloquium and apparently changed his position at the 1958 congress). These workers were concerned with maximizing communication among zoologists, and believed that the application of strict priority over the past 100 years led to considerable instability in zoological nomenclature. Members of this group advocated that certain limits be placed on the operation of priority and that precedence should be given to continuity of usage of well-established names relative to forgotten names possessing priority (Schmidt, 1950; Lemche and Spärck, 1950). This group argued for the establishment of a general, strong principle of conservation of well-established names (Hemming, 1953b: 25–6).

(C) A large group, primarily comprising members from the United States National Museum, but also including other North American workers, and a number of European countries, under the leadership of Dr. R .E Blackwelder (USA) and Dr. C. W. Sabrosky (USA), and including Professor R. L. Usinger (USA) and Dr. L. B. Holthuis (The Netherlands), favored continued strict application of priority as the means to reach eventual stability in nomenclature. Members of this group favored a simple Code (Usinger, 1972; Blackwelder, 1967), and often appeared to be more concerned with precise application of rules of zoological nomenclature than with the consequences in effective communication among zoologists. Many, but certainly not all, members of this group ap-

peared to hold the belief that rules of nomenclature were for the benefit of systematists rather than for all zoologists.

It is incorrect to claim that members of the second group favored stability in nomenclature while those of the first and last groups did not. Members of all three groups believed in stability in zoological nomenclature, but varied in the methods advocated to achieve this goal. The major difference between the groups is that achieving nomenclatural stability through the application of strict priority (group C) necessitated continued searching of the literature for the oldest name and often resulted in a period of considerable transient instability, with zoologists having to know several names for a particular taxon even after stability was finally achieved. Members of the second group (B) were concerned primarily with continuity of communication among zoologists as a primary function of nomenclature and they argued strongly against discontinuity and instability of nomenclature resulting from discovery and subsequent use of long-forgotten names possessing priority. It is not possible to clarify the views of members of group A in these matters as the methods of establishing official lists and indices of names were never elucidated in sufficient detail, however, in some aspects they were closer to group B than to C.

Several later analyses of the events of zoological nomenclature during the 1950s summarized the differences of opinion existing at the 1953 Nomenclatural Colloquium into a single set of two opposing viewpoints. My interpretation is that this is a gross oversimplification and has resulted in a number of misleading impressions and conclusions. Even the categorization of members of the 1953 Nomenclatural Colloquium into the three groups as just outlined is an oversimplification. The history of zoological nomenclature between 1948 and 1961 is far more complicated, and the zoologists present at this meeting can be categorized into different sets of overlapping pairs of opposing schools of thought depending on the particular issue. These paired groupings are as follows:

a) Those in favor of strict priority (group C) versus those in favor of continuity of nomenclature (group B and possibly group A), including some principle for the automatic conservation of well-established names over forgotten senior synonyms which is not restricted to preservation of just those names dealt with by formal action of the ICZN. Hemming and hence members of group A advocated development of lists of available names as opposed to strict application of priority and are thus allied to those zoologists advocating conservation of well-established names. Hemming's ideas may represent an approach close to that currently advocated by many members of the ICZN and may prove to be most valuable in the long run. All groups were in favor of stability of nomenclature and were in agreement on the importance of priority as a critical principle in nomenclature, but differ greatly in their beliefs in how this stability can be best achieved. Strict prioritists believe that once the oldest name for any taxon is ascertained, then stability is achieved because the oldest name, once ascertained, can no longer be changed for purely nomenclatural reasons. This argument is certainly correct, but it ignores completely the problem of discontinuity of nomenclature which will always exist because workers must know all names which had been used for a taxon during its history. Zoologists favoring continuity of nomenclature are faced with developing a set of regulations which conserves well-established names without excesses that can result if workers purposely ignore priority of names. The argument used by strict prioritists (e.g., Olson, 1987) that most of the changes in names for animal taxa are the result of taxonomic revisions, not of purely nomenclature action, is a red herring (a smoke screen) used to conceal real considerations about continuity of nomenclature.

b) Those in favor of a strong ICZN (groups B and C) versus those in favor of a strong, independent Secretariat, perhaps dominated by a single person (group A). This is perhaps the sharpest separation of groups at the 1953 meeting.

c) Those supporting the present secretary, Mr. Hemming, and his overall program of running the Secretariat and handling zoological nomenclature (group A) versus those opposing him and his program (groups B and C). This pair of conflicting views is related but not identical to the previous one as a person could favor a strong, independent Sec-

retariat and still be opposed to the specific actions taken by Mr. Hemming.

d) Those favoring retroactive application of new provisions in the Code (group C) versus those in favor of nonretroactive application of new provisions in the Code (group B). Persons in these groupings generally also fell into the dichotomy of strict prioritists (retroactive application) versus those favoring continuity of nomenclature (nonretroactive application).

e) Those favoring a simple code (generally also = strict priority) versus those agreeing to a more complex code (generally also = continuity of nomenclature; but also those favoring the formation of official lists and indices). This dichotomy does not coincide simply with those favoring a strong ICZN (= a simple code) and those favoring a strong, independent Secretariat (= a complex code) as implied strongly by Usinger (1972) and Blackwelder (1967).

I have no disagreement with those zoologists who insist that the first dichotomy is the most significant one, but I do disagree completely with the strong statements and/or implications (Usinger, 1972: 110; Blackwelder, 1967: 380–388) that persons opposing strict priority and/or retroactive application of new provisions in the Code also favored Hemming as Secretary and approved of his managerial style which fostered development of a powerful secretariat. Clearly most zoologists falling in group B were decidedly unhappy about the policies of Mr. Hemming as Secretary of the ICZN.

These several issues are interwoven complexly throughout the activities in developing a new code of zoological nomenclature during the 1950s, and are alluded to in most of the discussions of this period. Unfortunately advocates of either side in these several complex issues usually did not present a full analysis of the pros and cons of their position, making judgment by the average zoologist of these issues most difficult. I will not attempt to present a full analysis herein, but wish to alert readers about the complexity of the situation. The stakes in these disputes were, and still are high, as they affect the names accepted as valid for species, genera, and families of animals and hence the foundation for communication among all zoologists.

The outcome of the Copenhagen Colloquium was largely a success for members of group B in that provisions for limiting the application of priority and for the conservation of well-established names in the face of priority were accepted and became part of the 1961 Code. This achievement of adopting rules regulating the continuity of established usage over strict priority makes other decisions reached at the 1953 nomenclatural colloquium to extend priority in a simple fashion to family-group names most peculiar. It suggests that members of the colloquium gave far less attention to the rules of zoological nomenclature related to family-group names than one would have expected from the major modifications of these particular rules in the new Code from the very abbreviate ones in the Règles. Indeed, most members of the Nomenclatural Colloquium were primarily interested in species-group and genus-group names and gave little attention to rules associated with family-group names (Sabrosky was a clear exception as shown by his earlier analyses). And it suggests that a simple proposal to extend priority to family-group names was made and adopted without much thought given to its consequences. But this suggestion is correct because a reading of the regulations relating to family-group names in the Copenhagen decisions (Hemming, 1953b: 32–38) reveals a complex set of regulations based largely on the proposals made by Sabrosky (1939, 1947). The extension of priority to family-group names was made with full consideration given to preservation of well-established family-group names which may lack priority (see Art. 45; Hemming, 1953b: 33) Actually most of the problems of family-name regulations published in the Code (ICZN, 1961), such as extending the requirement that a written description is required of the family-level taxon for a new family-group name to be available, do not appear in the Copenhagen decisions (see below, Section III.I.2). These questionable regulations apparently arose as a result of Bradley's preparation of his draft of the decisions reached at the 1953 congress, or possibly in the final editing process of the Bradley draft. Again in the absence of any proceedings of the actions taken at the 1958 congress, it is not possible to unravel completely the source of these difficulties.

Eventually, members of group C were also successful in having the final draft of the new Code prepared correctly with proper attention given to accepted procedure. And the published Code was presented in a clear and logical set of rules largely due to the hard work of Professor N. R. Stoll (Rockefeller University, New York, USA) and Dr. C. W. Sabrosky (U.S. Department of Agriculture, Washington, D.C., USA) following the 1958 congress (see below, Section K).

In addition, members of groups B and C were successful in having an Interim Committee appointed at the end of the 1953 Copenhagen ICZ to investigate the workings of the ICZN Secretariat and to make recommendations for its possible reorganization. The Interim Committee, chaired by Professor H. Boschma (Rijksmuseum van Natuurlijke Historie, Leiden, The Netherlands), was to present its report at the meeting of the ICZN during the 1958 Zoological Congress in London; this is the committee alluded to by Usinger (1972: 115). This report was published immediately prior to the 1958 zoological congress (Boschma et al., 1958). As far as I can determine, no mention of the Interim Committee is given in the report of the 1953 Zoological Colloquium (Hemming, 1953b) which included all reports of the meetings of the ICZN during the 1953 congress. No independent report of the ICZN or of the SN is given in the proceedings of the Copenhagen congress. The Interim Committee is clearly not the same committee mentioned in this report (Hemming, 1953b: 94). Rather the committee alluded to by Hemming was one headed by Professor R. Spärck, President of the XIV International Congress of Zoology and included six other members elected by members of the Nomenclatural Colloquium. The Spärck committee completed its work and presented its report to the 1953 ICZ on the final day of this congress. The membership of the Spärck committee was never published. And to my knowledge the report of the Spärck was never published, contrary to the statement (Hemming, 1953b: 94, fn) that this report, as well as a report of the ICZN "will be published shortly in the *Bulletin of Zoological Nomenclature*". I know no mention of it in the proceedings of the congress, and in the Copenhagen decisions, and I could not find this report in any volume of the *Bulletin*. All we know is that this report was accepted by the members of the congress, but the substance of this report and the consequences of its acceptance are unknown, at least to me. It is not clear whether an outcome of the report of the Spärck committee was the appointment of the Interim Committee. According to Boschma et al. (1958: ix) the Interim Committee was appointed at the Final Concilium of the XIV International Congress of Zoology, but no mention is made of who appointed this committee and to whom this committee should deliver its report. Further, according to Boschma et al. (1958: ix):

> This Committee was charged with the duty of "implementing" the administrative and financial plan drawn up at Copenhagen by a Committee presided over by Professor Spärck, President of the XIV Congress for support of the International Commission on Zoological Nomenclature and the reorganisation of that Commission's Secretariat.

This statement makes it clear that the Interim Committee differed from the "six member" (= Spärck) committee mentioned in the Copenhagen decisions (Hemming, 1953b: 94), and was a committee appointed as a result of the report of the Spärck committee which was approved by the 1953 Zoological Congress. The charge to and the responsibilities of the Interim Committee were made clear in its report. Who was responsible for this committee (i.e., who appointed it) and to whom its report should be presented are unclear. However, the substance of its report and its very specific title [". . . addressed to Professor J. Chester Bradley, President of the International Commission on Zoological Nomenclature."] (Boschma et al., 1958) makes it clear that this committee was responsible to the ICZN, not to the ICZ, as it dealt with strictly internal matters of the ICZN.

Most of the success of groups B and C at the 1953 congress proved to be fleeting. Prior to the 1958 congress, Hemming arranged, with the active cooperation of Gavin de Beer, President of the XVth International Congress of Zoology, London, 1958, to subvert the work of the Interim Committee and to have the Secretariat continue in the direction Hemming established by having his protege, Richard Melville, named as the head of the Secretariat (Usinger, 1972: 115; Melville,

1959: 907–908). And at the XVIth International Congress of Zoology, Washington, 1963, well after the end of this historical analysis, the rules covering conservation of well-established names had been made largely ineffectual. Nevertheless, since 1985 the ICZN has been moving steadily in the direction of continuity of nomenclature, with goals very similar to those advocated by the group led by Professors Schmidt and Lemche in the early 1950s.

4. Meetings of the 1953 Colloquium on Nomenclature

In many ways the style of these meetings in 1953 were identical to those in 1948 (Usinger, 1972: 111). At the onset of the colloquium, members were presented with stacks of mimeographed papers presumably representing the same material published in the BZN, but not in time to reach members of the colloquium for careful reading and analysis prior to leaving for Copenhagen. Mr. Hemming took charge again, automatically as the director of the ITZN, with Professor Bradley, President of the ICZN, sitting on the sidelines. Dr. Sabrosky informed me that it is his recollection that Professor Bradley sat quietly at the head table However, this time more zoologists interested in nomenclature and representing a diversity of approaches attended and took an active part in the discussions. According to Sabrosky (personal commun.) little attention was given to the piles of mimeographed papers. The members followed the agenda prepared by Hemming and the agenda items as he presented them. Although Hemming still believed that it would be possible to produce a new Code at this meeting, many of the members realized that such a goal was impossible. Hemming pushed for discussion and vote on definite articles outlining the provisions of nomenclature, but many of the members were more concerned with discussion of general principles underlying nomenclature without close concern to the exact wording of the articles.

Analysis of the meetings of the 1953 Colloquium on Nomenclature is most difficult because minutes (protocol) of these sessions have not been published. Hemming devoted several thick volumes of the BZN to publishing comments of zoologists in preparation for the colloquium (which were almost completely useless for these meetings because of their lateness), but nothing on the details of the meetings. Thus, no published record exists on which topics were covered, the major points of discussion, the actual motions made, and the exact votes on each. The published record—the Copenhagen decisions (Hemming, 1953b)—provide only the articles of nomenclature which received a majority of positive votes. Dr. Sabrosky informed me that Dr. N. Stoll kept a detailed record of the times of the discussion of indiivdual items, etc., but did not know whether this record is still extant. Notes of the discussions were taken by several people, including Mr. Melville, Miss T. Clay amd Dr. Blackwelder (Hemming, 1953b: 7–8), but to my knowledge none of these notes were ever published; they may be available in some archives.

5. Family-Group Names

The details of the regulations on family-group names agreed to by the colloquium are given under heading C in the Copenhagen decisions (Hemming, 1953b: 32–37); I will not discuss these in detail, but restrict myself to a few points.

Even though a number of members of the colloquium favored a relaxation of the application of priority in zoological nomenclature, priority was extended to family-group names which had not been previously regulated by this provision. Moreover, priority of family-group names was severed from priority of genus-group names (rejection of Art. 5 of the Règles). Clearly if family-group names were to be under the rules of zoological nomenclature, then they should be subject to the same basic regulations as all other names covered by these rules. The proposal that priority be extended to family-group names on the simple grounds that priority applied to other names (species-level and genus-level) covered by the rules of zoological nomenclature is not unreasonable at face value and appeared to have been accepted by the members of the 1953 colloquium without much discussion. It should be noted that in extending the rules of nomenclature to names

of orders and higher categories in zoology (Hemming, 1953b: 38–43), priority was also applied to these names. Priority was extended to family-group names with a clear set of instructions covering conservation of well-established names in cases where the application of priority would upset stability and universality of nomenclature. But it of interest that no definite non-retroactive clause (a stare decisis or "grandfather" clause) was included to conserve family-group names in use before the date of effectiveness of the new Code. This is a most important point as the earlier rules (Art. 5 of the Règles) resulted in many nomenclaturally valid substitutions of family-group names because of changes in the name of the type genus and most of the substituted family-group names had become well-established although many did not have strict priority. It should be noted that a strong statement of a principle of conservation was to be included in the new Code (Hemming, 1953b: 25–26; paragraphs 27–30), but this was not especially linked tightly to changes in the regulations applying to family-group names.

The lack of a stare decisis clause indicates that a majority of zoologists at the colloquium supported a rigid set of rules without sufficient consideration given to the continuity of nomenclature. And it is clear that members of the colloquium, and the authors of the Code had little understanding of the effects the new regulations would have on family-group names. Certainly no analysis was undertaken of the effect of the new rules on family-group names in a larger group of organisms, such as a vertebrate class or an insect order. This is not too surprising because most of the zoologists attending the colloquium and the members of the committee which eventually wrote the new Code had little experience with family-group names. Sabrosky was one of the very few members of the colloquium who published on family-group names in which he analyzed the effects of Article 5 on dipteran family-group names with the discovery of the Meigen 1800 generic names in contrast to the previously well-known Meigen 1803 generic names (Sabrosky, 1939). Some attention was given to the question of the requirements for availability of family-group names as this matter was treated in Article 52 of the Copenhagen decisions, but then completely dropped from the 1961 Code (see the discussion below, Section III.I.2). But little or no attention was given to the early history of family-group names. During the first decades of use of family-group names in zoology (1800–1850) it was often not possible to ascertain definitely whether a particular name was applied to a family-level taxon or whether the family-group name was based on a valid or even an available generic name. These latter problems are far more severe than most workers realize even today. For example among well-established and nondisputed valid avian family group names, such as Procellariidae Leach, 1820, and Cacatuinae Gray, 1840, several are most likely based on invalid or unavailable generic names, e.g., *Procellaria* Linnaeus, 1766 and *Cacatua* Brisson, 1760. If one had the time to very carefully examine the details of the proposal of each available avian family-group given in the list (below), I expect fully that numerous other examples would be discovered which would make the completion of this analysis far more difficult [and possibly impossible] and requiring much more time than any reasonable person would be willing to invest. Nor would any real benefit come from such an analysis.

It is clear from these difficulties, that the members of the 1953 (Copenhagen) and the 1958 (London) nomenclatural colloquia failed to analyze the consequences of the new regulations on family-group names. Yet in many ways the provisions affecting family-group names reached at the 1953 Colloquium on Nomenclature were better than those reached at the 1958 Colloquium judging from the published Copenhagen decisions (Hemming, 1953b) versus the first edition of the new Code (ICZN, 1961). These resulting problems continue to exist because the rules pertaining to family-group names in the current edition of the Code (3rd, ICZN, 1985) are little changed from those in the first edition. The only real way to sort out and clarify the potential problems these new regulations would have on family-names is to undertake a detailed study such as the present one. If this had been done prior to the 1953 and 1958 colloquia, I suspect that the members would have voted not to include family-

groups under the rules of zoological nomenclature, which might not have been a wise decision. Nor would it be wise to exclude family-group names from the provisions of zoological nomenclature at this time. But the current regulations as decided at the 1953 and 1958 colloquia and expressed in the current edition of the Code must be revised extensively to provide an effective set of rules applying to family-group names in zoology as will be proposed below (see Section VI.B).

6. Report of the ICZN

As far as could be determined from published reports, no actions were taken at the 1953 congress on the structure of the ICZN. No report was given of the activities of the ICZN, changes in its membership since 1948, etc. in the proceedings of the 1953 congress or in the Copenhagen decisions. A brief statement is included in the proceedings volume of the congress that the report on zoological nomenclature would be included in a separate volume (= the Copenhagen decisions, Hemming, 1953b). But this volume did not include any report on the activities of the ICZN as far as I could determine.

The Copenhagen decisions issued by the ITZN following the 1953 Colloquium on Nomenclatural and the XIVth International Congress of Zoology (Hemming, 1953b) contain scarcely any mention of the ICZN. A short section (pp. 86–92) covers some procedural matters on composition and membership of the commission. However, anyone not knowing the relationship of the ITZN and the ICZN and reading this publication would come to the conclusion that the Trust is the important parent body and the Commission is the subordinate unit. All of these aspects appear to be part of Hemming's agenda of subverting the ICZN relative to the ITZN which was under his firm control.

7. The Interim Committee

An "Interim Committee" was established at the 1953 congress with Professor H. Boschma as chair, and Usinger as one of the members (see Usinger, 1972: 112; 115; see above, Section III.H.5 for additional comments on this committee). It is unclear who appointed this committee (whether the President of the ICZN or the President of the ICZ) and to whom this committee was to report; its charge was to investigate internal matters of the ICZN and hence it should have reported to the President of the ICZN [as was indicated in the title of its report, Boschma et al.,1958], not to the President of the ICZ as it was not considering matters of direct concern of the zoology congress. If the Interim Committee was appointed by the zoology congress, then it is surprising that no published authorization of the Interim Committee exists in the proceedings of the Copenhagen Congress. One may suspect that Hemming suppressed mention of the Interim Committee in The Copenhagen decisions because he was clearly opposed to its operation. However, no question exists about the existence of this committee as it is mentioned in Usinger (1972) and in the proceedings of the 1958 congress.

8. Action of the Section on Nomenclature

The report of the colloquium was submitted to the ICZN, those ICZN members attending the 1953 congress were also members of the colloquium; they approved the report and submitted it to the Section on Nomenclature which also approved it. A series of procedural decisions were made regulating publication and date of operation of the revised rules (Hemming, 1953b: 96–104; paragraphs 186–199).

After considerable debate and several votes, the SN agreed that the text of the new rules should be English because the language of the ICZN had been English for the past 50 years and English had become the international language of science since the Second World War. It should be noted that French was never the substantive language of the Règles which were originally published simultaneously in official French, German, and English texts in 1902 and in 1905. When offering his motion to establish the ICZN and to charge it with developing a set of regulations, Professor Schulze stated clearly that these rules are to be established ("feststellung") in three languages (by implication = German, English and French; ICZ, 1896: 94). In his introduction to the publication of the newly adopted rules of zoological nomenclature, Professor

Matschie (1902: 931) clearly reiterated the comment of Stiles (1902: 888) that the text of these rules was to be written officially in German, English, and French ("2. einen offiziellen Text der Bestimmungen in deutscher, englisher und französisher Sprache zu verfassen;"). This statement is repeated by Blanchard (1905: 9). The French text served only in cases of questions of disagreement between the three official texts (Blanchard, 1905: 11); this does not make the French text the official or the substantive one, or give any permanent status to the French text. Amendments of the rules of zoological nomenclature and the last official publication of the rules (Stiles, 1929b) were all in English. The concept that French is the substantive language of the rules of nomenclature may well have had its origin with Hemming. He stated (Hemming, 1943b: xxxvii) ". . . preparation of the authoritative French text and of the English and German translations . . ." and, further (Hemming 1945: lxxiv) ". . . not only shall the edition comprise both the substantive French text of the Règles and the English translation of that text . . ." And in his report to the XIIIth ICZ, 1948 (Hemming, 1949a: 584) he wrote ". . . to prepare the draft of the new substantive French text together with a literal English translation, . . ." At the 1953 zoology congress, however, French zoologists protested strongly (and possibly with the encouragement of Hemming) to President Spärck of the ICZ about the decision reached at the 1953 congress that the new rules be published only in English. President Spärck issued the direction that the new rules be published both in English and French (Hemming, 1953b: 125–135: Document # 2; interestingly, this document is the only part of the Copenhagen Decisions to be published both in English and French). This point was never voted on by members of the ICZN and SN (as could be determined by careful reading of the Copenhagen Decisions and the Congress proceedings), and represents an unjustified interference by President Spärck of the ICZ on the decisions of the ICZN. It should be noted that the Nomenclatural Colloquium (pp. 98–99) had permitted a loop-hole allowing publication of a French text of the new rules if French zoologists complained, but it not clear whether this provision was also voted on by a separate meeting of the ICZN because of the confusing presentation of the reports of these different bodies (the Colloquium, the ICZN, and the SN) by Hemming (1953b). Clearly Hemming had a strong role in this decision because prior to 1948 he was planning publication of the revised Règles in French and English (see above, Section III.D.2). This action by Professor Spärck represents one of the two serious interferences by a President of the International Zoology Congresses in the proper actions of the ICZN in post-World War II years.

The ICZN and the SN stated that the amendments of the rules were to be incorporated into a draft of a new code, that these were to be published in the BZN and made available for at least six months for scrutiny and comments by zoologists. The ICZN was to have final decision on the final wording of the text as drafted by Professor Bradley and commented on by specialists (Hemming, 1953b: 99–100; paragraph 193).

Professor J. Chester Bradley, President of the ICZN, was requested to prepare the draft of the new rules which he accepted (p. 97). This proved to be an important move as it represented the initial step in the re-establishment of the authority of the ICZN over the increasingly independent Secretariat under Hemming.

The date of the authority of the new rules was established as the first day of January of the calendar year following publication of the revised rules (p. 103). The new rules are not represented officially by the publication of the report of the 1953 colloquium (Hemming, 1953b) or even the initial publication of the Bradley draft (Bradley, 1957). But they would be the separate publication of the new rules by the ICZN after zoologists have been able to study and comment on the Bradley draft, and presumably after the final vote by the ICZN. This was not to happen until after the 1958 congress, and the preparation of a new draft by a committee appointed by the XVth ICZ.

Finally, the statement was adopted that until the new rules came into operation, zoologists and the ICZN were to guide themselves by the amendments approved by the XIV congress, Copenhagen 1953, and published as The Copenhagen decisions (Hemming,

1953b), a statement almost identical to that made at the Paris Congress, 1948. This statement is directly contradictory to others adopted at the Copenhagen congress. While zoologists could consider these points in an informal way, the rules of zoological nomenclature which remained in effect are the pre-1948 Règles, last amended at the 1930 ICZ. The pre-1948 Règles were to remain in effect as the official rules of zoological nomenclature until the publication of the first edition of the new Code on 6 November 1961 regardless of all statements to the contrary. The results of Hemming's complicated attempts to revise the rules of zoological nomenclature were that for the 13 years between 1948 and 1961 almost complete confusion existed on what were the official rules of zoological nomenclature. And it may be difficult to impossible to ascertain whether decisions reached by individual zoologists and by the Commission during this period were proper or correct.

A last point of interest concerns the actual vote on certain key issues in the Section on Nomenclature at the 1953 congress. At one point during the session of the Section on Nomenclature of the Zoology Congress when the critical vote was to be taken on rules dealing with limits on the application of priority and the conservation of well-established names (= continuity of nomenclature), a number of members (all young Germans, according to Blackwelder, 1967: 383; but not all young and not all German as Sabrosky commented to me) entered the room and stayed long enough to vote on these issues, after which they left immediately. Blackwelder (1967: 383) protested this procedure strongly, but was completely silent on a similar incident during the 1963 International Congress of Zoology, Washington DC, in which many zoologists from the Washington DC area (many were apparently not members of the congress) attended the meeting of the Section on Nomenclature, and voted in favor of abolishing the rules governing the limitation of priority (the so-called 50 year rule), and left shortly thereafter. Such schemes of asking colleagues to be present at the Section on Nomenclature to vote on particular issues (i.e., packing the meeting in favor of a particular vote) may not be the best way to reach decisions on zoological nomenclature, but they were valid under the regulations of the International Congresses of Zoology. No specific requirements exist for members of an International Congress of Zoology to be a member of its Section on Nomenclature. All that a congress member must do to be a member of the Section on Nomenclature and vote on issues is to be present in the room during the meeting of the section. *But one must be a member of the congress to do so.* Unfortunately, at meetings of the Section on Zoology, no attempt was made to ascertain whether persons in the room and voting were actually members of the congress. If votes taken at a Session on Nomenclature included those of persons not members of the congress, then their votes were invalid, and there can be serious doubts as to the validity of the changes in the Code affected by these votes. This difference may well represent the significant difference between packing the meeting of the Section on Nomenclature at the 1953 congress and at the 1963 congress. And if someone, such as Blackwelder (1967: 383), bemoans what he considers to be improper behavior during the 1953 congress which he attributes to the acquiescence of Hemming and the chairman of the Section on Nomenclature, then expected honesty in historical reporting should compel him to discuss fully similar actions at the 1963 congress. The fact that one disagrees with the result of the 1953 vote and agrees with the result of the 1963 vote is immaterial for a historical analysis.

9. Publication of the Copenhagen Decisions

Hemming devoted himself to the task of publishing the report of the 1953 Colloquium on Zoological Nomenclature, which was issued on 31 December 1953 (Hemming, 1953b). This report was the first publication of the ITZN of any importance which had a price within the grasp of most zoologists. However, it must be noted that it did not provide a full statement of the rules of zoological nomenclature, only the proposed amendments adopted at the XIVth ICZ and they were still unofficial. However, the Prefatory Note by Hemming (1953b: vii–ix) indicates strongly that he considered this pub-

lication to represent a full revision of the Règles which were to be followed by zoologists until the new edition of the Règles were published. As mentioned above, this statement by Hemming violated completely the procedure voted on by the members of the XIVth International Congress of Zoology.

I. THE BRADLEY TEXT AND PREPARATIONS FOR THE 1958 CONGRESS

1. Introduction

The period between the XIVth and XVth International Congresses of Zoology, 1953 to 1958 was most important for the development of the new Code and for the ICZN. It marked the beginning of the modern development of the ICZN and of the affirmation of its rightful position relative to its Secretariat and to the ITZN both of which Hemming attempted to develop into independent and dominant entities over the ICZN. And it was the period in which real progress was made toward a new Code. Although Hemming has attempted to produce a new set of rules of zoological nomenclature since 1945 and had devoted tremendous efforts to this project, he was simply not able to bring it to fruition. A critical element lacking in his procedure appeared to be his failure to understand the central functions of zoological nomenclature and his belief that a new Règles could be produced through the work of one person, the Secretary of the ICZN, assisted by a group of jurists to provide tight legalistic wording.

2. The Bradley Draft

Perhaps the most fortunate action during the Copenhagen Colloquium was the decision by Hemming (1953b: 96–97) that he would be fully occupied with the production of the report of this meeting and with other duties of the Secretariat, and hence that he could not devote the needed attention to drafting the text of a new code based on the decisions reached at the Copenhagen meeting. Perhaps Hemming finally realized that this task was larger than he suspected and that he was not able to complete it by himself. The proposal was made and accepted that Professor J. Chester Bradley (Cornell University, Ithaca, NY, USA), President of the ICZN, be requested to undertake the task of producing a draft of a new set of rules from the existing Règles and the amendments adopted at the 1948 and 1953 congresses. Professor Bradley was an excellent choice for this task as he attended the 1935 congress as an Alternate Member of the ICZN, was elected a commissioner during the war years and had been involved in the work of revising the rules since the 1948 meeting. He was mild-mannered in his dealings, firm and fair minded in his decisions, and well respected by zoologists having widely divergent philosophies of zoological nomenclature. The task was an enormous one because numerous amendments had been adopted and many new concepts had been introduced into the rules. Yet these new regulations were not arranged into any logical order and no one had gone through the large number of changes to eliminate duplications, contradictions, etc. within the entire set of rules. Even after all the work of the past two congresses, nothing existed which even remotely resembled a draft of a unified and usable code of nomenclature. Most people do not appreciate the enormous difference between agreeing on a set of principles underlying a code of nomenclature and drafting a well organized, unified, and non-contradictory set of rules which are readily understood by zoologists dealing with the complexities of zoological nomenclature. Bradley required four years for this task and the draft of the English text of the new rules was finally published late in 1957 (Bradley, 1957), only about eight months prior to the XVth ICZ, London, 1958. I know of no published comments describing how Professor Bradley accomplished his task, whether he worked strictly alone or discussed diverse articles of the draft with colleagues. He did have assistancefrom Dr. J. Douglas Hood who is acknowledged by Bradley (1957: 9). Moreover, Bradley sent the preliminary draft to a number of North American zoologists interested in nomenclature for their comments and thanked them for their comments and suggestions (1957, BZN, 14: 9). Hemming arranged for the preparation of a French text (Hemming, 1958c), and the publication of the official text of the pre-1948 Règles (Hem-

ming, 1958a) which appeared in June and July 1958 on the eve of the congress. Again most of these publications were of little use to members of the 1958 Colloquium on Zoological Nomenclature because of the lateness of their appearance.

A most important aspect of the Bradley draft is that he changed the title to proper English and used the *International Code of Zoological Nomenclature* based on precedent dating back to the original Stricklandian Code of 1842 (Bradley, 1957: 7). Bradley pointed out that each paragraph is a regulation or rule and that collectively these rules constitute a Code, that is, a unified and coordinated body of law as expressed in a series of individual rules. Hence the entire document is properly called a code and not rules. Although Bradley did not prescribe what should be used in the title for the French text, the term code was also adopted by the French translators.

The Bradley draft was a remarkable document, reflecting reasonably accurately the decisions reached in Paris and Copenhagen; it would be difficult to determine how accurately the Bradley draft followed all of the decisions reached at the 1948 and 1953 meetings, as these are most complex and not completely organized. A check of the proposals relating to family-group names adopted at the Copenhagen meeting with those in the Bradley text shows a very close agreement. But the Bradley draft was still far more a statement about ideas and principles of zoological nomenclature than a tightly written set of rules.

It is well beyond the scope of this history to describe the Bradley text in detail, even the provisions dealing with family-group names. Nevertheless, comments should be offered on two articles in this draft which did not survive later discussion and vote, and one that did. The first is "Article 5. Continuity and Universality of Usage" which dealt with the problem of continuity of nomenclature, a major issue raised by many zoologists at the Copenhagen colloquium who were dissatisfied with the considerable instability of zoological names because of the strict application of priority without regard for continuity of nomenclature. This article was designed to increase continuity of nomenclature without sacrificing the valuable attributes of priority. However strong objection was voiced against this article by proponents of strict priority (see, Sabrosky, 1958; and Melville, 1958b). A few aspects survived for a short period as the so called "50 year rule," but most parts were not accepted. Among the rejected parts was the important statement about nonretroactive application of the new rules. This principle of stare decisis is properly named and is a central attribute of any code, nomenclatural or otherwise, contrary to the assertions of Melville (1958a). The second is "Article 12. Taxa of the Phylum-group, and of the Class-, and Order-Group and their Names" which followed ideas adopted at the 1953 colloquium and congress. Serious problems existed in extending the regulations of zoological nomenclature to names above the level of the family group largely because of the consequences of applying a set of precise rules to names whose history are largely unknown. Considerable worries existed that bringing these names under the jurisdiction of the Code would result in massive instability and uncertainty in the use of ordinal, class and phylum names for many decades (see Dougherty, 1958; Hemming, 1958d, Lemche, 1958a, 1958b). Lemche (1958b) argued forcefully against any extension of the Code to names for taxa above the family-level. His position was apparently accepted because Article 12 of the Bradley draft was rejected at the 1958 colloquium, and quite rightly so in the opinion of most zoologists. A proposal was made to develop official lists for these names, but to date such lists have not been developed for any major group of animals.

The third article in the Bradley draft which apparently survived the vote at the 1958 congress relates to Article 25(c) of the Règles which was discussed by Bradley (1957: 509–551) under the heading of "Article 6. The Rules of Availability." In his wording of Article 6(j) dealing with names published after 1930, Bradley extended the requirements to all names, not only to species-group and genus-group names as stated clearly in Article 25(c) of the Règles, but also to family-group names. To my understanding the wording of this part of the Bradley draft is clearly in error. A careful reading of the Copenhagen decisions (Hemming, 1953b) reveals no rec-

ommendation adopted by the XIVth International Congress of Zoology authorizing that the requirements of Article 25(c) of the Règles be extended from applying only to species-group and genus-group names to family-group names. Quite the contrary! In the provisions applying to family-group names (pp. 32–37) there are no requirements that such names published after 1930 must be accompanied by a summary of characters serving to distinguish the newly named family-level taxon from other such taxa. Indeed paragraph 52 of the Copenhagen decisions (p. 35) on "Conditions necessary for a Family-group name to acquire availability" states most clearly that all that is needed for availability of a family-group name is an indication of the type genus, and only recommends that authors include a diagnostic description of the family-level taxon. In the section dealing with Article 25 of the Règles (pp. 60–66), paragraphs 109 and 110 (pp. 61–62), the statements are clearly made that these discussions apply only to genus-group and species-group names proposed after 1930. Unfortunately in the footnote referring back to case no. 29 in the Table of Contents (see p. 12), the heading of this case is given as "Article 25: proposed redrafting of, in order to make it clearer that, for a name to be available, it must be published with diagnostic characters (Z.N.(S.)738 (ibid. 10: 290–294)." Here no restriction is made to just genus-group and species-group names, and quite possible Bradley followed this statement in error in drafting the above statement rather than referring to the details in the text of the Copenhagen decisions. In any case, this error was apparently not detected by the members of the Colloquium on Nomenclature at the XVth ICZ, 1958 as the requirement that all names published after 1930 must be accompanied by a description of the new taxon became part of the new Code (Art. 13). See below Section VI.B.6 for a further discussion of this matter.

3. Preparation for the 1958 Congress

With the publication of the English text of the Bradley draft, it was open for comments and proposals for modifications by zoologists. Again, these comments were published as a series of London Congress Agenda Papers comprising all of volume 15 of the BZN, some 1200 pages in all. Again much of this volume was published too late to be of any use to zoologists prior to the congress. The text of the Bradley draft had been published and this was made available to members of the 1958 Nomenclatural Colloquium once again at the outset of the meeting. A French text was also produced (Hemming, 1958c), although the translators were quite unhappy about the translation, which they had to complete most hurriedly; it appeared so shortly prior to the congress that no one would have had time to read it before leaving for London. Hemming (1958b) also put together an index to the Bradley text which he arranged according to the article numbers in the old Règles and republished the pre-1948 Règles (Hemming, 1958a) for the convenience of zoologists studying the Bradley draft. Unfortunately, all of these issues of the BZN appeared too late to be of any use at the 1958 meeting. Moreover, Hemming's index is organized in such a complicated fashion that it would be difficult to impossible to use even if a person had all of the documents spread out before her or him.

Hemming, again through the ITZN, organized a Colloquium on Zoological Nomenclature to take place just prior to the XVth ICZ, London, 1958. The purpose was to discuss and vote on provisions in the Bradley draft, although it was not made clear why just the ICZN or a specially appointed editorial committee could not have done this task more readily and have presented a final set of rules to the Section of Nomenclature for their consideration and vote. No need existed in 1958 to have yet another Colloquium to deal with the Bradley text. Theoretically all of the necessary deliberations had been undertaken at the 1953 Colloquium on Nomenclature in Copenhagen, with the Bradley draft being only a rewriting of the revisions of the Règles which had been approved by the members of the SN at the 1948 and 1953 International Zoological Congresses. Most likely, Hemming wished to maintain control by having another nomenclatural colloquium organized by the ITZN which he would control and hopefully obtain a new set of rules even closer to his wishes.

J. THE XVTH CONGRESS, LONDON, 1958

1. Introduction

With the opening of the XVth International Congress of Zoology in London, 1958, the end of the long task of revising the rules of zoological nomenclature appeared to be almost in sight. Moreover, it marked the tempestuous ending of the most turbulent period of the ICZN. But the meeting of the ICZN at the 1958 London congress proved to be the most controversial of all meetings of this body and could have easily resulted in a permanent split and perhaps destruction of the ICZN, largely because of the final attempts by Hemming to save the structure of the Secretariat that he had created over the past two decades. Unfortunately the published proceedings of the nomenclature sessions at the London congress are so exceedingly scanty, both in the Proceedings volume of the congress and in the BZN so that it is most difficult to determine exactly what happened without access to materials in the archives of the ICZN, and there is no assurance that sufficient materials exist in these archives to permit a full understanding of the activities at meetings of the Colloquium on Nomenclature and of the SN of the ICZ.

2. 1958 Colloquium on Zoological Nomenclature

As mentioned above, this colloquium was organized by the ITZN and invitations were sent out to many zoologists; no published lists are available as to persons and institutions receiving invitations or the persons actually attending the colloquium. And again, the ITZN, not the ICZN, appointed the officers of the 1958 Nomenclatural Colloquium (Hemming, 1958). The purpose of the colloquium was to discuss and vote on the Bradley draft. According to Usinger (1972: 114):

> The culmination of this long nomenclature account occurred at the London Zoological congress in 1958. Here, five years after Copenhagen, Mr. Hemming still had not produced his Code, the situation had gotten infinitely more complicated, and another colloquium was called, this time with about 150 participants. In preparation for the meeting, Dr. J. C. Bradley, who was still president of the Commission, undertook the really scholarly job of preparing a Code based on all the complicated things that had gone on in the past but with an effort to search out inconsistencies and come up with a meaningful document. This was published by Mr. Hemming, but, characteristically, it wasn't published until the last minute just before the London colloquium was to start, thus preventing the kind of discussion and careful study in advance that was really needed. At London there were many new faces, including some who had never been known to show an interest in nomenclature before. Again we went through a long agenda, but a curious situation developed. The Bradley draft was beautifully presented, but the group treated it with the greatest capriciousness. In the morning they would argue long and boringly on some minute point, and in the afternoon, whole subjects would be passed with hardly a word. Mr. Hemming himself did not attend this meeting, presumably because of ill health. . . .

Dr. Curtis Sabrosky (personal commun.) confirmed these observations. He stated that a large number of British zoologists (more London zoologists attended the 1958 Colloquium than from the entire Western Hemisphere according to Sabrosky) attended the first session, collected the available materials, and were never seen again. And he agreed on the capriciousness of the discussions and said that he attempted to keep the discussion on issues of principle, rather than being concerned with individual words and expressions used in the Bradley Draft, which are best dealt with by an editorial committee, but to little avail. Dr. Sabrosky mentioned that considerable changes were voted in the Bradley draft so that the resulting document presented to the Section on Nomenclature and approved by this body differed extensively from that approved by the SN at the 1953 Copenhagen congress. And again this resulting document was far from a carefully considered and worded code of nomenclature required by zoological systematists.

In the absence of any published reports of the 1958 colloquium, the only conclusion that can be reached is that those items of the Bradley draft which eventually appeared in the 1961 Code were approved by a vote of the colloquium, and those items of the Bradley draft, such as ordinal, etc. names not in the 1961 Code were rejected. But it is clear that considerable changes, at least in wording, were made in the draft of the new Code by the editorial committee after the vote of the SN of the 1958 congress, and hence it is not possible to determine from published material

how similar the draft of the new rules passed by the colloquium and the Section on Nomenclature at the 1958 congress was to the first edition of the Code (ICZN, 1961).

In its report (Melville, 1959: 915–916) to the Section on Nomenclature, the ICZN proposed that the Congress delegate to the ICZN the authority necessary to complete and publish the Code. An Editorial Committee of six zoologists would prepare the final draft of the Code, both English and French texts, which would be circulated to members of the Commission for final approval. Following the approval of the ICZN, the new Code was to be published. This proposal was approved by the Section on Nomenclature on 21 July 1958 (Melville, 1959: 907–908). The Editorial Committee consisted of M. J. Forest and M. P. Vayssière (replaced by R. P. Dollfus) of France, N. D. Riley and N. D. Wright of the United Kingdom, and C. W. Sabrosky and N. Stoll (Chairman) of the United States plus R. V. Melville as Secretary.

3. Mr. F. Hemming

On 29 April 1958, Mr. Hemming sent a letter to President Bradley informing him that due to ill health, he had to give up work in preparation for the Colloquium and that he would not be available for another term as Secretary of the ICZN. Mr. Hemming did not attend any of the meetings of the 1958 Colloquium on Nomenclature or of the 1958 ICZ. Although Hemming remained a commissioner until his death in February 1964, his activity in the ICZN decreased greatly. N. D. Riley [British Museum (Natural History), London, UK] was elected Secretary of the ICZN and R. V. Melville (Geological Survey and Museum, London, UK) as Assistant Secretary and director of the Secretariat; this was the first time the position of Assistant Secretary was filled for over two decades. Mr. Hemming's long era at the ICZN came to a close without having achieved one of the central parts of his agenda, namely publication of a new Code, a term he never used—it was always the Règles for him.

It should be mentioned, for historical purposes, that the absence of Mr. Hemming from the 1958 congress and his resignation as Secretary of the Commission averted a major confrontation which had been brewing for several years. A number of members of the ICZN and other zoologists interested in nomenclature, headed by (but not confined to) zoologists from the Smithsonian Institution, Washington, DC, had become most aggravated by Hemming's work as Secretary, including the excessive publication program (Sabrosky, personal commun.). Had Hemming not resigned his position as Secretary of the ICZN, it is quite likely that bitter fights would have erupted at the meetings of the colloquium and the Section on Nomenclature with the outcome that the ICZN may well have been deeply split whether or not Hemming was retained as Secretary. A deep division of the ICZN could well have precluded completion of the new Code which would have been disastrous for zoologists. Ten years had passed since the 1948 zoology congress without new rules of nomenclature, and by 1958 no one was certain which of the amendments, if any, to the Règles and new regulations adopted at the 1948 and 1953 congresses were in force. Hemming always claimed that the amendments adopted at the 1948 and 1953 congresses were in force, but a careful reading of the published decisions at both of these zoological congresses shows that this position is wrong. Actually the Règles as last amended at the 1930 zoology congress were still fully in force, and these were readily available to most zoologists only as they had just been published in the BZN (Hemming, 1958a). Moreover, a large body of case-law had developed in the form of decisions reached by the ICZN over the past 30 years, but it was difficult to know which of these decisions were actually in force and even more difficult to find these decisions in the scattered publications of the ICZN. Moreover, it was completely uncertain which, if any, of these decisions represented by Opinions issued by the ICZN since the 1935 ICZ had been ratified by a vote of the SN of a later (1948 or 1953) congress. To my understanding none were, and these Opinions had lost whatever validity they possessed because they had not been ratified by a vote of the SN at a following congress.

Strong criticisms were raised about the size and cost of the publications of the ICZN by a large number of zoologists including Pro-

fessor H. Boschma (Leiden, The Netherlands). Many museums and libraries could no longer afford the cost of the Bulletin and other publications of the ICZN. The argument that this was the important major source of income for the ICZN would no longer be accepted. This criticism was accepted (Melville, 1959: 907) and immediate action was to be undertaken by the Secretariat to reduce the cost and bulk of these publications as well as the costs of running the Secretariat.

In any event no strong disputes surfaced during the nomenclatural meetings at the 1958 zoology congress even in the face of some strong provocations. Perhaps the leading zoologists attending these meetings concluded that the most important outcome of this congress was the publication of the new Code and that they were willing to accept many decisions affecting the form of the Secretariat to achieve the major goal of a new Code.

4. International Trust for Zoological Nomenclature

Although this organization was established by Mr. Hemming strictly for the purpose of raising funds and handling these monies for the International Commission on Zoological Nomenclature as a tax-exempt foundation under the laws of the United Kingdom, he gradually modified its role. The Trust became almost synonymous with Mr. Hemming for all practical purposes. Prior to the 1953 zoological congress in Copenhagen, 1953, the ITZN took over the role of arranging and running the Colloquium on Nomenclature. By the 1958 zoological congress, Hemming used the Trust to take over almost all roles of the ICZN except for voting on nomenclatural issues. Prior to the 1958 London congress, Mr. Hemming dealt directly with the President Professor G. de Beer [Director, British Museum (Natural History), London, UK] of the XVth International Congress of Zoological on major policy decisions affecting the future of the ICZN and of zoological nomenclature.

This is most clearly shown in the language used in the published correspondence concerning Mr Hemming's retirement as Secretary of the ICZN (Hemming, 1958k), in de Beer's welcome to the members of the 1958 Nomenclatural Colloquium (de Beer, 1985a, 1958b), and in the report of the ITZN for this period (Hemming, 1958e). About 15 April, 1958, Mr Hemming was advised by his doctors "to seek immediate relief from at least the greater part of my duties as Honorary Secretary to the International Commission and that I must not incur the strain involved in completing the arrangements for the Colloquium on Zoological Nomenclature which is to be held in London next July immediately before the opening of the Fifteenth International Congress of Zoology." (Hemming, 1958k: iv). This announcement was most sudden with no previous indications of serious problems with Mr. Hemming's health. From all previous indications, his plans were to complete the work of the 1958 Colloquium and other nomenclatural meetings at the 1958 zoological congress, and to offer his retirement as Secretary of the ICZN at that congress. Moreover, it is most interesting that Mr. Hemming did not even appear at the Colloquium on Nomenclature or at the Zoological Congress even though he was able to edit the BZN up to the eve of these meetings. In the statement issued by the ITZN and dated 29 April 1958 (Hemming, 1958k: i–iii), the ITZN stated clearly that it had, in consultation with de Beer (President of the XV International Congress of Zoology), appointed Mr. R.V. Melville "to take charge of the Office of the Commission with the title of 'Assistant Secretary to, and Director of the Office of, the International Commission on Zoological Nomenclature.' In addition, Mr. Melville has been appointed Assistant Manager to the Trust." And added that "Mr. Melville will take up his new duties on Thursday, 1st May 1958." In his letter to Professor Bradley, President of the ICZN, dated 29 April 1958 (only two days before Melville was to assume his new duties), Hemming (1958k: iv–vi) made the statements ". . .I at once notified the International Trust, as the body *responsible for the conduct of the administrative and business affairs of the Commission.*" (italics mine), and "I now enclose a copy of a statement which is being issued by the International Trust setting out the arrangements which *it* has made for carrying out the work of the Commission in the period lying im-

mediately ahead." (italics mine). In a statement issued by the ITZN on the Copenhagen plan, Hurcomb (1958: paragraph 2) stated "The Trust, . . . , has a *special responsibility to the Congress* in regard to the financial and *administrative support* of the continuing activities of the Commission." (italics mine). Although this statement was published over the name of Lord Hurcomb, it was almost certainly written by Mr. Hemming as Hurcomb accepted chairmanship of the Trust only on 30 May 1958 (Hemming, 1958m). I know of no published decisions by the ICZN which assigned the administration and business affairs of the Commission to the ITZN.

Four points should be made. First, I know of no published account by the ICZN or by the ICZ agreeing to establish the ITZN as the body responsible for the administrative and business affairs of the Commission, and that the ITZN had the authority to appoint the director of its Secretariat. Possibly such action had been taken, and possibly it has been published somewhere in the reports of the ICZN, but if so, it has escaped my attention. The ITZN was established by Mr. Hemming with the approval of President Jordan as a tax-exempt foundation under the laws of the United Kingdom to handle financial matters for the ICZN. Financial matters are entirely different from administrative and general business matters. Although the scope of the ITZN increased considerably under the direction of Mr. Hemming until it was the de facto administrative body for the ICZN by the late 1940s, this development was based on unilateral decisions by Mr. Hemming to the extent that I know of no published votes by the ICZN or of the ICZ sanctioning these actions.

Second, I know of no foundation for the claim that the ITZN has a special responsibility, or even any responsibility, to the International Congress of Zoology. Any responsibility of the ITZN is directly to the ICZN.

Third, it is clear that Mr. Hemming acted unilaterally in appointing Mr. Melville to the position of Assistant Secretary of the ICZN and Director of the ICZN Secretariat without prior consultation of the ICZN. In his answer dated 10 May 1958 to Mr. Hemming's letter, Professor Bradley wrote (Hemming, 1958k: vii–viii) that he accepts these decisions, which was apparently done without any consultation with other members of the ICZN. Hence the ICZN simply acquiesced to the actions of Mr. Hemming, which completely undercut the decisions reached by the Interim Committee. And as will be mentioned below, the carefully worked-out recommendations of the Interim Committee were discarded, almost out of hand, at a session of the Section on Nomenclature at the 1958 ICZ in spite of Hemming's statement (1958k: v) that: "Second, the appointment of Mr. Melville, being on the administrative plane and for a limited period only, in no way prejudices the nature of the decisions to be taken by the Commission and *the Trust* as to the future form of organization to be adopted." (italics mine).

Fourth, in connection with the decisions made and the way that these decisions were made at the London Zoological Congress, it is difficult to avoid the conclusion that these hurried actions of Mr. Hemming to resign his position as director of the ICZN Secretariat and to install Mr. Melville as his successor as well as the complete absence of Mr. Hemming from all meetings of the Nomenclatural Colloquium and the Section on Nomenclature of the XVth International Congress of Zoology were all part of a plan to subvert the recommendations (the so-called Copenhagen plan) of the Interim Committee. Dr. Sabrosky informed me that he always concluded that Hemming's absence was a clever ploy to draw the teeth of the opposition by removing himself as a lighting rod. Many zoologists came to the 1958 congress prepared to fight strongly for the recommendations contained in the report of the Interim Committee. It is clear from the statement dated 8 July 1958 and issued by Hurcomb (1958) that the ITZN (= Hemming) objected strongly to the ideas in the Copenhagen plan. And it was known or certainly strongly suspected by Mr. Hemming that a number of members of the Colloquium on Nomenclatural and of the ICZN had strong objections to his administration of the ICZN Secretariat and that these persons were going to raise these objections strongly at the 1958 congress. By pushing through Melville's appointment prior to the congress and by not attending these meetings, Hemming was able to present these changes

to the congress as faits accomplis and to prevent any efficient discussion of them. These are not only my conclusions, but are also clearly stated by Usinger (1972: 115) in his discussion of the 1958 congress, suggested by the immediate resignation of Mr. P.C. Sylvester-Bradley from the Commission (on 24 July 1958; see BZN, vol. 17: 2; 1959), and deduced by me from comments made to me by Dr. C. Sabrosky (in an interview, October 1990). Dr. Sabrosky informed me that Sylvester-Brdaley felt that he was appointed to the Commission and to the Interim Committee for a certain task, and not permanently as a member of the Commission. Hence with the completion of this task, he felt that he should resign. Usinger, Sylvester-Bradley and Sabrosky all attended the 1953 and 1958 Nomenclatural Colloquia and Zoology Congress, and had first-hand experience with the activities of Mr. Hemming.

5. By-laws of the ICZN

At the 1948 meeting of the ICZN, Hemming concluded correctly that the By-laws of the ICZN were sadly out of date and that a complete revision of the procedural rules under which the commission operates was needed. He attempted the needed revision of the 1910 By-laws, but was unsuccessful because of the overwhelming amount of work facing the commission at their 1948 meeting. His intentions were correct, but his tactics failed; a committee should have been established to report at the 1953 congress as was initiated successfully at the 1958 congress. No discussions of a constitution or of by-laws were included at the 1953 meeting, at least nothing was mentioned in the published report. Interest at the XIVth ICZ, Copenhagen, 1953, was in the structure of the Secretariat and its relationship to the ICZN. These were among the major issues considered by the Interim Committee. However, by the XVth ICZ, London, 1958, the lack of a Constitution and an up-to-date set of By-laws became critical, especially because the completion of the new Code was close to becoming a reality and the ICZN would require operating procedures in agreement with the new rules of zoological nomenclature. Hence, the ICZN recommended (Melville, 1959: 915) that its operating procedures be reexamined and that a committee be established under the chair of Professor E. Mayr to revise the by-laws and to draft a constitution (organic articles). Although nothing is included in the published report of the meetings of the ICZN or of the SN at the 1958 ICZ, it can be assumed that this recommendation was accepted by the SN. It should be noted that the published reports of the ICZN and of the SN at the 1958 congress were exceedingly abbreviated and cannot be claimed to provide an accurate account of actions taken at these meetings.

To my knowledge, the first mention of the need for organic articles (= a constitution) was by Mr. Hemming at the 1948 meeting of the ICZN (1950c: 327–328). Unfortunately, no significant work on the by-laws and a new constitution for the ICZN started until after the termination of Hemming's tenure as Secretary, and these documents were not adopted until after the 1961 Code was published. A clear statement was made by Hemming (1950c) of the need for organic articles and a set of by-laws, a clear distinction was made between them, and a definite recommendation made that both the organic articles and by-laws should be included in the new edition of the Règles. A brief discussion of the organic articles and by-laws was presented by Melville (1958c: 1207–1909). Unfortunately, not even today have the sensible recommendations proposed by Mr. Hemming in 1948 been fully carried out because the most recent edition of the Code (ICZN, 1985) contains the Constitution of the ICZN; it does not include the By-laws.

It is not clear which earlier set of procedural rules, if any, the By-laws committee used as the foundation for their work as the only published By-laws for the ICZN known to me are those adopted at the 1910 Congress in Graz (Stiles, 1912); quite likely the committee formulated the by-laws and constitution anew. In my interview of October 1990 with Professor Mayr, Chairman of the By-laws Committee, he informed me that he could not recollect the work of this committee. The revised By-laws and a new Constitution of the Commission were submitted by the committee to the ICZN on 26 August 1959 (Mayr et al., 1962) and commented on extensively by President Bradley (in Mayr et

al., 1962). The By-laws were adopted at the 1963 ICZ (China, 1964a: 163, 1964b: 58), and were finally published in 1965 (ICZN, 1965). The By-laws were last revised by the ICZN at their meeting in Bangalore, October 1976, and republished the following year (ICZN, 1977b). No reference is given in the Code (ICZN, 1985b) to the most recent revision of the By-laws (ICZN, 1977b), and none were published in this edition of the Code. Hence, to my knowledge, the most recently published By-laws appeared in 1977 (ICZN, 1977b). Several amendments to the By-laws were passed at the Budapest meeting, September, 1985 (ICZN, 1985b) and at the Canberra meeting, October, 1988 (ICZN, 1989). The current By-laws should be published with the Constitution in future editions of the Code.

A Constitution for the ICZN was equally long in preparation. A draft of a constitution, the first for the ICZN, was prepared by the By-laws Committee (Mayr et al., 1962). No justification exists for Riley's (1962) rather silly quibble that no authorization existed for this committee to prepare a new constitution, as this committee was clearly authorized at the 1958 International Zoological Congress in spite of the lack of any definite statement in the reports of this congress. Any lack of a proper report of the actions of the ICZN and of the SN at the 1958 congress was Mr. Riley's responsibility as he was elected Secretary of the ICZN following Hemming's resignation; if the authorization was excluded from this report, the fault lies with Mr. Riley. The draft of the constitution was presented and adopted by the ICZN at their 1963 meeting (China, 1964a: 163) and subsequently adopted by the congress (p. 174); the Constitution was published as part of the congress report (ICZN, 1964: 181–185), and again with the revised By-laws (ICZN, 1965). The Constitution was revised and republished in 1974 (ICZN, 1974), and again in 1985 when it was finally published as part of the Code.

6. The Interim Committee

Perhaps the most serious and controversial aspect of the London Congress with respect to The International Commission on Zoological Nomenclature was the treatment of the report of the Interim Committee. This committee was established at the Copenhagen Congress, 1953, although I have not been able to find the authorization for it in the Copenhagen decisions (Hemming, 1953b) or in the proceedings of the congress. But no one at 1953 Copenhagen Congress or at the 1958 London Zoological Congress denied the existence of the Interim Committee chaired by Professor H. Boschma of Leiden and including Mr. P. C. Sylvester-Bradley who really did most of the work of the committee, Dr. L. B. Holthuis and Dr. R. L. Usinger. The committee's report (Boschma et al., 1958) was duly published and caused considerable consternation for Hemming and his supporters in the ITZN. The committee recommended the formation of an International Association for Zoological Nomenclature as a means of providing a regular income for the ICZN. Dr. P. C. Sylvester-Bradley (United Kingdom) was proposed as Interim-Secretary-Designate and the Secretariat was to be removed to the Sheffield City Museum. Dr. L. B. Holthuis (Netherlands) was proposed as Interim-Editor-Designate, and the Dutch firm of Brill recommended as printers for the BZN. Later in the report, the committee spoke of the Copenhagen plan (p. xxii) and mentioned Joint Honorary Secretaries rather than only a secretary and editor; L. B. Holthuis and C. W. Sabrosky agreed to accept nominations for this position. The source for the possible contradictory aspects of the report of the Interim Committee may stem from the fact that two different committees were appointed at the 1953 congress and two different reports were issued. One committee was appointed during the 1953 congress and chaired by Professor Spärck. This committee submitted its report to the Copenhagen Congress just prior to the close of that congress (Hemming, 1953b: 94). Although Hemming (1953b: 94; fn) stated that the report of this committee will be published shortly in the Bulletin of Zoological Nomenclature, I have not been able to locate this published report and hence do not know its content; my only conclusion is that this report was never published.

The second committee appointed at the 1953 congress, was known as the Interim Committee and chaired by Professor Bosch-

ma. Its report (Boschma et al., 1958) was submitted only at the 1958 London International Congress of Zoology. Much of the responsibility for the confusion between these committees and their reports lies with Hemming because of the complex organization scheme he used as editor of the BZN in presenting information about these committees and their reports. In the footnote in Hemming (1953b: 94), two reports are mentioned; one report is clearly that of the Spärck Committee, but it is simply not at all clear to me what the other report is. It could have been that of the Interim Committee, although I presume that this report was not completed until sometime late in 1957 or early 1958.

Hemming and his supporters in the ITZN reacted strongly against the report of the Interim Committee. Hurcomb (1958) wrote a rebuttal which implied strongly that any change from the current (pre-1958) arrangement would spell complete disaster for zoological nomenclature, although he did not present any documentation and evidence for his conclusion. And Hemming worked very hard behind the scenes to sabotage the report. His actions appear to have been achieved several months prior to the congress as expressed in his letter dated 29 April 1958, but only published in June 1958 (Hemming, 1958k). The result was one of the most serious infringements by a President of an International Zoological Congress on the proper running of the International Commission on Zoological Nomenclature. Hemming spoke to Dr. G. de Beer, director of the British Museum (Natural History) and President of the XVth ICZ, London, 1958, and arranged with him to have rooms in the British Museum (Natural History) made available for the Secretariat of the ICZN and to have Mr. R. V. Melville be appointed by de Beer as Assistant Secretary of the ICZN and director of its Secretariat. But Mr. Melville was appointed Managing Director and Secretary of the ITZN and Assistant Secretary to the ICZN, and Director of the Office of its Secretariat prior to 29 April 1958 by de Beer and/or Hemming; it is not at all clear that they had the authority to make such appointments—almost certainly they did not. Bradley apparently accepted this arrangement in a letter dated 10 May 1958 (Hemming, 1985k). Yet it is not clear that Bradley as President of the ICZN could make these decisions without approval of the ICZN or its executive committee if one existed. This approval by the ICZN could not have been obtained in the short time between the receipt of the letter dated 29 April 1958 (as published) from Hemming to Bradley and Bradley's letter dated 10 May 1958. No published evidence exists that the membership of the ICZN was informed of these arrangements and had a chance to consider and vote on them. These arrangements were announced by de Beer in his speech of welcome to the colloquium (de Beer, 1958a) at its opening and published in the BZN dated 11 July 1958. Clearly all of these decisions were made well before the ICZN and/or the Section on Nomenclature could consider the final report of the Interim Committee.

The report of the Interim Committee was considered by the Section on Nomenclature only at its meeting on 21 July 1958 (Melville, 1959: 907); no evidence is available as to whether this report was considered separately by the ICZN. Dr. Morrison-Scott of the British Museum (Natural History) was in the chair for this session of the SN; he was clearly handpicked by de Beer for this task. The published report of this meeting in the proceedings of the congress (Melville, 1959: 907–908) is so scanty that it is impossible to determine what actually happened. But, according to Usinger (1972: 115), Morrison-Scott refused to recognize anyone who wished to speak in favor of motions made in the Interim Report and simply railroaded motions favored by Hemming and de Beer throughout the entire session. Clearly Morrison-Scott served as hatchet-man for Hemming and de Beer. Usinger stated (1972: 115) that he was so furious after this meeting that he had to walk around London for several hours to cool off. The consequences of these actions had serious negative effects for the ICZN for many years, including loss of commissioners such as Sylvester-Bradley who resigned immediately afterwards (on 24 July 1958, see B.Z.N., vol. 17: 2; 1959).

It should be stressed that although up to 1973 the ICZN received its authority from the International Zoological Congress, members of its Session on Nomenclature voted

only on election of members of the Commission and on amendments to the rules of nomenclature. Beyond that control, the ICZN is an independent body, including possessing the authority to appoint those persons working for it and to decide on the location of its Secretariat. No justification or authorization existed for the actions taken by Hemming and de Beer at the time of the 1958 ICZ, and it is a bit surprising that the members of the ICZN accepted these decisions without protest. Apparently they must have decided that a fight on this issue would have resulted in an irreparable split in the International Commission on Zoological Nomenclature, possibly even destroying it, and would have destroyed all hopes of achieving a new Code for many years. Possibly, and quite rightly, members of the Commission reasoned that a well prepared Code of Zoological Nomenclature was far more important at this time than a fight on the organization of the Secretariat.

Thus with the termination of the XVth ICZ in 1958, Hemming's long tenure as Secretary of the ICZN ended on a very mixed note. On the one hand, it appeared that the goal of a new Code would finally be reached in a reasonably short time, but this Code would be very different from that envisioned by Hemming and completed almost independently of his efforts. On the other hand, Hemming's secret agenda for establishing an all-powerful Secretariat had almost succeeded and with it, he came close to causing a serious split within the International Commission on Zoological Nomenclature and quite likely destroying international cooperation in zoological nomenclature for a long time into the future.

K. FINAL PREPARATION OF THE 1961 CODE

For this section, I have relied heavily on the information in the Introduction to the Code (Stoll, 1961) and on information kindly provided to me by Dr. Sabrosky in an interview on 12 October 1990. Stoll and Sabrosky, members of the Editorial Committee, were most deeply involved in the final drafting of the 1961 Code.

The result of the 1958 congress was that members of the Section on Nomenclature discussed and voted on individual sections of the Bradley Draft; this vote was ratified by the membership of the entire congress. But the available draft, now considerably modified from that produced by Professor Bradley and published in the BZN (Bradley, 1957), was simply not in a publishable form. A number of sections were philosophical in nature, and the entire draft was simply not a set of clearly stated rules or instructions governing zoological nomenclature. Hence the congress appointed an Editorial Committee to prepare the final draft of the Code which was to be submitted to the membership of the ICZN for their ratification.

The procedure agreed on by the Editorial Committee was that Melville and Forest were to produce a draft of the Code during the autumn of 1958 based on the decisions reached during the London Colloquium. This draft with attached explanatory notes and criticisms by Riley and Wright were forwarded to Stoll and Sabrosky in January 1959. This document prepared in London, according to Sabrosky (personal commun.), was unacceptable to the American members of the committee and could not be salvaged short of preparing a completely new draft. The draft was too legalistic, convoluted, wording not saying the intent of a rule, etc. After considerable discussion, Stoll and Sabrosky decided unilaterally to do just this. They achieved this monumental task by each working separately on the Code during the week and meeting every weekend in Princeton, New Jersey, at the home of N. R. Stoll to review and discuss the progress made during the week. The completed rewritten draft was sent to the other members of the committee prior to the planned meeting in London in May 1959. Needless to say their action caused considerable annoyance among some other members of the committee. However, although some changes were made at the 1959 London meeting of the committee, the Stoll-Sabrosky draft formed the basis for the published 1961 Code. All indications suggest that the Stoll-Sabrosky draft (the foundation of the 1961 Code) was a major improvement over the draft resulting from the deliberations and votes at the 1958 colloquium. This draft was examined by the entire committee again in June, and the French text prepared. The

manuscript was sent to the printers in October 1959 and circulated (presumably in the form of page proofs) to members of the ICZN on 14 June 1960 for their vote under the Three Month Rule. It is more than a bit peculiar that the vote by the ICZN was obtained only when the Code was already in the galley-proof stage of publication, seemingly at a time much too late in the procedure to consider a negative vote, but apparently very major changes were made between the galley and the page proofs. The ICZN apparently voted on the draft as a whole that it fairly represented the decisions reached by the 1958 XV congress, and also on 31 specific items which the Editorial Committee felt were beyond its responsibility (Stoll, 1961: xv). In his Preface to the 1961 Code, Bradley (p. vi) stated that 262 comments relating to 63 of the 87 articles were received from commissioners with their votes. And that the Editorial Committee exchanged 564 individual comments in resolving these issues and reaching final editorial agreement. Three items involved sufficient substance (beyond editorial consideration) that they were resubmitted to the ICZN on 11 January 1961 for vote under the one-month rule (Stoll, 1961: xv). No report on the actual votes on the Code was published in the BZN. The Code was approved by the Commission and finally published on 6 November 1961, becoming effective on that day (ICZN, 1961: Art. 84; p. 89. However, nowhere in the first edition of the Code is its date of publication given. The date of 6 November 1961 is provided in the second edition, ICZN, 1964: vii). The Code replaced all earlier rules of zoological nomenclature, and its date of effectiveness was made retroactive to 1 January 1961 rather than becoming effective on 6 November 1961 or 1 January 1962 as stipulated originally in the decision of the XIVth congress. I know of no published decisions reached at the XVth congress nullifying the earlier decision reached at the 1953 congress on the date of effectiveness of the new Code. Although far more complex than the Règles it replaced, the 1961 Code was a great improvement over the pre-1948 Règles and the sets of amendments approved at the 1948 and 1953 congresses.

One cannot easily compared the 1961 Code with the decisions reached at the 1958 congress because the results of that meeting were never published; presumably the needed materials are available in the archives of the ICZN. Hence, it is not possible to ascertain which sections of the Bradley draft were accepted, which were modified, and which were rejected at the 1958 International Congress of Zoology without recourse to the archives of the ICZN. Sabrosky informed me that he kept notes during the 1958 Colloquium directly on his copy of the Bradley Draft, and showed this copy to me. As he informed me, the decisions reached at the 1953 Colloquium, as represented in the Bradley Draft, were changed, reversed, modified, deleted, etc. by votes at the 1958 Colloquium. Basically the Bradley Draft was dissected and torn apart at this meeting. Most important is that important provisions favoring continuity of usage were passed at the 1953 Copenhagen Congress and were included in the Bradley Draft. Many of these provisions did not appear in the 1961 Code, and may have been suppressed by votes at the 1958 congress in favor of provisions for strict priority. One such change is Article 13 which extended retroactively for 30 years to family-group names those provisions [Art. 25(c)] of the Règles which had covered only specific and generic names. This modification may well have resulted from serious errors made by Bradley in preparing his draft (see above, Section III.I.2) and either not discussed or discussed and adopted by vote at the 1958 congress. In any case, the Editorial Committee followed the erroneous section in the Bradley draft. Another change is the failure to include an absolute stare decisis clause protecting well-established family-group names changed prior to 1961 for any reason; this was done only partly in Article 40(a) for those family-group names changed prior to 1961 because the type genus is rejected as a junior synonym. These points are covered, in detail, see below, Sections III.L and VI.B.

It should be noted again that the amendments approved at the XIIIth Paris Congress in 1948 and at the XIVth Copenhagen Congress in 1953 never became effective officially because they were never published properly according to the requirements established at these congresses, in spite of comments by Hemming to the contrary. Hence the 1961

Code replaced the Règles which were last amended at the 1927 congress. Considerable doubt exists as to the validity of nomenclatural changes made in the period between 1948 and 1961 under amendments approved at the 1949 and 1953 congresses. The changes in the second edition of the Code (ICZN, 1964) and the third edition of the Code (ICZN, 1985) have little effect on the regulations covering family-group names.

L. RULES AFFECTING FAMILY-GROUP NAMES IN THE CODE

1. The New Rules

The rules in the new Code covering family-group names are a very mixed success, making their evaluation and comparison with the regulations in the earlier Règles a difficult task. Because these rules are scattered throughout the Code, it is not easy to provide a simple summary, even of the pertinent article numbers. The major ones are Article 11(e) (availability) [= Art. 11(f) 1985 Code], Article 13 (availability after 1930) [see below for further comments], Article 23 (validity of names, priority; see especially Art. 23(d) which is omitted in the 1985 Code), Article 29 (formation of names), Articles 35–41 (taxa of the family-group and their names), Article 55 (homonymy), and Articles 62–65 (type genus). The new regulations in the 1961 Code and later editions are clearly formulated and well arranged for the most part, testifying to the skill of the members of the editorial committee who had the responsibility of translating the agreed upon concepts voted on at the 1958 International Zoological Congress into the formal language of a published Code. Very few changes have been made in these regulations since 1961, the major one [deletion in the 1964 Code of Art. 39(a) of the 1961 Code] deals quite correctly with the status of family-group names based on generic names shown to be junior homonyms, i.e., such family-group names are either objectively invalid or unavailable (differing interpretations can be reached depending on how one puts together several articles of the Code), and must be replaced with the next available family-group name, not with the family-group name based on the replacement generic name.

The regulations in the new Code work very well indeed for those names proposed after 1961 and for actions taken after 1961. Indeed, had these rules been part of the original Règles or even earlier codes of nomenclature, we would have far fewer current problems with family-group names. Without question, the new regulations represent a most significant improvement over those in the earlier Règles which are clearly incomplete and provide no instructions on the proper actions to take in most nomenclatural situations.

The strongest objection to the rules covering family-group names in the new Code, which has been expressed by diverse zoologists to me, is divorcing priority of family-group names from that of the names of the type genera (Art. 40). Many workers still have a strong aversion to using a family-group name which is no longer based on a currently valid generic name included in the family-level taxon (= separation of priority of family-group names from those of the type genus as advocated by Sabrosky, 1939, 1947). At the onset of the present analysis, I agreed with the position of coordination of the family-group name with that of the type genus. Without doubt it is awkward to have the name of the type genus different from the family-group name. However, it became increasing clearer to me during the course of this analysis, that the position originally advocated by Sabrosky and expressed in Article 40 is correct. One must keep clearly in mind the distinction between the separate roles of the type genus as the name-bearer and as the name-giver for the family-group name. Once a type genus (the nominal genus) is established for a family-group name, then it is fixed as the type regardless of any changes in the name for this nominal genus because of nomenclatural reasons. Regardless of any resulting awkwardness, the existing regulations in the Code governing the formulation and use of family-group names in zoology are logically sound under the overall principles of zoological nomenclature and provide the greatest stability for family-group names.

2. Difficulties in the Code

On the negative side, the regulations in the 1961 Code, and subsequent editions, fail badly in dealing with many family-group

names proposed and used prior to 1961, and especially those names proposed during the first half of the 19th century. The failings are not readily apparent by a careful analysis of the Code alone. They resulted largely from a lack of a proper practical investigation during the period 1948–1961 of the proposed changes in the rules affecting family-group names. Most members of the 1953 and 1958 Colloquia on Nomenclature simply did not appreciate the deep-seated consequences of the changes in the Code especially for older names. No one considered the usefulness of testing the proposed changes in the regulations affecting family-group names by undertaking a detailed analysis of the history of these names in a larger taxon and then testing the effect of the proposed new rules on these names before enacting these changes. Unfortunately these problems in the Code have the strong potential to create a long period of confusion, instability and lack of universality for family-group names in zoology before stability is once again achieved. No justification exists for permitting such a potential chaos, especially for groups, such as birds, for which a highly stable and widely accepted set of family-group names existed in 1961. These fundamental difficulties in the Code became apparent to me only as a result of my historical survey of avian family-group names, including the attempt to apply the provisions in the Code to these names. This set of avian family-group names is sufficiently complex that clear examples of many diverse problems could be recognized and studied. The major difficulties stem from three major sources, namely:

1) The disparity between the elaborate rules existing in the Code which govern the formation and subsequent use of family-group names, and the poorly known history of these names in most, if not all, groups of animals. Certainly for birds, the history of their family-group names was poorly known prior to this survey, and I suspect that the same is true for most, if not all, other groups of animals. The need for thorough historical analyses of family-group names was expressed early by Oberholser (1920). This problem is well illustrated by the attempt of Brodkorb (1963–78) to apply the provisions of the 1961 Code to avian family-group names. Numerous errors of different types exist in his conclusions, most of them resulting from his inadequate historical survey of these names. It is simply not possible to apply the rules in the Code to family-group names with the hopes of achieving stability and universality in these names without undertaking a historical analysis as thorough as this current one on birds. Yet, as will be discussed below, it is not reasonable to insist on zoologists to undertake the immense amount of work required to gain the required historical knowledge, even when it is possible for the worker to do this research. Moreover, most zoologists cannot undertake the necessary survey because of inadequate library resources.

2) The lack of a strong stare decisis clause in the Code to protect well-established family-group names lacking strict priority because of nomenclatural decisions made prior to 1961 under the provisions of the Règles, etc. Lack of a strong stare decisis clause permits, and indeed encourages, those nomenclaturists favoring strict priority to argue for replacement of many well-established family-group names which lacked priority as senior synonyms (see below for a full discussion). A weak protective clause did exist in the Copenhagen decisions (Hemming, 1953b: 33) and in the Code (ICZN, 1961: Arts. 40; 79), but the history of actions taken by some workers since 1961 demonstrates that this regulation is simply insufficient. For some systematists, no well-established name ever exists in zoology and the discovery of a senior synonym is justification enough to advocate replacement of an existing name with the senior synonym. That is, for these workers, the only possible path to stability and universality in nomenclature is via priority regardless of any intervening period of instability and confusion.

3) Article 13 of the Code dealing with availability of names, including family-group names, published after 1930 was based on Article 25(c) of the Règles adopted at the 1927 Budapest Congress (Hemming, 1958a: iv–v). Article 25 of the Règles deals with priority and covers only species-group and genus-group names; it does not include family-group names. In the Copenhagen decisions (Hemming, 1953b: 35), a clear statement is made in paragraph 52, on availability of family-

group names, that an indication of the type genus is sufficient for availability of the family-group name. That is, the provisions of Article 25 of the Règles are specifically excluded for availability of family-group names in the Copenhagen decisions. Article 52 of the Copenhagen decisions did recommend that authors should include a diagnostic description of any new family-level taxon when proposing a new family-group name, but this is a recommendation only, not a requirement. Article 13 of the 1961 Code states definitely that a description of the taxon is required for any name, including family-group names, to be available.

The serious problems resulting from Article 13 for family-name nomenclature was immediately and forcefully discussed by Temple (1962) who pointed out that it is in disagreement with the recommendations adopted at the 1953 Colloquium on Nomenclature and that it was unjustifiably made retroactive for 30 years. Temple demonstrated that application of the requirements of Article 13 of the new Code would cause serious problems for family-name nomenclature of trilobites. I concur completely with the views expressed by Temple and in my opinion, the wording of Article 13 represents the most serious error made by the drafters of the Code with respect to family-group names. This wording did not originate with the Editorial Committee, but apparently arose from an error in the Bradley draft (see above, Section III.I.2). When the amendment to Article 25 was originally adopted for the Règles in 1927, it applied only to species-group and genus-group names. It reads: "but no generic nor specific name published after December 31, 1930, shall have any status of availability (Hence also of validity) under the Rules, . . ." Family-group names were not mentioned and were clearly excluded from the requirements of this provision (Stiles, 1929b). During the period between 1930 and 1961, a number of family-group names have been proposed, at least for birds, without an accompanying description. These names were proposed in complete accordance with the existing requirements of zoological nomenclature as given in the Règles, and accordingly these names are available regardless of the wording in Article 13 of the Code. Some workers have argued that family-group names proposed between 1930 and 1961 without an accompanying description do not meet the necessary requirements, hence are not available for the purposes of zoological nomenclature and must be rejected. In my opinion, this conclusion is completely wrong and can result in considerable, needless instability and lack of universality in the use of family-group names. The retroactive application of this provision to family-group names is clearly in error, was not adopted at the 1953 congress, is not justified, will lead to considerable confusion, and must be reversed before more damage is done. Moreover, no real reason exists for a requirement of a description of the family-level taxon when proposing a new family-group name. Such action should be recommended as good taxonomic practice, but all that is needed for purposes of zoological nomenclature to fix a new family-group name to the family-level taxon is the clear and definite indication of its type genus.

Other problems in the regulations for family-group names are minor and have scarcely been noticed; they can be easily corrected. Recommendations to the International Commission for Zoological Nomenclature for amendments of the Code pertaining to these problems are given below in Section VI.B: Suggested Modifications to the Code Related to Family-Group Names.

3. Emphasis on Priority

The provisions of the new Code of 1961 (and subsequent editions) as they apply to family-group names have been considered by many systematists and nomenclaturists to represent only an extension of priority to these names; hence these workers examined currently used family-group names only to ascertain whether they possessed priority with respect to other family-group names available for that taxon. If the family-level names in widespread use did not possess priority, then these workers argued that the older names possessing priority (senior synonyms) have to replace the currently valid names regardless of all other considerations, including well-established usage. These arguments were based on the belief by their proponents that they were following the new rules of zoolog-

ical nomenclature strictly and that these new rules stated only that priority was extended to family-group names. But, zoological nomenclature is not quite so simple. First, the principle of priority is not a law as many nomenclaturists pretend. Second, it is not the only provision or even the fundamental principle of the International Code of Zoological Nomenclature (contrary to claims made by Brodkorb, 1978: 197, fn.). And third, the extension of priority to family-group names was not the only modification in the rules of zoological nomenclature made in the 1961 or later Codes. The changes are complex (see the discussions in Sabrosky, 1939, 1947), and include methods to conserve well-established family-group names lacking priority. No assertion was ever made by the ICZN that the *only* or *even the best* way to achieve stability in nomenclature was via application of strict priority in a vacuum of all other considerations (see Bradley, 1962: 178). Moreover, no justification exists for the claim that strict application of priority is needed to protect the rights of earlier authors regarding the taxa they had described and the names they have proposed. Analysis of rights is a most difficult topic, be it rights of all citizens in a democracy or the rights of all zoologists with respect to the names for taxonomic entities. Rights do not exist as simple abstract absolutes, but as relative matters in which conflicting rights must be compared and balanced against one another. One must balance the rights of earlier zoologists whose papers have been overlooked for whatever reason and hence whose names have never been known or have been forgotten versus the rights of all current zoologists for maximum ability to ommunicate with each other with a minimum of confusion. It is not a simple matter as expressed by McAtee (1926; as quoted by Chamberlin, 1952: 34) that the use of nomina conservanda in contrast to a strict use of priority is unfair to early workers. Although this aspect of differential rights has not been expressed as such in the earlier Règles or in the several editions of the Code, tacit reference to this problem clearly exists in the Introduction (ICZN, 1985: xiii–xix) and in the Preamble (ICZN, 1985: 3). The application of priority must be tempered with considerations of continuity of nomenclature (stability of names) as stressed in the Preamble to the Code, as well as in Article 23(b) on "Purpose [of the principle of priority]" and in Article 79 on "Plenary power [of the ICZN]." Article 23 (b) states explicitly that:

> The Principle of Priority is to be used to promote stability and is not to be used to upset a long accepted name in its accustomed meaning through the introduction of an unused name that it its senior synonym. An author who considers that the application of the Principle of Priority would disturb stability or universality or cause confusion is to maintain existing usage and refer the case to the Commission for a ruling [Art. 79c].

This part of Article 23 is conveniently overlooked by strict prioritists, who, in doing so, violate both the letter and the spirit of the Code. And apparently some zoologists believe that no change in scientific names for taxa will ever result in confusion and will ever disturb stability and universality of these names.

Although overlooked by most zoologists, the Preamble (ICZN, 1985: 3) to the International Code of Zoological Nomenclature is an integral part of this Code as stated clearly in the explanatory note (ICZN, 1985: 1); the Preamble is not just a nicety serving only to introduce the Code with a few bland generalities. Rather it is a formal statement outlining the basic goals of zoological nomenclature under the Code, some of the means by which these goals are achieved, and the role of the ICZN in reaching these goals. Basically the ideas expressed in the Preamble to the Code take precedence over the detailed rules contained within the Code. Most fundamental is the paragraph stating that:

> The object of the Code is to promote stability and universality in the scientific names of animals and to insure that the name of each taxon is unique and distinct. All of its provisions and recommendations are subservient to these ends and none restricts the freedom of taxonomic thought or action.

Stated simply, stability and universality of zoological nomenclature are primary to all other considerations of nomenclature and its rules, including priority. Priority is described in the Preamble as:

> Priority is the basic principle of zoological nomenclature. Its application may be modified, however, under conditions specified in the Code to conserve a long-accepted name in its accustomed meaning. When

> stability of nomenclature is threatened in an individual case, the strict application of the Code may under specified conditions be suspended by the International Commission on Zoological Nomenclature.

The Preamble states most clearly that all systematists and nomenclaturists have the responsibility to consider stability and universality of zoological nomenclature as having primary importance, and that they *must* (not may) report to the ICZN all cases in which application of the rules of nomenclature, including priority, will result in instability of long-accepted names, including family-group names, regardless of the reason why a particular well-established name lacks priority. Disruption in communication between zoologists resulting from changes in well-established names must be based on an evaluation of the requirements for communication of all zoologists, not only of specialists in systematics and nomenclature.

4. Reaction of the SCON to the Code

In its first stated action following the publication of the new Code, the 1962-66 SCON (Eisenmann, 1967: 359) fully accepted the concept of continuity of nomenclature [Preamble and Art. 23(d)(ii) in the 1961 Code] in its decision to advocate continued use of well-established avian family-group names. No report of the 1958-62 SCON was published so that the immediate response of this committee to the new Code (1961) is not known. The meeting of the SCON at the 1962 ornithological congress was probably too soon after the publication of the new Code (ICZN, 1961) for members of the SCON to study and discuss it fully, and hence to formulate an opinion about the provisions dealing with family-group names. Following the 1966 ornithological congress, the SCON repeatedly reaffirmed its acceptance of the concept of stability and universality of zoological nomenclature as stated in the Preamble and in Article 23(b), and supported the conservation of well-established avian family-group names for which strict application of priority would disturb universality of usage and stability of these names (e.g., Bock, 1988: 64). The provisions of the Preamble and of Article 23(b) provide the foundation for this project and the associated application to the ICZN.

IV. HISTORY OF ORNITHOLOGICAL NOMENCLATURE

A. RESPONSES BY ORNITHOLOGISTS TO CHANGES IN THE NEW CODE (1961)

After the new Code was published in 1961, most zoologists, including ornithologists, simply ignored the new rules concerning the extension of priority to family-group names, feeling that to begin applying these provisions in the absence of a full survey and analysis of all family-group names published over the past 150 years would lead to numerous serious problems and confusion—the results would be sheer chaos. Although this approach was basically valid, the decision to do nothing was just that; it was not even based on a consideration of the provisions in the Preamble and in Article 23(b) which could have furnished complete justification for no action. Moreover, many zoologists and ornithologists believed that the extension of priority to family-group names was a serious error, and thereby decided not to follow this provision of the Code. In any case, little to nothing has been done to date with respect to analyzing the priority of family-group names in most, if not all, groups of animals, including birds. An unsuccessful application was made by the SCON to the ICZN to have a list of avian family-group names declared as a base line for purposes of priority (see below for details). And several applications covering individual avian family-group names have been made to the ICZN; these include the names Gaviidae and Podicipedidae versus Colymbidae (Opinion 401, Hemming, 1957c; Direction 75, Hemming, 1957d), Thraupinae (see Eisenmann, 1972; Opinions 842 and 1069: Melville, 1977b), Cardinalinae (Opinion 784: China, 1966e),

Threskiornithidae (Mayr, Eisenmann and Parkes, 1984; see Bock; 1986; Opinion 1674; Tubbs, 1992a), and Hydrobatidae (Melville, 1985; see Bock, 1990a; Opinion 1696; Tubbs, 1992b).

The issue of strict priority in contrast to well-established usage of avian family-group names was advocated in ornithology primarily by a small group of avian paleontologists who maintain an absolute adherence to strict priority in zoological nomenclature with a strong disregard for other provisions in the Code as discussed above. These workers dismiss the concepts of nomenclatural stability and of well-established usage of names in zoological nomenclature as stated firmly in the Preamble of the Code. A number of changes in avian family-group names were proposed by Brodkorb (1963–78) in his *Catalogue of fossil birds* which have been followed mainly by paleontologists and nomenclaturists, but which have been disregarded by the vast majority of ornithologists. Brodkorb also proposed unjustifiably a number of changes in avian ordinal names based on presumed priority with the statement that the ICZN will extend priority to these names in the near future. Suggested proposals on extending the rules of zoological nomenclature to names above the family level had been made in the Copenhagen decisions (Hemming, 1953b), but these recommendations were subsequently rejected at the 1958 zoological congress and were nullified with the publication of the new Code (ICZN, 1961). Such an extension of priority has not been legislated by the ICZN and almost certainly will not be done in the near future, if ever.

Brodkorb's conclusions on avian family-group names and his proposed changes were based on a most incomplete historical analysis. His work contains a large number of errors, both omissions and commissions; he accepted a number of invalid names, gave many citations that are not accurate as to dates, etc., and did not include many of the original (= earliest) citations to family-group names. Some of his conclusions on the presumed valid name for avian family-level groups based on priority are simply wrong because of his inadequate research into these names. This work demonstrates clearly the great dangers of proposing sweeping nomenclatural changes without the supporting scholarly investigation into the history of these names as stressed early by Oberholser (1920).

Most ornithologists have ignored the modifications in avian family-group names proposed by Brodkorb for a variety of reasons. However, these changes have been accepted by a few workers, leading to instability, nonuniversality, and confusion in the use of some names clearly warned against in the Preamble and in Article 23(b) of the Code (1985a). This matter rapidly reached an impasse, and nothing was done until the SCON decided to take definite action at the Moscow International Ornithological Congress in August 1982 (Bock, 1985).

B. THE STANDING COMMITTEE ON ORNITHOLOGICAL NOMENCLATURE AND A HISTORY OF ITS ACTIONS ON AVIAN FAMILY-GROUP NAMES

The Standing Committee on Ornithological Nomenclature (SCON) operates under the auspices of the International Ornithological Committee (IOC), the governing body of the International Ornithological Congresses. Its members are appointed by the President of the IOC for a period of four years, serving from the end of one congress to the end of the next. The SCON is an international body of avian systematists that advises ornithologists and the ICZN on matters dealing with ornithological nomenclature. The first SCON was established under the chairmanship of Colonel R. Meinertzhagen (UK) at the 10th International Ornithological Congress held at Uppsala in 1950 (IOC, 1951: 17, and 154) as a result of a paper on "A nomenclatural controversy: The genus *Colymbus* Linnaeus 1758" presented by Professor Finn Salomonsen (1951). No report by this committee was published in the proceedings of the 11th congress, Basel, 1954 (IOC, 1955).

The 1954–58 SCON was appointed following the 11th International Ornithological Congress in Basel, 1954, with Professor Erwin Stresemann (Germany) as chair; he soon resigned as chairman and was replaced by Professor Finn Salomonsen (Denmark) in 1955. A detailed report of the actions of the SCON was published in the proceedings of

the 12th congress in Helsinki, 1958 (Salomonsen, 1960: 30–43). This SCON stated clearly (pp. 30–31) its adherence to the basic principles of stability and continuity in nomenclature and the preservation of well-established names. This report is of interest because it discussed nomenclatural problems associated with two family-group names, Tanagrinae versus Thraupinae, and Cardinalinae versus Richmondeninae. In each case, the wrong author and date was cited for these names, demonstrating the extant difficulties because of a lack of a historical analysis of avian family-group names.

The 1954–58 SCON had discussed the matter of extending priority to family-group names (Salomonsen, 1960: 38–39) based on the proposed amendments to the Règles adopted at the 1953 International Congress of Zoology. The committee proposed that the ICZN place the currently valid family names of passerine birds on the Official Index of Family Group Names in Zoology, listing these names in three groups, one of names in current use, a second of names in which there is some question (again most of the authors and dates cited for these names are wrong) and a third small group of three names, Estrildinae versus Spermestinae, and the abovementioned Tanagrinae and Cardinalinae. This proposal was suggested to avoid foreseen problems arising from the extension of priority to family-group names. It was based on Article 45(1) of the Copenhagen decisions (which were not followed in the publication of the 1961 Code) stating that (Hemming, 1953b: 33):

> The naming of units belonging to the Family-Group of categories shall be governed by priority, except that, in cases where priority is in conflict with current usage, current usage is to be maintained, wherever, in the opinion of the individual taxonomist this would lead to greater stability and universality in nomenclature than would the strict application of priority.

This application was not accepted by Mr. Melville, Secretary of the ICZN, for consideration by the ICZN, using the thin excuse that a full analysis of the history of avian family-group names is required before such an application can be considered.

The same members of the 1954–58 SCON were appointed for the period 1958–62. However, no report of the SCON was published in the Proceedings of the 13th International Ornithological Congress in Ithaca, 1962 (IOC, 1963), and hence no information is available on whether the 1958-62 SCON discussed the effects of the extension of priority to family-group names in the new Code (1961). Quite likely there was no discussion on this matter as the Code (ICZN, 1961) had been published only the previous year and members of the SCON presumably did not have had sufficient time to study all aspects of the new Code and to comprehend all of the consequences of the new rules.

The 1962–66 SCON presented a detailed report in the proceedings of the 14th International Ornithological Congress in Oxford, 1966 (Eisenmann, 1967: 359–364). The first action of this committee was to publish in leading ornithological journals an announcement that it was ready to function; this announcement included as a key statement that "the Standing Committee endorses the Preamble of the Code of Zoological Nomenclature that well-established names should be preserved." (Eisenmann, 1967: 359). It is not certain whether this announcement was published in these journals. The 1962–66 SCON discussed at length the matter of avian family-group names and published the following statement (Eisenmann, 1967: 362–263):

> The new Code of Nomenclature has effected important changes in regard to family-group names, greatly altering ornithological usage. Contrary to past practice, priority is to apply to family-group names (ie. names of superfamilies, families, subfamilies and tribes); these are deemed co-ordinate and are available even if introduced with an ending different from that now conventional. Moreover, while family-group names are based on the generic name of the type-genus, a change of name of the type-genus because of substitution of a senior synonym after 1960 will not work a change in the family-group name [Article 40]. In the interest of conservation the Code provides: (1) that where the application of priority to a family-group name "would upset general usage" application shall be made for decision to the International Commission (presumably without need for invoking the plenary power) [Article 23(d)(ii)]; and (2) that where a family-group name was changed prior to 1961 to correspond with a change of the name of the type-genus and such change has won general acceptance, the changed family-group name is to be maintained [Article 40(a)].
>
> The S.C.O.N. proposed to prepare a list of generally accepted family-group names in ornithology to submit for inclusion in the Official List of Family Names maintained by the International Commission, so as

> to avoid nomenclatural upsets consequent on the application of priority to family names. Determining such priority presents a very difficult bibliographic problem, because it has not been customary to list family-group synonymies in ornithology and because there are a great number of old names for suprageneric groups, introduced without modern conventional endings, that may possibly rank as family-group names under the new code, Article 11(e). The priority of names, and even more often of authorship and date, may be affected. Article 23(b) of the Code, the statute of limitations, helps in eliminating names wholly unused in the past 50 years, but ascertaining that fact itself involves bibliographic work and often nomenclatural interpretation. Moreover, the Secretariat of the International Commission had apparently been of the view that family-group names to qualify for inclusion on the Official List must be supported by an application including data as to authorship and earliest publication of the name.

The latter statement refers to the earlier unsuccessful attempt (see above) to present an application to the ICZN requesting that a list of avian family-group names be accepted as conserved names (see Salomonsen, 1960: 38–39).

The SCON concluded that:

> The members of the S.C.O.N. are not in a position to undertake personally the extensive bibliographic research needed for ensuring correct first authorship and date. The S.C.O.N. is of the view that, to confirm with the purpose of the Code provisions, the International Commission should accept some simplified method for placing on the Official List as nomina conservanda, generally accepted family-group names, regardless of who may ultimately be credited as the earliest author and what may be the earliest date. Meanwhile, considering the Code provisions mentioned, the S.C.O.N. strongly recommends that, absent some controlling action by the International Commission, ornithologists should continue to employ the well-established family-group names and should decline to adopt individual proposals for changes of such names which are based merely on supposed priority. The Code plainly contemplates that for family-group names adopted before 1961, general usage, rather than priority, is the primary consideration.

It must be noted that all references in these quotes to the International Code of Zoological Nomenclature in this statement are to the first (1961) and/or second (1964) editions of the Code.

No further action was taken on this project in the years 1966–1970 (IOC, 1972: 14), and 1970–1974 (IOC, 1976: 13).

The question of avian family-group names was brought up again at the session of the 1974–78 SCON at the 1978 International Ornithological Congress in Berlin (Eisenmann, 1980: 61–62) with the comment:

> The problem of family-group names, which under the Code are now subject to the rule of priority although there is provision by which the International Commission may validate usage, is a very troublesome one in ornithology. Family-group names are those for tribes, subfamilies, families and superfamilies; names for suborders, orders and superorders are not included in this provision and are not subject to the rule of priority. The problem is that most family-group names that have been long and consistently used in avian classification may not be the oldest name and adequate published synonymies of avian family-group names are lacking. The Secretariat of the Commission has taken the position that to invalidate senior family-group names requires exercise of Plenary Powers of the Commission, and that validation of the generally used family-group name would not give it preference over an earlier name unless that name had been expressly mentioned in the application. This means that in order to validate effectively currently used family-group names, a check of the synonymy for each name is required which entails an extensive and burdensome bibliographic research. Otherwise a second application will have to be made if an earlier competitive name is brought to light.

Again the SCON left this matter in abeyance largely because no one volunteered to undertake the necessary study to provide a historical survey of avian family-group names.

With the death of Eugene Eisenmann (USA) in the fall of 1981, President Lars von Haartman (Finland) of the 18th International Ornithological Congress appointed Professor Walter Bock (USA) as chair of the SCON for the remainder of the 1978–82 term. Bock immediately turned his attention to the long stagnant matter of avian family-group names, and pushed discussion of this topic at the meeting of the committee at the 18th Ornithological Congress in Moscow, 1982 (Bock, 1985: 31–32). The stumbling block was, as always, the preparation of a full synonymy of avian family-group names, as clearly demonstrated in the reports of the earlier SCON. Although "This task is considered to be a waste of effort, time and money by most members of the SCON." (Bock, 1985: 31), it is clear that no progress could be made on the persistent nomenclature problem of avian family-group names until the needed survey of these names is undertaken and completed, considering the attitude of the Secretariat of the ICZN in not accepting applications to

conserve a list of family-group names in the absence of a complete historical survey. Consequently the SCON adopted the following motion (Bock, 1985: 32), namely that:

> a) Until the committee completes its work and submits an application to the ICZN, all ornithologists are urged to follow current usage as given in Peters's Checklist. The committee urges especially that the editors of ornithological journals insist on this current usage in papers published in their journals.
> b) A small subcommittee of the Standing Committee on Ornithological Nomenclature of 3–4 persons (not necessarily all members of this committee) be established to research family-group names and to prepare a report to be submitted to the SCON at the next congress (1986). This committee shall consist of Walter Bock as chairman and persons to be appointed by him. It was hoped that G. Mees, G. Watson and H. Wolters would serve on it, and the assistance of other ornithologists would be welcome.
> c) The SCON be charged to act on this report at the next congress (1986) and to decide at that time whether to submit an application on family-group names to the ICZN and/or whatever other appropriate action be taken.

This multipartite motion charged the SCON to take action on the nomenclatural question of avian family-group names, and to reach some definite decisions at the 19th International Ornithological Congress in 1986 based on real information on the history and synonymies of these names. Otherwise, the SCON should drop this matter. In the period between 1982 and 1986, Bock [as the sole member of the above mentioned committee, but with much assistance from Professor E. Mayr (USA), Dr. G. Mees (The Netherlands), Professor K. Voous (The Netherlands), Dr. H. Wolters (Germany), and Dr. R. Schodde (Australia) of the SCON] researched the synonymy of avian family-group names and circulated a report to the SCON prior to its meeting at the 19th International Ornithological Congress in Ottawa, 1986. This report was discussed at the first meeting of the SCON at this congress with the following results (Bock, 1988: 63):

> Late in 1985 when work on a second edition of the "Reference List of the Birds of the World" (Bock and Gulledge, in prep.) was sufficiently under way, it was possible for Walter Bock to start preparation of a list of avian family-group names and their synonyms. He began with a card file of these names prepared some years by an undergraduate student at Harvard University under the direction of Professor Ernst Mayr. This file had been given to Eugene Eisenmann some years ago, but no further action was taken. The file passed into the possession of Walter Bock after the death of Dr. Eisenmann. Subsequently, Bock abstracted family-group names from all major classifications, handbooks, taxonomic papers, etc. and many minor ones, starting at 1800 and continuing to the present. The names were put into a computer file using programs developed for revision of the "Reference List". A preliminary memo, including introductory material and a list of family-group names and synonyms, was sent to all members of the committee on 5 March 1986; their comments and corrections were requested. A second memo, with an updated list, was sent to all members of the committee on 19 May 1986. This list served as the basis of discussion at the meeting of the SCON at the Ottawa congress. (Bock, 1988: 63).

Further, the SCON passed the following motion which reconfirmed strongly the position accepted by the SCON at the 12th congress in 1958 (Salomonsen, 1960: 38), the 14th congress in 1966 (Eisenmann, 1967: 362–363) and the 15th congress in 1970 (Vaurie, 1972: 14), namely:

> The first item of business was to act on a motion proposed by G. Watson and seconded by B. Monroe that: *The SCON reaffirm its strong acceptance of the Principle of Established Usage as had been adopted at its meeting during the Moscow congress.* Established usage means generally accepted usage of a scientific name for a period of fifty years, and that names of established usage cannot be replaced simply because of priority, etc. [the provisions stated in the Preamble, Art. 23(b) and Art. 79(c) of the Code]. This motion passed the SCON with a vote of 8 for to 1 against. The congress members attending the meeting of the SCON were also asked to vote and favored this motion by 34 to 3. Acceptance of this motion means that the 1982-86 SCON had taken a strong position against the application of strict priority as well as any other rules which would upset established usage in zoological nomenclature at all levels, including family-group names. (Bock, 1988: 64)

Adoption of this motion placed the SCON on record as supporting the full Code including the object expressed in the Preamble and the purpose of priority expressed in Article 23(b), and against the application of strict priority regardless of other provisions of the Code.

Following passage of this Motion:

> Attention was then given to the memo of 19 May 1986 as well as the earlier one of 5 March 1986, the former contained the latest list of family-group names and synonyms. Copies of the memo of 19 May 1986 were made available to congress members. This list and the proposed suggestions were discussed. (Bock, 1988: 64)

Following this discussion, a motion was made by Ernst Mayr and seconded by George Watson that:

> *The chairman of the SCON, Walter J. Bock, prepare and circulate to interested ornithologists (1) a list of avian family-group names of established usage and their junior synonyms and (2) a list of senior synonyms which do not possess established usage; that notices be placed in the major ornithological journals informing interested ornithologists about the availability of these lists and requesting their comments and suggestions; that the SCON act on these lists after they have been circulated and comments from ornithologists been collected; that the final lists be published in some major ornithological journal; and finally that application be made to the ICZN to place the names in the first list on the official list of accepted avian-family group names and the names in the second list on the official list of rejected and unavailable family-group names.* This motion was discussed and approved by the SCON by a vote of 10 to 0. This motion was then voted on by the members of the congress attending the committee meeting, and approved by a vote of (about) 35 for to 1 opposed and 1 abstaining. The chairman was asked to present this motion to the IOC and request approval from that group for this action. Bock (1988: 64).

The next item of business was to agree on the procedure for completion and publication of the list of synonyms of avian family-group names with the following discussion. Discussion by the SCON was as follows:

> Following the acceptance of this motion, a number of points were raised and discussed in connection with preparation of these lists of family-group names. The lists will contain all family-group names on the official lists of conserved and of rejected names. It was recommended strongly that completion of this process should be by 31 December 1987. The generic names on which each family-group name is based should be added to the list. Special attention must be given to the formation of family-group names to assure that the correct genitive singular stem is formed from the generic name. Ornithologists will be asked to give special attention to this point, and to call attention of any incorrectly formed family-group names to the SCON. A discussion followed on whether it would be valuable to extend coverage of these lists to avian fossil groups. Walter Bock stated that he did not feel competent to include these groups, and would do it only with the assistance of some paleontologists. Dr. Storrs Olson agreed that he would look into the matter and discuss it with Walter Bock. If they agreed on the possibility of including names for avian fossil groups, then they were instructed to do so. [Unfortunately this was not possible, see below.] The motion passed at the Moscow Congress that ornithologists, and especially editors of ornithological journals be urged to follow current established usage until this matter is settled was noted and all ornithologists are asked to abide by this recommendation. (Bock, 1988: 64–5)

These resolutions were approved by the members of the IOC at its first meeting (24 June 1986) held during the Ottawa Congress (Bock, 1988: 65), thereby permitting the SCON to discuss these matters with the ICZN and to proceed with work on avian family-group names.

Following the Ottawa Congress, Bock met with Professor David Ride, then President of the ICZN, at the American Museum of Natural History in August 1986, and discussed the best procedure for preparing an application covering avian family-group names to the ICZN. Ride suggested that a well-researched list of avian family-group names could be used as a base line for future priority of these names if the application was voted on favorably by the ICZN. He suggested that names not included in this list could be declared to lack any future nomenclatural status and hence be unavailable.

Bock continued work on tracing the synonyms of avian family-group names after the 1986 Ornithological Congress. Names for purely fossil avian family-level groups were not included because Dr. Storrs Olson, who was invited to cover this part of the analysis, declined to take part in the project. In December 1986, a notice was sent to the editors of all major ornithological journals and biological journals read by workers interested in zoological systematics and nomenclature, announcing the project and informing interested workers that the list would be made available on request. Forty notices were send out, many of which were eventually published. An initial draft of the list of avian family-group names was completed on 1 December 1986 and sent to the members of the SCON and to all zoologists requesting it. Over 100 copies were sent out. A second draft of this list was completed on 28 September 1987 and sent to members of the SCON and to workers expressing special interest in avian nomenclature. The final draft list of avian family-group names and synonyms for recent avian family-level taxa, but not for avian fossil groups, together with the bibliography, a list of difficult names, and an index, were completed by Walter Bock and submitted to the members of the SCON and many other interested ornithologists by 31 December 1987, thereby meeting the deadline proposed

by the SCON at its 1986 meeting. Some names were discovered and added to the list since that date. Active bibliographic research on avian family-group names ceased in late spring of 1988 although any names discovered after that date were added to the list until the manuscript was completed for publication.

Work on the bibliography, problem names, index and text, as well as checking generic and family-group names against the Official Lists and Indices of Names in Zoology was undertaken from the Spring, 1987 until the late Spring, 1989. The text was written during the Fall of 1989, during which time the discussion of the problem names was completed as well as the final work on the rest of the manuscript. A final draft was circulated to the members of the SCON plus a few other interested ornithologists in December 1989. The final manuscript was completed in the autumn, 1990, and made available to members of the SCON and some other interested persons soon thereafter. Comments received from these reviewers were included in preparation of the final manuscript.

At its meeting during the 20th International Ornithological Congress in Christchurch, New Zealand, 1990, members of the Standing Committee on Ornithological Nomenclature approved the manuscript as circulated and passed a motion of appreciation to Walter Bock for his efforts in completing the project on the history and nomenclature of avian family-group names. Further, the SCON requested the International Ornithological Committee to act on the following resolution:

> The International Ornithological Committee at its meetings during the XX International Ornithological Congress, Christchurch, New Zealand, 2-9 December 1990 congratulates and supports the International Commission on Zoological Nomenclature in its efforts to increase continuity of zoological nomenclature by the conservation and stabilization of established names and directs its Standing Committee on Ornithological Nomenclature to assist the International Commission on Zoological Nomenclature in these efforts. The International Ornithological Committee recognizes the pioneering actions of the Standing Committee on Ornithological Nomenclature in developing a list of available family-group names of birds and urges this committee to undertake similar projects on genus-group and species-group names of birds.

This resolution was presented to the IOC which approved it unanimously (Bock, 1991: 85).

Since the 1990 congress in Christchurch, work continued on revision and rechecking the manuscript, especially dealing with questions of the history of family-group names and arranging for its publication. Although intensive, systematic search for avian family-group names was terminated after the 20th International Ornithological Congress, 1990, search continued as the opportunity arose. About one hundred names have been added since the end of 1990, largely because of the discovery of several long-forgotten monographs on hummingbirds which accounted for over 40 names by themselves.

V. ANALYSIS OF NOMENCLATURAL PROCEDURES FOR FAMILY-GROUP NAMES

A. GENERAL PROCEDURES USED BY SYSTEMATISTS FOR CHANGING FAMILY-GROUP NAMES PRIOR TO 1961

The formal and informal rules for family-group names used prior to the publication of the new Code were rather simple and were apparently not always followed exactly, but they served quite well for almost 150 years until the ICZN developed a more complex set of formal rules which was published in the first edition of the Code (ICZN, 1961). No definite rule existed for choosing the type (= nominal) genus (genotype) when recognizing and naming a new family-level group. And indeed no such rule is needed any more than one for choosing the type species for a genus, although a number of authors writing on family-group nomenclature discussed this question in detail. However, most workers used a genus typical for the group and usually

one with an old, if not the oldest, name in the family-level taxon. Once the family-level group was named, the same type (nominal) genus was retained for the particular family-level taxon (not always, see below), and the family-group name was changed when the name of the type genus was changed because of reasons of synonymy [= coupling the family-group name with the valid name of the nominal genus; Art. 5 of the Règles]. Quite likely, family-group names were modified following all changes, including reasons of homonymy, in the name of the nominal genus to maintain concordance between the name of the type genus and that of the family group. Priority was simply not used as the basis for deciding on the validity of family-group names. Clearly there was no thought that priority of family-group names should be independent of priority of names applied to the nominal genus. Rather, the generally accepted idea was that the family-group name was tied to a definite type genus and its currently valid name. Hence the family-group name depended on priority and other rules determining the validity of the name of the type (nominal) genus. These interpretations are the consequence of two separate ideas. First, the type in zoological nomenclature is an object, which is the type genus for family-group names. Second, and really quite questionable even prior to 1961, the valid family-group name should reflect the valid name of the type genus (see the analysis of Sabrosky, 1939, 1947).

This system was not followed absolutely as the application of the family-group name was also modified with other shifts in the application of the generic name, namely those associated with homonymy of generic names. In most or all cases in which the name of the type genus for a family-group name has been shown to be a junior homonym, the family-group name was transferred to the genus possessing the senior homonym. For example, application of the family-group name Procniatidae changed from the Swallow-tanagers (Tersininae) to the Cotingas (Cotingidae) after it was shown that the generic name *Procnias* Temminck, 1820 is a junior homonym of *Procnias* Illiger, 1811, a member of the Cotingidae. Similar changes occurred with the family names Tantalidae and Ibididae which were shifted from the ibises (currently the Threskiornithidae) to the storks (currently the Ciconiidae) with a shift of the generic names *Tantalus* and *Ibis* to the Ciconiidae because of homonymy. Procellariidae changed from being based on *Procellaria* Linnaeus, 1766 to being based on *Procellaria* Linnaeus, 1758. The names Colymbidae, Ortyginae, Calidrinae, and Ampelidae are similar, but not identical, cases. The family-group name Ibididae was proposed by Degland, 1849 for the ibises (the group now known as the Threskiornithidae) based on the type genus *Ibis* Cuvier, 1816, and was shifted without comment to the storks (Ciconiidae) when it was shown that *Ibis* Cuvier, 1817 was a junior homonym of *Ibis* Lacépède, 1799 = *Mycteria*. These actions have been followed for almost every such nomenclatural change in avian generic names, but they were not valid nomenclatural acts. These invalid acts resulted from a confusion of the dual roles of the type genus as the name bearer and as the name giver for the family-group name, and the erroneous concept that the type of family-group names is the generic name, rather than the object—the type (nominal) genus (see below, Section VI.B.4, 5, and 7). That is, the difference between the type for the family-group name Ibididae Degland, 1849 being the name *Ibis* Lacépède, 1799 (incorrect) or being the genus which was named *Ibis* Cuvier, 1816 (correct). Thus, even though the basic rule was that the family-level group was tied to the same type genus and followed shifts in the valid generic name of this type (that is, Sylvicolidae Swainson, 1831, based on *Sylvicola* Swainson, 1827, changed to Compsothlypidae Oberholser, 1919, based on *Compsothlypis* Cabanis, 1850, changed to Parulidae Wetmore et al., 1947, based on *Parula* Bonaparte, 1838), a second, erroneous, and unstated rule existed which tied the family-group name to the original name of the type genus as it shifted to different genera because of homonymy in generic names. The family-group name which was based on the junior homonym generic name would be transferred to the senior homonym generic name. Certainly prior to the publication to Code in 1961 and possibly even after that time, this second rule appeared to have had preference relative to the first. It is not always possible without an enormous

amount of work (and sometimes not even then) to follow shifts in the application of family-group names from one genus to another possessing the same name because authors almost never stated exactly which genus was intended even if they cited a type genus for a family-group name, that is, whether *Ibis* Cuvier, 1816 or *Ibis* Lacépède, 1799 = *Mycteria* Linnaeus, 1758, was considered to be the type genus of the family-group name Ibididae when an earlier author used the name Ibididae. Most of these changes in the application of avian family-group names with shifts in the "generic name as the type" had been made early in the history of avian classification and family-group nomenclature, usually over 100 years ago. They may have caused considerable confusion during the middle of the 19th century, but the problems were resolved, generally quickly even if incorrectly, and all of these switches in application of family-group names have been long accepted by ornithologists. No real justification exists at this time to argue against these invalid nomenclatural actions made during the 19th century, and I will not do so. Indeed, I am not at all certain that all such changes are known to us. The actual type genus for the family-group name Procellariidae Leach, 1820 could be *Procellaria* Linnaeus, 1758 or *Procellaria* Linnaeus, 1766 [probably the latter]. Hence Leach's name would apply to the present-day storm-petrels (Hydrobatidae; *Procellaria* Linnaeus, 1766) rather than to the present-day shearwaters (Procellariidae; *Procellaria* Linnaeus, 1758) as assumed by all ornithologists; unfortunately we can never know for certain (see below, Section VIII.B: Procellariidae). The family-group name Calidrinae Reichenbach (1849) was almost certainly based on the genus *Calidris* Illiger, 1811 (or of authors) rather than on the currently valid *Calidris* Merrem, 1804 (*canutus* Linnaeus, 1758), but this change in the type genus of Calidrinae is so completely accepted by ornithologists for many decades that no justification exists for insisting on modification at this time because of purity in applying nomenclatural rules. I have accepted these earlier changes, and have pointed them out for all cases known to me. In several cases I have listed the questioned family-group name in the synonymy (sometimes with different type genera) of two different currently valid family-group names.

This general system of rules, both formal and informal, was followed prior to the 1961 Code but not with complete rigor and without consideration given to regulate use of family-group names by priority. Ornithologists accepted without question the several changes in the family-group name for the New World wood warblers [from the Sylvicolidae Swainson, 1831 (*Sylvicola*) to the Compsothlypidae Oberholser, 1919 (*Compsothlypis*) and finally to the Parulidae Wetmore et al., 1947 (1831) (*Parula*)] in which the same type genus was kept for this family-level taxon with considerable changes in the name of the nominal genus. Other such changes resulting from application of Article 5 of the Règles were equally accepted by ornithologists perhaps because these occurred over a period of many decades. Yet entomologists, e.g., dipterists, objected to similar modifications in family-group names in the Diptera because these affected a number of important names at the same time (Sabrosky, 1939). A small number of zoologists (Horváth 1911, 1912; Van Duzee, 1916; Oberholser, 1920; Melander, 1929; Sabrosky, 1939, 1947) presented sound arguments for a revision of nomenclatural rules affecting family-group names, including repeal of Article 5 of the Règles and introduction of priority for family-group names independent of priority of the valid name of the nominal genus. Unfortunately none of these workers analyzed the consequences of these rule changes on the family-group names for a larger group of animals. The closest was that of Sabrosky (1939) for Diptera, but he did not include information on the date of publication for these names which is critical. Sabrosky was mainly concerned with the changes resulting from the discovery of the Meigen 1800 generic names compared to the Meigen 1803 generic names on which many family-group names of Diptera had been based. Only Oberholser emphasized the need for a thorough historical review of family-group names to achieve stability in addition to modifications in the rules. I know of no published defense of the then-existing nomenclatural rules governing family-group names, especially of Article 5 of the Règles. And I know of no published deliberations by

the ICZN on the several pre-1948 proposals to modify these rules, including why the ICZN decided to retain the existing articles pertaining to family-group names. Those zoologists advocating changes in the rules affecting family-group names appeared to be a small minority, and had no influence until the 1950s when the entire code of nomenclature was revised. Without careful analyses of the nomenclatural history of family-group names in a number of large groups of animals (classes and orders), it is not possible to ascertain how well the pre-1961 system of formal and informal rules worked. They appeared to serve reasonably well for birds in spite of use of the inappropriate rule based on the misconception that the type of family-group names is the generic name, not the type genus—the object, and the occasional decision by authority. But they appeared to serve less well for Diptera according to Sabrosky's (1939) analysis, probably because of the wholesale number of changes in family-group names taking place simultaneously.

In ornithology, the result of these rules was the development of a very stable system of family-group names for most families of birds and for many of the subfamilies for a period of 100 years prior to 1961 when the more elaborate and formal set of rules in the 1961 Code, including priority, was extended to these names. All indications were that, in the absence of the new Code, stability of avian family-group names would have increased with passing years even for subfamilies and tribes for which there had been considerably less taxonomic agreement. It can be argued that in spite of care used to formulate the rules pertaining to family-group names in the 1961 Code, the consequence of introducing these new regulations, 150 years after the onset of family-group nomenclature in zoology, has been increased confusion and instability in avian family-group names and very much additional work for ornithologists. Temple (1962) reached the same conclusion for trilobite family-group names. Again, it is necessary to have a number of careful surveys before reaching a definite conclusion on the general consequence of the 1961 changes in nomenclatural rules on zoological family-group names. In the absence of such surveys, my conclusion is that the overall effect of the 1961 Code on zoological family-group names is increased confusion and instability as has been the case for birds because I doubt that the history of family-group names is any better known in other groups of animals compared to birds. And it is the lack of knowledge of the history of these names, not the rules of nomenclature, which results in this instability.

B. BASES FOR ACCEPTING AVIAN FAMILY-GROUP NAMES

1. Introduction

An analysis of avian family-group names depends ultimately on the basis for accepting names proposed in earlier papers; that is, which family-group names mentioned in the earlier literature had been proposed properly and hence are available nomenclaturally under the Règles and the Code. This basis must depend on the accepted rules of nomenclature, including interpretation of several of the provisions in the Code dealing with family-group names. In addition to the question of whether particular family-group names had been proposed properly, a second question exists on the date of precedence of family-group names changed prior to 1961 because of synonymy of the type genus [Règles, Art. 5; 1961 Code, Art. 40(b)]. This article does not mention continued use of family-group names for which the type genus has been synonymized prior to 1961, but for which no replacement family-group name had been formally proposed. According to the provisions in the Règles (Art. 5), the family-group names should have been changed automatically with change in the name of the type genus because of synonymy whether or not the family-group name was in current use. The replacement family-group name did not have to be proposed formally. However, it is not reasonable to propose retroactively all of these "phantom avian family-group names" since there is already an overabundance of family-group names for birds. Moreover, all of these phantom names would be for family-group names which have not been used for many decades, are buried deeply in the synonymy of valid names, are generally forgotten, and in all probability will never be used in the future. I will not consider these phan-

tom names here, but will cover them below in the discussion of problem family-group names and in the proposed modification of the rules.

2. Formation of Name and Type Genus

a. Basic requirements. Two basic requirements exist for the availability of family-group names. First it must apply to a family-level taxon regardless of what the category is called. Taxa belonging to categories with vague names such as groups, series, or branches are acceptable if it is clear that these categories are between the genus- and the order-levels. Second the family-group must be based on the current valid name of a genus recognized by the author of the family-group name and included in the family-level taxon at the time the family-group name was proposed. The exact form of the family-group name, that is, the formation of the stem and the ending used did not matter until later (after 1900) in the history of family-group nomenclature. After acceptance of the new Code in 1961, the name had to be accompanied by a description of the family-level taxon. Considerably controversy surrounds this final requirement. It is unclear why such a description is needed, as will be discussed below.

Consideration of the valid name of the type genus of a family-group name deserves further discussion. Formation of the family-group name must be based on the valid name of the type or nominal genus recognized by the author proposing the family-group name when the family-group name was established [Règles, Art. 4; ICZN, 1985a, Art. 11(f), Art. 35, Art. 36]. The Code states precisely [Art. 11(f)(i)(1)] that when first published, the "family-group name must, when first published, be based on the name then valid for a contained genus, . . ." This does not mean that the family-group name can be based simply on an available generic name for the type genus, but on a generic name considered valid at the time the family-group name is proposed. My interpretation of "the name then valid" is that the name of the type genus must be considered as valid by the author of the family-group name at the time that name is being proposed, not that it may be considered to be valid by other workers at this time or even as valid by the author of the family-group name at some other time. Most often the author did not mention the type genus or did not specify the type genus among the genera listed under the family-level group when proposing a new family-group name. In such cases, I have accepted the family-group name proposed by the author as sufficient evidence that this worker regarded the generic name as valid at that time for a genus contained in that family-level taxon, unless strong evidence indicates otherwise. That is, the broadest latitude will be used in accepting the names of type genera as valid following the provisions of Article 11 (f)(i)(1) which state that:

> A family-group name must, when first published, be a noun in the nominative plural based on the generic name then used as valid for a genus contained in that family-group taxon [Arts. 63, 64] either by express reference or by inference in context from the formation of the family-group name;

Any other interpretation of these provisions would cause havoc for family-group nomenclature and would require an immense amount of work to ascertain the first use of each family-group name in which the author explicitly mentioned the type genus in connection with the family-group name.

However, the meaning of this rule is that only available (and currently valid) generic names can serve as the type-genus. All generic names which are pre-Linnaean, junior homonyms, or otherwise unavailable or objectively invalid cannot serve as the type of a family-group name, and hence family-group names based on such generic names are unavailable for purposes of zoological nomenclature. This includes all generic names which have been subsequently declared by plenary action of the ICZN to be suppressed although this requirement is not stated in the Code.

If the author specified the name of the type genus, then that generic name is accepted for the type even if that generic name is unavailable or invalid for any reason and even the same name is available for the type genus of the family-level taxon, or if another genus exists with the same name. Hence Raphidae Poche, 1904 is not available because it was clearly based on *Raphus* Möhring, 1752 as stated by Poche even though the generic name *Raphus* Brisson, 1760 was available for the type genus at the time Poche proposed the

family-group name Raphidae. The valid name for this taxon is Raphidae Wetmore, 1930 (1835) based on *Raphus* Brisson, 1760. Vieillot (1816, 1825) used the family-group name Urinatores, but recognized only the genus *Colymbus* Linnaeus, 1758 in this family. In this case, I conclude that the family-group name is not properly formed on the generic name *Urinator* Lacépède, 1799 because Vieillot did not recognize this as a valid name for a genus contained within his family-level taxon even though *Urinator* was an available generic name; hence Vieillot's Urinatores is unavailable as a family-group name in zoological nomenclature. The name Urinatoridae should be credited to Baird, Brewer and Ridgway, 1884.

b. DETERMINATION OF TYPE GENUS. The type genus was difficult to determine in a number of cases because in many early publications the family name is not always the same (i.e., formed on the stem) as that of any genera specifically included (mentioned) by the author as belonging to the proposed family. Thus, it is not clear whether Gray based his name Orthonychidae G. R. Gray, 1840 on the genus *Orthonyx* Temminck, 1820, or on another genus *Orthonyx* because he did not list all of the genera to be included within each family-level group in this publication. Similar problems exist for the Saxicolinae; it is not completely clear whether Vigors (1825a) based his Saxicolinae on the present-day genus *Saxicola* Bechstein, 1803, although it appears likely that he did. In these cases of doubt, the most reasonable solution is to accept the family-group name as based on the presumed type genus so long as that generic name was available at the time of the original use of the family name. That is, in all questions of doubt, the family-group name and type genus are accepted according to the available clear indications unless there are good reasons to reject this course. The alternative would be to reject all such names, which would result in serious chaos for avian family-level nomenclature.

Because family-group names must be linked to their type genus and because most early workers did not indicate a type genus, one of the important tasks of this analysis was to identify the intended type genus of all proposed avian family-group names as accurately as possible. The names of the nominal genera, together with the name of the author and the date of publication of these generic names, are included in the main list of avian family-group names. The information on nominal genera of avian family-group names was taken from Sherborn (1922–32), Neave (1939–1975), the Catalogue of Birds in the British Museum, Peters' Check-list, Wolters (1975–82) and other standard catalogs, but was not checked against the original publications of the names of the type genera. The currently valid name is also given when the type genus had been synonymized.

The validity and synonymy of family-group names will depend on the nomenclatural changes of the nominate genera. The history of these nomenclatural changes are not always easy to ascertain because many of these changes were made well over 100 years ago with no references provided in recent checklists and catalogs. The names Culicivorinae Swainson, 1831 (*Culicivora* Swainson, 1827) and Polioptilinae Baird, 1858 (*Polioptila* Sclater, 1855) are a good case in point. Everyone knows that the generic names *Culicivora* Swainson, 1827 and *Polioptila* Sclater, 1855 apply to the New World gnatcatchers, and hence the assumption is that *Polioptila* replaced *Culicivora* for some reason. Consequently my initial action was to place Culicivinae in the synonymy of Polioptilinae. However, checking the literature carefully revealed (Sclater, 1855) that the type species of *Culicivora* is a tyrannid flycatcher, that *Polioptila* did not replace *Culicivora* but is still a valid name for a tyrannid flycatcher, and that Culicivorinae is in the synonymy of Tyrannidae; Elaeniinae (see VIII. Problem family-group names: Culicivorinae and Polioptilinae). I am not certain that I have ascertained all such problems, but believe that no valid family-group names for birds are affected by these problems.

c. DESCRIPTIVE TERMS. Descriptive terms are unavailable for family-group names although they had been used commonly in the early years of the 19th century. Difficulties exist in separating some of these early descriptive names from those properly formed on the name of the type genus when the names have a common origin, e.g. Accipitridae which could have been based on the generic

name *Accipiter* or on the Latin word accipiter for hawk. Names of the latter type are not available for zoological nomenclature. See points 5(a) and 5(b) below for a discussion of avian family-group names proposed as descriptive terms during the early period of the 19th century.

d. UNAVAILABLE OR OBJECTIVELY INVALID TYPE GENERA. Some cases exist for which avian family-group names have been properly formed with the generic name cited or indicated clearly, but the generic name is not available for nomenclatural purposes or is objectively invalid. Or in some cases, no such type genus exists. These cases include generic names which are pre-Linnaean (pre-1758), or are junior homonyms. This problem stems mainly from the fact that during the 19th century some workers accepted all generic names which had been proposed, even those which were pre-Linnaean. The Code states precisely that the starting point for zoological nomenclature is 1 January 1758 (Art. 3). Some avian family-group names have been proposed by Poche (1904) based on generic names given in Möhring, (1758) which is a translation of the original German work by Möhring (1752); the generic names appearing in Möhring (1758) should be cited properly as Möhring, 1752. The 1752 book is a pre-Linnaean work, and its translation and republication is 1758 is not sufficient to validate this work for purposes of zoological nomenclature. The 1758 translation was rejected for nomenclatural purposes by the ICZN (Opinion 241, issued 21 May 1854). All such known unavailable or objectively invalid family-group names (= those which are based on unavailable or on objectively invalid generic names or which lack a type genus) are included in the list for the sake of completion but are placed within bold square brackets.

Some family-group names appear to be based on genera that can be attributed only to authors and hence are unavailable. These family-group names lack a valid type genus and hence are unavailable. Hence Prionidae Bonaparte, 1983 is based on *Prion* of authors, and is listed with no type genus. Some of these type genera are difficult to ascertain because the same name has been used in several different ways, an available one and one or more unavailable ones. I have tried to determine in each case, whether the family-group name is based on a generic name of authors or on an available generic name. In no case does the decision affect a well-established family-group name.

Some of the avian family-group names based on unavailable or objectively invalid generic names have traditionally been treated as available by ornithologists. Thus the name Ibididae Degland, 1849 based on *Ibis* Cuvier, 1816, is unavailable because *Ibis* Cuvier, 1816 is a junior homonym of *Ibis* Lacépède, 1799 = *Mycteria* Linnaeus, 1758. But the family-group name Ibididae Degland, 1849, incorrectly transferred to the type genus *Ibis* Lacépède, 1799, was considered to be available and placed in the synonymy of Ciconiidae Sundevall, 1836 (*Ciconia*). The exact details of such nomenclatural tangles are not worth the efforts to unravel because, in most cases, no well-established names depend on them. These problems are best left unresolved, and the past actions of avian systematists accepted as valid.

Although the current Code is silent on this point, family-group names, based on generic names that have been suppressed subsequently by formal action of the ICZN and placed on the Official Index of Rejected and Invalid Generic Names in Zoology, are equally unavailable whether or not any formal action had been taken by the ICZN on the family-group name. Such family-group names are considered to be unavailable in this analysis.

e. HOMONYMS IN FAMILY-GROUP NAMES. In addition, in a few cases the same family-group name, whether or not it was applied to the same group of birds, had been proposed by different authors and in one case by the same author, on the basis of different type genera. Examples are Colymbidae Leach, 1820 (*Colymbus immer* = *Gavia*) and Colymbidae Reichenbach, 1849–50 (*Colymbus cristatus* = *Podiceps*); Graculinae Jerdon, 1864 (*Graculus* Koch, 1816 = *Phalacrocorax*), Graculinae Poche, 1904 (*Graculus* Möhring, 1752), and Graculinae G. R. Gray, 1841 (1831a) (*Gracula* Linnaeus, 1758); Cinclinae G. R. Gray, 1841 (*Cinclus* Möhring, 1752; unavailable name) and Cinclidae Sundevall, 1836 (*Cinclus* Borkhausen, 1797); Hydrobatidae Mathews, 1912–13 (1865) (*Hydrobates* Boie,

1822) and Hydrobatidae Degland and Gerbe, 1867 (*Hydrobata* Vieillot 1816 = *Cinclus* Borkhausen, 1797); Raphidae Wetmore, 1930 (1835) (*Raphus*, Brisson, 1760) and Raphidae Poche, 1904 (*Raphus*, Möhring, 1752), and Ortygidae Bonaparte, 1831 (*Ortygis* Illiger, 1811 = *Turnix* Bonnaterre, 1791), Ortyginae Bonaparte, 1850b (*Ortyx* Stephens, 1819 = *Colius* Goldfuss, 1820), and Ortygini Chenu and des Murs, 1854 (*Ortyx* Chenu and des Murs, 1854 = *Coturnix* Bonnaterre, 1791). In some cases, the author of the family-group name explicitly mentioned the generic name, including its author, e.g., Poche (1904). When Bonaparte (1831) proposed the name Ortygidae for the button-quails (Turnicidae), he clearly indicated the generic name *Ortygis* Illiger, 1811 (= *Turnix* Bonnaterre, 1791) as the type genus. But in all of his later papers (after 1850b), Bonaparte used the family-group name Ortygidae based on the type genus *Ortyx* Stephens, 1819 (= *Colius* Goldfuss, 1820 = *Odontophorus* Gould, 1844) for the New World Quails (Odontophorinae); this switch was made from his earlier usage without comment and perhaps unwittingly. It is not clear why this shift was made. Possibly Bonaparte simply wrote down a name he did not intend for the type genus in his 1831 paper. The latter is not reasonable because he included several forms related to *Turnix* under his family Ortygidae in his 1831 paper. As a result, during most of the 19th century, the name Ortygidae Bonaparte, 1831 (or Bonaparte, 1850 as it is usually impossible to distinguish between such names when used in the literature) was erroneously associated with the genus *Ortyx* (the New World quails). In a similar fashion, the name Hydrobatidae Degland and Gerbe, 1867 was proposed for *Hydrobata* Vieillot, 1816 = *Cinclus* Borkhausen, 1797 and different family-group name Hydrobatidae Mathews 1912–13 (1865) for *Hydrobates* Boie, 1822. And the name Cinclidae (dippers) was proposed by Sundevall (1836) for *Cinclus* Borkhausen, 1797, and subsequently the different name Cinclidae (= Arenariinae) by Gray (1841) for the different generic name *Cinclus* Möhring 1752 = *Arenaria* Brisson, 1760; this latter family-group name is unavailable because it is based on a pre-Linnaeus generic name. In several other cases, one of the "homonymous" family-group names had been based on a pre-Linnaean generic name; hence it is unavailable for the purposes of zoological nomenclature and does not enter into homonymy, e.g., Raphidae Wetmore, 1930 (1835) (*Raphus*, Brisson, 1760) and the unavailable Raphidae Poche, 1904 (*Raphus*, Möhring, 1752). In all of these cases in which it is clear that the same family-group name has been proposed for different type genera, even when the generic name is the same, all of these names have been included in the list for completeness but are placed within bold square brackets, and the homonyms and other problems noted. It should be pointed out that family-group names which based on pre-Linnaean genera or on otherwise unavailable generic names have no nomenclatural status and do not influence the synonymy of other family-group names.

3. Generic Plurals

Family-group names must clearly designate a suprageneric taxon and not be a plural noun designating several species belonging to a genus [Art. 11(f)(i)(2)]. Not all early workers were clear as to the categorical level of the groups to which they were applying names, which appear to be properly formed family-group names although often with endings other than the standard "idae" or "inae" endings. This is especially true when authors, especially in the English language literature during the 19th century, used endings of "i", "ii", or "ae" on the stem of the generic name to designate a generic plural (i.e., to designate the several species belonging to a genus). These names represent a rather difficult problem and one for which there is no simple solution; they deserve special discussion.

Within the text of their papers, authors employed a style of a using plural noun, e.g., Turdi or Lari, with two meanings. Either (a) for a suprageneric group which would clearly be an available family-group name; or, (b) to discuss the several species belonging to that genus, a generic plural, which would not be available as a family-group name. It is generally impossible to determine absolutely from the meaning in these papers (sense of individual usage) which of these two usages is intended. Moreover, a number of names

so proposed have traditionally been accepted by ornithologists as the first published family-group name. For example, some names proposed by early workers, such as Vigors, Swainson, and Selby, were so employed in the text, leaving little or no hint as to the exact meaning of the author. Because of the ambiguous usage by these authors and because many of these names have been widely accepted by ornithologists, the only realistic solution is to accept them as available family-group names with very few exceptions when the evidence strongly supports the conclusion that the name was used as a generic plural. This approach has resulted in the acceptance in this analysis of some names as available avian family-group names which may well have been used by the original author as a generic plural; however all other alternative procedures would be highly arbitrary. There are the few names for which it is absolutely clear that the authors are using them as plural nouns to designate the species of a single genus, e.g., the Phylloscopi (Seebohm, 1877), Salicariae (Seebohm, 1877), and Prionochili (Sclater, 1874). In these cases, the plural nouns were used in the titles of papers which dealt strictly with the members of a single genus and in which the author was not considering family-level classification. To my knowledge the proposed procedure will not upset any well-established family-group names, and will help to stabilize several established names. Moreover, to do otherwise would involve pure guesswork on the part of recent workers as to the intentions of authors writing well over 100 years ago—a most undesirable nomenclatural procedure.

4. Names Lacking Descriptions

The Code (ICZN, 1961, 1964, 1985a) specifies [Art. 13(a)(i and ii)] that, with the exception of replacement names, all names published after 1930 are available only if they satisfy the provisions of Article 11, and are "accompanied by a description or definition that states in words characters that are purported to differentiate the taxon" or "accompanied by a bibliographic reference to such a published statement . . ." This requirement [Art. 13] of the Code is absolutely essential for species-group names and presumably also for generic-group names, and its inclusion in the Code was definitely intended for these names. Its application to family-group names is excessive, because the proposal of a new family-level taxon and its associated name is totally unambiguous if that name is firmly affixed to a type genus. Moreover, this requirement for availability as stated in the new Code (ICZN, 1961) was applied retroactively to family-group names proposed between 1930 and 1960; the provision in the Règles [Art. 25(c)] applied specifically to generic and specific names. Almost all new avian family-level names published after 1930 were not accompanied by the required description of the characteristics of the new taxon. This includes almost all names published after 1930 which are currently widely accepted and used by avian taxonomists. Most likely the same situation exists for other groups of animals. Because it is clear to which taxon a new family-group name applies if the type genus is given or is clearly implied, avian family-group names proposed after 1930 will be accepted even if they do not comply with the requirements of Article 13. To do otherwise would cause great chaos and the need to propose anew most of these recent names. An application will be made to the ICZN to modify Article 13 to exclude family-group names from its provisions.

5. Unavailable Names

Avian family-group names have not been accepted (i.e., are unavailable) for several reasons which are listed here.

a. Descriptive names. All names which are descriptive terms, whether or not they were put in a proper latinized form, are not available. These include many old names, such as those proposed by Illiger (1811), a number of the names, e.g., Isoraphia, Rimnia, Sphenoramphia, and Platypodia, among others advocated by Rafinesque (1815), and more recently proposed names, such as the Pre-Charadriinae (Lowe, 1922), the Palaeopsittacinae (= certain Old World genera) and Neopsittacinae (= the New World genera of parrots; Glenny, 1957). These names have not been included in the list.

b. Names in works consistently employing descriptive names. All names in a num-

ber of publications in the early part of the 19th century show by analysis of the entire publication that the author consistently did not form family-group names on the name of an included genus, but rather used a descriptive term whether latinized or not. Many of these descriptive family-group names are obvious because they do not correspond to any known generic name. Some of the family-group names included in these works appear to be properly formed on the stem of an included genus. It is possible that the author did form these family-group names properly according to the provisions of the Règles and the Code, but the evidence suggests otherwise. In most (all ?) of these cases, the author appeared to base the family-group name on the same classic word as was the generic name, such as Accipitrini and Vulturini (Vieillot, 1816). This definitely appears to be the case for some of the earliest papers (in the period between 1815 and 1830) in which analysis of the entire paper demonstrates that the author is following consistently a system of proposing family-group names which are latinized descriptive words, often based on the common name for that group of birds, or a brief description of the group. In a few cases, the author proposed a family-group name corresponding to the name of a genus included in another family, or not yet described. For example, Vieillot (1816: 54) proposed the family-group name Pedionomi for the group including the genus *Otis*, but the genus *Pedionomus* was described under that name by Gould only in 1840 (1841). The family-group name Aegialites was likewise proposed by Vieillot (1816: 54) for the group including the genus *Charadrius*, but the generic name *Aegialitis* was proposed by Boie in 1822. Lastly, Vieillot (1816: 225) coined the family-group name Aegolii for the group including the genus *Strix*, but the genus *Aegolius* was only described by Kaup in 1829. For all works in which the evidence indicates a consistent pattern of the author not forming family-group names on the stem of an included genus, I have followed the firm rule of not accepting as available for nomenclatural purposes any family-group name proposed in these works. Any other procedure would be arbitrary and would involve trying to guess the real intentions of authors writing over 150 years ago; this is not good a foundation on which to make nomenclatural decisions. These family-group names are not included in the list as they are so numerous that they would cause unnecessary confusion. These works include all papers of Bonaparte prior to his 1831, Cuvier, 1817, 1829 and elsewhere, Illiger, 1811, Kaup, 1844, Lesson, 1831b, (some names in Lesson, 1828, 1831a, and 1843 were accepted), L'Herminier, 1827 and elsewhere, Nitzsch, most papers of Vieillot (1816 and elsewhere—one name accepted from his 1829 paper), and Wagler, 1830 and elsewhere.

Many of these works are by zoologists associated with the Muséum d'Histoire Naturelle in Paris, or influenced by these workers. Daubenton, Cuvier, Geoffroy and many other French naturalists of the first third of the 19th century generally followed Buffon's ideas that groups above the species were arbitrary and were little interested in higher classification. Moreover, they were not impressed with Linnaeus's approach to classification and nomenclature, and usually preferred to used French names rather than those based on the Linnaean binomials whenever they considered higher-level groups. The Linnaean system of zoological nomenclature won broader acceptance among the French botanists much earlier than among French zoologists (see Appel, 1987, for further discussion). It is still common for many French zoologists to use the ending "idés" for family-group names. Such names are acceptable for zoological nomenclature if published prior to 1900 [Art. 11(f)(iii)], but not thereafter. Hence, Heterophasiinés proposed by Berlioz (1950) based on *Heterophasia* (Timaliinae) is not available because this name was given only as a vernacular French name and not as a properly formed scientific name.

Some papers fall close to the border between proper formation of family-group names and consistent use of descriptive terms. An excellent example of such a borderline paper is Rafinesque (1815) in which over half of the avian family-group names are clearly descriptive terms, such as Peristeria (= Columbidae), Rapacea (= Accipitridae plus Strigidae), Gallinacea (= Phasianidae, Cracidae, etc.), and Leptoramphia (= a diversity of passerine forms). Other names proposed by Rafinesque as "Lanidia" (*Lanius*), "Tur-

dinia" (*Turdus*), and "Sturnidia" (*Sturnus*) could be interpreted either as descriptive names or as being properly formed on the stem of the type genus. This pattern of names is repeated for other groups treated in this publication. If several of the family-group names published in Rafinesque (1815) had not already been accepted as available by the ICZN, a strong argument could be made that Rafinesque consistently used descriptive terms for his family-group names and that these names are not available for purposes of zoological nomenclature. Publications of Vieillot (1816, 1818 and elsewhere in this encyclopedia, 1825) are consistently on the other side of this border; he clearly used only descriptive terms for his family-group names although some of them may appear to be properly formed and have been accepted by other workers as available for zoological nomenclature.

A few workers (e.g., Brodkorb, 1963–78) had accepted some of these descriptive family-group names, such as Vulturidae Illiger, 1811, Accipitridae Vieillot, 1816 and Psittacidae Illiger, 1811, but without any analysis of the entire publication in which these names were proposed. Rejection of these descriptive names as being unavailable for the purposes of zoological nomenclature does not affect the validity of any well-established avian family-group names.

c. ORDINAL NAMES. These include names which were proposed for ordinal taxa, but correspond to a family-group name in form, e.g., Galliae or Gallinae which was used as an ordinal name by Bonaparte (1831: 33), and even earlier by others. This is a special problem because a number of early classifications, mostly prior to 1820, but some up to 1830, were not always clear as to whether the author was considering particular taxa as orders in the old Linnaean sense or as the newer concept of families. Names which appear to have been proposed for orders are not included in the list regardless of their form. A few names such as the earliest uses of Gallinae cannot be easily resolved because its form is exactly that of a family-group name and early authors using this name did not specify the rank of the taxon. No well-established names are involved in this problem.

d. NO TYPE GENUS. These are those family-group names which appear to be correctly formed, but for which no generic name is available or at least not known to me after checking all major sources of proposed generic names for birds. For example, Cabanis (1847: 204; 313) proposed the name Rhacnemididae (see also Cabanis and Heine, 1850–63; vol. 1: 1) for the family including the thrushes, chats, nightingales, and dippers. This name is not used for a subfamily within the family, and I have not been able to discover a genus "*Rhacnemis*" in any of the standard sources, including Richmond, 1992, Neave, 1939-1975, McGregor, 1920, etc., although it may exist as an available generic name. Cabanis was normally an exceedingly careful taxonomist and nomenclaturist and his having proposed a family-group name not based on the name of an included genus is completely out of character for him. Yet he appeared to have done so in this case. Names, such as Cabanis' Rhacnemididae, for which there is no hint of a generic name and for which the synonymy is unclear have been omitted from the list. These include only a very few names, perhaps less than ten. Other family-group names appear to be properly formed on the basis of the name of a type genus, but the generic name is of authors, and hence not valid. Some of these names are included in the list for completeness, but clearly noted as lacking a type genus and hence being unavailable.

e. UNAVAILABLE OR OBJECTIVELY INVALID TYPE GENERA. Herein are included all family-group names which have been proposed on the basis of unavailable or objectively invalid generic names as discussed above under point 2(d). These names have been included in the list, enclosed within bold square brackets, and the problems explained.

C. DECISIONS ON WELL-ESTABLISHED NAMES

1. CRITERIA USED IN THE DECISIONS

Analysis of the family-group names currently accepted as valid for the Recent avian family-level taxa (names for all purely fossil avian family-level taxa are excluded) in the classification accepted herein and their synonyms reveals that a number of well-established valid names do not possess priority.

These names will be included in an application to conserve them under the plenary powers of the ICZN and other provisions of the Code. The first group are those family-group names which are subjective junior synonyms; a request will be submitted to the ICZN to conditionally suppress the senior synonyms with respect to the well-established junior synonym. Thus the well-established name will be conditionally conserved and will remain the valid one for the family-level taxon, and the conditionally suppressed senior synonym can still be used for a family-level taxon not including the nominal genus on which the conditionally conserved name is based [Art. 79(b)(iii)]. For example, the conditionally conserved name can be used as the valid name for the family and the conditionally suppressed name can still be used as the valid name for a subfamily within that family. In a very few cases, conditional suppression of the senior synonym will be requested to permit continued use of a well-established name for a superfamily. All such cases are indicated and discussed in the section on problem names (see Section V.D.4 and Section VIII.B).

A second category of names are those in which the family-group name had been changed prior to 1961 because of synonymy of the type genus [Art. 5 of the Règles] and for which the replacement family-group name has won general acceptance [Art. 40(b)(i)]; these names actually do not require further action by the ICZN, but are included to avoid future difficulties. Included in this category are all family-group names for which the type genus has been synonymized prior to 1961, even those which are junior synonyms and have rarely been used.

For a small number of cases, the junior synonyms of family-group names have been used as the name for a family-level taxon since 1961 by different authors. These names have not won broad acceptance, and it is urged that the senior synonyms be used as the valid name for these taxa, basing the decision on priority of these names as required by the Code since 1961. All of these names have been included at the end of the following list and all will be discussed below in Section VIII.B.

One such controversy is use of Halcyoninae Vigors, 1825 (*Halcyon* Swainson, 1821) as the valid name for this family-level taxon rather than Daceloninae Bonaparte, 1837 (*Dacelo*); the latter name has been widely used (see below, under the Halcyoninae in Section VIII.B).

Another case demonstrates the general problem emphasized by Sabrosky (1939, 1947) dealing with the failure to separate priority of the name of the nominal genus from that of the family-group name. This involves Neosittinae Ridgway, 1904 versus Daphoenosittinae Rand, 1936 in which the type genus (*Neositta* Hellmayr, 1901) of the senior family-group name is the junior synonym of the type genus (*Daphoenositta* De Vis, 1897) of the junior family-group name; the senior family-group name is retained because synonymy of the generic names is post-1960, and Article 40(b) applies. Because agreement does not exist on the synonymy of *Neositta* Hellmayr, 1901 and *Daphoenositta* de Vis, 1897, the family-group name would be constantly changing with differences in opinion on the status of these genera, hence leading to instability in nomenclature as stressed by Sabrosky. Under the new Code, the valid family-group name Neosittinae Ridgway, 1904 still retains *Neositta* Hellmayr, 1901 as its type genus even if the currently valid name for this genus is *Daphoenositta* De Vis, 1897.

In a very few cases an available family-group name is in homonymy with a second available family-group name (the junior homonym). The names will be pointed out (see below, Section VIII.B), but no action will be requested at this time for any of these junior homonyms because none are currently valid names and none are likely to be used in the future. These cases can be deferred until the junior homonym is in actual use at which time the ICZN should be requested to resolve the homonymy (Art. 55). Cases of homonymy between an avian family-group name and one used in another group of animals are noted and included in the application. Two of these cases have already been submitted to the ICZN for resolution (Bock and Keirans, in press; Bock, in press a).

2. List of Names to be Conserved

The names and the basis for the decision to maintain current well-established use of

these avian family-group names are listed below; see Section VI.A.5.

D. SURVEY OF AVIAN FAMILY-GROUP NAMES

1. Introduction

The procedures used to survey the ornithological literature and to record the information on avian family-group names, and a commentary of how to interpret the following list and other material will be presented in this section.

The result of this nomenclatural analysis could be presented in two different ways: (1) a list of type genera arranged alphabetically, or (2) synonymies of family-group names for each family-level taxon arranged in a standard systematic sequence (see Mayr and Bock, 1994, for a discussion of standard sequences). The first approach might be more attractive to a nomenclaturist, but the second is far more understandable and contains more information for the general ornithologist; hence I decided to present the results as lists of synonyms in a standard systematic sequence of birds based on the "Reference List" (Morony et al., 1975; Bock and Gulledge, in prep.). The lists of family-group names prepared by Michener (1986) and by Newton and Thayer (1992) were also presented in the form of a systematic sequence of orders and families. It must be stressed, however, that the resulting list of names involves nomenclatural considerations only, and does not represent any systematic decisions. Any classification and sequence could have been used to present the available family-group names; hence the reader should not be concerned with the particular classification and standard sequence followed (see below, Section VII.B). The classification used as the basis of this list does not affect the nomenclatural decisions on the accepted valid names, their synonyms, and the conservation of well-established family-group names. If a more splitting classification had been followed, there would be more valid family-group names, and if a more lumping classification had been used there would be fewer valid names. However, in the application to the ICZN, the request will be made to conserve conditionally all available avian family-group names which are senior synonyms of well-established names, including those which have been used as superfamily names [Art. 79(a)(iii)], as given in this list with the given authors, dates of publications, type genera, and citation of the original publication. Hence if any of the family-level taxa used in this list are subdivided in any future classification, the conditionally suppressed or other family-group names could still be available for these taxa. The Plataleidae Bonaparte, 1838 (*Platalea*) was recommended to be suppressed conditionally relative to the Threskiornithidae Poche, 1904 (*Threskiornis*), but the Plataleinae Bonaparte, 1838 can be used for the subfamily containing *Platalea*, but not *Threskiornis* (as has been ruled in Opinion 1674, Tubbs, 1992a, which was published after this analysis was completed). The Thamnophilidae Swainson, 1824 (*Thamnophilus*) will be recommended to be suppressed conditionally relative to the Formicariidae G.R. Gray, 1840 (1825) (*Formicarius*), but the name Thamnophilidae Swainson, 1824 is still available for a subfamily (or a family) if the genus *Thamnophilus* is placed in a family-level taxon different from that containing *Formicarius* as done by Sibley, Ahlquist and Monroe (1988), Sibley and Ahlquist (1990), and Sibley and Monroe (1990).

The sequence followed is that to be used in the second edition of the *Reference list of birds of the world* (Bock and Gulledge, in prep.) which is based closely on that followed in "Peters' Check-list" and which was available to me in a computer file at the onset of this project. Because this nomenclatural analysis is a service document for ornithologists and zoological nomenclaturists, it is essential to use a standard sequence (Mayr, 1989b; Bock, 1990b; Mayr and Bock, 1994). The degree of "correctness" of this sequence matters less than that it is standard and widely known. Mayr (1989b) has recently stressed the differences between generally accepted, standard sequences and provisional, experimental classifications, and Mayr and Bock (1994) have distinguished between classifications and sequences, and discussed the heuristics of standard sequences versus scientific analyses which are expressed in provisional classifications.

The analysis of avian family-group names covers only those names for recent (living) groups of birds; those included in "Peters' Check-List," and which "are known from at least a fragment of the skin and feathers" (= seen and/or collected by a systematic ornithologist; Peters, 1931: vii). This policy is not altogether followed as all moas (Dinornithidae) are excluded from "Peters' Check-List" and from the current analysis in spite of the fact that bits of skin and feathers are known for several species. Family-group names for purely avian fossil groups are not included in this survey and list, and will not be included in the formal application made to the ICZN. This decision was made because family-group nomenclature for avian fossil taxa lies outside the scope of my expertise, and avian paleontologists had not volunteered to take part in the project, as requested. Family-group names for fossil birds are a specialized subject, well-known to and affecting mainly paleontologists, and are clearly separated from the nomenclatural problems facing the large majority of ornithologists. Further, the delay in completion of the project which would have resulted from the inclusion of avian fossil taxa is not justified since the problems associated with family-group nomenclature of recent birds are critical, but this is not the case for purely fossil taxa.

2. Procedures

The initial work on a list of the avian family-group names was started some time during the 1965–66 academic year by Mr. W. E. Jolly under the direction of Professor Ernst Mayr. This project was begun in response to the decision by the Secretariat of the ICZN that they would consider a proposal to conserve avian family-group only if it was fully supported by a detailed historical review of these names. During this year, Mr. Jolly was employed jointly by the Department of Ornithology at the Museum of Comparative Zoology and Professor Ernst Mayr. Part of Mr. Jolly's work for Professor Mayr was to research the original publication of avian family-group names, based largely on examination of a series of publications suggested by Mayr. I have a letter dated 1 August 1966 from Mr. Jolly to Professor Mayr summarizing the information on avian family-group names and the bibliography of the works examined during this project. The information gathered by Mr. Jolly was in the form of file cards listing family-level taxonomic names and citations to their original publication, and arranged taxonomically according to the system used in "Peters' Check-list." To my knowledge, nothing more was done with this information by Mayr; certainly no further application was submitted to the ICZN. Sometime during the late 1960s or early 1970s, the material gathered by Mr. Jolly was given by Professor Mayr to Dr. Eugene Eisenmann when he (Eisenmann) was Chairman of the Standing Committee on Ornithological Nomenclature. To my knowledge, Dr. Eisenmann did nothing further with this material. It was not mentioned in any of the reports of the SCON; and although the SCON commented on the matter of avian family-group names, it made no serious attempt to undertake a proper analysis of these names during Dr. Eisenmann's tenure.

This set of file cards passed into my hands after the death of Dr. Eisenmann in the fall, 1981, and served as the starting point of my research. The information on avian family-group names was most incomplete and served mainly as an guide to some of the early literature. Citations to names in Brodkorb (1963–78) and Gray (1869–71) were also used to obtain an initial entry to the of early systematic literature, but in no case were any secondary sources relied on for the citation to the original proposal of a family-group name. The original publication of all avian family-group names included in the following list were checked personally by me. The American Museum of Natural History and Museum of Comparative Zoology libraries were the two most heavily used ones. In addition, books were examined in the libraries of the National Museum of Natural History, Washington, D.C., the Senckenberg Museum, Frankfurt am Main, West Germany, the Rijksmuseum of Natural History, Leiden, The Netherlands, and the Edward Grey Institute, Oxford, U.K. Individual volumes were used or examined for me (and parts thereof copied) in the Sterling Library of Yale University, Zoological Institution of the University of Warsaw, Poland, the Academy of Natural

Sciences, Philadelphia, Pennsylvania, and the Field Museum of Natural History, Chicago, Illinois. Extensive use was made of the published catalogs of the libraries of the Zoological Society of London, British Museum (Natural History), Linnean Society of London, Blacker-Wood Library of Zoology and Ornithology of McGill University, Museum of Comparative Zoology of Harvard University, and American Museum of Natural History, as well as other bibliographic sources, such as Mathews (1925), Zimmer (1926), Wood (1931), Ripley and Scribner (1961), and Mengel (1972) to locate the correct citations to publications and their availability in libraries. All suggestions made to me by other workers to possible sources of avian family-group names were followed up, including systematic revisions of families, major faunal works, catalogs, check-lists, etc. Hence, I believe that very few original proposals of avian family-group names have been overlooked, and most probability none which would affect any well-established name. Even though this survey will be terminated with this publication, I would appreciate information of any avian family-group names published prior to those given in the main list or any family-group names omitted from this publication.

All publications examined for this survey were scrutinized carefully, using the index, table of content, and any classification presented therein to look for family-group names, but also the text of most works was scanned because family-group names were sometimes used in the text but did not appear in the index, table of contents, or classifications. Names were checked for proper formation, type genus if provided, and availability under the Code (1985a). All family-group names and other information were copied onto sheets of paper, together with the citation. Care was taken to obtain the dates of individual parts if the work was published in sections. The family-group names, together with the author's name and date, were subsequently transferred to the computer file containing the list of valid family-group names and their synonyms. The citations were placed in a separate computer file, together with the names proposed in that work and any useful comments about that publication. Only the first use of each name was kept in the computer file, and the earliest citation for each name was changed in this file as successively earlier descriptions were found. I did not record all of the family-group names used in many works if I knew that the name had been proposed earlier and did not keep a full listing of the family-group names used in all publications examined. That would have been far too time consuming, would have provided little additional information, and simply would not have been worth the additional effort. All original sheets of paper with the information recorded from each publication were kept in files for later reference and additional checking.

All publications containing original proposals of avian family-group names are included in the bibliography. In addition, certain useful references works, such as important avian systematic papers, published catalogs of natural history museums and ornithological libraries, lists of avian genera and other nomenclatural sources, publications of the ICZN, and papers cited in the introductory chapters are included. However, I did not include all publications that were examined, but which did not contain any new avian family-group names.

3. List of Valid Avian Family-Group Names and Their Synonyms

a. Introduction. This list provides information on the original publication of all properly proposed avian family-group names, both available and unavailable, plus additional information on some of these names. Descriptive, ordinal, and generic plural names are excluded from this list. The names are accepted as valid for each family-level taxon and their synonyms are not official, but serve as the foundation for an application to be made to the ICZN. The details of this application will be provided separately.

b. Format of the list

(i) All family-group names in each synonymy are given in the form and spelling proper for the current family-level taxon regardless of the original spelling and ending used, or of the original categorical level for which they were proposed [Art. 29, 32(c)(iii), and 36]. Papers in which the correct spelling

of any family-group name were first given are not cited. The list includes names published before 1 January 1994.

(ii) The currently accepted valid names will be given for all family-level taxa in the classification followed, e.g., families, subfamilies and tribes; names are repeated for nominal subfamilies and tribes. Superfamilies are not listed. To my knowledge no family-group names used above the family level have any effect on this list; all such names are based strictly on those used for included families. Superfamilial names are included in considerations of problem names and in the recommendations to the ICZN for conditionally conserving and suppressing names.

(iii) Correct spelling of family-group names, considering the proper formation of the stem of these name as genitive singular form of the generic name, will be used as far as possible, but with several major exceptions. First, names which are well-established will not be changed simply to conform with the correct formation of the genitive singular stem from the generic name. Hence although Coraciadidae (based on *Coracias*) and Pterocleidae (based on *Pterocles*) may well be correct, I have used Coraciidae and Pteroclidae because these names have the most widespread use. In addition, if there is a diversity in use, the simplest form is used, e.g., Chionidae rather than Chionididae. Lastly, no attempt was made to correct all names because the cost and effort would be far greater than the benefits obtained, especially for those names which will never be used in the future. This is especially true for those family-group names based on generic names formed of Greek or Greek-like words ending in "is" or "es" which constitute the greatest problem in the correct formation of family-group names; the formation of the genitive singular for this class of generic names is most difficult, and is simply not worth it. These decisions are in agreement with unofficial conclusions reached at the most recent meetings of the ICZN supporting simpler approaches to nomenclature and favoring established usage over absolute correctness in the formation of family-group names. These conclusions stress the problems arising from the formation of names based on generic names of Greek words ending in "is" or "es".

(iv) Generally synonyms of family-group names will be listed only once, usually at the lowest taxonomic level, but with some exceptions for greater clarity. Readers should keep in mind that Article 36 of the Code on the principle of coordination states that the establishment of a name for any taxon at any rank within the family group automatically establishes that name with the same author and date at other ranks within the family group with the appropriate suffix.

(v) Valid family-group names for all family-level taxa used in the classification adopted for this sequence are given in CAPITALS, and all synonyms in lower case, only the first letter being capitalized. Should any author wish to subdivide or merge any of these taxa, the correct valid family-group name for the resulting new taxa can be ascertained easily from this list. Hence if a worker concludes that the New Zealand genus *Turnagra* should be placed in a separate family, then the proper valid name for this monotypic taxon will be Turnagridae Buller, 1888 (1855) [*Turnagra* Lesson, 1837].

(vi) Family-group names are followed by the author's name, the date the name was published and the type genus in square brackets. In most cases, the current valid name of the type genus is given, accepting "Peters' Check-list" or the *Reference List of Birds of the World* as the taxonomic authority. The generic names accepted as valid and the generic synonyms used are not an attempt to regulate taxonomy, but only to assist ornithologists in understanding the meaning of many old and forgotten generic names. The type genus was generally obtained by indication from the name of the family because in most cases, when authors proposed new family-group names, they did not mention the type genus explicitly. This was especially true in the 19th century. The indication accepted for the generic name depends on the assumption that the author based the family-group name on the obvious type genus [Art. 11(f)(i)(1)]. For most avian family-group names, the present publication provides the first statement of the type genus of these names. The author's name and date of publication is given for all nominal generic names.

No attempt was made to determine in all cases whether the type genus indicated by the

author of a family-group name is the same genus known today under that generic name. And no attempt was made to determine in all cases whether the generic name on which the family-group name is based has been shifted from the genus *X-us* Smith to *X-us* Jones since the family-group name was first proposed. Clearly, for some family-group names, the intended type genus differs from the genus known by the same name today, as for example Bucconidae Horsfield, 1821 based on *Bucco*, or Tringinae Rafinesque, 1815 based on *Tringa*, or Calidrinae Reichenbach, 1849 based on *Calidris*. Most, if not all, of these changes in the type genus and hence in the application of the family-group name have been made in the remote past and have been fully accepted by ornithologists. Although most of these changes are invalid nomenclatural acts under the Code, nothing is gained at this time by an insistence on strict application of the rules. I have followed a simple rule that if a proposed family-group name was formed on the basis of a generic name, then that genus is the type for that family-group name unless there are strong reasons to conclude otherwise. Nevertheless, I have attempted to analyze the most important examples of these invalid shifts in family-group names from the original type genus and will discuss these cases fully.

For a few family-group names which appear to be properly proposed, no corresponding generic name could be found after an exhaustive search in the major compilations of generic names in zoology and in ornithology. These family-group names have been included in the list, but enclosed in square bold brackets, and the absence of a type genus noted. As they lack a type genus, these names are not available [Art. 11(f)(i)], but are included as the possibility exists that the type genus may have been overlooked in my analysis.

For a number of family-group names, a second earlier date in parentheses ( ) follows the date that the name was proposed. The second date indicates the date of precedence for that name following Article 40(b), and Recommendation 40a of the Code. It results from changes in the family-group name following synonymy of the type genus prior to 1961 under Article 5 of the Règles and continued in Article 40(b) of the Code (ICZN, 1985a). In the absence of contrary provisions in the Code, I interpret this date of precedence both for the purposes of priority and of homonymy. I have followed Article 40(b) and Recommendation 40a in the broadest sense for all family-group names for which the type genus has been synonymized without worrying whether the replacement family-group names have or have not become subsequently well established. Change in the generic name, under Article 5 of the Règles, is considered under the broadest reasons for such changes. Justification for this action comes from Article 5 in the Règles which governed these nomenclatural changes prior to 1961. Hence the name Parulidae Wetmore et al., 1947 (1831), not the Coerebidae D'Orbigny and de Lafresnaye, 1838 (e.g., Brodkorb, 1963–1978), is the valid name for the family containing the genus *Parula*, receiving its date of preference of 1831 from the name Sylvicolidae Swainson, 1831, because *Sylvicola* Swainson, 1831 = *Parula* Bonaparte, 1838. And the name Parulidae has precedence over all other names proposed for the family of New World Wood Warblers containing the genus *Parula*.

(vii) Some of the family-group synonyms have the entire entry enclosed in parentheses. These are family-group names for which the type genus has been synonymized prior to 1960, but for which no replacement family-group name had been formally proposed for the senior generic name. These names represent a major quandry because the provisions of the Code (ICZN, 1985a) do not cover them and several conflicting interpretations are possible. In my opinion, the correct interpretation of Article 5 of the Règles is that the available family-group name *had to be replaced automatically* at the time that the name of the type genus was determined to be a junior synonym and was replaced by a senior synonym. Hence under the Règles, the name Tetrastinae Olphe-Galliard, 1886 (*Tetrastes*) should have automatically been replaced by Bonasinae based on *Bonasa* when it was shown that *Tetrastes* is a junior synonym of *Bonasa*. But this had not been done in the past for a large number of avian family-group names. Article 40(b) of the Code covers the treatment of replacement family-group

names under Article 5 of the Règles. But Article 40 is silent on the treatment of family-group names for which no replacement name was proposed following synonymy of the name of the type genus. No provision exists for these replacement names to be formulated at this time. The former family-group names [and ? presumably the "phantom" replacement names] are still available nomenclaturally for the principle of priority and the principle of homonymy. But they cannot be used and must be held in a state of abeyance so long as their type genera are junior synonyms of some other generic name. Almost certainly none of these avian family-group names held in abeyance will ever be used as the valid name for an avian family-level taxon. It is unclear what the correct procedure would be if in the future, an ornithologist proposes a family-level taxon containing the type genus of one of these names held in abeyance. One interpretation is that the correct family-group name would be the replacement name based on the name of the senior generic synonym and with its precedence dating from the that future date. Or the family-group name held in abeyance is to be used under the provisions of Article 40(a). Or the worker is free to formulate a family-group name based on another genus contained in the family-level taxon with its precedence dating from that future date.

(viii) The synonyms of each family-group name follow the currently valid name in chronological order, with the names given in lower case letters. The same information of author, date of publication, and type genus with author and date of publication is provided for each junior synonym. If two or more family-group names for the same taxon were proposed by two or more authors in the same year, I have made no attempt to ascertain dates of publication for priority further than to the year, largely because the exact dates of publication for many of these works cannot be determined, and in almost all cases nothing is gained by clarification of the exact precedence of these names. One of the family-group names was given precedence following the principle of first reviser. In a few cases, two authors proposed the same family-group name the same year, and again one author was chosen following the principle of first reviser. In even fewer cases, two authors proposed different family-group names for the same taxon in the same year, and in these cases, established usage governed choice of precedence for one of these two names.

(ix) Family-group names proposed prior to the well-established and accepted valid name are enclosed in bold brackets. This symbol indicates two classes of names, all of which are listed in Section VI.A.5: Decisions on Well-Established Names. First are those names for which the type genus had been synonymized with its senior generic synonym and a replacement family-group name based on the senior generic synonym had been proposed prior to 1961. Names in this class are denoted by the indicated synonymy of the name of the type genus. These changes are automatically covered by the provisions of Article 40(b) and actually require no further formal action by the ICZN, but will be included in the general application to the ICZN. The second group are those family-group names which are senior synonyms with respect to the generally accepted and well-established names for the taxon. These names will be covered in an application to the ICZN and will be requested to be declared suppressed conditionally relative to the well-established names which will be conserved. Thus, these conditionally suppressed names will lack precedence with respect to the conserved name, but are available for use for any other taxon, e.g., a subfamily, which does not include the type genus of the conserved family-group name. For example, the name Furnariidae G.R. Gray, 1840 would be conserved conditionally in preference to Scleruridae Swainson, 1827, Synallaxeidae de Selys-Longchamps, 1839 (1836), Anabatinae Sundevall, 1836, and Upucerthiidae, D'Orbigny and de Lafresnaye, 1838. These latter names, being conditionally suppressed, are still available and can be used as is Synallaxeinae for one of the subfamilies of the Furnariidae.

(x) Names marked with an asterisk (*) are, for diverse reasons, problem names. In some cases, the problem is associated with the name used for superfamilies, although superfamilies are not included in the main list. All of these names are discussed in Section VIII.B: Problem Avian Family-Group Names.

(xi) Some of the family-group synonyms have the entire entry enclosed in bold square brackets, and marked with an asterisk (see immediately above). These names are unavailable for one of a diversity of reasons, including those which are formed on the basis of an unavailable or objectively invalid generic name, lack a type genus or have had their type genus suppressed, or those which have been suppressed by action of the ICZN. All such names are discussed in Section VIII.B, Problem Avian Family-Group Names.

(xii) Family-group homonyms are also enclosed within bold square brackets and indicated as a problem name. For example, the name Tylidae [= Tyladidae] Oberholser, 1917 [*Tylas*] is a junior homonym of the name Tylinae Dana, 1852 (*Tylos*) used in the Isopoda, Crustacea. Proposals to resolve homonyms between avian family-group names and those in other groups of animals have been submitted separately to the ICZN (e.g., Bock and Keirans, in press). Only if they represent a nomenclatural problem will any homonyms of avian family-group names be included in the general application to the ICZN. All family-group homonyms are discussed in Section VIII.B: Problem Avian Family-Group Names.

(xiii) Pending application to and action by the ICZN, it is strongly recommended that the valid names for each family-level taxon and the recognized available synonyms be considered as the only avian family-group names of Recent taxa available for nomenclatural purposes (excluding those for purely fossil avian family-group taxa). Hence all avian biologists and all editors of scientific journals are urged to use only the names as given in this list until the decision of the ICZN is reached. The valid names should be used as indicated for the taxa recognized in this classification, and the correct senior synonym used for any newly proposed family-level taxon.

(xiv) The avian family-group names included in this list will be proposed to be the only ones available for future nomenclatural use, plus of course those proposed in the future, following application to and decision by the ICZN. Thus, this list will be recommended as the foundation (= base line) for all future nomenclatural considerations of avian family-group names. The use of such names thereafter will be governed by priority and the other provisions of the Code. Any avian family-group names which have been mistakenly overlooked in the preparation of this list and hence not included in it, will be recommended to be unavailable nomenclaturally. Any such names, if they are to be used in the future, will have to be newly proposed and their date of publication will be from that future date of publication. The ICZN will be asked to set aside the provisions of Article 78(f)(iv) with respect to avian family-group names.

(xv) The date of completion of this list is 1 January 1994 which will be the date used as the base line in the application to the ICZN. Hence, any avian family-group name published prior to 1994 and not on this list will not be available for purposes of zoological nomenclature if the application to the ICZN is accepted by that body. Names published after 1993 are not affected by this decision and are available for purposed of zoological nomenclature from the date of their publication.

4. Problem Family-Group Names

As mentioned above, such names with some problem associated with them are marked with an asterisk at the end of the entry. The problems associated with each of these names are discussed in Section VIII.B with the names arranged taxonomically according to the main list. These problems include homonyms as far as are known, unavailable names, objectively invalid names, names to be conserved or conditionally suppressed, etc.

5. Bibliography

The bibliography includes all papers in which avian family-group names have been proposed, plus other papers important to this analysis. Not all the papers listed in the bibliography are cited in the text. The bibliography does not include the publications examined in which no family-group names were proposed. Comments are included for some of the papers and a few authors to set them into a historical perspective with respect to

the classificatory and nomenclatural history of birds. The avian family-group names proposed in a particular publication are listed in alphabetical order following the citation. The valid names are given in all capitals and all available synonyms, homonyms, objectively invalid names, and unavailable names are in initial capitals and lower. All homonyms, objectively invalid names and unavailable names are placed within square brackets.

6. Index to Avian Family-Group Names

An alphabetical index to all avian family-group names is given. The valid names are in all capitals with the page citation to the main list. Available synonyms and names lacking nomenclatural status are given in initial capitals and lower case followed by the equivalent valid name given in capitals. Homonyms, objectively invalid names, and unavailable names are also included but in square brackets, together with the equivalent valid name. Spelling variants and misspellings are generally not included. With the help of the names listed in the index and under the citations in the bibliography, it should be possible for interested ornithologists and nomenclaturists to identify any avian family-group name found in the literature.

VI. PROPOSALS TO THE INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE

A. SUMMARY OF APPLICATION TO THE ICZN ON AVIAN FAMILY-GROUP NAMES

1. Introduction

A separate formal application will be made to the ICZN proposing a large series of recommendations to conserve, either fully or conditionally, well-established avian family-group names. This application covers only family-group names of Recent (living) birds, and does not affect the nomenclatural status of the family-group names of any purely fossil avian taxa. However, any decision taken on this application will cover all family-group names used for taxa including both Recent and fossil avian taxa. The major points in this proposal are as follows.

2. Available Avian Family-Group Names

The list of valid avian family-group names and their available synonyms for Recent avian family-level taxa, together with the authors and dates of publication, as given in this publication, is to be considered as the base line, dated 1 January 1994, for all future nomenclatural decisions about these names. That is, the names included in this paper as available avian family-group names are the only ones which are available nomenclaturally in the future for Recent (not purely fossil) avian family-level taxa, plus any names proposed after 1 January 1994. Any names accidentally omitted from this list are to be declared to be unavailable nomenclaturally. Those name can be proposed again in the future, but will take its precedence from that future date of publication. Priority for all avian family-group names of Recent birds will take precedence from the dates, authors, type genera, and citations as given in this list. This action does not affect proposal of avian family-group names in the future. Such names proposed will take priority from their date of publication.

3. Valid Names

The names given in capitals in the main list are to be treated as the valid avian family-group names for the indicated family-level taxa. In some cases, these names are to be conserved fully with respect to other synonyms for this family-level taxon, e.g., TINAMIDAE G.R. Gray, 1840 (1831) (*Tinamus* Hermann, 1783) conserved in preference to Crypturidae Bonaparte, 1831 (*Cryptura* Illiger, 1811 = *Tinamus*) [Art. 40(b)]. In some cases, these valid names are to be conserved conditionally [Art. 79(b)(iii)] with respect to other synonyms for each avian family-level

taxa. All fully or conditionally conserved names on this list are to be placed in the Official List of Conserved Family-Group Names in Zoology. The ICZN will be asked to set aside the provisions of Article 78(f)(iv) for the purposes of these conserved avian family-group names so that the Principle of Priority will not apply in the case of any undiscovered senior synonym of the conserved avian family-group names.

4. Suppressed Names

Avian family-group names proposed earlier than the herein accepted valid names for each family-level taxa are enclosed within bold brackets in the list and are of two categories. The first are those for which the type genus had been synonymized prior to 1961 and the family-group name changed according to the senior synonym of the type genus [Art. 5 of the former Règles; see Art. 40(b) of the Code]. These replacement family-group names are retained with the date of precedence of the original name as specified by the provisions of Article 40(b); no further action by the ICZN is needed according to the Code, but the ICZN will be asked to conserve fully the well-established, currently valid family-group names in preference to the replaced names. The second group of names have priority with respect to the well-established family-group names. The ICZN will be asked to suppress conditionally those names which are senior synonyms to the well-established family-group names under the provisions of Article 79(a)(iii) so that continuity of nomenclature will be preserved. Conditionally suppressed family-group names can still be used for family-level taxa containing the type genus of the conditionally suppressed name, but not the type genus of the conditionally conserved name. The ICZN will be asked to suppress totally a few family-group names for a variety of reasons, either because the type genus has been suppressed, because it is not available as a junior homonym or because the type genus is a pre-Linnaean name, etc. All suppressed names, whether fully or conditionally, will be given in small (lower case) letters.

5. List of Established Names to be Conserved

The family-group names to be conserved or suppressed will be listed according to the sequence used in the main list. The family-group name requested to be conserved fully or conditionally with respect to one or more synonyms will be given in full capitals, and those names to be suppressed fully or conditionally in initial capital and lower case. Hence if PHALACROCORACIDAE Reichenbach, 1849–50 (1836) is conserved conditionally in preference to Anhingidae Reichenbach, 1849 (1815), then Anhingidae Reichenbach, 1849 (1815) is automatically suppressed conditionally with respect to PHALACROCORACIDAE Reichenbach, 1849–50 (1836). Each request will have a reference to the appropriate article in the Code (ICZN, 1985). This list does not include any simple corrections to earlier ICZN decisions such as dates and authors of family-group names which have been conserved or suppressed in these decisions. Many of these corrections have been mentioned in the discussions of problem names, and I assume that the decisions of the ICZN remain valid. Any other interpretation would result in unnecessary chaos for these earlier ICZN decisions. Additional discussion of these cases is provided under the heading Problem Avian family-Group Names (see below, Section VIII.B).

(1) TINAMIDAE G.R. Gray, 1840 (1831) (*Tinamus* Hermann, 1783) conserved in preference to Crypturidae Bonaparte, 1831 (*Cryptura* Illiger, 1811 = *Tinamus*) [Art. 40(b)].

(2) The type genus of Procellariidae Leach, 1820 designated as *Procellaria* Linnaeus, 1758 (type species *Procellaria aequinoctialis* Linnaeus, 1758).

(3) PROCELLARIIDAE Leach, 1820 (*Procellaria* Linnaeus, 1758, type *aequinoctialis* Linnaeus, 1758) conserved in preference to Procellariidae Bonaparte, 1854 (*Procellaria* Linnaeus, 1766, type species Procellaria *pelegica* Linnaeus, 1758) or any other use of Procellariidae based on *Procellaria* Linnaeus, 1766 or *Procellaria* auct. [Art. 79(b)(i)].

(4) HYDROBATIDAE Mathews, 1912–13

(1865) (*Hydrobates* Boie, 1822) conserved in preference to Thalassidromidae Müller, 1865 (*Thalassidroma* Müller, 1865 = *Hydrobates*); [Art. 40(b)(i)] and conditionally in preference to Oceanitidae Forbes, 1882 (*Oceanites* Keyserling and Blasius, 1840) [Art. 79(b)(iii). See ICZN Opinion 1696: Tubbs, 1992b.

(5) PELECANOIDIDAE G. R. Gray, 1871 (1850) (*Pelecanoides* Lacépède, 1799) conserved in preference to Haladromidae Bonaparte, 1850 (*Haladroma* Illiger, 1811 = *Pelecanoides*) [Art. 40(b)].

(6) GAVIIDAE J. A. Allen, 1897 (1840) (*Gavia* J. R. Forster, 1788) conserved in preference to *Colymbidae* Leach, 1820 (*Colymbus* Linnaeus, 1758, type species *Colymbus immer* Linnaeus, 1758 = *Gavia*), Eudytidae Brandt, 1840 (*Eudytes* Illiger, 1811) and Urinatoridae Baird, Brewer and Ridgway, 1884 (*Urinator* Lacépède, 1799; ICZN Opinion 401 and Direction 75, 21 June 1975. It is necessary to suppress Eudytidae Brandt, 1840 (*Eudytes* Illiger, 1811) and Urinatoridae Baird, Brewer and Ridgway, 1884 (*Urinator* Lacépède, 1799) which were omitted from the earlier decision [Art. 79(b)(i)].

(7) PODICIPEDIDAE Bonaparte, 1831 (*Podiceps* Latham, 1787) conserved in preference to Colymbidae Reichenow, 1889 (*Colymbus* Linnaeus, 1758, type species *Colymbus cristatus* Linnaeus, 1758 = *Podiceps*) and Podilymbidae Coues, 1862 (*Podilymbus* Lesson, 1831) which were omitted from ICZN Direction 75, 21 June 1975 [Art. 79(b)(i)].

(8) FREGATIDAE Degland and Gerbe, 1867 (1840) (*Fregata* Lacépède, 1799) conserved in preference to Tachypetidae Brandt, 1840 (*Tachypetes* Vieillot, 1816 = *Fregata*) [Art. 40(b)].

(9) PHALACROCORACIDAE Reichenbach, 1849–50 (1836) (*Phalacrocorax* Brisson, 1760) conserved conditionally in preference to Anhingidae Reichenbach, 1849 (1815) (*Anhinga* Brisson, 1760) [Art. 79(b)(iii)].

(10) PHALACROCORACIDAE Reichenbach, 1849–50 (1836) (*Phalacrocorax* Brisson, 1760) conserved in preference to Halieinae Sundevall, 1836 (*Halieus* Illiger, 1811 = *Phalacrocorax*) and conditionally in preference to Carbonidae Brandt, 1849 (*Carbo* Lacépède, 1799 = *Phalacrocorax*) [Art. 40(b)].

(11) ANHINGIDAE Reichenbach, 1849 (1815) (*Anhinga* Brisson, 1760) conserved in preference to Plotinae Rafinesque, 1815 (*Plotus* Linnaeus, 1766 = *Anhinga*) [Art. 40(b)].

(12) SULIDAE Reichenbach, 1849 (*Sula* Brisson, 1760) conserved in preference to Dysporidae Sundevall, 1836 (*Dysporus* Sundevall, 1836 = *Sula*) [Art. 40(b)].

(13) SULIDAE Reichenbach, 1849 (1836) (*Sula* Brisson, 1760) conserved conditionally in preference to Anhinginae Reichenbach, 1849 (1815) (*Anhinga* Brisson, 1760) and Phalacrocoracidae Reichenbach, 1849–50 (1836) (*Phalacrocorax* Brisson, 1760); superfamily name [Art. 79(b)(iii)].

(14) NYCTICORACINI Bonaparte, 1854 (*Nycticorax* T. Forster, 1817) conserved conditionally in preference to Cochleariini Chenu and des Murs, 1854 (1838) (*Cochlearius* Brisson, 1760) [Art. 79(b)(iii)].

(15) COCHLEARIINI Chenu and des Murs, 1854 (1838) (*Cochlearius* Brisson, 1760) conserved in preference to Cancromini Bonaparte, 1838 (*Cancroma* Linnaeus, 1766 = *Cochlearius*) [Art. 40(b)].

(16) CICONIIDAE Sundevall, 1836 (*Ciconia* Brisson, 1760) conserved conditionally in preference to Tantalidae Bonaparte, 1831 (*Tantalus* Linnaeus, 1766 = ? *Mycteria*), and Mycteriidae Anonymous, 1908 (1831) (*Mycteria* Linnaeus, 1758) [Art. 79(b)(iii)].

(17) CICONIIDAE Sundevall, 1836 (*Ciconia* Brisson, 1760) conserved in preference to Cathartidae de Lafresnaye, 1839, (*Cathartes* Illiger, 1811) and Vulturidae Fleming, 1822 (*Vultur* Linnaeus, 1758) if the type genera are placed in the same family-level taxon, see below under Cathartidae and Vulturidae [Art. 40(b) and 79(b)(iii)].

(18) THRESKIORNITHIDAE Poche, 1904 (*Threskiornis* G. R. Gray, 1842) conserved conditionally in preference to Plataleidae Bonaparte, 1838 (*Platalea* Linnaeus, 1758) [Art. 79(b)(iii)]. See ICZN Opinion 1674: Tubbs, 1992a.

(19) THRESKIORNITHINAE Poche, 1904 (*Threskiornis* G. R. Gray, 1842) conserved in preference to Tantalinae Bonaparte, 1831 (*Tantalus* Linnaeus, 1766) and Ibidinae Degland, 1849, (*Ibis* Cuvier, 1816) if these names are regarded as available [Art. 40(b)]; and conserved conditionally in pref-

erence to Eudociminae Bonaparte, 1854 (*Eudocimus* Wagler, 1832), Geronticinae Bonaparte, 1855 (*Geronticus* Wagler, 1832), Phimosinae Bonaparte, 1855 (*Phimosus* Wagler, 1832), Falcinellinae des Murs, 1860 (*Falcinellus* Vieillot, 1816 = *Plegadis*) and Plegadinae Mathews, 1913 (1860) (*Plegadis* Kaup, 1829) [Art. 79 (b)(iii)]. Resolved only with respect to Eudociminae Bonaparte, 1854. See ICZN Opinion 1674: Tubbs, 1992b.

(20) CATHARTIDAE de Lafresnaye, 1839, (*Cathartes* Illiger, 1811) conserved in preference to Vulturidae Fleming, 1822 (*Vultur* Linnaeus, 1758) [Art. 79(b)(ii)].

(21) Vulturidae Fleming, 1822 (*Vultur* Linnaeus, 1758) suppressed fully for both purposes of synonymy, but not of homonymy, and placed on the Official Index of Rejected and Invalid Family-Group Names in Zoology [Art. 79(b)(ii)].

(22) ACCIPITRINAE Vigors, 1824 (*Accipiter* Brisson, 1760) conserved conditionally in preference to Milvinae Vigors, 1824 (*Milvus* Lacépède, 1799) and Buteoninae Vigors, 1824 (*Buteo* Lacépède, 1799) [Art. 79(b)(iii).]

(23) SAGITTARIIDAE Finsch and Hartlaub, 1870 (1825) (*Sagittarius* Hermann, 1783) conserved in preference to Gypogeranidae Vigors, 1825 (*Gypogeranus* Illiger, 1811 = *Sagittarius*) and Serpentariidae Selys-Longchamps, 1842 (*Serpentarius* Cuvier, 1798 = *Sagittarius*) [Art. 40(b)].

(24) POLYBORINAE Bonaparte, 1838 (1837) (*Polyborus* Vieillot, 1816) conserved in preference to Caracarinae d'Orbigny, 1837 (*Caracara* Merrem, 1826 = *Polyborus*) [Art. 40(b)].

(25) ANATIDAE Leach, 1820 (*Anas* Linnaeus, 1758) conserved conditionally in preference to Mergidae Rafinesque, 1815 (*Mergus* Linnaeus, 1758), Anserinae Vigors 1825 (1815) (*Anser* Brisson, 1760) and Anseriinae Rafinesque, 1815 (*Anseria* Rafinesque, 1815 = *Anser*) [Art. 79(b)(iii)].

(26) ANSERINAE Vigors, 1825 (1815) (*Anser* Brisson, 1760) conserved in preference to Anseriinae Rafinesque 1815 (*Anseria* Rafinesque, 1815 = *Anser*) if the latter name is considered to be available [Art. 40(b)]; and conditionally in preference to Cereopseinae Vigors, 1825 (*Cereopsis* Latham, 1801) and Cygninae Vigors, 1825 (*Cygnus* Bechstein, 1803) [Art. 79(b)(iii)].

(27) ANHIMIDAE Stejneger, 1885 (1831) (*Anhima* Brisson, 1760) conserved in preference to Palamedeidae Bonaparte, 1831 (*Palamedea* Linnaeus, 1766 = *Anhima*) [Art. 40(b)].

(28) PHASIANIDAE Horsfield, 1821 (*Phasianus* Linnaeus, 1758) conserved conditionally in preference to Pavonidae Rafinesque, 1815 (*Pavo* Linnaeus, 1758) and Tetraonidae Leach, 1820 (*Tetrao* Linnaeus, 1758) [Art. 79(b)(iii)].

(29) PHASIANINAE and PHASIANINI Horsfield, 1821 (*Phasianus* Linnaeus, 1758) conserved conditionally in preference to Pavoninae and Pavonini Rafinesque, 1815 (*Pavo* Linnaeus, 1758) [Art. 79(b)(iii)].

(30) MESITORNITHIDAE Wetmore, 1960 (1850) (*Mesitornis* Bonaparte, 1855) conserved in preference to Mesitidae Bonaparte, 1850 (*Mesites* Geoffroy St.-Hilaire, 1838 = *Mesitornis*), Mesoenatidae Reichenbach, 1862 (*Mesoenas* Reichenbach, 1862 = *Mesitornis*) and Moniidae Verheyen, 1958 (*Monias* Oustalet and Grandidier, 1903) [Art. 40(b)];

(31) TURNICIDAE G. R. Gray, 1840 (1831) (*Turnix* Bonnaterre, 1791) conserved in preference to Ortygidae Bonaparte, 1831 (*Ortygis* Illiger, 1811 = *Turnix*) [Art. 40(b)].

(32) HELIORNITHIDAE G. R. Gray, 1840 (*Heliornis* Bonnaterre, 1791) conserved in preference to Podoanidae Brandt, 1840 (*Podoa* Illiger, 1811 = *Heliornis*) [Art. 40(b)].

(33) CARIAMIDAE Bonaparte, 1850 (1836) (*Cariama* Linnaeus, 1766) conserved in preference to Dicholophidae Sundevall, 1836 (*Dicholophus* Sundevall, 1836 = *Cariama*) [Art. 40(b)].

(34) JACANIDAE Chenu and des Murs, 1854 (1840) (*Jacana* Brisson, 1760) conserved in preference to Parridae G. R. Gray, 1840 (*Parra* Linnaeus, 1766 = *Jacana*) [Art. 40(b)].

(35) ROSTRATULIDAE Mathews, 1913–14 (1855) (*Rostratula* Vieillot, 1816) conserved in preference to Rhynchaeidae Brehm, 1855 (*Rhynchaea* Cuvier, 1817 = *Rostratula*) [Art. 40(b)].

(36) BURHINIDAE Mathews, 1912 (1840) (*Burhinus* Illiger, 1811) conserved in pref-

erence to Oedicnemidae G. R. Gray, 1840 (*Oedicnemus* Temminck, 1815 = *Burhinus*) [Art. 40(b)]; and conserved conditionally in preference to Esacidae Blyth, 1852 (*Esacus* Lesson, 1831) [Art. 40(b)].

(37) CHARADRIIDAE Leach, 1820 (*Charadrius* Linnaeus, 1758) conserved conditionally in preference to Scolopacidae Rafinesque, 1815 (*Scolopax* Linnaeus, 1758); superfamily name [Art. 79 (b)(iii)].

(38) SCOLOPACIDAE Rafinesque, 1815 (*Scolopax* Linnaeus, 1758) conserved conditionally in preference to Tringidae Rafinesque, 1815 (*Tringa* Linnaeus, 1758) [Art. 79(b)(iii)].

(39) The type genus of Tringinae Rafinesque, 1815 designated as *Tringa* Linnaeus, 1758 (type species *Tringa ocrophus* Linnaeus, 1758).

(40) ARENARIINAE Stejneger, 1885 (1840) (*Arenaria* Brisson, 1760) conserved in preference to Strepsilinae G. R. Gray, 1840 (*Strepsilas* Illiger, 1811 = *Arenaria*) [Art. 40(b)].

(41) CALIDRINAE Reichenbach, 1849 (*Calidris* Merrem, 1804) conserved in preference to Heteropodinae Reichenbach, 1849 (*Heteropoda* Bonaparte, 1838 = *Calidris*) [Art. 40(b)].

(42) The type genus of Calidrinae Reichenbach, 1849 designated as *Calidris* Merrem, 1804 (type species *Tringa canutus* Linnaeus, 1758).

(43) STERCORARIINAE G. R. Gray, 1870 (*Stercorarius* Brisson, 1760) conserved in preference to Lestridinae Bonaparte, 1831 (*Lestris* Illiger, 1811 = *Stercorarius*) [Art. 40(b)].

(44) Pteroclidae Bonaparte, 1831 (*Pterocles* Temminck, 1815) conserved conditionally in preference to Syrrhaptidae Bonaparte, 1831 (*Syrrhaptes* Illiger, 1811) [Art. 79(b)(iii)].

(45) RAPHIDAE Wetmore, 1930 (1831) (*Raphus* Brisson, 1760) conserved in preference to Dididae Swainson, 1835 (*Didus* Linnaeus, 1766 = *Raphus*) [Art. 40(b)].

(46) GOURINAE G. R. Gray, 1840 (*Goura* Stephens, 1819) conserved in preference to Ptilophyrinae Bonaparte, 1840 (*Ptilophyrus* Swainson, 1837 = *Goura*) [Art. 40(b)].

(47) DIDUNCULINAE G. R. Gray, 1848 (*Didunculus* Peale, 1848) conserved in preference to Gnathodontinae Strickland and Melville, 1848 (*Gnathodon* Jardine, 1845 = *Didunculus*) [Art. 40(b)].

(48) TRERONINAE G. R. Gray, 1840 (*Treron* Vieillot, 1816) conserved conditionally in preference to Ptilinopodinae Selby, 1835 (*Ptilinopus* Swainson, 1825), Carpophaginae Selby, 1835 (*Carpophaga* Selby, 1835 = *Ducula*) and Duculinae Reichenbach, 1862 (1835) (*Ducula* Hodgson, 1836) [Art. 79(b)(iii)].

(49) PSITTACULINI Vigors, 1825 (*Psittacula* Cuvier, 1800) conserved in preference to Palaeornithini Vigors, 1825 (*Palaeornis* Vigors, 1825 = *Psittacula*) [Art. 40(b)].

(50) ARINI G. R. Gray, 1840 (1825) (*Ara* Lacépède, 1799) conserved in preference to Macrocercini Vigors, 1825 (*Macrocercus* Vieillot, 1816 = *Ara*) [Art. 40(b)].

(51) CACATUINAE G. R. Gray, 1840 (1825) (*Cacatua*, Vieillot, 1817) conserved in preference to Plyctolophinae Vigors, 1825 (*Plyctolophus* Vieillot, 1816 = *Cacatua*) [Art. 40(b)].

(52) MICROPSITTINAE Reichenow, 1881 (1853) (*Micropsitta* Lesson, 1831) conserved in preference to Nasiterninae Bonaparte, 1853 (*Nasiterna* Wagler, 1832 = *Micropsitta*) [Art. 40(b)].

(53) PSITTRICHADINAE von Boetticher, 1959 (1854) (*Psittrichas* Lesson, 1831) conserved in preference to Dasyptilinae Bonaparte, 1854 (*Dasyptilus* Wagler, 1832 = *Psittrichas*) [Art. 40(b)].

(54) MUSOPHAGIDAE Lesson, 1828 (*Musophaga* Isert, 1789) conserved in preference to Turacidae Rafinesque, 1815 (*Turacus* Cuvier, 1800 = *Tauraco*) and Tauracidae Verheyen, 1956 (1815) (*Tauraco* Kluk, 1779) [Art. 40(b)].

(55) NEOMORPHINAE Shelley, 1891 (*Neomorphus* Gloger, 1827) conserved conditionally in preference to Leptostominae Swainson, 1837 (*Leptostoma* Swainson, 1837 = *Geococcyx*), Diplopterinae P. L. Sclater, 1862 (*Diplopterus* Boie, 1826 = *Tapera*), Geococcyginae Reichenow, 1884 (1837) (*Geococcyx* Wagler, 1831) and Taperinae Verheyen, 1956 (1862) (*Tapera* Thunberg, 1819) [Art. 79(b)(iii)].

(56) GEOCOCCYGINAE Reichenow, 1884 (1837) (*Geococcyx* Wagler, 1831) con-

served in preference to Leptostominae Swainson, 1837 (*Leptostoma* Swainson, 1837 = *Geococcyx*) [Art. 40(b)].

(57) TAPERINAE Verheyen, 1956 (1862) (*Tapera* Thunberg, 1819) conserved in preference to Diplopterinae P. L. Sclater, 1862 (*Diplopterus* Boie, 1826 = *Tapera*) [Art. 40(b)].

(58) TYTONIDAE Mathews, 1912 (1866) (*Tyto* Billsberg, 1828) conserved in preference to Strigidae Bonaparte, 1838 (*Strix* auct. *flammea* auct. = *alba* Scopoli, 1769; = *Tyto*) [unavailable name], Hybreidae Lilljeborg, 1866 (*Hybris* Nitzsch, 1840 = *Tyto*) and Aluconidae Coues, 1884 (*Aluco* Fleming, 1822 = *Tyto*) [Art. 40(b)].

(59) BUBONINAE Vigors, 1825 (*Bubo* Duméril, 1806) conserved conditionally in preference to Nocturinae Vigors, 1825 (*Noctura* Savigny, 1809 = *Athene*) and Atheninae Blyth, 1852 (1825) (*Athene* Boie, 1822) [Art. 79(b)(iii)].

(60) CHORDEILINAE Cassin, 1851 (*Chordeiles* Swainson, 1831) conserved in preference to Podagerinae G. R. Gray, 1847 (*Podager* Wagler, 1832) [Art. 40(b)].

(61) APODIDAE Hartert, 1897 (1836) (*Apus* Scopoli, 1777) conserved in preference to Cypselidae Sundevall, 1836 (*Cypselus* Bonaparte, 1838 = *Apus*), Micropodidae Stejneger, 1885 (*Micropus* Wolf, 1810 = *Apus*) [Art. 40(b); see ICZN Opinion 502]; and conserved conditionally in preference to Collocaliini Bonaparte, 1853a (1852) (*Collocalia* G. R. Gray, 1840), Salanganini Le Maout, 1852 (*Salangana* Streubel, 1848 = *Collocalia*), and Chaeturini Bonaparte, 1857 (*Chaetura* Stephens, 1826) [Art. 79(b)(iii)].

(62) COLLOCALIINI Bonaparte, 1853 (1852) (*Collocalia* G. R. Gray, 1840) conserved in preference to Salanganini Le Maout, 1852 (*Salangana* Streubel, 1848 = *Collocalia*) [Art. 40(b)].

(63) HEMIPROCNIDAE Oberholser, 1906 (1852) (*Hemiprocne* Nitzsch, 1829) conserved in preference to Macropterygidae Blyth, 1852 (*Macropteryx* Swainson, 1832 = *Hemiprocne*) and Dendrochelidonidae Bonaparte, 1854 (*Dendrochelidon* Boie, 1832 = *Hemiprocne*) [Art. 40(b)].

(64) MOMOTIDAE G. R. Gray, 1840 (1832–33) (*Momotus* Brisson, 1760) conserved in preference to Prionitidae Swainson, 1832–33 (*Prionites* Illiger, 1811 = *Momotus*) [Art. 40(b)].

(65) BRACHYPTERACIINAE Bonaparte, 1854 (1852) (*Brachypteracias* Lafresnaye, 1843) conserved conditionally in preference to Atelornithinae Chenu and des Murs, 1852 (*Atelornis* Pucheran, 1846) [Art. 79(b)(iii)].

(66) GALBULIDAE Vigors, 1825 (*Galbula* Brisson, 1760) conserved conditionally in preference to Bucconidae Horsfield, 1821 (*Bucco* Brisson, 1760); superfamily name [Art. 79(b)(iii)].

(67) The type genus of Bucconidae Horsfield, 1821 designated as *Bucco* Brisson, 1760 (type species *Bucco capensis* Linnaeus, 1766), which confirms general ornithological practice and avoids any possible arguments in the future on the application of Horsfield's Bucconidae.

(68) PICOIDINI Olphe-Galliard, 1888 (*Picoides* Lacépède, 1799) conserved in preference to Dendrocopini Cabanis and Heine, 1863 (*Dendrocopos* Koch, 1816 = *Picoides*) if the latter name is declared not to be objectively invalid [Art. 40(b)]. Dendrocopini Cabanis and Heine, 1863 (*Dendrocopos* Koch, 1816 = *Picoides*) is a junior homonym with respect to Dendrocopidae Bonaparte, 1854 (*Dendrocops* Swainson, 1837 = *Dendrocolaptes*) and hence is objectively invalid; no need exists at the present time to resolve the homonymy.

(69) COLAPTINI G. R. Gray, 1840 (*Colaptes* Vigors, 1826) conserved conditionally in preference to Celeini G. R. Gray, 1840 (*Celeus* Boie, 1831) [Art. 79(b)(iii)].

(70) FURNARIIDAE G. R. Gray, 1840 (*Furnarius* Vieillot, 1816) conserved conditionally in preference to Scleruridae Swainson, 1827, (*Sclerurus* Swainson, 1827), Synallaxeidae de Selys-Longchamps, 1839 (1836) (*Synallaxis* Vieillot, 1818), Anabatinae Sundevall, 1836 (*Anabates* Temminck, 1819 = *Synallaxis*), and Upucerthiidae D'Orbigny and de Lafresnaye, 1838 (*Upucerthia* Geoffroy St.-Hilaire, 1832) [Art. 79(b)(iii)].

(71) FURNARIIDAE G. R. Gray, 1840 (*Furnarius* Vieillot, 1816) conserved conditionally in preference to Dendrocolaptidae G. R. Gray, 1840 (*Dendrocolaptes* Hermann, 1804); superfamily name [Art. 79(b)(iii)].

(72) FURNARIIDAE G. R. Gray, 1840

(*Furnarius* Vieillot, 1816) conserved conditionally in preference to Formicariidae G. R. Gray, 1840 (1825) (*Formicarius* Boddaert, 1783) and Thamnophilidae Swainson, 1824 (*Thamnophilus* Vieillot, 1816); superfamily name [Art. 79(b)(iii)].

(73) FURNARIINAE G. R. Gray, 1840 (*Furnarius* Vieillot, 1816) conserved conditionally in preference to Upucerthiinae D'Orbigny and de Lafresnaye, 1838 (*Upucerthia* Geoffroy St.-Hilaire, 1832) [Art. 79(b)(iii)].

(74) SYNALLAXEINAE de Selys-Longchamps, 1839 (1836) (*Synallaxis* Vieillot, 1818) conserved in preference to Anabatinae Sundevall, 1836 (*Anabates* Temminck, 1819 = *Synallaxis*) [Art. 40(b)].

(75) PHILYDORINAE Sclater and Salvin, 1873 (*Philydor* Spix, 1824) conserved conditionally in preference to Sclerurinae Swainson, 1827 (*Sclerurus* Swainson, 1827) and Xenopinae Bonaparte, 1854 (*Xenops* Illiger, 1811) [Art. 79(b)(iii)].

(76) FORMICARIIDAE G. R. Gray, 1840 (1825) (*Formicarius* Boddaert, 1783) conserved in preference to Myiotheridae Vigors, 1825 (*Myiothera* Illiger, 1824 = *Formicarius*) [Art. 40(b)]; and conserved conditionally in preference to Thamnophilidae Swainson, 1824 (*Thamnophilus* Vieillot, 1816), Drymophilidae Swainson, 1826 (*Drymophila* Swainson, 1824), and Myrmotheridae MacGillivray, 1839 (*Myrmothera* Vieillot, 1816) [Art. 79(b)(iii)].

(77) RHINOCRYPTIDAE Wetmore, 1930 (1837) (*Rhinocrypta* G. R. Gray, 1840) conserved in preference to Rhinomyidae d'Orbigny and de Lafresnaye, 1837 (*Rhinomya* Geoffroy St.-Hilaire, 1832 = *Rhinocrypta*) [Art. 40(b)]; and conserved conditionally in preference to Scytalopodidae J. Müller, 1846 (*Scytalopus* J Müller, 1846), Megalonychidae Chenu and des Murs, 1852 (*Megalonyx* Lesson, 1832 = *Pteroptochos*), Pteroptochidae P. L. Sclater, 1858 (1852) (*Pteroptochos* Kittlitz, 1830), and Hylactidae Reichenow, 1884 (*Hylactes* King, 1831 = *Pteroptochos*) [Art. 79(b)(iii)].

(78) TYRANNIDAE Vigors, 1825 (*Tyrannus* Lacépède, 1799) conserved conditionally in preference to Platyrinchidae Horsfield, 1822 (*Platyrinchus* Desmarest, 1805) [Art. 79(b)(iii)].

(79) TYRANNIDAE Vigors, 1825 (*Tyrannus* Lacépède, 1799) conserved conditionally in preference to Pipridae Rafinesque, 1815 (*Pipra* Linnaeus, 1764) and Cotingidae Bonaparte, 1849 (1822) (*Cotinga* Brisson, 1760); superfamily name [Art. 79(b)(iii)].

(80) ELAENIINAE Cabanis and Heine, 1859–60 (*Elaenia* Sundevall, 1836) conserved conditionally in preference to Platyrinchinae Horsfield, 1822 (*Platyrinchus* Desmarest, 1805), Culicivorinae Swainson, 1831 (*Culicivora* Swainson, 1827), Tyrannulinae Swainson, 1831 (*Tyrannula* Swainson, 1831 = *Sayornis*) [unavailable or objectively invalid name], Colopterinae Cabanis, 1847 (*Colopterus* Cabanis, 1845 = *Colopteryx*], Pipromorphinae Bonaparte, 1853 (*Pipromorpha* G. R. Gray, 1855), Cyclorhynchinae Bonaparte, 1854 (Cyclorhynchus Sundevall, 1836), and Rhynchocyclinae von Berlepsch, 1907 (1854) (*Rhynchocyclus* Cabanis and Heine, 1859) [Art. 79(b)(iii)].

(81) The type genus for Pipromorphinae Bonaparte, 1853 designated as *Pipromorpha* G. R. Gray, 1855 (type species *Muscicapa oleagina* = *oleaginea* Lichtenstein, 1823).

(82) TITYRINAE G. R. Gray, 1840 (1832–33) (*Tityra* Vieillot, 1816) conserved in preference to Psaridinae Swainson, 1832–33 (*Psaris* Cuvier, 1816 = *Tityra*) [Art. 40(b)].

(83) COTINGIDAE Bonaparte, 1849 (1822) (*Cotinga* Brisson, 1760) conserved in preference to Ampelidae Fleming, 1822 (*Ampelis* Linnaeus, 1766 = *Cotinga*) [Art. 40(b)]; and conserved conditionally in preference to Coracinidae Swainson, 1831 (*Coracina* Temminck, 1823 = *Pyroderus*) [unavailable name], Querulidae Swainson, 1837 (*Querula* Vieillot, 1816), Pyroderidae G. R. Gray, 1840 (1831) (*Pyroderus* G. R. Gray, 1840), and Gymnoderidae Bonaparte, 1840 (*Gymnoderus* Geoffroy St.-Hilaire) [Art. 79(b)(iii)].

(84) OXYRUNCIDAE Ridgway, 1906 (1831) (*Oxyruncus* Temminck, 1820) conserved in preference to Oxyrhynchidae Swainson and Richardson, 1831 (*Oxyrhynchus* Temminck, 1823 = *Oxyruncus*) [Art. 40(b)]; and conserved conditionally in preference to Oxyrhamphidae Sclater, 1888 (*Oxyrhamphus* Strickland, 1840) [Art. 79(b)(iii)].

(85) ATRICHORNITHIDAE Stejneger, 1885 (1875) (*Atrichornis* Stejneger, 1885) conserved in preference to Atrichiidae New-

ton, 1875 (*Atrichia* Gould, 1844 = *Atrichornis*) [Art. 40(b)].

(86) CAMPEPHAGIDAE Vigors, 1825 (*Campephaga* Vieillot) conserved in preference to Ceblepyridae Swainson, 1825 (*Ceblepyris* Cuvier, 1816 = *Coracina*) [Art. 40(b)].

(87) PYCNONOTIDAE G. R. Gray, 1840 (*Pycnonotus* Boie, 1826) conserved in preference to Brachypodidae Swainson, 1831 (*Brachypus* Swainson, 1824 ? = *Pycnonotus*) if the latter name is considered to be available [Art. 40(b)]; and conserved conditionally in preference to Trichophoridae Swainson, 1831 (*Trichophorus* Temminck, 1821 = *Criniger*), Ixosidae Bonaparte, 1838 (*Ixos* Temminck, 1825 = *Hypsipetes*), and Crinigeridae Bonaparte, 1854 (1831) (*Criniger* Temminck, 1820) [Art. 79(b)(iii)].

(88) Ixosidae Bonaparte, 1838 (*Ixos* Temminck, 1825 type species *virescens*), stem of the generic name modified from "Ixod" to "Ixos" to avoid homonymy of Ixodidae Bonaparte, 1838 with the junior, but more important, homonym Idoxidae C.L. Koch, 1844 (*Ixodes* Latreille, 1795; = Acari; Parasitiformes) [Art. 55(b) and see Bock and Keirans, in press].

(89) Tyladidae Oberholser, 1917 (*Tylas* Hartlaub, 1862), stem of the generic name modified from "Tyl" to "Tylad" to avoid homonymy of Tylidae Oberholser, 1917 with the senior homonym Tylinae Dana, 1852 (*Tylos* Audouin; = Crustacea, Isopoda) [Art. 55(b) and see Bock, in press a].

(90) IRENIDAE Jerdon, 1863 (*Irena* Horsfield, 1821) conserved conditionally in preference to Phyllornithidae Cabanis, 1847 (*Phyllornis* Temminck, 1829 = *Chloropsis*) and Chloropseidae Wetmore, 1960 (1847) (*Chloropsis* Jardine and Selby, 1827) [Art. 79(b)(iii)].

(91) PRUNELLIDAE Richmond, 1908 (1840) (*Prunella* Vieillot, 1816) conserved in preference to Accentoridae G. R. Gray, 1840 (*Accentor* Bechstein, 1802 = *Prunella*), objectively invalid name [Art. 39 and 79(b)(iii)].

(92) SAXICOLINAE Vigors, 1825 (*Saxicola* Bechstein, 1803) conserved conditionally in preference to Cossyphinae Vigors, 1825 (*Cossypha* Vigors, 1825) [Art. 79(b)(iii)].

(93) SYLVIIDAE, Leach, 1820 (*Sylvia* Scopoli, 1769) conserved conditionally in preference to Hirundinidae Rafinesque, 1815 (*Hirundo* Linnaeus, 1758) and Certhiidae Leach, 1820 (*Certhia* Linnaeus, 1758); superfamily name [Art. 79(b)(iii)].

(94) MUSCICAPIDAE Fleming, 1822 (*Muscicapa* Brisson, 1760) conserved conditionally in preference to Turdidae Rafinesque, 1815 (*Turdus* Linnaeus, 1758), Sylviidae, Leach, 1820 (*Sylvia* Linnaeus, 1758) and Sturnidae Rafinesque, 1815 (*Sturnus* Linnaeus, 1758); superfamily name [Art. 79(b)(iii)].

(95) MOHOUINAE Mathews, 1946 (1854) (*Mohoua* Lesson, 1835) conserved in preference to Certhiparinae Bonaparte, 1854 (*Certhiparus* Lafresnaye, 1842 = *Mohoua*) [Art. 40(b)].

(96) MONARCHIDAE Bonaparte, 1854 (*Monarcha* Vigors and Horsfield, 1827) conserved conditionally in preference to Muscipetidae Reichenbach, 1850 (*Muscipeta* Cuvier, 1817 = *Terpsiphone*), Myiagridae Cabanis and Heine, 1850–51 (*Myiagra* Vigors and Horsfield, 1827), Tchitreidae Blyth, 1852 (*Tchitrea* Lesson, 1830 = *Terpsiphone*), and Terpsiphonidae Shelley, 1896 (1852) (*Terpsiphone* Gloger, 1827) [Art. 79(b)(iii)].

(97) SITTIDAE Lesson, 1828 (*Sitta* Linnaeus, 1758) conserved conditionally in preference to Tichodromidae Swainson, 1827 (*Tichodroma* Illiger, 1811) [Art. 79(b)(iii)].

(98) NEOSITTINAE Ridgway, 1904 (*Neositta* Hellmayr, 1901 = *Daphoenositta*) conserved in preference to Daphoenosittinae Rand, 1936 (*Daphoenositta* De Vis, 1897) [Art. 40(a)].

(99) DICAEIDAE Bonaparte, 1853 (*Dicaeum* Cuvier, 1817) conserved conditionally in preference to Pardalotidae Strickland, 1842 (*Pardalotus* Vieillot, 1816) [Art. 79(b)(iii)].

(100) NECTARINIIDAE Vigors, 1825 (*Nectarinia* Illiger, 1811) conserved conditionally in preference to Cinnyrididae Vigors, 1825 (*Cinnyris* Cuvier, 1817) [Art. 79(b)(iii)].

(101) NECTARINIIDAE Vigors, 1825 and *Nectarinia* Illiger, 1811 restricted to the Old World Sunbirds with the type species of *Nectarinia* designated as *Certhia famosa* Linnaeus, 1766 which was proposed by Gray (1840), and the type genus of Nectariniidae Vigors, 1825 designated as *Nectarinia* Illiger, 1811

because these conclusions have been widely accepted by ornithologists (e.g., "Peters's Check-list", 12: 222; 1967).

(102) MELIPHAGIDAE Vigors, 1825 (*Meliphaga* Lewin, 1808) conserved conditionally with respect to Promeropidae Vigors, 1825 (*Promerops* Brisson, 1760) [Art. 79(b)(iii)].

(103) CARDINALINAE Ridgway, 1901 (*Cardinalis* Bonaparte, 1838) conserved conditionally with respect to Pitylinae Sundevall, 1836 (*Pitylus* Cuvier, 1829), Spizinae Bonaparte, 1849 (*Spiza* Bonaparte, 1824), Saltatorinae Bonaparte, 1853 (*Saltator* Vieillot, 1816), Cyanospizinae P.L. Sclater, 1862 (*Cyanospiza* Baird, 1858 = *Passerina*), Coccoborinae Reichenow, 1884 (*Coccoborus* Swainson, 1837 = *Passerina* Vieillot, 1816), and Guiracinae Ridgway, 1901 (1884) (*Guiraca* Swainson, 1827 = *Passerina* Vieillot, 1816) [Art. 79(b)(iii)], and see ICZN Opinion 784, 20 December 1966.

(104) THRAUPINAE Cabanis, 1847 (*Thraupis* Boie, 1826) conserved in preference to Tanagrinae Vigors, 1825 (*Tanagra* Linnaeus, 1764 or 1766), and conserved conditionally in preference to Tangarinae Boie, 1826 (*Tangara* Brisson, 1760), Dacninae Sundevall, 1836 (*Dacnis* Sundevall, 1847), and Euphoniinae Cabanis, 1847 (*Euphonia* Cabanis, 1847) [Art. 79(b)(iii)] and see ICZN Opinion 1069, 31 March 1977.

(105) Tangarinae Vigors, 1825 (Tangara Linnaeus, 1764 or 1766) suppressed for purposed of synonymy but not homonymy, and placed on the Official Index of Rejected and Invalid Family-group Names [Art. 79(b)(iii)] and see ICZN Opinion 852, 27 September 1968.

(106) TERSININAE Ridgway, 1907 (*Tersina* Vieillot, 1819) conserved in preference to Procniatinae Sclater, 1862 (*Procnias* Temminck, 1820) [objectively invalid name] [Art. 40(b)].

(107) PARULIDAE Wetmore, Friedmann, Lincoln, Miller, Peters, van Rossem, Van Tyne and Zimmer, 1947 (1831) (*Parula* Bonaparte, 1838) conserved in preference to Sylvicolidae Swainson and Richardson, 1831 (*Sylvicola* Swainson, 1827 = *Parula*) and Compsothlypidae Oberholser, 1919 (*Compsothlypis* Cabanis, 1850 = *Parula*) [Art. 40(b)]; and conserved conditionally in preference to Vermivoridae Swainson, 1831 (*Vermivora* Swainson, 1827), Setophagidae Swainson, 1831 (*Setophaga* Swainson, 1827), Coerebidae d'Orbigny and Lafresnaye, 1838 (*Coereba* Vieillot, 1808), Mniotiltidae G. R. Gray, 1848 (*Mniotilta* Vieillot, 1816), Helmitheridae Bonaparte, 1853 (*Helmitheros* Rafinesque, 1819), Geothlypidae Baird, 1858 (*Geothlypis* Cabanis, 1847), Icteriidae Baird, 1858 (*Icteria* Vieillot, 1808), Henicocichlidae P. L. Sclater, 1862 (*Henicocichla* Agassiz, 1846 = *Seiurus*), Seiuridae Baird, 1864 (1862) (*Seiurus* Swainson, 1827), Teretistridae Baird, 1864 (*Teretistris* Cabanis, 1855), Trichadidae G. R. Gray, 1869 (*Trichas* Swainson, 1827 = *Geothlypis*), Enicocichlidae G. R. Gray, 1869 (*Enicocichla* G. R. Gray, 1840 = *Seiurus*), Dendroicidae Sundevall, 1872 (*Dendroica* G. R. Gray, 1842), Arbelorhinidae Sundevall, 1872 (*Arbelorhina* Cabanis, 1847 = *Coereba*), Helinaiidae Ridgway, 1902 (*Helinaia* Rafinesque, 1819 = *Helmitheros*), and Zeledoniidae Ridgway, 1907 (*Zeledonia* Ridgway, 1889) [Art. 79(b)(iii)].

(108) CARDUELINAE Vigors, 1825 (*Carduelis* Brisson, 1760) conserved conditionally in preference to Loxiinae Vigors, 1825 (*Loxia* Linnaeus, 1758) and Pyrrhulinae Vigors, 1825 (*Pyrrhula* Brisson, 1760) [Art. 79(b)(iii)].

(109) PSITTIROSTRINAE Bonaparte, 1853 (*Psittirostra* Temminck, 1820) conserved conditionally in preference to Hemignathinae Reichenbach, 1853 (*Hemignathus* Lichtenstein, 1839) [Art. 79(b)(iii)].

(110) ESTRILDIDAE Bonaparte, 1850 (*Estrilda* Swainson, 1827) conserved conditionally in preference to Pytiliidae Bonaparte, 1840 (*Pytilia* Swainson, 1827), Spermestidae Cabanis, 1847 (*Spermestes* Swainson, 1837 = *Lonchura*), and Lonchuridae Steiner, 1960 (1847) (*Lonchura* Sykes, 1832) [Art. 79(b)(iii)].

(111) POEPHILINAE Mayr, Paynter and Traylor, 1968 (*Poephila* Gould, 1842) conserved conditionally in preference to Zonaeginthinae Steiner, 1960 (*Zonaeginthus* Cabanis, 1851 = *Emblema* Gould, 1842) [Art. 79(b)(iii)].

(112) LONCHURINAE Steiner, 1960 (1847) (*Lonchura* Sykes, 1832) conserved in

preference to Spermestinae Cabanis, 1847 (*Spermestes* Swainson, 1837 = *Lonchura*) [Art. 40(b)]; and conserved conditionally in preference to Amadininae Bonaparte, 1854 (*Amadina* Swainson, 1827) [Art. 79(b)(iii)].

(113) LONCHURINAE Steiner, 1960 (1847) (*Lonchura* Sykes, 1832) conserved conditionally in preference to Erythrurinae Delacour, 1943 (*Erythrura* Swainson, 1837) [Art. 79(b)(iii)].

(114) BUBALORNITHINAE Iredale and Bannerman, 1921 (*Bubalornis* Smith, 1836) conserved in preference to Textorinae Chapin, 1917 (*Textor* auct. = *Bubalornis*) [unavailable name] and Alectuidae Oberholser, 1921 (*Alecto* Lesson, 1831 = *Bubalornis*) [Art. 40(b)].

(115) DICRURIDAE Vigors, 1825 (1824) (*Dicrurus* Vieillot, 1816) conserved in preference to Edoliidae Swainson, 1824 (*Edolius* Cuvier, 1816 = *Dicrurus*) [Art. 40(b)].

(116) CALLAEIDAE Sundevall, 1836 (1831) (*Callaeas* J. R. Forster, 1788) conserved in preference to Glaucopididae Swainson, 1831 (*Glaucopis* Gmelin, 1788 = *Callaeas*) [Art. 40(b)].

(117) GRALLINIDAE Mathews, 1930 (*Grallina* Vieillot, 1816) conserved conditionally in preference to Corcoracidae Mathews, 1925–27 (*Corcorax* Lesson, 1830) and Struthideidae Mathews, 1924 (*Struthidea* Gould, 1837) [Art. 79(b)(iii)].

(118) CORCORACIDAE Mathews, 1925–27 (*Corcorax* Lesson, 1830) conserved conditionally in preference to Struthideidae Mathews, 1924 (*Struthidea* Gould, 1837) [Art. 79(b)(iii)].

(119) CRACTICIDAE Chenu and des Murs, 1853 (1836) (*Cracticus* Vieillot, 1816) conserved in preference to Baritidae Sundevall, 1836 (*Barita* Cuvier, 1816 = *Cracticus*) [Art. 40(b)]; and conserved conditionally in preference to Gymnorhinidae G. R. Gray, 1840 (*Gymnorhina* G. R. Gray, 1840) and Streperinae Blyth, 1852 (*Strepera* Lesson, 1852) [Art. 79(b)(iii)].

(120) CORVIDAE Leach, 1820 (*Corvus* Linnaeus, 1758) conserved conditionally in preference to Laniidae Rafinesque, 1815 (*Lanius* Linnaeus, 1758), superfamily name [Art. 79(b)(iii)].

The following names have been maintained following priority [Art. 23], because the change had been made after 1961 [Art. 40(a)], because the junior synonym has not won general acceptance, or other reasons.

(121) HALCYONINAE Vigors, 1825 (*Halcyon* Swainson, 1821) conserved conditionally in preference to Daceloninae Bonaparte, 1837 (*Dacelo* Leach, 1815) [Art. 79(b)(iii)]. This is a border line case as many workers have used the name Daceloninae largely because of an apparent and long-standing misunderstanding on the availability of Halcyoninae.

(122) PICOIDINI Olphe-Galliard, 1888 (*Picoides* Lacépède, 1799) conserved in preference to Dendrocopini Cabanis and Heine, 1863 (*Dendrocopos* Koch, 1816 = *Picoides*) [objectively invalid name] and Campetherini Ridgway, 1914 (*Campethera* G. R. Gray, 1837) [Art. 55(b) and 23].

(123) DRYOCOPINI G. R. Gray, 1840 (*Dryocopus* Boie, 1826) conserved in preference to Campephilini Blyth, 1852 (*Campephilus* G. R. Gray, 1840) [Art. 23].

(124) HEMICIRCINI Cabanis and Heine, 1863 (*Hemicircus* Swainson, 1837) conserved in preference to Meiglyptini Short, 1982 (*Meiglyptes* Swainson, 1837) [Art. 23].

(125) PARADOXORNITHINAE Horsfield and Moore, 1854 (*Paradoxornis* Gould, 1836) conserved in preference to Panurinae Newton, 1875 (*Panurus* Koch, 1816) [Art. 23].

(126) PETROICIDAE Mathews, 1919–20 (*Petroica* Swainson, 1830) conserved in preference to Eopsaltriidae Mathews, 1946 (*Eopsaltria* Swainson, 1832) [Art. 23].

B. SUGGESTED MODIFICATIONS TO THE CODE RELATIVE TO FAMILY-GROUP NAMES

1. Priority of Family-Group Names

Ever since priority was extended to family-group names in the new Code (ICZN, 1961), many zoologists have objected strenuously to this provision. This includes members of the SCON who are otherwise strong advocates of priority in zoological nomenclature. Mayr (1969: 356–357) expressed this concern citing Myers and Leviton (1962: 290) who stated that: "An extension of priority to family

names will take zoologists into a maze of old group names which often cannot be clearly recognized as of familial (or any other) hierarchial grade." It should be noted that Myers and Leviton almost certainly wrote this comment prior to knowing that priority had been extended to family-group names and other provisions applying to these names in the new Code (ICZN, 1961). Bradley (1962) who knew all too well the problems of extending priority to family-group names argued for quick development of a system of "General conservation of family-group names." Since 1961 when priority was extended to family-group names, this provision of the Code has been largely ignored by most zoologists because of the belief that it will cause more problems than advantages. Even workers who accepted and strongly advocated the extension of priority to family-group names have not been willing to undertake the arduous task of searching the early zoological literature for the original publication of these names in order to apply priority properly. Moreover, it should be mentioned most emphatically that even if they wished to do so, most systematists are not in the position to undertake the work to determine the original publication of family-group names because they lack the required library facilities. Possibly zoologists at only six to ten locations in the world have access to the library facilities required to allow them to undertake the literature research necessary to comply with the extension of priority to family-group names in zoology. These practical considerations are very real indeed and *must* be considered by the ICZN in formulating rules for maintaining stability in zoological nomenclature. The present provisions relating to family-group names in the third edition of the Code (1985) are simply untenable in the light of the absence of any real knowledge of the history of family-group names in almost all groups of animals, in light of the time and expense needed to obtain this information, and in light of the inability of most zoologists to undertake this task even if they wished to do so.

Two realistic solutions appear to be possible. One is to rescind the decision to extend priority to family-group names and return to practices similar to those used prior to 1961. Many workers would object, and quite rightly so in my opinion, to this solution, arguing that if family-group names are to be included under the provisions of zoological nomenclature, they should be fully covered. The fundamental arguments advanced by Sabrosky (1939, 1947) for a set of regulations governing family-group names in zoology and reflected in the new regulations in the 1961 Code are sound and should be maintained. The second approach is to maintain priority for family-group names independently of that for genus-group names, but to provide a stare decisis (grandfather) clause preserving family-group names in use in 1961 when the new Code came into operation and to add provisions to establish lists of available family-group names in groups of animals without the need of undertake exhaustive surveys such as the present one. The second approach is similar to that wisely proposed by Professor Bradley (1962) but not accepted by the ICZN at that time. I would strongly urge implementation of the second approach by the ICZN without further delay. Details on a recommended stare decisis clause are provided immediately below.

The wording of rules for the development of a list of established family-group names is most difficult if one wishes to achieve a balance between acceptability and accuracy on the one hand and a reasonable amount of work on the other. These lists should be for taxa corresponding to recognized disciplines within zoology, generally either for classes or orders (insects) and developed under the auspices of an international body, such as a recognized specialty subcommittee of the ICZN or a committee of an international congress or a committee of an international society. The list should be widely circulated prior to publication and then published in a form which can be obtained readily by specialists around the world. Finally, application to have the list accepted as official must be made to the ICZN. The names on the list should include all valid names for all family-level taxa currently recognized in the group and all other available and unavailable names for family-level taxa that are known to systematists of that group, including known synonyms, names which had been replaced under the provisions of Article 5 of the Règles, and important or well-known unavailable and ob-

jectively invalid names. Each family-group name should include the author's name, date and publication in which it was proposed and the name, author and date of the type genus, all as accurately as possible within the bounds of a reasonable literature search. The regulations covering these lists must not insist that the oldest citation for each name be provided for each name on the list. Nor should these regulations insist that all available family-group names be included in the list. That is, no need should exist to insist on a fully researched list similar to the present one as nothing really is gained by uncovering long lists of junior synonyms which have been long forgotten and which would be, with virtually 100% probability, never used again.

A new article is needed, probably placed in CHAPTER VI. VALIDITY OF NAMES, of the Code, as follows:

Article_____. Base-line lists_____.

(a) To assist the efforts of zoologists in achieving a stable and universal nomenclature, the formation of base-line lists of those zoological names covered by the International Code of Zoological Nomenclature is authorized. Lists may be prepared for groups of animals of sufficient size, either phyla, classes or orders (usually only insects) and may be prepared separately for Recent and for fossil animals. Lists should be prepared separately for species-group, genus-group, and family-group names.

(b) Each list should include all known available names known in the group, including currently valid names, synonyms, and homonyms; rejected, objectively invalid, and unavailable names can be included if desired, but should be clearly noted. For each name, the author, publication, and date of publication must be included. The list should be thorough, but it need not be absolutely complete in covering unknown and forgotten names. The format of the list can vary, i.e., names can be arranged alphabetically or according to some systematic order. If the latter system is used, then an alphabetical index must be included.

(c) Lists should be prepared by an international committee of zoologists, preferably under the authority of an international association, such as the governing bodies of international congresses.

(d) Drafts of each list should be widely circulated among specialists for the group of animals before publication.

(e) Each list should be published and its availability be made widely known. The published list must include its base-line date, that is the last date of publication for names covered on the list. It is strongly recommended that this date be 1 January of the calendar year in which the list is published. If necessary, supplement lists can be published covering names omitted from the primary list.

(f) Formal application must be made to the ICZN requesting that the list of names included in the primary and any supplemental published lists be declared to be the base-line list of names for that taxon.

(g) If accepted by the ICZN, the published lists, both primary and any supplemental ones, will serve as the new base-line of names for that taxon. The names and all information included in these lists on author and dates of publication, will be considered to be fixed for purposes of zoological nomenclature. Names omitted from such an accepted base-line list are unavailable for purposes of zoological nomenclature.

(h) Any modification from accepted base-line lists, such as use of a subsequently discovered name or changes in the author or date of publication, can be made only by formal application to the ICZN.

The list of avian family-group names will be proposed as a base-line list as described in this suggested amendment to the Code.

2. Stare Decisis (Grandfather) Clauses

Because of changes in family-group names in zoology according to the provisions in the Règles [Art. 5] and several informal rules used for over 100 years prior to the publication of the new Code in 1961, definite and strict stare decisis (grandfather) clauses are needed in the Code to conserve family-group names which have become well-established prior to 1961 under the provisions of the Règles, but may lack strict priority. Two such clauses are

needed because of the formal and informal rules governing family-group names prior to 1961. It could be argued that the first of the stare decisis is sufficient to cover all purposes and that the second clause is redundant. Possibly so, but there are two different types of problems affecting the validity of family-group names established prior to 1961 and it is best to treat each separately even if there is some resulting overlap in the rules.

The first stare decisis clause should be inserted into Article 23. Principle of Priority, namely a modification of Article 23(a)(ii) as follows:

(ii) Family-group names in use as the valid name for family-level taxa on 1 January 1961 are to be given preference to any senior synonyms. Such senior synonyms are not to be used as the valid name for a family-level taxon without formal application to the ICZN. Priority is to be applied to family-group names proposed after 1960. See Article 40a for treatment of family-group names changed prior to 1961 because of synonymy of the type genus.

The second stare decisis clause deals with changes in family-group names made prior to 1961 under Article 5 of the Règles which have been covered in Article 40 of the Code. The wording of Article 40(b) should also be modified to read:

(b) Before 1961.—If the name of the type genus of a family-group name was replaced prior to 1961, then the original family-group name is considered to have been replaced by the family-group name formed using the stem of the replacing generic name (under the provision of Art. 5 of the Règles) and the replacement family-group name is to be maintained with the date of precedence, for purposes of synonymy and homonymy, of the replaced name (for citation of author and date, see Recommendation 40A).

The two existing subsections of Article 40(b) are no longer needed and should be deleted.

These changes are necessary because the current wording of Article 40(b) is ambiguous. The ambiguity is contained in the phrase "the replacement name has won general acceptance"; this ambiguity (= subjectiveness) is attested to by the ICZN because of the provisions of Article 40(b)(ii). The current Article 40(b) is unworkable because there will always be those zoologists who claim that no name in zoological nomenclature has ever won "general acceptance" regardless of how long and how widely it has been used. According to the Règles and the spirit of the Preamble and Article 23(b) of the Code, these replacement names acquire the date of precedence of the original (replaced) family-group name at the moment they first exist (= the time at which the earlier valid name of the nominal genus is replaced by the new valid name). Hence these replacement names are senior to all family-group names proposed subsequently to the original name. Thus if the original replaced name is the senior synonym for a particular family-level taxon, then the replacement family-group name automatically becomes the senior synonym. What is needed is to remove the ambiguity existing in the current Article 40(b).

Thus all replacement family-group names resulting from the provisions of Article 5 of the Règles prior to 1961 when priority was extended to family-group names are to be maintained automatically and it is not necessary to apply to the ICZN for continued use of these names. Rather the opposite action must be taken to use a synonym which had been proposed prior to first use of the replacement family-group name. Such action is proper when the replacement name results in increased instability and lack of universality in nomenclature as has apparently been the case with modifications in family-group names for the Diptera with the discovery of the 1800 Meigen generic names (see Sabrosky, 1939, 1947). The wording of the new clause is that if the name of a type genus has been replaced by another name prior to 1961, the family-group name is considered to have been changed accordingly under the provisions of Article 5 of the Règles, regardless of whether it was actually done formally by some zoologist. Such action should have been undertaken by zoologists prior to 1961 and should be considered automatic to eliminate unnecessary literature searches to determine

whether some worker had actually made the change in a published work.

The reason why I propose these two stare decisis clauses is that no real need exists for zoologists to undertake a full review of family-group names as was done in the present monograph to assure stability of well-established family-group names. Full surveys can still be undertaken at the decision of the worker, but is not essential. Little actual value is gained by such a review compared to the huge amount of work needed to obtain information on the origin and history of the family-group names. I state this position most emphatically, based on my experience in preparing the present list of avian family-group names. Certainly some interesting knowledge of the history of avian classification and nomenclature has been learned during this study. And, although it is nice to have the detailed history of avian family-group names, the amount of effort put into this monograph is simply well out of proportion to the information gained. If they wish to do so, zoologists can still undertake a complete analysis of family-group names for particular groups. However, such an analysis should not be made mandatory by the ICZN.

No doubt, stabilization of avian family-group nomenclature and conservation of well-established names could have been achieved without undertaking this review. This point had been expressed over and over again by Bradley (1962), Myers and Leviton (1962: 290), members of the SCON, and others. In their reports, previous SCONs (prior to 1980) have urged the establishment of a list of conserved avian family-group names without making a detailed survey of these names. On 28 May, 1958, Professor Finn Salomonsen, Chair of the SCON sent to the Secretariat of the ICZN an application developed by Professor Ernst Mayr to place the currently valid family-group names of oscine Passeriformes on the Official List of Conserved Family-Group Names in Zoology [letter from Salomonsen to Hemming, dated 28 May 1958, ZN(S) 1367 from the ICZN Archives]. In his answer, also dated 28 May 1958, Mr. Hemming stated that this and other applications will be turned over to Mr. R. Melville who was just appointed as head of the ICZN Secretariat [ICZN Archives]. This application languished for almost two decade before Mr. Melville informed Professor Salomonsen [letter dated 5 April 1977, ICZN Archives] that the application submitted in 1958 "has not yet the status of an application as we have no information to put before the Commission. A well-researched application would be welcome, however. We need to know for each name, its author and date . . ." Thus, the Secretariat of the ICZN at that time, under Secretary Melville, would not accept an application proposing the establishment of a list of conserved avian family-group names in the absence of a detailed historical survey of these names and their synonyms, but convincing reasons for these requirements were not offered by Melville. That is, *the Secretariat, not the ICZN,* made the decision on whether to consider this application. Having undertaken this survey to ascertain the justification of the position taken by the earlier SCON versus that of the earlier Secretariat of the ICZN, my strong opinion is that no justification existed for the earlier action of the Secretariat. To be sure, information was gained from this survey and analysis, and much of it is quite interesting. But this information is simply not worth the six to eight solid years of effort devoted to this project, and no justification exists to insist that workers in other fields of zoology undertake the same work.

Zoologists should argue strongly that it is imperative for the ICZN to establish rules for zoological nomenclature that provide the basis for stability without the necessity of excessive amounts of research to function under these rules—note the example provided by Bradley (1962). It is simply not valid on the part of the ICZN to insist on extreme amounts of work to establish a stable nomenclature. If the ICZN persists on this point, then systematists and other zoologists will surely rebel and dismiss the existing authority of the ICZN and of the Code. Moreover, it must be noted that historical surveys of family-group names similar to the present one can be done only in a few major cities of the world, definitely fewer than ten, in which access to major natural history libraries with extensive holdings of older literature is available; I could not have undertaken this project successfully if, as a North American, I did

not live in either the New York, Boston, Philadelphia, or Washington region—the northeast megalopolis.

Lastly, under the provisions of the proposed amendment to the Code, it is still possible for zoologists to apply to the ICZN to conserve well-established family-group names which may be junior synonyms to replacement names (under Art. 5 of the Règles) which were never proposed and not used.

3. Conserved Names

The ICZN has wisely attempted in the past to modify the rules to provide that a name placed in an Official List cannot be rejected in the future relative to some other name, as for example, an unknown senior synonym. This decision had not been ratified by the XV International Congress of Zoology in 1958, and hence has consequently lapsed [see ICZN, 1985, Art. 78(f)(iv) and footnote, p. 171; discussion and vote on this topic has not been published because of the absence of a published summary of the 1958 nomenclatural colloquium and meeting of the ICZN at the 1958 zoological congress]. The lack of such a provision strongly undercuts the general goals of zoological nomenclature stated in the Preamble, Article 23(b), and Article 79(a) of the Code which stress the primacy of stability and universality of zoological nomenclature over all other considerations and provisions of the Code, including priority.

The ICZN and zoologists are urged to accept the concept that if a name is conserved and placed in an Official List, then that action is fixed and the conserved name has precedence with respect to all other objective synonyms, including any unknown senior synonyms. Any other approach negates almost completely all of the provisions in the Code dealing with conservation of well-established names in zoological nomenclature, the work of the ICZN in exercising their plenary powers, and the efforts of individual zoologists in researching and preparing applications to the ICZN. Any subsequently discovered senior objective synonyms of a name placed on an Official List should not have precedence over the conserved name. Nomenclatural change in the use of a conserved name should be made only in extreme cases by the ICZN using its plenary powers. Changes in names as a result of taxonomic decisions (subjective synonyms) can still be made even if the name has been placed on an Official List.

Unless this modification is undertaken, then any decision made on the standing of this list of avian family-group names or any future decisions by the ICZN on similar lists for other groups of animals will have no real meaning. Any worker who discovers a previously unknown senior synonyms in the future can simply upset the decision of the ICZN and the existing stability of these names. This means that the efforts put into such work and the hopes of zoologists for stability in family-group nomenclature have really been for naught.

The ICZN is urged to undertake a thorough reanalysis of the meaning of the several lists of conserved names in zoological nomenclature, and to include clear statements on the nature of these lists in the Code. A new article should be inserted into the Code stating that:

> Article _____.
> Any name included in one of the Official Lists of Conserved Names in Zoology cannot be replaced as the valid name by a senior objective synonym without authorization by the International Commission on Zoological Nomenclature.

Proper instructions for the implementation of this new article must also be included in the Code.

4. Generic Versus Family-Group Priority

Perhaps one of the most controversial provisions of the new Code relating to family-group names is Article 40, and especially Article 40(a), which states:

> (a) After 1960.—When, after 1960, the generic name on which a valid family-group name is based is rejected as a junior synonym, that family-group name is not to be replaced unless the conditions of Subsection (i) apply.
> (i) If the senior generic synonym is itself the basis of a family-group name, or if a reclassification also involves other family-group names, the Principle of Priority applies to all the family-group names concerned [Art. 23d].

Hence if the name of the type genus is rejected as a junior synonym, the senior generic synonym becomes the valid name of the nominal (= type) genus for the family-group name, but the family-group name remains unchanged. Note that the nominal genus remains the same, only its name changes. One example is the family-group name Neosittinae which was originally based on the nominal genus *Neositta* Hellmayr, 1901. Many avian systematists (post 1960) argue that *Neositta* Hellmayr, 1901 and *Daphoenositta* De Vis, 1897 should be merged into the same genus for which the valid name would be *Daphoenositta*. The family-group name would remain the Neosittinae and the nominal (= type) genus (the name bearer) remains *Neositta* Hellmayr, 1901, but the name of the type genus would be *Daphoenositta* De Vis 1897, not *Neositta*. The name of the nominal genus for this family-group name could shift back and forth depending on the taxonomic opinions as to the distinctiveness of the genera *Neositta* and *Daphoenositta*, yet the name of the family remains the same. Sabrosky (1939, 1947) was the first to argue forcefully and correctly, in my opinion, for this provision of the Code, pointing out that this approach would increase stability of family-group names. The controversy surrounding this provision stems almost entirely from the fact that zoologists are accustomed to the valid name of family-level taxa being concordant with those of the nominal genus, but without considering all of the negative consequences of this practice.

Justification for this provision lies in the position that the type for a taxonomic name is an object, that is, the genus, not the generic name, is the type for a family-group name. But the type genus serves a second function of being the name-giver for the family-group name (see below, Section B.4). Once this role as the name-giver has been fulfilled at the time of publication of the new family-group name, the family-group name exists independently of the generic name and the role of the type genus as name-giver is terminated forever. If priority is to be extended to family-group names, then priority of the family-group name must be independent of priority of the name of its generic type, just as much as priority of generic names is independent of priority of the name of its type species. This severance between the roles of name-bearer and name-giver of the type genus is completely correct according to the basic logic of zoological nomenclature, but this approach is directly counter to the provisions of Article 5 of the Règles which retains the name-giver role of the type genus forever and conjoins the priority of the name of the generic type and of the family-group name. Article 5 of the Règles, although based on a long existing nomenclatural tradition, is clearly at odds with basic ideas of nomenclature; the fact that it was never modified prior to the publication of the new Code in 1961 demonstrates the lack of attention given by systematists and nomenclaturists to family-group names.

No explanations of this modification of the name-giver role of the type genus and of the severance of priority for the names of the generic type and of the family group were provided in any edition of the new Code, adding to the confusion of systematists and resulting in unnecessary opposition by large numbers of zoologists to this new provision (see below, Section VI. B.4). Although the decision to sever priority of family-group names from that of the type genera was correct, the ICZN erred seriously in not providing explanations of the distinction between priority of generic and family-group names and of the distinction between the roles of the type genus as the name-bearer and as the name-giver (see below). This should be rectified in future editions of the Code.

5. Roles of the Type Genus

The type concept in zoological nomenclature is a most central one without which the entire system would collapse. The type, be it the holotype for species-group names, the type species for generic-group names, or the type genus for family-group names, serves the role of the name-bearer for the taxonomic name. To serve this role, the type must be a definite object—a particular specimen properly indicated as the type for a species-group name, a particular species as the type for a generic-group name, and a particular genus as the type for a family-group name. Hence, knowing the type of a name, the specimen or the type species or type genus, it is possible for

a zoologist to identify additional members of the taxon to which the name applies. The history of zoology is filled with confusion resulting from "misidentified" type specimens (this commonly used expression is technically wrong as type specimens cannot be misidentified, but it is a simpler terminology than the more correct phrase of "name misapplied to members of a taxon different than the one to which the type specimen belongs").

The type genus for a family-group name possesses a second role not shared with the holotype or the type species, in that it serves as the name-giver for the family-group name. This role is clearly stated in the Règles [Art. 4] and in Article 11(f)(i)(1) of the Code (ICZN, 1985) on availability and in Article 29 on formation of family-group names, but the relationship between the roles of the type genus as name-giver and name-bearer is not suitably clarified in the Code. A brief mention is made of the type genus as the name-giver in Article 63 [ICZN, 1985; Chapt. XIV. Types in the Family Group, containing Art. 62-65]. These dual roles of the type genus and their relationship to each other must be detailed, and the consequences of synonymizing the type genus in terms of its role as name-giver clarified. That is, the Code must emphasize that the role of the type genus as name-giver is ephemeral—it exists only at the time when the new family-group name is proposed after which this role disappears. But the role of the type genus as name-bearer is permanent. Thus, it is essential to add to the Code provisions or explanations which will permit individual zoologists to ascertain the original name-giver for a family-group name should the name of the type genus be synonymized subsequently.

It is not an easy task in most, if not all, groups of animals to trace the nomenclatural history of all genera and to determine the reasons for changes in the generic names used earlier. Not all catalogs and revisions in zoological systematics include complete generic synonymies. Considerable clarification could be obtained by adding the following recommendation to Article 40:

Recommendation 40B.
Citation of the genetic type.—If the genetic type is cited, it should include the original name of the nominal type genus and its current valid name if any changes in the name of the type had occurred since publication of the family-group name.

Example.—Neosittinae Ridgway, 1904 (*Neositta* = *Daphoenositta*), or more fully, Neosittinae Ridgway, 1904 (*Neositta* Hellmayr, 1901 = *Daphoenositta* De Vis, 1897).

6. Requirements for Availability

The Code has very strict provisions governing the availability of names in zoological nomenclature. These provisions are essential because zoologists must know unambiguously to which taxon a particular name applies, and hence be able to identify additional specimens as members of that taxon and thereby assign the taxon name to these additional specimens. Names for objects have absolutely no use unless one can identify members of the class bearing the same name and can assign the correct name to all members of this class. The requirements for availability of names in zoological nomenclature changed significantly at the 1927 International Zoological Congress, Budapest, namely that no new generic or specific name published after December 31, 1930, shall have any status of availability without a proper description or reference to such a description (Hemming, 1958a: iv–v). The exact wording in the revised Règles (Hemming, 1958a: xvii) is:

VII. The Law of Priority

Article 25.—
The valid name of a genus or species can be only that name under which it was first designated in the condition:—

(a) that (prior to January 1, 1931) this name was published; and accompanied by an indication, or a definition, or a description; and,
(b) that the author has applied the principle of binary nomenclature;
(c) but no generic name nor specific name published after December 31, 1930, shall have any status of availability (hence also of validity) under the Rules, unless and until it is published either:—
  (1) with a summary of characters (*seu* diagnosis; *seu* definition; seu condensed description) which differen-

tiate or distinguish the genus or the species from other genera or species;

(2) or with a definite bibliographic reference to such a summary of characters (*seu* diagnosis; *seu* definition; *seu* condensed description); and further,

(3) in the case of a generic name, with the definite unambiguous designation of the type species (*seu* genotype; *seu* autogenotype; *seu* orthotype).

The wording of this article, as amended at the 1927 zoological congress, *applied only to generic and specific names*. Nothing in its wording can be interpreted as applying to family-group names. No significant changes were made in Article 25(c) or in the requirements for availability of family-group names in the recommendations at the 1953 Colloquium on Nomenclature. A full discussion of the error in the Bradley (1957) draft of the new regulations following the 1953 congress and the modification of Article 13 of the new Code is presented above in Section III.I.2.

This provisions of Article 25 of the Règles were incorporated into Articles 12 and 13 of the new Code (ICZN, 1961, 1964, 1985) which are part of Chapter IV. Criteria of Availability, with the significant modification of now being applied to all names covered by the Code rather than just to generic and specific names. That is, Articles 12 and 13 apply equally to family-group names as well as to specific and generic names. The wording of Article 13, covering names published after 1930 currently reads:

(a) Requirements.—To be available, every new scientific name published after 1930 must satisfy the provisions of Article 11, and must be

(i) accompanied by a description or definition that states in words characteristics that are purported to differentiate the taxon, or

(ii) accompanied by a bibliographic reference to such a published statement even if contained in a work published before 1758 or that is not consistently binominal (for information excluded for reasons of anonymity after 1950 see Art. 14), or

(iii) proposed expressly as a new replacement name (nomen novum) for an available name.

Hence, this provision in the Code [Art. 13] was applied retroactively for 30 years to family-group names, a completely improper action as has been pointed out forcefully by Temple (1962) who showed that this requirement would have serious negative effects on the stability of family-name nomenclature for trilobites. The requirement of a diagnostic description is essential for new names for taxa at the specific level, and possibly also for new taxa at the generic level (the latter is not clear cut). But it is not essential for new names at the family level, and has not been generally done, at least for birds and I suspect for other animal groups, such as the trilobites as pointed out by Temple. If the provisions of Article 13 of the Code are insisted on, then almost all avian family-group names proposed since 1930, including those in common use, would be unavailable and would have to be proposed again. A considerable amount of work would be required to determine which family-group names published since 1930 were accompanied by a proper description and hence are available, and which are not, and when these names were first used with a proper description. The consequences would be an unnecessary chaos for a long period of time.

No need exists for the requirement of a written description providing the characters purporting to differentiate the family-level taxon when proposing a new family-group name if this requirement is for the purposes of being able to assign the new name unambiguously to the correct taxon. All that is needed for unambiguous application of a family-group name is a clear indication of the type genus of the new family-group name. The family-level taxon is clearly and automatically delimited as that group containing the type-genus and other genera assigned to it by individual systematists. To insist on more would be imposing on freedom of taxonomic thought or action which is specifically forbidden in the Preamble of the Code. This was also the clear conclusion and recommendation of the members of the Colloquium on Nomenclature at the XIVth ICZ, 1953.

Article 13 of the Code should be modified as follows:

Article 13. Names published after 1930.—
(a) Requirements.—To be available, every new scientific name in the species-group and genus-group published after 1930 must satisfy the provisions of Article 11, and must be. . . .

A new subsection is needed as follows:

(d) Family-group names.—To be available, every new family-group name published after 1930 must satisfy the provisions of Article 11, and must be accompanied by the fixation of the type (nominal) genus for that family-group name [Chapt. XIV, Art. 62—65]. Fixation of the type genus may be by original designation or by indication. The type (nominal) genus with a valid generic name must be recognized by the author at the time of proposing the new family-group name.

And added to this subsection the following recommendations:

Recommendation 13B. Name of the type-genus.—In proposing a new family-group name, it is recommended that the full name of the type genus, including its author and year of publication, be given.

Recommendation 13C. Description of the family-level taxon.—In proposing a new family-group name, it is strongly urged that the family-level taxon be described properly using characteristics which distinguish it clearly from other family-level taxa.

7. Homonymy of the Type Genus

The Code (ICZN, 1961, 1964, 1985) has conflicting regulations on the status of family-group names based on type (nominal) genera which are junior homonyms and thereby are objectively invalid. Article 39 states clearly that such family-group names are objectively invalid and must be replaced by the next oldest name among its synonyms or by a new replacement name. However, the wording of several other articles states equally clearly that such family-group names are unavailable. Article 52(a) states that an available name which is a junior homonym must not be used as a valid name—hence such names are objectively invalid (see the chart of names, acts and written works in zoological nomenclature, ICZN, 1985: 272). Hence names of type genera which are junior homonyms are objectively invalid. Article 11(f)(i)(1) states that a family-group name when first published (= proposed) must be based on the generic name then used as valid for a genus contained in that family-group taxon. Therefore, if a family-group name is based on a generic name which is a junior homonym (hence is objectively invalid whether or not the zoologist proposing the family-group name was aware of the homonymy of the generic name), then that family-group name is not available because the name of the type genus is invalid. My interpretation is that the family-group names based on generic names which are junior homonyms are unavailable, not simply objectively invalid, and that the Code should state this clearly. A difference does exist between a name being unavailable and being objectively invalid. In the first case, the name simply does not exist for purposes of zoological nomenclature and hence cannot be a senior homonym. In the second case, as an objectively invalid name, it exists for purposes of zoological nomenclature and hence can serve as a senior homonym, thereby causing the rejection of another otherwise useful name. Articles 11(f)(i)(1) and 39 should be modified accordingly. Article 39 should read:

Article 39. Homonymy of the type genus.—
The name of a family group taxon is unavailable [see Art. 11(f)(i)(1)] if the name of its type genus is found to be a junior homonym. If that family-group name is in use it must be replaced either by the next oldest available name from among its synonyms, including those of its subordinate taxa, or, if there is no such name, by a new replacement name based on the valid name of the former type genus.

The necessary modification of Article 11(f)(i)(1) will be provided immediately below.

8. Suppression of the Type Genus

The Code (ICZN, 1961, 1964, 1985) includes clear language on the status of family-

group names based on type (nominal) genera which are unavailable because they are pre-Linnaean or nomina nuda. Unfortunately it is silent on the status of family-group names based on type genera which have been subsequently totally or partially suppressed under the plenary powers of the ICZN [Art. 79(b)(i) and (ii)]. Such suppressed genus-group names are objectively invalid (see the chart of names, acts, and written works in zoological nomenclature, ICZN, 1985: 272) and are subsequently placed on the Official Index of Rejected and Invalid Generic Names in Zoology, but it is not clear whether such names are no longer available for purposes of zoological nomenclature. Therefore, a clear statement is needed that any family-group name based on such type (nominal) genera can no longer be available for purposes of zoological nomenclature because its type genus is objectively invalid for the same reasons given immediately above. A new subsection must be added to Article 11(f) to cover family-group names based on objectively invalid generic names, namely:

Article 11 (f). Family-group names.—

(i) A family-group name must, when first published,

(1) [existing statement]

(2) not be based on the name of a type genus subsequently shown to be a junior homonym or subsequently declared to be totally or partially suppressed under the Plenary Powers [Art. 79], that is, generic names which are objectively invalid for any reason. Such family-group names automatically become unavailable on discovery of the homonymy or on the action of the ICZN suppressing the type genus and must be replaced either by the next oldest available name from among its synonyms, including those of its subordinate taxa, or, if there is no such name, by a new replacement name based on the valid name of the former type genus. [see Art. 39].

The other subsections of Article 11(f) must be renumbered.

VII. AVIAN FAMILY GROUP NAMES AND THEIR SYNONYMS

A. INTRODUCTION

A full explanation of the procedures used to obtain the following list of the currently valid avian family-group names and their synonyms for Recent birds has been given (see above, Section V.B) and will not be repeated here. Please note that this list is unofficial and represents my opinion only. Included names are those published before 1 January 1994. This list will be used as the foundation for an application to the ICZN, and will become official only after a decision is reached by the ICZN.

The names are listed taxonomically according to the sequence to be used in the second edition of the *Reference List of the Birds of the World* (Bock and Gulledge, in prep) which follows closely that used in *Peters' Check-list* and the first edition of the *Reference List* (Morony et al., 1975). Please note that the actual classification and sequence used do not affect the nomenclatural status of the family-group names. The currently valid family-group names are given in FULL CAPITALS and all other available and unavailable (e.g., junior synonyms, homonyms, and suppressed) names, in initial capital and lower case. Each entry follows the same scheme of the family-group name, author, year of publication, and [given within the square brackets] the name of the type genus together with the author and date of publication. Information about the authors and dates of the type genera was taken from standard reference sources, such as the Cat-

alogue of Birds in the British Museum, Peters' Check-list, Neave (1939–1975), Sherborn (1922–32), and Wolters (1975–82) without checking the original publications. Different dates are given for several publications such as those of the Reichenbach multi-part monographs, Cuvier (whether it is 1816 or 1817), etc. in these sources and in the bibliography of this monograph. I have not attempted to ascertain which date is correct because no decisions on availability and/or validity of any family-group names depends on this information.

If a second date is given in parentheses, this is the date of precedence for the family-group name resulting from synonymy of the name of the type genus prior to 1961 (see Recommendation 40a of the Code).

If the entry is enclosed in bold square brackets, the family-group name is unavailable or objectively invalid for some reason. It may be unavailable because it was based on a pre-Linnaean genus, no type genus exists, the name of the type genus is a junior homonym or the name of the type genus has been suppressed by plenary action of the ICZN. Or it may be objectively invalid because the family-group name is a junior homonym or has been suppressed by plenary power of the ICZN.

If the entry is enclosed in bold brackets, the family-group name is older (i.e., a senior synonym) than the currently valid name. These names are of two classes. The first includes those for which the name of the type genus had been shown to be invalid as a junior synonym prior to 1960 and the replacement family-group name had won general acceptance, and is valid for the family-level taxa in this list [Art. 40(a)]. The generic synonymy is given. The second class are senior family-group synonyms which the ICZN will be asked to suppress conditionally in preference to the herein accepted names which possess well-established usage for these groups.

If the entire entry is enclosed in parentheses, the name of the type genus had been rejected as a junior synonym prior to 1960, but no replacement family-group name had been formally proposed, and the original family-group name will be held in abeyance (i.e., in limbo). The generic synonymy is given in the list, and each of these cases are discussed as a problem family-group name. No well-established family-group names are affected by this procedure.

An asterisk at the end of the entry, possibly within the brackets, indicates that some problem exists with the name. The reader should refer to Section VIII.B for comments.

A plus sign after the family or the generic name indicates that this name has been conserved and is in the *Official List of Family-group Names in Zoology* or in the *Official List of Generic Names in Zoology*. It must be emphasized that the latest list of such names (Melville and Smith, 1987) is not complete and hence not all conserved names may be properly denoted.

The numbers given to the extreme right of the entries for the currently valid family-group names indicate the number of family-group synonyms and other names for that taxon. Numbers in square brackets are for families, in parentheses for subfamilies, and in brackets for tribes.

B. AVIAN FAMILY-GROUP NAMES

CLASS AVES

ORDER STRUTHIONIFORMES

TINAMIDAE G. R. Gray, 1840 (1831) [*Tinamus* Hermann, 1783] [5]
{Crypturidae Bonaparte, 1831 [*Cryptura*, Illiger, 1811 = *Tinamus*]*}
Tinamotidae Bonaparte, 1854a [*Tinamotis* Vigors, 1837]*
Eudromiidae Bonaparte, 1854a [*Eudromia* Geoffroy St.-Hilaire, 1832]
Rhynchotidae von Boetticher, 1934 [*Rhynchotus* Spix, 1825]
RHEIDAE Bonaparte, 1849 [*Rhea* Brisson, 1760] [1]
CASUARIIDAE Kaup, 1847 [*Casuarius* Brisson, 1760] [3]

Hippalectryonidae Heine and Reichenow, 1882–90 [*Hippalectryo* Gloger, 1842 = *Casuarius*]
[Celidae Poche, 1904 [*Cela* Möhring, 1752]*]
DROMAIIDAE Huxley, 1868 [*Dromaius* Vieillot, 1816] [2]
Dromiceiidae Richmond, 1908 [*Dromiceius* Vieillot, 1816 = *Dromaius*]
APTERYGIDAE G. R. Gray, 1840 [*Apteryx* Shaw, 1813+] [1]
STRUTHIONIDAE Vigors, 1825a [*Struthio*+ Linnaeus, 1758] [1]

ORDER PROCELLARIIFORMES

DIOMEDEIDAE G. R. Gray, 1840 [*Diomedea*+ Linnaeus, 1758] [2]
Phoebetriidae Mathews, 1946 [*Phoebetria* Reichenbach, 1853]
PROCELLARIIDAE Leach, 1820 [? *Procellaria* Linnaeus, 1758 *aequinoctialis*]* [13]
Puffinidae Reichenbach, 1850b [*Puffinus* Brisson, 1760]
Fulmaridae Bonaparte, 1853a [*Fulmarus*+ Stephens, 1826]
[Prionidae Bonaparte, 1853a [no type genus]*]
Wagellidae Bonaparte, 1854a [*Wagellus* G. R. Gray, 1840 = *Fulmarus*]
Rhantistidae Bonaparte, 1856a [*Rhantistes* Reichenbach, 1853 = *Pterodroma*]*
Aestrelatidae Bonaparte, 1857a [*Aestrelata* Bonaparte, 1856 = *Pterodroma*]*
Daptionidae Coues, 1866 [*Daption* Stephens, 1826]
Bulweriidae Garrod, 1874a [*Bulweria* Bonaparte, 1843]
Pachyptilidae Oliver, 1930 [*Pachyptila* Illiger, 1811]
Macronectidae Verheyen, 1958c [*Macronectes* Richmond, 1905]
Pterodromidae Verheyen, 1958c (1856) [*Pterodroma* Bonaparte, 1856]*
Pagodromidae Verheyen, 1958c [*Pagodroma* Bonaparte, 1856]
HYDROBATIDAE+ Mathews, 1912–13 (1865) [*Hydrobates*+ Boie, 1822+]* [4]
[Procellariidae Bonaparte, 1854a [*Procellaria* Linnaeus, 1766 *pelagica*]*]
{Thalassidromidae Müller, 1865 [*Thalassidroma* Vigors, 1825 = *Hydrobates*]*}
Oceanitidae Forbes, 1882b [*Oceanites* Keyserling and Blasius, 1840]*
PELECANOIDIDAE G. R. Gray, 1871 (1850) [*Pelecanoides* Lacépède, 1799] [2]
{Haladromidae Bonaparte, 1850c [*Haladroma* Illiger, 1811 = *Pelecanoides*]*}

ORDER SPHENISCIFORMES

SPHENISCIDAE Bonaparte, 1831 [*Spheniscus* Brisson, 1760]* [7]
Aptenodytidae Sundevall, 1836 [*Aptenodytes*+ J. F. Miller, 1788]
Dasyramphidae Bonaparte, 1856a [*Dasyramphus* Hambrom and Jacquinot, 1841 = *Pygoscelis*]*
Eudyptidae des Murs, 1860a [*Eudyptes* Vieillot, 1816]
[Dypsicleidae Poche, 1904 [*Dypsicles* Möhring, 1752]*]
Pygoscelidae von Boetticher, 1943 (1856) [*Pygoscelis* Wagler, 1832]
Eudyptulidae von Boetticher, 1943 [*Eudyptula* Bonaparte, 1856]

ORDER GAVIIFORMES

GAVIIDAE+ J.A. Allen, 1897 (1840) [*Gavia*+ J. R. Forster, 1788 *immer*+]* [5]
[Colymbidae Leach, 1820 [*Colymbus* Linnaeus, 1758 or 1766 *immer*]*]
{Eudytidae Brandt, 1840 [*Eudytes* Illiger, 1811 = *Gavia*]*}
{Urinatoridae Baird, Brewer and Ridgway, 1884 [*Urinator* Lacépède, 1799 = *Gavia*]*}
[Cepphidae Poche, 1904 [*Cepphus* Möhring, 1752]*]

ORDER PODICIPEDIFORMES

PODICIPEDIDAE+ Bonaparte, 1831 [*Podiceps*+ Latham, 1787+]* [4]
[Colymbidae Reichenbach, 1849–50 [*Colymbus* Möhring, 1752 *cristatus*]*]
[Colymbidae Reichenow, 1889 [[*Colymbus* Linnaeus, 1758 *cristatus*]*]
Podilymbidae Coues, 1862 [*Podilymbus* Lesson, 1831]*

ORDER PELECANIFORMES

PHAETHONTIDAE Brandt, 1840 [*Phaethon*+ Linnaeus, 1758]* [1]
FREGATIDAE Degland and Gerbe, 1867 (1840) [*Fregata* Lacépède, 1799] [5]
{Tachypetidae Brandt, 1840 [*Tachypetes* Vieillot, 1816 = *Fregata*]*}
[Attagenidae Jerdon, 1864 [*Attagen* Möhring, 1752]*]
Atagenidae G. R. Gray, 1871 [*Atagen* Kaup, 1829 = *Fregata*]*
[Atagenidae Poche, 1904 [*Atagen* Möhring, 1752]*]
PHALACROCORACIDAE Reichenbach, 1849–50 (1836) [*Phalacrocorax* Brisson, 1760]* [9]
{Anhingidae Reichenbach, 1849 (1815) [*Anhinga* Brisson, 1760]*}
{Halieidae Sundevall, 1836 [*Halieus* Illiger, 1811 = *Phalacrocorax*]*}
PHALACROCORACINAE Reichenbach, 1849–50 (1836) [*Phalacrocorax* Brisson, 1760] (6)
{Halieinae Sundevall, 1836 [*Halieus* Illiger, 1811 = *Phalacrocorax*]*}
{Carboninae Brandt, 1840 [*Carbo* Lacépède, 1799 = *Phalacrocorax*]*}
[Graculinae Jerdon, 1864 [*Graculus* Koch, 1816 = *Phalacrocorax*]*]
[Graculinae Poche, 1904 [*Graculus* Möhring, 1752]*]
Leucocarboninae Siegel-Causey, 1988 [*Leucocarbo* Bonaparte, 1857 = *Phalacrocorax*]
ANHINGINAE Reichenbach, 1849 (1815) [*Anhinga* Brisson, 1760]* (3)
{Plotinae Rafinesque, 1815 [*Plotus* Linnaeus, 1766 = *Anhinga*]*}
[Ptynginae Poche, 1904 [*Ptynx* Möhring, 1752]*]
SULIDAE Reichenbach, 1849 (1836) [*Sula* Brisson, 1760]* [3]
{Dysporidae Sundevall, 1836 [*Dysporus* Illiger, 1811 = *Sula*]*}
[Sulariidae Reichenbach, 1849 [? *Sularius* Rafinesque, 1815]*]
PELECANIDAE Rafinesque 1815 [*Pelecanus*+ Linnaeus, 1758]* [1]

ORDER CICONIIFORMES

ARDEIDAE Leach, 1820 [*Ardea*+ Linnaeus, 1758] [10]
BOTAURINAE Reichenbach, 1849–50 [*Botaurus* Stephens, 1819] (1)
ARDEINAE Leach, 1820 [*Ardea*+ Linnaeus, 1758] {9}
TIGRIORNITHINI Bock, 1956 [*Tigriornis* Sharpe, 1895] (2)
Zebrilini Payne and Risley, 1979 [*Zebrilus* Bonaparte, 1855]
NYCTICORACINI Bonaparte, 1854a [*Nycticorax* T. Forster, 1817]* (3)
{Cancromini Bonaparte, 1838b [*Cancroma* Linnaeus, 1766 = *Cochlearius*]*}
{Cochleariini Chenu and des Murs, 1854 (1838) [*Cochlearius* Brisson, 1760]*}
ARDEINI Leach, 1820 [*Ardea*+ Linnaeus, 1758] (4)
(Herodiini Olphe-Galliard, 1891 [*Herodius* Boie, 1822 = *Egretta* T. Forster, 1817]*)
Bubulcini Olphe-Galliard, 1891 [*Bubulcus* Bonaparte, 1855 = *Ardeola*]*
Ardeolini Olphe-Galliard, 1891 [*Ardeola* Boie, 1822]*
SCOPIDAE Bonaparte, 1849 [*Scopus* Brisson, 1760]* [1]
CICONIIDAE Sundevall, 1836 [*Ciconia* Brisson, 1760]* [7]
{Tantalidae Bonaparte, 1831 [*Tantalus* Linnaeus, 1766 = *Mycteria*]*}

Anastomidae Bonaparte, 1849 [*Anastomus* Bonnaterre, 1791]
Ibididae auct., after 1850 [*Ibis* Lacépède, 1799 = *Mycteria*]*
Melanopelargidae Poche, 1904 [*Melanopelargus* Reichenbach, 1852 = *Ciconia*]*
{Mycteriidae Anonymous, 1908b (1831) [*Mycteria* Linnaeus, 1758]*}
Leptoptilidae Verheyen, 1959b [*Leptoptilos* Lesson, 1831]
BALAENICIPITIDAE Bonaparte, 1853a [*Balaeniceps*+ Gould, 1850] [1]
THRESKIORNITHIDAE+ Poche, 1904 [*Threskiornis*+ G. R. Gray, 1842]* [9]
{Plataleidae+ Bonaparte, 1838a [*Platalea*+ Linnaeus, 1758+]*}
THRESKIORNITHINAE+ Poche, 1904 [*Threskiornis*+ G. R. Gray, 1842]* (8)
[? Tantalinae Bonaparte, 1831 [*Tantalus* Linnaeus, 1766 = *Mycteria*]*]
[Ibidinae Degland, 1849 [*Ibis* Cuvier, 1816]*]
{Eudociminae Bonaparte, 1854a [*Eudocimus* Wagler, 1832]*}
{Geronticinae Bonaparte, 1855 [*Geronticus* Wagler, 1832]*}
{Phimosinae Bonaparte, 1855 [*Phimosus* Wagler, 1832]*}
{Falcinellinae des Murs, 1860a [*Falcinellus* Vieillot, 1816 = *Plegadis*]*}
{Plegadinae Mathews, 1913a (1860) [*Plegadis* Kaup, 1829]*}
PLATALEINAE+ Bonaparte, 1838a [*Platalea*+ Linnaeus, 1758]* (1)

ORDER PHOENICOPTERIFORMES

PHOENICOPTERIDAE Bonaparte, 1831 [*Phoenicopterus*+ Linnaeus, 1758] [1]

ORDER FALCONIFORMES

CATHARTIDAE Lafresnaye, 1839 [*Cathartes*+ Illiger, 1811]* [4]
{Vulturidae Fleming, 1822 [*Vultur* Linnaeus, 1758]*}
Sarcoramphidae G. R. Gray, 1844 [*Sarcoramphus* Duméril, 1806]
Coragypidae Verheyen, 1959c [*Coragyps* Geoffroy St.-Hilaire, 1853]
ACCIPITRIDAE Vigors, 1824 [*Accipiter* Brisson, 1760] [45]
PANDIONINAE Bonaparte, 1854a [*Pandion*+ Savigny, 1809] (1)
ACCIPITRINAE Vigors, 1824 [*Accipiter* Brisson, 1760] (44)
{Milvinae Vigors, 1824 [*Milvus* Lacépède, 1799]*}
{Buteoninae Vigors, 1824 [*Buteo* Lacépède, 1799]*}
Aquilinae Vigors, 1825a [*Aquila* Brisson, 1760]
Harpiinae Lesson, 1828 [*Harpia* Vieillot, 1816]
Morphninae Lesson, 1828 [*Morphnus* Dumont, 1816]
Asturinae Lesson, 1828 [*Astur* Lacépède, 1799 = *Accipiter*]
Gypaetinae Bonaparte, 1831 [*Gypaetus*+ Storr, 1784]*
Circinae+ Sundevall, 1836 [*Circus*+ Lacépède, 1799]
Cymindidinae Swainson, 1837a [*Cymindis* Cuvier, 1816 = *Leptodon*]*
Racaminae G. R. Gray, 1840 [*Racama* G. R. Gray, 1840 = *Gypohierax*]*
Gypohieracinae Bonaparte, 1842 (1840) [*Gypohierax* Rüppell, 1836]
Neophroninae Gray and Gray, 1848 [*Neophron*+ Savigny, 1809]*
Thrasaetinae Blyth, 1851 [*Thrasaetos* Bonaparte, 1838 = *Harpia*]
Circaetinae Blyth, 1851 [*Circaetus*+ Vieillot, 1816]
Haliaeetinae Blyth, 1851 [*Haliaeetus*+ Savigny, 1809]
Perninae Blyth, 1851 [*Pernis* Cuvier, 1816]
Elaninae Blyth, 1851 [*Elanus*+ Savigny, 1809]
Gypinae Blyth, 1851 [*Gyps* Savigny, 1809]*
Percnopterinae Reichenbach, 1850a [*Percnopterus* Rafinesque, 1815 = *Neophron*+]
Harpaginae Bonaparte, 1854a [*Harpagus* Vigors, 1824]
Spizaetinae Bonaparte, 1854a [*Spizaetus* Vieillot, 1816]
Polyboroidinae Bonaparte, 1854a [*Polyboroides* Smith, 1829]
Asturininae Bonaparte, 1854e [*Asturina*+ Vieillot, 1816]

Ictiniinae Ridgway, 1873 [*Ictinia* Vieillot, 1816]
Nisinae Ridgway, 1873 [*Nisus* Lacépède, 1799 = *Accipiter*]*
Geranospizinae Ridgway, 1873 [*Geranospiza* Kaup, 1847]
Urubitinginae Ridgway, 1873 [*Urubitinga* de Lafresnaye, 1842 = *Buteogallus*]*
Archibuteoninae Ridgway, 1873 [*Archibuteo* Brehm, 1831 = *Buteo*]
Macheiramphinae Milne Edwards and Grandidier 1879 [*Macheiramphus* Bonaparte, 1850]*
Elanoidinae Shufeldt, 1891 [*Elanoides* Vieillot, 1818]
Rostrhaminae Shufeldt, 1891 [*Rostrhamus* Lesson, 1830]
Gymnogenyinae Dubois, 1904 [*Gymnogenys* Lesson, 1830 = *Polyboroides*]
Craxireginae Poche, 1904 [*Craxirex* Gould, 1839 = *Buteo*]*
Aegypiinae W. P. Sclater, 1924 [*Aegypius* Savigny, 1809]*
Hamirostrinae Verheyen, 1959c [*Hamirostra* Brown, 1846]
Buteogallinae Verheyen, 1959c (1873) [*Buteogallus* Lesson, 1830]
Busarellinae Verheyen, 1959c [*Busarellus* Lafresnaye, 1842]
Harpyopseinae Verheyen, 1959c [*Harpyopsis* Salvadori, 1875]
Necrosyrtinae Verheyen, 1959c [*Necrosyrtes* Gloger, 1814]
Leptodontinae Brodkorb, 1964 (1837) [*Leptodon* Sundevall, 1836]
Pithecophaginae Wolters, 1975 [*Pithecophaga* Ogilvie-Grant, 1896]
Gampsonychinae Wolters, 1975 [*Gampsonyx*+ Vigors, 1825]
Butasturinae Wolters, 1983 [*Butastur* Hodgson, 1843]

SAGITTARIIDAE Finsch and Hartlaub, 1870 (1825) [*Sagittarius* Hermann, 1783] [3]
{Gypogeranidae Vigors, 1825b [*Gypogeranus* Illiger, 1811 = *Sagittarius*]*}
{Serpentariidae Lesson, 1828 [*Serpentarius* Cuvier, 1798 = *Sagittarius*]*}

FALCONIDAE Leach, 1820 [*Falco* Linnaeus, 1758] [12]
POLYBORINAE Bonaparte, 1838a (1837) [*Polyborus* Vieillot, 1816] (6)
{Caracarinae d'Orbigny, 1837 [*Caracara* Merrem, 1826 = *Polyborus*]*}
Herpetotherinae Lesson, 1843 [*Herpetotheres* Vieillot, 1816]
Ibycterinae Bonaparte, 1854a [*Ibycter* Vieillot, 1816 = *Daptrius*]*
Micrasturinae Ridgway, 1873 [*Micrastur* G. R. Gray, 1841]
Daptriinae Hellmayr and Conover, 1949 (1854) [*Daptrius* Vieillot, 1816]
FALCONINAE Leach, 1820 [*Falco* Linnaeus, 1758] (6)
Tinnunculinae Bonaparte, 1854a [*Tinnunculus* Vieillot, 1807 = *Falco*]
Hypotriorchinae Olphe-Galliard, 1889 [*Hypotriorchis* Boie, 1826 = *Falco*]
Cerchneinae Olphe-Galliard, 1889 [*Cerchneis* Boie, 1826 = *Falco*]
Spiziapteryginae Martorelli, 1900 [*Spiziapteryx* Kaup, 1852]
Polihieracinae Peters, 1931 [*Polihierax* Kaup, 1847]

ORDER ANSERIFORMES

ANATIDAE Leach, 1820 [*Anas*+ Linnaeus, 1758]* [60]
{Mergidae Rafinesque, 1815 [*Mergus* Linnaeus, 1758]*}
{Anseridae Vigors, 1825a (1815) [*Anser* Brisson, 1760]*}
ANSERANATINAE Sclater, 1880 [*Anseranas* Lesson, 1828] (1)
DENDROCYGNINAE Reichenbach, 1849–50 [*Dendrocygna* Swainson, 1837] (2)
Thalassornithinae Livezey, 1986 [*Thalassornis* Eyton, 1838]
ANSERINAE Vigors, 1825a (1815) [*Anser* Brisson, 1760]* (10)
{Anseriinae Rafinesque 1815 [*Anseria* Rafinesque, 1815 = *Anser*]*}
Cereopseinae Vigors, 1825b [*Cereopsis*+ Latham, 1801]*
Cygninae Vigors, 1825b [*Cygnus* Bechstein, 1803]*
Berniclinae Reichenbach, 1849–50 [*Bernicla* Boie, 1822 = *Branta*]*
Cygnopsidinae Reichenbach, 1849–50 [*Cygnopsis* Brandt, 1836 = *Anser*]
Olorinae Reichenbach, 1849–50 [*Olor* Wagler, 1832 = *Cygnus*]

Brantinae Olphe-Galliard, 1887 (1849–50) [*Branta* Scopoli, 1769]
Coscorobinae von Boetticher, 1936–38 [*Coscoroba* Reichenbach, 1853]
Stictonettinae von Boetticher, 1950 [*Stictonetta* Reichenbach, 1853]
TADORNINAE Reichenbach, 1849–50 [*Tadorna* Oken, 1817] (8)
Micropterinae Bonaparte, 1856b [*Micropterus* Lesson, 1828 = *Tachyeres*]*
Kazarkinae Olphe-Galliard, 1888 [*Kazarka* Olphe-Galliard, 1888 = *Tadorna*]*
Casarcinae von Boetticher, 1930 [*Casarca* Bonaparte, 1838 = *Tadorna*]*
Chloephaginae von Boetticher, 1942 [*Chloephaga* Eyton, 1838]
Neocheninae Verheyen, 1953 [*Neochen* Oberholser, 1918]
Tachyerinae Verheyen, 1953 (1856b) [*Tachyeres* Owen, 1875]
Cyanocheninae Verheyen, 1953 [*Cyanochen* Bonaparte, 1856]
ANATINAE Leach, 1820 [*Anas*+ Linnaeus, 1758] (26)
Fuligulinae Swainson, 1831 [*Fuligula* Stephen, 1824 = *Aythya*]*
Plectropterinae Eyton, 1838 [*Plectropterus* Stephen, 1824]
Querquedulinae Reichenbach, 1849 [*Querquedula* Stephens, 1824 = *Anas*]
Boschinae Reichenbach, 1849 [*Boschas* Swainson, 1831 = *Anas*]
Dendronessinae Reichenbach, 1849 [*Dendronessa* Swainson, 1832 = *Aix*]*
Marilinae Reichenbach, 1849–50 [*Marila* Reichenbach, 1852 = *Aythya*]*
Marecinae Reichenbach, 1849–50 [*Mareca* Stephens, 1824 = *Anas*]
Dafilinae Reichenbach, 1849–50 [*Dafila* Stephens, 1824 = *Anas*]
Merganettinae Bonaparte, 1853a [*Merganetta* Gould, 1842]
Nettapodinae Bonaparte, 1856b [*Nettapus* Brandt, 1836]
Spatulinae Olphe-Galliard, 1888 [*Spatula* Boie, 1822 = *Anas*]
Chauliodinae Olphe-Galliard, 1888 [*Chauliodus* Swainson, 1831 = *Anas*]
Chenonettinae Salvadori, 1895 [*Chenonetta* Brandt, 1836]
Nyrocinae Peters, 1931 [*Nyroca* Flemming, 1822 = *Aythya*]*
Cairininae von Boetticher, 1936–38 [*Cairina* Flemming, 1822]
Aythyinae Delacour and Mayr, 1945 (1831) [*Aythya* Boie, 1822]
Cheniscinae Mathews, 1946 [*Cheniscus* Eyton, 1838 = *Nettapus*]
Rhodonessinae von Boetticher, 1950 [*Rhodonessa* Reichenbach, 1853]
Malacorhynchinae von Boetticher, 1950 [*Malacorhynchus* Swainson, 1831]
Hymenolaiminae von Boetticher, 1950 [*Hymenolaimus* G. R. Gray, 1843]
Sarkidiornithinae Verheyen, 1953 [*Sarkidiornis* Eyton, 1838]
Sibirionettinae Verheyen, 1953 [*Sibirionetta* von Boetticher, 1929 = *Anas*]
Callonettinae Verheyen, 1953 [*Callonetta* Delacour, 1936]
Amazonettinae Verheyen, 1955 [*Amazonetta* von Boetticher, 1929]
Aiginae Verheyen, 1955 (1849) [*Aix*+ Boie, 1828]
MERGINAE Rafinesque, 1815 [*Mergus* Linnaeus, 1758]* (9)
Oidemiinae Swainson, 1831 [*Oidemia* Flemming, 1822 = *Melanitta*]*
Somateriinae Reichenbach, 1849 [*Somateria* Leach, 1819]
Clangulinae Reichenbach, 1849 [*Clangula* Leach, 1819]
Hareldinae Reichenbach, 1849–50 [*Harelda* Stephens, 1824 = *Clangula*]
Merganserinae MacGillivray, 1852 [*Merganser* Brisson, 1760 = *Mergus*]
Glaucionettinae Olphe-Galliard, 1888 [*Glaucionetta* Stejneger, 1885 = *Bucephala*]*
Bucephalinae Verheyen, 1953 (1888) [*Bucephala* Brandt, 1858]
Melanittinae Verheyen, 1955 (1831) [*Melanitta* Boie, 1822]
OXYURINAE Swainson, 1831 [*Oxyura* Bonaparte, 1828] (4)
Erismaturinae Eyton, 1838 [*Erismatura* Bonaparte, 1832 = *Oxyura*]
Biziurinae Mathews, 1946 [*Biziura* Stephens, 1824]
Heteronettinae von Boetticher, 1950 [*Heteronetta* Salvadori, 1865]
ANHIMIDAE Stejneger, 1885 (1831) [*Anhima* Brisson, 1760] [3]
{Palamedeidae Bonaparte, 1831 [*Palamedea* Linnaeus, 1766 = *Anhima*]*}
[Palamedaeidae Poche, 1904 [*Palamedaea* Möhring, 1752]*]

ORDER GALLIFORMES

MEGAPODIIDAE Lesson, 1831a [*Megapodius* Gaimard, 1823] [6]
Talegallidae Bonaparte, 1842 [*Talegalla* Lesson, 1828]
Leipoidae Reichenbach, 1862 [*Leipoa* Gould, 1840]
Catheturidae Sundevall, 1872 [*Catheturus* Swainson, 1837 = *Alectura*]*
Alecturidae Mathews, 1946 (1872) [*Alectura* Latham, 1824]
Macrocephalidae Verheyen, 1956a [*Macrocephalon* S. Müller, 1846]
CRACIDAE Rafinesque, 1815 [*Crax* Linnaeus, 1758] [4]
Penelopidae Bonaparte, 1831 [*Penelope* Merrem, 1786]
Oreophaseidae Bonaparte, 1853a [*Oreophasis* G. R. Gray, 1844]
(Pipilidae Verheyen, 1956a [*Pipile* Bonaparte, 1856 = *Aburria* Reichenbach, 1853]*)
PHASIANIDAE Horsfield, 1821a [*Phasianus*+ Linnaeus, 1758]* [41]
{Pavonidae Rafinesque, 1815 [*Pavo*+ Linnaeus, 1758]*}
{Tetraonidae Leach, 1820 [*Tetrao* Linnaeus, 1758]*}
MELEAGRIDINAE G. R. Gray, 1840 [*Meleagris*+ Linnaeus, 1758]* (3)
[Galloparinae Chenu and des Murs, 1854 [*Galloparus* Chenu and des Murs, 1854]*]
Gallopavoninae des Murs, 1860a [*Gallopavo Brisson, 1760]*
TETRAONINAE Leach, 1820 [*Tetrao* Linnaeus, 1758]* (5)
Lagopodinae Swainson, 1831 [*Lagopus* Brisson, 1760]
Urogallinae Reichenbach, 1848 [*Urogallus* Scopoli, 1777 = *Tetrao*]
Lyrurinae Olphe-Galliard, 1886 [*Lyrurus* Swainson, 1832 = *Tetrao*]
(Tetrastinae Olphe-Galliard, 1886 [*Tetrastes* Keysserling and Blasius, 1840 = *Bonasa* Stephens, 1819]*)
ODONTOPHORINAE Gould, 1844 [*Odontophorus* Vieillot, 1816] (3)
Callipeplinae Reichenbach, 1848 [*Callipepla* Wagler, 1832]
[Ortyginae Bonaparte, 1850b [*Ortyx* Stephens, 1819 = *Colinus* Goldfuss, 1820]*]
PHASIANINAE Horsfield, 1821a [*Phasianus*+ Linnaeus, 1758]* {27}
{Pavoninae Rafinesque, 1815 [*Pavo*+ Linnaeus, 1758]*}
PERDICINI Blyth, 1833 [*Perdix* Brisson, 1760] (16)
Oreotetragini Cabanis, 1846 [*Oreotetrax* Cabanis, 1846 = *Tetraogallus*]*
Coturnicini Reichenbach, 1848 [*Coturnix*+ Bonnaterre, 1791]*
Francolinini Reichenbach, 1848 [*Francolinus* Stephens, 1819]*
Cryptonychini Reichenbach, 1848 [*Cryptonyx* Temminck, 1815 = *Rollulus*]*
Satyrini Reichenbach, 1848 [*Satyra* Lesson, 1828 = *Tragopan*]*
Alectoridini Reichenbach, 1849–50 [*Alectoris* Kaup, 1829]*
Rollulini Bonaparte, 1850c (1848) [*Rollulus* Bonnaterre, 1791]
Tetraogallini Bonaparte, 1854a (1846) [*Tetraogallus* J. E. Gray, 1832]
Starnini Bonaparte, 1854a [*Starna* Bonaparte, 1838 = *Perdix*]
[Ortygini Chenu and des Murs, 1854 [*Ortyx* Chenu and des Murs, 1854 = *Coturnix*]*]
Caccabidini G. R. Gray, 1855 [*Caccabis* Kaup 1829 = *Alectoris*]
Lerwini von Boetticher, 1939 [*Lerwa* Hodgson, 1837]
Tragopanini von Boetticher, 1939 (1854) [*Tragopan* Cuvier, 1829]
Galloperdicini Wolters, 1976 [*Galloperdix* Blyth, 1844]
Ptilopachini Wolters, 1976 [*Ptilopachus* Swainson, 1837]
PHASIANINI Horsfield, 1821a [*Phasianus*+ Linnaeus, 1758] (11)
{Pavonini Rafinesque, 1815 [*Pavo*+ Linnaeus, 1758]*}
Gallini Brehm, 1831 [*Gallus* Brisson, 1760]*
Lophophorini G. R. Gray, 1841 [*Lophophorus* Temminck, 1813]
(Nycthemerini Reichenbach, 1848 [*Nycthemerus* Swainson, 1837 = *Gennaeus* Wagler, 1832]*)

Polyplectronini Blyth, 1852 [*Polyplectron*+ Temminck, 1813]
Argini Bonaparte, 1854a [*Argus* Temminck, 1813 = *Argusianus*]*
Argusianini Bonaparte, 1856c (1854) [*Argusianus* Rafinesque, 1815]
Afropavonini Verheyen, 1956a [*Afropavo* Chapin, 1936]
Pucrasiini Wolters, 1976 [*Pucrasia* G. R. Gray, 1841]
Ithaginini Wolters, 1976 [*Ithaginis* Wagler, 1822]
NUMIDINAE de Selys Longchamps, 1842 [*Numida*+ Linnaeus, 1766] (3)
Agelastinae Bonaparte, 1853a [*Agelastes* Bonaparte, 1849 (1850)]
[Meleagridinae Chenu and des Murs, 1854 [*Meleagris* Chenu and des Murs, 1854 = *Numida*]*]

ORDER OPISTHOCOMIFORMES

OPISTHOCOMIDAE Swainson, 1837b [*Opisthocomus*+ Illiger, 1811] [1]

ORDER GRUIFORMES

MESITORNITHIDAE Wetmore, 1960 (1850) [*Mesitornis* Bonaparte, 1855] [4]
{Mesitidae Bonaparte, 1850c [*Mesites* Geoffroy-St. Hilaire, 1838 = *Mesitornis*]*}
{Mesoenatidae Reichenbach, 1862 [*Mesoenas* Reichenbach, 1851 (1862) = *Mesitornis*]*}
{Moniidae Verheyen, 1958a [*Monias* Oustalet and Grandidier, 1903]*}
TURNICIDAE G. R. Gray, 1840 (1831) [*Turnix* Bonnaterre, 1791] [4]
{Ortygidae Bonaparte, 1831 [*Ortygis* Illiger, 1811 = *Turnix*]*}
Hemipodiidae Hogg, 1846 [*Hemipodius* Temminck, 1815 = *Turnix*]
Ortyxelidae Le Maout, 1852 [*Ortyxelos* Vieillot, 1825]
PEDIONOMIDAE Bonaparte, 1856c [*Pedionomus* Gould, 1841] [1]
GRUIDAE Vigors, 1825a [*Grus*+ Pallas, 1766]* [5]
GRUINAE Vigors, 1825a [*Grus*+ Pallas, 1766] (4)
Anthropoidinae Bonaparte, 1855 [*Anthropoides* Vieillot, 1816]
[Psophiinae Mathews, 1913b [*Psophia*+ Linnaeus, 1758]*]
Megalornithinae Richmond, 1917 [*Megalornis* G. R. Gray, 1841 = *Grus*]
BALEARICINAE Brasil, 1913 [*Balearica* Brisson, 1760] (1)
ARAMIDAE Bonaparte, 1842 [*Aramus*+ Vieillot, 1816] [1]
PSOPHIIDAE Bonaparte, 1831 [*Psophia*+ Linnaeus, 1758] [1]
RALLIDAE Rafinesque, 1815 [*Rallus*+ Linnaeus, 1758] [11]
HIMANTORNITHINAE Bonaparte, 1856b [*Himantornis* Hartlaub, 1855] (1)
RALLINAE Rafinesque, 1815 [*Rallus*+ Linnaeus, 1758] (9)
Gallinulinae G. R. Gray, 1840 [*Gallinula* Brisson, 1760]
Porphyrioninae Reichenbach, 1849 [*Porphyrio* Brisson, 1760]
(Ocydrominae Bonaparte, 1850c [*Ocydromus* Wagler, 1830 = *Gallirallus* Lafresnaye, 1841]*)
Tribonychinae Bonaparte, 1856b [*Tribonyx* DuBus, 1840]
(Zaporniinae des Murs, 1860a [*Zapornia* Stephens, 1824 = *Porzana*+ Vieillot, 1816]*)
Crecinae Olphe-Galliard, 1887 [*Crex* Bechstein, 1803]
Ortygometridae Sharpe, 1891 [*Ortygometra* T. Forster, 1817 = *Crex*]
Sarothrurinae Verheyen, 1957b [*Sarothrura* Heine, 1890]
FULICINAE Nitzsch, 1829 [*Fulica*+ Linnaeus, 1758] (1)
HELIORNITHIDAE G. R. Gray, 1840 [*Heliornis*+ Bonnaterre, 1791] [3]
{Podoanidae Brandt, 1840 [*Podoa* Illiger, 1811 = *Heliornis*]*}
Podicidae Sharpe, 1891 [*Podica* Lesson, 1831]
RHYNOCHETIDAE Carus, 1868 [*Rhynochetos* Verreaux and des Murs, 1860]* [1]
EURYPYGIDAE Selby, 1840 [*Eurypyga*+ Illiger, 1811] [1]

CARIAMIDAE Bonaparte, 1850b (1836) [*Cariama*+ Linnaeus, 1766] [3]
{Dicholophidae Sundevall, 1836 [*Dicholophus* Illiger, 1811 = *Cariama*]*}
Microdactylidae Le Maout, 1852 [*Microdactylus* Geoffroy St.-Hilaire, 1809 = *Cariama*]
OTIDIDAE Rafinesque, 1815 [*Otis* Linnaeus, 1758] [3]
Neotididae Verheyen, 1957b [*Neotis* Sharpe, 1893]
Lissotididae Verheyen, 1957b [*Lissotis* Reichenbach, 1848]

ORDER CHARADRIIFORMES

JACANIDAE Chenu and des Murs, 1854 (1840) [*Jacana* Brisson, 1760] [2]
{Parridae G. R. Gray, 1840 [*Parra* Linnaeus, 1766 = *Jacana*]*}
ROSTRATULIDAE Mathews, 1913–14 (1855) [*Rostratula* Vieillot, 1816] [2]
{Rhynchaeidae Brehm, 1855 [*Rhynchaea* Cuvier, 1817 = *Rostratula*]*}
DROMADIDAE G. R. Gray, 1840 [*Dromas*+ Paykull, 1805] [2]
[Ardeolidae Reichenbach, 1849–50 [no type genus]*]
HAEMATOPODIDAE Bonaparte, 1838b [*Haematopus*+ Linnaeus, 1758] [2]
Ostralegidae Reichenbach, 1849 [*Ostralega* Brisson, 1760 = *Haematopus*]*
IBIDORHYNCHIDAE Bonaparte 1856d [*Ibidorhyncha*+ Vigors, 1830–31] [1]
RECURVIROSTRIDAE Bonaparte, 1831 [*Recurvirostra*+ Linnaeus, 1758] [3]
Himantopodidae Selby, 1840 [*Himantopus* Brisson, 1760]
Avocettidae Reichenbach, 1849 [*Avocetta* Brisson, 1760 = *Recurvirostra*]*
BURHINIDAE Mathews, 1912a (1840) [*Burhinus*+ Illiger, 1811] [3]
{Oedicnemidae G. R. Gray, 1840 [*Oedicnemus*+ Temminck, 1815 = *Burhinus*+]*}
{Esacidae Blyth, 1852 [*Esacus* Lesson, 1831]*}
GLAREOLIDAE Brehm, 1831 [*Glareola* Brisson, 1760] [6]
CURSORIINAE G. R. Gray, 1840 [*Cursorius* Latham, 1790] (3)
Pluvianinae Reichenbach, 1848 [*Pluvianus* Vieillot, 1816]
Tachydrominae Reichenbach, 1849 [*Tachydromus* Illiger, 1811 = *Cursorius*]
GLAREOLINAE Brehm, 1831 [*Glareola* Brisson, 1760] (3)
Tracheliinae Mathews, 1912a [*Trachelia* Scolopi, 1769 = *Glareola*]
Stiltiinae Wolters, 1975 [*Stiltia* G. R. Gray, 1845]
CHARADRIIDAE Leach, 1820 [*Charadrius* Linnaeus, 1758]* [11]
VANELLINAE Bonaparte, 1842 [*Vanellus* Brisson, 1760] (6)
Hoplopterinae Bonaparte, 1856b [*Hoplopterus* Bonaparte, 1831 = *Vanellus*]
Sarciophorinae Bonaparte, 1856b [*Sarciophorus* G. R. Gray, 1841 = *Vanellus*]
Lobivanellinae Sharpe, 1896 [*Lobivanellus* G. R. Gray, 1841 = *Vanellus*]
Lobibyxinae Low, 1924 [*Lobibyx* Heine, 1890 = *Vanellus*]
Hoploxypterinae Johnsgard, 1981 [*Hoploxypterus* Bonaparte, 1856 = *Vanellus*]
CHARADRIINAE Leach, 1820 [*Charadrius* Linnaeus, 1758] (5)
Pluvialinae MacGillivray, 1852 [*Pluvialis* Brisson, 1760]
Anarhynchinae Baird, Brewer and Ridgway, 1884 [*Anarhynchus* Quoy and Gaimard, 1830]
Peltohyatinae Sharpe, 1896 [*Peltohyas* Sharpe, 1896]
Pluvianellinae Jehl, 1975 [*Pluvianellus* G. R. Gray, 1846]
SCOLOPACIDAE Rafinesque, 1815 [*Scolopax*+ Linnaeus, 1758]* [26]
TRINGINAE Rafinesque, 1815 [*Tringa*+ Linnaeus, 1758]* {7}
NUMENIINI G. R. Gray, 1840 [*Numenius* Brisson, 1760] (3)
Limosini G. R. Gray, 1841 [*Limosa* Brisson, 1760]
Bartramiini Wolters, 1976 [*Bartramia* Lesson, 1831]
TRINGINI Rafinesque, 1815 [*Tringa*+ Linnaeus, 1758]* (3)
Totanini Swainson, 1831 [*Totanus* Bechstein, 1803 = *Tringa*]*
Erythroscelini Poche, 1904 [*Erythroscelus* Kaup, 1829 = *Tringa*]*
PROSOBONIINI Bonaparte, 1850c [*Prosobonia* Bonaparte, 1850] (1)

ARENARIINAE Stejneger, 1885 (1840) [*Arenaria* Brisson, 1760] (4)
{Strepsilinae G. R. Gray, 1840 [*Strepsilas* Illiger, 1811 = *Arenaria*]*}
[Cinclinae G. R. Gray, 1841 [*Cinclus* Möhring, 1752]*]
Morinellinae Mathews, 1913–14 [*Morinella* Mayer and Wolf, 1810 = *Arenaria*]
PHALAROPODINAE Bonaparte, 1831 [*Phalaropus* Brisson, 1760] (3)
Lobipodinae Reichenbach, 1849 [*Lobipes* Cuvier, 1817 = *Phalaropus*]
Phalaridopodidae Olphe-Galliard, 1888 [*Phalaridopus* Olphe-Galliard, 1888]*
SCOLOPACINAE Rafinesque, 1815 [*Scolopax*+ Linnaeus, 1758] (1)
GALLINAGININAE Olphe-Galliard, 1891 [*Gallinago*+ Brisson, 1760] (4)
Capellinae Mathews, 1946 [*Capella* Frenzel, 1801 = *Gallinago*]
Lymnocryptinae Verheyen, 1958b [*Lymnocryptes* Kaup, 1829]
Limnodrominae Johnsgard, 1981 [*Limnodromus* Wied, 1833]
CALIDRINAE Reichenbach, 1849 [*Calidris* Merrem, 1804]* (7)
[Heteropodinae Reichenbach, 1849 [*Heteropoda* Bonaparte, 1838 = *Calidris*]*]
Aphrizinae Coues, 1884 [*Aphriza* Audubon, 1839]
Machetinae Olphe-Galliard, 1891 [*Machetes* Cuvier, 1816 = *Philomachus*]*
Eroliinae Lowe, 1915 [*Erolia* Vieillot, 1816 = *Calidris*]
Canutinae Oberholser, 1919 [*Canutus* Brehm, 1831 = *Calidris*]
Philomachinae Verheyen, 1958b (1891) [*Philomachus* Merrem, 1804]
THINOCORIDAE Sundevall, 1836 [*Thinocorus* Eschscholtz, 1829]* [2]
Attagidae Reichenbach, 1848 [*Attagis* Geoffroy St.-Hilaire and Lesson, 1830]
CHIONIDAE Lesson, 1828 [*Chionis* J. R. Forster, 1788]* [1]
LARIDAE+ Rafinesque, 1815 [*Larus*+ Linnaeus, 1758]* [11]
STERCORARIINAE G. R. Gray, 1870 (1831) [*Stercorarius* Brisson, 1760] (3)
{Lestridinae Bonaparte, 1831 [*Lestris* Illiger, 1811 = *Stercorarius*]*}
Catharactinae Mathews, 1912a [*Catharacta* Brünnich, 1764]
LARINAE+ Rafinesque, 1815 [*Larus*+ Linnaeus, 1758] {8}
LARINI+ Rafinesque, 1815 [*Larus*+ Linnaeus, 1758] (3)
Xemini Bonaparte, 1853a [*Xema* Leach, 1819]
Pagophilini von Boetticher, 1935 [*Pagophila* Kaup, 1829]
RYNCHOPINI Bonaparte, 1838a [*Rynchops* Linnaeus, 1758]* (1)
STERNINI Vigors, 1825a [*Sterna*+ Linnaeus, 1758] (4)
Anoini Bonaparte, 1854a [*Anous* Stephens, 1826]
Megalopterini Coues, 1863 [*Megalopterus* Boie, 1826 = *Anous*]
Gygini Verheyen, 1959a [*Gygis* Wagler, 1832]
ALCIDAE+ Leach, 1820 [*Alca*+ Linnaeus, 1758] [14]
Uriidae Sundevall, 1836 [*Uria* Brisson, 1760]
Phaleridídae G. R. Gray, 1840 [*Phaleris* Temminck, 1820 = *Aethia*]*
Mormonidae Hogg, 1846 [*Mormon* Illiger, 1811 = *Fratercula*]
[Triolidae Reichenbach, 1849 [*Triole* auct.]*]
Cepphidae Reichenbach, 1849–50 [*Cepphus* Pallas, 1769]*
Simorhynchidae G. R. Gray, 1855 [*Simorhynchus* Merrem, 1819 = *Aethia*]*
[Plautidae Bryant, 1861 [*Plautus*, Klein, 1750]*]
Allidae Olphe-Galliard, 1884 [*Alle*+ Link, 1806]*
Fraterculidae Anonymous, 1886 (1846) [*Fratercula* Brisson, 1760]
Aethiidae Anonymous, 1908 (1840) [*Aethia* Merrem, 1788]
Brachyramphidae Ridgway, 1919 [*Brachyramphus* Brandt, 1837]
Synthliboramphidae Ridgway, 1919 [*Synthliboramphus* Brandt, 1837]
Cerorhincidae Verheyen, 1958d [*Cerorhinca* Bonaparte, 1828]

ORDER COLUMBIFORMES

PTEROCLIDAE Bonaparte, 1831 [*Pterocles* Temminck, 1815]* [2]
Syrrhaptidae Bonaparte, 1831 [*Syrrhaptes*+ Illiger, 1811]

RAPHIDAE Wetmore, 1930 (1835) [*Raphus* Brisson, 1760]* [4]
{Didiidae Swainson, 1835 [*Didus* Linnaeus, 1766 = *Raphus*]*}
[Raphidae Poche, 1904 [*Raphus* Möhring, 1752]*]
Pezophabidae Hachisaka, 1953 [*Pezophaps* Strickland, 1848]
COLUMBIDAE Leach, 1820 [*Columba*+ Linnaeus, 1758] [50]
COLUMBINAE Leach, 1820 [*Columba*+ Linnaeus, 1758] (23)
Turturinae G. R. Gray, 1840 [*Turtur* Boddaert, 1783]
Palumbinae Reichenbach, 1850a [*Palumbus* Kaup, 1829 = *Columba*]
Peristerinae Reichenbach, 1850a [*Peristera* Swainson, 1827 = *Claravis*]*
Zenaidinae Bonaparte, 1853a [*Zenaida* Bonaparte, 1838]
Phabinae Bonaparte, 1853a [*Phaps* Selby, 1835]*
Caloenadinae Bonaparte, 1853a [*Caloenas* G. R. Gray, 1840]
[Verruliinae Chenu and des Murs, 1854 ["*Verrulia*" Flemming, 1822]*]
Macropygiinae Bonaparte, 1854a [*Macropygia* Swainson, 1837]
Starnoenadinae Bonaparte, 1854–55 [*Starnoenas* Bonaparte, 1838]
(Chamaepeliinae Bonaparte, 1854–55 [*Chamaepelia* Swainson, 1827 = *Columbina*]*)
Chalcophabinae Bonaparte, 1854–55 [*Chalcophaps* Gould, 1843]
Geopeliinae Bonaparte, 1854–55 [*Geopelia* Swainson, 1837]
Geotrygoninae Reichenbach, 1862 [*Geotrygon* Gosse, 1847]
Ocyphabinae Reichenbach, 1862 [*Ocyphaps* G. R. Gray, 1842]
(Geophabinae Reichenbach, 1862 [*Geophaps* G. R. Gray, 1842 = *Petrophassa* Gould, 1841]*)
Ectopistinae Salvadori, 1893 [*Ectopistes*+ Swainson, 1827]
Claravinae Richmond, 1917 (1850) [*Claravis* Oberholser, 1899]
Oeninae Verheyen, 1957a [*Oena* Swainson, 1837]
Cosmopeliinae Verheyen, 1957a [*Cosmopelia* Sundevall, 1873 = *Phaps*]
Trugoninae Verheyen, 1957a [*Trugon* G. R. Gray, 1849]
Leucosarciinae Verheyen, 1957a [*Leucosarcia* Gould, 1843]
Gallicolumbinae Verheyen, 1957a [*Gallicolumba* Heck, 1849]
OTIDIPHABINAE Verheyen, 1957a [*Otidiphaps* Gould, 1870] (1)
GOURINAE G. R. Gray, 1840 [*Goura*+ Stephens, 1819]* (5)
{Ptilophyrinae Bonaparte, 1840a [*Ptilophyrus* Swainson, 1837 = *Goura*+]*}
Lophyrinae Le Maout, 1852 [*Lophyrus* Vieillot, 1816 = *Goura*+]
Megapeliinae Sundevall, 1872 [*Megapelia* Kaup, 1836 = *Goura*+]
Microgourinae Richmond, 1908 [*Microgoura* Rothschild, 1904]
DIDUNCULINAE G. R. Gray, 1848 [*Didunculus* Peale, 1848] (2)
{Gnathodontinae Strickland and Melville, 1848 [*Gnathodon* Jardine, 1845 = *Didunculus*]*}
TRERONINAE G. R. Gray, 1840 [*Treron* Vieillot, 1816]* (19)
{Ptilinopodinae Selby, 1835 [*Ptilinopus* Swainson, 1825]*}
{Carpophaginae Selby, 1835 [*Carpophaga* Selby, 1835 = *Ducula*]*}
Lopholaiminae Bonaparte, 1853a [*Lopholaimus* Gould, 1841]
Alectroenadinae Bonaparte, 1853a [*Alectroenas* G. R. Gray, 1840]
Chrysoeninae Bonaparte, 1853a [*Chrysoena* Bonaparte, 1854 = *Ptilinopus*]
Ptilopodinae Bonaparte, 1854a [*Ptilopus* Strickland, 1841 = *Ptilinopus*]
Phapitreroninae Reichenbach, 1862 [*Phapitreron* Bonaparte, 1854]
Leucotreroninae Reichenbach, 1862 [*Leucotreron* Bonaparte, 1854 = *Ptilinopus*]
Vinagininae Reichenbach, 1862 [*Vinago* Cuvier, 1816 = *Treron*]
Osmotreroninae Reichenbach, 1862 [*Osmotreron* Bonaparte, 1854 = *Treron*]
Phalacrotreroninae Reichenbach, 1862 [*Phalacrotreron* Bonaparte, 1854 = *Treron*]
Sphenocercinae Reichenbach, 1862 [*Sphenocercus* G. R. Gray, 1840 = *Treron*]
Zonoenadinae Reichenbach, 1862 [*Zonoenas* Reichenbach, 1853 = *Ducula*]*
{Duculinae Reichenbach, 1862 (1835) [*Ducula* Hodgson, 1836]*}
Myristicivorinae Reichenbach, 1862 [*Myristicivora* Reichenbach, 1853 = *Ducula*]

Muscadivorinae McGregor, 1909 [*Muscadivores* G. R. Gray, 1855 = *Ducula*]
Megaloprepiinae Verheyen, 1957a [*Megaloprepia* Reichenbach, 1853 = *Ptilinopus*]
Hemiphaginae Verheyen, 1957a [*Hemiphaga* Bonaparte, 1854]

ORDER PSITTACIFORMES

PSITTACIDAE Rafinesque, 1815 [*Psittacus*+ Linnaeus, 1758] [60]
PSITTACINAE Rafinesque, 1815 [*Psittacus*+ Linnaeus, 1758] {35}
PLATYCERCINI Selby, 1836 [*Platycercus*+ Vigors, 1825] (6)
Pezoporini Bonaparte, 1838b [*Pezoporus*+ Illiger, 1811]
Melopsittacini Bonaparte, 1857b [*Melopsittacus* Gould, 1840]
Lathamini Verheyen, 1956d [*Lathamus* Lesson, 1830]
Neophemini Wolters, 1975 [*Neophema* Salvadori, 1891]
Geopsittacini Wells and Wellington, 1992 [*Geopsittacus* Gould, 1861]
PSITTACULINI Vigors, 1825b [*Psittacula* Cuvier, 1800] (12)
{Palaeornithini Vigors, 1825b [*Palaeornis* Vigors, 1825 = *Psittacula*]*}
Eclectini Bonaparte, 1854a [*Eclectus*+ Wagler, 1832]
Tanygnathini Bonaparte, 1857c [*Tanygnathus* Wagler, 1832]
Agapornithini Salvin, 1882 [*Agapornis* Selby, 1836]
Cyclopsittacini Salvadori, 1891 [*Cyclopsittacus* Sundevall, 1872 = *Opopsitta*]*
[Buteonini Poche, 1904 [*Buteo* Möhring, 1752]*]
Opopsittini Mathews, 1912a (1891) [*Opopsitta* Sclater, 1860]
Polytelini Mathews, 1916–17 [*Polytelis* Wagler, 1826]
Psittaculirostrini von Boetticher, 1959 [*Psittaculirostris* Gray and Gray, 1859]
Alisterini Brereton, 1963 [*Alisterus* Mathews, 1911]
Psittacellini Wolters, 1975 [*Psittacella* Schlegel, 1871]
PSITTACINI Rafinesque, 1815 [*Psittacus*+ Linnaeus, 1758] (2)
Coracopsini Wolters, 1975 [*Coracopsis* Wagler, 1832]
ARINI G. R. Gray, 1840 (1825) [*Ara* Lacépède, 1799] (15)
{Macrocercini Vigors, 1825b [*Macrocercus* Vieillot, 1816 = *Ara*]*}
[Conurini Bonaparte, 1853a [*Conurus* auct. = *Aratinga*]*]
Anodorhynchini Bonaparte, 1857b [*Anodorhynchus* Spix, 1824]
Sittacini Finsch, 1867 [*Sittace* Wagler, 1832 = *Ara*]
Androglossini Sundevall, 1872 [*Androglossus* Vigors, 1825 = *Amazona*]*
Pyrrhurini Garrod, 1874b [*Pyrrhura* Bonaparte, 1856]
Chrysotini Garrod, 1874b [*Chrysotis* Swainson, 1837 = *Amazona*]*
Pionini Reichenow, 1881 [*Pionus* Wagler, 1832]
Aratingini Reichenow, 1913 [*Aratinga* Spix, 1824]
Amazonini Mathews and Iredale, 1920 (1872) [*Amazona* Lesson, 1830]
Forpini Brereton, 1963 [*Forpus* Boie, 1858]
Brotogeryini Wolters, 1975 [*Brotogeris*+ Vigors, 1825]
Triclariini Wolters, 1975 [*Triclaria* Wagler, 1832]
Pionitini Wolters, 1975 [*Pionites* Heine, 1890]
CACATUINAE G. R. Gray, 1840 (1825) [*Cacatua* Vieillot, 1816]* (15)
{Plyctolophinae Vigors, 1825b [*Plyctolophus* Vieillot, 1816 = *Cacatua*]*}
Calyptorhynchinae Bonaparte, 1853a [*Calyptorhynchus* Desmarest, 1826]
Microglossinae Bonaparte, 1853a [*Microglossus* Geoffroy St.-Hilaire = *Probosciger*]*
Eolophinae Bonaparte, 1857b [*Eolophus* Bonaparte, 1854]
Nymphicinae Bonaparte, 1857b [*Nymphicus* Wagler, 1832]
Camptolophinae Sundevall, 1872 [*Camptolophus* Sundevall, 1872 *Cacatua*]
Plissolophinae Reichenow, 1881 [*Plissolophus* Gloger, 1842 = *Cacatua*]
Calopsittinae Salvadori, 1891 [*Calopsittus* Lesson, 1835 = *Nymphicus*]

Cacatoinae Mathews, 1912a [*Cacatoes* Duméril, 1805 = *Cacatua*]*
Leptolophinae Mathews, 1916–17 [*Leptolophus* Swainson, 1833 = *Nymphicus*]
Kakatoeinae Mathews, 1916–17 [*Kakatoe* Cuvier, 1800 = *Cacatua*]*
Proboscigerinae Mathews, 1916–17 (1853) [*Probosciger* Kuhl, 1820]
(Callocorydontinae Hoppe, 1986 [*Callocorydon* Mathews, 1917 = *Callocephalon*]*)
Callocephaloninae Wells and Wellington, 1992 [*Callocephalon* Lesson, 1837]
MICROPSITTINAE Reichenow, 1881 (1853) [*Micropsitta* Lesson, 1831] (2)
{Nasiterninae Bonaparte, 1853a [*Nasiterna* Wagler, 1832 = *Micropsitta*]*}
STRIGOPINAE Bonaparte, 1849 [*Strigops*+ G. R. Gray, 1845] (2)
Stringopinae Finsch, 1867 [*Stringops* Finsch, 1867 = *Strigops*+]*
NESTORINAE Bonaparte, 1849 [*Nestor* Lesson, 1830] (1)
LORIINAE+ Selby, 1836 [*Lorius*+ Vigors, 1825] (2)
Trichoglossinae Bonaparte, 1849 [*Trichoglossus*+ Vigors and Horsfield, 1826]
PSITTRICHADINAE von Boetticher, 1959 (1854) [*Psittrichas* Lesson, 1831]* (2)
{Dasyptilinae Bonaparte, 1854a [*Dasyptilus* Wagler, 1832 = *Psittrichas*]*}
LORICULINAE Verheyen, 1956d [*Loriculus* Blyth, 1850] (1)

ORDER CUCULIFORMES

MUSOPHAGIDAE Lesson, 1828 [*Musophaga*+ Isert, 1789]* [5]
{Turacidae Rafinesque, 1815 [*Turacus* Cuvier, 1800 = *Tauraco*]}*
Corythaeolidae Verheyen, 1956c [*Corythaeola* Heine, 1860]
Criniferidae Verheyen, 1956c [*Crinifer* Jarocki, 1821]
{Tauracidae Verheyen, 1956c (1815) [*Tauraco* Kluk, 1779]*}
CUCULIDAE Leach, 1820 [*Cuculus*+ Linnaeus, 1758] [25]
CUCULINAE Leach, 1820 [*Cuculus*+ Linnaeus, 1758] (7)
Scythropinae de Selys-Longchamps, 1842 [*Scythrops* Latham, 1790]
Chrysococcyginae Bonaparte, 1854f [*Chrysococcyx* Boie, 1826]
Coccystinae Reichenow, 1884 [*Coccystes* Gloger, 1842 = *Clamator*]*
Eudynameinae Mathews, 1918–19 [*Eudynamys* Vigors and Horsfield, 1826]
Surniculinae Verheyen, 1956c [*Surniculus* Lesson, 1830]
Clamatorinae Wolters, 1976 (1884) [*Clamator*+ Kaup, 1829]
PHAENICOPHAEINAE Horsfield, 1822b [*Phaenicophaeus* Stephen, 1815] (5)
Coccyzinae Swainson, 1837a [*Coccyzus*+ Vieillot, 1816]
Saurotherinae Swainson, 1837b [*Saurothera* Vieillot, 1816]
Zanclostominae Sundevall, 1872 [*Zanclostomus* Swainson, 1837]
Piayinae Verheyen, 1956c [*Piaya* Lesson, 1830]
CROTOPHAGINAE Swainson, 1837a [*Crotophaga*+ Linnaeus, 1758] (2)
Guirinae Sibley, Ahlquist and Monroe, 1988 [*Guira* Lesson, 1830]
NEOMORPHINAE Shelley, 1891 [*Neomorphus* Gloger, 1827]* (6)
{Leptostomatinae Swainson, 1837 [*Leptostoma* Swainson, 1837 = *Geococcyx*]*}
{Diplopterinae P. L. Sclater, 1862 [*Diplopterus* Boie, 1826 = *Tapera*]*}
{Geococcyginae Reichenow, 1884 (1837) [*Geococcyx* Wagler, 1831]*}
Carpococcyginae Verheyen, 1956c [*Carpococcyx* G. R. Gray, 1840]
{Taperinae Verheyen, 1956c (1862) [*Tapera* Thunberg, 1819]*}
COUINAE Bonaparte, 1854f [*Coua* Schinz, 1821] (2)
Sericosominae Cabanis and Heine, 1862–63 [*Sericosomus* Swainson, 1837 = *Coua*]
CENTROPODINAE Horsfield, 1823 [*Centropus* Illiger, 1811]* (3)
[Nisinae Poche, 1904 [*Nisus* Möhring, 1752]*]
Polophilinae Mathews, 1920 [*Polophilus* Leach, 1814 = *Centropus*]

ORDER STRIGIFORMES

TYTONIDAE Mathews, 1912a (1866) [*Tyto* Billsberg, 1828]* [6]
  TYTONINAE Mathews, 1912a (1866) [*Tyto* Billsberg, 1828] (5)
    [Striginae Bonaparte, 1838b [*Strix* auct. (*flammea* auct. = *alba* Scopoli, 1769) = *Tyto*]*]
    {Hybreinae Lilljeborg, 1866 [*Hybris* Nitzsch, 1840 = *Tyto*]*}
    {Aluconinae Coues, 1884 [*Aluco* Fleming, 1822 = *Tyto*]*}
    Flammeinae Anonymous, 1915 [*Flammea* = *Tyto*]
  PHODILINAE Beddard, 1898 [*Phodilus* Geoffroy St.-Hilaire, 1830]* (1)
STRIGIDAE Leach, 1820 [Strix Linnaeus, 1758 (*aluco* Linnaeus, 1758)]* [16]
  BUBONINAE Vigors, 1825b [*Bubo*+ Duméril, 1806]* (11)
    {Nocturinae Vigors, 1825b [*Noctura* Savigny, 1809 = *Athene*]*}
    Surniinae Bonaparte, 1838a [*Surnia* Duméril, 1806]
    Nycteinae Cassin, 1850 [*Nyctea*+ Stephens, 1826]
    Atheninae Blyth, 1852 (1825) [*Athene* Boie, 1822]*
    Otinae Bonaparte, 1854a [*Otus* Pennant, 1769]
    (Ieraglaucinae Bonaparte, 1854a [*Ieraglaux* Kaup, 1851 = *Ninox*]*)
    [Scopinae Bonaparte, 1854a [*Scops* Savigny, 1809 = *Otus*]*]
    Glaucidiinae Sundevall, 1872 [*Glaucidium* Boie, 1822]
    Ephialtinae Olphe-Galliard, 1889 [*Ephialtes* Keysserling and Blasius, 1840 = *Otus*]
    Ketupinae Sharpe, 1899 [*Ketupa* Lesson, 1830]
  STRIGINAE Leach, 1820 [*Strix* Linnaeus, 1758] (5)
    Asioninae Vigors, 1825b [*Asio* Brisson, 1760]*
    Ululinae Bonaparte, 1838b [*Ulula* Cuvier, 1816 = *Strix*]
    Syrniinae Baker, 1835 [*Syrnium* Savigny, 1809 = *Strix*]
    (Nyctalinae Pycraft, 1898 [*Nyctale* Brehm, 1831 = *Aegolius*]*)

ORDER CAPRIMULGIFORMES

STEATORNITHIDAE Bonaparte, 1842 [*Steatornis* Humboldt, 1814] [1]
PODARGIDAE Bonaparte, 1838b [*Podargus* Vieillot, 1818] [2]
  Batrachostomidae Sibley, Ahlquist and Monroe, 1986 [*Batrachostomus*+ Gould, 1838]
NYCTIBIIDAE Chenu and des Murs, 1851 [*Nyctibius* Vieillot, 1816] [1]
AEGOTHELIDAE Bonaparte, 1853a [*Aegotheles*+ Vigors and Horsfield, 1826] [1]
CAPRIMULGIDAE Vigors, 1825a [*Caprimulgus*+ Linnaeus, 1758] [7]
  CHORDEILINAE Cassin, 1851 [*Chordeiles* Swainson, 1831] (2)
    {Podagerinae G. R. Gray, 1847 [*Podager* Wagler, 1832]*}
  CAPRIMULGINAE Vigors, 1825a [*Caprimulgus*+ Linnaeus, 1758] (5)
    Scotornithinae Bonaparte, 1838b [*Scotornis* Swainson, 1837]
    Nyctidrominae Cassin, 1851 [*Nyctidromus* Gould, 1838]
    Semeiophorinae Verheyen, 1956a [*Semeiophorus* Gould, 1838]
    Eurostopodidae Sibley, Ahlquist and Monroe, 1986 [*Eurostopodus* Gould, 1838]

ORDER APODIFORMES

APODIDAE+ Olphe-Galliard, 1887 (1836) [*Apus*+ Scopoli, 1777]* [8]
  {Cypselidae Sundevall, 1836 [*Cypselus* Bonaparte, 1838 = *Apus*]*}
  {Micropodidae Stejneger, 1885 [*Micropus* Wolf, 1810 = *Apus*]*}
  CYPSELOIDINAE Brooke, 1970 [*Cypseloides* Streubel, 1848] (1)
  APODINAE+ Olphe-Galliard, 1887 (1836) [*Apus*+ Scopoli, 1777] {7}
    COLLOCALIINI Bonaparte, 1853a (1852) [*Collocalia*+ G. R. Gray, 1840]* (2)
      {Salanganini Le Maout, 1852 [*Salangana* Streubel, 1848 = *Collocalia*+]*}

CHAETURINI Bonaparte, 1857d [*Chaetura* Stephens, 1826]* (1)
APODINI+ Olphe-Galliard, 1887 (1836) [*Apus*+ Scopoli, 1777] (4)
{Cypselini Sundevall, 1836 [*Cypselus* Bonaparte, 1838 = *Apus*]}
{Micropodini Stejneger, 1885 [*Micropus* Wolf, 1810 = *Apus*]}
Panyptilini Brodkorb, 1940 [*Panyptila* Cabanis, 1847]
HEMIPROCNIDAE+ Oberholser, 1906 (1852) [*Hemiprocne*+ Nitzsch, 1829] [3]
{Macropterygidae Blyth, 1852 [*Macropteryx* Swainson, 1832 = *Hemiprocne*+]*}
{Dendrochelidonidae Bonaparte, 1854a [*Dendrochelidon* Boie, 1832 = *Hemiprocne*+]*}
TROCHILIDAE Vigors, 1825a [*Trochilus* Linnaeus, 1758]* [91]
PHAETHORNITHINAE Jardine, 1833 [*Phaethornis* Swainson, 1827] (4)
Grypinae G. R. Gray, 1848 [*Grypus* Spix, 1824 = *Ramphodon*]*
Glaucidinae Reichenbach, 1853c [*Glaucis* Boie, 1831]
Ramphodontinae Sundevall, 1872 (1848) [*Ramphodon* Lesson, 1830]*
TROCHILINAE Vigors, 1825a [*Trochilus* Linnaeus, 1758] (87)
Lampornithinae Jardine, 1833 [*Lampornis* Swainson, 1827]
Cynanthinae Jardine, 1833 [*Cynanthus* Swainson, 1827]*
Campylopterinae Jardine, 1833 [*Campylopterus* Swainson, 1827]
Mellisuginae G. R. Gray, 1848 [*Mellisuga* Brisson, 1760]
Avocettulinae Reichenbach, 1849 [*Avocettula* Reichenbach, 1849]
Polytminae Reichenbach, 1849 [*Polytmus* Brisson, 1760]*
Patagoninae Bonaparte, 1853a [*Patagona* G. R. Gray, 1840]*
Florisuginae Bonaparte, 1853a [*Florisuga* Bonaparte, 1850]
Amaziliinae Bonaparte, 1853a [*Amazilia* Lesson, 1843]*
Lesbiinae Reichenbach, 1853c [*Lesbia* Lesson, 1833]
Metallurinae Reichenbach, 1853c [*Metallura* Gould, 1847]
Heliantheinae Reichenbach, 1853c [*Helianthea* Gould, 1848 = *Coeligena* Lesson, 1833]*
Hylocharitinae Reichenbach, 1853c [*Hylocharis* Boie, 1831]
Orthorhynchinae Reichenbach, 1853c [*Orthorhynchus* Lacépède 1799]*
(Petasophorinae Reichenbach, 1853c [*Petasophora* G. R. Gray, 1840 = *Colibri* Spix, 1824]*)
(Docimastinae Reichenbach, 1853c [*Docimastes* Gould, 1849 = *Ensifera* Lesson, 1843]*)
Oreotrochilinae Reichenbach, 1853c [*Oreotrochilus* Gould, 1847]
Doryferinae Bonaparte, 1854a [*Doryfera* Gould, 1847]*
Thaumatiinae Burmeister, 1856 [*Thaumatias* Bonaparte, 1850 = *Polytmus* Brisson, 1760]*
Lophornithinae Burmeister, 1856 [*Lophornis* Lesson, 1829]
Heliothrichinae Cabanis and Heine, 1860 [*Heliothryx* Boie, 1831]*
Leucoliinae Mulsant, Verreaux and Verreaux, 1866 [*Leucolia* Mulsant and Verreaux, 1865 = *Amazilia* Lesson, 1843]*
Chlorolampinae Mulsant, Verreaux and Verreaux, 1866 [*Chlorolampis* Cabanis and Heine, 1860 = *Chlorostilbon* Gould, 1853]*
Calliperidiinae Mulsant, Verreaux and Verreaux, 1866 [*Calliperidia* Reichenbach, 1854 = *Heliomaster* Bonaparte, 1850]*
Thaluraniinae Mulsant, Verreaux and Verreaux, 1866 [*Thalurania* Gould, 1848]
Avocettininae Mulsant, Verreaux and Verreaux, 1866 [*Avocettinus* Bonaparte 1850 = *Opisthoprora* Cabanis and Heine, 1860]*
Chrysolampinae Mulsant, Verreaux and Verreaux, 1866 [*Chrysolampis* Boie, 1831]
Clytolaeminae Mulsant, Verreaux and Verreaux, 1866 [*Clytolaema* Gould, 1853]
Diphlogeninae Mulsant, Verreaux and Verreaux, 1866 [*Diphlogena* Gould, 1854 = *Coeligena* Lesson, 1833]*
Euclosiinae Mulsant, Verreaux and Verreaux, 1866 [*Euclosia* Mulsant and Verreaux, 1865 = *Lafresnaye* Bonaparte, 1850]*
Eriocneminae Mulsant, Verreaux and Verreaux, 1866 [*Eriocnemis* Reichenbach, 1849]

Aglaeactinae Mulsant, Verreaux and Verreaux, 1866 [*Aglaeactis* Gould, 1848]
Adelomyiinae Mulsant, Verreaux and Verreaux, 1866 [*Adelomyia* Bonaparte, 1854]
Oxypogoninae Mulsant, Verreaux and Verreaux, 1866 [*Oxypogon* Gould, 1848]
(Platurinae Mulsant, Verreaux and Verreaux, 1866 [*Platurus* Swainson, 1837 = *Discosura* Bonaparte, 1850]*)
Amathusiinae Mulsant, Verreaux and Verreaux, 1866 [*Amathusia* Mulsant and Verreaux, 1865 = *Philodice* Mulsant and Verreaux, 1866]*
Zephyritinae Mulsant, Verreaux and Verreaux, 1866 [*Zephyritis* Mulsant and Verreaux, 1865 = *Calypte* Gould, 1856]*
Selasphorinae Mulsant, Verreaux and Verreaux, 1866 [*Selasphorus* Swainson, 1831 (1832)]
(Ornysmyinae Mulsant, Verreaux and Verreaux, 1866 [*Ornismya* Lesson, 1828 = *Cyanophaia* Reichenbach, 1854]*)
Heliangelinae Sundevall, 1872 [*Heliangelus* Gould, 1848]
Hypermetrinae Sundevall, 1872 [*Hypermetra* Cabanis and Heine, 1860 = *Patagona* G. R. Gray, 1840]*
Panychlorinae Mulsant, 1875 [*Panychlora* Cabanis and Heine, 1860 = *Chlorostilbon* Gould, 1853]*
Eulampinae Mulsant, 1875 [*Eulampis* Boie, 1831]
Ionolaeminae Mulsant, 1875 [*Ionolaima* Reichenbach, 1854 = *Heliodoxa* Gould, 1849]
Heliodoxinae Mulsant, 1875 [*Heliodoxa* Gould, 1853]
Urostictinae Mulsant, 1875 [*Urosticte* Gould, 1853]
Microcherinae Mulsant, 1875 [*Microchera* Gould, 1858]
Schistinae Mulsant, 1875 [*Schistes* Gould, 1851]
Eupogoninae Mulsant, 1875 [*Eupogonus* Mulsant, 1875 = *Chalcostigma* Reichenbach, 1854]*
Belloninae Mulsant, 1875 [*Bellona* Mulsant, 1875 = *Orthorhynchus* Lacépède, 1799]*
Polemistriinae Mulsant, 1875 [*Polemistria* Cabanis and Heine, 1860 = *Lophornis* Lesson, 1829]
Prymnacanthinae Mulsant, 1875 [*Prymnacantha* Cabanis and Heine, 1860 = *Popelairia* Reichenbach, 1854]*
Heliancthininae Mulsant, 1875 [*Heliancthea* Gould, 1848 = *Coeligena* Lesson, 1833]*
Amalusiinae Mulsant, 1875 [*Amalusia* Mulsant, 1875 = *Doricha* Reichenbach, 1853]*
Dorichinae Mulsant, 1875 [*Doricha* Reichenbach, 1854]*
Calliphloxinae Mulsant, 1875 [*Calliphlox* Boie, 1831]
Calyptinae Mulsant, 1875 [*Calypte* Gould, 1856]*
Acesturinae Mulsant, 1875 [*Acestura* Gould, 1861]
Lafresnayinae Eudes-Deslongchamps, 1881, [*Lafresnaya* Bonaparte, 1850]*
Coeligeninae Eudes-Deslongchamps, 1881, [*Coeligena* Lesson, 1833]*
Eugeninae Eudes-Deslongchamps, 1881, [*Eugenes* Gould, 1856]
Eupherusinae Eudes-Deslongchamps, 1881, [*Eupherusa* Gould, 1857]
(Cephalolepinae Boucard, 1893–95 [*Cephalolepis* Loddiges, 1831 = *Stephanoxis* Simon, 1897]*)
Floricolinae Boucard, 1893–95 [*Floricola* Elliot, 1879 = *Heliomaster* Bonaparte, 1850]*
Hemistephaniinae Boucard, 1893–95 [*Hemistephania* Reichenbach, 1854 = *Doryfera* Gould, 1847]*
Eutoxerinae Simon, 1921, [*Eutoxeres* Reichenbach, 1849]
Phaeochroinae Simon, 1921, [*Phaeochroa* Gould, 1861]
Eupetomeninae Simon, 1921 [*Eupetomena* Gould, 1853]
Klaiinae Simon, 1921 [*Klais* Reichenbach, 1844]*
Popelairiinae Simon, 1921 [*Popelairia* Reichenbach, 1854]*
Chlorostilboninae Simon, 1921 [*Chlorostilbon* Gould, 1853]*
Phaeoptilinae Simon, 1921 [*Phaeoptila* Gould, 1861 = *Cynanthus* Swainson, 1827]*
Goldmaniinae Simon, 1921 [*Goldmania* Nelson, 1911]

Agyrtrininae Simon, 1921 [*Agyrtrina* Chubb, 1916 = *Amazilia* Lesson, 1843]*
Chalyburinae Simon, 1921 [*Chalybura* Reichenbach, 1854]
Topazinae Simon, 1921 [*Topaza* Gray, 1840]
Bourcieriinae Simon, 1921 [*Bourcieria* Bonaparte, 1850 = *Coeligena* Lesson, 1833]*
(Eustephaninae Simon, 1921 [*Eustephanus* Reichenbach, 1849 = *Sephanoides* G. R. Gray, 1840]*)
(Spathurinae Simon, 1921 [*Spathura* Gould, 1849 = *Ocreatus* Gould, 1846]*)
Sapphinae Simon, 1921 [*Sappho* Reichenbach, 1949]
Opisthoprorinae Simon, 1921 [*Opisthoprora* Cabanis and Heine, 1860]*
Oreonymphinae Simon, 1921 [*Oreonympha* Gould, 1869]
Augastinae Simon, 1921 [*Augastes* Gould, 1849]
(Loddigornithinae Simon, 1921 [*Loddigiornis* Bonaparte, 1850 = *Loddigesia* Bonaparte, 1850]*)
Heliomasterinae Simon, 1921 [*Heliomaster* Bonaparte, 1850]*
Archilochinae Simon, 1921 [*Archilochus* Reichenbach, 1854]

ORDER COLIIFORMES

COLIIDAE Sundevall, 1836 [*Colius* Brisson, 1760] [2]
Urocoliidae Poche, 1904 [*Urocolius* Bonaparte, 1854 = *Colius*]

ORDER TROGONIFORMES

TROGONIDAE Lesson, 1828 [*Trogon* Brisson, 1760] [3]
Apalodermatidae Sibley and Ahlquist, 1985b [*Apaloderma*+ Swainson, 1833]
Harpactidae Sibley, Ahlquist and Monroe, 1986 [*Harpactes* Swainson, 1833]

ORDER CORACIIFORMES

ALCEDINIDAE Rafinesque, 1815 [*Alcedo* Linnaeus, 1758]* [9]
HALCYONINAE Vigors, 1825a [*Halcyon* Swainson, 1821]* (5)
Alcyoninae Sundevall, 1836 [*Alcyon* Rafinesque, 1815 = *Halcyon*]*
Daceloninae Bonaparte, 1837 [*Dacelo* Leach, 1815]*
Tanysipterinae Cassin, 1852 [*Tanysiptera* Vigors, 1825]
(Ramphalcyoninae Laubmann, 1924 [*Ramphalcyon* Reichenbach, 1851 = *Pelargopsis* Gloger, 1841]*)
ALCEDININAE Rafinesque, 1815 [*Alcedo* Linnaeus, 1758] (3)
Ispidininae Reichenbach, 1851c [*Ispidina* Kaup, 1848]
Ceycinae Chenu and des Murs, 1854 [*Ceyx* Lacépède, 1799]
CERYLINAE Reichenbach, 1851c [*Ceryle* Boie, 1828] (1)
TODIDAE Vigors, 1825a [*Todus* Brisson, 1760]* [1]
MOMOTIDAE G. R. Gray, 1840 (1832–33) [*Momotus* Brisson, 1760] [4]
{Prionitidae Swainson, 1832–33 [*Prionites* Illiger, 1811 = *Momotus*]*}
[Merulidae Poche, 1904 [*Merula* Möhring, 1752]*]
Hylomanidae W. deW. Miller 1915 [*Hylomanes* Lichtenstein, 1839]
MEROPIDAE+ Rafinesque, 1815 [*Merops*+ Linnaeus, 1758]* [5]
Apiasteridae Reichenbach, 1849 [*Apiaster* Brisson, 1760 = *Merops*+]*
Melittotheridae Reichenbach, 1852 [*Melittotheres* Boie, 1828 = *Merops*+]
Phlotridae Reichenbach, 1852 [*Phlotrus* Reichenbach, 1852 = *Merops*+]
Nyctiornithidae Reichenbach, 1852 [*Nyctiornis* Jardine and Selby, 1830]
CORACIIDAE+ Rafinesque, 1815 [*Coracias*+ Linnaeus, 1758]* [5]
CORACIINAE+ Rafinesque, 1815 [*Coracias*+ Linnaeus, 1758] (2)
Eurystominae Lesson, 1828 [*Eurystomus* Vieillot, 1816]

BRACHYPTERACIINAE Bonaparte, 1854g [*Brachypteracias* Lafresnaye, 1834]* (2)
{Atelornithinae Chenu and des Murs, 1852 [*Atelornis* Pucheran, 1846]*}
LEPTOSOMINAE+ Blyth, 1838b [*Leptosomus*+ Vieillot, 1816]* (1)
UPUPIDAE Leach, 1820 [*Upupa*+ Linnaeus, 1758] [2]
Epopidae de Selys-Longchamps, 1839 [*Epops* Morris, 1837 = *Upupa*]*
PHOENICULIDAE Bonaparte, 1831 [*Phoeniculus* Jarocki, 1821] [3]
Irrisoridae Strickland, 1843 [*Irrisor* Lesson, 1831 = *Phoeniculus*]
Rhinopomastidae Sibley and Ahlquist, 1985 [*Rhinopomastus* Jardine, 1828]
BUCEROTIDAE Rafinesque, 1815 [*Buceros* Linnaeus, 1758]* [4]
Bucorvidae Bonaparte, 1854a [*Bucorvus* Lesson, 1830]
Tockidae Bonaparte, 1854a [*Tockus* Lesson, 1830]
Bucoracidae Ogilvie Grant, 1892 [*Bucorax* Sundevall, 1849 = *Bucorvus*]

ORDER PICIFORMES

GALBULIDAE Vigors, 1825a [*Galbula* Brisson, 1760]* [2]
Jacameropidae P. L. Sclater, 1882 [*Jacamerops* Lesson, 1830]
BUCCONIDAE Horsfield, 1821a [*Bucco* Brisson, 1760]* [4]
Tamatiidae Blyth, 1838a [*Tamatia* Lesson, 1831 = *Bucco*]
Cyphidae Poche, 1904 [*Cyphus* Spix, 1824 = *Bucco*]*
Malacoptilidae Ridgway, 1914 [*Malacoptila* G. R. Gray, 1841]
CAPITONIDAE Bonaparte, 1838b [*Capito*+ Vieillot, 1816]* [9]
Megalaimatidae Blyth, 1852 [*Megalaima* G. R. Gray, 1842]
(Pogoniidae Fitzinger, 1856 [*Pogonias* Illiger, 1811 = *Lybius*]*)
(Pogonorhynchidae Marshall and Marshall, 1870 [*Pogonorhynchus* van der Hoeven, 1833 = *Lybius*]*)
Calorhamphidae Mannucci and Simonetta, 1978 [*Calorhamphus* Lesson, 1839]
Lybiidae Sibley and Ahlquist, 1985a [*Lybius* Hermann, 1783]*
Trachyphonidae Prum, 1988 [*Trachyphonus* Ranzani, 1821]*
Gymnobucconidae Prum, 1988 [*Gymnobucco* Bonaparte, 1850]
Semnornithidae Prum, 1988 [*Semnornis* Richmond, 1900]
RAMPHASTIDAE Vigors, 1825a [*Ramphastos* Linnaeus, 1758]* [2]
Pteroglossidae Bonaparte, 1854f [*Pteroglossus*+ Illiger, 1811]
INDICATORIDAE Swainson, 1837a [*Indicator* Stephens, 1815] [2]
Prodotiscidae Roberts, 1922 [*Prodotiscus* Sundevall, 1850]
PICIDAE Leach, 1820 [*Picus* Linnaeus, 1758]* [25]
JYNGINAE Swainson, 1831 [*Jynx*+ Linnaeus, 1758]* (2)
[Torquillinae Degland and Gerbe, 1867 [*Torquilla* auct., not Brisson, 1860]*]
PICUMNINAE G. R. Gray, 1840 [*Picumnus* Temminck, 1825] {2}
PICUMNINI G. R. Gray, 1840 [*Picumnus* Temminck, 1825] (1)
NESOCTITINI Wolters, 1976 [*Nesoctites* Hargitt, 1890] (1)
PICINAE Leach, 1820 [*Picus* Linnaeus, 1758] {21}
[Psilorhinae Reichenow, 1884 [no type genus]*]
[Dendrodrocopinae Olphe-Galliard, 1888 [no type genus]*]
MELANERPINI G. R. Gray, 1846 [*Melanerpes* Swainson, 1832] (2)
Centurini Bonaparte, 1854a [*Centurus* Swainson, 1837 = *Melanerpes*]
PICOIDINI Olphe-Galliard, 1888 (1846) [*Picoides* Lacépède, 1799]* (6)
Apternini Hogg, 1846 [*Apternus* Swainson, 1937 = *Picoides*]
[{Dendrocopini Cabanis and Heine, 1863 [*Dendrocopos* Koch, 1816 = *Picoides*]*}]
[Dendrodrocopini Olphe-Galliard, 1888 [no type genus]*]
Campetherini Ridgway, 1914 [*Campethera* G. R. Gray, 1837]
Dryobatini Ridgway, 1914 [*Dryobates* Boie, 1826 = *Picoides*]
COLAPTINI G. R. Gray, 1840 [*Colaptes*+ Vigors, 1826] (4)

Celeini G. R. Gray, 1840 [*Celeus* Boie, 1831]
Chrysoptilini Bonaparte, 1854a [*Chrysoptilus* Swainson, 1832 = *Colaptes*]
(Dendrobatini Burmeister, 1856 [*Dendrobates* Swainson, 1831 = *Veniliornis* Bonaparte, 1854]*)
DRYOCOPINI G. R. Gray, 1840 [*Dryocopus* Boie, 1826]* (2)
Campephilini Blyth, 1852 [*Campephilus* G. R. Gray, 1840]*
PICINI Leach, 1820 [*Picus* Linnaeus, 1758] (4)
Gecinini G. R. Gray, 1840 [*Gecinus* Boie, 1831 = *Picus*]
(Tigini Bonaparte, 1854a [*Tiga* Kaup, 1836 = *Dinopium* Rafinesque, 1814]*)
Chrysocolaptini Bonaparte, 1854f [*Chrysocolaptes* Blyth, 1843]
HEMICIRCINI Cabanis and Heine, 1863 [*Hemicircus* Swainson, 1837]* (2)
Meiglyptini Short, 1982 [*Meiglyptes* Swainson, 1837]*

ORDER PASSERIFORMES

SUBORDER EURYLAINI

EURYLAIMIDAE Lesson, 1831a [*Eurylaimus*+ Horsfield, 1821] [4]
EURYLAIMINAE Lesson, 1831a [*Eurylaimus*+ Horsfield, 1821] (3)
Smithornithinae Bonaparte, 1853a [*Smithornis* Bonaparte, 1850]
Pseudocalyptomeninae Prum, 1993 [*Pseudocalyptomena* Rothschild, 1909]
CALYPTOMENINAE Bonaparte, 1850a [*Calyptomena* Raffles, 1822] (1)
PHILEPITTIDAE Sharpe, 1870 [*Philepitta* Geoffroy St.-Hilaire, 1838] [3]
PHILEPITTINAE Sharpe, 1870 [*Philepitta* Geoffroy St.-Hilaire, 1838] (2)
Paictinae Sundevall, 1872 [*Paictes* Sundevall, 1872 = *Philepitta*]
NEODREPANIDINAE Shelley, 1880 [*Neodrepanis* Sharpe, 1875]* (1)
PITTIDAE Swainson, 1831 [*Pitta* Vieillot, 1816] [3]
Brachyuridae Blyth, 1852 [*Brachyurus* Thumberg, 1822 = *Pitta*]
Eucichlidae Cabanis and Heine, 1856–60 [*Eucichla* Cabanis and Heine, 1860 = *Pitta*]
ACANTHISITTIDAE Sundevall, 1872 [*Acanthisitta* Lafresnaye, 1842]* [5]
Xenicidae Forbes, 1882a [*Xenicus* G. R. Gray, 1855]*
Acanthidosittidae Newton, 1896 [*Acanthidositta* Buller, 1887 = *Acanthisitta*]*
Xenicornithidae Mathews, 1930 [*Xenicornis* Iredale and Mathews, 1926 = *Xenicus*]
Traversiidae Mathews, 1930 [*Traversia* Rothschild, 1894 = *Xenicus*]

SUBORDER FURNARII*

DENDROCOLAPTIDAE G. R. Gray, 1840 [*Dendrocolaptes* Hermann, 1804]* [7]
Dendrocopidae Bonaparte, 1854a [*Dendrocops* Swainson, 1837 = *Dendrocolaptes*]*
Glyphorhynchidae Sharpe, 1901 [*Glyphorhynchus* Wied, 1831]
Xiphocolaptidae Ridgway, 1911 [*Xiphocolaptes* Lesson, 1840]
Drymornithidae Ridgway, 1911 [*Drymornis* Eyton, 1852]
Sittasomidae Ridgway, 1911 [*Sittasomus* Swainson, 1837]
Dendrocinclidae Ridgway, 1911 [*Dendrocincla* G. R. Gray, 1840]
FURNARIIDAE G. R. Gray, 1840 [*Furnarius* Vieillot, 1816]* [13]
{Scleruridae Swainson, 1827 [*Sclerurus* Swainson, 1827]*}
{Synallaxeidae de Selys-Longchamps, 1839 (1836) [*Synallaxis* Vieillot, 1818]*}
{Upucerthiidae D'Orbigny and Lafresnaye, 1838 [*Upucerthia* Geoffroy St.-Hilaire, 1832]*}
FURNARIINAE G. R. Gray, 1840 [*Furnarius* Vieillot, 1816]* (2)
{Upucerthiinae D'Orbigny and de Lafresnaye, 1838 [*Upucerthia* Geoffroy St.-Hilaire, 1832]*}
SYNALLAXEINAE de Selys-Longchamps, 1839 (1836) [*Synallaxis* Vieillot, 1818]* (4)
{Anabatinae Sundevall, 1836 [*Anabates* Temminck, 1819 = *Synallaxis*]*}

Metopothrichinae Wolters, 1977a [*Metopothrix* Sclater and Salvin, 1866]
Xenerpestinae Wolters, 1977a [*Xenerpestes* Berlepsch, 1886]
PHILYDORINAE Sclater and Salvin, 1873 [*Philydor* Spix, 1824]* (7)
{Sclerurinae Swainson, 1827 [*Sclerurus* Swainson, 1827]*}
{Xenopinae Bonaparte, 1854a [*Xenops* Illiger, 1811]*}
Margarornithinae Ridgway, 1911 [*Margarornis* Reichenbach, 1853]
Pseudocolaptinae Ridgway, 1911 [*Pseudocolaptes* Reichenbach, 1853]
Automolinae Ridgway, 1911 [*Automolus* Reichenbach, 1853]
Pygarrhichadinae Wolters, 1977a [*Pygarrhichas* Burmeister, 1837]
FORMICARIIDAE G. R. Gray, 1840 (1825) [*Formicarius* Boddaert, 1783]* [15]
{Thamnophilidae Swainson, 1824 [*Thamnophilus*+ Vieillot, 1816]*}
{Myiotheridae Vigors, 1825b [*Myiothera* Illiger, 1824 = *Formicarius*]*}
{Drymophilidae Swainson, 1826 [*Drymophila* Swainson, 1824]*}
{Myrmotheridae MacGillivray, 1839 [*Myrmothera* Vieillot, 1816]*}
[Eriodoridae Cabanis, 1847 [*Eriodora* Gloger, 1827 = *Formicivora*]*]
Hypocnemididae Cabanis, 1847 [*Hypocnemis* Cabanis, 1847]
Formicivoridae Bonaparte, 1854a (1847) [*Formicivora* Swainson, 1824]
Myrmornithidae Sundevall, 1872 [*Myrmornis* Hermann, 1783]
Hypsibemonidae Sundevall, 1872 [*Hypsibemon* Cabanis, 1847 = *Grallaria*]*
Conopophagidae Sclater and Salvin, 1873 [*Conopophaga* Vieillot, 1816]
Grallariidae Sclater and Salvin, 1873 (1872) [*Grallaria* Vieillot, 1816]
Pithyidae Ridgway, 1911 [*Pithys* Vieillot, 1818]
Rhopoterpidae Ridgway, 1911 [*Rhopoterpe* Cabanis, 1847 = *Myrmornis*]
Pittasomatidae Ridgway, 1911 [*Pittasoma* Cassin, 1860]
RHINOCRYPTIDAE Wetmore, 1930 (1837) [*Rhinocrypta* G. R. Gray, 1840]* [7]
{Rhinomyidae d'Orbigny and Lafresnaye, 1837 [*Rhinomya* Geoffroy St.-Hilaire, 1832 = *Rhinocrypta*]*}
{Scytalopodidae J. Müller, 1846 [*Scytalopus* Gould, 1837]*}
{Megalonychidae Chenu and des Murs, 1852 [*Megalonyx* Lesson, 1832 = *Pteroptochos*]*}
{Pteroptochidae P. L. Sclater, 1858 (1852) [*Pteroptochos* Kittlitz, 1830]*}
{Hylactidae Reichenow, 1884 [*Hylactes* King, 1831 = *Pteroptochos*]*}
Psilorhamphidae Wolters, 1983 [*Psilorhamphus* Sclater, 1855]

SUBORDER TYRANNI*

TYRANNIDAE Vigors, 1825a [*Tyrannus* Lacépède, 1799]* [25]
{Platyrinchidae Horsfield, 1822b [*Platyrinchus* Desmarest, 1805]*}
ELAENIINAE Cabanis and Heine, 1856–60 [*Elaenia* Sundevall, 1836]* (13)
{Platyrinchinae Horsfield, 1822b [*Platyrinchus* Desmarest, 1805]*}
{Culicivorinae Swainson, 1831 [*Culicivora* Swainson, 1827]*}
[Tyrannulinae Swainson, 1831 [? *Tyrannula* Swainson, 1831 = *Sayornis*]*]
{(Colopterinae Cabanis, 1847 [*Colopterus* Cabanis, 1845 = *Colopteryx* Ridgway, 1888]*)}
{Pipromorphinae Bonaparte, 1853a [*Pipromorpha* G. R. Gray, 1855 = *Mionectes*]*}
{Cyclorhynchinae Bonaparte, 1854a [*Cyclorhynchus* Sundevall, 1836 = *Rhynchocyclus*]*}
(Triccinae Heine and Reichenow, 1882–90 [*Triccus* Cabanis, 1846 = *Todirostrum* Lesson, 1831]*)
Euscarthminae von Ihering, 1904 [*Euscarthmus* Wied, 1831]
Serpophaginae von Ihering, 1904 [*Serpophaga* Gould, 1839]*
{Rhynchocyclinae von Berlepsch, 1907 (1854) [*Rhynchocyclus* Cabanis and Heine, 1859]*}
Corythopidinae Wolters, 1977a [*Corythopis* Sundevall, 1836]
Mionectinae Sibley and Ahlquist, 1985 [*Mionectes* Cabanis, 1844]*
FLUVICOLINAE Swainson, 1832–33 [*Fluvicola* Swainson, 1827] (4)

(Taeniopterinae Bonaparte, 1838b [*Taenioptera* Bonaparte, 1830 = *Xolmis* Boie, 1826]*)
Alectrurinae G. R. Gray, 1847 [*Alectrurus* Vieillot, 1816]
Agriornithinae Chenu and des Murs, 1852 [*Agriornis* Gould, 1839]
TYRANNINAE Vigors, 1825a [*Tyrannus* Lacépède, 1799] (6)
Dasycephalinae Swainson, 1831 [*Dasycephala* Swainson, 1832 = *Attila*]*
Milvulinae Bonaparte, 1854a [*Milvulus* Swainson, 1827 = *Tyrannus*]
Attilinae P. L. Sclater, 1862 (1831) [*Attila* Lesson, 1830]
Pitanginae von Ihering, 1904 [*Pitangus* Swainson, 1826]
Myiarchinae von Berlepsch, 1907 [*Myiarchus* Cabanis, 1844]
TITYRINAE G. R. Gray, 1840 (1832–33) [*Tityra* Vieillot, 1816] (2)
{Psaridinae Swainson, 1832–33 [*Psaris* Cuvier, 1816 = *Tityra*]*}
PIPRIDAE Rafinesque, 1815 [*Pipra* Linnaeus, 1764]* [5]
Schiffornithidae Sibley and Ahlquist, 1985c [*Schiffornis* Bonaparte, 1854]
Ilicuridae Prum, 1992 [*Ilicura* Reichenbach, 1850]
Machaeropteridae Prum, 1992 [*Machaeropterus* Bonaparte, 1854]
Manacidae Prum, 1992 [*Manacus* Brisson, 1760]
COTINGIDAE Bonaparte, 1849 (1822) [*Cotinga* Brisson, 1760]* [14]
{Ampelidae Fleming, 1822 [*Ampelis* Linnaeus, 1766 = *Cotinga*]*}
[Coracinidae Swainson, 1831 [*Coracina*, Temminck, 1823 = *Pyroderus*]*]
{Querulidae Swainson, 1837a [*Querula* Vieillot, 1816]*}
{Pyroderidae G .R. Gray, 1840 [*Pyroderus* G. R. Gray, 1840]*}
{Gymnoderidae Bonaparte, 1840a [*Gymnoderus* Geoffroy St.-Hilaire, 1809]*}
(Heliocheridae Bonaparte, 1853a [*Heliochera* de Filippi, 1847 = *Ampelion* Tschudi, 1845]*)
Rupicolidae Bonaparte, 1853a [*Rupicola* Brisson, 1760]
Lipaugidae Bonaparte, 1854a [*Lipaugus* Boie, 1828]
Iodopleuridae Bonaparte, 1854a [*Iodopleura* Lesson, 1839]
Procniatidae auct., after 1862 [*Procnias* Illiger, 1811]*
(Ptilochloridae P. L. Sclater, 1888 [*Ptilochloris* Swainson, 1837 = *Laniisoma* Swain., 1832]*)
Cephalopteridae Reichenow, 1914 [*Cephalopterus*+ Geoffroy St.-Hilaire, 1809]
Calypturidae Reichenow, 1914 [*Calyptura* Swainson, 1832]
OXYRUNCIDAE Ridgway, 1906 (1831) [*Oxyruncus* Temminck, 1820]* [3]
{Oxyrhynchidae Swainson, 1831 [*Oxyrhynchus* Temminck, 1823 = *Oxyruncus*]*}
{Oxyrhamphidae P. L. Sclater, 1888 [*Oxyrhamphus* Strickland, 1840]*}
PHYTOTOMIDAE Swainson, 1837a [*Phytotoma* Molina, 1782] [1]

SUBORDER OSCINES

MENURIDAE Lesson, 1828 [*Menura* Latham, 1801] [1]
ATRICHORNITHIDAE Stejneger, 1885 (1875) [*Atrichornis* Stejneger, 1885] [2]
{Atrichiidae Newton, 1875 [*Atrichia* Gould, 1844 = *Atrichornis*]*}
ALAUDIDAE Vigors, 1825b [*Alauda*+ Linnaeus, 1758] [8]
Calandritidae Cabanis and Heine, 1850–51 [*Calandritis* Cabanis, 1851 = *Calandrella* Kaup, 1829]*
Certhilaudidae Chenu and des Murs, 1852 [*Certhilauda* Swainson, 1827]
(Pyrrhulaudidae Bonaparte, 1853a [*Pyrrhulauda* Smith, 1839 = *Eremopterix* Kaup, 1836]*)
Calandrellidae Bonaparte, 1853a (1850–51) [*Calandrella* Kaup, 1829]
Galeridídae Olphe-Galliard, 1890 [*Galerida* Boie, 1828]*
Melanocoryphinae Olphe-Galliard, 1890 [*Melanocorypha* Boie, 1828]
Mirafridae Mathews, 1946 [*Mirafra* Horsfield, 1821]
HIRUNDINIDAE Rafinesque, 1815 [*Hirundo* Linnaeus, 1758]* [8]
PSEUDOCHELIDONINAE Shelley, 1896 [*Pseudochelidon* Hartlaub, 1861] (1)
HIRUNDININAE Rafinesque, 1815 [*Hirundo* Linnaeus, 1758] (7)

Progninae Cassin, 1853 [*Progne* Boie, 1826]
(Cotilinae Cassin, 1853 [*Cotile* Boie, 1822 = *Riparia* T. Forster, 1817+]*)
Psalidoprocninae Sharpe, 1870 [*Psalidoprocne* Cabanis, 1850]
(Chelidoninae Olphe-Galliard, 1887 [*Chelidon* Boie, 1822 = *Delichon* Horsfield and Moore, 1854]*)
(Clivicolinae Olphe-Galliard, 1887 [*Clivicola* T. Forster, 1817 = *Riparia* T. Forster, 1817+]*)
(Biblidinae Olphe-Galliard, 1887 [*Biblis* Lesson, 1837 = *Ptyonoprogne* Reichenbach, 1850]*)
MOTACILLIDAE Horsfield, 1821 [*Motacilla*+ Linnaeus, 1758] [2]
Anthidae Bonaparte, 1842 [*Anthus* Bechstein, 1805]
CAMPEPHAGIDAE Vigors, 1825b [*Campephaga*+ Vieillot, 1816]* [4]
(Ceblepyridae Swainson, 1825 [*Ceblepyris* Cuvier, 1816 = *Coracina* Vieillot, 1816]*)
(Graucalidae Blyth, 1852 [*Graucalus* Cuvier, 1816 = *Coracina* Vieillot, 1816]*)
Pericrocotidae Sundevall, 1872 [*Pericrocotus* Boie, 1826]
PYCNONOTIDAE G. R. Gray, 1840 [*Pycnonotus Boie, 1826*]* [9]
{[Brachypodidae Swainson, 1831 [*Brachypus* Swainson, 1824 ?]*]}
{Trichophoridae Swainson, 1831 [*Trichophorus* Temminck, 1821 = *Criniger*]*}
{Ixosidae Bonaparte, 1838b [*Ixos* Temminck, 1825; *virescens*]*}
Hypsipetidae Bonaparte, 1854a [*Hypsipetes* Vigors, 1831 = *Ixos*]
{Crinigeridae Bonaparte, 1854a (1831) [*Criniger* Temminck, 1820]*}
Phyllastrephidae Milne Edwards and Grandidier, 1879 [*Phyllastrephus* Swainson, 1831]
Tyladidae Oberholser, 1917b [*Tylas* Hartlaub, 1862]*
Spizixidae Oberholser, 1919 [*Spizixos* Blyth, 1845]
IRENIDAE Jerdon, 1863 [*Irena* Horsfield, 1821]* [4]
{Phyllornithidae Cabanis, 1847 [*Phyllornis* Temminck, 1829 = *Chloropsis*]*}
Aegithinidae G. R. Gray, 1869 [*Aegithina*+ Vieillot, 1816]*
{Chloropseidae Wetmore, 1960 (1847) [*Chloropsis* Jardine and Selby, 1827]*}
LANIIDAE Rafinesque, 1815 [*Lanius*+ Linnaeus, 1758]* [7]
PRIONOPINAE Bonaparte, 1853a [*Prionops* Vieillot, 1816] (1)
MALACONOTINAE Swainson, 1824 [*Malaconotus* Swainson, 1824] (4)
Laniariinae Shelley, 1896 [*Laniarius* Vieillot, 1816]
Tchagrinae Wolters, 1977a [*Tchagra* Lesson, 1831]
Dryoscopinae Wolters, 1977a [*Dryoscopus* Boie, 1826]
LANIINAE Rafinesque, 1815 [*Lanius* Linnaeus, 1758+] (2)
Corvinellinae Bonaparte, 1854a [*Corvinella* Lesson, 1831]
VANGIDAE Swainson, 1831 [*Vanga* Vieillot, 1816] [6]
Eurycerotidae de Selys-Longchamps, 1842 [*Euryceros* Lesson, 1831]
Falculeidae Chenu and des Murs, 1852 [*Falculea* Geoffroy St.-Hilaire, 1836]
(Artamiidae Hartlaub, 1877 [*Artamia* Lafresnaye, 1842 = *Leptopterus* Bonaparte, 1854]*)
Hypositidae Shelley, 1896 [*Hypositta* Newton, 1881]
Aerocharitidae Sharpe, 1903 [*Aerocharis* Gistel, 1848 = *Euryceros*]
BOMBYCILLIDAE Swainson, 1831 [*Bombycilla* Vieillot, 1807]* [3]
BOMBYCILLINAE Swainson, 1831 [*Bombycilla* Vieillot, 1807] (1)
PTILOGONATINAE Baird, 1858 [*Ptilogonys* Swainson, 1824] (1)
HYPOCOLIINAE Delacour and Amadon, 1949 [*Hypocolius* Bonaparte, 1850] (1)
DULIDAE P. L. Sclater, 1862 [*Dulus* Vieillot, 1816] [1]
PRUNELLIDAE Richmond, 1908 (1840) [*Prunella* Vieillot, 1816] [2]
[Accentoridae G. R. Gray, 1840 [*Accentor* Bechstein, 1802 = *Prunella*]*]
MIMIDAE Bonaparte, 1853a [*Mimus* Boie, 1826] [2]
Toxostomidae Sundevall, 1872 [*Toxostoma* Wagler, 1831]
CINCLIDAE Sundevall, 1836 [*Cinclus* Borkhausen, 1797]* [4]
[Hydrobatidae Degland, 1849 [no type genus]*]

[Hydrobatidae Degland and Gerbe, 1867 [*Hydrobata* Vieillot, 1816 = *Cinclus*]*]
Aquatilidae Poche, 1904 [*Aquatilis* Montagu, 1813 = *Cinclus*]*
TURDIDAE Rafinesque, 1815 [*Turdus* Linnaeus, 1758]* [32]
SAXICOLINAE Vigors, 1825a [*Saxicola* Bechstein, 1803]* (25)
Cossyphinae Vigors, 1825b [*Cossypha* Vigors, 1825]*
Philomelinae Swainson, 1831 [*Philomela* Swainson, 1831 = *Erithacus*]*
Lusciniinae G. R. Gray, 1841 (1831) [*Luscinia* T. Froster, 1817 = *Erithacus*]*
Vitiflorinae Strickland, 1841 [*Vitiflora* T. Forster, 1817 = *Oenanthe*]*
Erithacinae G. R. Gray, 1846 (1831) [*Erithacus* Cuvier, 1800]*
Aedoninae Hogg, 1846 [*Aedon* T. Froster, 1817 = *Erithacus*]
Ruticillinae Olphe-Galliard, 1857 [*Ruticilla* Brehm, 1831 = *Phoenicurus*]*
Cochoinae Jerdon, 1863 [*Cochoa* Hodgson, 1836]*
Myadestinae Baird, 1864 [*Myadestes* Swainson, 1838]
Copsychinae Sundevall, 1872 [*Copsychus* Wagler, 1827]
Brachypteryginae Sundevall, 1872 [*Brachypteryx* Horsfield, 1822]
[Henicurinae Blyth, 1875 [*Henicurus* auct. = *Enicurus*]*]
(Thamnobiinae Sharpe, 1883 [*Thamnobia* Swainson, 1832 = *Saxicoloides* Lesson, 1832]*)
Sialiinae Stejneger, 1883 [*Sialia* Swainson, 1827]
Enicurinae Stejneger, 1885 [*Enicurus* Temminck, 1822]*
Cyaneculinae Olphe-Galliard, 1891 [*Cyanecula* Brehm, 1828 = *Erithacus*]
Pratincolinae Shelley, 1896 [*Pratincola* Koch, 1816 = *Saxicola*]
Grandalinae Oberholser, 1919 [*Grandala* Hodgson, 1843]
Phoenicurinae Baker, 1924 (1857) [*Phoenicurus* T. Forster, 1817]
Erythropygiinae Rheinwald, 1968 [*Erythropygia* Smith, 1836]
Drymodinae Wolters, 1980 [*Drymodes* Gould, 1841]
Oenanthinae Wolters, 1983 (1841) [*Oenanthe* Vieillot, 1816]*
Cercotrichadinae Wolters, 1983 [*Cercotrichas* Boie, 1831]
Neocossyphinae Wolters, 1983 [*Neocossyphus* Fischer and Reichenow, 1884]
TURDINAE Rafinesque, 1815 [*Turdus* Linnaeus, 1758]* (7)
Merulinae Vigors, 1825a [*Merula* Leach, 1816 = *Turdus*]*
Myiophoneinae Bonaparte, 1850a [*Myiophoneus* Temminck, 1822]*
Monticolinae Bonaparte, 1854a [*Monticola* Boie, 1822]
Platycichlinae Stejneger, 1883 [*Platycichla* Baird, 1864]
Zootherinae Murray, 1888 [*Zoothera* Vigors,1832]
Ixocossyphinae Olphe-Galliard, 1891 [*Ixocossyphus* Kaup, 1829 = *Turdus*]
TIMALIIDAE Vigors and Horsfield, 1827 [*Timalia* Horsfield, 1821] [23]
TIMALIINAE Vigors and Horsfield, 1827 [*Timalia* Horsfield, 1821] (19)
Crateropodinae Swainson, 1831 [*Crateropus* Swainson, 1831 = *Turdoides*]*
Leiothrichinae Swainson, 1831 [*Leiothrix* Swainson, 1832]
[Macropodinae Swainson, 1832–33 [no type genus]*]
Garrulacinae Bonaparte, 1850c [*Garrulax* Lesson, 1831]
Napodinae Cabanis and Heine, 1850–51 [*Napodes* Cabanis, 1850 = *Timalia*]
(Cacopittinae Bonaparte, 1854a [*Cacopitta* Bonaparte, 1850 = *Napothera* G. R. Gray, 1842]*)
Chamaeinae Baird, 1858 [*Chamaea* Gambel, 1847]
Pomatorhininae des Murs, 1860a [*Pomatorhinus* Horsfield, 1821]*
Ixulinae Jerdon, 1863 [*Ixulus* Hodgson, 1844 = *Yuhina*]
(Sibiinae Oates, 1889 [*Sibia* Hodgson, 1836 = *Actinodura* Gould, 1836]*)
Turdoidinae Richmond, 1917 (1831) [*Turdoides* Crezschmar, 1827]
Pellorneinae Delacour, 1946 [*Pellorneum* Swainson, 1832]
[Heterophasiinae Berlioz, 1950 [*Heterophasia* Blyth, 1842]*]
Pomatostominae Schodde, 1975 [*Pomatostomus* Cabanis, 1851]
(Illadopseinae Wolters, 1980 [*Illadopsis* Heine, 1859 = *Trichastoma* Blyth, 1842]*)

Yuhininae Wolters, 1980 (1863) [*Yuhina* Hodgson, 1836]
Spelaeornithinae Wolters, 1980 [*Spelaeornis* David and Oustalet, 1877]
Stachyrinae Wolters, 1983 [*Stachyris* Hodgson, 1844]
PARADOXORNITHINAE Horsfield and Moore, 1854 [*Paradoxornis* Gould, 1836]* (3)
Panurinae des Murs, 1860a [*Panurus* Koch, 1816]
Suthorinae Stejneger, 1885 [*Suthora* Hodgson, 1837 = *Paradoxornis*]
PICATHARTINAE Lowe, 1938 [*Picathartes* Lesson, 1828] (1)
TROGLODYTIDAE Swainson, 1831 [*Troglodytes* Vieillot, 1808] [6]
Sphenuridae Blyth, 1852 [*Sphenura* Lichtenstein, 1822 = *Thryothorus*]*
Campylorhynchidae Baird, 1858 [*Campylorhynchus* Spix, 1824]
Thryothoridae des Murs, 1860a (1852) [*Thryothorus* Vieillot, 1816]*
Anorthuridae Poche, 1904 [*Anorthura* Rennie, 1831 = *Troglodytes*]*
SYLVIIDAE Leach, 1820 [*Sylvia* Scopoli, 1769]* [29]
POLIOPTILINAE Baird, 1858 [*Polioptila* Sclater, 1855]* (2)
Ramphocaeninae de W. Miller, 1922 [*Ramphocaenus* Vieillot, 1819]
SYLVIINAE Leach, 1820 [*Sylvia* Scopoli, 1769] (27)
Regulinae Vigors, 1825a [*Regulus* Cuvier, 1800]
Calamoherpinae Bonaparte, 1838b [*Calamoherpe* Boie, 1822 = *Acrocephalus*]*
Phyllopneustinae Bonaparte, 1854a [*Phyllopneuste* Boie, 1828 = *Phylloscopus*]*
Locustellinae Bonaparte, 1854a [*Locustella* Kaup, 1829]
Drymoicinae Bonaparte, 1854a [*Drymoica* Swainson, 1827 = *Prinia*]*
Phylloscopinae Jerdon, 1863 (1854) [*Phylloscopus* Boie, 1826]
Tatarinae G. R. Gray, 1869 [*Tatare* Lesson, 1831 = *Acrocephalus*]*
(Calamodytinae G. R. Gray, 1869 [*Calamodyta* Kaup, 1829 = *Calamodus* Kaup, 1829]*)
Cisticolinae Sundevall, 1872 [*Cisticola* Kaup, 1829]
(Ptenoedinae Sundevall, 1872 [*Ptenoedus* Cabanis, 1851 = *Cincloramphus* Gould, 1838]*)
Megalurinae Blyth, 1875 [*Megalurus* Horsfield, 1821]
Acrocephalinae Salvin, 1882 (1838) [*Acrocephalus* Naumann, 1811]
Bradypterinae Sharpe, 1883 [*Bradypterus* Swainson, 1837]
Eremomelinae Sharpe, 1883 [*Eremomela* Sundevall, 1850]
Alsoecinae Olphe-Galliard, 1891 [*Alsoecus* Kaup, 1829 = *Sylvia*]
(Hypolaidinae Olphe-Galliard, 1891 [*Hypolais* Kaup, 1829 = *Hippolais* Conrad, 1827]*)
Parisomatinae Shelley, 1900 [*Parisoma* Swainson, 1832]
Bowdleriinae Mathews and Iredale, 1913 [*Bowdleria* Rothschild, 1896 = *Megalurus*]
Priniinae Roberts, 1922 (1854) [*Prinia* Horsfield, 1821]
Hyliinae Bannerman, 1923 [*Hylia* Cassin, 1859]
Leptopoecilinae Wolters, 1980 [*Leptopoecile* Severtsov, 1873]
Apalinae Wolters, 1983 [*Apalis* Swainson, 1833]
Orthotominae Wolters, 1983 [*Orthotomus* Horsfield, 1821]
Bathmocercinae Wolters, 1983 [*Bathmocercus* Reichenow, 1895]
Eminiinae Wolters, 1983 [*Eminia* Hartlaub, 1881 = *Hypergerus* Reichenbach, 1850]*
Macrospheninae Wolters, 1983 [*Macrosphenus* Cassin, 1859]
MUSCICAPIDAE Fleming, 1822 [*Muscicapa* Brisson, 1760]* [4]
MUSCICAPINAE Fleming, 1822 [*Muscicapa* Brisson, 1760] (3)
Ficedulinae Reichenbach, 1850a [*Ficedula* Brisson, 1760]
Melaenornithinae Bonaparte, 1854b [*Melaenornis* G. R. Gray, 1840]
PLATYSTEIRINAE Sundevall, 1872 [*Platysteira* Jardine and Selby, 1830] (1)
MALURIDAE Swainson, 1831 [*Malurus* Vieillot, 1816] [3]
[Waluridae Eyton, 1867 [no type genus]*]
Amytornithidae Mathews, 1946 [*Amytornis* Stejneger, 1885]
Stipituridae Sibley and Ahlquist, 1985c [*Stipiturus* Lesson, 1831]
ACANTHIZIDAE Bonaparte, 1854a [*Acanthiza* Vigors and Horsfield, 1827] [7]
ACANTHIZINAE Bonaparte, 1854a [*Acanthiza* Vigors and Horsfield, 1827] (5)

Gerygoninae Mathews, 1919–20 [*Gerygone* Gould, 1841]
Aphelocephalinae Mathews, 1946 [*Aphelocephala* Oberholser, 1899]
Sericornithinae Mathews, 1946 [*Sericornis* Gould, 1838]
Dasyornithinae Sibley and Ahlquist, 1985a [*Dasyornis* Vigors and Horsfield, 1827]
MOHOUINAE Mathews, 1946 (1854a) [*Mohoua* Lesson, 1835] (2)
{Certhiparinae Bonaparte, 1854a [*Certhiparus* Lafresnaye, 1842 = *Mohoua*]*}
EPHTHIANURIDAE Legge, 1887 [*Ephthianura* Gould, 1838] [1]
ORTHONYCHIDAE G. R. Gray, 1840 [*Orthonyx* Temminck, 1820] [6]
Eupetidae Bonaparte, 1850a [*Eupetes* Temminck, 1831]
Psophodidae Bonaparte, 1854a [*Psophodes* Vigors and Horsfield, 1827]
[Ornythoncidae des Murs, 1860a ["*Ornythoncus*" = ? *Orthonyx*]*]
Cinclosomatidae Mathews, 1921–2 [*Cinclosoma* Vigors and Horsfield, 1827]
Sphenostomidae Mathews, 1924 [*Sphenostoma* Gould, 1838]
RHIPIDURIDAE Sundevall, 1872 [*Rhipidura* Vigors and Horsfield, 1827] [1]
MONARCHIDAE Bonaparte, 1854a [*Monarcha* Vigors and Horsfield, 1827]* [7]
{Muscipetidae Reichenbach, 1850a [*Muscipeta* Cuvier, 1817 = *Terpsiphone*]*}
{Myiagridae Cabanis and Heine, 1850–51 [*Myiagra* Vigors and Horsfield, 1827]*}
{Tchitreidae Blyth, 1852 [*Tchitrea* Lesson, 1830 = *Terpsiphone*]*}
{Terpsiphonidae Shelley, 1896 (1850) [*Terpsiphone* Gloger, 1827]*}
Seisurinae Mathews, 1920 [*Seisura* Vigors and Horsfield, 1827 = *Myiagra*]
Lamproliidae Wolters, 1977a [*Lamprolia* Finsch, 1874]*
PETROICIDAE Mathews, 1919–20 [*Petroica* Swainson, 1830]* [2]
Eopsaltriidae Mathews, 1946 [*Eopsaltria* Swainson, 1832]*
PACHYCEPHALIDAE Swainson, 1831 [*Pachycephala*+ Vigors, 1825] [5]
Falcunculidae Chenu and des Murs, 1853 [*Falcunculus* Vieillot, 1816]
Keropiidae Kaup, 1855 [*Keropia* G. R. Gray, 1840 = *Turnagra*]*
Turnagridae Buller, 1888 (1855) [*Turnagra* Lesson, 1837]*
Oreoicidae Sibley and Ahlquist, 1985a [*Oreoica* Gould, 1838]
AEGITHALIDAE Reichenbach, 1849–50 [*Aegithalos* Hermann, 1804] [2]
Psaltriparidae Ridgway, 1904 [*Psaltriparus* Bonaparte, 1850]
REMIZIDAE Olphe-Galliard, 1891 [*Remiz* Jarocki, 1819] [3]
Auriparidae Wolters, 1980 [*Auriparus* Baird, 1864]
Cephalopyridae Wolters, 1980 [*Cephalopyrus* Bonaparte, 1854]
PARIDAE Vigors, 1825a [*Parus*+ Linnaeus, 1758] [2]
Sylviparidae Chenu and des Murs, 1853 [*Sylviparus* Burton, 1836]
SITTIDAE Lesson, 1828 [*Sitta*+ Linnaeus, 1758]* [4]
{Tichodromidae Swainson, 1827 [*Tichodroma* Illiger, 1811]*}
SITTINAE Lesson, 1828 [*Sitta*+ Linnaeus, 1758] (1)
NEOSITTINAE Ridgway, 1904 [*Neositta* Hellmayr, 1901 = *Daphoenositta*]* (2)
Daphoenosittinae Rand, 1936 [*Daphoenositta* De Vis, 1897]*
TICHODROMINAE Swainson, 1827 [*Tichodroma* Illiger, 1811]* (1)
CERTHIIDAE Leach, 1820 [*Certhia*+ Linnaeus, 1758]* [2]
CERTHIINAE Leach, 1820 [*Certhia*+ Linnaeus, 1758] (1)
SALPORNITHINAE Mayr and Amadon 1951 [*Salpornis* G. R. Gray, 1847]* (1)
RHABDORNITHIDAE Greenway, 1967 [*Rhabdornis* Reichenbach, 1853] [1]
CLIMACTERIDAE de Selys-Longchamps, 1839 [*Climacteris* Temminck, 1820] [1]
DICAEIDAE Bonaparte, 1853a [*Dicaeum* Cuvier, 1817]* [4]
{Pardalotidae Strickland, 1842 [*Pardalotus* Vieillot, 1816]*}
DICAEINAE Bonaparte, 1853a [*Dicaeum* Cuvier, 1817]* (3)
Paramythiinae P. L. Sclater, 1893 [*Paramythia* De Vis, 1892]
Melanocharitinae Sibley and Ahlquist, 1985a [*Melanocharis* P. L. Sclater, 1858]
PARDALOTINAE Strickland, 1842 [*Pardalotus* Vieillot, 1816]* (1)
NECTARINIIDAE Vigors, 1825a [*Nectarinia* Illiger, 1811]* [9]

{Cinnyrididae Vigors, 1825a [*Cinnyris* Cuvier, 1817 = *Nectarinia*]*}
Arachnotheridae Cabanis and Heine, 1850–51 [*Arachnothera* Temminck, 1826]
Anthreptidae Bonaparte, 1853a [*Anthreptes* Swainson, 1832]
Chalcomitridae Reichenbach, 1853b [*Chalcomitra* Reichenbach, 1853 = *Nectarinia*]
Euchloridiidae Reichenbach, 1853b [*Euchloridia* Reichenbach, 1853 = *Anthreptes*]
Arachnoraphididae Reichenbach, 1853b [*Arachnoraphis* Reichenbach, 1853 = *Arachnothera*]
Chalcopariidae Baker, 1921 [*Chalcoparia* Cabanis, 1851 = *Anthreptes*]
Hypogrammatinae Wolters, 1977b [*Hypogramma* Reichenbach, 1853]

ZOSTEROPIDAE Bonaparte, 1853a [*Zosterops* Vigors and Horsfield, 1827] [2]
Hypocryptadiidae Hachisuka, 1930 [*Hypocryptadius* Hartert, 1903]

MELIPHAGIDAE Vigors, 1825a [*Meliphaga* Lewin, 1808] [14]
{Promeropidae Vigors, 1825a [*Promerops* Brisson, 1760]*}
Philedonidae Lesson, 1828 [*Philedon* Cuvier, 1817 = *Philemon*]*
Myzomelidae G. R. Gray, 1840 [*Myzomela* Vigors and Horsfield, 1827]
Manorinidae G. R. Gray, 1840 [*Manorina* Vieillot, 1818]
Melithreptidae G. R. Gray, 1841 [*Melithreptus* Vieillot, 1816]
Ptiloturidae Cabanis and Heine, 1850–51 [*Ptiloturus* Swainson, 1836 = *Promerops*]
Ptilotidae Reichenbach, 1852 [*Ptilotis* Swainson, 1837 = *Meliphaga*]
(Glyciphilidae Reichenbach, 1852 [*Glyciphila* Swainson, 1837 = *Phylidontris*])
Tropidorhynchidae Reichenbach, 1852 [*Tropidorhynchus* Vigors and Horsfield, 1827 = *Philemon*]*
Acanthorhynchidae Mathews, 1946 [*Acanthorhynchus* Gould, 1837]
Phylidonyridae Mathews, 1946 [*Phylidonyris* Lesson, 1831]
Philemonidae Mathews, 1946 (1828) [*Philemon* Vieillot, 1816]*
Toxorhamphidae Sibley, Ahlquist and Monroe 1988 [*Toxorhamphus* Stresemann, 1914]

VIREONIDAE Swainson, 1837a [*Vireo*+ Vieillot, 1808] [4]
CYCLARHIDINAE Pycraft, 1907 [*Cyclarhis* Swainson, 1824] (1)
VIREOLANIINAE Pycraft, 1907 [*Vireolanius* Bonaparte, 1851] (1)
VIREONINAE Swainson, 1837a [*Vireo*+ Vieillot, 1808] (2)
Hylophilinae Burmeister, 1856 [*Hylophilus* Temminck, 1822]

EMBERIZIDAE Vigors, 1825b [*Emberiza* Linnaeus, 1758] [52]
EMBERIZINAE Vigors, 1825b [*Emberiza* Linnaeus, 1758] (19)
Geospizinae Bonaparte, 1842 [*Geospiza* Gould, 1837]
Passerellinae Cabanis and Heine, 1850–51 [*Passerella* Swainson, 1837 = *Zonotrichia*]*
Spermophilinae Bonaparte, 1853a [*Spermophila* Swainson, 1827 = *Sporophila*]*
Zonotrichiinae Bonaparte, 1854a (1850–51) [*Zonotrichia* Swainson, 1832]
(Struthinae Bonaparte, 1854a [*Struthus* Bonaparte, 1838 = *Junco* Wagler, 1831]*)
Pipiloninae Bonaparte, 1854a [*Pipilo* Vieillot, 1816]
Spizellinae Baird, 1858 [*Spizella* Bonaparte, 1831]
Arremoninae Sundevall, 1872 [*Arremon* Vieillot, 1816]
Plectrophenacinae Olphe-Galliard, 1890 [*Plectrophenax* Stejneger, 1882]
Sporophilinae Ridgway, 1901 (1853) [*Sporophila* Cabanis, 1827]*
Calcariinae Ridgway, 1901 [*Calcarius* Bechstein, 1802]
Calamospizinae Ridgway, 1901 [*Calamospiza* Bonaparte, 1838]
Chondestinae Ridgway, 1901 [*Chondestes* Swainson, 1827]
Ammodraminae Ridgway, 1901 [*Ammodramus* Swainson, 1827]
Haplospizinae Ridgway, 1901 [*Haplospiza* Cabanis, 1851]
Oryzoborinae Ridgway, 1901 [*Oryzoborus* Cabanis, 1851]
Certhideinae Ridgway, 1902 [*Certhidea* Gould, 1837]
Poospizinae Wolters, 1980 [*Poospiza* Cabanis, 1847]
CATAMBLYRHYNCHINAE Ridgway, 1901 [*Catamblyrhynchus* Lafresnaye, 1842] (1)

CARDINALINAE+ Ridgway, 1901 [*Cardinalis*+ Bonaparte, 1838]* (10)
{Pitylinae Sundevall, 1836 [*Pitylus* Cuvier, 1829]*}
{Spizinae Bonaparte, 1849 [*Spiza* Bonaparte, 1824]*}
{Saltatorinae Bonaparte, 1853a [*Saltator* Vieillot, 1816]*}
{(Cyanospizinae P. L. Sclater, 1862 [*Cyanospiza* Baird, 1858 = *Passerina*]*)}
{(Coccoborinae Reichenow, 1884 [*Coccoborus* Swainson, 1837 = *Passerina*]*)}
{Guiracinae Ridgway, 1901 (1884) [*Guiraca* Swainson, 1827 = *Passerina* Vieillot, 1816]*}
Richmondeninae Wetmore and Miller, 1926 [*Richmondena* Mathews and Iredale, 1918 = *Cardinalis*]
Pyrrhuloxiinae Mayr and Amadon, 1951 [*Pyrrhuloxia* Bonaparte, 1851 = *Cardinalis*]
Pheucticinae Wolters, 1980 [*Pheucticus* Reichenbach, 1850]
THRAUPINAE+ Cabanis, 1847 [*Thraupis*+ Boie, 1826]* (20)
{[Tanagrinae Vigors, 1825a [*Tanagra* Linnaeus, 1764 = *Euphonia*+]*]}
{Tangarinae Boie, 1826 [*Tangara* Brisson, 1760]*}
{Dacninae Sundevall, 1836 [*Dacnis* Cuvier, 1816]*}
{Euphoniinae Cabanis, 1847 [*Euphonia*+ Desmarest, 1806]*}
Ramphocelinae Bonaparte, 1853a [*Ramphocelus* Desmarest, 1805]
Tachyphoninae Bonaparte, 1853a [*Tachyphonus*+ Vieillot, 1816]
Callistinae Bonaparte, 1853a [*Calliste* Boie, 1826 = *Tangara*]
Tanagrellinae Bonaparte, 1853a [*Tanagrella* Swainson, 1838 = *Tangara*]
Nemosiinae Bonaparte, 1854a [*Nemosia* Vieillot, 1816]
Hemithraupinae Sundevall, 1872 [*Hemithraupis* Cabanis, 1850]
Cissopinae Sundevall, 1872 [*Cissopis* Vieillot, 1816]
Diglossinae P. L. Sclater, 1875 [*Diglossa* Wagler, 1832]
Glossiptilinae P. L. Sclater, 1886 [*Glossiptila* P. L. Sclater, 1857 = *Euneornis*]*
(Lamprotinae P. L. Sclater, 1886 [*Lamprotes* Swainson, 1837 = *Compsothraupis* Richmond, 1915]*)
Phaenicophilinae P. L. Sclater, 1886 [*Phaenicophilus* Strickland, 1851]
Rhodinocichlinae Ridgway, 1902 [*Rhodinocichla* Hartlaub, 1853]
Calyptophilinae Ridgway, 1907 [*Calyptophilus* Cory, 1884]
Euneornithinae Bangs, 1930 (1886) [*Euneornis* Fitzinger, 1856]*
Nephelornithinae Wolters, 1980 [*Nephelornis* Lowery and Tallman, 1976]
TERSININAE Ridgway, 1907 [*Tersina* Vieillot, 1819] (2)
[Procniatinae Sclater, 1862 [*Procnias* Temminck, 1820]*]
PARULIDAE Wetmore et al., 1947 (1831) [*Parula* Bonaparte, 1838]* [21]
{Sylvicolidae Swainson, 1831 [*Sylvicola* Swainson, 1827 = *Compsothlypis*]}
{Vermivoridae Swainson, 1831 [*Vermivora* Swainson, 1827]*}
{Setophagidae Swainson, 1831 [*Setophaga* Swainson, 1827]*}
Coerebidae d'Orbigny and Lafresnaye, 1838 [*Coereba*+ Vieillot, 1808]*
Mniotiltidae G. R. Gray, 1848 [*Mniotilta* Vieillot, 1816]*
Helmitheridae Bonaparte, 1853a [*Helmitheros*+ Rafinesque, 1819]*
Geothlypidae Baird, 1858 [*Geothlypis* Cabanis, 1847]*
Icteriidae Baird, 1858 [*Icteria* Vieillot, 1808]*
Henicocichlidae P. L. Sclater, 1862 [*Henicocichla* Agassiz, 1846 = *Seiurus*]*
Seiuridae Baird, 1864 (1862) [*Seiurus* Swainson, 1827]*
Teretistridae Baird, 1864 [*Teretistris* Cabanis, 1855]*
Trichadidae G. R. Gray, 1869 [*Trichas* Swainson, 1827 = *Geothlypis*]*
Enicocichlidae G. R. Gray, 1869 [*Enicocichla* G. R. Gray, 1840 = *Seiurus*]*
Dendroicidae Sundevall, 1872 [*Dendroica* G. R. Gray, 1842]*
Arbelorhinidae Sundevall, 1872 [*Arbelorhina* Cabanis, 1847 = *Coereba*]
Helinaiidae Ridgway, 1902 [*Helinaia* Rafinesque, 1819 = *Helmitheros*]*
Zeledoniidae Ridgway, 1907 [*Zeledonia* Ridgway, 1889]*
{Compsothlypidae Oberholser, 1919 (1831) [*Compsothlypis* Cabanis, 1850 = *Parula*]*}

Peucedramidae Wolters, 1980 [*Peucedramus* Henshaw, 1875]
Conirostridae Edwards, 1986 [*Conirostrum* Lafresnaye and d'Orbigny, 1838]
ICTERIDAE Vigors, 1825a [*Icterus* Brisson, 1760] [13]
ICTERINAE Vigors, 1825a [*Icterus* Brisson, 1760] (12)
Agelaiinae Swainson, 1831 [*Agelaius* Vieillot, 1816]*
Scaphidurinae Swainson, 1831 [*Scaphidura* Swainson, 1837]
Quiscalinae Swainson, 1837a [*Quiscalus* Vieillot, 1816]
Xanthornidae Reichenbach, 1850a [*Xanthornus* Pallas, 1769 = *Icterus*]
Cassicinae Bonaparte, 1853a [*Cassicus* Illiger, 1811 = *Cacicus*]*
Sturnellinae Chenu and des Murs, 1853 [*Sturnella*+ Vieillot, 1816]
Molothrinae Chenu and des Murs, 1853 [*Molothrus* Swainson, 1832]
Chalcophaninae Sundevall, 1872 [*Chalcophanes* Wagler, 1827 = *Quiscalus*]
Cacicinae Ridgway, 1902 (1853) [*Cacicus* Lacépède, 1799]
Trupialinae Ridgway, 1902 [*Trupialis* Bonaparte, 1850 = *Strunella*]
Cassidicinae Ridgway, 1902 [*Cassidix* Lesson, 1831 = *Quiscalus*]
DOLICHONYCHINAE Ridgway, 1902 [*Dolichonyx* Swainson, 1827] (1)
FRINGILLIDAE Leach, 1820 [*Fringilla*+ Linnaeus, 1758] [12]
FRINGILLINAE Leach, 1820 [*Fringilla*+ Linnaeus, 1758] (1)
CARDUELINAE Vigors, 1825b [*Carduelis* Brisson, 1760]* (11)
{Loxiinae Vigors, 1825a [*Loxia*+ Linnaeus, 1758]*}
{Pyrrhulinae Vigors, 1825b [*Pyrrhula* Brisson, 1760]}
Coccothraustinae Swainson, 1831 [*Coccothraustes* Brisson, 1760]
(Linotinae Bonaparte, 1841 [*Linota* Bonaparte, 1831 = *Linaria*]*)
(Linariinae Bonaparte, 1841 [*Linaria* Bechstein, 1802 = *Acanthis* Borkhausen, 1797]*)
Serininae Bonaparte, 1854a [*Serinus* Koch, 1816]
Carpodacinae Bonaparte, 1854a [*Carpodacus* Kaup, 1829]
Chloridinae Sundevall, 1872 [*Chloris* Cuvier, 1800 = *Carduelis*]
Spininae Olphe-Galliard, 1890 [*Spinus* Koch, 1816 = *Carduelis*]
Urocynchraminae Domaniewski, 1918 [*Urocynchramus* Prezewalski, 1876]
DREPANIDIDAE+ Cabanis, 1847 [*Drepanis*+ Temminck, 1820]* [3]
PSITTIROSTRINAE Bonaparte, 1853a [*Psittirostra* Temminck, 1820]* (2)
{Hemignathinae Reichenbach, 1853b [*Hemignathus* Lichtenstein, 1839]*}
DREPANIDINAE+ Cabanis, 1847 [*Drepanis*+ Temminck, 1820] (1)
ESTRILDIDAE Bonaparte, 1850a [*Estrilda* Swainson, 1827]* [17]
{Pytiliidae Bonaparte, 1840b [*Pytilia* Swainson, 1837]*}
{Spermestidae Cabanis, 1847 [*Spermestes* Swainson, 1837 = *Lonchura*]*}
{Lonchuridae Steiner, 1960 (1847) [*Lonchura* Sykes, 1832]*}
Pholidornithidae Wolters, 1979 [*Pholidornis* Hartlaub, 1857]
ESTRILDINAE Bonaparte, 1850a [*Estrilda* Swainson, 1827]* (8)
{Pytiliinae Bonaparte, 1840b [*Pytilia* Swainson, 1837]*}
Pyrenestinae Bonaparte, 1854a [*Pyrenestes* Swainson, 1837]
Lagonostictinae Steiner, 1960 [*Lagonosticta* Cabanis, 1851]
[Didymostictinae Steiner, 1960 [*Didymosticta* Steiner, 1960 = *Euschistospiza Wolters, 1943*]*]
Cryptospizinae Steiner, 1960 [*Cryptospiza* Salvadori, 1884]
(Granatininae Steiner, 1960 [*Granatina* Sharpe, 1890 = *Uraeginthus* Cabanis, 1851]*)
Amandavinae Steiner, 1960 [*Amandava* Blyth, 1836]
POEPHILINAE Mayr, Paynter and Traylor, 1968 [*Poephila* Gould, 1842] (2)
{(Zonaeginthinae Steiner, 1960 [*Zonaeginthus* Cabanis, 1851 = *Emblema* Gould, 1842]*)}
LONCHURINAE Steiner, 1960 (1847) [*Lonchura* Sykes, 1832]* (4)

{Spermestinae Cabanis, 1847 [*Spermestes* Swainson, 1837 = *Lonchura*]*}
{Amadininae Bonaparte, 1854a [*Amadina* Swainson, 1827]*}
Heteromuniinae Kakizawa and Watada, 1985 [*Heteromunia* Mathews, 1913 = *Lonchura*]
ERYTHRURINAE Delacour, 1943 [*Erythrura* Swainson, 1837]* (2)
Chloromuniinae Steiner, 1960 [*Chloromunia* Mathews, 1923 = *Erythrura*]*
PLOCEIDAE Sundevall, 1836 [*Ploceus* Cuvier, 1817] [13]
BUBALORNITHINAE Iredale and Bannerman, 1921 [*Bubalornis* Smith, 1836]* (3)
[Textorinae Chapin, 1917 [*Textor* auct. = *Bubalornis*]*]
{Alectuidae Oberholser, 1921 [*Alecto* Lesson, 1831= *Bubalornis*]*}
PLOCEPASSERINAE des Murs, 1860a [*Plocepasser* Smith, 1836]* (4)
Sporopipinae Sushkin, 1927 [*Sporopipes* Cabanis, 1847]
Philetairinae Roberts, 1947 [*Philetairus* Smith, 1837]
Pseudonigritinae Wolters, 1983 [*Pseudonigrita* Reichenow, 1903]
PLOCEINAE Sundevall, 1836 [*Ploceus* Cuvier, 1817] (5)
Anomalospizinae Roberts, 1947 [*Anomalospiza* Shelley, 1901]
Euplectinae Roberts, 1947 [*Euplectes* Swainson, 1829]
Amblyospizinae Roberts, 1947 [*Amblyospiza* Sundevall, 1850]
Malimbinae Wolters, 1952 [*Malimbus* Vieillot, 1805]
VIDUINAE Cabanis, 1847 [*Vidua* Cuvier, 1817] (1)
PASSERIDAE Rafinesque, 1815 [*Passer* Brisson, 1760] [2]
Montifringillidae Bonaparte, 1850a [*Montifringilla* Brehm, 1828]
STURNIDAE Rafinesque, 1815 [*Sturnus*+ Linnaeus, 1758]* [11]
STURNINAE Rafinesque, 1815 [*Sturnus*+ Linnaeus, 1758] (10)
Lamprotornithinae Swainson, 1831 [*Lamprotornis* Temminck, 1820]
Mainatidae Lesson, 1831a [*Mainatus* Vieillot, 1817 = *Gracula*]*
(Gymnopinae Sundevall, 1836 [*Gymnops* Cuvier, 1829 = *Sarcops* Walden, 1877]*)
Thremmophilinae MacGillivray, 1837 [*Thremmophilus* Macgillivray, 1837 = *Pastor*]*
Graculinae G. R. Gray, 1841 (1831) [*Gracula* Linnaeus, 1758]*
Onychognathinae Bonaparte, 1854a [*Onychognathus* Hartlaub, 1849]
Juidinae G. R. Gray, 1855 [*Juida* Lesson, 1831 = *Lamprotornis*]
Eulabetinae G. R. Gray, 1855 [*Eulabes* Cuvier, 1817 = *Gracula*]
Pastorinae Olphe-Galliard, 1890 (1837) [*Pastor* Temminck, 1815 = *Sturnus*]
BUPHAGINAE Lesson, 1828 [*Buphagus* Brisson, 1760] (1)
ORIOLIDAE Vigors, 1825a [*Oriolus*+ Linnaeus, 1766]* [3]
Analcipodidae Bonaparte, 1854a [*Analcipus* Swainson, 1831 = *Oriolus*]
Sphecotheridae Mathews and Iredale, 1920 [*Sphecotheres* Vieillot, 1816]
DICRURIDAE Vigors, 1825a (1824) [*Dicrurus* Vieillot, 1816] [2]
{Edoliidae Swainson, 1824 [*Edolius* Cuvier, 1816 = *Dicrurus*]*}
CALLAEIDAE Sundevall, 1836 (1831) [*Callaeas* J. R. Forster, 1788]* [6]
{Glaucopididae Swainson, 1831 [*Glaucopis* Gmelin, 1788 = *Callaeas*]*}
[Neomorphidae Chenu and des Murs, 1852 [*Neomorpha* Gould, 1837]*]
[Creadionidae Mathews and Iredale, 1913 [*Creadion* Vieillot, 1816]*]
Heteralochidae Mathews and Iredale, 1920 [*Heteralocha*+ Cabanis, 1851]*
Philesturnidae Mathews, 1946 [*Philesturnus* Geoffroy St.-Hilaire, 1832]*
GRALLINIDAE Mathews, 1930 [*Grallina* Vieillot, 1816]* [3]
{Struthideidae Mathews, 1924 [*Struthidea* Gould, 1837]*}
{Corcoracidae Mathews, 1925–27 [*Corcorax* Lesson, 1830]*}
GRALLININAE Mathews, 1930 [*Grallina* Vieillot, 1816]* (1)
CORCORACINAE Mathews, 1925–27 [*Corcorax* Lesson, 1830]* (1)
STRUTHIDEINAE Mathews, 1924 [*Struthidea* Gould, 1837]* (1)

ARTAMIDAE Vigors, 1825a [*Artamus* Vieillot, 1816]* [3]
Ocypteridae Swainson, 1831 [*Ocypterus* Cuvier, 1816 = *Artamus*]
Leptopterygidae de Selys-Longchamps, 1839 [*Leptopteryx* Horsfield, 1821 = *Artamus*]
CRACTICIDAE Chenu and des Murs, 1853 (1836) [*Cracticus* Vieillot, 1816]* [5]
{Baritidae Sundevall, 1836 [*Barita* Cuvier, 1816 = *Cracticus*]*}
CRACTICINAE Chenu and des Murs, 1853 (1836) [*Cracticus* Vieillot, 1816]* (4)
{Baritinae Sundevall, 1836 [*Barita* Cuvier, 1816 = *Cracticus*]*}
{Gymnorhininae G. R. Gray, 1840 [*Gymnorhina* G. R. Gray, 1840]*}
{Streperinae Blyth, 1852 [*Strepera* Lesson, 1831]*}
PITYRIASEINAE Mayr and Amadon, 1951 [*Pityriasis* Lesson, 1839]* (1)
PTILONORHYNCHIDAE G. R. Gray, 1841 [*Ptilonorhynchus* Kuhl, 1820]* [6]
Sericulidae Chenu and des Murs, 1852 [*Sericulus*+ Swainson, 1825]
[Tectonarchidae Reichenow, 1884 [no type genus]*]
Amblyornithidae Iredale, 1948 [*Amblyornis* Elliot, 1872]
Ailuroedidae Iredale, 1948 [*Ailuroedus* Cabanis, 1851]
Chlamyderidae Iredale, 1948 [*Chlamydera* Gould, 1837]
PARADISAEIDAE Vigors, 1825a [*Paradisaea* Linnaeus, 1758]* [12]
CNEMOPHILINAE Mayr, 1962 [*Cnemophilus* De Vis, 1890] (1)
PARADISAEINAE Vigors, 1825a [*Paradisaea* Linnaeus, 1758] (11)
Epimachinae Sundevall, 1836 [*Epimachus* Cuvier, 1817]
Phonygamminae G. R. Gray, 1846 [*Phonygammus* Lesson Garnot, 1826 = *Manucodia*]*
Manucodiinae Cabanis, 1847 [*Manucodia*+ Boddaert, 1783]*
Paradigallinae Chenu and des Murs, 1852 [*Paradigalla* Lesson, 1835]
Astrapiinae Bonaparte, 1854a [*Astrapia*+ Vieillot, 1816]
Chalybaeinae Heine and Reichenow, 1882–90 [*Chalybaeus* Cuvier, 1829 = *Manucodia*]
Ptilorininae Mathews, 1946 [*Ptiloris*+ Swainson, 1825]
Parotiinae Iredale, 1948 [*Parotia*+ Vieillot, 1816]
Cicinnurinae Iredale, 1948 [*Cicinnurus*+ Vieillot, 1816]
Macgregoriinae Wolters, 1977a [*Macgregoria* De Vis, 1897]
CORVIDAE Leach, 1820 [*Corvus*+ Linnaeus, 1758]* [18]
Garrulidae Boie, 1826 [*Garrulus* Brisson, 1760]
Crypsirinidae Swainson, 1831 [*Crypsirina* Vieillot, 1816]
Fregilidae Swainson, 1831 [*Fregilus* Cuvier, 1816 = *Pyrrhocorax*]*
Pyrrhocoracidae G. R. Gray, 1846 (1831) [*Pyrrhocorax*+ Tunstall, 1771]
Temnuridae Chenu and des Murs, 1853 [*Temnurus* Lesson, 1831]
Nucifragidae Bonaparte, 1853a [*Nucifraga* Brisson, 1760]
Gymnocorvidae Bonaparte, 1854a [*Gymnocorvus* Lesson, 1831 = *Corvus*]
Picacidae Bonaparte, 1854a [*Pica* Brisson, 1760]*
Cissidae Kaup, 1855 [*Cissa* Boie, 1826]
[Monedulidae Kaup, 1855 [*Monedula* auct. = *Corvus*]*]
Cyanocoracidae Kaup, 1855 [*Cyanocorax* Boie, 1826]
(Lophocittidae Kaup, 1855 [*Lophocitta* G. R. Gray, 1841 = *Platyolphus* Swainson, 1832]*)
Cyanocittidae Kaup, 1855 [*Cyanocitta* Strickland, 1845]
Trypanocoracidae des Murs, 1860a [*Trypanocorax* Bonaparte, 1854 = *Corvus*]
Dendrocittidae Jerdon, 1863 [*Dendrocitta* Gould, 1833]
Zavattariornithidae Lowe, 1949 [*Zavattariornis* Moltoni, 1938]
Aphelocomidae Hardy, 1961 [*Aphelocoma* Cabanis, 1851]

VIII. PROBLEM FAMILY-GROUP NAMES

A. INTRODUCTION

Problems exist for many avian family-group names which require special comment. These names have been indicated by an asterisk at the end of the entry in the list of avian family-group names (Section VII.B), and are here discussed following the same sequence as the main list. In many cases, discussion of several indicated family-group names, e.g., the proposed valid name plus the senior but unused synonyms, is under one heading, usually that of the proposed valid name. Under the individual headings of family-group names, I have included corrections of earlier decisions by the ICZN as to the earliest use of these names, available names, etc. I assume that the earlier ICZN decisions remain valid with these corrections. If the ICZN decisions failed to include mention of other family-group names to be suppressed, either conditionally or fully, these have been mentioned and have been included in the recommended list of names to be conserved and suppressed, see Section VI.A.5.

Many of these problems originate from a few types of nomenclatural difficulties associated with type genera. These will be summarized. First, however, it should be noted that the status of family-group names depends in part on the status of the name of the type (nominal) genus, hence it was often necessary to research the reasons for changes in numerous generic names. This proved to be a most difficult task because these decisions are scattered throughout the taxonomic literature and because many of these decisions are old and completely accepted so that no existing recent references point to original citation. I have not attempted to search out all of these nomenclatural changes in generic names and hence have left some nomenclatural puzzles in generic names. As far as I know these unresolved (for this monograph only) points of generic nomenclature do not affect the validity of any well-established avian family-group names.

Perhaps the major problem relates to changes made during the 19th century on the accepted starting date for zoological nomenclature, whether it should be: (1) pre-Linnaeus as used by some workers during the last century; (2) Linnaeus, 1735 (1st ed.) as used by Gray (1840, 1841); (3) Linnaeus, 1766 (12th ed.) which was used by many (= ? most) workers during the first half (at least) of the 19th century; or (4) Linnaeus, 1758 (10th ed.), which some systematists started to use in the mid-19th century. The tenth edition of *Systema naturae* (Linnaeus, 1758) gradually became ever more widely accepted as the beginning date for zoological nomenclature during the second half of the 19th century in spite of many difficulties and objections raised by zoologists concerned with continuity. Subsequently the starting point of Linnaeus, 1758 was formalized in the Règles (Blanchard, 1905). During the period of change from the 12th to the 10th edition of Linnaeus which covered the years of about 1835 to 1870, almost no taxonomist stated which of these starting points was accepted, and it is generally not possible to determine this information from the family-group or generic-group names used in a particular publication. These differences of the accepted beginning for zoological nomenclature affected the priority of numerous key generic names, including the type genera of many family-level taxa. This is especially true for generic names proposed by Brisson, 1760 versus those proposed by Linnaeus, 1766, but also differences between Linnaeus, 1758 and Linnaeus, 1766. Hence decision on the validity of a number of family-group names proposed during the 19th century depends on which of these starting points for zoological nomenclature had been accepted by authors of these family-group names, which is usually unknown. Unfortunately, different authors, and even Linnaeus in his 10th and 12th editions, used the same name for quite different genera of birds or used different type species for the same genus recognized in different publications, or used the same generic name for quite different genera. Most workers did not specify the type genus of a proposed family-group name, and when they did, almost never provided the author and date of the generic name. Thus, the type species used by Linnaeus for *Procellaria* in 1758 (*aequinoctialis*, a shearwater) differed from the one he used in 1766 (*pe-*

lagica, a storm petrel), and hence the unresolvable problem of knowing whether an author (e.g., Leach) based the family-group name Procellariidae on *Procellaria* Linnaeus, 1758 (hence would now apply to the shearwaters) or on *Procellaria* Linnaeus, 1766 (hence would now apply to the storm-petrels).

The same name has occasionally been used by different early authors for different genera, including some which served as types for family-level taxa. Thus, it is usually not possible to know which of the several different generic names, *Ibis*, is associated with the family-group name Ibididae. With the working out of the priority of these generic homonyms, the family-group name was almost always kept (= coupled) with the "generic name" rather than remaining with the type (nominal) genus (the name bearer); thereby application of the family-group name shifted from one family-level taxon to another. Hence the shift of Ibididae from the synonymy of the Threskiornithidae to that of the Ciconiidae or the shift of Procniatinae from the synonymy of the Tersininae to that of the Cotingidae. These shifts in family-group names due to homonymy of the name of the nominal genus have caused some of the most confusing nomenclatural problems in avian family-group names, such as the switch of the name Ampelidae from the Bombycillidae to the Cotingidae. If a family-group name is based on a generic name which is a junior homonym, then that family-group name is either unavailable [Art. 11(f)(i)(1)] or objectively invalid [Art. 39]. The Code contradicts itself on this point, and I will accept the interpretation that family-group names based on generic names which are junior homonyms are unavailable, not simply objectively invalid. It is not correct to switch the family-group name to the senior generic homonym, e.g., Ibididae from the genus *Ibis* Cuvier, 1816 to the genus *Ibis* Lacépède, 1799, which involves shifting the family-group name from one type genus to another. However, this procedure appeared to have been quite standard, although still incorrect, in earlier times. Because almost all of these changes in application of family-group names have subsequently become generally accepted; the best policy is to maintain the established use and not to insist on precise application of the current rules. Each of these cases will be discussed in detail.

Homonyms of family-group names, based on different generic names, are not a serious problem in birds as there may be only about 15 such cases. These names have been listed and commented on, but few decisions have to be made because there are no current problems associated with well-established family-group names. The provisions of Articles 53 and 55 cover the basic problem of homonyms in family-group names resulting from similar generic names. Should any conflicts occur in the future regarding the junior homonyms of avian family-group names, then the case must be referred to the ICZN for resolution. Two cases are known to me of a homonym in an avian family-group name that also involves other groups of animals; these are the name Tyladidae [previously Tylidae] Oberholser, 1917 for the genus *Tylas,* and Ixidae [previously Ixodidae] Bonaparte, 1838 for the genus *Ixos*; see below, under the Tyladidae and the Ixidae. Applications have been made to the ICZN to resolve the homonymy for both of these names (Bock, in press a; Bock and Keirans, in press).

A number of avian family-group names, which have been used by some workers for superfamilies, are discussed. Family-level categories above the family have not been commonly used in avian classification, but have been employed by Wetmore in his several classifications (e.g., 1960), Storer (1971), and most recently Sibley and his associates in their recent analyses of avian relationships using DNA-DNA annealing methods (e.g., Sibley et al., 1988; Sibley and Ahlquist, 1990; Sibley and Monroe, 1990). Recommendations have been made to conserve conditionally certain of these names so that the better established superfamilial names can still be used, and established familial names maintained. These recommendations will not result in any problems for avian systematists not employing the superfamily category. It is urged that in the future, ornithologists exercise care in ascertaining the priority of family-group names before designating any new superfamilies.

Some recent cladistic classifications for birds have employed a multiplicity of higher level categories (i.e., above the species-level),

often with names for the taxa based on available family-group names. These names have not been included in the present analysis largely because these systematists have given scant attention to the rules of zoological nomenclature. In particular they have not indicated which of these taxonomic names fall within genus-group and family-group categories and hence are covered by the Code, and which fall within the ordinal group and higher categorical group and hence are not covered by the Code. I have regarded any category with the "order" as part of its name, e.g., parvorder, infraorder, as belonging to order-group names and hence lying outside of the Code. Until these authors pay closer attention to the rules of zoological nomenclature, it will be most difficult to know how to incorporate the names used in their classifications into the corpus of scientific names in zoology and regulated by the Code.

B. PROBLEM AVIAN FAMILY-GROUP NAMES

Crypturidae—*Cryptura* Illiger, 1811 was synonymized with *Tinamus* Latham, 1790 prior to 1961, and Crypturidae Bonaparte, 1831 has been replaced by Tinamidae G. R. Gray, 1840 (1831), which takes precedence from 1831.

Tinamotidae—Tinamotididae is a spelling variant of Tinamotidae.

Celidae—Celidae Poche, 1904 is not available because it is based on *Cela* Möhring, 1752 which is unavailable as a pre-Linnaean name.

Procellariidae—Procellariidae Leach, 1820 (type genus ? *Procellaria* Linnaeus, 1758, type species *aequinoctialis*) was proposed for the single family of tube-nosed swimmers recognized at that time which included all known members of the current order Procellariiformes. Subsequently, Procellariidae was used for the family-level taxon containing the shearwaters and the storm-petrels, and only much later, for the family-level taxon containing only the shearwaters. However, it is not at all clear when Leach (1820) proposed Procellariidae, whether he recognized *Procellaria* Linnaeus 1758 (type species *aequinoctialis*) or *Procellaria* Linnaeus, 1766 (type species *pelagica*) as the type genus. He used the broad genus *Procellaria* in a previously published work (Leach, 1816) without any indication of the type genus. Leach's 1820 paper used only English names for the species of birds in the British Museum exhibit on British zoology. A shearwater in the exhibit would most likely have been the Manx Shearwater (currently *Puffinus puffinus*, but probably listed by Leach as *Procellaria puffinus*) while a petrel would have been the Storm Petrel (currently *Hydrobates pelagicus*, but probably listed by Leach as *Procellaria pelagica*; see Leach, 1816). Thus, no clues can be obtained from Leach (1820) or any of his other papers as to which genus *Procellaria* of Linnaeus he recognized, although it is rather likely that he accepted *Procellaria* Linnaeus, 1766 if he thought about it at all. The next use of Procellariidae appears to be Vigors (1825a), but he is also vague as to the type genus of his name. The first definite use of Procellariidae based on *Procellaria* Linnaeus, 1758 appears to be in Gray (1840). However, during the middle of the 19th century whenever the shearwaters and the storm-petrels were placed in separate family-level groups, the shearwaters were listed under either Puffinidae, Fulmaridae, Prionidae, Wagellidae, Rhantistidae, or Aestrelatidae (most of these names were coined by Bonaparte), but not under Procellariidae.

For a brief period during the second half of the 19th century, Procellariidae had been used by some workers for the storm-petrels (= the current Hydrobatidae) [see below, Procellariidae (Hydrobatidae)], as *Procellaria* applied for many years to the small storm-petrels (*Procellaria* Linnaeus, 1766 *pelagica* = *Hydrobates pelagicus*). Change in the use of *Procellaria* from the storm-petrels to the shearwaters, which had previously been placed in *Puffinus* or in *Majaqueus*, was based on the switch of the generally accepted beginning point for zoological nomenclature from the 12th edition of Linnaeus, 1766 (in which the type species of *Procellaria* is *pelagica*, a storm petrel) to the 10th edition of Linnaeus, 1758 (in which the type species of *Procellaria* is *aequinoctialis*, a shearwater). This change in the starting point for zoological nomenclature was not fully accepted by all zoologists until close to the end of the 19th century and had caused much confusion. Gray

(1840: 78) designated *aequinoctialis* as the type species of *Procellaria*. And although he did not specifically refer to a particular edition of Linnaeus, Gray presumably accepted names in Linnaeus' 10th edition or earlier. His action is generally accepted today, but was not completely accepted during the 19th century, and hence many workers still accepted *Procellaria* as the valid generic name for the storm-petrels. Bonaparte (1854a) appears to have been the first person to subdivide the inclusive family of the Procellariidae into subfamilies. He used Procellariinae for the storm-petrels (= Hydrobatidae) based on *Procellaria* Linnaeus, 1766 (type species *pelagica*). Only in the late 19th century after most zoologists accepted the 10th edition of Linnaeus, 1958 as the starting date for zoological nomenclature, was Procellariidae used consistently for the shearwaters, not the storm-petrels, when the storm-petrels and the shearwaters were placed in separate family-level taxa. The family-group name, Thalassidromidae, given to the storm-petrels by Müller (1865) was based on the genus *Thalassidroma* Vigors, 1825 (= *Hydrobates* Boie, 1822; type species *pelagica* = *Procellaria*, Linnaeus, 1766) following the usual custom of keeping the same type genus for the family-group name regardless of changes in the name of the type genus.

Because of the impossibility of sorting out this confusion in the actual meaning of Procellariidae Leach, 1820 using the provisions in the Code (1985) including the difficulty of knowing who first used Procellariidae based on *Procellaria* Linnaeus, 1758, this name should be formally restricted to its current well-established use for the shearwaters with the type genus designated as *Procellaria* Linnaeus, 1758 (type species, *aequinoctialis* Linnaeus, 1758). See below, under Procellariidae; Hydrobatidae. Hence the ICZN is requested to rule that the type genus for Procellariidae Leach, 1820 is *Procellaria aequinoctialis* Linnaeus, 1758.

Prionidae—*Prion* is a nomen dubium, hence Prionidae Bonaparte, 1853 (*Prion* auct.) lacks a type genus and is unavailable; Bonaparte credited *Prion* to Lacépède, 1800 (? = 1799), but this name is properly attributed to authors and is a nomen dubium (Wolters, 1975–82: 38). In addition, Prionidae (1827, *Synopsis of the Contents of the British Museum*, 25th edition, p. 79) was originally used for a taxon of beetles and would be the senior homonym of Prionidae Bonaparte, 1853 even if Bonaparte's name Prionidae is available.

Rhantistidae—See below, under Pterodromidae.

Aestrelatidae—See below, under Pterodromidae.

Pterodromidae—*Rhantistes* Reichenbach, 1853 and *Aestrelata* Bonaparte, 1856 were synonymized with *Pterodroma* Bonaparte, 1856 prior to 1961, and Rhantistidae Bonaparte, 1856 and Aestrelatidae Bonaparte, 1857 have been replaced by Pterodromidae Verheyen, 1958 (1856) which takes precedence from 1856.

Hydrobatidae—*Thalassidroma* Vigors, 1825 was synonymized with *Hydrobates* Boie, 1822 prior to 1961, and Thalassidromidae Müller, 1865 has been replaced by Hydrobatidae Mathews, 1912–13 (1865) which takes precedence from 1865. Thus, Hydrobatidae Mathews, 1912–13 (1865) has clear precedence over Oceanitidae Forbes, 1882 (*Oceanites* Keyserling and Blasius, 1840). Use of the name Oceanitidae Forbes, 1882 for any family-level taxon containing the genera *Hydrobates* and *Oceanites* (e.g., Brodkorb, 1963–78; Olson, 1985) was never valid under provisions of the Code. Oceanitidae is still available for any family-level taxon containing *Oceanites*, but not including *Hydrobates*.

Hydrobatidae Degland and Gerbe, 1867 (*Hydrobata* Vieillot, 1816) and Hydrobatidae Mathews, 1912–13 (1865) (*Hydrobates* Boie, 1822) are homonyms, even though they are based on different genera. Because Hydrobatidae Mathews, 1912 (1865) takes precedence from 1865, it is the senior homonym relative to Hydrobatidae Degland and Gerbe, 1867 which is thus objectively invalid. Thus Hydrobatidae Mathews, 1912 (1865) is the valid name for the family of storm-petrels containing *Hydrobates* Boie, 1822. Note that *Hydrobata* Vieillot, 1816 does not predate *Hydrobates* Boie, 1822. See below, under Hydrobatidae (Cinclidae).

A separate application to the ICZN to conserve Hydrobatidae Mathews, 1912 (1865) had been submitted by Melville (1985) and commented on by Bock (1990). The ICZN accepted the several requests made in this

application (ICZN Opinion 1696; Tubbs, 1992b), thereby giving Hydrobatidae clear precedence over Oceanitidae Forbes, 1882.

Procellariidae (Hydrobatidae)—The current taxon Hydrobatidae was apparently first recognized as a distinct family-level taxon (a tribe) within the inclusive group of Procellariidae by Bonaparte (1854a), using Procellarieae based on *Procellaria* Linnaeus, 1766 (type *pelegica* Linnaeus, 1758). Shearwaters (currently Procellariidae) were placed in different tribes, with *Majaqueus* Reichenbach (type species, *aequinoctialis* Linnaeus, 1758) placed in the Puffineae or in the Rhantisteae. Bonaparte followed the same classification in 1856a and in 1857a (pp. 184–206) for the storm-petrels and shearwaters, always using Procellarieae for the storm-petrels, but with differing classifications and nomenclatures for the shearwaters. It is not completely clear whether Procellariidae Bonaparte, 1854 (*Procellaria* Linnaeus, 1766, type *pelegica*) differs from Procellariidae Leach, 1820 (? *Procellaria* Linnaeus, 1758, type *aequinoctialis*). This problem arises because it is not at all certain whether Leach recognized *Procellaria* Linnaeus 1758 or *Procellaria* Linnaeus, 1766 as the type genus for his Procellariidae (see above under Procellariidae). If Leach did the former, then Bonaparte's use of Procellariinae for the storm-petrels simply follows Leach's original use. If Leach actually based his Procellariidae on *Procellaria* Linnaeus, 1758, then the two names are homonyms with Procellariidae Bonaparte, 1854 being the junior homonym. However, under the present provisions of the Code, *Procellaria* Linnaeus, 1766 is a junior homonym of *Procellaria* Linnaeus, 1758 (a point that few avian taxonomists are aware of); hence Procellariidae Bonaparte, 1854 is unavailable (or objectively invalid) as would be Procellariidae Leach, 1820 if it was also based on *Procellaria* Linnaeus, 1766 [Art. 39]. And Procellariidae would date from Gray, 1840, which is the first definite basing of this name on *Procellaria aequinoctialis* Linnaeus, 1758. This problem is simply not resolvable, and demonstrates that established use of family-group names may well be a better approach than priority for reaching stability of these names, especially the older family-group names. To insure any future difficulties Procellariidae Bonaparte, 1854 and any other family-group names based on *Procellaria* Linnaeus, 1766 (type *Procellaria pelegica* Linnaeus, 1758) should be suppressed. See above, under Procellariidae for a proposed solution.

Thalassidromidae—See above, under Hydrobatidae.

Oceanitidae—Oceanitidae Forbes, 1882 (*Oceanites* Keyserling and Blasius, 1840) is available and can be used as the valid name for a family-level taxon including *Oceanites* Keyserling and Blasius, 1840, but not *Hydrobates* Boie, 1822. See above, under Hydrobatidae.

Haladromidae—*Haladroma* Illiger, 1811 was synonymized with *Pelecanoides* Lacépède, 1799 before 1961, and Haladromidae Bonaparte, 1850 has been replaced by Pelecanoididae G. R. Gray, 1871 (1850) which takes precedence from 1850.

Spheniscidae—Spheriseinae (Eyton, 1867) is a misspelling.

Dasyramphidae—*Dasyramphus* Hombron and Jacquinot, 1841 was synonymized with *Pygoscelis* Wagler, 1832 prior to 1961, and Dasyramphidae Bonaparte, 1856 has been replaced by Pygoscelidae von Boetticher, 1943 (1856) which takes precedence from 1856.

Dypsicleidae—Dypsicleidae Poche, 1904 is not an available family-group name because it is based on *Dypsicles* Möhring, 1752 which is unavailable as a pre-Linnaean name.

Gaviidae—The analysis of the nomenclature of the family names for the loons (divers) and the grebes is quite complex and remains not completely solved in spite of the excellent discussion by Salomonsen (1951) and the decisions reached by the ICZN (Opinion 401, Hemming, 1957c; Direction 75, Hemming, 1957d). The discussions under the several following headings of loons and grebes should be read together with the original Salomonsen paper and the decisions reached by the ICZN to comprehend the entire extent of this complex nomenclatural problem.

Gaviidae was placed on the Official List of Family-Group Names in Zoology (ICZN, Direction 75, Hemming 1957d). The ICZN based this decision on Gaviidae Coues, 1903 (p. 1047) rather than on the correct earlier citation of Gaviidae Allen, 1897 (1840). *Gav-*

ia J. R. Forster, 1788 (type species *Colymbus immer* Brünnich, 1764 as designated by decision of the ICZN, Opinion 401) was placed on the Official List of Generic Names in Zoology (ICZN Opinion 401, Hemming, 1956c). Although not mentioned in Opinion 401 and Direction 75, *Eudytes* Illiger, 1811 was synonymized with *Gavia* J. R. Forster, 1788 prior to 1961, and Eudytidae Brandt, 1840 has been replaced by Gaviidae Allen, 1897 (1840) (*Gavia* J. R. Forster, 1788) which takes precedence from 1840.

Gaviidae Allen, 1897 (1840) (*Gavia* J. R. Forster, 1788) has been used only for the loons and should not to be confused with the ordinal name Gaviae used for a short period during the second half of the 18th century for the gulls and their allies, sometimes including the tube-nosed swimmers. *Gavia* Möhring, 1752 was used for *Gavia alba*, the Ivory Gull (= *Pagophila eburnea* Phipps, 1774), but to my knowledge no family-group name has been proposed for the gulls on the basis of *Gavia* Möhring, 1752. *Gavia* Möhring, 1752 is pre-Linnaean and hence unavailable; it does not predate *Gavia* J. R. Forster, 1788. See below, under Laridae. Use of *Gavia* by J. R. Forster for the loons is a bit unfortunate as this is the Latin name for gulls. It would have been better if *Urinator* had been used by Forster as it was by Lacépède in 1799 this is the Latin name for divers or loons.

Colymbidae (Gaviidae)—Colymbidae Leach, 1820 (*Colymbus* Linnaeus, 1758 or 1766, type species [incorrectly ?] determined as *Colymbus immer* Brünnich, 1764) has been placed on the Official Index of Rejected and Invalid Family-group Names in Zoology (ICZN, Direction 75, Hemming 1957d). The ICZN incorrectly cited Shaw 1824 as the author of this name instead of Leach, 1820. See below, under Colymbidae (Podicipedidae).

Eudytidae—In the ICZN decision on Colymbidae (ICZN, Direction 75, Hemming, 1957d), no mention was made of Eudytidae Brandt, 1840 (*Eudytes* Illiger, 1811) which was apparently overlooked. To avoid any possible confusion in the future, Eudytidae Brandt, 1840 (*Eudytes* Illiger, 1811) should be suppressed with respect to Gaviidae Allen, 1897 (1840) under Article 40(b). See above, under Gaviidae, and below, under Colymbidae.

Urinatoridae—Urinatoridae Vieillot, 1818 (*Urinator* Lacépède, 1799) as cited by the ICZN and the earlier spelling Urinatores Vieillot, 1818 are on the Official Index of Rejected and Invalid Family-group Names in Zoology (ICZN Direction 75, Hemming, 1957d). Clearly Urinatoridae (regardless of the ending used) cannot be attributed to Vieillot, 1818 because when Vieillot (1816, 1818, 1825) used the family-group name Urinatores, but he did not recognize a genus *Urinator* Lacépède 1799, rather the only genus he recognized was *Colymbus* presumably of Linnaeus, 1758. Consequently his family-group name Urinatores was not based on the stem of a valid name of a genus recognized by Lacépède, 1799 for this family-level taxon, but on the Latin name urinator for loon and is therefore unavailable for zoological nomenclature (see above for a discussion of the availability of family-group names proposed by Vieillot and other early workers). Credit for the name Urinatoridae must be given to Baird, Brewer and Ridgway, 1884 which is not a junior homonym of Urinatores Vieillot, 1818. Urinatoridae Baird, Brewer and Ridgway, 1884 was not mentioned in Direction 75 of the ICZN, and to avoid any possible confusion in the future, Urinatoridae Baird, Brewer and Ridgway, 1884 should be suppressed conditionally with respect to Gaviidae Allen, 1897 (1840).

Cephidae (Gaviidae)—Cephidae Poche, 1904 is not available because it is based on *Cephus* Möhring, 1752 which is unavailable as a pre-Linnaean name. See below, under Cephidae (Alcidae).

Podicipedidae—Podicipedidae Bonaparte, 1831 (*Podiceps* Latham, 1787) was placed on the Official List of Family-Group Names in Zoology as Podicipitidae (ICZN Direction 75, Hemming, 1957d) and corrected to Podicipedidae on the Official List (Opinion 981, issued May, 1972, BZN, 29: 15–17). In addition, Podicepinae Bonaparte, 1832 (*Podiceps* Latham, 1787), Podicepsinae G. R. Gray, 1840 (*Podiceps* Latham, 1787), Podicipinae Bonaparte, 1838 (*Podiceps* Latham, 1787), and Podicipedidae Ogilvie-Grant, 1898 (*Podiceps* Latham, 1787), all of which are simply spelling variants of Podicipedidae, have all been placed on the Official Index of Rejected and Invalid Family-Group Names

in Zoology. See below, under Colymbidae (Podicipedidae).

Colymbidae (Podicipedidae)—Linnaeus placed the loons and the grebes in *Colymbus* 1758; later taxonomic and nomenclatural decisions resulted in great confusion in the use of *Colymbus* and Colymbidae; Salomonsen (1951) discussed this problem in detail. Brisson (1760) first separated the species of loons (divers) and grebes into two genera, keeping the grebes in *Colymbus* and placing the loons in *Mergus* Brisson, 1860 which was subsequently declared to be pre-occupied by *Mergus* Linnaeus, 1758 for mergansers (Anatidae). But, as mentioned by Salomonsen (1951: 149), Brisson divided Möhring 1752 genus *Colymbus*, not Linnaeus 1758 genus *Colymbus* (see Grant, 1948). Hence, Salomonsen argued that Brisson's action cannot be considered as that of a first reviser under the rules of nomenclature, and that *Colymbus* Brisson, 1760 is a newly proposed genus and would be preoccupied by *Colymbus* Linnaeus, 1758. Salomonsen also pointed that by accepting the genus *Colymbus* Brisson, Reichenbach (1852 = ? 1849–1850) based his Colymbidae on Möhring's genus *Colymbus*, and hence this family-group name is not available. Latham in 1787, according to Salomonsen, was the first reviser of *Colymbus* Linnaeus, 1758; he retained *Colymbus* Linnaeus, 1758 for the loons and proposed *Podiceps* for the grebes.

Colymbidae Leach, 1820 was used originally for both the loons (currently Gaviidae) and the grebes (currently Podicipedidae) which were placed in the same family by ornithologists until after 1830. Following the recognition of separate families for these birds by Bonaparte (1831), Colymbidae was used by Bonaparte and most workers during most of the 19th century for loons only, presumably following Latham's separation of *Colymbus* rather than Brisson's earlier decision. Finally Colymbidae used mainly by North American ornithologists for a shorter recent period starting after the beginning of the 20th century for grebes (Podicipedidae). The type *Colymbus* Linnaeus, 1758 was fixed by the method of elimination to *Colymbus cristatus* Linnaeus 1758 by the A.O.U. Check-list Committee (Anonymous, 1886), accepting Stejneger's (1882) conclusion and rejecting such later arguments as those of von Berlepsch and Stolzmann (1894), Newton (1896), and Sclater (1894). Methods of fixing the type species for genera was discussed extensively by Allen (1906, 1907a, 1907b, 1907c). This action of fixing *cristatus* as the type species for *Colymbus* Linnaeus, 1758 follows Brisson (1760) who was considered by some workers to be the first-reviser. Salomonsen placed much stress on the fact that most of the 19th century methods used to determine the type species of genera are now longer considered to be valid, but this consideration has little, if anything, to do with the question of the valid revision and the valid type species of *Colymbus* Linnaeus, 1758.

Colymbidae Leach, 1820 (not Shaw, 1824, as cited by the ICZN) was presumably based on *Colymbus* Linnaeus, 1758 or 1766 and probably applied to both the loons and the grebes, but possibly to the loons only (*Gavia* J. R. Forster, 1788) as we can only assume the correct association because Leach and other early workers did not cite the type genus and species for family-group names and it is not clear whether they followed Linnaeus, Brisson or Latham. Colymbidae Reichenbach, 1849–50 (proposed in the text, page iii, where Reichenbach specifically used *Colymbus* Brisson, with the type species *cristatus*, a grebe) based on *Colymbus* Brisson, 1760 = *Colymbus* Möhrng, 1752 (type *C. cristatus* Linnaeus, 1758, as restricted by Brisson) applied to the grebes (*Podiceps* Latham, 1787) or to a family including the grebes. Reichenbach clearly placed the loons in different genera, such as *Eudytes*. But Reichenbach's Colymbidae is based on *Colymbus* Brisson, 1760 which is the same as the unavailable *Colymbus* Möhring, 1752 and hence Reichenbach's family-group name is unavailable.

The earliest usage of Colymbidae (typified by *Colymbus cristatus* Linnaeus, 1758) is apparently Reichenow, 1889, not Coues, 1903, as cited by the ICZN (see also Reichenow, 1894, 1900–05, 1902). Unfortunately the Reichenow papers were not mentioned by Salomonsen (1951). Coues (1903: 1051 fn) mentioned the name Colymbidae, but used the name Podicipedidae for the grebes in this publication. He stated that, because the generic name *Colymbus* has been shifted from the loons to the grebes, the present family should in strictness be called Colymbidae,

but he did not follow this use. Moreover, Coues's use of the name Colymbidae (*Colymbus cristatus*) must properly be considered for purposes other than nomenclatural and hence is not available for nomenclatural purposes. Further, Coues (1903) is not the earliest use of Colymbidae for the grebes (typified by *Colymbus cristatus* Linnaeus, 1758), being predated by Reichenow, 1889, 1900-1, 1902. Newton (1896: 111 of his Introduction) complained that American ornithologists have "lately used" (= pre-1896) Colymbidae for the grebes; however, I have not been able to locate any such use by any North American ornithologist prior to 1896. Indeed in all earlier editions of his *Key to North American birds* prior to the fifth (Coues, 1903), he used Colymbidae for the loons and Podicipedidae for the grebes until after the beginning of the 20th century. North American ornithologists at that time had used *Colymbus* as a generic name for the grebes based on the conclusion that *Colymbus cristatus* is the type species by elimination for *Colymbus* Linnaeus, 1758 (Anon., 1886: 73). But no North American worker, to my knowledge, used Colymbidae for the grebes until after Coues, 1903 (e.g., 3rd edition of the A.O.U. Check-list, Anom., 1910); rather, they were most consistent in using Podicipedidae (= Podicipidae, Anon., 1886: 73) for this taxon prior to 1903. Hence Newton's complaint must be rejected.

Colymbidae Leach, 1820 (*Colymbus* Linnaeus, 1758 or 1766, presumably type species *Colymbus immer*, Brünnich, 1764) and Colymbidae Reichenow, 1889, not Coues 1903 (*Colymbus cristatus* = *Podiceps cristatus*) have been placed on the Official Index of Rejected and Invalid Family-Group Names in Zoology (ICZN Direction 75, Hemming, 1957d). See above, under the several synonyms of family-group names for the loons (Gaviidae) and the grebes (Podicipedidae).

Podilymbidae—In the ICZN decision on Colymbidae (ICZN, Direction 75, Hemming, 1957d), no mention was made of Podilymbidae Coues, 1862 (*Podilymbus* Lesson, 1831) which was apparently overlooked. To avoid confusion in the future, Podilymbidae Coues, 1862 (*Podilymbus* Lesson, 1831) should also be suppressed conditionally with respect to Podicipedidae Bonaparte, 1831. See above, under Colymbidae.

Phaethontidae—Phactonidae (Eyton, 1867) is a misspelling.

Tachypetidae—*Tachypetes* Vieillot, 1816 and *Atagen* Kaup, 1829 were synonymized with *Fregata* Lacépède, 1799 prior to 1961, and Tachypetidae Brandt, 1840 and Atagenidae G. R. Gray, 1871 have been replaced by Fregatidae Degland and Gerbe, 1867 (1840) which takes precedence from 1840.

Attagenidae and Atagenidae—Attagenidae Jerdon, 1864 and Atagenidae Poche, 1904 are not available because they are based on *Atagen* Möhring, 1752 which is unavailable as a pre-Linnaean name; Jerdon's use of *Attagen* is apparently based on a misspelling. These names are not available for purposes of zoological nomenclature, and hence are not in homonymy with Atagenidae G. R. Gray, 1871 (Atagen Kaup, 1829). *Atagen* Möhring, 1752, being pre-Linnaean, does not predate *Atagen* Kaup, 1829, and hence Atagenidae G. R. Gray, 1871 is an available name.

Phalacrocoracidae—*Carbo* Lacépède, 1799 and *Halieus* Illiger, 1811 were synonymized with *Phalacrocorax* Brisson, 1760 prior to 1961, and Carbonidae Brandt, 1840 and Halieidae Sundevall, 1836 have been replaced by Phalacrocoracidae Reichenbach, 1849–50 (1836) which takes precedence from 1836.

Although Anhinginae Reichenbach, 1849 (1815) (*Anhinga* Brisson, 1760) has priority with respect to Phalacrocoracidae Reichenbach, 1849–50 (1836) (*Phalacrocorax* Brisson, 1860), it should be suppressed conditionally with respect to Phalacrocoracidae for any family-level taxon (e.g., family) containing *Anhinga* and *Phalacrocorax* because Phalacrocoracidae has been widely and consistently used in avian classification whenever these two groups were placed in the same family-level taxon. Phalacrocoracidae has been used for this family for almost 150 years. Anhingidae can still be used for any family-level taxon containing *Anhinga*, but not *Phalacrocorax*. See below, under Anhinginae.

If *Sula* and *Phalacrocorax* are included in the same family-level taxon (e.g., superfamily), then Sulidae Reichenbach, 1849 (1836) (*Sula* Brisson, 1760) has priority in preference to Phalacrocoracidae Reichenbach, 1849–50 (1836) (*Phalacrocorax* Brisson,

1760), because the name Suloidea has been consistently used in avian classification as a superfamily name. Phalacrocoracidae Reichenbach, 1849–50 (1836) can still be used for any taxon containing *Phalacrocorax*, but not *Sula*.

Halieidae and Halieinae—See above, under Phalacrocoracidae.

Carbonidae and Carboninae—See above, under Phalacrocoracidae.

Graculinae (Phalacrocoracinae)—Graculinae Jerdon, 1864 (*Graculus* Koch, 1816 = *Phalacrocorax* Brisson, 1760; = Phalacrocoracinae Reichenbach, 1849–50) and Graculinae G. R. Gray 1841 (*Gracula* Linnaeus, 1758; = Sturnidae Vigors, 1825) are based on different genera, but the family-group names are homonyms. Graculinae G. R. Gray, 1841 (= Sturnidae) has precedence as the senior homonym. The junior homonym is in the main list. See below, under Graculinae (Sturninae). There is no need to request that the ICZN resolve this homonymy as Graculinae Jerdon is a junior synonym of Phalacrocoracinae and with great certainty will never be used in the future.

Graculinae Poche, 1904 is not available because it is based on *Graculus* Möhring, 1752 which is unavailable as a pre-Linnaean name. Graculinae Poche, 1904 does not exist for purposes of zoological nomenclature and hence is neither a junior synonym of Graculinae Jerdon, 1864 (*Graculus* Koch, 1816) or a junior homonym of Graculinae G. R. Gray, 1841 (*Gracula* Linnaeus, 1758). All of these names are in the main list for completeness. *Graculus* Möhring, 1752, being pre-Linnaean, does not predate *Graculus* Koch, 1816.

Anhinginae—Although Anhinginae Reichenbach, 1849 (1815) (*Anhinga* Brisson, 1760) has priority with respect to Sulidae Reichenbach, 1849 (1836) (*Sula* Brisson, 1760), Anhingidae should be suppressed conditionally with respect to Sulidae for any family-level taxon (e.g., superfamily) containing *Anhinga* and *Sula* because the name Suloidea has been consistently used in discussions of avian classification. Anhingoidea has never been used for this superfamily. Anhingidae can still be used for any family-level taxon containing *Anhinga*, but not *Sula*. See below, under Sulidae. See above, for a discussion of the conditional conservation of Phalacrocoracidae relative to Anhingidae.

Plotinae—*Plotus* Linnaeus, 1766 was synonymized with *Anhinga* Brisson, 1760 prior to 1961, and Plotinae Rafinesque, 1815 has been replaced by Anhinginae Reichenbach, 1849 (1815) which takes precedence from 1815. *Plottus* and Plottinae are incorrect spelling variants of *Plotus* and Plotinae.

Ptynginae—Ptynginae Poche, 1904 is not available because it is based on *Ptynx* Möhring, 1752 which is unavailable as a pre-Linnaean name. *Ptynx* Möhring, 1752, being pre-Linnaean, does not predate *Ptynx* Blyth, 1840 = *Strix* Linnaeus, 1758.

Sulidae—Sulidae Reichenbach, 1849 (1836) (*Sula* Brisson, 1760) and Phalacrocoracidae Reichenbach, 1849–50 (1836) (*Phalacrocorax* Brisson, 1760) take precedence from the same publication. However, Storer's (1971) use of Suloidea as the superfamilial name for a group including the Sulidae and the Phalacrocoracidae represents action by the first reviser, hence Sulidae Reichenbach, 1849 (1836) has precedence in preference to Phalacrocoracidae Reichenbach, 1849–50 (1836) for any taxon (superfamily) containing both the genera *Sula* and *Phalacrocorax*. See above, under Phalacrocoracidae and Anhinginae.

Dysporidae—*Dysporus* Illiger, 1811 was synonymized with *Sula* Brisson, 1760 prior to 1961, and Dysporidae Sundevall, 1836 has been replaced by Sulidae Reichenbach, 1849 (1836) which takes precedence from 1836.

Sulariidae—Sulariidae was used by Reichenbach (1849: plate IV; and 1850b, plate XXIX) in addition to his use of Sulidae. It is not clear whether his Sulariidae (spelled by Reichenbach as the Sularidae) is an incorrect spelling variant of Sulidae or whether it is a different name based on *Sularius* Rafinesque, 1815. *Sularius* is considered to be a nomen nudum by most workers (e.g., Sherborn, 1922); hence, Sulariidae would be unavailable.

Pelecanidae—Use of Pelicanea by Rafinesque, 1815 and Pelicanidae Leach, 1820 should be considered to be available and hence predate Pelecanidae Horsfield, 1822a (*Pelecanus* Linnaeus, 1758). Rafinesque's and Leach's family-group names used an "i" instead of an "e" based on *Pelicanus*, are an

acceptable variant in the formation of scientific names during the early part of the 19th century based on the then accepted transliteration of Greek to Latin.

Nycticoracini—Nycticoracini Bonaparte, 1854 (*Nycticorax* T. Forster, 1817) and Cochleariini Chenu and des Murs, 1854 (1838) (*Cochlearius* Brisson, 1760) were published in the same year; Nycticoracini had been chosen by Bock (1956) as first reviser under the Code in force at that time. Hence Nycticoracini has precedence with respect to Cochleariini (even though Cochleariini takes precedence from 1838) if the genera *Nycticorax* and *Cochlearius* are placed in the same family-level taxon. Otherwise, Nycticoracini should be conserved conditionally with respect to Cochleariini under the provisions of Article 79(a)(iii).

Cancromini—*Cancroma* Linnaeus, 1766 was synonymized with *Cochlearius* Brisson, 1760 prior to 1961 and Cancromini Bonaparte, 1838 has been replaced by Cochleariini Chenu and des Murs, 1854 (1838) which takes precedence from 1838.

Cochleariini—See above, under Cancromini and under Nycticoracini. Cochleariini can be used for any family-level taxon containing *Cochlearius*, but not *Nycticorax*.

Herodiini—*Herodius* Boie, 1822 was synonymized with *Egretta* T. Forster, 1817 prior to 1961, but Herodiini Olphe-Galliard, 1891 lacks a replacement name and hence must be held in abeyance (i.e., in limbo for purposes of zoological nomenclature).

Bubulcini—*Bubulcus* Bonaparte, 1855 was synonymized with *Ardeola* Boie, 1822 prior to 1961 and Bubulcini Olphe-Galliard, 1891 has been replaced by Ardeolini Olphe-Galliard, 1891. Bubulcini is still available for use if the genus *Bubulcus* is recognized as done by some workers.

Ardeolini (Ardeidae)—The earlier use of Ardeolini by Reichenbach (1849, plate XI; he used Ardeolidae) is not based on *Ardeola* Boie, 1822 and hence his name is not available for the herons (Ardeidae). Ardeolidae was proposed by Reichenbach (1849) for the Dromadidae without any reference to an available genus within the group of birds now known as Dromadidae as far as can be determined. Rather Reichenbach's proposal of Ardeolidae appears to be based on the same classic word as the specific name *ardeola* (*Dromas ardeola*), and hence is unavailable for nomenclatural purposes; it does not preempt the later name Ardeolini of Olphe-Galliard, 1891. See below, under Ardeolidae (Dromadidae).

Scopidae—Scopidae Bonaparte 1849 (*Scopus* Brisson, 1760) and Scopinae Bonaparte, 1854 (*Scops* Savigny, 1810 = *Otus* Pennant, 1769; = Buboninae Vigors, 1825) are based on different genera, but the family-group names are homonyms. Scopidae Bonaparte, 1849 is the senior homonym and is the valid family-group name for the taxon containing the genus *Scopus* Brisson, 1760. The junior homonym is in the main list. See below, under Scopinae (Strigidae).

Ciconiidae—Although Mycteriidae Anonymous, 1908 (1831) (*Mycteria* Linnaeus, 1758) has priority with respect to Ciconiidae Sundevall, 1836 (*Ciconia* Brisson, 1760), Ciconiidae Sundevall, 1836 should be conserved conditionally [Art. 79(a)(iii)] in preference to Mycteriidae Anonymous, 1908b (1831) for any family-level taxon (e.g., family) containing *Ciconia* and *Mycteria* because Ciconiidae has been widely and consistently used for over 150 years for this family, and Mycteriidae has never been used for the entire family. See below, under Mycteriidae.

Tantalidae (Ciconiidae)—*Tantalus* Linnaeus, 1766 was synonymized with *Mycteria* Linnaeus, 1758 prior to 1961, and Tantalidae Bonaparte, 1831 has been replaced by Mycteriidae Anonymous, 1908 (1831) which takes preference from 1831.

However, additional problems exist with the name Tantalidae which was used initially by Bonaparte for the ibises (Threskiornithidae). This use continued during the first half of the 19th century until the genus *Tantalus* (based on *loculalor* = *Mycteria americana*, wood ibis) was shown to be a stork (Ciconiidae), not an ibis (Threskiornithinae), and hence the name Tantalidae had been placed in the synonymy of Ciconiidae Sundevall, 1836, not of Threskiornithidae Poche, 1904. However, the species on which Bonaparte based his family Tantalidae had been removed from this genus and placed in the genus *Threskiornis* by Gray in 1842; hence it is clear that the concept of Bonaparte's Tantalidae is that of the present day Threskior-

nithinae. Many problems would have been avoided had Bonaparte based his family-group name on *Ibis* Cuvier, 1816 which was the other genus included in this taxon. To illustrate the complexities of this history, I have included Tantalidae in the synonymies of both Ciconiidae and Threskiornithidae.

Ibididae (Ciconiidae)—The history of this name is most complex, and almost impossible to sort out because of the several different meanings of the generic name *Ibis*, because most workers were not clear which genus *Ibis* was used as the type for their Ibididae, and because of confusion about which of these genera belong to the storks (Ciconiidae) and which belong to the ibises (Threskiornithinae). For the latter, the greatest problem was caused by the correct position of the species currently placed in the genus *Mycteria* (= *Tantalus* Linnaeus, 1760 = *Ibis* Lacépède, 1799). The generic name *Ibis* had been used by early authors at least since Möhring, 1752 for birds considered as true ibises with the type genus usually containing the species *aethiopicus*, *rubus*, or *albus*. Few, if any ornithologists knew of *Ibis* Lacépède, 1799 (= *Mycteria*) until about 1900 when it was shown that this was the first post-Linnaean use of the generic name *Ibis*, and the only one to be used for a member of the Ciconiidae. Ibididae was proposed independently by Degland, 1849 (Ibisidae, based on Ibis Cuvier, 1816; not *Ibis* Lacépède, 1799 = *Mycteria*; Degland's Ibisidae was clearly a replacement name for Tantalidae Bonaparte, 1831) and by Reichenbach, 1849–50 (clearly based on *Ibis* Möhring, 1758). References are given by diverse workers to a generic name *Ibis* Cuvier, 1804 but I have not been able to locate this citation and am uncertain about the identity of this genus and its type species, although they are probably the same as for *Ibis* Cuvier, 1816. Thus, I will consider only the name *Ibis* Cuvier, 1816. Few, if any, ornithologists knew of Degland's proposal of the name Ibididae, and most workers recognized only Reichenbach's family Ibididae. Because of the impossibility in determining the exact date of publication of most of Reichenbach's names, it is not possible to ascertain whether Degland's Ibididae or Reichenbach's Ibididae has priority. In any case, since Reichenbach (1849–50) clearly based his Ibididae on *Ibis* Möhring, 1758, which is unavailable as a pre-Linnaean name, his Ibididae is also unavailable. Hence Ibididae Degland, 1849 is available as the senior synonym. Degland's Ibisidae is a spelling variant for Ibididae.

Degland's Ibididae was definitely proposed for the group containing the species currently known as *Threskiornis aethiopicus* and it is clear that Degland intended his family-group name to apply to birds commonly known as ibises. Reichenbach (1849–50, pl. XIII) also clearly proposed Ibididae (based on *Ibis* Möhring, 1752) for the ibises (= Threskiornithidae) and his name was consistently used for the ibises for a long period during the latter part of the 19th century following the synonymy of *Tantalus* with *Mycteria* and the concurrent synonymizing of Tantalidae with Ciconiidae, see above. The genus *Ibis* Möhring, 1752 contained species now placed in *Eudocimus* and *Threskiornis* (*rubus*, *albus*, and *aethiopicus*). Many 19th century workers accepted names published prior to Linnaeus 1758 or Linnaeus 1766 and hence would have accepted a family-group name Ibididae based on *Ibis* Möhring, 1752. Today, however, *Ibis* Möhring, 1752, being pre-Linnaean, is not available for nomenclatural purposes and does not predate *Ibis* Lacépède, 1799, *Ibis* Cuvier, 1816 or any other post-Linnaean use of *Ibis*. Gray (1842) proposed the genus *Threskiornis* with the type species *aethiopicus* (formally placed in *Tantalus*). Subsequently, *Ibis* Cuvier, 1816 was shown to be a junior homonym of *Ibis* Lacépède, 1799 (type species *candidus* = *Tantalus ibis* = *Mycteria ibis*). Note that the only species of *Ibis* Cuvier, 1816 included in *Ibis* Lacépède are *ibis*, *leucocephala* and *cinerea*. These species were later placed in *Pseudotantalus* by Ridgway, 1883 (= *Ibis* Lacépède, 1799 = *Mycteria* Linnaeus, 1758).

When *Ibis* Cuvier, 1816 was shown to be a junior homonym of *Ibis* Lacépède, 1799, Ibididae Degland, 1849 and/or Ibididae Reichenbach, 1849–50) were treated as synonyms of Ciconiidae Sundevall, 1836. But, the presently recognized family-group name Ibididae (type genus *Ibis* Lacépède, 1799, attributed to Degland, 1849 and treated by most workers as a synonym of Ciconiidae) is not the same as the original Ibididae of Degland

or of Reichenbach because Degland and Reichenbach based their Ibididae on a type genera other than *Ibis* Lacépède, 1799. Yet ornithologists regard Ibididae Degland, 1849 (*Ibis* Cuvier, 1816) as if it was identical to a family-group name Ibididae of authors (*Ibis* Lacépède, 1799), which is clearly in error but also realistically not reversible at this time. Clearly all this matters little as Ibididae Degland, 1849 as well as Ibididae Reichenbach, 1849–50 are both based on a genus *Ibis* (either Cuvier 1816 or Möhring, 1752) which is either a junior homonym of *Ibis* Lacépède, 1799 or not available as a pre-Linnaean name; hence in either case, Ibididae Degland, 1849 and Ibididae Reichenbach are unavailable as family-group names. Many problems would have been avoided if these early authors based the family-group name for the ibises on the genus *Threskiornis* G. R. Gray, 1842 rather than on *Ibis*.

For these reasons, I conclude that Ibididae Degland, 1849 (*Ibis* Cuvier, 1816) is a synonym of Threskiornithidae Poche, 1904, but is unavailable or objectively invalid. On the other hand, although ornithologists have regarded Ibididae Degland, 1849 (actually prior to this analysis ornithologists considered this family-group name to be Ibididae Reichenbach, 1849–50) to be a synonym of Ciconiidae Sundevall, 1836 for almost 100 years, it clearly does not belong in the synonymy of Ciconiidae even though *Ibis* Lacépède, 1799 is a synonym of Mycteria Linnaeus, 1758. Because of this confusion, I have placed Ibididae Degland, 1849 (*Ibis* Cuvier, 1816) in the synonymy of Threskiornithidae and Ibididae auct. (*Ibis* Lacépède, 1799 = *Mycteria*) in the synonymy of Ciconiidae.

This complex history of the family-group name Ibididae shows that it is difficult to impossible to assume that taxonomists have always associated family-group names with the type genus on which the name was originally based! This complexity is increased when a family-group name spelled the same way has been proposed by several authors for different genera, and the original descriptions are vague. Problems occur especially when the original type genus is shown to be a homonym of a genus in another family-level taxon. In such cases, the family-group name had almost always been transferred to the new family-level taxon without consideration of the correctness of this action. These shifts of family-group names from one family-level taxon to another and from one type genus to another (the second genus usually being the senior homonym) were made without comment. Such shifts are difficult to clarify without a detailed analysis of the nomenclatural history of both the family-group and the genus-group names. However, such changes have almost always been accepted in the past; they are now faits accomplis. No good reasons exist not to continue to follow these admittedly invalid nomenclatural acts. Nor is there any good reason to object at this time to individual cases because of currently invalid procedures which had been general practice in the past. Moreover, these complex cases illustrate that adherence to a strict set of rules such as those in the Code may result in greater instability and confusion in family-group names than a simple practice of conserving well-established names.

Melanopelargidae—Melanopelargidae Poche, 1904 (*Melanopelargus* Reichenbach, 1852) is one of the few available Poche fmily-group names as *Melanopelargus* Reichenbach, 1852 is available as a post-Linnaean name.

Mycteriidae—*Tantalus* Linnaeus, 1758 was synonymized with *Mycteria* Linnaeus, 1758, and Tantalidae Bonaparte, 1831 has been replaced by Mycteriidae Anonymous, 1908 (1831) which takes precedence from 1831. Nevertheless, Mycteriidae should be suppressed conditionally with respect to Ciconiidae (which should be conserved conditionally, see above) because no worker has ever used Mycteriidae for this family-level taxon. Mycteriidae can still be used for any family-level taxon containing *Mycteria*, but not *Ciconia*, e.g., the tribe Mycteriini, as is frequently done.

Threskiornithidae—Threskiornithidae Poche, 1904 (*Threskiornis* G. R. Gray, 1842) is available as *Threskiornis*, an available post-Linnaean name, and has precedence with respect to Threskiornithidae Richmond, 1917. This name has had a simple history but its antecedents have been most complex, being associated with Tantalidae Bonaparte, 1831 and *Tantalus* Linnaeus, 1758 (see above, under Tantalidae), and with Ibididae Degland,

1849 and *Ibis* Cuvier, 1816 (see above, under Ibididae). The transfer of Ibididae Degland, 1849 from *Ibis* Cuvier, 1816 to *Ibis* Lacépède, 1799 was invalid in my opinion, and the complete history of *Ibis* Cuvier, 1816 and Ibididae Degland, 1849 has been most confused. *Tantalus aethiopicus* Latham, 1790 had been included in *Tantalus* and served subsequently as the type species for *Ibis* Cuvier, 1816 and *Threskiornis* G. R. Gray, 1842; hence, the spirit of the provisions in Article 40(b) should apply to the replacement of Tantalidae Bonaparte, 1831 by Ibididae Degland, 1849 and its subsequent replacement by Threskiornithidae Poche, 1904.

Plataleinae Bonaparte, 1838 (*Platalea* Linnaeus, 1758), Eudociminae Bonaparte, 1854 (*Eudocimus* Wagler, 1833), Geronticinae Bonaparte, 1855 (*Geronticus* Wagler, 1832), Phimosinae Bonaparte, 1855 (*Phimosus* Wagler, 1832), Falcinellinae des Murs, 1860 (*Falcinellus* = *Plegadis*) and Plegadinae Mathews, 1913 (1860) (*Plegadis*) have priority with respect to Threskiornithidae Poche, 1904 (*Threskiornis* G. R. Gray, 1842), but Threskiornithidae should be conserved conditionally in preference to Plataleinae, Eudociminae, Geronticinae, Phimosinae, Falcinellinae and Plegadinae for any family-level taxon containing *Threskiornis*, *Platalea*, *Eudocimus*, *Geronticus*, *Phimosus*, *Falcinellus* and *Plegadis* because Threskiornithidae has been well-established for this family-level taxon for over 85 years and because Threskiornithidae replaced Tantalidae Bonaparte, 1831 in concept, if not under the exact provisions of the Code. Plataleinae Bonaparte, 1838, Eudociminae Bonaparte, 1854, Geronticinae Bonaparte, 1855, Phimosinae Bonaparte, 1855, Falcinellinae des Murs, 1860 and Plegadinae Mathews, 1913 (1860) can still be used for any family-level taxon containing *Platalea*, *Eudocimus*, *Geronticus*, *Phimosus*, *Falcinellus*, and *Plegadis* respectively, but not *Threskiornis*.

An earlier application to conserve the name Threskiornithidae Poche, 1904 was submitted in 1975 to the ICZN by Mayr et al. (1984) and commented on by Bock (1986). The several requests in that application were approved by the ICZN (Opinion 1674; Tubbs, 1992a) which gives the name Threskiornithidae Poche, 1904 precedence with respect to Plataleidae Bonaparte, 1838 and Eudocimidae Bonaparte, 1854. However, it is still necessary to conserve Threskiornithidae Poche, 1904 with respect to the several other family-group names mentioned above.

Threskiornithinae—Threskiornithinae should be conserved for any family-level taxon containing *Threskiornis*, but not *Platalea*, see above.

Eudociminae—See above, under Threskiornithidae.

Geronticinae—See above, under Threskiornithidae.

Phimosinae—See above, under Threskiornithidae.

Falcinellinae—See above, under Threskiornithidae.

Plegadinae—See above, under Threskiornithidae.

Tantalinae (Threskiornithinae)—See above, under Tantalidae (Ciconiidae).

Ibidinae (Threskiornithinae)—See above, under Ibididae (Ciconiidae).

Plataleinae—Plataleidae should be suppressed conditionally with respect to Threskiornithidae, but it still can be used for any family-level taxon (either family or subfamily) containing *Platalea* but not *Threskiornis*, see above under Threskiornithidae, Mayr et al., 1984), and ICZN Opinion 1674 (Tubbs, 1992a).

Cathartidae—Vulturidae Fleming, 1822 (*Vultur* Linnaeus, 1758) has priority with respect to Cathartidae de Lafresnaye, 1839 (*Cathartes* Illiger, 1811); however, Cathartidae de Lafresnaye, 1839 should be conserved fully in preference to Vulturidae Fleming, 1822 because of its well-established use for 150 years for the taxon containing the New World vultures.

Vulturidae—The history of *Vultur* Linnaeus, 1758 and Vulturidae Fleming, 1822 has been most unfortunate. Vulturidae Fleming, 1822 (*Vultur* Linnaeus, 1766) was proposed for the vulture-like birds of prey, both those found in the Old World and in the New World. The genus *Vultur* was originally broadly based, containing most or all of the large vulture-like birds, both Old and New World. Fleming's *Vultur* clearly applied to Old World species, and his *Sarcoramphus* to New World vultures. Subsequently, ornithologists demonstrated that these two groups of vultures

are distinct and should be placed in different family-level taxa. Henceforth, when used during the 19th century, Vulturidae was applied only and consistently to the family-level taxon containing the Old World vultures. Selby (1840) clearly restricted the type species of *Vultur* Linnaeus, 1758 to *Vultur fulvus* (now = *Gyps* Savigny, 1809). No doubt exists about Selby's action which fixed the type species of *Vultur* Linnaeus, 1758 for the first time. Unfortunately, Selby's action cannot be accepted as the species *Vultur fulvus* Hablizl, 1783 was described after Linnaeus proposed *Vultur* and hence cannot serve as the type species of this genus. In 1906, Allen argued by elimination that the type species of *Vultur* was *Vultur gryphus* Linnaeus, 1758, the Andean Condor—a member of the Cathartidae. Although Allen's decision had been accepted and is now a fait accompli, his arguments (Allen, 1906, 1907a, 1907b, 1907c) were rather circuitous to say the least and were probably dubious even at that time. Allen's method of fixation by elimination is no longer considered by itself to constitute type fixation [Art. 69(b)] (see Mayr, 1989a, for a discussion of changes in nomenclatural concepts). Vulturidae gradually dropped from use as a family-group name after 1840 and was replaced either by Gypinae Blyth, 1852 (*Gyps* Savigny, 1809) or more recently by Aegypiinae W.P. Sclater, 1924 (*Aegypius* Savigny, 1809) if the Old World vultures were recognized as a separate subfamily within the Accipitridae. In recent years, a few workers, insisting on strict priority and failing to recognize the canon of continuity (stability) of nomenclature as clearly expressed in the Preamble to the International Code of Zoological Nomenclature, have used Vulturidae for the New World vultures. Almost no ornithologists have accepted this practice and continued to use the name Cathartidae.

Vulturidae Fleming, 1822 should be fully suppressed for purposes of priority and homonymy with respect to Cathartidae de Lafresnaye, 1839 (see above, under Cathartidae) and placed on the Official Index of Rejected and Invalid Family-Group Names in Zoology. As there has never been any suggestions to subdivide the living New World vultures into family-level groups (i.e., based on the *Vultur* Linnaeus, 1758, type species *gryphus*), it appears best to suppress completely Vulturidae Fleming, 1822 (*Vultur* Linnaeus, 1758) and to place it on the Official Index of Rejected and Invalid Family-Group Names in Zoology which will eliminate any future confusion on its use.

Accipitrinae—The names Accipitrinae Vigors, 1824, Milvinae Vigors, 1824 and Buteoninae Vigors, 1824 were proposed in the same paper. Because Accipitrinae has always been accepted by ornithologists as the name for the family-level taxon containing the genera *Accipiter*, *Milvus*, and *Buteo*, Accipitrinae should be conserved conditionally in preference to Milvinae and Buteoninae. Milvinae and Buteoninae are still available for any family-level taxon containing *Milvus* or *Buteo*, but not *Accipiter*.

Milvinae—See above, under Accipitrinae.

Buteoninae (Accipitrinae)—Buteoninae Vigors, 1824 (*Buteo* Lacépède, 1799) and Buteonini Poche, 1904 (*Buteo* Möhring, 1752; = Psittaculini) are based on different genera, but the latter family-group name is unavailable, being based on a pre-Linnaean generic name (see below). Buteonini Poche, 1904 is not available for purposes of zoological nomenclature and hence does not enter into homonymy with Buteoninae Vigors, 1824. *Buteo* Möhring, 1752, being pre-Linnaean, does not predate *Buteo* Lacépède, 1799. Both family-group names are in the main list. See under Buteonini (Psittaculini), and see above, under Accipitrinae.

Gypaetinae—See below under Neophroninae for a discussion of the proper name if the Old World vultures are recognized as a separate taxon.

Cymindidinae—*Cymindis* Cuvier, 1816 was synonymized by most workers with *Leptodon* Sundevall, 1836 prior to 1961. However, Brodkorb (1964) proposed Leptodontinae after 1960; hence Leptodontinae Brodkorb, 1964 does not replace Cymindidinae Swainson, 1837 and takes precedence from 1964. Cymindidinae Swainson, 1837 would be the valid name for any family-level taxon based on the nominal genus *Cymindis* Cuvier, 1816 which is now known under the name *Leptodon*.

Racaminae—*Racama* G. R. Gray, 1840 was synonymized with *Gypohierax* Rüppell, 1836 prior to 1961, and Racaminae G. R.

Gray, 1840 has been replaced by Gypohieracinae Bonaparte, 1842 (1840) which takes precedence from 1840.

Neophroninae—If the Old World Vultures are recognized as a separate group (subfamily), then the correct name for this taxon would be (a) Gypaetinae Bonaparte, 1831 if the genus *Gypaetus* Storr, 1784 is included in this taxon, or (b) Neophroninae Gray and Gray, 1848 if *Gypaetus* is not included. Gypinae Blyth, 1851 (*Gyps* Savigny, 1809) and Aegypiinae W.P. Sclater, 1924 (*Aegypius* Savigny, 1809) were published later and lack priority with respect to the first two names mentioned. Aegypiinae has been used by some authors as has Gypinae, but no problem of well-established use exists for any of these names.

Gypinae—See above, under Neophroninae for a discussion of the proper name if the Old World vultures are recognized as a separate taxon.

Nisinae (Accipitrinae)—Nisinae Ridgway, 1873 (*Nisus* Lacépède, 1799 = *Accipiter* Brisson, 1766; = Accipitrinae Vigors, 1824) and Nisinae Poche, 1904 (*Nisus* Möhring, 1752 = *Centropus* Illiger, 1811; = Centropodinae Horsfield, 1823) are based on different genera. However, Nisinae Poche, 1904 is unavailable, being based on a pre-Linnaean genus (see below), and hence it does not enter into homonymy with Nisinae Ridgway, 1873. *Nisus* Möhring, 1752, being pre-Linnaean, does not predate *Nisus* Lacépède, 1799. Both names are in the main list. See below, under Nisinae (Centropodinae).

Urubitinginae—*Urubitinga* de Lafresnaye, 1842 was synonymized with *Buteogallus* Lesson, 1830 prior to 1961 and Urubitinginae Ridgway, 1873 has been replaced by Buteogallinae Verheyen, 1959 (1873) which takes precedence from 1873.

Macheiramphinae—The correct spelling and author of the type genus is *Macheiramphus* Bonaparte, 1850, not *Machaerhamphus* Westerman, 1851 [not 1848] as shown by Brooke and Clancey, 1981. Hence the family-group name is Macheiramphinae, not Machaerhamphinae.

Craxireginae—Craxireginae Poche, 1904 (*Craxirex* Gould, 1839 = *Buteo* Lacépède, 1799) is available as *Craxirex* is available as a post-Linnaean name.

Aegypiinae—See above, under Neophroninae for a discussion of the valid name if the Old World vultures are recognized as a separate taxon.

Gypogeranidae—*Gypogeranus* Illiger, 1811 and *Serpentarius* Cuvier, 1798 were synonymized with *Sagittarius* Hermann, 1783 prior to 1961, and Gypogeranidae Vigors, 1825 and Serpentariidae Lesson, 1828 have been replaced by Sagittariidae Finsch and Hartlaub, 1870 (1825) which takes precedence from 1825.

Serpentariidae—See above, under Gypogeranidae.

Caracarinae—*Caracara* Merrem, 1826 (not Cuvier, 1816, see Wolters, 1975–82: 78) was synonymized with *Polyborus* Vieillot, 1816 prior to 1961, and Caracarinae d'Orbigny, 1837 has been replaced by Polyborinae Bonaparte, 1838 (1837) which takes precedence from 1837.

Ibycterinae—*Ibycter* Vieillot, 1816 was synonymized with *Daptrius* Vieillot, 1816 prior to 1961, and Ibycterinae Bonaparte, 1854 has been replaced by Daptriinae Hellmayr and Conover, 1949 (1854) which takes precedence from 1854.

Anatidae—Mergidae Rafinesque, 1815 (*Mergus* Linnaeus, 1758) and Anseridae Vigors, 1825 (1815) (*Anser* Brisson, 1760) have strict priority with respect to Anatidae Leach, 1820 (*Anas* Linnaeus, 1758); however Anatidae Leach, 1820 should be conserved conditionally in preference to Mergidae and Anseridae because of its well-established use for 170 years since the original proposal of the name Anatidae [Art. 79(b)(iii)]. Moreover, some question exists as to the availability of the Rafinesque family-group names, e.g., Mergidae and especially Anseriidae. Anseridae and Mergidae have very rarely, if ever, been used for the entire family of ducks since 1820. See below, under Anserinae and Merginae.

Anserinae—The history of this name is rather complex and illustrates the arbitrary decisions which have to be made concerning names early in the 19th century, but fortunately it does not affect the availability of Anserinae. Rafinesque (1815) is quite clear that he based his Anseriidae (spelled Anserinia) on the genus *Anseria* Rafinesque, 1815. But is it not at all clear what *Anseria* is. Quite

possibly *Anseria* as used by Rafinesque is a misspelling of *Anser* and hence his family-group name should have been Anserinae. However, if *Anseria*, Rafinesque, 1815 is considered as a distinct generic name, then *Anseria* has been synonymized with *Anser* Brisson, 1760 prior to 1961, and Anseriidae Rafinesque, 1815 (*Anseria* Rafinesque, 1815), if available, has been replaced by Anserinae Vigors, 1825 (1815) (*Anser* Brisson, 1760) which takes precedence from 1815. Yet, *Anseria* is regarded by most workers as a nomen nudum (Sherborn, 1922–32); in this case, Anseriinae would be unavailable as it lacks a type genus, and Anserinae Vigors, 1825 would be the earliest available family-group name for a taxon containing the genus *Anser* and would date from 1825, not 1815. I have treated Anseriidae Rafinesque, 1815 as being available. Anserinae Vigors, 1825 (1815) should be suppressed conditionally with respect to Anatidae Leach, 1820, because Anseridae had very rarely, if ever, been used for the entire family containing *Anas* and *Anser* [Art. 79(b)(iii)]. Anserinae can still be used for any family-level taxon containing the *Anser*, but not *Anas*.

Anserinae Vigors, 1825 (1815) (*Anser* Brisson, 1760), Cereopseinae Vigors, 1825, (*Cereopsis* Latham, 1801), and Cygninae Vigors, 1825 (*Cygnus* Bechstein, 1803), have all been proposed the same year. Because of its well-established use, Anserinae should be conserved conditionally in preference to Cereopseinae and Cygninae.

Cereopseinae—See above, under Anserinae.

Cygninae—See above, under Anserinae.

Berniclinae—*Bernicla* Boie, 1822 was synonymized with *Branta* Scopoli, 1769 prior to 1961, and Berniclinae Reichenbach, 1849–50 has been replaced by Brantinae Olphe-Galliard, 1887 (1849–50) which takes precedence from 1849–50. Olphe-Galliard used Brentinae based on *Brenta* which are spelling variants for Brantinae and *Branta*.

Micropterinae—*Micropterus* Lesson, 1828 was synonymized with *Tachyeres* Owen, 1875 prior to 1961, and Micropterinae Bonaparte, 1856 has been replaced by Tachyerinae Verheyen, 1953 (1856) which takes precedence from 1856.

Kazarkinae—*Kazarka* Eyton, 1838 and *Casarca* Bonaparte, 1838 were synonymized with *Tadorna* Oken, 1817 prior to 1961, and Kazarkinae Olphe-Galliard, 1888 and Casarcinae von Boetticher, 1930 have been synonymized with Tadorninae Reichenbach, 1849–50. Moreover, Kazarkinae Olphe-Galliard, 1888 is based on *Kazarka* Eyton, 1838 which is an spelling variant of *Casarca* Bonaparte, 1838.

Casarcinae—See above, under Kazarkinae.

Fuligulinae—*Fuligula* Stephen, 1824, *Marila* Reichenbach, 1852, and *Nyroca* Fleming, 1822 were synonymized with *Aythya* Boie, 1822 prior to 1961, and Fuligulinae Swainson and Richardson, 1831, Marilinae Reichenbach, 1849–50 and Nyrocinae Peters, 1931 have been replaced by Aythyinae Delacour and Mayr, 1945 (1831) which takes precedence from 1831.

Dendronessinae—*Dendronessa* Swainson, 1832 was synonymized with *Aix* Boie, 1828 prior to 1961, and Dendronessinae Reichenbach, 1849 has been replaced by Aiginae Verheyen, 1955 (1849) which takes precedence from 1849.

Marilinae—See above, under Fuligulinae.

Nyrocinae—See above, under Fuligulinae.

Merginae—Mergidae Rafinesque, 1815 should be suppressed conditionally with respect to Anatidae for any family-level taxon containing *Anas* and *Mergus* (see above), but Merginae can still be used for any family-level taxon, e.g., the Merginae, containing *Mergus*, but not *Anas* [Art. 79(b)(iii)].

Oidemiinae—*Oidemia* Fleming 1822 was synonymized with *Melanitta* Boie, 1822 prior to 1961, and Oidemiinae Swainson and Richardson, 1831 has been replaced by Melanittinae Verheyen, 1955 (1831) which takes precedence from 1831.

Glaucionettinae—*Glaucionetta* Stejneger, 1885 was synonymized with *Bucephala* Brandt, 1858 prior to 1961, and Glaucionettinae Olphe-Galliard, 1888 has been replaced by Bucephalinae Verheyen, 1953 (1888) which takes precedence from 1888.

Palamedeidae—*Palamedea* Linnaeus, 1766 was synonymized with *Anhima* Brisson, 1760 prior to 1961, and Palamedeidae Bonaparte, 1831 has been replaced by Anhimidae Stejneger, 1885 (1831) which takes precedence from 1831.

Palamedaeidae—Palamedaeidae Poche,

1904 is not available because it is based on *Palamedaea* Möhring, 1752 which is unavailable as a pre-Linnaean name. Note that *Palamedaea* Möhring, 1752 and *Palamedea* Linnaeus, 1766 are different names and hence, so are Palamedaeidae Poche, 1904 and Palamedeidae Bonaparte, 1831.

Catheturidae—*Catheturus* Swainson, 1837 was synonymized with *Alectura* Latham, 1824 prior to 1961, and Catheturidae Sundevall, 1872 has been replaced by Alecturidae Mathews, 1946 (1872) which takes precedence from 1872.

Pipilidae—*Pipile* Bonaparte, 1856 was synonymized with *Aburria* Reichenbach, 1853 after 1960, hence Pipilidae Verheyen, 1956 is to be retained as an available family group name [Art. 40(a)].

Phasianidae—Phasianidae Horsfield, 1822 may not have priority over Gallidae. This decision depends on the exact nature of the earlier uses of the names Galliae, Gallinaces, Gallinae, etc, (e.g., Temminck, 1820–40) although in all cases known to me, it is clear that these early uses of Gallinae and similar names based on *Gallus* are as ordinal-group names, not as a family-group name, in spite of the appearance of the name itself. The earliest definite use, known to me, of Gallidae as a family-group name is Brehm, 1831 (*Gallus* Brisson, 1760). Hence, all pre-Brehm 1831 uses of Gallidae as a family-group name appear to be unavailable and hence would not have priority over Phasianidae Horsfield, 1822.

Parvonidae—Pavonidae Rafinesque, 1815 (*Pavo* Linnaeus, 1758) has priority over Phasianidae Horsfield, 1822 (*Phasianus* Linnaeus, 1758), however Phasianidae Horsfield, 1822 should be conserved conditionally in preference to Pavonidae Rafinesque, 1815 because the former name has a well-established use ever since its introduction over 150 years ago. Pavonidae has very rarely been used for the family-level taxon containing these two genera since 1820 (e.g., Swainson, 1837a, Selby, 1840, Blyth, 1875), and rarely used for any family-level taxon (Smythies, 1986: 75 and Wolters, 1975–82: 100 use Pavoninae for a subfamily within the Phasianidae for a taxon containing only the peafowls, *Pavo* and *Afropavo*). Selby (1840) may have been the last worker to use Pavonidae for the family containing *Phasianus, Pavo, Numida*, and *Meleagris*, e.g., most members of the gallinaceous birds.

Tetraonidae—Tetraonidae Leach, 1820 (*Tetrao* Linnaeus, 1758) has priority over Phasianidae Horsfield, 1822 (*Phasianus* Linnaeus, 1758). However, because the use of Phasianidae has been well-established ever since its introduction 150 years ago and because Tetraonidae has very rarely, if ever, been used for a family-level taxon containing both *Tetrao* and *Phasianus* since 1820, Phasianidae Horsfield, 1822 should be conserved conditionally in preference to Tetraonidae Leach, 1820. Tetraonidae has almost always been used in its current and well-established sense for the taxon containing only the Northern Hemisphere grouse, including the genus *Tetrao*. See below, under Tetraoninae.

Meleagridinae—Meleagridinae G. R. Gray, 1840 (*Meleagris* Linnaeus, 1758) and Meleagridinae Chenu and des Murs, 1854 (*Meleagris* Chenu and des Murs, 1854 = *Numida* Linnaeus, 1766) are homonyms at both the family-group and the generic-group levels with the former being the senior homonym. See below, under Meleagridinae (Numidinae). Melagrinae (Eyton, 1867) is a misspelling.

Galloparinae—The availability of Galloparinae Chenu and des Murs, 1854 is unclear. It was proposed as Galloparinés by Chenu and des Murs (1854, vol. 6: 99) citing *Galloparus* Chenu and des Murs, 1854 which was also proposed in this volume. The generic name is properly presented with sufficient description to be available (not a nomen nudum although *Galloparus* is not listed in any of the general sources on scientific names of animals and of birds). Probably *Galloparus* and Galloparinae represent thinking lapses on the part of the authors for *Gallopavo* and Gallopavoninae, but in any case, the names *Galloparus* and Galloparinae appear to meet all the criteria for availability. However, the only genus Chenu and des Murs (1854) list for this family-level taxon (i.e., Galloparinae) is *Gallopavo* Brisson 1860, not *Galloparus* Chenu and des Murs, 1854 (p. 100); *Gallopavo* is one of the Brissonian generic names (# 2 Tabula synoptica Avium secundum Ordines, p. 26, Brisson, 1760, vol. 1) accepted as available for zoological nomenclature (Hemming,

1962; China, 1963). It is unclear whether Chenu and des Murs erred in using *Galloparus* instead of *Gallopavo*, and hence Galloparinae instead of Gallopavoninae, but this appears to be the most reasonable explanation. However, if *Galloparus* is a nomen nudum, then Galloparinae Chenu and des Murs, 1854 lacks a type genus and is unavailable. None of these arguments really matter as Galloparinae Chenu and des Murs, 1854 and Gallopavoninae, des Murs, 1860 are junior objective synonyms of Meleagridinae G. R. Gray, 1840 (Meleagris Linnaeus, 1758), and it is totally unlikely that Meleagridinae will ever become invalid for this family-level taxon. In a subsequent work, des Murs (1860) used Gallopavoninae for the turkey (*Meleagris* Linnaeus, 1758) clearly indicating that the earlier Galloparinae is a lapsus.

Gallopavoninae—Gallopavoninae des Murs, 1860 (*Gallopavo*) is an available family-group name as it is based on *Gallopavo* Brisson, 1760 which is one of the 115 Brissonian generic names accepted as available for zoological nomenclature (China, 1963). See above, under Galloparinae.

Tetraoninae—Tetraoninae Leach, 1820 should be suppressed conditionally for any family-level taxon containing *Tetrao* Linnaeus, 1758 and *Phasianus* Linnaeus, 1758 [Art. 79(b)(iii)]. However, Tetraoninae Leach, 1820 (*Tetrao*) can be used for a subfamily or family containing *Tetrao*, but not *Phasianus*. See above, under Phasianidae.

Tetrastinae—*Tetrastes* Keyserling and Blasius, 1840 was synonymized with *Bonasa* Stephens, 1819 before 1961, but Tetrastinae Olphe-Galliard, 1886 lacks a replacement name and hence must be held in abeyance.

Ortyginae (Odontophorinae)—The several uses of Ortyginae have had a most complex history, but fortunately one which can be readily untangled. Ortygidae Bonaparte, 1831 (*Ortygis* Illiger, 1811 = *Turnix* Bonnaterre, 1791; = Turnicidae G. R. Gray, 1840), Ortyginae Bonaparte, 1850 (*Ortyx* Stephens, 1819 = *Colinus* Goldfuss, 1820; = Odontophorinae Gould, 1844) and Ortygini Chenu and des Murs, 1854 (*Ortyx* Chenu and des Murs, 1854 [vol. 6: 154]; type species *coturnix*; = *Coturnix* Bonnaterre, 1791; = Perdicini Blyth, 1833) are based on different genera, but the family-group names are homonyms. Clearly Ortygidae Bonaparte, 1831 is the senior homonym, and hence Ortyginae Bonaparte, 1850 and Ortygini Chenu and des Murs, 1854 are objectively invalid. But it is most doubtful that any problems will ever arise from these homonyms, and no action need be taken by the ICZN to resolve them. Both junior homonyms are in the main list. See below, under Ortygidae (Turnicidae) and Ortygini (Perdicini).

This case is difficult because Bonaparte did not clearly cite type genera for family-group names in his papers; hence these type genera must be worked out by a careful and complete analysis of all papers in which these names were used. Moreover, this is not a case in which the family-group name was shifted from one family-level taxon to another because of synonymous or homonymous generic names. Ortygidae was originally proposed by Bonaparte, 1831 for the group now known as Turnicidae based on the genus *Ortygis* Illiger, 1811 (= *Hemipodus* = *Turnix*). Bonaparte (1831: 33) introduced the name Ortyginae for a subfamily under the Crypturidae (= Tinamidae) without comment, but later in the same paper (1831: 55) in a more detailed classification he listed the genus *Ortygis* Illiger, 1811 ["(*Ortygodes*, *V. tridactylus*, Lac *Hemipodus* Temm., *Turnix*, Cuv.) Eur.m.Afr.As."] which is clearly not a New World quail, but a member of the current genus *Turnix*. The genus *Ortyx* Stephens, 1819 was listed by Bonaparte (1831: 55) under *Perdix* (family Phasianidae), hence it is quite clear that Bonaparte proposed Ortyginae for the genus *Ortygis* Illiger, 1811 (= *Turnix*). Bonaparte used Ortygidae or some variant of it (e.g., Ortygidinae) in the same sense for the next ten years (Bonaparte, 1838b, 1840a, b, 1841). In his 1842–3 paper Bonaparte used Turnicidae G. R. Gray, 1840 for this group, which he followed in his 1849 classification. He did not use Ortygidae Bonaparte, 1831 in either of these two publications.

Subsequently and without any explanatory comment in his 1850 classification, which is a revision of his 1849 classification published only two months earlier, Bonaparte (1850b) made the switch, using Ortyginae (= Odontophorinae) for the New World quails (*Ortyx* Stephens, 1819 = *Colinus* Goldfuss, 1820; =

Odontophorinae Gould, 1844) and Turnicidae for the button-quails. No comments were given for the change in use of Ortyginae in this or in any of his future papers; Bonaparte followed this second use of Ortyginae in all his future papers. The only explanation for this change in the meaning of Ortygidae is that Bonaparte was very casual in his use of scientific names, and made many changes without any explanation. During the second half of the 19th century most, if not all, uses of the name Ortyginae by ornithologists followed Bonaparte (1850) and applied this name to the New World quails (Odontophorinae), but without any comment or realization of the original proposal by Bonaparte (1831) for a family-level group including *Turnix*.

Finally, *Ortyx* Stephens, 1819 has been synonymized with *Colinus* Goldfuss, 1820 prior to 1961, but Ortyginae Bonaparte, 1850 lacks a replacement name and hence must be held in abeyance.

Oreotetragini—*Oreotetrax* Cabanis, 1846 was synonymized with *Tetraogallus* G. R. Gray, 1832 prior to 1961, and Oreotetragini Cabanis, 1846 has been replaced by Tetraogallini Bonaparte, 1854a (1846) which takes precedence from 1846.

Coturnicini—See below, under Ortygini (Perdicini).

Francolinini—Francolinae (Eyton, 1867) is a misspelling.

Cryptonychini—*Cryptonyx* Temminck, 1815 was synonymized with *Rollulus* Bonnaterre, 1791 prior to 1961, and Cryptonychini Reichenbach, 1848 has been replaced by Rollulini Bonaparte, 1850 (1848) which takes precedence from 1848.

Satyrini—*Satyra* Lesson, 1828 was synonymized with *Tragopan* Cuvier, 1829 prior to 1961, and Satyrini Reichenbach, 1848 has been replaced by Tragopanini von Boetticher, 1939 (1848) which takes precedence from 1848.

Alectoridini—The use of Alectoridini Reichenbach, 1849–50 (*Alectoris* Kaup, 1829) has had a most complex history which cannot be easily solved because, following his usual practice, H. G. Ludwig Reichenbach introduced this name rather casually. Moreover, several early authors used the name Alectorides or a similar spelling for an order (? = Grallatores), suborder (?) or family (?) containing some larger wading birds. Use of Alectorides as an ordinal-group continued after 1850, (e.g., Sclater, 1880b). Other workers, e.g., Illiger (1811), used Alectorides as a family-group name within the order Grallatores, but this name was not formed properly on the stem of the name of a type genus and is unavailable; Temminck (1820–40) and Jarocki (1821: 222) followed Illiger's use. Reichenbach (1845) used Alectorides (= "Hühner—Stelzvögel") for a family within the order Grallae [Sumpfvögel], but without citing a type genus; this group appears to be the same as the more frequently used name Grallatores. It is not at all clear whether Reichenbach, 1849–50 introduced the family-group name Alectorididae (= Alectoridini) on the basis of the genus Alectoris Kaup, 1829 (Perdicini) or as a family-group name for a member of Cracidae. Reichenbach used the name only in the text without an accompanying type genus or an illustration as in many of his publications. However, he designated the family as guans and curassows, and the included genera are ones currently placed in the Cracidae. Yet his families are frequently curious mixtures of distantly related genera, and it is impossible to be certain that Reichenbach specifically excluded Alectoris from it. Although, the availability of Reichenbach's Alectorididae is not at all clear, it should be accepted as based on *Alectoris* Kaup, 1829 because that name was available at the time Reichenbach casually proposed Alectorididae and other avian family-group names of equally doubtful availability. Nothing is gained by arguing strongly against these dubious Reichenbach names as they do not affect use of any well-established family-group names.

Ortygini (Perdicini)—Ortygini Chenu and des Murs, 1854 is based on *Ortyx* Chenu and des Murs, 1854 (vol. 6: 154; type species *coturnix* = *Coturnix coturnix*). *Ortyx* Chenu and des Murs, 1854 was synonymized with *Coturnix* Bonnaterre, 1791 prior to 1961, and Ortygini Chenu and des Murs, 1854 is a junior synonym of Coturnicini Reichenbach, 1848. Moreover, *Ortyx* Chenu and des Murs, 1854 is a junior homonym of *Ortyx* Stephens, 1819 = *Colinus* Goldfuss, 1820, and hence Ortygini Chenu and des Murs, 1854 is un-

available; no action need be taken. See above, under Ortyginae (Odontophorinae).

Gallini—See above, under Phasianidae.

Nycthemerini—*Nycthemerus* Swainson, 1837 has been synonymized with *Gennaeus* Wagler, 1832 prior to 1961, but Nycthemerini Reichenbach, 1848 lacks a replacement name and hence must be held in abeyance.

Argini—*Argus* Temminck, 1813 was synonymized with *Argusianus* Rafinesque, 1815 prior to 1961, and Argini Bonaparte, 1854a has been replaced by Argusianini Bonaparte, 1856 (1854) which takes precedence from 1854. Argusaninae Blyth (1875) and *Argusanus* are spelling variants of Argusianinae and *Argusianus*.

Meleagridinae (Numidinae)—Meleagridinae Chenu and des Murs, 1854 (*Meleagris* Chenu and des Murs, 1854, vol. 6: 83; = *Numida meleagris mitrata*) and *Meleagris* Chenu and des Murs are junior homonyms of Meleagridinae G. R. Gray, 1840 (*Meleagris* Linnaeus, 1758) and of *Meleagris* Linnaeus, 1758. Hence, Meleagridinae Chenu and des Murs, 1854 is unavailable because *Meleagris* Chenu and des Murs, 1854 is a junior homonym of *Meleagris* Linnaeus, 1758. The names proposed by Chenu and des Murs, 1854 (see above, under Meleagridinae) were done in the belief that Linnaeus confused the types of these two genera and that *Meleagris* Linnaeus, 1758 actually applied to the guinea fowl (*Numida* Linnaeus, 1766).

Mesitidae—*Mesites* Geoffroy St.-Hilaire, 1839 and *Mesoenas* Reichenbach, 1862 were synonymized with *Mesitornis* Bonaparte, 1855 (Wetmore, 1960: 11–12; but see also Richmond, 1917: 603) prior to 1961, and Mesitidae Bonaparte, 1850 and Mesoenatidae Reichenbach, 1862 have been replaced by Mesitornithidae Wetmore, 1960 (1850) which takes precedence from 1850. According to Richmond, there is some question as to whether *Mesites* Geoffroy St.-Hilaire, 1839 (Aves) is predated by *Mesites* Schönherr, 1838 (Coleoptera). If Richmond is correct, then *Mesites* Geoffroy St.-Hilaire, 1839 and Mesitidae Bonaparte, 1850 are the valid names for these birds. However, there no good reasons exist to question the earlier decision that *Mesites* Schönherr, 1838 has priority and to attempt to reestablish *Mesites* Geoffroy St.-Hilaire, 1839 and Mesitidae Bonaparte, 1850 at this time.

Mesoenatidae—See above, under Mesitidae.

Moniidae—Moniidae Verheyen, 1958 (*Monias* Oustalet and Grandidier, 1903) lacks priority with respect to Mesitornithidae Wetmore, 1960 (1850).

Ortygidae (Turnicidae)—Ortygidae Bonaparte, 1831 (= Turnicidae G. R. Gray, 1840) is the senior homonym with respect to Ortyginae Bonaparte 1850 (= Odontophorinae Gould, 1844); see above, under Ortygidae (Odontophorinae). *Ortygis* Illiger, 1811 has been synonymized with *Turnix* Bonnaterre, 1791 prior to 1961, and Ortygidae Bonaparte, 1831 has been replaced by Turnicidae G. R. Gray, 1840 (1831) which takes precedence from 1831.

Gruidae—The nomenclatural mess affecting both the generic name and the family-group name, associated with *Grus* was clarified by the plenary decision of the ICZN (Opinion 103, 19 September 1928; Direction 55, 20 December 1956). In this decision, *Grus* Pallas 1766 was declared to refer to all species placed in the section Grues of the 10th edition of Linnaeus (1758), and was conserved. Determination of *Ardea grus* as the type species of *Grus* Pallas precludes further use of the name *Megalornis* G. R. Gray 1841 (see Peters, vol. 2: 150). Although it seems clear that Gruidae Vigors, 1825 has priority, several other family-group names have been used in the past for the family of cranes, namely Psophiidae Mathews, 1913 (*Psophia* Linnaeus, 1758), see below, and Megalornithidae Richmond, 1917 (*Megalornis* G. R. Gray, 1841 = *Grus* Pallas, 1766). Mathews (1913b: 77; 1913–14) used Psophiidae for the cranes, but with no explanation. In 1920, he used Balearicidae (*Balearica* Brisson, 1760) for the family, and subsequently he (Mathews, 1927–30: 188) used Megalornithidae Richmond, 1917 (*Megalornis* G. R. Gray, 1841). Finally, he used Gruidae, again without comment (Mathews, 1946). This sequence of name changes is extreme, even for Mathews; nothing was gained by this series of nomenclatural changes.

Psophiidae (Gruidae)—The nomenclatural mess associated with Psophiidae and Grui-

dae is both complex and completely unnecessary; it was created by Mathews and Richmond, and almost no other ornithologist followed their lead. Note, this discussion should be read with that on Gruidae, see above. Psophiidae was used by Mathews (1913, 1913–14) for the cranes (Gruidae) for a short time in the early years of the 20th century. Mathews (1910: 502) stated that *Megalornis* G. R. Gray 1841: 85 must replace *Grus* (auct., not of Pallas, 1766), and that Pallas (Misc. Zool., p. 66, 1766) introduced *Grus* with relation to *Psophia crepitans* Linnaeus, 1758. Mathews also claimed that Allen (1907: 313–314) showed that *Grus* Pallas 1766 is an absolute synonym of *Psophia* Linnaeus 1758. In this paper, Allen (1907: 313) stated that *Grus* was proposed by Pallas for a miscellaneous group of birds, the diagnosis of which apparently includes the cranes with bare heads referred to by modern writers to the genus *Grus*. The only species mentioned by Pallas under *Grus* is *Psophia crepitans* Linnaeus. Further, Allen (1907b: 314) stated: "By general consent, *Grus* has been accredited to Pallas by subsequent authors with *Ardea grus* Linné (as designated by Gray, 1840) as type. Duméril in 1806 (Zool. Analzr, p. 62) first restricted the genus to the group of cranes with bare heads now alone included in *Grus*". But from this statement it is clear that Allen did not claim that *Grus* should be synonymized with *Psophia* as stated by Mathews. This statement of Allen is apparently the basis used by Mathews for his conclusion that *Psophia* should be used for the cranes (*Grus*).

Mathews (1913b) used Psophiidae without comment for the cranes. It is not quite certain whether Psophiidae as used by Mathews (1913b) for the family-level taxon usually known as the Gruidae is a junior homonym of Psophiidae Bonaparte, 1831 or whether Mathews used Psophiidae Bonaparte, 1831 as it is not clear whether the genus *Psophia* used by Mathews as the type for his Psophiidae is the same genus *Psophia* Linnaeus, 1758 that served as the type for Psophiidae Bonaparte, 1831. Mathews was never clear on this point; he was definite only in that he believed *Psophia* is properly attributed to the cranes. I have treated Psophiidae Mathews, 1913 as a distinct family-group name, hence it is an objective junior homonym of Psophiidae Bonaparte, 1831 and must be rejected as objectively invalid. This junior homonym is in the main list.

Ocydrominae—*Ocydromus* Wagler, 1830 was synonymized with *Gallirallus* de Lafresnaye, 1841 before 1961, but Ocydrominae Bonaparte, 1850 lacks a replacement name and hence must be held in abeyance.

Zaporniinae—*Zapornia* Leach, 1816 was synonymized with *Porzana* Vieillot, 1816 before 1961, but Zaporniinae des Murs, 1860 lacks a replacement name and must be held in abeyance.

Podoanidae—*Podoa* Illiger, 1811 was synonymized with *Heliornis* Bonnaterre, 1791 before 1961, hence Podoanidae Brandt, 1840 was replaced by Heliornithidae G. R. Gray, 1840.

Rhynochetidae—Rhinochetidae (Eyton, 1867) is a misspelling.

Dicholophidae—*Dicholophus* Illiger, 1811 was synonymized with *Cariama* Brisson, 1760 prior to 1961, and Dicholophidae Sundevall, 1836 has been replaced by Cariamidae Bonaparte, 1850 (1836) which takes precedence from 1836.

Parridae—*Parra* Linnaeus, 1766 was synonymized with *Jacana* Brisson, 1760 prior to 1961, and Parridae G. R. Gray, 1840 has been replaced by Jacanidae Chenu and des Murs, 1854 (1840) which takes precedence from 1840.

Rhynchaeidae—*Rhynchaea* Cuvier, 1816 was synonymized with *Rostratula* Vieillot, 1816 prior to 1961, and Rhynchaeidae Brehm, 1855 has been replaced by Rostratulidae Mathews, 1913–14 (1855) which takes precedence from 1855.

Ardeolidae (Dromadidae)—Ardeolidae proposed by Reichenbach, 1849–50 is unavailable because it is not based on the name of a genus included in the present-day Dromadidae. Clearly, Reichenbach did not base his Ardeolidae on *Ardeola* Boie, 1822 (= Ardeidae). See above, under Ardeolini (Ardeidae). Ardeolidae Reichenbach, 1849–50 is included in the main list.

Ostralegidae—It is not at all clear whether Reichenbach (1849) based his Ostralegidae (? *Ostralega* Brisson, 1760) on *Ostralega* Brisson, 1760 or on the same classical word as

the specific name *ostralegus*. However, since the generic name existed at the time, Ostralegidae should be accepted as available. In any case, Ostralegidae is a junior synonym of Haematopodidae.

Avocettidae—It is not at all clear whether Reichenbach (1849) based his Avocettidae Reichenbach, 1849 (? *Avocetta* Brisson, 1760) on *Avocetta* Brisson, 1760 or on the same classic word as the specific name *avosetta*. However, since the generic name existed at the time, Avocettidae should be accepted as available. In any case, Avocettidae is a junior synonym of Recurvirostridae.

Oedicnemidae—*Oedicnemus* Temminck, 1815 was synonymized with *Burhinus* Illiger, 1811 prior to 1961, and Oedicnemidae G. R. Gray, 1840 has been replaced by Burhinidae Mathews, 1912 (1840) which takes precedence from 1840.

Esacidae—Esacidae Blyth, 1852 (*Esacus* Lesson, 1831) lacks priority and should be suppressed conditionally with respect to Burhinidae Mathews, 1912 (1840) (*Burhinus* Illiger, 1811).

Charadriidae—Scolopacidae Rafinesque, 1815 (*Scolopax* Linnaeus, 1758) has priority with respect to Charadriidae Leach, 1820 (*Charadrius* Linnaeus, 1758), but Charadriidae Leach, 1820 should be conserved conditionally in preference to Scolopacidae Rafinesque, 1815 for any family-level taxon (e.g., superfamily) containing *Charadrius* and *Scolopax* because Charadrioidea has been widely and consistently in discussions of avian classification. Scolopacoidea has never been used for this superfamily. See below, under Scolopacidae.

Scolopacidae—Although Scolopacidae Rafinesque, 1815 (*Scolopax* Linnaeus, 1758) and Tringidae Rafinesque, 1815 (*Tringa* Linnaeus, 1758) were both proposed in the same work, Scolopacidae should be conserved conditionally in preference to Tringidae [Art. 79(b)(iii)] for any family-level taxon containing the *Scolopax* and *Tringa*. Scolopacidae has been used consistently for the family-level taxon containing *Scolopax* and *Tringa* for over 150 years; Tringidae has never been used for this taxon. See above, under Charadriidae. Scolopacidae can still be used for any family-level taxon containing *Scolopax*, but not *Charadrius*.

Tringinae and Totaninae—The original use of Tringinae Rafinesque, 1815 (*Tringa* author ?) involves considerable confusion because of the identity of the type genus. In the early part of the 19th century, *Tringa* Linnaeus, 1766 (*canutus*) applied to birds now known as *Calidris* Merrem, 1804 (including *Erolia* Vieillot, 1816), and *Totanus* Bechstein, 1803 applied to birds now known as *Tringa* (Peters, 1934: 280; Wolters, 1975–82: 18; 21). The use of Tringidae by workers such as Gray (1840) was clearly based on *Tringa* Linnaeus, 1766 (type species *canutus* Linnaeus, 1758). It is simply not possible to determine the type genus *Tringa* used by Rafinesque (1815) in proposing his Tringidae; most likely it was for birds now included in *Calidris*. Again, use of this family-group name appeared to follow shifts in the application of the generic name *Tringa*, not the original type genus. Nevertheless, it would be best to follow current use and keep Tringinae associated with the current genus *Tringa* Linnaeus, 1758 even if it differs from the original type genus. The ICZN will be requested to declare *Tringa* Linnaeus, 1758 (type species *Tringa ocrophus* Linnaeus, 1758) as the type genus for Tringinae Rafinesque, 1815. Tringinae should be suppressed conditionally with respect to Scolopacidae for any family-level taxon containing *Scolopax* and *Tringa*, but Tringinae can still be used for any family-level taxon containing *Tringa*, but not *Scolopax*.

Erythroscelini—Erythroscelini Poche, 1904 is available as *Erythroscelus* Kaup, 1829 is available as a post-Linnaean name.

Strepsilinae—*Strepsilas* Illiger, 1811 was synonymized with *Arenaria* Brisson, 1760 prior to 1961, and Strepsilinae G. R. Gray, 1840 has been replaced by Arenariinae Stejneger, 1885 (1840) which takes precedence from 1840.

Cinclinae (Arenariinae)—Cinclinae G. R. Gray, 1841 (*Cinclus* Möhring, 1752) and Cinclidae Sundevall, 1836 (*Cinclus* Bechstein, 1802) are based on different genera. However, Cinclinae G. R. Gray, 1841 is not available because it is based on *Cinclus* Möhring 1752 which is unavailable as a pre-Linnaean name, and hence does not enter into homonymy with Cinclidae Sundevall, 1836. Both names are in the main list. *Cin-*

clus Möhring, 1752, being pre-Linnaean, does not predate *Cinclus* Bechstein, 1802. See below, under Cinclidae.

Phalaropodinae—Phalaridopodinae Olphe-Galliard, 1888 is based on *Phalaridopus* Olphe-Galliard, 1888 both of which are either erroneous spellings or synonyms for Phalaropodinae Bonaparte, 1831 and *Phalaropus* Brisson, 1760.

Calidrinae—*Calidris* Illiger, 1811 (or of authors) on which Reichenbach (1849) based his family-group name is not the same as *Calidris* Merrem, 1804 (*canutus* Linnaeus, 1758). Rather *Calidris* Illiger, 1811 (or of authors) was used for the bird now known as *Crocethia* Billberg, 1828 (*alba*, 1764; Peters, 1934: 280, Wolters, 1975–82: 19). The illustration of *Calidris* in Reichenbach is clearly that of *Calidris* (*Crocethia*) *alba*. *Crocethia* is currently placed by many ornithologists in *Calidris*, or considered subgenerically distinct from *Calidris*, at best. However, there is no need to reject Calidrinae Reichenbach, 1849 for this earlier, but erroneous shift as many other avian family-group names have survived similar or more severe changes of the type genus on which they are now based. The ICZN will be requested to declare *Calidris* Merrem, 1804 (type species *Tringa canutus* Linnaeus, 1758) as the type genus for Calidrinae Reichenbach, 1849.

Heteropodinae—*Heteropoda* Bonaparte, 1838 is a junior homonym of *Heteropoda* Latreille, 1804, hence Heteropodinae Reichenbach, 1849 is objectively invalid.

Machetinae—*Machetes* Cuvier, 1816 was synonymized with *Philomachus* Merrem, 1804 prior to 1961, and Machetinae Olphe-Galliard, 1891 has been replaced by Philomachinae Verheyen, 1958b (1891) which takes precedence from 1891.

Thinocoridae—Thinocorythidae is a spelling variant of the Thinocoridae.

Chionidae—Chionididae is a spelling variant of Chionidae.

Laridae—Although unavailable, *Gavia* Möhring, 1752 was used for gulls (*Gavia alba* = *Pagophila eburnea* Phipps, 1774, the Ivory Gull) for a short period during the second half of the 19th century before *Gavia* J. R. Forster, 1788 had been used for loons. A family-group name Gaviidae based on *Gavia* Möhring, 1752 was never proposed to my knowledge, but the ordinal-group name Gaviae was used for the order which included tube-nosed swimmers and gulls or just the gulls and their close relatives. *Gavia* Möhring, 1752, being pre-Linnaean, does not predate *Gavia* R. J. Forster, 1788.

Laridae Rafinesque, 1815 (*Larus* Linnaeus, 1758) was placed on the Official List of Family-Group Names in Zoology and Larus was placed on the Official List of Generic Names in Zoology (ICZN Opinion No. 1515, issued 23 September 1988).

Lestridinae—*Lestris* Illiger, 1811 was synonymized with *Stercorarius* Brisson, 1760 prior to 1961, and Lestridinae Bonaparte has been replaced by Stercorariidae G. R. Gray, 1870 (1831) which takes precedence from 1831.

Rynchopini—Rhyncopsini (Eyton, 1867) is a misspelling.

Phaleridídae—It is unclear which type genus Gray (1840) had in mind when he proposed Phaleridídae, although a stronger argument could be made that he was considering birds included currently in *Alle* Link, 1806 (= *Phaleris* auct.) rather than birds included currently in *Aethia* Merrem, 1788 (= *Phaleris* Temminck, 1820; see Wolters, 1975–82: 32–33). However, since it is not possible to clarify this point with any certainty, I will assume the latter and hence Phaleridídae G. R. Gray, 1840 (*Phaleris* Temminck, 1820) is available. *Simorhynchus* Merrem, 1819 and *Phaleris* Temminck, 1820 (nec auct., see Wolters, 1975–82: 33) were synonymized with *Aethia* Merrem, 1788 prior to 1961, and Simorhynchidae G. R. Gray, 1855 and Phaleridídae G. R. Gray, 1840 have been replaced by Aethiidae Anonymous, 1908 (1840) which takes precedence from 1840.

Triolidae—No indications exist in any of the standard reference works that a genus *Triole* has been proposed formally; hence Triolidae Reichenbach, 1849 (*Triole*) lacks a type genus and is unavailable.

Cepphidae (Alcidae)—Cepphidae Reichenbach, 1849–50 (*Cepphus* Pallas, 1769) and Cepphidae Poche, 1904 (*Cepphus* Möhring, 1752 = *Gavia* J. R. Forster, 1788) are based on different genera, but the family-group names are not homonyms because Cepphidae Poche, 1904, being based on a pre-Linnaean generic name, is unavailable.

Both names are in the main list. *Cepphus* Möhring, 1752, being pre-Linnaean, does not predate *Cepphus* Pallas, 1769. See above, under Cephphidae (Gaviidae).

Simorhynchidae—See above, under Phaleridídae.

Plautidae—Plautidae Bryant, 1861 is not available because Bryant definitely based it on the genus *Plautus* Klein, 1750 which is pre-Linnaean and unavailable. The generic name *Plautus* Klein, 1750 does not predate *Plautus* Brünnich 1772 which has been suppressed (ICZN Opinion 999, 10 October 1973) and replaced by *Pinguinus* Bonnaterre, 1791.

Allidae—*Plautus* auct. and *Plautus* Gunnerus 1761 (nonbinominal) are not available for this genus and the next available name is *Alle* Link, 1806; Allidae Olphe-Galliard, 1884 (*Alle* Link, 1806) would be the valid name if this genus was placed in a separate family-level taxon. See above, under Plautidae.

Pteroclidae—Pteroclidae Bonaparte, 1831 and Syrrhaptidae Bonaparte, 1831 were proposed in the same paper. Pteroclidae has always been used for this family-level taxon and hence has precedence under the provision of first reviser. Pterocleidae and the Pteroclididae have been used by some authors depending on the judgment of how the stem should be formed from the name *Pterocles* (see Brooke, 1993: 333 who argued that the correct formation of the generic stem from *Pterocles* is "Pterocle-"). The correct formation of the family-group name based on generic names from some Greek nouns can be difficult, and I do not argue which stem is correct. At its recent meetings, the ICZN has argued in favor of the simplest spelling of family-group names and against changes in these names simply because of grammatical correction in the form of the generic stem. Most ornithologists have used the spelling Pteroclidae, which will be followed herein.

Raphidae—Raphidae Poche, 1904 is not available because Poche definitely based it on the genus *Raphus* Möhring, 1752 which is unavailable as a pre-Linnaean name. Although the genus *Raphus* Brisson, 1760 (not preoccupied by *Raphus* Möhring, 1758) was available and could have served as the type genus for Poche's name Raphidae, Poche was quite clear that he based his family-group name on *Raphus* Möhring, 1752. Consequently the correct name and author for this group is Raphidae Wetmore, 1930 (*Raphus* Brisson, 1760).

Dididae—*Didus* Linnaeus, 1766 was synonymized with *Raphus* Brisson, 1760 prior to 1961, and Dididae Swainson, 1835 has been replaced by Raphidae Wetmore, 1930 (1835) which takes precedence from 1835.

Peristerinae—Several authors (e.g., Gray, 1869–71 and Brodkorb, 1963–78) attributed Peristerinae to Selby (1835). Several thorough searches of that volume reveal no suggestion or use of a family-group name by Selby based on the genus *Peristera*. Hence, the only possible conclusion is that Gray was in error in his attribution of this name to Selby, as was Brodkorb who apparently simply copied the information from Gray, without examining Selby (1835). Thus the correct author for Peristerinae is Reichenbach (1850a) as given herein.

Peristera Swainson, 1827 was synonymized with *Claravis* Oberholser, 1899 prior to 1961, and Peristerinae Reichenbach, 1850 has been replaced by Claravinae Richmond, 1917 (1850) which takes precedence from 1850.

Phabinae—The proper formation of the stem for family names of genera ending in "phaps" is "phab-" and not "phap-", hence the correct spelling of the family-group name is Phabinae, not "Phapinae" as commonly used in the literature.

Verruliinae—*Verrulia* Fleming, 1822 is based on an artifact comprised of feathers of *Columba livia* and hence is not available for purposes of zoological nomenclature (Salvadori, 1893: 647). Hence Verruliinae Chenu and des Murs, 1854 lacks a type genus and is unavailable.

Chamaepeliinae—*Chamaepelia* Swainson, 1827 was synonymized with *Columbina* Spix, 1825 prior to 1961, but Chamaepeliinae Bonaparte, 1854–55 lacks a replacement name and hence must be held in abeyance.

Geophabinae—*Geophaps* G. R. Gray, 1842 was synonymized with *Petrophassa* Gould, 1841 prior to 1961, but Geophabinae Reichenbach, 1862 lacks a replacement name and hence must be held in abeyance.

Ptilophyrinae—*Ptilophyrus* Swainson, 1837 was synonymized with *Goura* Stephens,

1819 prior to 1961, and the family-group name Ptilophyrinae Bonaparte, 1840 has been replaced by Gourinae G. R. Gray, 1840 which takes precedence from the same year.

Gnathodontinae—*Gnathodon* Jardine, 1845 was synonymized with *Didunculus* Peale, 1848 prior to 1961, and the family-group name Gnathodontinae Strickland and Melville, 1848 has been replaced by Didunculinae G. R. Gray, 1848 which takes precedence from the same year.

Treroninae—Ptilinopodinae Selby, 1835 (*Ptilinopus* Swainson, 1825), Carpophaginae Selby, 1835 (*Carpophaga* Selby, 1835) and Duculinae Reichenbach, 1862 (1835) (*Ducula* Hodgson, 1836) have priority with respect to Treroninae G. R. Gray, 1840 (*Treron* Vieillot, 1816), but Treroninae should be conserved conditionally in preference to Ptilinopodinae, Carpophaginae and Duculinae for any taxon containing the genera *Treron, Ptilinopus, Carpophaga,* and *Ducula* because Treroninae has been used consistently for over 100 years, and because there may even be some question whether Ptilinopodinae and Carpophaginae were properly proposed as family-group names by Selby (1835). Theroninae (Eyton, 1867) is a misspelling.

Ptilinopodinae—See above, under Treroninae.

Carpophaginae—See below, under Duculinae, and above, under Treroninae.

Zonoenadinae—See below, under Duculinae.

Duculinae—*Carpophaga* Selby, 1835, *Zonoenas* Reichenbach, 1853 and *Myristicivora* Reichenbach, 1853 were synonymized with *Ducula* Hodgson, 1836 prior to 1961, and Carpophaginae Selby, 1835, Zonoenadinae Reichenbach, 1862 and Myristicivorinae Reichenbach, 1862 have been replaced by Duculinae Reichenbach, 1862 (1835) which takes precedence from 1835. See above, under Treroninae.

Palaeornithini—*Palaeornis* Vigors, 1825 was synonymized with *Psittacula* Cuvier, 1800 prior to 1961, and Palaeornithini Vigors, 1825 has been replaced by Psittaculini Vigors, 1825.

Cyclopsittacini—*Cyclopsittacus* Sundevall, 1872 was synonymized with *Opopsitta* P. L. Sclater, 1860 prior to 1961, and Cyclopsittacini Salvadori, 1891 has been replaced by Opopsittini Mathews, 1912 (1891) which takes precedence from 1891.

Buteonini (Psittaculini)—Buteonini Poche, 1904 is not available because it is based on the genus *Buteo* Möhring, 1752 which is unavailable as a pre-Linnaean name. Both names are in the main list. See above, under Buteoninae (Accipitrinae).

Macrocercini—*Macrocercus* Vieillot, 1816 was synonymized with *Ara* Lacépède, 1799 prior to 1961, and Macrocercini Vigors, 1825 has been replaced by Arini G. R. Gray, 1840 (1825) which takes precedence from 1825.

Conurini—It is unclear whether Bonaparte (1853) based his family-group name Conurini on *Conurus* of authors (= *Aratinga* Spix, 1824; Wolters, 1975–82: 58) or on Conurus Kuhl, 1820 (= *Psittacula* Cuvier, 1800; Wolters, 1975–82: 62), but probably the former which would make Conurini Bonaparte, 1853 unavailable because it lacks a type genus. I have accepted the former interpretation. No well-established family-group names depend on this decision.

Androglossini—*Androglossus* Vigors, 1825 and *Chrysotis* Swainson, 1837 were synonymized with *Amazona* Lesson, 1830 prior to 1961, and Androglossini Sundevall, 1872 and Chrysotini Garrod, 1874 have been replaced by Amazonini Mathews and Iredale, 1920 (1872) which takes precedence from 1872.

Chrysotini—See above, under Androglossini.

Cacatuinae—Cacatuinae G. R. Gray, 1840 based on *Cacatua* has been widely accepted by ornithologists during the 19th century (until 1917) when Mathews concluded that *Kakatoe* Cuvier, 1800 was the valid name for this genus and that the family-group name should be Kakatoeinae Mathews, 1916–17. After a period of varied use, almost all ornithologists again used Cacatuinae and *Cacatua* since 1962. However, the question of the type genus of this family-group name still exists; whether genus *Cacatua* Brisson, 1760 or *Cacatua* Vieillot, 1817 serves as the type for Cacatuinae? The first application to the ICZN (Mayr et al., 1964) proposed that *Cacatua* Brisson, 1760 be accepted, and the second, substitute application (Vaurie et al., 1965) proposed that Vieillot, 1817 be accepted. Action on these applications was delayed because of uncertainty about the type species

of *Cacatua* Vieillot, 1817. Hopefully this question has now been resolved (Bock and Schodde, in press). In spite of lack of action by the ICZN, ornithologists for the past three decades have been consistent in using Cacatuinae and *Cacatua* (almost all using *Cacatua* Vieillot, 1817). These names will be followed herein, based on the assumption that the ICZN will accept the proposals advocated by Vaurie et al., 1965, as amended by Bock and Schodde, in press) which will conserve the names *Cacatua* Vieillot, 1817 and Cacatuinae G. R. Gray, 1840. These proposals will affect a few of the synonyms of Cacatuinae, see below.

Plyctolophinae—*Plyctolophus* Vieillot, 1816 has been synonymized with *Cacatua* Brisson, 1760 (or ? Vieillot, 1817) prior to 1961, and Plyctolophinae Vigors, 1825 been replaced by Cacatuinae G. R. Gray, 1840. See also the application to conserve *Cacatua* Vieillot, 1817, (Mayr et al., 1964; Vaurie et al., 1965; see also, Bock and Schodde, in press, for comments with supplementary requests). If the application is approved, *Plyctolophus* and Plyctolophinae would be suppressed under Article 40(b).

Microglossinae—*Microglossus* Geoffroy St.-Hilaire, 1823 was synonymized with *Probosciger* Kuhl, 1820 prior to 1961, and Microglossinae Bonaparte, 1853 has been replaced by Proboscigerinae Mathews, 1916–17 (1853) which takes precedence from 1853.

Cacatoinae and Kakatoeinae—An application has been filed with the ICZN (Mayr et al., 1964; Vaurie et al., 1965; Bock and Schodde, in press) to suppress *Cacatoes* Duméril, 1806 and *Kakatoe* Cuvier, 1800 and Cacatoinae Mathews, 1912 and Kakatoeinae Mathews, 1916–17 and to placed them on the Official Indexes; however a decision has not yet been reached on this application.

Callocorydontinae—*Callocorydon* Mathews, 1917 was synonymized by most avian systematists with *Callocephalon* Lesson, 1837 prior to 1961, well before the family-group name Callocorydontinae Hoppe, 1986 was proposed. However, I will accept Hoppe's proposal of Callocorydontinae as evidence that he accepted *Callocorydon* as valid in 1986. However, *Callocorydon* Mathews, 1917 is objectively invalid as a junior objective synonym of *Callocephalon* Lesson, 1837, and hence Callocorydontinae Hoppe, 1986 is unavailable.

Nasiterninae—*Nasiterna* Wagler, 1832 was synonymized with *Micropsitta* Lesson, 1831 prior to 1961, and Nasiterninae Bonaparte, 1853 has been replaced by Micropsittinae Reichenow, 1881 (1853), which takes precedence from 1853.

Stringopinae—Stringopinae is a spelling variant of Strigopinae based on the spelling variant *Stringops* for *Strigops*. Strigopsinae (Eyton, 1867) is another spelling variant.

Psittrichadinae—The correct spelling of this name is Psittrichadinae as pointed out by Homberger (1980), not Psittrichasinae as used by von Boetticher (1959).

Dasyptilinae—*Dasyptilus* Wagler, 1832 was synonymized with *Psittrichas* Lesson, 1831 prior to 1961, and Dasyptilinae Bonaparte, 1854 has been replaced by Psittrichadinae von Boetticher, 1959 (1854), which takes precedence from 1854.

Musophagidae—Tauracidae Verheyen, 1956 (1815) has priority (see below, under Tauracidae) with respect to Musophagidae Lesson, 1828 (*Musophaga* Isert, 1789). However, Musophagidae Lesson, 1828 (*Musophaga* Isert, 1789) should be conserved conditionally in preference to Tauracidae Verheyen, 1956 (1815) for any family-level taxon containing the genera *Musophaga* and *Tauraco* because Musophagidae has been used consistently for 150 years and because Tauracidae (or the earlier Turacidae) has rarely been used and never for the entire family. Tauracidae can be used for a taxon containing the genus *Tauraco*, but not *Musophaga*.

Turacidae—*Turacus* Cuvier (1800) was synonymized with *Tauraco* Kluk, 1779 prior to 1961, and Turacidae Rafinesque, 1815 has been replaced by Tauracidae Verheyen, 1956 (1815) which takes precedence from 1815. See above, under Musophagidae.

Tauracidae—See above, under Musophagidae.

Coccystinae—*Coccystes* Gloger, 1842 was synonymized with *Clamator* Kaup, 1829 prior to 1961, and Coccystinae Reichenow, 1884 has been replaced by Clamatorinae Wolters, 1976 (1884) which takes precedence from 1884.

Neomorphinae (Cuculidae)—Neomor-

phinae Shelley, 1891 (*Neomorphus* Gloger, 1827) and Neomorphidae Chenu and des Murs, 1852 (*Neomorpha* Gould, 1837) are based on different genera, but they would be homonyms. *Neomorpha* Gould, 1837 (Callaeidae) has been suppressed for purposes of synonymy and placed on the Official Index in favor of *Heteralocha* Cabanis, 1851; see below, under Neomorphidae (Callaeidae). Unfortunately, neither Fleming (1956) in his application or the ICZN in their decision on *Neomorpha* Gould, 1837 (Hemming, 1958j) mentioned the homonymy of Neomorphinae Shelley, 1891 (*Neomorphus* Gloger, 1827) and Neomorphidae Chenu and des Murs, 1852 (*Neomorpha* Gould, 1837). No action was taken on Neomorphidae Chenu and des Murs, 1852 (*Neomorpha* Gould, 1837) in this decision. The problem of homonymy of these family-group names is resolved because Neomorphidae Chenu and des Murs, 1852 no longer available because its type genus, *Neomorpha* Gould, 1837 has been suppressed. Neomorphinae Shelley, 1891 is available for use as the valid family-group name for the family-level taxon containing the genus *Neomorphus* Gloger, 1827; no action is needed to conserve this name. Both names are in the main list. See below, under Neomorphidae (Callaeidae).

Clearly Neomorphinae became well-established for this subfamily of the Cuculidae because it was used in the *Catalogue of the Birds in the British Museum* which was the established reference for avian classification. Perhaps Reichenbach's *Vögel der zoologischen Garten* was not well known to the international scientific ornithological world, and hence not known to Shelley when he prepared the manuscript on the Cuculidae for the Catalogue. And because family-group names were not governed by priority until 1961, it is quite likely that very few workers knew of or worried about the existence of Reichenbach's Geococcyginae prior to this analysis. In any case, Neomorphinae has been well-established for this subfamily for 100 years and there is no reason to propose a change simply because of the formal provisions in the Code.

Leptostominae—Leptostominae Swainson, 1837 (*Leptostoma* Swainson, 1837), Diplopterinae P.L. Sclater, 1862 (*Diplopterus* Boie, 1826), Geococcyginae Reichenow, 1884 (1837), (*Geococcyx* Wagler, 1831) and Taperinae Verheyen, 1956 (1862) (*Tapera* Thunberg, 1819) have priority with respect to Neomorphinae Shelley, 1891 (*Neomorphus* Gloger, 1827). However, Neomorphinae should be conserved conditionally in preference to Leptostominae, Diplopterinae, Geococcyginae, and Taperinae for any family-level taxon containing the genera *Leptostoma, Diplopterus, Neomorphus, Geococcyx*, and *Tapera* because the former name has a well-established use for 100 years and the latter names have rarely been used for this entire subfamily.

Leptostominae (Neomorphinae)—*Leptostoma* Swainson, 1837 was synonymized with *Geococcyx* Wagler, 1836 prior to 1961 and Leptostominae Swainson, 1837 has been replaced by Geococcyginae Reichenow, 1884 (1837) which takes precedence from 1837.

Leptostominae Swainson, 1837, (*Leptostoma* Swainson, 1837 = *Geococcyx* Wagler, 1831) and Leptosominae Blyth, 1838 (*Leptosomus* Vieillot, 1816) are based on different, although similarly spelled generic names, but are not homonyms as family-group names in spite of their similarity (one letter difference is sufficient to eliminate any homonymy in generic and family-group names). Nevertheless, some confusion has existed because of the similarity of the generic names which is discussed below under Leptosominae. See below, under Leptosominae (Coraciidae).

Diplopterinae—*Diplopterus* Boie, 1826 was synonymized with *Tapera* Thunberg, 1819 prior to 1961, and Diplopterinae P. L. Sclater, 1862 has been replaced by Taperinae Verheyen, 1956 (1862) which takes precedence from 1862. See above, under Leptostominae.

Geococcyginae—See above, under Leptostominae.

Taperinae—See above, under Leptostominae.

Centropodinae—Centropinae (Eyton, 1867) is a misspelling.

Nisinae (Centropodinae)—Nisinae Poche, 1904 is not available because it is based on *Nisus* Möhring, 1752, which is unavailable as a pre-Linnaean name. Thus this name is not available for purposes of zoological nomenclature and is not a junior homonym of Nisinae Ridgway, 1873 (= Accipitrinae). Both

names are in the main list. See above, under Nisinae (Accipitrinae).

Tytonidae—Strigidae had originally been used for all owls, and subsequently for the barn owls (currently = Tytonidae) until it was shown in 1876 by Alfred Newton that *Strix* applies to the Tawny Owl (*Strix stridula* = *Strix aluco*), not to the Barn Owl (currently *Tyto alba*); uncertainty existed as to the identity of the type species of *Strix* Linnaeus, 1758. Confusion continued in the use of these names until the end of the 19th century, and several different names were applied to the barn owls until it was shown that *Tyto* Billberg, 1828 had priority. *Tyto* and Tytonidae have been used consistently since 1912. *Hybris* Nitzsch, 1840 and *Aluco* Fleming, 1822 (which is a junior homonym of *Aluco* Link, 1807) were synonymized with *Tyto* Billberg, 1828 prior to 1961, and Hybreinae Lilljeborg, 1866 and Aluconinae Coues, 1884 have been replaced by Tytoninae Mathews, 1912 (1866) which takes precedence from 1866 (see below). Note that Tytonidae Mathews, 1912 (1866) has priority with respect to Phodilinae Beddard, 1898.

It should, however, be mentioned that Fleming (1822: vol. 2: 236) clearly understood this problem and reached the correct solution early in the 19th century. He placed the Tawny Owl (*Strix stridula* L., 1758 = currently *S. aluco*) in *Strix* Linnaeus, 1758 and the Barn Owl (*Aluco flammea* Linnaeus, 1766 = currently *Tyto alba* Scopoli, 1769) in *Aluco* Fleming, 1822. Fleming's 1822 work is a general zoology text, and it is doubtful that his use of *Aluco* was known, let alone followed, by any avian systematists.

The first recognition of the Barn Owls as a distinct family-level taxon (currently the Tytonidae, but then under Strigidae or Striginae) was apparently by Bonaparte (1838b) when he divided the Strigidae into four subfamilies, the Surniinae, Buboninae, Ululinae, and Striginae (the barn owls). This same classification is used in Bonaparte (1841) which is a reworking of his 1838b publication. Bonaparte (1841: 261) provided a description of this group which clearly pertains to the barn owls. Bonaparte follows this arrangement in all of his subsequent classifications of birds.

The problem is the earliest date for a family-group name corresponding to the family-level taxon containing the type genus, currently known under the name *Tyto* Billberg, 1828. It could be argued that the original name Strigidae Leach, 1820 was based on the genus *Strix* Linnaeus (type species *flammea* = *alba*) and hence the name Tytonidae should take precedence from 1820. But no way exists to determine the contents of the genus *Strix* in Leach's thinking, and what he considered to be the type species. Nevertheless, it is clear that Bonaparte (1838b) interpreted *Strix* to apply to birds currently known under the name *Tyto*, with the type species being *flammea* (= *alba*). Hence the type genus for Bonaparte's Strigidae (and Striginae) is *Strix* Linnaeus, 1758 (type species *flammea*; = *Tyto*; it could be argued that the type genus for Bonaparte's Striginae is actually *Strix*, *auct.*). As far as could be determined, the first clear separation of the owls into family-level taxa in which the Barn Owls (*Strix* = *Tyto*) were placed in a taxa (Striginae) distinct from other owls was Bonaparte (1838a). Hence, it could be argued that Tytonidae could take precedence from 1838, but the generic name *Strix* based on *flammea* (= *alba*) is either a junior homonym or most likely is not available. Therefore Strigidae Bonaparte, 1838 is not available. Hence it is best to use the date of precedence for Tytonidae as 1866 based on Hybreinae Lilljeborg, 1866 (*Hybris* = *Tyto*). This date still results in Tytonidae being the senior synonym for the family-level taxon based on the type genus *Tyto*, and including the genera *Tyto* and *Phodilus*.

Striginae (Tytoninae)—See above, under Tytonidae.

Hybreinae—See above, under Tytonidae.

Aluconinae—See above, under Tytonidae.

Phodilinae—Phodilinae Beddard, 1898 (*Phodilus* Geoffroy St.-Hilaire, 1830) lacks priority with respect to Tytonidae Mathews, 1912 (1866) (*Tyto* Billberg, 1828). Beddard (1898) proposed this name as Photodilinae which is a spelling variant based on *Photodilus*, a spelling variant for *Phodilus*. See above, under Tytonidae.

Strigidae—Strigidae had originally been used for all owls, and subsequently for the barn owls (Tytonidae) until it was shown in 1876 by Alfred Newton that the generic name *Strix* applied to the Tawny Owl (*Strix stridula* Linnaeus, 1758 = *Strix aluco*). Confu-

sion in the use of the name Strigidae existed for many years until the beginning of the 20th century when the name Tytonidae was applied consistently to the barn owls. During most of the 19th century, it is not easy to ascertain the group to which Strigidae applied unless the author clearly placed the barn owls and the typical owls in separate family-level taxa. The switch in use of Strigidae from the barn-owls to the typical owls is a proper one as the name Strigidae remained with its type genus *Strix* Linnaeus, 1758 (type *aluco*).

Buboninae—Buboninae Vigors, 1825 (*Bubo*), Nocturinae Vigors, 1825 (*Noctura*), Atheninae Blyth, 1852 (1825) (*Athene*), and Asioninae Vigors, 1825 (*Asio*) all take precedence from the same publication, but Buboninae should be conserved conditionally with respect to Nocturinae, Atheninae and Asioninae for any family-level taxon containing the genera *Bubo, Noctura, Athene* and *Asio* because Buboninae has been used for this taxon for over 150 years.

Nocturinae—*Noctura* Savigny, 1809 was synonymized with *Athene* Boie, 1822 prior to 1961, and Nocturinae Vigors, 1825 has been replaced by Atheninae Blyth, 1852 (1825) which takes precedence from 1825. See above, under Buboninae.

Atheninae—See above, under Buboninae.

Ieraglaucinae—*Ieraglaux* Kaup 1851 was synonymized with *Hieracoglaux* Kaup, 1848 which in turn was synonymized with *Ninox* Hodgson, 1837 prior to 1961, but Ieraglaucinae Bonaparte, 1854 lacks a replacement name and hence must be held in abeyance.

Scopinae (Strigidae)—Scopinae Bonaparte, 1854 is a junior synonym of Buboninae. It is also a junior homonym of Scopidae Bonaparte, 1849 and is thus objectively invalid. No current need exists to remove the homonymy. The junior homonym is in the main list. See above, under Scopidae, for a discussion of the homonymy.

Asioninae—See above, under Buboninae.

Nyctalinae—*Nyctale* Brehm, 1831 was synonymized with *Aegolius* Kaup, 1829 prior to 1961, but Nyctalinae Pycraft, 1898 lacks a replacement name and hence must be held in abeyance.

Podagerinae—Although Podagerinae G. R. Gray, 1847 (*Podager* Wagler, 1832) has priority with respect to Chordeilinae Cassin, 1851 (*Chordeiles* Swainson, 1832), Chordeilinae Cassin, 1851 should be conserved conditionally in preference to Podagerinae G. R. Gray, 1847 for any taxon containing the genera *Podager* and *Chordeiles* because the former name has been well-established for well over 100 years, and the latter name has rarely been used for the subfamily. Podagerinae can still be used for a taxon containing *Podager*, but not *Chordeiles*.

Apodidae—*Cypselus* Illiger, 1811 was synonymized with *Apus* Scopoli, 1777 prior to 1961, and Cypselidae Sundevall, 1836 has been replaced by Apodidae Olphe-Galliard, 1887 (1836) which takes precedence from 1836. Moreover, Apodidae Olphe-Galliard, 1887 (1836) (*Apus* Scopoli, 1777) was placed on the Official List of Family-Group Names in Zoology (erroneously listed as Apodidae Hartert, 1897; ICZN Opinion 502, issued 24 January 1958). In the same decision, Cypselidae Sundevall, 1836 (*Cypselus* Illiger, 1811; cited by the ICZN as Cypselidae Bonaparte, 1838), Micropodidae Stejneger, 1885 (*Micropus* Wolf, 1810), and Apodidae Reichenow, 1897 (*Apus* Scopoli, 1777) were placed on the Official Index of Rejected and Invalid Family-Group Names in Zoology. *Cypselus* Illiger, 1811 and *Micropus* Wolf, 1810 have ben placed on the Official Index of Rejected and Invalid Generic Names in Zoology in the same decision. Apodidae Olphe-Galliard, 1887 (1836) should be conserved conditionally with respect to Salanganini Le Maout, 1852 (*Salangana*), Collocaliini Bonaparte, 1853 (1852) (*Collocalia* G. R. Gray, 1840) and Chaeturini Bonaparte, 1857 (*Chaetura* Stephens, 1826) because Apodidae has been used for the family for over 100 years and none of these other names have been used for the entire family. Moreover, according to the Code, Apodidae has priority to these other names.

Cypselidae—See above, under Apodidae.

Micropodidae—See above, under Apodidae.

Salanganini—*Salangana* Streubel, 1848 was synonymized with *Collocalia* G. R. Gray, 1840 prior to 1961, and Salanganini Le Maout, 1852 has been replaced by Collocaliini Bonaparte, 1853 (1852) which takes precedence from 1852. See above, under Apodidae.

Collocaliini—See above, under Apodidae.

Chaeturini—See above, under Apodidae.

Macropterygidae—*Macropteryx* Swainson, 1832 and *Dendrochelidon* Boie, 1832 were synonymized with *Hemiprocne* Nitzsch, 1829 prior to 1961, and Macropterygidae Blyth, 1852 and Dendrochelidonidae Bonaparte, 1854 have been replaced by Hemiprocnidae Oberholser, 1906 (1852), which takes precedence from 1852.

Dendrochelidonidae—See above, under Macropterygidae.

Grypinae—*Grypus* Spix, 1824 was synonymized with *Ramphodon* Lesson, 1830 prior to 1961, and Grypinae G. R. Gray, 1848 has been replaced by Ramphodontinae Sundevall, 1872 (1848) which takes precedence from 1848.

Petasophorinae—*Petasophora* G. R. Gray, 1840 was synonymized with *Colibri* Spix, 1824 prior to 1961, but Petasophorinae Reichenbach, 1853 lacks a replacement name and hence must be held in abeyance.

Docimastinae—*Docimastes* Gould, 1849 was synonymized with *Ensifera* Lesson, 1843 prior to 1961, but Docimastinae Reichenbach, 1853 lacks a replacement name and hence must be held in abeyance.

Heliothrichinae—Heliotriinae (or Heliotrichinae) proposed by Simon (1921) based on *Heliotrix* auct. are misspellings for Heliothrichinae Cabanis and Heine, 1860 and *Heliothryx* Boie, 1831. Simon (1921: 408) corrected these misspellings. Heliotriinae (or Heliotrichinae) is not included on the list.

Platurinae—*Platurus* Swainson, 1837 was synonymized with *Discosura* Bonaparte, 1850 prior to 1961, but Platurinae Mulsant, Verreaux and Verreaux, 1866 lacks a replacement name and hence must be held in abeyance.

Amathusiinae—*Amathusia* Mulsant and Verreaux, 1865 was synonymized with *Doricha* Reichenbach, 1854 prior to 1961, but Amathusiinae Mulsant, Verreaux and Verreaux, 1866 lacks a replacement name and hence must be held in abeyance.

Amalasiinae—Amalasiinae was proposed by Mulsant (1875) and presumably based on *Amalasia* Mulsant, 1875; however, this genus is not listed in the standard references of generic names in avian nomenclature. If *Amalasia* is to be attributed to Mulsant (1875), then it is a nomena nudum because no description was included. Hence Amalasiinae Mulsant, 1875 lacks a type genus and is not available.

Zephyritinae—*Zephyritis* Mulsant and Verreaux, 1865 was synonymized with *Myrtis* Reichenbach, 1854 prior to 1961, but Zephyritinae Mulsant, Verreaux and Verreaux, 1866 lacks a replacement name and hence must be held in abeyance.

Cephalolepinae—*Cephalolepis* Loddiges, 1831 was synonymized with *Stephanoxis* Simon, 1897 prior to 1961, but Cephalolepinae Boucard, 1893–95 lacks a replacement name and hence must be held in abeyance.

Klaiinae—Claiinae and *Chais* are misspellings for Klaiinae and *Klais*.

Agyrtrininae—Agyrtriinae as proposed by Simon based on *Agyrtria* are misspellings for Agyrtrininae and *Agyrtrina*.

Eustephaninae—*Eustephanus* Reichenbach, 1849 was synonymized with *Sephanoides* Gray, 1840 prior to 1961, but Eustephaninae Simon, 1921 lacks a replacement name and hence must be held in abeyance.

Spathurinae—*Spathura* Gould, 1849 was synonymized with *Ocreatus* Gould, 1846 prior to 1961, but Spathurinae Simon, 1921 lacks a replacement name and hence must be held in abeyance.

Loddigornithinae—-*Loddigiornis* Bonaparte, 1850 was synonymized with *Loddigesia* Bonaparte, 1850 prior to 1961, but Loddigornithinae Simon, 1921 lacks a replacement name and hence must be held in abeyance.

Alcedinidae—-Alcedinidae, which is attributed to Rafinesque, 1815 (*Alcedo* Linnaeus, 1758), has clear priority over Halcyonidae Vigors, 1825 (*Halcyon* Swainson, 1821) for the family-level taxon of kingfishers containing the genera *Alcedo* and *Halcyon*.

Halcyoninae—-Vigors definitely based his Halcyonidae on *Halcyon* Swainson, 1821 and it is not at all clear why Vigor's name had been rejected by most ornithologists; this rejection appears to be completely unjustified. *Halcyon* was proposed by Swainson in 1821 (not Swainson, 1837 as reported in error in some nomenclatural works), hence it was available for use by Vigors in 1825, and even in 1823 when his paper was presented orally. *Halcyon* Swainson, 1821 is still recognized

today (see *Peters' Check-list*, vol. 5: 193; Wolters, 1975–82: 120). In a footnote (1825: 431), Vigors made it quite clear that he based his family-group name on the genus *Halcyon* of Swainson, 1821. Further in this footnote, Vigors expressed the opinion that he would have preferred *Halcyon* to be used for the European Kingfisher, using the expression "It were, however, to be wished, that the name of *Halcyon* had been retained to that group of the family which includes the European Kingfisher [= *Alcedo atthis ispida*], the bird known to the ancients under that name." Although this footnote indicates a desire on the part of Vigors, he definitely understood that *Halcyon* does not apply to the European Kingfisher. Clearly, the type for Vigors's Halcyonidae is *Halcyon* Swainson, 1821, not *Alcedo* Linnaeus, 1758. However, it is apparent that some misunderstanding must have developed from the footnote (Vigors, 1825: 431), resulting in the belief that Vigors intended the type for his Halcyonidae to be the genus containing the species *Alcedo ispida*. Thus it appears that many ornithologists believed erroneously that the genus *Halcyon* cited by Vigors was a synonym of *Alcedo* Linnaeus, 1758, and hence the accepted name for the kingfishers became Alcedinidae following the then accepted procedure. Possibly, but most improbably, these early ornithologists accepted Alcedinidae Rafinesque, 1815 for the kingfishers, but the evidence suggests that few early avian systematists knew of Rafinesque's 1815 publication and even fewer followed it. Halcyonidae Vigors, 1825 gradually dropped from general usage although Swainson (1837), Selby (1840) and Blyth, (1852) used it for the family, and some workers used it as the name for the subfamily in which the genus *Halcyon* Swainson 1821 was placed (Sundevall, 1872 [1889]: 176 used Halcyoninae; Sharpe, 1868-71 mentioned that if a third subfamily of Kingfishers was recognized, the name would be Halcyoninae.) Decrease in use of the name Halcyoninae occurred in spite of Vigors's clear statement (p. 431) that Swainson's genus *Halcyon* is close to the genus *Dacelo* Leach, 1815, and thereby showing that he knew definitely which genus he was discussing. Subsequently many workers used the name Daceloninae for this taxon.

The only possible conclusion is that Halcyonidae Vigors, 1825 (*Halcyon* Swainson, 1821) is still available for use and is the valid name for the taxon containing the genus *Halcyon*, having priority over Alcyoninae Sundevall, 1836 (*Alcyon* Rafinesque, 1815 = *Halcyon* Swainson, 1821) and Daceloninae Bonaparte, 1837 (*Dacelo*). Moreover, Halcyoninae is based on the largest, most widely and best known genus, *Halcyon*, in the subfamily. In spite of the widespread use of Daceloninae for this group, it seems preferable to advocate use of Halcyoninae. It should be noted that the systematics of the Alcedinidae is currently in great disagreement—with some authors (Sibley et al, 1988; Sibley and Ahlquist, 1990) splitting these birds into several parvorders and superfamilies, and other workers conclude that the Alcedinidae cannot even be divided into subfamilies.

Alcyoninae—Sundevall's 1836 name Alcyoninae is based on *Alcyon* Rafinesque, 1815, not *Alcyone* Swainson, 1837. It appears to be available (depending on the availability of the generic names in Rafinesque, 1815), although the generic name *Alcyon* may be just a variant of *Halcyon*. The genus *Alcyon* Rafinesque, 1815 was synonymized with *Halcyon* Swainson, 1821 prior to 1961, hence Alcyoninae Sundevall, 1836 is a junior synonym of Halcyoninae Vigors, 1825.

Daceloninae—Although Daceloninae Bonaparte, 1837 (*Dacelo*) has been used by many workers for this subfamily, the valid name for the taxon containing *Halcyon* and *Dacelo* is Halcyoninae Vigors, 1825 (*Halcyon*). See above, under Halcyoninae.

Ramphalcyoninae—*Ramphalcyon* Reichenbach, 1851 was synonymized with *Pelargopsis* Gloger, 1841 prior to 1961, but Ramphalcyoninae Laubmann, 1924 lacks a replacement name and hence must be held in abeyance.

Todidae—Todidae Vigors, 1825 (*Todus* Brisson, 1760) was used quite early, but apparently for a large, artificial assemblage of small broad-billed flycatching birds mainly consisting of tody-flycatchers (Tyrannidae), including *Todus* Brisson, 1760 (*viridis* Linnaeus, 1766 = *todus* Linnaeus, 1758). It was not restricted to the family containing only birds of the genus *Todus* until later in the 19th century.

Prionitidae—*Prionites* Illiger, 1811 was

synonymized with *Momotus* Brisson, 1760 prior to 1961, and Prionitidae Swainson, 1832–33 has been replaced by Momotidae G. R. Gray, 1840 (1832–33) which takes precedence from 1832–33.

Merulidae (Momotidae)—Merulidae Poche, 1904 (*Merula* Möhring, 1752; = Momotidae G. R. Gray, 1840) and Merulidae Vigors, 1825 (*Merula* Boddaert, 1783 = Turdus Linnaeus, 1758; = Turdidae, Rafinesque, 1815) are based on different genera, but Merulidae Poche, 1904 is not available because it is based on *Merula* Möhring, 1752 which is unavailable as a pre-Linnaean generic name. Both names are in the main list. *Merula* Möhring, 1752, being pre-Linnaean, does not predate *Merula* Boddaert, 1783. See below, under Merulinae (Turdidae).

Meropidae—Meropidae Lesson, 1830 (= 1831) was placed on the official List of Family-Group Names in Zoology (Name No. 1, Opinion 140, ICZN, issued 6 December 1954). However, the ICZN erred in citing Lesson as the author of this name because Meropidae should be attributed to Rafinesque, 1815 (if other family-group names of Rafinesque are accepted) and it was also used by Leach, 1820, Horsfield (1822a), Vigors (1825) and others prior to Lesson (1831a).

Apiasteridae—This name was originally proposed by Reichenbach as Apiastriidae and could have been based on the genus *Apiaster* Brisson, 1760, or (as may be the case with some of Reichenbach's names) based on the specific name. I will accept the possibility that this name was based on the genus *Apiaster* and hence is available; it is properly spelled Apiasteridae. *Apiaster* Brisson, 1760 was synonymized with *Merops* Linnaeus, 1758 prior to 1960.

Coraciidae—Coraciadidae is a spelling variant of Coraciidae. Although Coraciadidae is the correct spelling (Wolters (1975–82: 116) it is unused and the spelling of this name had been declared to be Coraciidae which has been placed on the Official List of Family-Group Names in Zoology (ICZN Direction 58, issued 20 December 1956), based on *Coracias* Linnaeus, 1758 which has been placed on the Official List of Generic Names in Zoology (ICZN Opinion 404, issued 24 July 1956). The author and date of Coraciidae were cited correctly by the ICZN as Rafinesque, 1815.

Brachypteraciinae—Atelornithinae Chenu and des Murs, 1852 (*Atelornis* Pucheran, 1846) has priority with respect to Brachypteraciinae Bonaparte, 1854 (*Brachypteracias* de Lafresnaye, 1834), but Brachypteraciinae should be conserved conditionally in preference to Atelornithinae because the former has a well-established use for over 100 years, and the latter name has rarely been used for the taxon containing *Brachypteracias* and *Atelornis*. Atelornithinae Chenu and des Murs, 1852 is still available for a taxon containing *Atelornis*, but not *Brachypteracias*.

Brachypteraciadidae is the correct spelling of this name, but is unused (Wolters, 1975–82: 116) and should not be adopted at this late date.

Atelornithinae—See above, under Brachypteraciinae.

Leptosominae—Leptosominae Blyth, 1838 is based on *Leptosomus* Vieillot, 1816, but for over 100 years was usually, but incorrectly, spelled Leptosomatinae. That incorrect spelling was believed to be in homonymy with Leptosomatidae Filipjev, 1916 based on *Leptosomatum* Bastain, 1865 (Nematoda), until the homonymy was resolved by the ICZN Opinion 1068 (1977). A few matters relating to this name must still be clarified.

Similarity between Leptosominae Blyth, 1838 (Aves), Leptosomatidae Filipjev, 1916 (Nematoda), and Leptostominae Swainson, 1837 (Aves; see above, under Leptostominae) must be pointed out although none of these names are homonyms. The use of these generic and family-group names by ornithologists constitutes a major mess and the following discussion must be read carefully to follow the twists and turns of earlier usage. Because Leptostominae (Aves: Cuculidae) has not been used since 1840 and will certainly never be used again, no confusion in usage should exist between it and Leptosomatinae (Nematoda) or between it and Leptosominae (Aves: Coraciidae).

The major problem had resulted from diverse spelling of *Leptosomus* Vieillot, 1816. This generic name dates correctly from Vieillot, 1816 and has been so cited by all workers at least since Swainson, 1837 and Gray, 1840.

I have not searched all earlier literature. Swainson (1837) and Gray (1840, 1841, 1855, and 1869) consistently used the correct spelling, *Leptosomus*. However, this bird was first discussed by Brisson, 1760 under the generic name *Leptosoma*, a name that many 19th century workers accepted but is not available for zoological nomenclature. *Leptosoma* Brisson, 1760 is not one of the 115 generic names accepted as available for zoological nomenclature (ICZN Direction 105, 1963). For reasons not stated in any publication examined by me, ornithologists at sometime in the 1840s began once again to spell this name *Leptosoma*. The earliest such citation known to me is Bonaparte (1850a: 96); this may well be the same publication cited by Gray, 1869: 77 as Bonaparte, 1849. The generic name *Leptosoma*, whether credited to Bonaparte, 1850, or not, is clearly a spelling error or an unjustified emendation, and is very doubtfully available for zoological nomenclature. In any case, this name was suppressed in the ICZN Opinion 1068 (1977). Sclater (1865: 683) used *Leptosoma* and stated that this bird was first made known to science by Brisson, that the first available generic name for this bird was *Leptosomus* Vieillot, 1816, but that Vieillot used *Leptosomus* in error rather than the correct *Leptosoma*. However, Sclater never stated why he believed that Vieillot was in error and why the correct spelling of the generic name is *Leptosoma*, except that he accepted Brisson's generic names (but then why did he credit the name to Vieillot?). Although Bonaparte and Sclater used *Leptosoma*, they spelled the family-group name Leptosomidae. Subsequently Sharpe (1892) used *Leptosoma* and Leptosomatidae, which became widely accepted because of the authoritative status of the *Catalogue of Birds in the British Museum*. Subsequently, although in the early years of the 20th century ornithologists reverted to the original spelling *Leptosomus* of Vieillot, they continued to use Leptosomatidae (Dubois, 1902: 91; *Peters' Check-list*, 5: 239; Morony et al., 1975: 61) until the decision of the ICZN (1977).

An additional complication in this history is that Sclater (1862: 325) listed *Leptosoma* (in error for *Leptostoma*) Swainson, 1837 in the synonymy of *Geococcyx* resulting in further confusion between these generic names and the family-group names based on them.

Epopidae—Although Epopidae de Selys-Longchamps, 1839 (*Epops*) appears to have been based on the specific name or to be a latinized form of the common name, the family-group name could be based on *Epops* F. O. Morris, 1837, and hence can be considered to be available. *Epops* F. O. Morris, 1837 was synonymized with *Upupa* Linnaeus, 1758 prior to 1961.

Epopinae has also been used for an order-level taxon equivalent to the Epopomorphae for the hoopoes (Upupidae and the Phoeniculidae) or the hoopoes and the hornbills (Bucerotidae) by workers in the second half of the 19th century (e.g., Murie, 1873). Epopsinae used by Vieillot and by A. Milne Edwards (see Fürbringer, 1888: 1366) appears to be unavailable, being based on a descriptive term. Or it may be a spelling variant of Epopidae. Epopsinae is not included in the main list.

Bucerotidae—Buceridae (Eyton, 1867) is a misspelling.

Galbulidae—Bucconidae Horsfield, 1821 (*Bucco* Brisson, 1760) has priority with respect to Galbulidae Vigors, 1825 (*Galbula* Brisson, 1760), but Galbulidae Vigors, 1825 should be conserved conditionally in preference to Bucconidae Horsfield, 1821 for any taxon (e.g., superfamily) containing *Galbula* and *Bucco* because the name Capitonoidea has been consistently used in discussions of avian classification. The name Bucconoidea has never been used for this superfamily. See below, under Bucconidae.

Bucconidae—See above, under Galbulidae. Bucconidae can still be used for any taxon containing Bucco, but not *Galbula*.

Bucco and Bucconidae had been originally used for birds currently known as *Capito* and Capitonidae in the early part of the 1800s—but it is not known whether these generic and familial taxa included any members of the present-day bucconids. *Bucco* and Bucconidae were certainly used for the present-day Capitonidae by Horsfield when he proposed the Bucconidae because no puff-birds exist in the Far East. Gray (1840, 1841) was apparently the first worker to clarify this confusion. Indeed these two names continued to be used

in the original erroneous way by most (many) authors until after 1850; the problem was discussed in detail by P. L. Sclater (1854, 1855b, 1879–82). It appears most difficult to almost impossible to be certain about the use of the name *Bucco* during the early decades of the 1800s, and thereby the exact meaning of Bucconidae during this period is not known. Almost certainly, the name was not applied to the birds of the currently recognized Bucconidae. However, there is no reason not to continue the use of Bucconidae Horsfield, 1821 (*Bucco* Brisson, 1760) for the present-day New World family of puff-birds, following the usual procedures used in zoological nomenclature for family-group names prior to 1961. This again illustrates the problems existing with shifts in family-group names between different families of birds with changes in the application of generic names. The ICZN will be requested to declare *Bucco* Brisson, 1760 (type species *Bucco capensis* Linnaeus 1766) as the type genus for Bucconidae Horsfield, 1821.

Cyphidae—Cyphidae Poche, 1904 is available as the genus *Cyphus* Spix, 1824 (= *Bucco* Brisson, 1760) is a post-Linnaean name.

Capitonidae—Some workers (e.g., Storer, 1971) have proposed the superfamily name Capitonoidea which includes the Capitonidae, Indicatoridae, and Ramphastidae. However, this action was not valid under the provisions of the Code in effect at that time. Of these names, Ramphastidae Vigors, 1825 (*Ramphastos* Linnaeus, 1758) is the oldest. Because the ideas on the relationships of the captonids and ramphastids are still under active discussion, including the concept of placing the barbets and toucans in the same family for which the correct name would be Ramphastidae, I feel that it is premature to recommend a solution to this nomenclatural problem at this time. The best solution would probably be to use the name Ramphastoidea, rather than the Capitonoidea, if this superfamily is recognized, or the name Ramphastidae if the barbets and the toucans are placed in the same family. See above, under Bucconidae.

Pogoniidae—*Pogonias* Illiger, 1811 was synonymized with *Lybius* Hermann, 1783 prior to 1961, but at that time no family-group name Lybiidae existed, and hence Pogoniidae Fitzinger, 1856 must be held in abeyance.

Pogonorhynchidae—*Pogonorhynchus* Van der Hoeven, 1833 was synonymized with *Lybius* Hermann, 1783 prior to 1961, but at that time no family-group name Lybiidae existed, and hence Pogonorhynchidae Marshall and Marshall, 1870 must be held in abeyance.

Lybiidae—When Sibley and Ahlquist proposed Lybiidae in 1985, this name did not replace Pogoniidae Fitzinger, 1856 or Pogonorhynchidae Marshall and Marshall, 1870, and hence Lybiidae takes precedence from 1985.

Trachyphonidae—Olson (1991: 224) concluded that the fossil genus *Captionides* Ballmann, 1969 and the recent genus *Trachyphonus* Ranzani, 1821 are members of the same taxon (subfamily), if not the same genus. As first reviser, he assigned precedence to Trachyphonidae Prum, 1988 over Capitonididae Prum, 1988. The family-group name Capitonididae has been used for a strictly fossil taxon (family) by Prum and hence is excluded from the current analysis.

Ramphastidae—See above, under Capitonidae, for a discussion of the use of these names should a superfamily be recognized.

Picidae—Picidae Leach, 1820 (*Picus* Linnaeus, 1758) and Picacidae Bonaparte, 1854 (*Pica* Brisson, 1760; = Corvidae Horsfield, 1822) are based on different genera, but may be homonyms depending on the accepted spelling of the family-group name, Picacidae or Picidae, based on *Pica*. Picidae appears to be the correct formation of the family-group name based on *Pica*; however, Bonaparte used Picacidae without explanation, but possibly to avoid homonymy. Picidae Leach, 1820 would be the senior homonym if Picidae based on *Pica* is used. It is not clear whether Picacidae is a proper spelling variant of a family-group name based on *Pica* as proposed by Bonaparte as some workers, e.g., Olphe-Galliard (1890), used Picinae (*Pica*). If the spelling Picacidae is proper, then the name Picacidae Bonaparte 1854 is not a homonym of Picidae Leach, 1820; otherwise, the ICZN must be asked to resolve this homonymy. Both names Picidae and Picacidae (= Corvidae) are in the main list. See below, under Picacidae (Corvidae).

Jynginae—Jynginae Swainson, 1831 (*Jynx*

Linnaeus, 1758) has been spelled in several different ways. Yunginae, Yunxinae, Jungidae, and Iunginae are all spelling variants depending on variations in spelling *Jynx*, not different names. These variants are not given in the main list, but are included in the index.

Torquillinae—Although the genus *Torquilla* Brisson, 1860 was available, Degland and Gerbe did not recognize it as a genus within their family-group taxon when they proposed Torquillinae; they recognized only *Jynx*. The family-level taxon containing the genus *Jynx* is monotypic. No one has ever recognized simultaneously two distinct and separate generic taxa *Jynx* and *Torquilla*. Therefore, Torquillinae Degland and Gerbe, 1867 lacks a type genus and is unavailable for zoological nomenclature.

Psilorhinae—Psilorhinae has been proposed clearly by Reichenow, 1884, and later used by him (Reichenow, 1913–14), but he did not provide the name of the type genus on which this family-group name was based. Reichenow (1914: 67) referred to these birds as "Glattnasenspechte" (= bare nostril woodpeckers) in that they are characterized by a lack of feathers covering the opening of the external nares, and the family-group name appears to be based on this descriptive name. It is curious that Reichenow used a single family-group name in his 1884 work and in his 1913–14 volumes not properly based on a genus, suggesting the existence of a corresponding generic name. A generic name corresponding to Psilorhinae could not be located in any of the standard sources for avian generic names (Waterhouse, 1889; Richmond, 1902, 1908, 1917, 1927, 1992; Sherborn, 1922), and almost certainly does not exist. *Psilorhinus* Rüppell, 1837 is a corvid genus. Consequently Psilorhinae lacks a type genus and is unavailable, but it has been included in the list for completeness.

Dendrodrocopinae—Dendrodrocopinae has been proposed clearly by Olphe-Galliard, 1888, but he did not give the type genus on which it was based. He used *Dendrocopos* in the text of his work, suggesting that his use of Dendrodrocopinae was a typographical error for Dendrocopinae Cabanis and Heine, 1863. A generic name corresponding to Dendrodrocopinae could not be located in any of the standard sources for avian generic names (Waterhouse, 1889; Richmond, 1902, 1908, 1917, 1927; Sherborn, 1922), and almost certainly one does not exist. Consequently, Dendrodrocopinae lacks a type genus and is unavailable, but it has been included in the list for completeness.

Picoidini—Picoidini Olphe-Galliard, 1888 (*Picoides* Lacépède, 1799) has clear priority over the Campetherini Ridgway, 1914 (*Campethera* G. R. Gray, 1841) which was used by Short 1982 for this taxon. Picoidini Olphe-Galliard, 1888 should be accepted as no issue of well-established usage exists. Although some workers still recognize *Picoides* and *Dendrocopos* as distinct genera, Dendrocopini is objectively invalid (see below). The next available name for the taxon containing *Picoides* is Picoidini Olphe-Galliard, 1888 (*Picoides*) which would be the valid name for this group even if *Dendrocopos* is recognized as generically distinct from *Picoides*.

Dendrocopini (Picidae)—*Dendrocopos* Koch, 1816 was synonymized with *Picoides* Lacépède, 1799 after 1960, and hence Dendrocopini Cabanis and Heine, 1863 would still be available (see Art. 40a). However, Dendrocopini Cabanis and Heine, 1863 (*Dendrocopos* Koch, 1816) is a junior homonym of Dendrocopidae Bonaparte, 1854, and hence is an objectively invalid name for which the next available name is Picoidini. No reason exists to request the ICZN to modify the stem of the generic name *Dendrocopos* to avoid homonymy of the family-group names, as *Dendrocopos* has been synonymized with *Picoides* and the family-group name Picoidini is available. The junior homonym is in the main list. See below, under Dendrocopidae (Dendrocolaptidae).

Colaptini—Gray proposed Colaptini and the Celeini in the same publication. Short (1982) used Colaptini as the name for the taxon containing both *Colaptes* and *Celeus*; therefore Colaptini G. R. Gray, 1840 has precedence with respect to Celeini G. R. Gray, 1840 under the principle of first reviser.

Dendrobatini—-*Dendrobates* Swainson, 1831 (not *Dendrobates* Wagler, 1830) was synonymized with *Veniliornis* Bonaparte, 1854 prior to 1961 (see Oberholser, 1899: 204), but Dendrobatini Burmeister, 1856 lacks a replacement name and hence must be held in abeyance.

Dryocopini—The family-group name Dryocopini G. R. Gray, 1840 (*Dryocopus* Boie, 1826) has priority over Campephilini Blyth, 1852 (*Campephilus* G. R. Gray, 1840) which was used in Short 1982. Dryocopini should be accepted as no issue of well-established use exists.

Campephilini—See above, under Dryocopini.

Tigini—*Tiga* Kaup, 1836 was synonymized with *Dinopium* Rafinesque, 1814 prior to 1961, but Tigini Bonaparte, 1854 lacks a replacement name and hence must be held in abeyance.

Hemicircini—Hemicircini Cabanis and Heine, 1863 (*Hemicircus* Swainson, 1837) has priority over Meiglyptini Short, 1982 (*Meiglyptes* Swainson, 1837) which was used in Short 1982. Hemicircini should be accepted as no issue of well-established use exists.

Meiglyptini—See above, under Hemicircini.

Neodrepanidinae—The original spelling was Neodrepaninae based on *Neodrepanis* Sharpe, 1875 has been changed to Neodrepanidinae in agreement with the decision by the ICZN (ICZN Opinion 610, China, 1961) on the correct formation of Drepanididae based on *Drepanis*, see the comments by Grensted (pp. 221–222) in the application by Amadon and Franclemont (1960). Neodrepaniidinae has come into general use for one of the subfamilies recognized in the Philepittidae.

Acanthisittidae—Although some dispute exists on the valid name for the taxon containing *Acanthisitta* and *Xenicus*, Acanthisittidae Sundevall, 1872 (*Acanthisitta*) has clear priority over Xenicidae Forbes, 1882 (*Xenicus*) as well as being the name having the best established use.

Xenicidae—See above, under Acanthisittidae.

Acanthidosittidae—Newton (1896: 1055) used Acanthidosittidae which is a spelling variant of Acanthisittidae based on the spelling variant *Acanthidositta* Buller, 1887 for *Acanthisitta*.

Suborders Furnarii and Tyranni—More nomenclatural problems exist for the New World non-oscines than any other avian group which is partly the result of difficult taxonomic problems both within and between these families. There is still much uncertainty as to the limits of some of these families, the placement of genera in families, and the classification within the family. For these reasons, it is urged that the generally accepted usage of these names as advocated in Wetmore's several classifications (1930, 1951, 1960) and in Peters' Check-list (vols. 7, 1951 and 8, 1979) be conserved conditionally. Individual cases will be detailed below.

Dendrocolaptidae—See below, under Furnariidae for precedence relative to that name.

Dendrocopidae (Dendrocolaptidae)—Dendrocopidae Bonaparte, 1854 (*Dendrocops* Swainson, 1837 = *Dendrocolaptes* Hermann, 1804; = Dendrocolaptidae G. R. Gray, 1840) and Dendrocopini Cabanis and Heine, 1863 (*Dendrocopos* Koch, 1816 = *Picoides* Lacépède, 1799; = Picoidini Olphe-Galliard, 1888 = Picidae) are based on different genera, but are homonyms; Dendrocopidae Bonaparte, 1854 is the senior homonym. No reason exists to apply to the ICZN to modify the stem of one of the generic names and resolve the homonymy because a perfectly good replacement name, Picoidini Olphe-Galliard, 1888, exists for Dendrocopini Cabanis and Heine, 1863. Dendrocopidae Bonaparte, 1854 is a junior synonym of Dendrocolaptidae G. R. Gray, 1840 and *Dendrocops* Swainson, 1837 was synonymized with *Dendrocolaptes* Hermann, 1804, many years ago. See above, under Dendrocopini (Picidae).

Furnariidae—Scleruridae Swainson, 1827 (*Sclerurus* Swainson, 1827), Upucerthiidae D'Orbigny and de Lafresnaye, 1838 (*Upucerthia* Geoffroy St.-Hilaire, 1832), and Synallaxeidae De Selys-Longchamps, 1839 (1836) (*Synallaxis* Vieillot, 1818) have priority with respect to Furnariidae G. R. Gray, 1840 (*Furnarius* Vieillot, 1816). However, Furnariidae G. R. Gray, 1840 should be conserved conditionally in preference to these other names because it has a well-established use for over 100 years, and the other names have only rarely, if ever, been used for the entire family-level taxon containing these several genera during the past 100 years. Synallaxeidae, Upucerthiidae, and Scleruridae, based on the genera *Sclerurus*, *Upucerthia*, and *Synallaxis*, can still be used for taxa containing these genera, but not *Furnarius*.

Dendrocolaptidae G. R. Gray, 1840 (*Den-*

drocolaptes Hermann, 1804) and Furnariidae G. R. Gray, 1840 (*Furnarius* Vieillot, 1816) were proposed in the same work. If these two groups are merged into the same taxon, containing the genera *Furnarius* and *Dendrocolaptes*, it is urged that Furnariidae be conserved conditionally in preference to Dendrocolaptidae, and used for the family as has been done in the past (e.g., Sclater, 1890; Feduccia, 1973; Wolters, 1975–82). Dendrocolaptidae can still be used for any family-level taxon containing *Dendrocolaptes*, but not *Furnarius*.

Formicariidae G. R. Gray, 1840 (1825) (*Formicarius* Boddaert, 1783) has priority with respect to Furnariidae G. R. Gray, 1840 (*Furnarius* Vieillot, 1816), but Furnariidae G. R. Gray, 1840 should be conserved conditionally in preference to Formicariidae G. R. Gray, 1840 (1825) for any taxon (e.g., superfamily) containing *Furnarius* and *Formicarius* because the name Furnarioidea has been consistently used in discussions of passerine classification. Formicarioidea has never been used for this superfamily. Formicariidae can still be used for any family-level taxon containing *Formicarius*, but not *Furnarius*. See below, under Formicariidae.

Furnariinae—Upucerthiinae D'Orbigny and de Lafresnaye, 1838 (*Upucerthia* Geoffroy St.-Hilaire, 1832) has priority with respect to Furnariinae G. R. Gray, 1840 (*Furnarius* Vieillot, 1816), but Furnariinae G. R. Gray, 1840 should be conserved conditionally in preference to Upucerthiinae D'Orbigny and de Lafresnaye, 1838 because it has a well-established use for over 100 years and Upucerthiinae has rarely, if ever, been used for the taxon containing *Furnarius* and *Upucerthia*.

Upucerthiinae—See above, under Furnariidae and Furnariinae.

Synallaxeinae—*Anabates* Temminck, 1819 was synonymized with *Synallaxis* Vieillot, 1818 prior to 1961 and Anabatinae Sundevall, 1836 has been replaced by Synallaxeinae de Selys-Longchamps, 1839 (1836) which takes precedence from 1836 and which is the valid name for this family-level taxon. Synallaxeinae should be suppressed conditionally with respect to Furnariidae, but can be used for any taxon containing *Synallaxis*, but not *Furnarius*. See above, under Furnariidae.

Anabatinae—See above, under Synallaxeidae.

Philydorinae—Sclerurinae Swainson, 1827 (*Sclerurus* Swainson, 1827) and Xenopinae Bonaparte, 1854 (*Xenops* Illiger, 1811) have priority with respect to Philydorinae Sclater and Salvin, 1873 (*Philydor* Spix, 1824). However, Philydorinae Sclater and Salvin, 1873 should be conserved conditionally in preference to Sclerurinae and Xenopinae because of its well-established use. Sclerurinae and Xenopinae can still be used for taxa containing either *Sclerurus* or *Xenops*, but not *Philydor*.

Sclerurinae—See above, under Furnariidae and Philydorinae.

Xenopinae—See above, under Philydorinae.

Formicariidae—*Myiothera* Illiger, 1824 was synonymized with *Formicarius* Boddaert, 1783 prior to 1961 and Myiotheridae Vigors, 1825 has been replaced by Formicariidae G. R. Gray, 1840 (1825) which takes precedence from 1825. The family-group name Thamnophilidae Swainson, 1824 (*Thamnophilus* Vieillot, 1816) has priority with respect to Formicariidae G. R. Gray, 1840 (1825) (*Formicarius* Boddaert, 1783), but Formicariidae G. R. Gray, 1840 (1825) should be conserved conditionally in preference to Thamnophilidae for any taxon containing *Formicarius* and *Thamnophilus* because it has a well-established use for 100 years, and Thamnophilidae has only rarely been used for the family-level taxon containing *Formicarius* and *Thamnophilus* for the past 100 years. Thamnophilidae Swainson, 1824 can still be used for a taxon containing *Thamnophilus*, but not *Formicarius* as has been done by workers who propose that the antbirds be divided into two families or subfamilies as do Sibley and Monroe (1990: 379).

See above, under Furnariidae for precedence relative to that name.

Thamnophilidae—See above, under Formicariidae.

Myiotheridae—Myotheridae and *Myothera* are spelling variants of Myiotheridae Vigors, 1825 and *Myiothera*. See above, under Formicariidae.

Drymophilidae—Drymophilidae Swainson, 1826 (*Drymophila*) should be suppressed conditionally with respect to For-

micariidae G. R. Gray, 1840 (1825) (*Formicarius*) because the former name has never been used for this family, and because Formicariidae has priority to Drymophilidae according to the Code.

Myrmotheridae—Myrmotheridae MacGillivray, 1839 (*Myrmothera*) should be suppressed conditionally with respect to Formicariidae G. R. Gray, 1840 (1825) (*Formicarius*) because the former name has never been used for this family, and because Formicariidae has priority to Myrmotheridae according to the Code.

Eriodoridae—although Cabanis, 1847: 221; 336–37) proposed the names Erioridae and Eriorinae, he did not recognize the generic name *Eriodora* Gloger, 1827 as the valid name for the type genus; rather he recognized *Formicivora* Swainson, 1824 (Cabanis, 1847: 225; 337). Hence the family-group name Erioridae Cabanis, 1847 is unavailable. Although *Eriodora* Gloger, 1827 was synonymized with *Formicivora* Swainson, 1824 prior to 1961, Eriodoridae Cabanis, 1847 is not replaced by Formicivoridae Bonaparte, 1854, and the latter name takes its precedence from 1847.

Hypsibemonidae—*Hypsibemon* Cabanis, 1847 was synonymized with *Grallaria* Vieillot, 1816 prior to 1961, and Hypsibemonidae Sundevall, 1872 has been replaced by Grallariidae Sclater and Salvin, 1873 (1872) which takes precedence from 1872.

Rhinocryptidae—*Rhinomya* Geoffroy St.-Hilaire, 1832 was synonymized with *Rhinocrypta* G. R. Gray, 1841 prior to 1961, and Rhinomyidae d'Orbigny and de Lafresnaye, 1837 has been replaced by Rhinocryptidae Wetmore, 1930 (1837) which takes precedence from 1837. Thus, Scytalopodidae J. Müller, 1846 (*Scytalopus* Gould, 1837), Megalonychidae Chenu and des Murs, 1852 (*Megalonyx*), Pteroptochidae P.L. Sclater, 1858 (1852) (*Pteroptochos* Kittlitz, 1830), and Hylactidae Reichenow, 1884 (*Hylactes*) should be suppressed conditionally with respect to Rhinocryptidae, because they all lack priority relative to Rhinocryptidae Wetmore, 1930 (1837) (*Rhinocrypta* G. R. Gray, 1941) according to the Code.

Rhinomyidae—See above, under Rhinocryptidae.

Scytalopodidae—See above, under Rhinocryptidae.

Megalonychidae—*Megalonyx* Lesson, 1832 and *Hylactes* King, 1831 were synonymized with *Pteroptochos* Kittlitz, 1830 prior to 1961, and Megalonychidae Chenu and des Murs, 1852 and Hylactidae Reichenow, 1884 have been replaced by Pteroptochidae P. L. Sclater, 1858 (1852) which takes precedence from 1852. Chenu and des Murs (1852) and des Murs (1860) spelled this name as Megalonycidae. See above, under Rhinocryptidae.

Pteroptochidae—See above, under Rhinocryptidae.

Hylactidae—See above, under Rhinocryptidae.

Suborder Tyranni—See above under the Suborders Furnarii and Tyranni.

Tyrannidae—Platyrinchidae Horsfield, 1822 (*Platyrinchus* Desmarest, 1805) has priority with respect to Tyrannidae Vigors, 1825 (*Tyrannus* Lacépède, 1799), but Tyrannidae should be conserved conditionally in preference to Platyrinchidae because it has a well-established use for over 150 years, because Platyrinchidae has never been used for the entire family during the period since 1825, and because there is some question as to whether Horsfield proposed the name Platyrinchidae properly.

Pipridae Rafinesque, 1815 (*Pipra* Linnaeus, 1764) and Cotingidae Bonaparte, 1849 (1822) (*Cotinga* Brisson, 1760) have priority with respect to Tyrannidae Vigors, 1825 (*Tyrannus* Lacépède, 1799), but Tyrannidae Vigors, 1825 should be conserved conditionally in preference to Pipridae Rafinesque, 1815 and Cotingidae Bonaparte, 1849 (1822) for any taxon (e.g., superfamily or family) containing *Tyrannus*, *Pipra*, and *Cotinga* because the name Tyrannoidae (or the Tyrannidae) has been widely and consistently used over the past several decades for this group in discussions of passerine classification. Piproidea or Cotingoidea has never been used for this superfamily. Pipridae can still be used for any taxon containing *Pipra*, but not *Tyrannus*. Cotingidae can still be used for any taxon containing *Cotinga*, but not *Tyrannus*. See below, under Pipridae and Cotingidae.

Platyrinchidae—See above, under Tyrannidae.

Elaeniinae—Platyrinchinae Horsfield 1822, (*Platyrinchus* Desmarest, 1805), Culicivorinae Swainson, 1831 (*Culicivora* Swainson,

1827), Colopterinae Cabanis, 1847 (*Colopterus* Cabanis, 1845), Pipromorphinae Bonaparte, 1853 (*Pipromorpha* G. R. Gray, 1855), Cyclorhynchinae Bonaparte, 1854 (*Cyclorhynchus* Sundevall, 1836), and Rhynchocyclinae von Berlepsch, 1907 (1854) (*Rhynchocyclus* Cabanis and Heine, 1859) have priority with respect to Elaeniinae Cabanis and Heine, 1856-60 (*Elaenia* Sundevall, 1836). However, Elaeniinae Cabanis and Heine, 1856-60 should be conserved conditionally in preference to Platyrinchinae, Culicivorinae, Pipromorphinae, Cyclorhynchinae, and Rhynchocyclinae because of its well-established use, because these other names have not been used for the entire subfamily, and because the taxonomy of the Tyrannidae is still in a state of flux. For example, Wolters (1975–82) recognized two subfamilies, the Platyrinchinae and the Pipromorphinae (which is correct, see below, and he recognized the genus *Pipromorpha* as distinct from *Mionectes*) in addition to the Elaeniinae. Platyrinchinae, Culicivorinae, Pipromorphinae, Cyclorhynchinae, and Rhynchocyclinae can still be used for taxa containing *Platyrinchus*, *Culicivora*, *Pipromorpha*, *Cyclorhynchus*, and *Rhynchocyclus*, but not *Elaenia*.

Platyrinchinae—See above, under Elaeniinae.

Culicivorinae—See above, under Elaeniinae. Also see, below under Polioptilinae. The family-group name Culicivorinae was established by Swainson in 1831 for a group of birds clearly centered around the New World gnatcatchers currently known as the genus *Polioptila* Sclater, 1855a, but for which he used the generic name *Culicivora* Swainson, 1827. Unfortunately Swainson's genus *Culicivora* proved to be polyphyletic including one species of the present-day Tyrannidae in addition to species of the present-day *Polioptila* (Cabanis, 1847). Cabanis erred in using the name *Culicivora* Swainson, 1827 for the gnatcatchers, and coining the name *Hapalura* for the species *Muscicapa stenura* Temminck. Sclater (1855a) pointed out that *Culicivora* Swainson, 1827 had as its type species *Muscicapa stenura* Temminck (= *Muscicapa caudacuta* Vieillot, 1818) and that *Hapalura* was a junior synonym of *Culicivora* which is still a valid generic name (see Peters' Check-list, vol. 8:49; 1979). The group of gnatcatchers lacked a generic name for which Sclater (1855a) proposed *Polioptila* with *Motacilla caerulea* Linnaeus as the type species. Hence the family-group name Culicivorinae Swainson, 1831 falls properly in the synonymy of Tyrannidae and of Elaeniinae even though it was proposed to cover the family-level taxon currently known as Polioptilinae. The history of this family-group name shows the difficulties of tracing these names unless one also knows completely the nomenclatural history of generic names. Much of this latter history is buried in the 19th century literature and unknown to present-day avian systematists because the changes in the generic names have been made so long ago that they are well-established with no citations in recent check-lists and catalogs.

Tyrannulinae—A problem exists because of the confusion arising from Swainson's practice of proposing (using ?) the same generic name several times without being clear as to whether or not the name applies to the same taxon. Moreover, Swainson is not sufficiently clear on the type genus of many of his family-group names. *Tyrannula* was proposed by Swainson in 1827 (Zool. J., 3: 358–359; type species *barbata*) and again in 1831 (Swainson, 1831: 484; species *Muscicapa nunciola*, *rapax*, *querula* Wilson). Thus *Tyrannula* Swainson, 1831 is a junior homonym of *Tyrannula* Swainson, 1827, and hence is invalid and was replaced by *Sayornis*. But it is not clear whether Tyrannulinae Swainson, 1831 was based on *Tyrannula* Swainson, 1827 or on *Tyrannula* Swainson, 1831. Although *Tyrannula* Swainson, 1827 is not a junior homonym of *Tyrannulus* Vieillot, 1816, confusion could arise if both these names were valid within the same family. Therefore, the ICZN voted to suppress *Tyrannula* Swainson, 1827 (not *Tyrannula* Swainson, 1831) and place it on the Official Index of Rejected and Invalid Generic Names in Zoology (ICZN Opinion 414, 14 August 1956). That name was replaced by *Myiobius* Darwin, 1837 which has been placed on the Official List of Generic Names in Zoology (ICZN Opinion 414, 14 August 1956). *Tryannula* Swainson, 1831 remains a junior homonym of *Tyrannula* Swainson, 1827. ICZN Direction 58 (20 December 1956, pp. 283–84) stated that no family-group name problem arose in this case, but overlooked Tyrannulinae Swainson, 1831. Tyrannulinae Swainson, 1831, being

based either on a completely suppressed name or on a junior homonym, would be unavailable for purposes of zoological nomenclature.

Colopterinae—*Colopterus* Cabanis, 1845 was synonymized with *Colopteryx* Ridgway, 1888 prior to 1961, but Colopterinae Cabanis, 1847 lacks a replacement name and hence must be held in abeyance. See above, under Elaeniinae.

Pipromorphinae—See above, under Elaeniinae.

Cyclorhynchinae—*Cyclorhynchus* Sundevall, 1836 was synonymized with *Rhynchocyclus* Cabanis and Heine, 1859 prior to 1961, and Cyclorhynchinae Bonaparte, 1854 has been replaced by Rhynchocyclinae von Berlepsch, 1907 (1854) which takes precedence from 1854. See above, under Elaeniinae.

Triccinae—*Triccus* Cabanis, 1846 was synonymized with *Todirostrum* Lesson, 1831 prior to 1861, but Triccinae Heine and Reichenow, 1882–90 lacks a replacement name and hence must be held in abeyance.

Rhynchocyclinae—See above, under Elaeniinae.

Mionectinae—It should be noted that Pipromorphinae was proposed by Bonaparte in 1853, but the genus *Pipromorpha* was named by Gray only in 1885. Hence, Bonaparte's family-group name could not have been based on Gray's genus. Bonaparte (1853: 5) simply introduces Pipromorphinae in a table of family-group names with no mention of the included genera. On the face of these dates, Pipromorphinae Bonaparte, 1853 should perhaps be based on *Pipromorpha* auct. or ? *Pipromorpha* Bonaparte, 1853 rather than on *Pipromorpha* G. R. Gray, 1885. Or perhaps Bonaparte had access to the manuscript of Gray's 1855 paper. However, no way exists to solve this nomenclatural conundrum, and the only solution is to accept *Pipromorpha* G. R. Gray, 1855 as the type genus for Pipromorphinae Bonaparte, 1853. *Pipromorpha* G. R. Gray, 1855 was synonymized with *Mionectes* Cabanis, 1854 after 1960; hence, Pipromorphinae Bonaparte, 1853 is retained with *Pipromorpha* G. R. Gray 1885 remaining the nominal genus although *Mionectes* Cabanis, 1844 is the currently valid name for this genus [Art. 40(a)]. Mionectinae Sibley and Ahlquist, 1985 takes precedence from 1985 and lacks priority with respect to Pipromorphinae G. R. Gray, 1885 as recognized by Sibley and Monroe (1990: 334) who use Mionectinae for this subfamily.

Taeniopterinae—*Taenioptera* Bonaparte, 1830 was synonymized with *Xolmis* Boie, 1826 prior to 1961, but Taeniopterinae Bonaparte, 1838 lacks a replacement name and hence must be held in abeyance.

Dasycephalinae—*Dasycephala* Swainson, 1832 was synonymized with *Attila* Lesson, 1830 prior to 1961, and Dasycephalinae Swainson, 1831 has been replaced by Attilinae P. L. Sclater, 1862 (1831) which takes precedence from 1831.

Psaridinae—*Psaris* Vieillot, 1816 was synonymized with *Tityra* Vieillot, 1816 prior to 1961, and Psaridinae Swainson, 1832–33 has been replaced by Tityrinae G. R. Gray, 1840 (1832–33) which takes precedence from 1832–33.

Pipridae—See above, under Tyrannidae for precedence relative to that name.

Cotingidae—*Ampelis* Linnaeus, 1766 was synonymized with *Cotinga* Brisson, 1760 prior to 1961, and Ampelidae Fleming, 1822 has been replaced by Cotingidae Bonaparte, 1849 (1822) which takes precedence from 1822, see below, under Ampelidae. Thus Coracinidae Swainson, 1831 (*Coracina*, Temminck, 1823), Querulidae Swainson, 1837 (*Querula* Vieillot, 1816), Pyroderidae G. R. Gray, 1840 (*Pyroderus* Vieillot, 1816), and Gymnoderidae Bonaparte, 1840 (*Gymnoderus* Geoffroy St.-Hilaire, 1809) should be suppressed conditionally with respect to Cotingidae Bonaparte, 1849 (1822) (*Cotinga* Brisson, 1760) because Cotingidae has priority with respect to these other names according to the Code. Hence Cotingidae is the correct valid name for this taxon, contrary to the claims of other workers who have argued that Querulidae Swainson, 1837 (*Querula*) is the valid name. Arguments that Cotingidae dates back to Lesson (1831) cannot be used as Lesson's name "Les Cotingas" is based on the common name for these birds ("Cotinga" = his *Ampelis*). See above, under Tyrannidae for precedence relative to that name.

Ampelidae—Ampelidae (or Ampelididae as it is sometimes spelled) Fleming, 1822 (*Ampelis*) has had a most confused history because *Ampelis* Linnaeus, 1766 has been

used for *Cotinga* and *Ampelis* auct. has been commonly used during the last century for *Bombycilla* Vieillot, 1808. Moreover, it is impossible to determine whether use of Ampelidae by individual authors applied only to the waxwings (Bombycillidae), only to the cotingas (Cotingidae), or to a family containing both the waxwings and the cotingas; most workers during the 19th century used Ampelidae for the waxwings. When Fleming proposed Ampelidae in 1822, this family definitely included the waxwings and may or may not have included genera now placed in the Cotingidae. Fleming was not clear on exactly which genus *Ampelis* served as the type for his Ampelidae. According to Wolters (1975–82), the name *Ampelis*, which was used for the current *Bombycilla*, is of authors, and is not *Ampelis* Linnaeus, 1766, which is a junior synonym of *Cotinga* Brisson, 1760. *Ampelis* Linnaeus, 1766 is the only one available for nomenclatural purposes; hence in the absence of contrary statements by Fleming, Ampelidae Fleming, 1822 has to be associated with the type genus, *Ampelis* Linnaeus, 1766. See above, under Cotingidae, and below, under Bombycillidae.

Coracinidae—*Coracina* Temminck, 1823 is a junior homonym of *Coracina* Vieillot, 1816 (Campephagidae) and hence was replaced with *Pyroderus* G. R. Gray, 1840 prior to 1961; hence, Coracinidae Swainson, 1831 (*Coracina* Vieillot, 1816) is unavailable. Some confusion may exist on whether Swainson (1831) properly proposed Coracinidae. He stated (Swainson, 1831: 500): "We feel persuaded that the Coracinae, comprehending the genera *Coracina* Vieill., *Cephalopterus* Geoff., and one or two others, truly belong to this family, and not to the Ampelidae , as supposed by Le Vaillant. They represent, in fact. the Fruit-eaters among the Crows." Although Swainson cited *Coracina* Vieillot, 1816 (= a member of the Campephagidae), his clear intention was the genus *Coracina* Temminck, 1823 (a fruit crow) because in his later work (Swainson, 1837: 267), under "Subfam. Coracinae. *Fruit Crows*," he mentioned *C. scutata* = *Pyroderus scutatus*. Hence, I will assume that the type genus Swainson had in mind when he proposed Coracinidae (= his Coracinae) was *Coracina* Temminck, 1823, not *Coracina* Vieillot 1816. It could be argued, if someone insisted on following the Code exactly and on the precise statement in Swainson (1831) that his Coracinidae is based on *Coracina* Vieillot, 1816, and hence is a junior synonym of Campephagidae. This would not fit with Swainson's taxonomic conclusions because he had proposed Ceblepyridae Swainson, 1825 (*Ceblepyris* = *Coracina*), which included the birds currently placed in the genus *Coracina* Vieillot, 1816. Swainson was an excellent avian systematist, but he was exceedingly casual in his nomenclature, including correct spelling of names. Nothing would be gained by insisting that Coracinidae Swainson, 1831 (*Coracina*) is a junior synonym of Campephagidae, as no family-group names in current use would be affected. A name "Coracinidae" (based on *Coracina* Vieillot 1816) has never, to my knowledge, been used for any members of the family Campephagidae. See above, under Cotingidae for precedence relative to that name.

Querulidae—See above, under Cotingidae for precedence relative to that name.

Pyroderidae—See above, under Cotingidae for precedence relative to that name.

Gymnoderidae—See above, under Cotingidae for precedence relative to that name.

Heliocheridae—*Heliochera* Filippi, 1847 was synonymized with *Ampelion* Cabanis, 1846 prior to 1961, but Heliocheridae Bonaparte, 1853 lacks a replacement name and hence must be held in abeyance.

Procniatidae (Cotingidae)—Procniatidae Sclater, 1862 (*Procnias* Temminck, 1820) had been used for the swallow-tanagers (Tersininae, Thraupidae) for many decades during the past century. However, *Procnias* Illiger, 1811 has subsequently been shown to apply to a genus of the Cotingidae and to be the senior homonym with respect to *Procnias* Temminck, 1820 = *Tersina* Vieillot, 1819. Note that Procniatidae has been switched, but erroneously, by ornithologists from the original type genus *Procnias* Temminck, 1820 to a different type genus *Procnias* Illiger, 1811 without comment; this change has been widely accepted by ornithologists. Thus Procniatidae Sclater, 1862, originally proposed for the swallow-tanagers, Tersininae (Thraupidae) has become Procniatidae auct. (*Procnias* Illiger, 1811) some time after 1862 and as

such is a junior synonym of Cotingidae Bonaparte, 1849. According to the Code, Procniatidae Sclater, 1862 is bound to the type genus *Procnias* Temminck, 1820, and is unavailable because *Procnias* Temminck, 1820 is a junior homonym of *Procnias* Illiger, 1811. But Procniatidae auct., after 1862 is still available and should appear in the synonymy of Tersininae, rather than Cotingidae. Because of this confusion, I have listed these names in both places, but with different authors. See below, under Procniatinae (Tersininae).

Ptilochloridae—*Ptilochloris* Swainson, 1837 was synonymized with *Laniisoma* Swainson, 1832 prior to 1961, but Ptilochloridae P. L. Sclater, 1888 lacks a replacement name and hence must be held in abeyance.

Oxyruncidae—*Oxyrhynchus* Temminck, 1823 was synonymized with *Oxyruncus* Temminck, 1820 prior to 1961, and Oxyrhynchidae Swainson, 1831 (*Oxyrhynchus* Temminck, 1823) has been replaced by Oxyruncidae Ridgway, 1906 (1831) which takes precedence from 1831. Oxyruncidae Ridgway, 1906 (*Oxyruncus* Temminck, 1820) is probably a spelling variant of Oxyrhynchidae Swainson, 1831, and hence is the same name as Oxyrhynchidae based on *Oxyrhynchus* (Temminck, 1823; Swainson, 1831) because of variation in spelling of "rhynchus" in the generic names. If these variants of the generic name are really the same name, then the family-group name should be credited to Swainson, 1831. Oxyrhamphus Strickland, 1840 and Oxyrhamphidae Sclater, 1888 would also be spelling variations.

Oxyrhynchidae—See above, under Oxyruncidae.

Oxyrhamphidae—See above, under Oxyruncidae.

Atrichiidae—*Atrichia* Gould, 1844 was replaced by *Atrichornis* Stejneger, 1885 prior to 1961, and Atrichiidae Newton, 1875 has been replaced by Atrichornithidae Stejneger, 1885 (1875) which takes precedence from 1875. See below, under Maluridae for a discussion of Eyton's "Waluridae" (1867) which includes *Atrichia*.

Calandritidae—*Calandritis* Cabanis, 1851 was synonymized with *Calandrella* Kaup, 1829 prior to 1961, and Calandritidae Cabanis and Heine, 1850–51 has been replaced by Calandrellidae Bonaparte, 1853 (1850–51) which takes precedence from 1850–51.

Pyrrhulaudidae—*Pyrrhulauda* Smith, 1839 was synonymized with *Eremopterix* Kaup, 1836 prior to 1961, but Pyrrhulaudidae Bonaparte, 1853 lacks a replacement name and hence must be held in abeyance.

Galeridídae—*Galerida* and Galeridídae were spelled Galerita and Galeritidae by Olphe-Galliard (1890).

Hirundinidae—See below, under Sylviidae for precedence relative to that name. Hirundinidae can still be used for any taxon containing *Hirundo*, but not *Sylvia*.

Cotilinae—*Cotile* Boie, 1822 was synonymized with *Riparia* T. Forster, 1817 prior to 1961, but Cotilinae Cassin, 1853 lacks a replacement name and hence must be held in abeyance.

Chelidoninae—*Chelidon* Boie, 1822 was synonymized with *Delichon* Horsfield and Moore, 1854 prior to 1961, but Chelidoninae Olphe-Galliard, 1887 lacks a replacement name and hence must be held in abeyance.

Clivicolinae—*Clivicola* Forster, 1817 was synonymized with *Riparia* T. Forster, 1817 prior to 1961, but Clivicolinae Olphe-Galliard, 1887 lacks a replacement name and hence must be held in abeyance.

Biblidinae—*Biblis* Lesson, 1837 was synonymized with *Ptyonopronge* Reichenbach, 1850, but Biblidinae Olphe-Galliard, 1887 lacks a replacement name and hence must be held in abeyance.

Campephagidae—Campophagidae is based on the spelling variant *Campophaga* for the generic name *Campephaga*. Campephagidae Vigors, 1825 and Ceblepyridae Swainson, 1825 were published the same year, but Campephagidae should be conserved conditionally with respect to Ceblepyridae because Campephagidae has been used for over 100 years for this family.

Ceblepyridae—*Ceblepyris* Cuvier, 1816 was synonymized with *Coracina* Vieillot, 1816 prior to 1961, but Ceblepyridae Swainson, 1825 lacks a replacement name and hence must be held in abeyance. See above, under Coracinidae for a discussion of the family-group name based on *Coracina* Temminck, 1823.

Graucalidae—*Graucalus* Cuvier, 1816 was

synonymized with *Coracina* Vieillot, 1816 prior to 1961, but Graucalidae Blyth, 1852 lacks a replacement name and hence must be held in abeyance.

Pycnonotidae—The history of names applied to this taxon is most complex because the earliest name proposed is Brachypodidae Swainson, 1831 (*Brachypus* Swainson date ?). *Brachypus* appears to have been proposed by Swainson on three separate occasions for various species now included in *Pycnonotus* Boie 1826. Nevertheless, the several names *Brachypus* proposed by Swainson are all junior homonyms of *Brachypus* Meyer, 1814 (= *Apus* Scopoli, 1777) and hence are objectively invalid names (Opinion 502; Melville and Smith, 1987: 57). *Brachypus* Swainson (? date) cannot be considered to have been "synonymized" with *Pycnonotus* Boie 1826 prior to 1961, as it is a junior homonym and cannot serve as the type for Brachypodidae Swainson, 1831. Hence, Brachypodidae Swainson, 1831 is not an available name and cannot be replaced in a strict sense by Pycnonotidae G. R. Gray, 1840 under the provisions of Article 40 (b). However, Brachypodidae was the widely used name for this family-level taxon during the 1800s and was replaced by Pycnonotidae when the homonymy between *Brachypus* Swainson, 1824 and *Brachypus* Meyer, 1814 was determined, and *Brachypus* Swainson, 1824 was replaced with *Pycnonotus* Boie, 1826. For this reason, it is best follow ornithological tradition and consider Pycnonotidae G. R. Gray, 1840 as the replacement name for Brachypodidae Swainson, 1831, in spite of the detailed regulations of the Code.

To insure continued use of the well-established name Pycnonotidae G. R. Gray, 1840 which has been used for over 100 years for this family-level taxon, Pycnonotidae G. R. Gray, 1840 should be conserved conditionally by the ICZN relative to Trichophoridae Swainson, 1831 (*Trichophorus* Temminck, 1821), Ixosidae Bonaparte, 1838 (*Ixos* Temminck, 1825; type species *virescens*), and Crinigeridae Bonaparte, 1854 (1831) (*Criniger* Temminck, 1820).

Picnonotidae is a spelling variant for Pycnonotidae.

Brachypodidae—The status of Brachypodidae Swainson, 1831 (*Brachypus* Swainson, 1824 ?) is in doubt because it is not at all clear which *Brachypus* serves as the type for Swainson's Brachypodidae. Swainson apparently proposed this generic name three different times: (a) in 1824 with no type species indicated and an inadequate description so that this name may be a nomina nudum; (b) in 1827 with the type species *atriceps* which is synonymized with *Pycnonotus* Boie, 1826; and (c) in 1831 with the type species unclear, but which was synonymized with *Rubigula* Blyth, 1845 which is usually synonymized with *Pycnonotus* Boie, 1826. It is not possible to decide which of these three names Swainson used as the basis for his Brachypodidae. Nevertheless, *Brachypus* Swainson, 1824 (and although not mentioned in the opinion, the names *Brachypus* Swainson, 1826, and 1831, by extension of the decision reached) has been suppressed by the ICZN (Melville and Smith, 1987: 57) as junior homonyms of *Brachypus* Meyer, 1814 and placed on the Official Index of Rejected and Invalid Generic Names in Zoology (ICZN Opinion 502, 24 January 1958). Unfortunately, no mention was made in this complex opinion of the widely used (during the 19th century) Brachypodidae Swainson, 1831.

If all of Swainson's names *Brachypus* have been declared to be suppressed as junior homonyms of *Brachypus* Meyer, 1814, then the family-group name Brachypodidae Swainson, 1831 is unavailable for purposes of zoological nomenclature because it is based on a junior homonym (Art. 39) and hence could not have been replaced by Pycnonotidae G. R. Gray, 1840 as had been traditionally accepted by ornithologists. The easiest solution is request that Pycnonotidae G. R. Gray, 1840 (*Pycnonotus* Boie, 1826) should be conserved conditionally as stated above, under Pycnonotidae.

Swainson (1832–33) also used Brachypinae [Plate 80 = Plate 37] based on *Brachypus* which is an incorrect spelling variant of Brachypodidae; Brachypidae is not included in the main list.

Trichophoridae—*Trichophorus* Temminck, 1821 was synonymized with *Criniger* Temminck, 1820 prior to 1961, and Trichophoridae Swainson, 1831 has been replaced by Crinigeridae Bonaparte, 1854 (1831) which takes precedence from 1831.

Ixosidae—Ixodidae (= Ixosidae) was proposed by Bonaparte (1838b) presumably on the basis of *Ixos* Temminck, 1825. Unfortunately, problems exist concerning the date the generic name *Ixos* was properly proposed. Sharpe (1881: 120–121) stated that Temminck used *Ixos* in 1825 (*Planches Coloriées,* vol. 3; 1825) in which he described the Javan species *Ixos virescens*, but failed to give characteristics for the genus. In 1828, Temminck described *Ixos chalocephalus* and *I. squamatus*, but again some ornithologists claimed that Temminck did not provide characters for the genus. Sharpe claimed that Temminck only gave the necessary description for the genus *Ixos* in 1840 (*Man. d'Ornith.*, 4: 606) and hence the generic name dates from that publication, with *barbatus* as the type species. Sharpe (1881: 120–21) hence synonymized *Ixos* Temminck, 1840 with *Pycnonotus* Boie, 1826. Oberholser (1899: 212) disagreed sharply with Sharpe's conclusion and showed that Temminck (1825), in proposing the generic name *Ixos*, provided a description and included only the species *Ixos virescens* Temminck, 1825) which becomes the type species by monotypy. Mees (1969: 302–303, fn) stated that *Ixos* Temminck, 1825; type species *virescens*) is available and is the valid name for the genus of bulbuls including *Ixos virescens* Temminck, 1825, which may include the genus *Hypsipetes* Vigors, 1831. In any case, Mees argued *Ixos* should not be attributed to Temminck, 1840 (type species *barbatus*) and is not a junior synonym of *Pycnonotus* Boie, 1826 as concluded by Sharpe. Wolters (1975–82: 242) followed Mees' conclusion and recognized the genus *Ixos* Temminck, 1825. The available evidence supports the conclusion reached by Oberholser (1899) and Mees (1969) and not the conclusion advocated by Sharpe (1881) in spite of the widespread use following Sharpe (1881) and Rand and Deignan (1960, in which the name *Ixos* does not appear in any of the generic synonymies). No reasonable case can be made against use of the name *Ixos* Temminck, 1825 because of well-established use of other names. Hence, the family-group name Ixosidae Bonaparte, 1838 (*Ixos* Temminck, 1825; type species *virescens*) is available; I will accept this interpretation. It should be noted that the use of *Ixos* in Sibley and Monroe (1990: 590) is not the same as *Ixos* Temminck, 1825 because it does not include *Ixos virescens*. Hence the genus *Ixos* as used by Sibley and Monroe is either a nomina nudum or a junior homonym.

The original spelling of the family-group name proposed by Bonaparte (1838) based on *Ixos* is Ixodidae. This name is a homonym of Ixodidae C. L. Koch, 1844 (Acari: Parasitiformes, suborder Idodida; *Arch f. Naturgesch.* 10: 217), based on *Ixodes* Latreille, 1795 (type species *Acarus ricinus* Linné, 1758). The Ixodidae are the largest family of ticks (13 genera), and in terms of serious medical diseases, the most important of the three tick families. Because of the exceedingly widespread use of Ixodidae C. L. Koch, 1844 (Acari: Parasitiformes, suborder Ixodida) and because Ixodidae Bonaparte, 1838 has rarely been used in avian classification for the past 150 years, an application has been submitted to the ICZN (Bock and Keirans, in press) to resolve this homonymy. It is proposed to retain the spelling Ixodidae Koch, 1844 for the tick family based on *Ixodes* and to modify the stem of the family based on *Ixos* Temminck from "Ixod-" to "Ixos-" and hence the avian family-group name would become Ixosidae Bonaparte, 1838. This is the spelling used in the main list of avian family-group names.

See above, under Pycnonotidae for precedence relative to that name.

Crinigeridae—See above, under Pycnonotidae for precedence relative to that name.

Tyladidae—Tylidae Oberholser, 1917 (*Tylas* Hartlaub, 1862) and Tylinae Dana, 1852 (*Tylos* Audouin, 1826, type species, *latreillei*; placed on the Official List of Generic Names in Zoology; Crustacea, Isopoda) are based on different genera, but are homonyms as family-group names. Tylinae Dana, 1852 is the senior homonym, and has also been placed on the Official List of Family-Group Names in Zoology (ICZN Direction 41, 17 September 1956; no mention was made in this direction of Tylidae Oberholser, 1917). Hence Tylidae Oberholser, 1917 is a junior homonym and is objectively invalid for zoological nomenclature. This is important because the taxonomic position of *Tylas* within the Oscines is still quite uncertain (Peters, 9: 299, 1960; Wolters, 1975–82: 236) as some work-

ers have placed it in the Pycnonotidae, others in the Vangidae (which may be the correct position) and still other workers have placed it in a family-level taxon of its own. In the event that *Tylas* is placed in a monotypic family-level taxon, an application has been submitted to the ICZN to resolve the homonymy with Tylinae Dana, 1852 (Bock, in press a). The best solution would be to rule that the stem formed from the name *Tylas* Hartlaub, 1862 is "Tylad-" rather than "Tyl-" and hence the family-group name would be the Tyladidae Oberholser, 1917. The spelling Tyladidae is used in the main list.

Irenidae—Phyllornithidae Cabanis, 1847 and Chloropseidae Wetmore, 1960 (1847), see below, has priority with respect to Irenidae Jerdon, 1863 (*Irena* Horsfield, 1821). However, Irenidae Jerdon, 1863 should be conserved conditionally in preference to Phyllornithidae Cabanis, 1847 and Chloropseidae Wetmore, 1960 (1847) for any taxon containing *Irena, Phyllornis,* and *Chloropsis* because of its well-established usage. The taxonomy of this group is quite controversial with some workers placing each of the three genera, *Irena*, *Aegithina* and *Chloropsis*, in distinct families; all of the corresponding family-group names are available.

Phyllornithidae—*Phyllornis* Temminck, 1829 was synonymized with *Chloropsis* Jardine and Selby, 1827 prior to 1961, and Phyllornithidae Cabanis, 1847 has been replaced by Chloropseidae Wetmore, 1960 (1847) which takes precedence from 1847. Chloropseidae Wetmore, 1960 (1847) should be suppressed conditionally with respect to Irenidae Jerdon, 1863, but is still available for any taxon containing *Chloropsis*, but not *Irena*.

Aegithinidae—See above, under Irenidae for precedence relative to that name.

Chloropseidae—See above, under Irenidae for precedence relative to that name.

Laniidae—Although Laniidae Rafinesque, 1815 (*Lanius* Linnaeus, 1758) has priority with respect to Corvidae Leach, 1820 (*Corvus* Linnaeus, 1758), it should be suppressed conditionally with respect to Corvidae for any taxon (e.g., superfamily) containing *Corvus* and *Lanius* because Corvoidea has been used in discussions of passerine classification. Lanioidea has never been used for this superfamily. Laniidae can still be used for any taxon containing *Lanius*, but not *Corvus*. See below, under Corvidae.

Artamiidae (Vangidae)—*Artamia* de Lafresnaye, 1842 was synonymized with *Leptopterus* Bonaparte, 1854 prior to 1961, but Artamiidae Hartlaub, 1877 lacks a replacement name and hence must be held in abeyance. Artamiidae Hartlaub, 1877 (*Artamia* de Lafresnaye, 1832; Vangidae) is not a homonym of Artamidae Vigors, 1825 because of the single letter difference in these names. See below, under Artamidae.

Bombycillidae—See above, under Cotingidae and Ampelidae for a discussion of Ampelidae Fleming, 1822 which is a synonym of Cotingidae.

Accentoridae—*Accentor* Bechstein, 1802 is a junior homonym of *Accentor* Bechstein, 1797 (= *Cinclus* Borkhausen, 1797) for which the next available name is *Prunella* Vieillot, 1816. But the family-group name Accentoridae G. R. Gray, 1840 is unavailable because the name of its type genus is a junior homonym. It has been replaced by Prunellidae Richmond, 1908 (1840) which should take precedence from 1840 although this case does not quite fit the requirements of Article 40(b).

Cinclidae—The names for this family-level taxon are involved in a series of confusing problems, which will be discussed individually. Cinclidae Sundevall, 1836 is the valid name for the family-level taxon containing *Cinclus* Borkhausen, 1797.

Cinclinae G. R. Gray, 1841 (*Cinclus* Möhring, 1752) [= Arenariinae Stejneger, 1885 (*Arenaria* Brisson, 1760)] and Cinclidae Sundevall, 1836 (*Cinclus* Borkhausen, 1797) are based on different genera. The family-group names are not homonyms because Cinclinae G. R. Gray, 1841 is based on a pre-Linnaean generic name and is not available for nomenclatural purposes. Both names are in the main list. See above, under Arenariinae.

Hydrobatidae (Cinclidae)—Several workers during the middle of the 19th century, e.g., Gray, Degland, believed that *Cinclus* Möhring, 1752 has priority over *Cinclus* Borkhausen, 1797; they had to use another generic name for the dippers, for which the next oldest name was *Hydrobata* Vieillot, 1816. Hydrobatidae Degland and Gerbe, 1867 is based on this genus. Use of Hydrobatidae for the dippers (= present day *Cin-*

clus) has had a difficult history and must be reviewed carefully. Degland (1849) proposed the name Hydrobatidae for this group, but he recognized only the genus *Cinclus* Bechstein, 1802, in spite of the footnote in which he stated that it may be more rational to use *Hydrobata* Vieillot, 1816. The family-level taxon Cinclidae is monotypic as no worker ever recognized more than a single genus for the dippers (*Cinclus* Borkhausen, 1797 = *Hydrobata* Vieillot, 1816). Moreover, *Hydrobata* Vieillot, 1816 is an objective synonym of *Cinclus* Borkhausen, 1797, as both genera are based on the same type species, *Cinclus cinclus* Linnaeus, 1758. According to the Code [Art. 11(f)(i)(1)], Hydrobatidae Degland, 1849 is not available for purposes of zoological nomenclature because Degland did not base this family-group name on the name of a genus he recognized as valid within the family—he clearly recognized *Cinclus* Bechstein, 1802 regardless of his comments in the footnote. On the other hand, Hydrobatidae Degland and Gerbe, 1867 is available for zoological nomenclature as these authors definitely based this family-group name on *Hydrobata* Vieillot, 1816. Gray used *Cinclus* for the dippers in 1840, but in 1841 and 1855 he used *Hydrobata*; he did not place the dippers in a separate family in his 1840, 1841, and 1855 publications, doing so only in 1869 for which he used Hydrobatidae Degland and Gerbe, 1867. Very few, if any, other authors used Hydrobatidae for the dippers. Hydrobatidae Mathews, 1912 (1865) (*Hydrobates* Boie, 1822) and Hydrobatidae Degland and Gerbe, 1867 (*Hydrobata* Vieillot, 1816) are based on different genera (*Hydrobata* Vieillot, 1816 does not predate *Hydrobates* Boie, 1822), but are homonyms as family-group names. Hydrobatidae Mathews, 1912 (1865) is the senior homonym as well as being the valid name for the family-level taxon containing the genus *Hydrobates* Boie, 1822. Because Hydrobatidae Degland and Gerbe, 1867 is a junior synonym relative to Cinclidae Sundevall, 1836 and is not likely ever to be the valid name for this taxon, no reason exists to apply to the ICZN to resolve this homonymy. Both homonyms are in the main list. See above, under Hydrobatidae.

ICZN Opinion 1696 (Tubbs, 1992b) resolved this homonymy by suppressing *Hydrobata* Vieillot, 1816, thereby declaring the family-group name Hydrobatidae Degland, 1849 and Hydrobatidae Degland and Gerbe, 1867 unavailable for zoological nomenclature. This action was unnecessary because the Hydrobatidae Degland, 1849 was never an available name and Hydrobatidae Degland and Grebe, 1867 is a junior homonym of Hyrdobatidae Mathews, 1912 (1865).

Aquatilidae—Aquatilidae Poche, 1904 is available because *Aquatilis* Montagu, 1813 is an available post-Linnaean name.

Turdidae—Because Turdidae can be attributed to Rafinesque, 1815, no problems of priority exist for the validity of Turdidae for the family-level taxon containing *Turdus*. *Merula* Boddaert, 1783 has been synonymized with *Turdus* Linnaeus, 1758 prior to 1961, and Merulidae Vigors, 1825, being a junior synonym, has been replaced by Turdidae Rafinesque, 1815.

Although Turdidae Rafinesque, 1815 (*Turdus* Linnaeus, 1758) has priority with respect to Muscicapidae Fleming, 1822 (*Muscicapa* Brisson, 1760), it should be suppressed conditionally with respect to Muscicapidae for any taxon (e.g., family or superfamily) containing *Turdus* and *Muscicapa* because Muscicapoidea has been consistently used over the past several decades in discussions of passerine classification. Turdoidea has never been used for this superfamily. Moreover, Muscicapidae has been used for the large and inclusive family of Old World insect-eaters (Mayr and Amadon, 1951), including the thrushes. Turdinae can still be used for any family-level taxon containing *Turdus*, but not *Muscicapa*. See below, under Muscicapidae.

Saxicolinae—Saxicolinae Vigors, 1825 may have been based on *Saxicola* which was applied to the wheatears (*Oenanthe* Vieillot, 1816) during the early part of the 19th century; according to Wolters (1975–82: 422), this *Saxicola* is of authors, not Bechstein, 1803. Vigors (1825a: 441) definitely used *Saxicola* Bechstein, 1803 as the type for his Saxicolinae, and it appeared that he included the currently recognized members of this genus within *Saxicola* when he proposed the subfamily; hence it seems reasonable that Saxicolinae properly applies to this family-level taxon in spite of the use of the generic name *Saxicola* for the wheatears (*Oenanthe*)

for many years. This taxon has frequently been called Erithacinae G. R. Gray, 1846 (1831) (*Erithacus* Cuvier, 1800) in the past, but this name does not have priority with respect to Saxicolinae Vigors, 1825 (*Saxicola* Bechstein, 1803) and Cossyphinae Vigors, 1825 (*Cossypha* Vigors, 1825).

Cossyphinae—Saxicolinae Vigors, 1825a (*Saxicola* Bechstein, 1803) and Cossyphinae Vigors, 1825b (*Cossypha* Vigors, 1825) were published in the same year, but Saxicolinae has priority because Vigors (1825b) was published after Vigors (1825a).

Philomelinae—The synonymy of Philomelinae Swainson, 1831 is not clear because it is uncertain on which type genus this family-group name is based. When Swainson proposed Philomelinae, no type genus was given, and he commented only that Philomelinae is typically represented by the nightingale, but that this group is not represented in North America and would not be discussed further in that book. Moreover, some saxicoline thrushes have been allied with some sylviid warblers in the past and even today by some workers. However, from Swainson's comments and examination of the other genera placed in this group (including the North American *Sialia*), it seems clear that he had the nightingale-thrushes (*Luscinia*) in mind and that he based Philomelinae on *Philomela* of authors, or on *Philomela* Brehm ?, or most likely on *Philomela* Swainson, 1831 (= *Aedon* T. Forster, 1814 = *Luscinia* T. Forster, 1817 = *Erithacus* Cuvier, 1800). In any case, it appears clear that Swainson did not base this name on *Philomela* Link, 1806 (= *Sylvia* Scopoli, 1768). It could be argued that Philomelinae Swainson, 1831 was not based on the valid name of a type genus existing at that time, as all uses of *Philomela* other than that of Link, 1806 are junior homonyms, and hence Philomelinae would be either unavailable or objectively invalid [Art. 39]. However, maintaining the availability of this name based on the type genus *Philomela* = *Luscinia* = *Erithacus* appears to be the best procedure. Resolution of the availability of Philomelinae Swainson, 1831 matters little as the next available synonym is Lusciniinae G. R. Gray, 1841 (*Luscinia* T. Forster, 1817) and both Philomelinae and Lusciniinae have been replaced by the Erithacinae G. R. Gray, 1846 (1831) (*Erithacus* Cuvier, 1800) depending on recognition of the genera *Luscinia* and *Erithacus*.

Lusciniinae—See above, under Philomelinae and below, under Erithacinae.

Vitiflorinae—*Vitiflora* T. Forster, 1817 was synonymized with *Oenanthe* Vieillot, 1816 prior to 1961 and Vitiflorinae Strickland, 1841 has been replaced by Oenanthinae Wolters, 1983 (1841) which takes precedence from 1841. Some doubts exist as to whether Strickland properly proposed Vitiflorinae as a family-group name.

Erithacinae—*Philomela* Swainson, 1831 (or of authors) and *Luscinia* T. Forster, 1817 were synonymized with *Erithacus* Cuvier, 1800 prior to 1961, and Philomelinae Swainson, 1831 and Lusciniinae G. R. Gray, 1841 have been replaced by Erithacinae G. R. Gray, 1846 (1831) which takes precedence from 1831. Some workers (e.g., Wolters, 1975–82: 415) still recognize *Luscinia* as a distinct genus, in which case Lusciniinae G. R. Gray, 1841 (1831) take precedence from 1831, with Philomelinae Swainson, 1831 as a synonym. And Erithacinae G. R. Gray 1846 (1831) would take precedence from 1846.

Ruticillinae—*Ruticilla* Brehm, 1831 was synonymized with *Phoenicurus* T. Forster, 1817 prior to 1961, and Ruticillinae Olphe-Galliard, 1857 has been replaced by Phoenicurinae Baker, 1924 (1857) which takes precedence from 1857.

Cochoinae—Cochoaninae used by Jerdon is a spelling variant of the preferred spelling Cochoinae (Mayr and Amadon, 1951: 36; Smythies, 1986).

Henicurinae—The use Henicurinae by Blyth (1875: 97) based on the genus *Henicurus* poses several problems. *Henicurus* could be treated simply as a spelling variant of *Enicurus* (which may be the actual case), and hence Enicurinae should be attributed to Blyth, 1875 rather than to Stejneger, 1885. Or one could consider *Henicurus* different from *Enicurus* Temminck, and hence Henicurinae Blyth 1875 would be a different name from Enicurinae Stejneger, 1885. Most likely, Henicurinae is based on *Henicurus* of authors and hence Henicurinae is unavailable because it lacks a type genus. Therefore, *Henicurus* cannot have been synonymized with *Enicurus*, and hence Henicurinae Blyth, 1875

cannot have been replaced by Enicurinae Stejneger, 1885 which still takes precedence from 1885. None of this matters as it is doubtful whether Henicurinae or Enicurinae will be used as a valid family-group name in the future.

Thamnobiinae—*Thamnobia* Swainson, 1832 was synonymized with *Saxicoloides* Lesson, 1831, but Thamnobiinae Sharpe, 1883 lacks a replacement name and hence must be held in abeyance.

Enicurinae—See above, under Henicurinae.

Merulinae (Turdidae)—See above, under Merulidae (Momotidae) for a discussion of Merulidae Poche, 1904 (*Merula* Möhring, 1752) and Merulinae Vigors, 1825 (*Merula* Boddaert, 1783).

Myiophoneinae—Myophoneinae, Myophoninae, *Myophonus*, and *Myophoneus* are spelling variants for Myiophoneinae Bonaparte, 1850a and *Myiophoneus*; see *Peters' Check-list* (10: 140, fn; 1964), but also see Wolters (1975–82: 411) and Smythies (1986) both of whom use Myophoninae and *Myophonus*.

Crateropodinae—*Crateropus* Swainson, 1831 was synonymized with *Turdoides* Cretzschmar, 1827 prior to 1961, and Crateropodinae Swainson, 1831 has been replaced by Turdoidinae Richmond, 1917 (1831) which takes precedence from 1831.

Macropodinae—Swainson proposed Macropodinae (spelled Macropodiadae) in his discussion of *Donacobius vociferans* (1832–33; plate 72 [= Plate 35]), but never indicated the type genus. He does not appear to have used Macropodidae or Macropodinae anywhere else in his writings. No mention is made of a genus *Macropodus* or *Macropus* for babbler-like birds in the standard sources of scientific names for birds or for animals, and most likely such a generic name does not exist. *Macropodus* Nuttall, 1834 (*Manual Ornithology*, 2: 450) refers to a duck and was synonymized with *Polysticta* Eyton, 1836; moreover this genus was proposed subsequent to Swainson's family-group name. Hence Macropodinae Swainson, 1832–33 lacks a type genus and is unavailable. Macropodinae (or the long-legged thrushes) is clearly in contrast to the group named Brachypodidae Swainson, 1831 (= the short-legged thrushes) as many of the genera mentioned under Macropodinae are the same as those in Crateropodinae Swainson, 1831; hence this name will be listed in the synonymy of Timaliinae.

Cacopittinae—*Cacopitta* Bonaparte, 1850 has been synonymized with *Napothera* G. R. Gray, 1842 prior to 1961, but Cacopittinae Bonaparte, 1854 lacks a replacement name and hence must be held in abeyance. Some workers (e.g., Wolters, 1975–82: 390) still recognize *Cacopitta* in which case Cacopittinae could still be used.

Pomatorhininae—Des Murs (1860) introduced Pomathorinae as a subfamily under the Timaliidae. However from his discussion (p. 634), it is clear that his generic name "*Pomathorinus*" is a spelling variant of *Pomatorhinus* Horsfield, 1821, and hence that Pomatorhininae dates from des Murs, 1860 rather than from Delacour, 1946.

Sibiinae—*Sibia* Hodgson, 1836 was synonymized with *Actinodura* Gould, 1836 prior to 1961, but Sibiinae Oates, 1889 lacks a replacement name and hence must be held in abeyance.

Heterophasiinae—Heterophasiinae Berlioz, 1950 is based on *Heterophasia* Blyth, 1842. However, in proposing this name, Berlioz followed the French custom and used only French vernacular names for his families and subfamilies. Thus Berlioz used the name Hétérophasiinés which is not a properly formed family-group name based on the valid name of a type genus [Art. 11(f)(i)(3)], and is unavailable. The use of Heterophasiinae in this publication is for other than nomenclatural purposes and does not make this name available for the purposes of zoological nomenclature.

Illadopseinae—Although most workers synonymized *Illadopsis* Heine, 1859 with *Trichastoma* Blyth, 1842 prior to 1961, Wolters (1975–82: 380) recognized *Illadopsis* as a distinct genus. His Illadopseinae Wolters, 1980 (*Illadopsis* Heine, 1859) would remain as the valid name for any taxon including *Trichastoma* even if future workers synonymized *Illadopsis* with *Trichastoma*.

Paradoxornithinae—Paradoxornithinae Horsfield and Moore, 1854 (*Paradoxornis* Gould, 1836) has clear priority over Panurinae Newton, 1875 (*Panurus* Koch, 1816) as

well as being well-established for the family-level taxon containing *Paradoxornis* and *Panurus*. No justification exists for the use of Panurinae as proposed by Deignan (1964: 430), which is a post-1960 change and already objected to in that volume by the editors of *Peters' Check-list* (10:430 fn; 1964) as violating Article 23 (ICZN, 1961).

Sphenuridae—*Sphenura* Lichtenstein, 1822 was synonymized with *Thryothorus* Vieillot, 1816 prior to 1961, and Sphenuridae Blyth, 1852 was replaced by Thryothoridae des Murs, 1860 (1852) which takes precedence from 1852. See below, under Thryothoridae.

Thryothoridae—Thryothoridae was proposed by des Murs as Tryothorinae, a subfamily of the Sylviidae containing *Ramphocinctus, Tatare, Tryothorus* and *Ramphocoenus* which is a group of genera included in the currently recognized Polioptilinae and Sylviinae. He clearly cited the type genus as *Tryothorus*, a generic name not found in any of the standard works listing generic names in zoology and/or ornithology. However, considering other spelling variants used by des Murs, his genus "*Tryothorus* is almost certainly a misspelling and is most likely *Thryothorus* Vieillot, 1816. I have accepted this conclusion and listed this family-group name as Thryothoridae, not Tryothoridae, in the synonymy of the Troglodytidae. Thryothoridae was first proposed by des Murs, 1860, not Jerdon, 1862, and hence should be dated from 1860 (1852) [see above, under Sphenuridae] and credited to des Murs, not Jerdon.

Anorthuridae—Anorthuridae Poche, 1904 is available because *Anorthura* Rennie, 1831 (= *Nannus* Billberg, 1828 = *Troglodytes* Vieillot, 1808) is available as a post-Linnaean name.

Sylviidae—Although Sylviidae, Leach, 1820 (*Sylvia* Scopoli, 1769) has priority with respect to Muscicapidae Fleming, 1822 (*Muscicapa* Brisson, 1760), it should be suppressed conditionally with respect to Muscicapidae for any taxon (e.g., superfamily) containing *Sylvia* and *Muscicapa* because the name Muscicapoidea has been consistently used over the past several decades in discussions of passerine classification. Moreover, Muscicapidae has been used for the large family of Old World insect-eaters (Mayr and Amadon, 1951), including the warblers, the Sylviinae. Sylvioidea has never been used for this superfamily. Sylviidae can still be used for any family-level taxon containing *Sylvia*, but not *Muscicapa*. See below, under Muscicapidae.

Hirundinidae Rafinesque, 1815 (*Hirundo* Linnaeus, 1758) has priority with respect to Sylviidae, Leach, 1820 (*Sylvia* Scopoli, 1769), but Sylviidae Leach, 1820 should be conserved conditionally in preference to Hirundinidae Rafinesque, 1815 for any taxon (e.g., superfamily) containing *Sylvia* and *Hirundo* because the name Sylvioidea has been used in discussions of passerine classification for a superfamily containing the Hirundinidae (Sibley and Monroe, 1990). Hirundinoidea has never been used. See above, under Hirundinidae.

Sylviidae Leach, 1820 (*Sylvia* Scopoli, 1769) and Certhiidae Leach, 1820 (*Certhia* Linnaeus, 1758) have been proposed in the same work. Sibley et al. (1988: 421) have acted as first revisers in choosing the name Sylvioidea for their superfamily in preference to Certhioidae, hence Sylviidae has conditional precedence in preference to Certhiidae for any taxon containing both *Sylvia* and *Certhia*. See below, under Certhiidae.

Polioptilinae—The family-level taxon which included the present-day genus *Polioptila* Sclater, 1855 was originally proposed as the Culicivorinae Swainson, 1831 with Culicivora Swainson, 1827 as its type genus. See above, under Culicivorinae. However, Cabanis (1847) showed that this genus was polytypic and Sclater (1855a) showed that the type species of Culicivora Swainson, 1827 was a tyrannid flycatcher. Hence the gnatcatchers were left without a generic name for which Sclater (1855a) proposed the name *Polioptila* with *Motacilla caerulea* Linnaeus, 1766 as the type species. There does not appear to be any justification for Wolters (1975–82) statement that *Culicivora* Swainson, 1837, not 1827, is a synonym of *Polioptila* Sclater, 1837. Swainson (1837) only mentioned *Culicivora atricapilla* (= *plumbea*) under this generic name, but that does not mean that he intended this species as the type for his generic name *Culicivora* in his 1837 publication. In his illustration of *Culicivora atricap-*

illa, Swainson (1832–33: 57) clearly stated that this species is based on *Culicivora* Swainson, 1827. Hence there is no available generic name *Culicivora* Swainson, 1837. And even if Swainson intended his generic name *Culicivora* Swainson, 1837 to apply to a different taxon from his *Culicivora* Swainson, 1827, the 1837 name is a junior homonym of the 1827 name and hence is not available for zoological nomenclature. The family-level taxon containing the genus *Polioptila* lacked a family-group name until Baird proposed Polioptilinae in 1858. Although Culicivora Swainson, 1827 was not synonymized with *Polioptila* Sclater, 1855, and Culicivorinae Swainson, 1831 has not been replaced by Polioptilinae Baird, 1858 which still takes its precedence from 1858, this family-level taxon should be considered to have been recognized originally in 1831 as will be done in the analysis of family-level taxa and their names (see table 3).

Calamoherpinae—*Calamoherpe* Boie, 1822 was synonymized with *Acrocephalus* Naumann, 1811 prior to 1961, and Calamoherpinae Bonaparte, 1838 has been replaced by Acrocephalinae Oates, 1883 (1838) which takes precedence from 1838. See below, under Acrocephalinae.

Phyllopneustinae—*Phyllopneuste* Boie, 1828 was synonymized with *Phylloscopus* Boie, 1826 prior to 1961, and Phyllopneustinae Bonaparte, 1854 has been replaced by Phylloscopinae Jerdon, 1863 (1854) which takes precedence from 1854.

Drymoicinae—When Drymoicinae was proposed by Bonaparte in 1854, he did not specify whether *Drymoica* Swainson, 1827 (= *Prinia* Horsfield, 1821) or *Drymoica* Swainson, 1837 (= *Cisticola* Kaup, 1829) served as the type genus; no indications are given in this paper or in any of Bonaparte's later publications. Both the genera *Prinia* and *Cisticola* were included by Bonaparte in his Drymoicinae. In the absence of any information to the contrary, it can only be assumed that Bonaparte based his Drymoicinae on *Drymoica* Swainson, 1827, which is the senior name. *Drymoica* Swainson, 1827 was synonymized with *Prinia* Horsfield, 1821 prior to 1961, and Drymoicinae Bonaparte, 1854 has been replaced by Priniinae Roberts, 1922 (1854) (*Prinia*) which takes precedence from 1854.

Tatarinae—*Tatare* Lesson, 1831 was synonymized with *Acrocephalus* Naumann, 1811 prior to 1961, and Tatarinae G. R. Gray, 1869 has been replaced by Acrocephalinae Oates, 1883 (1838) which takes precedence from 1838. See above, under Calamoherpinae.

Calamodytinae—*Calamodyta* Kaup, 1829 was synonymized with *Calamodus* Kaup, 1829 prior to 1961, but Calamodytinae G. R. Gray, 1869 lacks a replacement name and hence must be held in abeyance.

Ptenoedinae—*Ptenoedus* Cabanis, 1851 was synonymized with *Cincloramphus* Gould, 1838 prior to 1961, but Ptenoedinae Sundevall, 1872 lacks a replacement name and hence must be held in abeyance.

Hypolaidinae—*Hypolais* Kaup, 1829 was synonymized with *Hippolais* Conrad, 1827 prior to 1961, but Hypolaidinae Olphe-Galliard, 1891 lacks a replacement name and hence must be held in abeyance. It could be argued that *Hypolais* Kaup, 1829 is simply a spelling variant of *Hippolais* Conrad, 1827, and hence the family-group name should be Hippolaidinae Olphe-Galliard, 1891 which would still be still available.

Eminiinae—*Eminia* Hartlaub, 1881 was synonymized with *Hypergerus* Reichenbach, 1850 after 1960; hence the family-group name Eminiinae Wolters, 1983 is retained although the generic name *Eminia* Hartlaub, 1881 is a junior synonym and is no longer the valid name for the type genus of this family-group name [Art. 40(a)].

Muscicapidae—Turdidae Rafinesque, 1815 (*Turdus* Linnaeus, 1758), Sylviidae, Leach, 1820 (*Sylvia* Scopoli, 1769) and Sturnidae Rafinesque, 1815 (*Sturnus* Linnaeus, 1758) have priority with respect to Muscicapidae Fleming, 1822 (*Muscicapa* Brisson, 1760); however, Muscicapidae Fleming, 1822 should be conserved conditionally in preference to Turdidae Rafinesque, 1815, Sylviidae Leach, 1820 and Sturnidae Rafinesque, 1815 for any taxon (e.g., family or superfamily) containing *Muscicapa*, *Turdus*, *Lanius*, and *Sturnus* because the names Muscicapidae and Muscicapoidea has been widely and consistently used over the past several decades in discus-

sions of passerine classification. Turdoidea, Sylvioidea, or Sturnoidea have never been used for this inclusive family or superfamily. See above, under Turdidae and Sylviidae, and below, under Sturnidae.

Waluridae—In spite of its peculiar appearance Waluridae (Eyton, 1867) is clearly a misspelling (typographical error) for Maluridae; the M appears to have been turned upside down, producing a W. See the comments relating to his spelling quirks under Eyton, 1867 in the bibliography. Waluridae lacks a type genus and is not available. This name is included in the main list for completeness.

Certhiparinae—It is not completely clear from the original proposal of Certhiparinae Bonaparte, 1854 (*Certhiparus* of whom ?, not obviously of de Lafresnaye, 1842) to which group of birds this name applies. Bonaparte (1854a: 120) cited *Certhiparus* Lesson as the type genus, but this name is not cited in any of the major sources for avian generic names. If is not clear whether *Certhiparus* referred to by Bonaparte is *Certhiparus* de Lafresnaye 1842 (= *Mohoua* Lesson, 1835; = Mohouinae Mathews, 1946) or its junior homonym *Certhiparus* Hodgson, 1844 (= *Pseudominla* Oates, 1894 = *Alcippe* Blyth, 1844; Timaliidae Vigors and Horsfield, 1827). Because Bonaparte also included the genus *Clitonyx* Reichenbach, 1853 (= *Mohoua* Lesson, 1835) in his group Certhipareae (p. 120), and because he cited Lesson as the author of *Certhiparus*, possibly in confusion with Lesson as the author of *Mohoua*, I will conclude that he intended *Certhiparus* de Lafresnaye, 1842 as the type genus for this group. *Certhiparus* de Lafresnaye, 1842 was synonymized with *Mohoua* Lesson, 1835 prior to 1961, and Certhiparinae Bonaparte, 1854 (*Certhiparus* de Lafresnaye, 1842) has been replaced by Mohouinae Mathews, 1946 (1854) which takes precedence from 1854.

Ornythonycidae—Des Murs (1860: 497; 532) introduced Ornythonycinae as a subfamily under his Formicariidae, however, he never mentioned a type genus (? *Ornythonycus* or *Ornythonyx*) or discussed the genera he included in this subfamily. The names *Ornythonycus* or *Ornythonyx* (or a similar spelling) are not included in the standard works listing generic names in ornithology or in zoology. This conclusion cannot be certain because des Murs apparently introduced several generic names quite properly (e.g., *Galloparus*) which are not listed in these sources. Des Murs included a diverse assemblage of birds [Brachypteraciinae, Pittidae (not Sittidae, error, p. 532), Rhinocryptidae] in his Formicariidae; therefore, the currently recognized Orthonychidae would not be out of place in this assemblage. Knowing des Murs' penchant for misspelling names and writing lapsi, the most reasonable conclusion is that the type genus of his Ornythonycidae is "*Ornythonyx*" a spelling lapsus for *Orthonyx*. Hence I have listed Ornythonycidae Des Murs, 1860 in the synonymy of Orthonychidae, although this conclusion cannot be given as certain. If my reasoning is correct, Ornythonycidae des Murs, 1860 is the same name as Orthonychidae G. R. Gray, 1840 (*Orthonyx*), but Ornythonycidae in included in the main list to avoid any confusion.

Monarchidae—Muscipetidae Reichenbach, 1850 (*Muscipeta*), Myiagridae Cabanis and Heine, 1850–51 (*Myiagra* Vigors and Horsfield, 1827), Tchitreidae Blyth, 1852 (*Tchitrea*), and Terpsiphonidae Shelley, 1896 (1850) (*Terpsiphone* Gloger, 1827) have priority with respect to Monarchidae Bonaparte, 1854 (*Monarcha* Vigors and Horsfield, 1827); however, Monarchidae Bonaparte, 1854 should be conserved conditionally in preference to Muscipetidae, Myiagridae, Tchitreidae, and Terpsiphonidae because of its well-established use for over 100 years and because the senior synonyms have rarely been used for a family-level taxon. Although he stated clearly that Myiagridae has been an unused name for over 50 years and commented that application could be made to the ICZN to conserve the established junior synonym Monarchidae, Boles (1981) advocated, on grounds of priority alone, that Myiagridae should be used for this family in preference to Monarchidae and Rhipiduridae. Boles placed the monarch flycatchers (Monarchidae) and the fantails (Rhipiduridae) in the sane family-level taxon; these birds are generally placed in different family-level taxa. Note that Boles erroneously attributed the name Monarchidae to Beecher, 1953 rather

than to Bonaparte, 1854 and hence believed that it was junior to Rhipiduridae Sundevall, 1872. This undercuts his argument for maintaining Myiagridae in preference to Rhipiduridae. Moreover, it is not at all clear whether Terpsiphonidae or Myiagridae has priority with respect to the other. If one wishes to argue on grounds of strict priority, then the name for this family may well be Terpsiphonidae Shelley, 1896 (1850) (*Terpsiphone*, synonym *Muscipeta*) as Muscipetidae Reichenbach, 1850 (*Muscipeta*) is almost certainly senior to Myiagridae Cabanis and Heine, 1850–51 (*Myiagra*).

Muscipetidae—See above, under Monarchidae, and below, under Terpsiphonidae.

Myiagridae—See above, under Monarchidae.

Tchitreidae—See above, under Monarchidae, and below, under Terpsiphonidae.

Terpsiphonidae—*Tchitrea* Lesson, 1831 and *Muscipeta* Cuvier, 1817 have been synonymized with *Terpsiphone* Gloger, 1827 prior to 1961, and Tchitreidae Blyth, 1852 and Muscipetidae Reichenbach, 1850 have been replaced by Terpsiphonidae Shelley, 1896 (1850) which takes precedence from 1850.

Lamproliidae—The position of *Lamprolia* Finsch, 1873 is most uncertain. It has been placed in the Monarchidae following Peters; hence Lamproliidae Wolters, 1977 has been placed in synonymy with Monarchidae for the purposes of this list. Wolters' name is available if *Lamprolia* is placed in a separate family-level taxon as done by some ornithologists.

Petroicidae—Petroicidae Mathews, 1919–20 (*Petroica* Swainson, 1830) has clear priority over Eopsaltriidae Mathews, 1946 (*Eopsaltria* Swainson, 1832) and is the valid name for the family-level taxon containing *Petroica* and *Eopsaltria* as no question of well-established use exists. Mayr (1986: 556) used Eopsaltriidae without comment rather than Petroicidae; no justification exists for this usage.

Eopsaltriidae—See above, under Petroicidae.

Keropiidae—*Keropia* G. R. Gray, 1840 has been synonymized with *Turnagra* Lesson, 1837 prior to 1961, and Keropiidae Kaup, 1855 has been replaced by Turnagridae Bulle r, 1888 (1855) which takes precedence from 1855.

Turnagridae—The placement of *Turnagra* in the Pachycephalidae is for convenience only as its position among the Oscines is still disputed. The family-group Turnagridae is available if this genus is placed in a monotypic family as is done by some ornithologists.

Sittidae—Tichodromidae Swainson, 1827 (*Tichodroma*) has priority with respect to Sittidae Lesson, 1828 (*Sitta*); nevertheless Sittidae Lesson 1828 should be conserved conditionally in preference to Tichodromidae Swainson, 1827 for any taxon containing *Sitta* and *Tichodroma* because of its well-established usage for over 150 years and because Tichodromidae had never been used for this family. Tichodromidae Swainson, 1827 is still available for a family-level taxon containing *Tichodroma*, but not *Sitta*, as is frequently done.

Neosittinae—*Neositta* Hellmayr, 1901 was synonymized with *Daphoenositta* de Vis, 1897 after 1960 (see Schodde, 1975: 16; Sibley and Monroe, 1990: 458), hence Neosittinae Ridgway, 1904 is to be retained as the valid family-group name with the nominal genus remaining *Neositta* Hellmayr, 1901 although the generic name *Neositta* is no longer the valid name for this nominal genus [Art. 40(a)]. Other authors (Greenway, 1967b; Rand and Gilliard, 1968: 519–521) recognize *Neositta* and *Daphoenositta* as separate genera. I know of no author who synonymized these genera prior to 1961. Certainly there was no general acceptance of a synonymization of these genera prior to 1961, or even today. Schodde (1975), Rand and Gilliard (1968), and Sibley and Monroe (1990: 458) used the family-group name Neosittinae. The use of Daphoenosittinae in *Peters' Check-list* (Greenway, 1967b) is in error.

Daphoenosittinae—Rand's (1936: 309) introduction of the family-group name Daphoenosittinae as a replacement name for Neosittinae simply because *Daphoenositta* is an older generic name than *Neositta* has no justification in general nomenclatural practice or in the nomenclatural rules in force at that time. Rand still recognized *Neositta* as a genus distinct from *Daphoenositta*. Without offering any comments, Delacour and

Vaurie (1957: 5) recognized the subfamilies Neosittinae and Daphoenosittinae under the family Salpornithidae. See above, under Neosittinae.

Tichodrominae—See above, under Sittidae.

Certhiidae—See above, under Sylviidae, for a discussion of the conditional conservation of Sylviidae Leach, 1820 in preference to Certhiidae Leach, 1820. Certhiidae can still be used for any taxon including *Certhia*, but not *Sylvia*.

Salpornithinae—Salporninae (Delacour and Vaurie, 1957) is a spelling error for Salpornithinae.

Dicaeidae—Pardalotidae Strickland, 1842 (*Pardalotus* Vieillot, 1816) has priority with respect to Dicaeidae Bonaparte, 1853 (*Dicaeum* Cuvier, 1816), nevertheless Dicaeidae Bonaparte, 1853 should be conserved conditionally in preference to Pardalotidae Strickland, 1842 for any family-level taxon containing *Dicaeum* and *Pardalotus* because Dicaeidae has a well-established use for over 100 years. Quite likely, *Dicaeum* and its relatives are not closely related to *Pardalotus* within the Oscines, but belong to different families; this taxonomic question still must be resolved.

Pardalotinae—Pardalotidae Strickland, 1842 (*Pardalotus* Vieillot, 1816) should be suppressed conditionally with respect to Dicaeidae Bonaparte, 1853, but Pardalotidae Strickland, 1842 can still be used for any taxon containing *Pardalotus*, but not *Dicaeum*. Inclusion of *Pardalotus* in the Dicaeidae for the purposes of this list is tenuous, and many ornithologists place this genus in a separate family for which Pardalotidae Strickland, 1842 is available.

Nectariniidae—Nectariniidae Vigors, 1825 had a most complex history because of confusion on the use of *Nectarinia*. When Nectariniidae was proposed by Vigors in 1825, he stated definitely (p. 464) that this family is confined to the New World, while the Cinnyrididae (= the present-day Nectariniidae) are Old World. Clearly Vigors's Nectariniidae equaled part or all of the present day Coerebidae. Vigors based his conclusion on the following series of decisions as outlined by Swainson (1821–23). Originally, *Certhia* Linnaeus 1758 included a large number of passerine species with decurved bills, which was clearly heterogenous. Illiger (1811) split off a segment of nectar-feeding forms to which he applied the name *Nectarinia*. However, this assemblage was still heterogenous. Cuvier 1816 took the next step and divided this group into an Old World segment to which he applied the name *Cinnyris* (type species, *splendida*) and a New World segment for which he retained the name *Nectarinia* Illiger, 1811 (type species is unclear); his action can be considered that of first reviser. Temminck (1820), unaware of Cuvier's action, also divided Illiger's *Nectarinia*, but he placed the New World species into *Coereba* Vieillot, 1808 (type *flaveola*) and the remaining Old World species into *Nectarinia* Illiger, 1811. Hence Cuvier's *Nectarinia* = Temminck's *Coereba*, and Cuvier's *Cinnyris* = Temminck's *Nectarinia*. Swainson (1821–23) repeated several times in his publications that *Nectarinia* comprised New World nectar-feeding passerine birds and that the Old World forms are members of *Cinnyris*. Moreover, Swainson's *Nectarinia cyanocephala cyanea* (the Blue-headed *Nectarinia*) is clearly a member of *Dacnis*, not *Coereba*. Vigors accepted Swainson's conclusions completely. Subsequently Gray (1840: 12–13; 1841) restricted the type species of *Nectarinia* as *N. famosa* Linnaeus (a member of the sunbirds, currently = *Nectarinia*) which is indeed the first species listed under this genus by Illiger, 1811. But it is by no means clear that Gray was the first reviser. Further Gray restricted the type species of *Coereba* (which he spelled *Caereba* and attributed it to Vieillot, 1807) as *C. cyanea* Linnaeus which is currently *Dacnis cayana* Linnaeus, 1766. This caused additional confusion as the currently accepted *Coereba* was proposed by Vieillot, 1808, type *Certhia flaveola* Linnaeus, 1758. Gray gave no support for his decision, as is usual in his two thin volumes of 1840 and 1841.

Gray's conclusion has been accepted by ornithologists and this usage has been well established for at least 150 years, and should be continued; nothing would be gained today by adopting Cinnyrididae for the sunbirds or adopting the generic name *Nectarinia* and Nectariniidae for the genus *Dacnis* (*cayana* = *cyanocephala*) and for Dacninae (= Thraupinae). Nor does it make any sense at this

time to assert that Nectariniidae Vigors, 1825 is based on *Nectarinia* of authors. Thus Nectariniidae Vigors 1825 (*Nectarinia* Illiger, 1811) should be conserved conditionally in preference to Cinnyrididae Vigors 1825 (*Cinnyris* Cuvier, 1816) for the family-level taxon containing *Nectarinia* Illiger, 1811 and *Cinnyris* Cuvier, 1816. And further, following established usage in ornithology, the ICZN will be requested to restrict the family-group name Nectariniidae and the genus *Nectarinia* to the Old World Sunbirds and to designate the type species for Nectariniidae as *Certhia famosa* Linnaeus, 1766 which was proposed by Gray (1840).

Cinnyrididae—See above, under Nectariniidae. Although the history of Nectariniidae Vigors, 1825 has been most confused and although Nectariniidae and Cinnyrididae were both proposed by Vigors in the same publication, Cinnyrididae should be suppressed conditionally in preference to Nectariniidae for any taxon containing *Nectarinia* and *Cinnyris* because Nectariniidae has been used for this family consistently for the past 150 years. *Cinnyris* has been synonymized with *Nectarinia* prior to 1961, although some authors (Wolters, 1975–82) still recognize *Cinnyris* as a distinct genus. Cinnyrididae is still available and can be used for any family-level taxon containing *Cinnyris*, but not *Nectarinia*.

Promeropidae—Promeropidae Vigors 1825 (*Promerops* Brisson, 1760) was proposed for the family-level taxon containing the South African Sugar Bird (*Promerops* Brisson, 1760, type species *cafer*). But *Promerops* and/or Promeropidae were soon thereafter applied to the wood-hoopoes (Phoeniculidae) and/or to a heterogenous assemblage of nonpasserine and passerine birds with long decurved bills. It was generally completely unclear to which birds the names *Promerops* or Promeropidae were applied during the period from about 1830 to 1880, especially when the author only used the name *Promerops* or Promeropidae in a classification or in a sequence of names without providing the composition of the genus or the family. Some of these usages may well have excluded the African Sugar Bird. However, *Promerops* and the Promeropidae have been applied properly and consistently to the South African Sugar Bird for the past 100 years. Meliphagidae and Promeropidae were proposed in the same publication, but Meliphagidae should be conserved conditionally with respect to Promeropidae because the former name has been used for over 150 years for the family-level taxon containing *Meliphaga* and *Promerops*. Promeropidae is still available for a family-level taxon containing *Promerops*, but not *Meliphaga*; many workers consider *Promerops* to be a member of a monotypic family-level taxon.

Philedonidae—*Philedon* Cuvier, 1817 was synonymized with *Philemon* Vieillot, 1816 prior to 1961, and Philedonidae Lesson, 1828 has been replaced by Philemonidae Mathews, 1946 (1828) which takes precedence from 1828.

Glyciphilidae—*Glyciphila* Swainson, 1837 was synonymized with *Phylidontris* Lesson, 1831 after 1960, hence Glyciphilidae Reichenbach, 1852 is to be retained in spite of the fact that *Glyciphila* is a junior synonym and is no longer the valid name for the type genus of this family-group name [Art. 40(a)].

Tropidorhynchidae—*Tropidorhynchus* Vigors and Horsfield, 1827 was synonymized with *Philemon* Vieillot, 1816 prior to 1961, and Tropidorhynchidae Reichenbach, 1852 has been replaced by Philemonidae Mathews, 1946 (1828) which takes precedence from 1828. See above, under Philedonidae.

Passerellinae—*Passerella* Swainson, 1837 has been synonymized with *Zonotrichia* Swainson, 1832 after 1960, hence the family-group name Passerellinae Cabanis and Heine, 1850–51 is to be retained in spite of the fact that *Passerella* is a junior synonym and is no longer the valid name for the type genus of this family-group name [Art. 40(a)].

Spermophilinae—*Spermophila* Swainson, 1827 is a junior homonym of *Spermophila* Richardson, 1825, and has been replaced by *Sporophila* Cabanis, 1844. It is unclear whether Bonaparte (1853a) based his Spermophilidae on *Spermophila* Swainson, 1827 or on *Spermophila* Richardson, 1825, but probably the latter. In that case, Spermophilidae Bonaparte, 1853 is based on a junior homonym and hence would not be available. See below, under Sporophilinae.

Struthinae—*Struthus* Bonaparte, 1838 was synonymized with *Junco* Wagler, 1831 prior

to 1961, but Struthinae lacks a replacement name and hence must be held in abeyance. If *Zonotrichia* Swainson, 1832 is synonymized with *Junco* Wagler, 1831, then Zonotrichiinae Bonaparte, 1854 would be retained as the valid family-group name in spite of the fact that *Zonotrichia* is a junior synonym and is no longer the valid name for the type genus of this family-group name [Art. 40(a)].

Sporophilinae—*Spermophila* Swainson, 1827 was synonymized with *Sporophila* Cabanis, 1844 prior to 1961, and has been replaced by the Sporophilinae Ridgway, 1901 (1853) (*Sporophila* Cabanis, 1844) which takes precedence from 1853. If Spermophilidae Bonaparte, 1853 is not available for zoological nomenclature, then it would not be replaced by Sporophilinae Ridgway, 1901, and the latter name would take precedence from 1901, not 1853. See above, under the Spermophilinae.

Cardinalinae—Pitylinae Sundevall, 1836 (*Pitylus* Cuvier, 1829), Spizinae Bonaparte, 1849 (*Spiza* Bonaparte, 1824), Saltatorinae Bonaparte, 1853 (*Saltator* Vieillot, 1816), Cyanospizinae P. L. Sclater, 1862 (*Cyanospiza*), Coccoborinae Reichenow, 1884 (*Coccoborus*), and Guiracinae Ridgway, 1901 (1884) (*Guiraca* Swainson, 1827) all have priority with respect to the Cardinalinae Ridgway, 1901 (*Cardinalis* Bonaparte, 1838). However, the family-group name Cardinalinae is on the Official List of Family-Group Names in Zoology (Opinion 784, 20 December 1966), and the generic name *Cardinalis* is on the Official List of Generic Names in Zoology (Opinion 784, 20 December 1966). Cardinalinae Ridgway, 1901 (*Cardinalis* Bonaparte, 1838) should be conserved conditionally in preference to the Pitylinae, Spizinae, Saltatorinae, Cyanospizinae, Coccoborinae, and Guiracinae for any family-level taxon containing *Cardinalis*, *Pitylus*, *Spiza*, *Saltator*, *Cyanospiza*, *Coccoborus*, and *Guiraca*. *Spiza* is sometimes placed in another family (Icteridae) or in a separate family-level taxon; if this is done in the future, Spizidae Bonaparte, 1849 (*Spiza* Bonaparte, 1824) is still available for a family-level taxon containing *Spiza*, but not *Cardinalis*.

Pitylinae—See above, under Cardinalinae.

Spizinae—See above, under Cardinalinae.

Saltatorinae—See above, under Cardinalinae.

Cyanospizinae—*Cyanospiza* Baird, 1858 was synonymized with *Passerina* Vieillot, 1816 prior to 1961, but Cyanospizinae P. L. Sclater, 1862 lacks a replacement name and hence must be held in abeyance. See above, under Cardinalinae.

Coccoborinae—*Coccoborus* Swainson, 1837 has been synonymized with *Guiraca* Swainson, 1837 prior to 1961, and Coccoborinae Reichenow, 1884 has been replaced by the Guiracinae Ridgway, 1901 (1884) which takes precedence from 1884. See above, under Cardinalinae.

Guiracinae—*Guiraca* Swainson, 1837 was synonymized with *Passerina* Vieillot, 1816 after 1960, hence Guiracinae Ridgway, 1901 (1884) is still retained as the valid family-group name in spite of the fact that Guiraca is a junior synonym and is no longer the valid name for the type (nominal) genus of Guiracinae [Art. 40(a)]. See above, under Cardinalinae.

Thraupinae—Thraupinae has been placed on the Official List of Family-group Names in Zoology (ICZN Opinion 852, 27 September 1968; ICZN Opinion 1069, 31 March 1977). The ICZN originally cited Thraupinae Wetmore and Miller, 1926 (*Thraupis* Boie, 1826) rather than the correct Thraupinae Cabanis, 1847 (*Thraupis* Boie, 1826) and Tanagrinae Bonaparte (1838) rather than the correct Tanagrinae Vigors (1825). The citation of Thraupidae in the Official List was corrected in ICZN Opinion 1069 (31 March 1977) to Thraupidae, Cabanis, 1847. Some priority extremists (Brodkorb, 1978: 197, fn) still complained that in their decisions, the ICZN did not mention Tangarinae Vigors, 1825 and Tangarinae Boie, 1826 (*Tangara* Brisson, 1760), although Bordkorb, in turn, overlooked the name Dacninae Sundevall, 1836 (*Dacnis* Cuvier, 1816). He thereby claimed that Tanagrinae Vigors (1825) still has priority and should be used for the family-level taxon containing the genera *Tanagra* and *Thraupis*, but he failed to realize that all family-group names based on Tanagra Linnaeus, 1764 or on *Tanagra* Linnaeus, 1766, including Vigors, 1825, are unavailable because this generic name has been suppressed by plenary action of the ICZN (ICZN Opin-

ion 852, 1968). However, to insure against any future arguments, Thraupinae Cabanis, 1847 (*Thraupis* Boie, 1826) should be conserved in preference to Tanagrinae Vigors, 1825 (*Tanagra* Linnaeus, 1764 or 1766), and conserved conditionally in preference to Tangarinae Boie, 1826 (*Tangara* Brisson, 1760), Dacninae Sundevall, 1836 (*Dacnis* Cuvier, 1816), and Euphoniinae Cabanis, 1847 (*Euphonia* Desmarest, 1806) because Thraupinae has a well-established usage for 100 years and has already been conserved by plenary decision of the ICZN. Nothing would be gained at this time by a nomenclatural change in the family-group name for the New World tanagers. Tangarinae, Dacninae, and Euphoniinae can still be used for family-level taxa containing *Tangara*, *Dacnis* or *Euphonia*, but not *Thraupis* (see below, under Tangarinae). Thraupidinae is a spelling variant of Thraupinae, and although the spelling Thraupidinae may be technically correct, the spelling Thraupinae has been universally accepted and nothing is gained by using Thraupidinae at this time.

Tanagrinae—Tanagrinae Bonaparte, 1838, not Vigors, 1825 (*Tanagra* Linnaeus, 1764 or 1766), *Tanagra* Linnaeus, 1764, and *Tanagra* Linnaeus, 1766 have been placed on the Official Indices of Rejected and Invalid Names in Zoology (ICZN Opinion 852, Bull. Zool. Nom., 25: 74–75, 27 September 1968). The ICZN cited Tanagrinae Bonaparte, 1838 (*Tanagra* Linnaeus, 1764) rather than the correct Tanagrinae Vigors, 1825 (*Tanagra* Linnaeus, 1764 or 1766). To my knowledge, this has not been corrected by any later actions of the ICZN; ICZN Opinion 1069 did not correct this matter. To avoid future quibbling about which Tangarinae was cited in ICZN Opinion 852, the ICZN will be requested to suppress Tangarinae Vigors, 1825 (Tangara Linnaeus, 1764 or 1766) and place it on the Official Index. See above, under Thraupinae.

Tangarinae—See above, under Thraupinae.

Dacninae—See above, under Thraupinae.

Euphoniinae—See above, under Thraupinae.

Glossiptilinae—*Glossiptila* Sclater, 1857 was synonymized with *Euneornis* Fitzinger, 1856 prior to 1961, and Glossiptilinae P. L. Sclater, 1886 has been replaced by the Euneornithinae Bangs, 1930 (1886) which takes precedence from 1886.

Lamprotinae—*Lamprotes* Swainson, 1837 was synonymized with *Compsothraupis* Richmond, 1915 prior to 1961, but Lamprotinae P. L. Sclater, 1886 lacks a replacement name and hence must be held in abeyance.

Procniatinae (Tersininae)—Tersininae Ridgway, 1907 (*Tersina* Vieillot, 1819) is the valid name for the swallow-tanagers rather than Procniatinae Sclater, 1862 (*Procnias* Temminck, 1820) as it has been shown that the generic name *Procnias* Temminck, 1820 is a junior homonym of *Procnias* Illiger, 1811 which applies to a genus within the Cotingidae. Hence, Procniatinae Sclater, 1862 (*Procnias* Temminck, 1820), being based on an invalid generic name, is unavailable. Earlier ornithologists incorrectly maintained that the family-group name Procniatinae is bound to the generic name *Procnias*, switched Procnianinae to *Procnias* Illiger, 1811, and incorrectly placed it in the synonymy of the Cotingidae. Properly, the unavailable family-group name Procniatinae Sclater, 1862 (*Procnias* Temminck, 1820) still belongs in the synonymy of the Tersininae where I have placed it. For completeness, I have also listed this name in the synonymy of the Cotingidae as Procniatidae auct. (*Procnias* Illiger, 1811). See above, under Procniatidae (Cotingidae).

Parulidae—*Sylvicola* Swainson, 1827 and *Compsothlypis* Cabanis, 1850 have been synonymized with *Parula* Bonaparte, 1838 prior to 1961, and Sylvicolidae Swainson, 1831 and Compsothlypidae Oberholser, 1919 have been replaced by the Parulidae Wetmore, Friedmann, Lincoln, Miller, Peters, van Rossem, Van Tyne and Zimmer, 1947 (1831) which takes precedence from 1831; Parulidae has certainly won general acceptance since 1947 [Art. 40(b)]. Therefore, Parulidae Wetmore, Friedmann, Lincoln, Miller, Peters, van Rossem, Van Tyne, and Zimmer, 1947 (1831) (*Parula* Bonaparte, 1838) has priority over Vermivoridae Swainson, 1831 (*Vermivora* Swainson, 1827), Setophagidae Swainson, 1831 (*Setophaga* Swainson, 1827), Coerebidae d'Orbigny and de Lafresnaye, 1838 (*Coereba* Vieillot, 1808), Mniotiltidae G. R. Gray, 1848 (*Mniotilta* Vieillot, 1816), Helmitheridae Bonaparte, 1853 (*Helmitheros*

Rafinesque, 1819), Geothlypidae Baird, 1858 (*Geothlypis* Cabanis, 1847), Icteriidae Baird, 1858 (*Icteria* Vieillot, 1807), Henicocichlidae P. C. Sclater, 1862 (*Henicocichla* Agassiz, 1846), Seiuridae Baird, 1864 (*Seiurus* Swainson, 1827), Teretistridae Baird, 1864 (*Teretistris* Cabanis, 1855), Trichadidae G. R. Gray, 1869 (*Trichas* Swainson, 1827), Enicocichlidae G. R. Gray, 1869 (*Enicocichla* G. R. Gray, 1840), Dendroicidae Sundevall, 1872 (*Dendroica* G. R. Gray, 1842), Arbelorhinidae Sundevall, 1872 (*Arbelorhina* Cabanis, 1847), Helinaiidae Ridgway, 1902 (*Helinaia* Rafinesque, 1819), and Zeledoniidae Ridgway, 1907 (*Zeledonia* Ridgway, 1889). Hence, Parulidae is the valid name for the family-level taxon containing *Parula* and the other genera listed above, not Coerebidae as has been claimed recently by several workers, (e.g., Brodkorb, 1978: 195). To avoid any problems, the ICZN will be requested to conserve Parulidae Wetmore et al., 1947 with respect to Sylvicolidae and Compsothlypidae and conserve it conditionally with respect to the other family-group names listed above. These other family-group names, e.g., Coerebidae, are still available should any of the type genera be placed in a family-level taxon not containing *Parula*.

Sylvicolidae—See above, under Parulidae.

Vermivoridae—See above, under Parulidae.

Setophagidae—See above, under Parulidae.

Coerebidae—Coerebidae is clearly not the valid name for the family-level taxon containing *Parula* as claimed by Brodkorb (1963–78) and several other workers. Coerebidae d'Orbigny and Lafresnaye, 1838 (*Coereba* Vieillot, 1808) is available for any taxon *Coereba*, but not *Parula*. See above, under the Parulidae for a discussion of this name relative to the Parulidae, and under the Nectariniidae for a discussion of this relative to the Nectariniidae. Caerebidae is a spelling variant for Coerebidae based on *Caereba*.

Mniotiltidae—See above, under Parulidae.

Helmitheridae—*Helmitheros* Rafinesque 1819 has been placed on the Official List of Generic Names in Zoology (ICZN Opinion 412, issued 31 July 1965). Unfortunately the opinion of the ICZN was in error in stating (p. 207) that "no family-group problem arisen in connection with the generic name *Helmitheros* Rafinesque, 1819." This statement is repeated in ICZN Direction 58, issued 20 December 1956, saying that "no family-group name problem arises in this case". It is not clear whether "no problem" meant that no family-group name was based on *Helmitheros*, or that no problems are associated with Helmitheridae, which is based on *Helmitheros* and is an available name. But a problem did exist as discussed, under the Parulidae.

Geothlypidae—See above, under Parulidae.

Icteriidae—See above, under Parulidae.

Henicocichlidae—See above, under Parulidae, and below, under Seiuridae.

Seiuridae—*Henicocichla* Agassiz, 1846 and *Enicocichla* G. R. Gray, 1840 have been synonymized with *Seiurus* Swainson, 1827 prior to 1961, and Henicocichlidae P.L. Sclater, 1862 and Enicocichlidae G. R. Gray, 1869 have been replaced by Seiuridae Baird, 1864 (1862) which takes precedence from 1862. See above, under Parulidae.

Teretistridae—See above, under Parulidae.

Trichadidae—See above, under Parulidae.

Enicocichlidae—See above, under Parulidae and Seiuridae.

Dendroicidae—See above, under Parulidae.

Arbelorhinidae—See above, under Parulidae.

Helinaiidae—See above, under Parulidae.

Zeledoniidae—See above, under Parulidae.

Agelaiinae—"Aglainae Swainson, 1837" (? *Aglaia* Swainson 1827), not Agelaiinae Swainson, 1831 (*Agelaius*), has been placed on the Official Index of Rejected Family-group Names in Zoology (ICZN Opinion 1079, Melville, 1977a) on the grounds that it was not based on the name of an included genus. This case represents the epitome of problems involved in dealing with family-group names and of major errors which can arise because of a lack of even the simplest research into these names. This proposal and decision should be considered as a case study because the ICZN, as well as Lemche (1972) who wrote the application and his ornithological advisor (Professor F. Salomonsen, also very knowledgeable in nomenclatural matters) all committed major errors throughout.

It must be emphasized that these errors are not subtle points, but resulted from not even looking carefully at the publications in which names were first proposed, or even reading the Code with any care! The "Aglaiinae" (Aves) is listed in Melville and Smith (1987: 4) as Aglainae Swainson, 1837, which is the spelling used by Swainson (1837: 275), but this name is correctly spelled as Aglaiinae if this family-group name is considered to be based on the genus *Aglaia* Swainson, 1827.

However, Aglainae is clearly not a new family-group name, but only a misspelling of *Agelaiinae* Swainson, 1831 as can be ascertained from a brief examination of Swainson's book, and an elementary knowledge of the history of avian systematics. The name Aglainae used on pages 274–5 and 280 of Swainson (1837) is clearly misspelled and should have been Agelaiinae Swainson, 1831 based on *Agelaius* Vieillot, 1816, and attributed to Swainson, 1831 not to Swainson, 1837. That the Aglainae was applied to the group of "Maize-birds," members of the New World blackbirds (Icterinae), is obvious from the original description of the group in Swainson (1831) and also from Swainson's 1837 (p. 275) treatment. In both cases, he clearly listed the genus *Agelaius* Vieillot, 1816 under the family-group name, which is, without question, the type genus. It simply does not matter whether Swainson did not include the genus *Aglaia* Swainson, 1827 in his discussion of this taxon in his 1837 publication because he was dealing with the group of North American "maize-birds," members of his aberrant Sturnidae (= present day Icteridae), and not with the tanagers, his Tanagrinae. Swainson was an outstanding avian systematist and certainly knew the difference between these two groups of birds; it would have been totally uncharacteristic of him to have confused the "maize-birds" (Icteridae) with the Tanagers (his Tanagrinae = Thraupinae), or to confuse *Aglaia* with *Agelaius*. But it is highly probable that he had a lapse in memory or made a typographical error in writing Aglainae rather than Agelaiinae—this is more than typical for Swainson. Swainson, who received a substantial part of his income from his writings, wrote many books during the 1830s and presumably did not always take sufficient care in checking details of spelling when he wrote or read proofs. He was notorious for errors of this type and for repeatedly using the same generic-group name for different groups or with different type genera. But he simply would not confuse such obviously different birds as maize-birds and tanagers. This incorrect spelling of the Aglainae for the Agelainae (using Swainson's spelling for both) does not constitute an available name for zoological nomenclature [Art. 33(c)].

That the name "Aglainae" as it appeared on page 275 is a clear misspelling is shown by Swainson's discussion of the classification of birds elsewhere in this volume (Swainson, 1837: 98–107), which apparently was never examined by Lemche or any members of the ICZN in reaching their decision. In this section (1837: 98–107), Swainson discussed the classification and characteristics of the Sturnidae and of its several subfamilies. He used Agelainae (= Agelaiinae) coupled with the English name "maize-birds" on pages 98, 100, 104, 105, 106 and 107, and commented on the same genera (pp. 100–102) which he later listed under the "Subfam. Aglainae. Maizers." (pp. 275–276). From an examination of the entire volume (Swainson, 1837), it is obvious that an "e" was omitted from the subfamily name Agelainae on page 275; hence "Aglainae" appearing on that page is only an incorrect spelling and should be automatically corrected to the Agelaiinae [under the provisions of Art. 33(c) and elsewhere]. This is what Swainson's contemporaries did, as for example, Selby 1840 who listed the Agelainae on p. 19 under the Icteridae, and the genus *Aglaia* in the Tanagrinae, p. 21.

Swainson (1827: 347) had proposed the genus *Aglaia* based on the type *Tanagra tatao* Linnaeus, which he included in the Tanagrinae; the genus *Aglaia* is listed by Swainson (1837: 285) under his Tanagrinae. It is, moreover, complete fiction that Swainson's family-group name Agelainae, 1831 is based on the genus *Aglaia* (Lemche, 1972: 129); this claim has no justification outside of the wildest imagination.

Furthermore, no question of homonymy ever existed between the molluscan family-group name Aglajidae Berge, 1894 (*Aglaja* Renier, 1807) and the avian family-group name Agelaiinae Swainson, 1831 or even the

"Aglaiinae" should the latter name have ever existed for nomenclatural purposes. The "Aglaiinae (Swainson, 1837)" is not a homonym of the Aglajidae Berge, 1894, even if they are similar. Article 57 applies only to species-group names. Article 55 (ICZN, 1961, 1964) and article 55(c) (ICZN, 1985a) clearly state that two family-group names differing in one letter are not homonyms. Not only did the family-group name "Aglainae Swainson, 1837" never exist for purposes of zoological nomenclature, but it would not have been a homonym of Aglajidae Berge, 1894 had it been available. Hence, no justification exists to place "Aglainae" on the Official Index of Rejected and Invalid Family Group Names in Zoology.

Most importantly, it must be stressed that the action taken by the ICZN (ICZN Opinion, 1079; 1977) on the nonexistent and unavailable "Aglainae Swainson, 1837" has no affect on the continued availability and use of Agelaiinae Swainson, 1831 based on *Agelaius* Vieillot, 1816. This family-group name continues to be used as the valid name for the tribe Agelaiini of the subfamily Icterinae, e.g., in the latest edition of the A.O.U. Checklist (American Ornithologists' Union, 1983: 722).

Cassicinae—*Cassicus* Illiger, 1811 has been synonymized with *Cacicus* Lacépède, 1799 prior to 1961, and Cassicinae Bonaparte, 1853 has been replaced by the Cacicinae Ridgway, 1902 (1853) which takes precedence from 1853.

Carduelinae—Loxiinae Vigors, 1825 (*Loxia* Linnaeus, 1758) has priority with respect to the Carduelinae Vigors, 1825 (*Carduelis* Brisson, 1760) as the name Loxiinae was published earlier in that year than the Carduelinae. But the Carduelinae should be conserved conditionally in preference to the Loxiinae for any taxon containing *Carduelis* and *Loxia* because of its long and well-established usage of over 150 years and because the name Loxiinae has almost never been used for this family-level taxon for the past 150 years. Loxiinae is still available for any family-level taxon containing *Loxia*, but not *Carduelis*.

Loxiinae—See above, under Carduelinae.

Pyrrhulinae—Carduelinae Vigors, 1825 (*Carduelis*) and Pyrrhulinae Vigors, 1825 (*Pyrrhula*) were proposed in the same publication, however, Carduelinae should be conserved conditionally with respect to Pyrrhulinae because Carduelinae has been used for this family-level taxon for over 150 years and because Pyrrhulinae has rarely if ever been used for this family.

Linotinae—*Linota* Bonaparte, 1831 has been synonymized with *Linaria* Bechstein, 1802 prior to 1961, and Linotinae Bonaparte, 1841 has been replaced by the Linariinae Bonaparte, 1841.

Linariinae—Although *Linaria* Bechstein, 1802 has been synonymized with *Acanthis* Borkhausen 1797 prior to 1961 by many workers (however, Wolters, 1975–82: 302 still recognized *Linaria* as a distinct genus), but Linariinae Bonaparte, 1841 lacks a replacement name and hence must be held in abeyance.

Drepanididae—Drepanididae Cabanis, 1847 (*Drepanis* Temminck, 1820; Name No. 306) has been placed on the Official List of Family-Group Names in Zoology (ICZN Opinion 610, China, 1961). The ICZN incorrectly cited this name as Drepanididae Gadow, 1891 rather than Drepanididae Cabanis, 1847. Further, the ICZN accepted the spelling of the family-group name as Drepanididae based on the generic name *Drepanis* Temminck, 1820 as proposed by Amadon and Franclemont, 1960. In the same decision, the names Drepanidae Sushkin, 1929 and Drepaniidae Mayr, 1943 were placed on the Official Index of Rejected and Invalid Family-Group Names in Zoology. *Drepanis* Temminck, 1820 (type species, *pacifica* Gmelin, 1788) was placed on the Official List of Generic Names in Zoology and *Drepanis* Brisson, 1769 was placed on the Official Index of Rejected and Invalid Generic Names in Zoology.

Psittirostrinae—Both Psittirostrinae Bonaparte, 1853 (*Psittirostra* Temminck, 1820) and Hemignathinae Reichenbach, 1853 (*Hemignathus* Lichtenstein, 1839) were published the same year. However, it is impossible to determine exactly when the many individual parts of Reichenbach's series of publications actually appeared (see Meyer, 1879). It is simply wishful thinking on the part of any zoologists who believe that they can unravel the exact dates of publication of the series of Reichenbach's papers, even to

the year, let alone the month and day. As the name Psittirostrinae has been used by earlier authors for this family-level taxon (subfamily), that use should be taken as the choice of the first reviser and given precedence relative to the Hemignathinae Reichenbach, 1853. Moreover, the name Psittirostrinae has been used consistently since the Drepanididae were divided into subfamilies, and should be conserved conditionally in preference to the Hemignathinae for any family-level taxon containing *Psittirostra* and *Hemignathus*.

Hemignathinae—See above, under Psittirostrinae.

Estrildidae—Pytiliidae Bonaparte, 1840 (*Pytilia* Swainson, 1837), Spermestidae Cabanis, 1847 (*Spermestes* Swainson, 1837), and Lonchuridae Steiner, 1960 (1847) (*Lonchura* Sykes, 1832) have priority with respect to Estrildidae Bonaparte, 1850 (*Estrilda* Swainson, 1827); however, Estrildidae Bonaparte, 1850 should be conserved conditionally in preference to Pytiliidae, Spermestidae, and Lonchuridae for any taxon containing *Estrilda, Pytilia, Spermestes*, and *Lonchura* because Estrildidae has a well-established use for well over 125 years. Furthermore Pytiliidae and Lonchuridae has rarely, if ever, been used for any family-level taxon containing *Estrilda, Pytilia,* and *Lonchura* for the past 125 years. A few workers, following Steiner, 1960, used Spermestidae for the family containing *Estrilda, Pytilia, Spermestes*, and *Lonchura*, but the fact that *Spermestes* Swainson, 1837 is a junior synonym of *Lonchura* Sykes, 1932 argues against the use of Spermestidae for this family, in addition to its use by only a few workers. Pytiliidae, Spermestidae, and Lonchuridae are still available for family-level taxa containing *Pytilia, Spermestes*, or *Lonchura* but not *Estrilda*. See below, under Lonchurinae for treatment of Spermestidae.

Astrildidae as used by Blyth (1875: 92) based on *Astrilda* and Estreldidae as used by Blyth (1852) based on *Estrelda* are spelling variants of Estrildidae and *Estrilda*; they have not been included in the main list.

Pytiliinae—See above, under Estrildidae.

Didymostictinae—Didymostictinae Steiner, 1960 (*Didymosticta* Steiner, 1960) is unavailable because it is based on *Didymosticta* Steiner, 1960 which is a nomen nudum and hence unavailable, see Traylor (1968: 324 fn).

Granatininae—*Granatina* Sharpe, 1890 has been synonymized with *Uraeginthus* Cabanis, 1851 prior to 1961 (although some authors recognize *Granatina* as a separate genus, e.g., Wolters, 1975–82: 284), but Granatininae Steiner, 1960 lacks a replacement name and hence must be held in abeyance.

Poephilinae—Although Zonaeginthinae Steiner, 1960 has priority with respect to Poephilinae Mayr et al., 1968 (*Poephila* Gould, 1842), Poephilinae should be conserved conditionally in preference to Zonaeginthinae for any taxon containing *Poephila* and *Zonaeginthus* because Poephilinae has been used consistently since it was proposed and no one since Steiner has used Zonaeginthinae. Zonaeginthinae is still available for a family-level taxon containing *Zonaeginthus*, but not *Poephila*. See below, under Zonaeginthinae.

Zonaeginthinae—*Zonaeginthus* Cabanis, 1851 has been synonymized with *Emblema* Gould 1842 after 1960, hence Zonaeginthinae Steiner, 1960 (*Zonaeginthus* Cabanis, 1851) is still available in spite of the fact that *Zonaeginthus* is a junior synonym of *Emblema* and is no longer the valid name for its type (nominal) genus [Art. 40(a)].

Lonchurinae—*Spermestes* Swainson, 1837 has been synonymized with *Lonchura* Sykes, 1832 prior to 1961, and Spermestinae Cabanis, 1847 (*Spermestes* Swainson, 1837) has been replaced by Lonchurinae Steiner, 1960 (1847) (*Lonchura* Sykes, 1832) which takes precedence from 1847. Thus Lonchurinae Steiner, 1960 (1847) (*Lonchura* Sykes, 1832) should be conserved conditionally with respect to Amadininae Bonaparte, 1854 (*Amadina* Swainson, 1827) because it has priority according to the Code. See above, under Estrildidae, for comments on Lonchuridae.

Spermestinae—See above, under Estrildidae and Lonchurinae.

Amadininae—See above, under Lonchurinae.

Erythrurinae—Lonchurinae Steiner, 1960 (1847) (*Lonchura* Sykes, 1832) has priority over Erythrurinae Delacour, 1943 (*Erythrura* Swainson, 1837) and would be the valid name for any family-level taxon containing *Lonchura* and *Erythrura* as done in By Mayr et al., (1968: 361, but see footnote).

Chloromuniinae—*Chloromunia* Mathews, 1923 was synonymized with *Erythrura* Sykes, 1832 after 1960, and is still available as a

family-group name if *Chloromunia* Mathews, 1923 is placed in a different family-level taxon from *Erythrura* Swainson, 1837.

Bubalornithinae—*Alecto* Lesson, 1831 has been synonymized with *Bubalornis* Smith, 1836 prior to 1961, and Alectuidae Oberholser, 1921 (*Alecto* Lesson, 1831) has been replaced by Bubalornithinae Iredale and Bannerman, 1921 which takes precedence from the same year.

Textorinae—*Textor* is of authors (not Temminck, 1827) and hence Textorinae Chapin, 1917 lacks a type genus and is not available.

Alectuidae—See above, under Bubalornithinae.

Plocepasserinae—Contrary to general belief of ornithologists, Plocepasserinae was proposed by des Murs (1860a), not Sushkin (1927). Hence Plocepasserinae des Murs, 1860 (*Plocepasser* Smith, 1836) has priority with respect to *Sporopipinae* Sushkin, 1927 (*Sporopipes* Cabanis, 1847), and is the valid name for this family-level taxon. It is not possible to determine easily whether des Murs originally proposed Plocepasserinae in his 1860a or in his 1860b paper; I have cited the former simply because he proposed a number of other names in it.

Sturnidae—Although Sturnidae Rafinesque, 1815 (*Sturnus* Linnaeus, 1758) has priority with respect to Muscicapidae Fleming, 1822 (*Muscicapa* Brisson, 1760), it should be suppressed conditionally with respect to Muscicapidae for any taxon (e.g., superfamily) containing *Sturnus* and *Muscicapa* because Muscicapoidea has been consistently used in discussions of passerine classification. Sturnoidea has never been used for this superfamily. Sturnidae can still be used for any family-level taxon containing *Sturnus*, but not *Muscicapa*. See above, under the Muscicapidae. Sternidae and *Sternus* (Eyton, 1867) are clearly misspellings and Sternidae Eyton, 1867 is not a junior homonymy of Sternini Vigors, 1825 [Art. 54(3)]. Sternidae Eyton, 1867 is not on the main list.

Mainatidae—*Mainatus* Vieillot, 1817 has been synonymized with *Gracula* Linnaeus, 1758 prior to 1961, and Mainatidae Lesson, 1831 has been replaced by Graculinae G. R. Gray, 1841 (1831) which takes precedence from 1831.

Gymnopinae—*Gymnops* Cuvier, 1829 has been synonymized with *Sarcops* Walden, 1877 prior to 1961, but Gymnopinae Sundevall, 1836 lacks a replacement name and hence must be held in abeyance.

Thremmophilinae—*Thremmophilus* Macgillivray, 1837 has been synonymized with *Pastor* Temminck, 1815 prior to 1961, and Thremmophilinae MacGillivray, 1837 has been replaced by Pastorinae Olphe-Galliard, 1890 (1837) which takes precedence from 1837.

Graculinae (Sturninae)—See above, under Graculinae (Phalacrocoracinae) for a discussion of the family-group homonyms. Note that *Graculus* Möhring, 1752 is pre-Linnaean and hence does not predate *Graculus* Linnaeus, 1758.

Eulabinae—Eulabethinae used by Lowe (1938) is a spelling variant of Eulabinae.

Pastorinae—*Pastor* Temminck, 1815 is usually synonymized with *Sturnus* Linnaeus, 1758, and Pastorinae Olphe-Galliard, 1890 (1837) has been replaced by Sturninae Rafinesque, 1815.

Oriolidae—Oroalidae (Eyton, 1867) is a misspelling.

Edoliidae—*Edolius* Cuvier, 1816 has been synonymized with *Dicrurus* Vieillot, 1816 prior to 1961, and Edoliidae Swainson, 1824 has been replaced by Dicruridae Vigors, 1825 (1824) which takes precedence from 1824.

Callaeidae—Although the correct formation of this name appears to be the Callaeatidae (Amadon, 1962: 157, fn), the spelling variant Callaeidae was used in that check-list and will be used herein because Callaeidae is the most broadly and best established name for this taxon.

Glaucopididae—*Glaucopis* Gmelin, 1788 has been synonymized with *Callaeas* Forster, 1788 prior to 1961, and Glaucopididae Swainson, 1831 has been replaced by Callaeidae Sundevall, 1836 (1831) which takes precedence from 1831.

Neomorphidae (Callaeidae)—*Neomorpha* Gould, 1837 has been suppressed and placed on the Official Index (Opinion 514: Hemming 1958j). The name *Heteralocha* Cabanis, 1851 was conserved and placed on the Official List. This opinion failed to realize that Neomorphidae Chenu and des Murs, 1852 existed and did not address the question of the validity of this name, especially with respect to the name Neomorphinae Shelley,

1891 (*Neomorphus* Gloger, 1827). Because *Neomorpha* Gould, 1837 has been suppressed in favor of *Heteralocha* Cabanis, 1851, Neomorphidae Chenu and des Murs, 1852 (*Neomorpha* Gould, 1837) is unavailable for purposed of zoological nomenclature and hence not a senior homonym of Neomorphinae Shelley, 1891. See above, under the Neomorphinae (Cuculidae).

Creadionidae—*Creadion* Vieillot, 1816 and Creadionidae Mathews and Iredale, 1913 have had extremely complex histories that affect several well established names and which can probably be clarified only by application to the ICZN. Creadionidae Mathews and Iredale, 1913 (*Creadion* Vieillot, 1816) was originally and correctly proposed by Mathews and Iredale for *Creadion* Vieillot, 1816. But *Creation* had been applied to the genus currently called *Philesturnus* (Geoffroy St.-Hilaire, 1832; = Philesturnidae Mathews, 1946) and to the genus currently called *Anthochaera* (Vigors and Horsfield, 1827; = Meliphagidae Vigors, 1825). However, since about 1830, almost all uses of *Creadion* have been for birds included in the genus *Philesturnus*. Because Mathews and Iredale introduced their name Creadionidae in a list of birds of New Zealand, one can assume that they had in mind birds currently included the genus *Philesturnus*. Wolters (1975–82: 448) concluded, but without providing his evidence and reasons, that the generic name *Creadion* Vieillot, 1816 applies properly to *Philesturnus* (Geoffroy St.-Hilaire, 1832), and not to the genus *Anthochaera* (Vigors and Horsfield, 1827). However, examination of Vieillot (1825) makes it clear that he (1816, 1825) applied *Creadion* to the wattlebirds of the family Meliphagidae as the colored plate accompanying his discussion of Creadion (Vieillot, 1825) is clearly that of an Australian wattlebird (= *Anthochaera*; Meliphagidae). The text description in Vieillot (1816) accompanying his original proposal of the name *Creadion* is the same as the text description given in Vieillot (1825). No doubt exists that Vieillot had applied the name *Creadion* to the same bird in these two publications. Therefore there cannot be any doubt that the generic name *Creadion* Vieillot, 1816 as he used it applies to the Australian wattlebirds currently known under the name *Anthochaera* (Vigors and Horsfield, 1827; = Meliphagidae Vigors, 1825). However, it is not clear whether Vieillot's (1825) actions represent that of a first reviser, or even whether it was necessary for him to act as first reviser. The statement of Vigors and Horsfield (1827) clearly restricts *Anthochaera* (Vigors and Horsfield, 1827) to the Australian wattle-birds and *Creadion* Vieillot, 1816 to the New Zealand bird; their action has always been accepted as that of the first reviser, regardless of whether Vieillot (1825) was actually the first reviser. It could be argued, and I feel correctly, that Vieillot clearly indicated *Creadion carunculatus* Vieillot, 1823 = *Corvus paradoxus* Daubin, 1800 the type species for his *Creadion* by the discussion in his 1825 paper, although in his 1816 paper, Vieillot apparently had *Merops carunculata* White, 1790 in mind. In any case, Vieillot clearly coined his name *Creadion* for a member of the Australian Wattlebirds, currently placed in the genus *Anthochaera* Vigors and Horsfield, and the restriction of the type species by Vigors and Horsfield to *Sturnus carunculatus* Gmelin, 1789 was unnecessary and incorrect at the time. Hence it is not entirely clear whether Creadionidae Mathews and Iredale, 1913 is a junior synonym of Callaeidae Sundevall, 1836 (1831) or of Meliphagidae Vigors, 1825. Because ornithologists have accepted the type restriction of Vigors and Horsfield, and because Mathews and Iredale appeared to apply their Creadionidae to birds of the genus *Philesturnus*, I have listed Creadionidae as a synonym under Callaeidae. Nevertheless, the best solution to this problem would be to suppress completely the name *Creadion* Vieillot, 1816, hence making Creadionidae Mathews and Iredale, 1913 objectively invalid. A separate application has been made to the ICZN (Bock, in press b). The name Creationtidae is a spelling variant of Creadionidae.

Heteralochidae—*Neomorpha* Gould, 1837 has been suppressed in favor of *Heteralocha* Cabanis, 1851, hence Neomorphidae Chenu and des Murs, 1852 is unavailable and is not replaced by Heteralochidae Mathews and Iredale, 1920 which still takes precedence from 1920.

Philesturnidae—See above, under Creadionidae for a discussion of *Creadion* Vieil-

lot, 1816 and *Philesturnus* Geoffroy St.-Hilaire, 1832, and the recommendation to suppress *Creadion*.

Grallinidae—The nomenclatural questions of the three family-group names included in this family are best discussed together because the systematic relationships of the three genera of this family-level taxon are most uncertain.

Struthideidae Mathews, 1924 (*Struthidea* Gould, 1837) and Corcoracidae Mathews, 1925–27 (*Corcorax* Lesson, 1830) have priority with respect to Grallinidae Mathews, 1930 (*Grallina* Vieillot, 1816), however, Grallinidae should be conserved conditionally in preference to Struthideidae and Corcoracidae for any taxon containing *Grallina*, *Struthidea*, and *Corcorax* because it has almost always been used for the family-level taxon containing these three genera. Hence Grallinidae is the valid name for any family-level taxon containing *Grallina* and either *Corcorax* or *Struthidea*, or both.

Corcoracinae—Struthideidae Mathews, 1924 (*Struthidea* Gould, 1837) has priority with respect to Corcoracinae Mathews, 1925–27 (*Corcorax* Lesson, 1830), however Corcoracidae should be conserved conditionally in preference to Struthideidae for any family-level taxon containing *Corcorax* and *Struthidea* because this name has generally been used for any family-level taxon containing these two genera. Corcoracinae Mathews, 1925–27 (*Corcorax* Lesson, 1830) should be suppressed conditionally with respect to Grallinidae Mathews, 1930 (*Grallina* Vieillot, 1816). Hence Corcoracinae is the valid name for any family-level taxon containing *Corcorax*, or *Corcorax* and *Struthidea*, but not *Grallina*.

Struthideinae—Struthideinae Mathews, 1924 (*Struthidea* Gould, 1837) should be suppressed conditionally with respect to Corcoracinae Mathews, 1925–27 (*Corcorax* Lesson, 1830) and Grallinidae Mathews, 1930 (*Grallina* Vieillot, 1816) for any family-level taxon containing *Struthidea*, *Corcorax,* and *Grallina*. However Struthideinae can be used for any family-level taxon containing *Struthidea*, but not *Corcorax* and *Grallina*.

Hence Struthideidae Mathews, 1924 (*Struthidea* Gould, 1837), Corcoracidae Mathews, 1925–27 (*Corcorax* Lesson, 1830), and Grallinidae Mathews, 1930 (*Grallina* Vieillot, 1816) are all available if any of these genera are placed in different family-level taxa, or in the combinations mentioned above.

Artamidae—Artamiidae Hartlaub, 1877 (*Artamia* de Lafresnaye, 1832; = Vangidae) and Artamidae Vigors, 1825 (*Artamus* Vieillot, 1816) are based on different genera and are different family-group names because of the difference in spelling; they are not homonyms. See above, under the Artamiidae (Vangidae).

Cracticidae—*Barita* Cuvier, 1816 has been synonymized with *Cracticus* Vieillot, 1816 prior to 1961, and Baritidae Sundevall, 1836 has been replaced by Cracticidae Chenu and des Murs, 1853 (1836) which takes precedence from 1836. Cracticidae Chenu and des Murs, 1853 (1836) should be conserved conditionally with respect to Gymnorhinidae G. R. Gray, 1840 (*Gymnorhina* Gray, 1840) and Streperidae Blyth, 1852 (*Strepera* Lesson, 1830) because Cracticidae has priority over the latter names according to the Code.

Baritinae—See above, under Cracticidae.

Gymnorhininae—See above, under Cracticidae.

Streperinae—See above, under Cracticidae.

Pityriaseinae—Pityriasidinae is a spelling variant of Pityriaseinae.

Ptilonorhynchidae—Ptilorhycidae (Eyton, 1867) is a misspelling.

Tectonarchidae—Tectonarchidae Reichenow, 1884 was proposed for the bower birds (Ptilonorhynchidae) but without an indication of the type genus. A search of the standard references of avian generic names (Waterhouse, 1889; Richmond, 1902, 1908, 1917, 1927; Sherborn, 1922) failed to reveal a genus that would serve as the type of this family-group name. Consequently, Tectonarchidae lacks a type genus, and is not available for purposes of zoological nomenclature, but it has been included in the list for completeness. This name appears to be based on the classic word for bower-bird.

Paradisaeidae—The accepted spelling for this family-level taxon is Paradisaeidae based on *Paradisaea* Linnaeus, 1758 as used consistently by ornithologists for many decades (see LeCroy, 1983). The argument raised by

McAlpine (1979) that the correct spelling is Paradiseidae based on *Paradisea* which is claimed to be a first reviser action by Linnaeus in his 12th edition of 1766 is not justified in light of the cogent points raised by LeCroy (1983: 145).

Phonygamminae—*Phonygammus* Lesson and Garnot, 1826 has been synonymized with *Manucodia* Boddaert, 1783 after 1960, hence Phonygamminae G. R. Gray, 1846 is to be retained as available in spite of the fact that *Phonygammus* is a junior synonym and no longer the valid name for its type genus [Art. 40(a)].

Manucodiinae—Manucodiinae Cabanis, 1847 (*Manucodia* Boddaert, 1783) was proposed for a bird of paradise. In 1879, Milne-Edwards and Grandidier used this name for a group of passerine birds possessing fleshy facial lobes, including the genus *Philepitta*. From their discussion, Milne-Edwards and Grandidier apparently believed that *Philepitta* belonged to the group of birds of paradise possessing a large fleshy lobe around the eye. Hence the best conclusion is that they were using the earlier name Manucodiinae Cabanis, 1847 and were not proposing a new name based on a different genus. Hence, Manucodiinae Milne-Edwards and Grandidier, 1879 is not considered to be a new name and is not a homonym of the Manucodiinae Cabanis, 1847.

Corvidae—Laniidae Rafinesque, 1815 (*Lanius* Linnaeus, 1758) has priority with respect to Corvidae Leach, 1820 (*Corvus* Linnaeus, 1758), but Corvidae Leach, 1820 should be conserved conditionally in preference to Laniidae Rafinesque, 1815 for any taxon (e.g., superfamily) containing *Corvus* and *Lanius* because Corvoidea has been widely and consistently used over the past several decades in discussions of passerine classification. Lanioidea has never been used for this superfamily. See above, under Laniidae.

Fregilidae—*Fregilus* Cuvier, 1816 was synonymized with *Pyrrhocorax* Tunstall, 1771 prior to 1961, and Fregilidae Swainson, 1831 was replaced by Pyrrhocoracidae G. R. Gray, 1846 (1831) which takes precedence from 1831.

Picacidae (Corvidae)—Picacidae Bonaparte, 1854 (*Pica* Brisson, 1760) was proposed with this spelling, not Picidae which appears to be the proper spelling. Olphe-Galliard (1890) used Picinae (*Pica*). If the spelling Picidae is correct, then Picidae Bonaparte, 1854 is a junior homonym of the Picidae Leach, 1820 (*Picus* Linnaeus, 1758), and is objectively invalid. If the spelling Picacidae is acceptable, then the Picacidae Bonaparte, 1854 can be used without modification as a family-group name. Should the need ever arise for the use of this family-group name, then application must be made to the ICZN for a decision. Both names are in the main list. See above, under Picidae.

Monedulidae—The genus *Monedula* is of authors (Wolters, 1975–82: 223); hence Monedulidae Kaup, 1855 lacks a type genus and is unavailable.

Lophocittidae—*Lophocitta* G. R. Gray, 1841 has been synonymized with *Platyolphus* Swainson, 1832 prior to 1961, but Lophocittidae Kaup, 1855 lacks a replacement name and hence must be held in abeyance.

IX. REFERENCES

A. INTRODUCTION

The bibliography includes all papers in which avian family-group names have been described, papers cited in the text, and a number of useful bibliographical, nomenclatural sources and important major systematic references in ornithology. Not all publications examined in this survey are included. Surveyed papers in which no avian family-group names were proposed are not listed; inclusion of all these works would have expanded the bibliography two or three times without much gain. For some citations, comments about the paper or the author are included in square brackets following the ci-

tation. For papers in which avian family-group names are described, these names are listed alphabetically; currently valid names are in full CAPITALS and all synonyms, homonyms, suppressed and otherwise unavailable names are in initial capital and lower case. Unavailable and suppressed names are placed in square brackets.

The dates of publication of some earlier books and of the individual parts of books published in sections are sometimes difficult to determine with complete accuracy. Moreover, some dates which I have obtained from various authoritative sources [e.g., Mathews (1925), Zimmer (1926), Anonymous (1903–40; 1925; 1966; 1968; 1977)] are not necessarily the same as used in the Catalogue of Birds in the British Museum, Peters' Check-list, Wolters (1975–82), Neave (1939–1975), and Sherborn (1922–23) which were the major sources for dates for generic names. Disagreement exists, even within the volumes of Peters' Check-list, as to whether it is Cuvier, 1816 or Cuvier 1817, or the dates of the many multi-parted publications of Reichenbach. I have not attempted to solve these chronological questions and suspect that definitive answers may not be possible for many of them, such as dating the publication of the multi-parted Reichenbach volumes. To my knowledge, no serious consequence exists for the validity of well-established avian family-group names because of the lack of precise resolution of these bibliographic dates.

B. ANNOTATED BIBLIOGRAPHY

Agassiz, L.

1848. Nomenclatoris Zoologici. Index Universalis. Soloduri: Just & Gassmann, X + 1135.

[This work claims to list all of the scientific names, specific, generic, and family-group, published for animals; it is, however, incomplete. For example it does not include the family-group names for birds published by Vigors and several other early workers.]

1848–54. Bibliographia Zoologiae et Geologiae. A general catalogue of all Books, Tracts, and Memoirs on Zoology and Geology. Corrected, enlarged and edited by H.E. Strickland. 1848. Vol 1. Periodicals and the Alphabetical list from A to Byn., xxiii + 506 pp.; 1850. Vol 2. Alphabetical list from Cab to Fyf., 492 pp.; 1852. Vol. 3. Alphabetical list from Gab to Myl., 637 pp.; 1854. Vol 4. Alphabetical list from Nac to Zwi. 604 pp. London: Ray Society.

Allen, J. A.

1897. The proper generic name of the loons. Auk 14: 312.

GAVIIDAE

1906. The "elimination" and "first species" methods of fixing the types of genera. Science 24: 773–779.

1907a. The first species rule for determining types of genera—how it works in ornithology. Science 25: 546–554.

1907b. The types of the North American genera of birds. Bull. Am. Mus. Nat. Hist. 23: 279–384.

1907c. A list of the genera and subgenera of North American birds, with their types, according to Article 30 of the International Code of Zoological Nomenclature. Bull. Am. Mus. Nat. Hist. 24: 1–50.

Amadon, D.

1962. Family Callaeidae. *In* E. Mayr and J. E. Greenway, Jr. (eds.), Peters' Check-list of birds of the world 15: 157–159. Cambridge, MA: Mus. Comp. Zool., x + 315 pp.

Amadon, D., and J. Franclemont

1960. Proposals concerning homonymous family-group names based on the generic names *Drepana* Schrank, 1802 (Class Insecta, Order Lepidoptera), and *Drepanis* Temminck, 1820 (Class Aves); Request for the use of the plenary powers to suppress the generic name Drepanis Brisson, 1760. Bull. Zool. Nomencl. 17(6–8): 220–223.

Anonymous (American Museum of Natural History)

1977. Research Catalog of the Library of the American Museum of Natural History: Authors. Boston: G. K. Hall, vol. 1–13.

Anonymous (A.O.U. Check-list Committee)

1886. The code of nomenclature and Check-list of North American Birds. New York: American Ornithologists' Union, viii + 392 pp.

[Chapter II. Principles, Cannons and Recommendations contains the A.O.U. Code of Zoological Nomenclature. It provides an excellent discussion of the principles of zoological nomenclature and citations to the earlier literature.]

Aethiidae, Fraterculidae

1908a. The Code of Nomenclature adopted by the American Ornithologists' Union.

Revised Edition. New York: American Ornithologists' Union, 85 pp.
[The introduction includes an index to the modifications from the first edition, *see* Anon, 1886.]
1908b. Fourteenth Supplement to the American Ornithologists' Union Check-list of North American Birds. Auk 25: 343–399.
Mycteriidae
1910. Check-list of North American Birds. Third Edition. New York: American Ornithologists' Union, 430 pp.
1931. Check-list of North American Birds. Fourth Edition. Lancaster, PA: American Ornithologists' Union, xix + 526 pp.
1957. Check-list of North American Birds. Fifth Edition. Baltimore, MD: Lord Baltimore Press for the American Ornithologists' Union, xii + 691 pp.
1983. Check-list of North American Birds. The species of birds of North America from the Arctic through Panama, including the West Indies and Hawaiian Islands. Sixth Edition. Lawrence, KS: Allen Press for the American Ornithologists' Union, xxix + 877 pp.

Anonymous (Biological Society of Washington)
1926. International rules of zoological nomenclature. Proc. Biol. Soc. Washington 39: 75–104.
[This publication does not include the important changes adopted at the 1927 Budapest Congress. The Règles are presented without any introduction or discussion.]

Anonymous (British Museum [Natural History])
1903–40. Catalogue of the Books, Manuscripts, Maps and Drawings in the British Museum (Natural History). London: British Museum (Natural History), vol. 1–8.

Anonymous (B.O.U. Check-list Committee)
1883. A list of British Birds compiled by a committee of the British Ornithologists' Union. London: John van Voorst, xxi + 229 pp.
Flammeinae

Anonymous (J. C. G.)
1952. [Obituary of] James Lee Peters. 1889–1952. Bull. Zool. Nomencl., 9: 111–112.

Anonymous (Linnean Society of London)
1925. Catalogue of the printed books and pamphlets in the Library of the Linnean Society of London. New Edition. London: Linnean Society, 860 pp.

Anonymous (McGill University)
1966. A dictionary catalogue of the Blacker-Wood Library of Zoology and Ornithology, McGill University. Boston: G. K. Hall, vol. 1–9.

Anonymous (Museum of Comparative Zoology)
1968. Catalogue of the Library of the Museum of Comparative Zoology, Harvard University. Boston: G. K. Hall, vol. 1–12, + Suppl.

Anonymous (Société Zoologique de France)
1881. De la Nomenclature de êtes organisés. Paris: Au Sièges de la Société.

Anonymous (Zoological Society of London)
1902. Catalogue of the Library of the Zoological Society of London. Fifth Edition. London: Taylor & Francis, 856 pp.

Appel, T. A.
1987. The Cuvier-Geoffroy Debate. French biology in the decades before Darwin. New York: Oxford Univ. Press, 305 pp.

Baird, S. F.
1858. Birds. Report of explorations and surveys to ascertain the most practical and economical route for a railroad from the Mississippi River to the Pacific Ocean. Vol. 9. Washington: U.S. Congress, lvi + 1055 pp.
Campylorhynchidae, Chamaeinae, Geothlypidae, Icteriidae, POLIOPTILINAE, PTILOGONATINAE, Spizellinae
1864. Review of American birds. Pt. 1. North and Middle America. Smithsonian Misc. Coll. 181: vii + 478 pp.
Myadestinae, Seiuridae, Teretistridae

Baird, S. F., T. M. Brewer, and R. Ridgway
1884. The water birds of North America. Part 1. Mem. Mus. Comp. Zool. 12: xi + 1–537 pp; Part 2. Ibid., 13: 1–552.
Anarhynchinae, Urinatoridae

Bairstow, L.
1953. Document 3/20. [On family-group names in zoology]. Bull. Zool. Nomencl. 8(6/9): 198–207. [July 1953].

Baker, E. C. S.
1920–23. Birds of the Indian Empire. J. Bombay Nat. Hist. Soc. 27: 228–247 (1920); 27: 448–491 (1921); 27: 692–744 (1921); 28: 85–106 (1921); 28: 313–333 (1922); 28: 576–594 (1922); 28: 830–873 (1922); 29: 9–22 (1923).
[Reissued as: A hand-list of genera and birds of the Indian Empire, undated (1923?). Bombay: Bombay Natural History Society, ix + 240 pp].
Chalcopariidae
1921. [*See* Baker, 1920–23].
1922–30. Birds. *In* The Fauna of British India, including Ceylon and Burma. Second edition (A. E. Shipley and E. C. S. Baker, eds.). London: Taylor and Francis, 1922.

1: xxiii + 479 pp.; 1924. 2: xxiii + 561 pp.; 1926. 3: xx + 489 pp.; 1927. 4: xxiv + 471 pp.; 1928. 5: xviii + 469 pp.; 1929. 6: xxxv + 499 pp.; 1930. 7: viii + 484 pp.; 1930. 8: iv + 485–801 pp.

Phoenicurinae

1924. [*See* Baker, 1922–30].

Baker, H. B.

1956. Family names in Pulmonata. The Nautilus, 69: 128–139.

Baker, T. B. L.

1835. An ornithological index, arranged according to The Synopsis Avium of Mr. Vigors. London: R. Taylor, 187 pp.

Syrniinae

Bangs, O.

1930. Types of birds now in the Museum of Comparative Zoology. Bull. Mus. Comp. Zool. 70: 147–426.

Euneornithinae

Banks, N., and A. N. Caudell

1912. The entomological code. A code of nomenclature for use in entomology. Washington: Judd & Detweiler, 31 pp.

Bannerman, D. A.

1923. Report on the birds collected during the British Museum Expedition to the Ivory Coast (French West Africa). Ibis, 667–748.

Hyliinae

Beddard, F. E.

1898. The structure and classification of birds. London: Longmans, Green, xx + 548 pp.

PHODILINAE [for his PHOTODILINAE]

Berlioz, J.

1950. Systématique., pp. 845–1055. *In* Pierre-P. Grassé (ed.). Traité de Zoologie. Anatomie, systématique, biologie. Tome XV. Oiseaux. Paris: Masson et Cie, 1164 pp.

[Heterophasiinae]

Berlepsch, H. v.

1907. Studien über Tyranniden. Proc. IV Int. Ornithol. Congr., London (Ornis, vol. 14), pp. 463–493.

Rhynchocyclinae, Myiarchinae

Berlepsch, H. v., and J. Stolzmann.

1894. Description of a new species of grebe from central Peru. Ibis, 109–112.

Blackwelder, R. E.

1953. Document 3/31. [On family-group names in zoology. Statement submitted on behalf of the Nomenclatural Discussion Group, Washington, D.C.]. Bull. Zool. Nomencl. 8(6/9): 242. [July 1953].

1967. Taxonomy. A text and reference book. New York: Wiley, xiv + 698 pp.

Blackwelder, R. E., J. B. Knight, and C. W. Sabrosky

1947. Comments by readers ["on zoological nomenclature"]. Science 106: 315–316.

1948. A revised proposal for errors and emendations in the Rules of zoological nomenclature. Science 108: 37–38.

Blanchard, R.

1889. De la nomenclature des etres organisés, pp. 333–424. Règles de la nomenclature des etres organisés adopteés par la Congrès International de Zoologie. *In* R. Blanchard (ed.), Compte-Rendu des Séances du Congrès International de Zoologie, pp. 419–424. Paris: Soc. Zool. France.

1892. Deuxième rapport sur la nomenclature des êtres organisés. pp. 1–83. *In* Proceedings of the International Congress of Zoology, Moscow, 1892. Moscow: Laschkevitsch, Znamensky.

1905. Règles internationales de la nomenclature zoologique adoptées por la Congrés Internationaux de Zoologie. Paris: F. R. Rudeval.

[This is the official publication of the Règles. *See also* International Commission of Zoological Nomenclature, 1902.]

Blyth, E.

1833. Considerations pertaining to classification, in relation to the essay (pp. 385–390) by the Rev. L. Jenyns on this subject. Mag. Nat. Hist. (ser. 1) 6: 485–487.

PERDICINI

1838a. Outlines of a new arrangement of insessorial birds. Mag. Nat. Hist. (ser. 2) 2: 256–268, 314–319.

Tamatiidae

1838b. Analytic descriptions of the groups of birds comprising the order Insessores Heterogenes. No II. Systematic analysis of the series. Characters of the motmots. Mag. Nat. Hist. (ser. 2) 2: 420–426.

LEPTOSOMINAE

1851. Conspectus of the ornithology of India, Burma, and the Malayan Peninsular, inclusive of Sindl, Asam, Ceylon, and the Nicobar Islands. J. Asiatic Soc. Bengal 21: 229–239; 317–342; 501–517.

[These three parts of Blyth's "Conspectus" appear to be the only ones published.]

Circaetinae, Elaninae, Gypinae, Haliaeetinae, Perninae, Thrasaetinae

1852. Catalogue of the birds in the museum of the Asiatic Society. Calcutta: J. Thomas, Baptist Mission Press, xxxiv + 403 pp.

[According to Mathews, 1925: 10, this book

was finally published after 1 September 1852, *see* 1852, J. Asiatic Soc. Bengal, vol. 21: 546, although the proof sheets for the bulk of the book were printed in 1849 and distributed to several European ornithologists. This delay in the actual publication of Blyth's Catalogue, with no change in the date of publication on the title page has caused great nomenclatural problems, including for avian family-group names. Several of the names family-group names proposed by Blyth in this catalogue had been used by other workers, as well as himself, in other publications prior to 1852; these names must be credited to these other authors and publications. I have endeavored to locate all of these names, but am not certain that I have been completely successful. No well-established avian family-group names would be modified by this problem or would be affected by a failure to detect their proposal prior to 1852.]

Atheninae, Brachyuridae, Campephilini, Esacidae, Graucalidae, Macropterygidae, Megalaimatidae, Polyplectronini, Sphenuridae, Streperinae, Tchitreidae

1875. Catalogue of mammals and birds of Burma. With a memoir and portrait of the author. [With a list of Blyth's important papers by A. Grote]. J. Asiatic Soc. Bengal (Part 2. Extra Number) xxiv + 167 pp.

[In the manuscript for this publication, Blyth indicated three additional family-level group, but did not include the names in the manuscript prior to his death. The editor so noted this fact, but did not add the names in the published work. The names for these family-level groups which were to be based on *Anthocincla phayrei*, *Herprornis zantholeuca*, and *Muscitrea cinerea* were never formally proposed and hence do not have any nomenclatural status.]

Henicurinae, Megalurinae

Bock, W. J.

1956. A generic revision of the family Ardeidae (Aves). Am. Mus. Novitates 1779: 49 pp.

TIGRIORNITHINI

1963. Relationships between the birds of paradise and the bower birds. Condor 64: 91–125. [*See* Mayr, 1962].

CNEMOPHILINAE

1985. Report of the Standing Committee on Ornithological Nomenclature. Proc. XVIII Int. Ornithol. Congr., Moscow, 1982, pp. 29–32.

1986. Comment on the proposed grant of precedence to Threskiornithidae Richmond, 1917 (Aves) over Plataleinae Bonaparte, 1838, Z.N.(S.) 2136. Bull. Zool. Nomencl. 43: 324.

1988. Report of the Standing Committee on Ornithological Nomenclature. Proc. XIX Int. Ornithol. Congr., Ottawa, 1986, pp. 62–68.

1990a. Comments on the family-name for the storm petrels (Aves). (Case 2024; *see* BZN 42: 398–400; 44: 44–45; 45: 221–222). Bull. Zool. Nomencl. 48(2): 158–160.

1990b. Special Review: J.L. Peters' "Check-list of Birds of the World." and a history of avian check-lists. Auk 107: 629–639.

1991. Report of the Standing Committee on Ornithological Nomenclature. Proc. XX International Ornithological Congress, 1990, Christchurch, NZ, pp. 84–86.

In Press a. Resolution of the homonymy between Tylinae Dana, 1852 and Tylidae Oberholser, 1917. Bull. Zool. Nomencl.

In Press b. Request to suppress *Creadion* Vieillot, 1816. Bull. Zool. Nomencl.

In Press c. Establishment of a base-line list for family-group names of Recent birds. Bull. Zool. Nomencl.

In Press d. Correction of entities of Leptosomatidae in The Official Lists and Indexes of Names and Works in Zoology. Bull. Zool. Nomencl.

Bock, W. J. and J. L. Gulledge

In prep. Reference List of the Birds of the World. Second Edition.

Bock, W. J. and J. E. Keirans

In press. Resolution of the homonymy of the family-group names Ixodidae Bonaparte, 1838 and Ixodidae C.L. Koch, 1844. Bull. Zool. Nomencl.

Bock, W. J. and R. Schodde

In press. Memorandum on the proposals to validate *Cacatua* [Case number Z.N.(S.) 1647]. Bull. Zool. Nomencl.

Boetticher, H. v.

1930. Versuch einer natürlichen Klassifikation der Entenvögel. Anz. Ornithol. Ges. Bayern 2: 94–100.

Casarcinae

1934. Beiträge zu einem phylogenetisch begründeten natürlichen System der Steisshühner (Tinami) auf Grunde einiger taxonomisch verwertbarer Charaktere. Jenaische Z. Naturwiss. 69: 169–192.

Rhynchotidae

1935. Die Stellung der dunklen Möwen (*Adelarus*) im natürlichen (phylogenetischen) System und ihre verwandtschaftlichen Beziehungen zu den anderen

Möwengruppen. Jenaische Zeit. Naturwiss. 69: 423–468.
Pagophilini
1936–38. Zur Klassifikation der Anatiden. Kocsag 9–11: 47–55.
Cairininae, Coscorobinae
1939. Überblick über die Hühnervögel und ihre Verbreitung. Folia Zoologica et Hydrobiologica 9: 290–299.
Lerwini, Tragopanini
1942. Über die Einteilung der Familie der Entenvögel (Anatidae) in Unterfamilien und Sektionen. Zool. Anz. 140: 37–48.
Chloephaginae
1943. Bemerkungen zur Systematik der Pinguine. Zool. Anz. 142: 22–29.
Eudyptulidae, Pygoscelidae
1950. Das System der Enten-und Gänsevögel. Beiträge zur Gattungssystematik der Vögel II. Krefeld: Goecke & Evers, pp. 40–48.
Heteronettinae, Hymenolaiminae, Malacorhynchinae, Rhodonessinae, Stictonettinae
1959. Papageien. Neue Brehm-Bücherei, No. 228. Wittenberg-Lutherstadt: Ziemsen, 116 pp.
Psittaculirostrini, PSITTRICHADINAE

Boie, F.
1826. Generalübersicht der ornithologischen Ordnungen, Familien und Gattungen. Isis von Oken (pt. 2) 19: 969–981.
Garrulidae, Tangarinae
1833. Fernere Bemerkungen über Classification der Vögel. Isis von Oken 26: 876–884.

Boles, W. E.
1981. The subfamily name of the monarch flycatchers. Emu 81: 50.

Bonaparte, C. L.
1826. The genera of North American birds and a synopsis of the species found within the territory of the United States; systematically arranged in orders and families. (including, Further additions to the ornithology of the United States and observations of the nomenclature of certain species.). Ann. Lyceum Nat. Hist. New York 2: 7–128, 154–161, 293–451.
[Family names used in this work are not based on the name of a type genus.]
1827. Specchio comparativo dello Ornithologie di Roma e di Filadelfia. Nuovo Giornale de'Letterati (Pisa) 33: 80 pp; 1832. Supplemento allo. . . . Neovo Giornale de'Letterati 64: 1–15.
[Family names used in this work are not based on the name of a type genus.]
1830. Sulla seconda edizione del regno animale del Baron Cuvier. Osservazioni. Marsigli, Bologna, 175 pp.
[Family names used in this work are not based on the name of a type genus.]
1831. Saggio di una distribuzione metodica degli animali vertebrati. ["Prospetto del Sistema Generale di Ornithologia"], pp. 29–62. Roma: Antonio Boulzaler, 1832. [Originally published in 1831, Giornale Arcadico di Scienze, Lettere ed Arti 52: 1–77, 129–209 (see Mathews, 1925: 11).]
[This is the first publication by Bonaparte in which he used family-group names properly based on the name of a type genus. Since this publication, Bonaparte is consistent in the formation and use of family-group names.]
Crypturidae, Gypaetinae, Lestridinae, Ortygidae, Palamedeidae, Penelopidae, PHALAROPODINAE, PHOENICOPTERIDAE, PHOENICULIDAE, PODICIPEDIDAE, PSOPHIIDAE, PTEROCLIDAE, RECURVIROSTRIDAE, SPHENISCIDAE, Syrrhaptidae, Tantalidae
1832–41 [Cited as 1841]. Iconografia della Fauna Italica per le quattro classi degli animali vertebrati. Salviucci, Roma, 3 vols, unpaginated.
[The introduction to these volumes, in which several family-group names are introduced, was almost certainly published in 1841 according to Salvadori, 1888.]
Linariinae, Linotinae
1838a. Geographical and comparative list of the birds of Europe and North America. London: John van Voorst, 67 pp.
Plataleidae, PLATALEINAE, POLYBORINAE, RYNCHOPINI, Surniinae
1838b. Synopsis vertebratorum systematis. Nuovi Annali delle Scienze Naturali, Bologna 1(2): 105–133.
Calamoherpinae, Cancromini, CAPITONIDAE, DACELONINAE, HAEMATOPODIDAE, Ixosidae (proposed as Ixodidae), Pezoporini, PODARGIDAE, Scotornithinae, Striginae (type *Strix flammea* auct. = *S. alba*), Taeniopterinae, Ululinae
1840a. Systema ornithologiae. Nuovi Annali della Scienze Naturali, Bologna 2(3): 440–455; 2(3): iv + 24–33.
[This paper is almost certainly the one usually cited as "Prodromus systematis ornithologiae" (1840), which is analogous to the titles of similar papers on other groups of vertebrates published by Bonaparte in the same journal in the same year. It is not clear why there should be this difference between the actual title of this paper and the usual citation.]

Gymnoderidae, Ptilophyridae

1840b. A new systematic arrangement of vertebrated animals. Trans. Linn. Soc. London 18: 247–304.

[This appears to be essentially the same paper published in 1838; see Bonaparte, 1838b. If so, it is unclear why the classifications in the two papers differ so greatly from one another. Quite likely, the Bonaparte 1838b paper and the present one are based on each another, but Bonaparte appears to have to have changed his mind on his systems of avian classifications quite rapidly as shown by the differing classifications in his 1849 and 1850b papers which were published only a few months apart. It was read in 1837 and was published on 25 June 1840 after the appearance of Gray, 1840, which was published on 1 April 1840, hence the names in Gray 1840 have priority over those in Bonaparte, 1840b.]

Pytiliidae

1841. [*See* Bonaparte, 1832–41].

1842. [*See* Bonaparte, 1842–43].

1842–43 [Cited as 1842]. Catalogo metodico degli ucelli Europei. Nuovi Annali delle Scienze Naturali, Bologna 4(8): 56–67, 134–149, 161–176, 241–271, 425–428; 1843, 5(9): ix + 106–113.

Anthidae, ARAMIDAE, Geospizinae, Gypohieracinae, STEATORNITHIDAE, Talegallidae, VANELLINAE

1849. Conspectus systematis ornithologiae. Editio altera reformata additis synonymis Grayanis. Amsterdam: M. Westerman et Fil, single double folio sheet printed on one side only and unpaginated.

[This is the first edition of Bonaparte, 1850b. *See* under that publications for comments. It is dated December 1849. This edition is quite rare in North American libraries.]

Anastomidae, COTINGIDAE, EURYPYGIDAE, NESTORINAE, RHEIDAE, SCOPIDAE, Spizinae, STRIGOPINAE, Trichoglossinae

1850–57. [Cited as 1850a or 1857a]. Conspectus generum avium. Leiden: E.J. Brill, 1850. 1: 1–543 pp.; 1857. 2: 1–232 pp.

[This work will be used as the basic citation for any Bonaparte names proposed in 1850. The "Conspectus generum avium" is the major and the last publication of Charles L. Bonaparte, being uncompleted at the time of his death in 1857. The second volume ends abruptly on page 232, in the Laridae at the end of the description of the genus *Adelarus*, which was all that was completed at the time of Bonaparte's sudden death in 1857. See Finsch, 1865 for an index to this work.]

Aestrelatidae, CALYPTOMENINAE, ESTRILDIDAE, Eupetidae, Montifringillidae, Myiophoneinae

1850a. [See Bonaparte, 1850–57].

1850b. Conspectus systematis ornithologiae. Editio reformata additis synonymis Grayanis & Selysanis. Amsterdam: M. Westerman et Fil, single double folio sheet printed on one side only and unpaginated.

[This publication, dated February 1850, is the second edition of Bonaparte (1849; Bonaparte noted in the list of his publications, that this publication has gone through two editions, and the second edition differs from the first in many aspects of the classification. This is the edition of this work most often found in North American libraries. This tract is bound (in the library of the American Museum of Natural History) with similar publications, e.g., "Conspectus systematis mastozoologiae", "Conspectus systematum herpetologiae et amphibiologiae" and "Conspectus systematis ichthyologiae". These latter publications are each double folio sheets printed on one side only and unpaginated, and the three nonavian "Conspecti" are published by E. J. Brill, Leiden. The style of the heading of the "Ornithologiae" as well as the style of the dividing lines differs from the other three, supporting the conclusion that the avian sheet was printed in a different publishing house from the others. Several publications have cited the two editions of the "Ornithologiae" as being published in Leiden and/or by E. J. Brill; these citations are not supported by the evidence on the printed sheet. These several "Conspecti" appear to be more suitable for framing and hanging on the wall rather than binding into a book as there are none of the usual aspects of a book such as a title page, etc., that one would expect in a book. This work may well have provided the outline for Bonaparte's "Conspectus generum avium," but again the classification in the present work differs from that in the "Conspectus." These two double folio editions are totally different publications from that published with the same title in 1854.]

CARIAMIDAE, [Ortyginae]

1850c. Note sur plusieurs familles naturelles d'Oiseaux, et descriptions d'espèces nouvelles. Compt. Rend. Séa. Acad. Sci. Paris 31: 561–564.

Garrulacinae, Haladromidae, Mesitidae, Ocydrominae, PROSOBONIINI, Rollulini

1850d. Revue générale de la classe des oiseaux. Première partie—Perroquets et oiseaux de proie. Rev. Mag. Zool. (ser. 2) 2: 474–492.

[This publication appears to be a general review of the literature. It appears to be the first part of a planned series, but I have not been able to discover any additional parts. Hence I can only conclude that it is the only one published. This is a review of two of Bonaparte's papers which appeared in the Comptes Rendus des Séances de l'Académie des Sciences, Paris vol. 30, 1850. Surprisingly the classification is the same as in these papers.]

1850e. Notice sur les travaux zoologiques de Charles-Lucien Bonaparte. Paris: Bachelier, 35 pp.

[This publication lists many, but not all of the scientific works of Charles L. Bonaparte up to 1850, arranged systematically by classes of vertebrates. It includes some short comments on the contents of each publication.]

1853a. Classification ornithologique par series. Compt. Rend. Séa. Acad. Sci. Paris 37: 641–647.

[This paper may be the introduction for the series of papers entitled "Tableau des. . . ." This series appears to be parallel to his 1854a. "Conspectus systematis ornithologiae." and his 1850–57 "Conspectus generum avium." What is interesting is that the classification and the family-group names are quite different in these three series, an aspect of Bonaparte's work which infuriated his contemporaries and caused great problems for this analysis.]

AEGOTHELIDAE, Agelastinae, Alectroenadinae, Amaziliidae, Anthreptidae, BALAENICIPITIDAE, Calandrellidae, Callistinae, Caloenadinae, Calyptorhynchinae, Cassicinae, Chrysoeninae, COLLOCALIINI, [Conurini], DICAEIDAE, Florisuginae, Fulmaridae, Heliocheridae, Helmitheridae, Lopholaiminae, Merganettinae, Microglossinae, MIMIDAE, Nasiterninae, Nucifragidae, Oreophaseidae, Patagoninae, Phabinae, Pipromorphinae, [Prionidae], PRIONOPINAE, PSITTIROSTRINAE, Pyrrhulaudidae, Ramphocelinae, Rupicolidae, Saltatorinae, Smithornithinae, Spermophilinae, Tachyphoninae, Tanagrellinae, Xemini, Zenaidinae, ZOSTEROPIDAE

1853b. [*See* Bonaparte, 1853–4].

1853–54. [Cited as either 1853b or 1854b]. Notes ornithologiques sur les collections rapportées en 1853, par M.A. Delattre, de son voyage en Californie et dans le Nicaragua [et classification parallélique des passereaux chanteurs]. Compt. Rend. Séa. Acad. Sci. Paris (1853b) 37: 806–810, 827–835, 913–925; (1854b) 38: 1–11, 53–66, 258–266, 378–389, 533–541, 650–665.

[The only new family-group names proposed are in 1854b.]

ACANTHIZIDAE, Analcipodidae, Astrapiinae, Cacopittinae, Carpodacinae, Certhiparinae, Corvinellinae, Crinigeridae, Drymoicinae, Hypsipetidae, Melaenornithinae, MONARCHIDAE, Monticolinae, Nemosiinae, Phyllopneustinae, Pipiloninae, Psophodidae, Serininae, Struthinae, Zonotrichiinae

1854a. Conspectus systematis ornithologiae. Ann. Sci. Nat., Zool. Paris (ser. 4) 1: 105–152.

[This paper will be used as the basic reference to any names proposed by Bonaparte in his series of papers in the Comptes Rendus for the years 1853–4 and 1854. These names will be repeated under the other Bonaparte 1853–4 and 1854 citations just to be sure that these papers are covered and because it is difficult to ascertain the earliest dates of publication. This paper is not the same as Bonaparte 1849 and 1850b, despite the same title, although it is not at all clear when this article was written with respect to the 1849 and 1850 sheets with the same title. This paper appears to be a preliminary publication of the index or table of contents to Bonaparte's "Conspectus generum avium", and provides a complete classification of birds which was left unfinished in the latter work at the time of Bonaparte's death. It should be noted, however, that the classifications in almost every one of Bonaparte's publications differ from each other. Bonaparte was most casual in his use of names, frequently using different family-group names for the same taxon.]

ACANTHIZIDAE, Aedoninae, Amadininae, Analcipodidae, Anoini, Argini, Astrapiinae, Avocettulidae, Bucorvidae, Cacopittinae, Carpodacinae, Centurini, Certhiparinae, Chrysoptilini, Corvinellinae, Crinigeridae, Cyclorhynchinae, Dasyptilinae, Dendrocheliidonidae, Dendrocopidae, Doryferinae, Drymoicinae, Eclectini, Eudociminae, Eudromiidae, Formicivoridae, Gymnocorvidae, Harpaginae, Hypsipetidae, Ibycterinae, Ieraglaucinae, Iodopleuridae, Lipaugidae, Locustellinae, Macropygiinae, Milvulinae,

MONARCHIDAE, Monticolinae, Nemosinae, NYCTICORACINI, Nyctiornithidae, Onychognathinae, Otinae, PANDIONINAE, Phyllopneustinae, Picacidae, Pipiloninae, Polyboroidinae, [Procellariidae (based on Procellaria Linnaeus, 1766, type pelagicus)], Psophodidae, Ptilopodinae, Pyrenestinae, [Scopinae], Serininae, Spizaetinae, Starnini, Struthinae, Tetraogallini, Tigini, Tinamotidae, Tinnunculinae, Tockidae, Wagellidae, Xenopinae, Zonotrichiinae

1854b. [*See* Bonaparte, 1853–4].

1854c. Tableau des perroquets. Rev. Mag. Zool. (ser. 2) 6: 145–158.

Dasyptilinae, Eclectini

1854d. Tableau des oiseaux-mouches. Rev. Mag. Zool. (ser. 2) 6: 248–257.

Doryferinae

1854e. Tableaux des oiseaux de proie. Rev. Mag. Zool. (ser. 2) 6: 530–544.

Asturininae, Harpaginae, Ibycterinae, Ieraglaucinae, Morphninae, Otinae, PANDIONINAE, Polyboroidinae, Spizaetinae, Tinnunculinae

1854f. Conspectus volucrum zygodactylorum. L'Ateneo Ital., Paris 2: 116–129.

Centurini, Chrysococcyginae, Chrysocolaptini, Chrysoptilini, COUINAE, Pteroglossidae

1854g. Conspectus volucrum anisodactylorum. L'Ateneo Ital., Paris 2: 311–321, 377–382.

Atelornithinae, BRACHYPTERACIINAE, Bucorvidae, Dendrocopidae, Iodopleuridae, Lipaugidae, Nyctiornithidae, Tockidae

1854–55. Coup d'oeil sur l'ordre des pigeons. Compt. Rend. Séa. Acad. Sci. Paris 39: 869–880, 1072–1078, 1102–1112; 40: 15–24, 96–102, 205–215.

Chamaepeliinae, Chalcophabinae, Geopeliinae, Macropygiinae, Starnoenadinae

1855. Tableaux synoptiques de l'ordre des hérons. Compt. Rend. Séa. Acad. Sci. Paris 40: 718–725.

Anthropoidinae, Geronticinae, NYCTICORACINI, Phimosinae

1856a. Espèces nouvelles d'oiseaux d'Asie et d'Amérique, et tableaux paralléliques des pélagiens ou gaviae. Compt. Rend. Séa. Acad. Sci. Paris 41: 764–776.

Dasyramphidae, Rhantistidae

1856b. Excursions dans les divers musées d'Allemagne, de Hollande et de Belgique et tableaux paralléliques de l'ordre des echassiers. Compt. Rend. Séa. Acad. Sci. Paris 43: 410–421, 571–579, 593–601, 643–652.

HIMANTORNITHINAE, Hoplopterinae, Micropterinae, Nettapodinae, Sarciophorinae, Tribonychinae

1856c. Tableaux paralléliques de l'ordre des gallinacés. Compt. Rend. Séa. Acad. Sci. Paris 42: 874–888, 952–957.

Argusianini, PEDIONOMIDAE

1856d. Additions et corrections aux tableaux paralléliques de la deuxième sous-classe des oiseaux praecoces ou autophages. Compt. Rend. Séa. Acad. Sci. Paris 43: 997, 1017–1027.

IBIDORHYNCHIDAE

1857a. [See Bonaparte, 1850–57].

1857b. Remarques á propos des observations de M. Emile Blanchard sur les caractères ostéologiques chez les oiseaux de la famille des psittacidés. Compt. Rend. Séa. Acad. Sci. Paris 44: 534–539.

Anodorhynchini, Eolophinae, Melopsittacini, Nymphicinae

1857c. Tableau des geners de perroquets disposés en séries parallèles. Compt. Rend. Séa. Acad. Sci. Paris 44: 595–597.

Tanygnathini

1857d. Parallelismo fra la tribu dei cantori fissirostri e quells dei volucri hianti e dei notturni ovvero insidenti. Tor. Riv. Cont. (Sci. Nat.), pp. 1–11.

CHAETURINI

1857e. Tableaux des genres des gallinacés disposés en séries parallèles. Compt. Rend. Séa. Acad. Sci. Paris 45: 424–429.

Boschma, H. et al.

1958. Report dated 20th June 1958 submitted by the Interim Committee on Zoological Nomenclature in respect of the period 1953-1958 addressed to Professor J. Chester Bradley, President of the International Commission on Zoological Nomenclature. Bull. Zool. Nomencl. 15(40): ix–xxxii. [14 July 1958].

Boucard, A.

1876. Catalogus avium. Privately published, London, xiv + 352 pp.

1893–95. Genera of humming birds, being also, a complete monograph of these Birds. Privately published, London.

Cephalolepinae, Floricolinae, Hemistephaniinae

Bradley, J. C.

1950. More on zoological nomenclature. Science 111: 237–238.

1953. Document 3/37. [On family-group names in zoology.] Bull. Zool. Nomencl. 8(6/9): 271–278. [July 1953].

1957. [Draft of the English text of the Règles Internationales de la Nomenclature Zoologique" as revised by the Paris (1948) and Copenhagen (1953) congresses]. Bull. Zool. Nomencl. 14(1/6, 7/9): 1–286. [29 November 1957].

1962. Difficulty arising from compulsory application of the law of priority to family-group names, with proposed amendments. Syst. Zool. 11: 178–179.

Bradley, J. C. et al.

1912. Concerning nomina conservanda, and a referendum to all zoologists. Science, 36: 10–11.

Brandt, J. F.

1840. Beiträge zur Kenntniss der Naturgeschichte der Vögel mit besonderer Beziehung auf Skeletbau und vergleichende Zoologie. [Read 17 March 1837]. Mém. Acad. Imp. Sci. Saint-Pétersbourg. Ser. 6. Sci. Math., Phys. Nat. Vol. 5. Part. 2; Sci. Nat., 3: 91–237, 18 plates.

Carboninae, Eudytidae, PHAETHONTIDAE, Podoanidae, Tachypetidae

Brasil, L.

1913. Grues. Fam. Gruidae. pp. 1–9. *In* Genera Avium, Part 19 (P. Wytsman, ed.). Brussels: V. Verteneuil & L. Desmet.

BALEARICINAE

Brehm, C. L.

1831. Handbuch der Naturgeschichte aller Vögel Deutschlands. Ilmenau: F. Voigh, xxiv + 1088 pp.

Gallini, GLAREOLIDAE

Brehm, L.

1855. Verzeichniss der europäischen Vögel nach den Species und Subspecies. Naumannia, pp. 266–271, 272–300.

Rhynchaeidae

Brereton, J. Le G.

1963. Evolution within the Psittaciformes. Proc. XIII Int. Ornithol. Congr., Ithaca, 1962, pp. 499–517.

Alisterini, Forpini

Brisson, M. J.

1760. Ornithologia sivi synopsis methodica sistens avium divisionem in ordines. Paris. 6 vol.

[Direction 16, Opinions and Declarations rendered by the International Commission on zoological Nomenclature, vol. 1 (sec. C., Pt. C.6): 81–88, 27 June 1955 cancels the earlier Opinion 37 covering this publication. The only names available for zoological nomenclature are the generic names in volume 1 given on even-numbered pages between pp. 26 to 61, containing the Latin text of Tabula synoptica avium secundum ordines.]

Brodkorb, P.

1940. Review of J. L. Peters' "Check-list of Birds of the World". Wilson Bull. 53: 214–215.

Panyptilini

1963–78. Catalogue of fossil birds.; 1963. Part 1 (Archaeopterygiformes through Ardeiformes). Bull. Florida S. Mus. (Biol. Sci.) 7(4): 179–293; 1964. Part 2 (Anseriformes through Galliformes). 8(3): 195–335; 1967. Part 3 (Ralliformes, Ichthyornithiformes, Charadriiformes). 11(3): 99–220; 1971. Part 4 (Columbiformes through Piciformes). 15(4): 163–266; 1978. Part 5 (Passeriformes). 23(3): 139–228.

[Brodkorb was the first ornithologist to consider the priority of avian family-group names following publication of the Code in 1961. He followed strict priority only instead of the full provisions of the Code which provided for established usage. Brodkorb attempted to determine the priority of avian family-group names in this catalogue. However, much of the information on the earliest publication of avian family-group names, citations, etc. in this work are not accurate. It is recommended that Brodkorb's decisions on the earliest published name for any avian family-group be checked independently before they are accepted and used.]

1964. Catalogue of fossil birds: Part 2 (Anseriformes through Galliformes). Bull. Florida S. Mus. (Biol. Sci.) 8(3): 195–335.

Leptodontinae

Brooke, R. K.

1970. Taxonomic and evolutionary notes on the subfamilies, tribes, genera and subgenera of the swifts (Aves: Apodidae). Durban Mus. Novit. 9: 13–24.

CYPSELOIDINAE

1993. Annotated catalogue of the Aves type specimens in the South African Museum. Ann. S. Afr. Mus. 103: 327–349.

Brooke, R. K., and P. A. Clancey

1981. The authorship of the generic and specific names of the Bat Hawk. Bull. Br. Ornithol. Club 89:371–372.

Bryant, H.

1861. Monograph of the genus *Catarractes*, Moehring. Boston: Rand and Avery, 13 pp.

[Plautidae]

Burmeister, H.

1856. Systematische Übersichte der Thiere Brasiliens. Berlin: G. Reimer, Part 1., x + 526 pp.; Part 2, xiv + 466 pp.

Dendrobatini, Hylophilinae, Lophornithinae, Thaumatiinae

Buller, W. L.

1888. A History of the Birds of New Zealand. 2nd Edition. Privately published, London; 1887–8, 1: lxxxiv + 250 pp.; 1888, 2: xvi + 359 pp.; 1905. Supplement to the Birds of New Zealand. Privately

published, London; 1: 1 + 200 pp.; 2: 1–178.
Turnagridae

Cabanis, J.
1846. *Phasianus. In* Allgemeine Encyclopaedie der Wissenschaften und Künste (F. S. Ersch and F. G. Gruber, eds.). Sec. 3, 22: 143–152.
Oreotetragini
1847. Ornithologische Notizen. Arch. Naturgesch. 13: 186–256; 308–352.
Colopterinae, Calamoherpinae, DREPANIDIDAE, Eriodoridae, Euphoniinae, Hypocnemididae, Manucodiinae, Phyllornithidae, Spermestinae, THRAUPINAE, VIDUINAE (Rhacnemididae, p. 204, 313, is not included in the list)

Cabanis, J., and F. Heine
1850–63. Museum Heineanum. Halberstadt: R. Frantz, 1850–1. 1: viii + 234 pp.; 1856–60. 2: ii + 176 pp.; 1860. 3: 221 pp.; 1862–3. 4(1): 1–229; 4(2): 1–179.
Arachnotheridae, Calandritidae, Dendrocopini, ELAENIINAE, Eucichlidae, Heliothrichinae, HEMICIRCINI, Myiagridae, Napodinae, Passerellinae, Ptiloturidae, Sericosominae

Carus, J. V.
1868 [–1875]. Classe. Aves, Vögel. pp. 191–368. *In* J. V. Carus and C. E. A. Gerstaecker (eds.), Handbuch der Zoologie. Vol. 1. Wirbelthiere, Mollusken und Molluscoiden. Leipzig: Wilhelm Engelmann, ix + 894 pp.
[The date of publication of the avian section of this work cannot be determined by an examination the volume available to me. The 1868 date is used as it has been accepted by earlier workers. To my knowledge, it does not affect priority of any family-group names.]
RHYNOCHETIDAE

Casey, T. L.
1920. Remark on family names. Science, 52: 491–492.

Cassin, J.
1850. Catalogue of the Strigidae in the collection of the Academy of Natural Sciences of Philadelphia. Suppl. Proc. Acad. Nat. Sci. Philadelphia, vol. 4, (1848–49), unpaginated, (17 pages).
Nycteinae
1851. Catalogue of the Caprimulgidae in the collections of the Academy of Natural Sciences of Philadelphia. Suppl. Proc. Acad. Nat. Sci. Philadelphia, vol. 5, (1850–51), unpaginated, (13 pages).
CHORDEILINAE, Nyctidrominae
1852. Catalogue of the Halcyonidae in the collections of the Academy of Natural Sciences of Philadelphia. Suppl. Proc. Acad. Nat. Sci. Philadelphia, vol. 5, (1852–53), unpaginated, (17 Pages).
Tanysipterinae
1853. Catalogue of the Hirundinidae in the collections of the Academy of Natural Sciences of Philadelphia. Suppl. Proc. Acad. Nat. Sci. Philadelphia, vol. 6, (1852–53), unpaginated, (13 Pages).
Cotilinae, Progninae

Chamberlin, W. J.
1952. Entomological nomenclature and literature. 3rd edition, Revised and enlarged. Westport, CT: Greenwood Press, vii + 141 pp.

Chapin, J. P.
1917. The classification of the weaver-birds. Bull. Am. Mus. Nat. Hist. 37: 243–280.
[Textorinae]

Chenu, J. C., and O. des Murs
1851–54. Oiseaux. *In* J. C. Chenu (ed.), Encyclopédie d'Histoire Naturelle. Paris: Marescq & Compagnie. [1853. 1: 1–312; 1851. 2: 1–311; 1852. 3: 1–312; 1853. 4: 1–312; 1853. 5: 1–312; 1854. 6: 1–312] These dates are taken from those given in pencil in the volumes in the Museum of Comparative Zoology. The dates for these volumes given in Zimmer (1926) are: 1852. 1; 1852. 2; 1852. 3; 1853. 4; 1853. 5; 1854. 6.
[I suspect that the dates provided by Zimmer may be more correct. The BM(NH) Catalogue does not provide dates. This work is not listed in Mathews, 1925. Any differences in dates do not affect the priority of any established family-group names. *See* des Murs, 1860 for a discussion of the family-group names in this and other works authored by des Murs.]
Agriornithinae, Atelornithinae, Certhilaudidae, Ceycinae, Cochleariini, CRACTICIDAE, Falculeidae, Falcunculidae, Galloparinae, JACANIDAE, Megalonychidae, [Meleagridinae], Molothrinae, [Neomorphidae], NYCTIBIIDAE, [Ortygini], Paradigallinae, Sericulidae, Sturnellinae, Sylviparidae, Temnuridae, [Verruliinae]

China, W. E.
1961. Opinion 610. Drepanididae and Drepanidae (Aves and Insecta); addition to the official list. Bull. Zool. Nomencl. 18(4): 267–269.
1963. Direction 105. Brisson, 1760, *ORNITHOLOGIE*: Restriction to certain portions of that work of the validation granted under the plenary powers. Bull Zool. Nomencl. 20(5): 343–344.
1964a. Report by the International Commis-

sion on Zoological Nomenclature to the XVIth International Congress of Zoology. Washington, 1963. Bull. Zool. Nomencl. 21: 162–185.

1964b. Report by the International Commission on Zoological Nomenclature. *In* J. A. Moore (ed.), Proceedings of the XVI International Congress of Zoology, 5: 57–63. Washington, DC.

1966a. Official list of generic names in zoology. Second instalment: names 1275–1651. London: Int. Trust Zool. Nomencl., xli–xliii + 201–267 pp.

1966b. Official index of rejected and invalid generic names in zoology. Second instalment: names 1170–1743. London: Int. Trust Zool. Nomencl., xvii–xix + 133–193 pp.

1966c. Official list of family-group names in zoology. Second instalment: names 237–382. London: Int. Trust Zool. Nomencl., xxiii–xxvi + 39–68 pp.

1966d. Official index of rejected and invalid family-group names in zoology. Second instalment: names 274–411. London: Int. Trust Zool. Nomencl., vii–xix + 39–61 pp.

1966e. Opinion 784. *Cardinalis* Bonaparte, 1838 (Aves): Validated under the plenary powers. Bull. Zool. Nomencl., 23(5): 201–203.

1967. Opinion 801. Moehring, 1758, *Geslachten der Vogelen:* Suppressed under the plenary powers. Bull. Zool. Nomencl. 24(1): 13. [*See* Möhring, 1758, Hemming, 1954b, Nozemann and Vosmaer, 1758].

Coues, E.

1862. A synopsis of the North American forms of the Colymbidae and Podicidae. Proc. Acad. Nat. Sci. Philadelphia for 1862 14: 226–233.

Podilymbidae

1863. A review of the terns of North America. Proc. Acad. Nat. Sci. Philadelphia for 1862 14: 535–559.

Megalopterini

1866. A critical review of the Family Procellariidae.—Part IV; Embracing the Aestrelateae and the Prioneae. Proc. Acad. Nat. Sci. Philadelphia for 1866 16: 134–172.

Daptionidae

1884. Key to North American birds. Second Edition. Boston: Estes and Lauriat.

Aluconinae, Aphrizinae

1903. Key to North American birds. Fifth Edition. Boston: Dana Estes, 2 vol.

Cuvier, G.

1800-5. Lecons d'anatomie comparée de M. G. Cuvier, recueillies et publiées par Duméril et Duvernoy. Paris: Baudoin, 5 vol.

1817 (= 1816). Le règne animal. First Edition, vol. 1. Paris.

[According to Mathews, 1925, this work was published before 7 December 1816, but after Vieillot, 1816 which appeared on 14 April 1816. Many workers cite this work as 1817. Family names used in this work are not based on the name of a type genus.]

1829. Le règne animal. Second Edition, Vol. 1. Paris.

[Family names used in this work are not based on the name of a type genus.]

Dall, W. H.

1877. Nomenclature in zoology and botany. Proc. Am. Assoc. Adv. Sci., pp. 7–56.

Daubin, F. M.

1800. Traité élémentaire complet d'ornithologie, ou historie naturelle des oiseaux. Paris: Bertrandet, 1: 1–474.

de Beer, G.

1958a. Colloquium on zoological nomenclature, London, 9th July 1958. Speech of welcome by the president of the Fifteenth International Congress of Zoology, London 1958. Bull. Zool. Nomencl. 14(21): i–vii. [11 July 1958].

1958b. [Speech of welcome on the occasion of the opening of the Colloquium on Zoological Nomenclature on July 9th, 1958]. Pp. 903–907. Proceedings 15th International Congress of Zoology, London, 16–23 July 1958. London, lxxxiv + 1068 pp. [reprinted from Bull. Zool. Non. 14: i–vii].

Degland, C. D.

1849. Ornithologie européenne, ou catalogue descriptif, analytique et raisonné des oiseaux observés en Europe. Paris: A. Lille, 1: 1–632; 2: 1–540.

[Hydrobatidae], Ibididae

Degland, C. D. and Z. Gerbe

1867. Ornithologie européenne, ou catalogue descriptif, analytique et raisonné des oiseaux observés en Europe. Paris: J.B. Baillière et Fils, 1: xxx + 610 pp; 2: xv + 637 pp.

FREGATIDAE, [Hydrobatidae (= Cinclidae)], [Torquillinae]

Deignan, H. G.

1964. Subfamily Panurinae. *In* E. Mayr and R. A. Paynter, Jr. (eds.), Peters' Checklist of birds of the world 10: 430–442.

Cambridge, MA, Mus. Comp. Zool., ix + 502 pp.

de Jussieu, A. L.
1789. Genera plantarum. Paris, 72 + 498 pp.

Delacour, J.
1943. A revision of the subfamily Estrildinae of the family Ploceidae. Zoologica (New York) 28: 69–86.
ERYTHRURINAE
1946. Les timaliinés. L'Oiseaux 16: 7–36.
Pellorneinae

Delacour, J., and D. Amadon
1949. The relationships of *Hypocolius*. Ibis 91: 427–429.
HYPOCOLIINAE

Delacour, J., and E. Mayr
1945. The family Anatidae. Wilson Bull. 57: 3–55.
Aythyinae

Delacour, J., and C. Vaurie
1957. A classification of the Oscines (Aves). Los Angeles Country Museum, Contrib. Sci. No. 16, 6 pp.

de Lafresnaye, F.
1839. Nouvelle classification des oiseaux de proie or rapaces. Rev. Zool. 2: 193–196.
CATHARTIDAE

de Selys-Longchamps, M.-E.
1839. Analyse d'une classification des oiseaux passereaux, basée sur le genre de vie et sur les formes de ces oiseaux. Rev. Zool. 2: 9–13.
CLIMACTERIDAE, Epopidae, Leptopterygidae, SYNALLAXEINAE
1842. Fauna Belge. 1 Partie. Indication méthodique des mammifères, oiseaux, reptiles et poissons observés juséici en Belgique. Brussels: H. Dessain, xii + 310 pp.
Eurycerotidae, NUMIDINAE, Scythropinae

des Murs, O.
1860. Traité général d'oologie ornithologique au point de vue de la classification. Paris: F. Klincksieck, xix + 640 pp.
[Des Murs in this and other works, *see* Chenu and des Murs, presented a large number of avian family-group names properly formulated and with mention of the type genus, but for a number of type genera which are not generally known and are not cited in the several listings of generic names in zoology and/or in ornithology; some of these names may have been proposed in this and other papers by des Murs and are nomina nuda. Some of the problems result from variation in the spelling of the generic names, e.g., whether an "i" versus a "y", or a "r" versus a "rh" is used. Moreover, he accepted some Brissonian generic names which other workers have not and perhaps some which have subsequently been declared unavailable for zoological nomenclature. Resolving all of these nomenclatural questions is not possible because occasional errors in spelling of names occurred in des Murs' publications and because his classifications differ considerably from currently accepted ones. I have attempted to indicate the synonymy of des Murs' generic and family-group names, but will indicate any uncertainties. None of these family-group names affect the validity of well-established avian family-group names.]
Eudyptidae, Falcinellinae, Gallopavoninae, Panurinae, PLOCEPASSERINAE, Pomatorhininae, Thryothoridae, Trypanocoracidae, Zapornіinae; spelling errors include Orythoncidae = Orthonychidae, Philotomidae = Phytotomidae, Picnonotidae = Pycnonotidae, Pomathorinae = Pomathorininae, Tryothonidae = Thryothoridae.

d'Orbigny, A. D.
1837. Observations on the raptores of South America. Translated from "Voyages dans l'Amérique Meridionale." Mag. Zool. Bot. 1: 347–359.
Caracarinae (*see* also d'Orbigny, 1839)
1839. Voyage dans l'Amérique Meridionale . . . exécuté pendant les années 1826 . . . 1833. Vol. 4, Part 3. Oiseaux. Paris: F. G. Levrault, iii + 395.
Caracarinae [This name was also published the same year *in*: d'Orbigny, Alcide, 1839. Ornithologie. *In* Histoire physique, politique et naturelle de l'île de Cuba. (M. R. de la Sagra, ed.). Paris: Arthus Bertrand, xxxi + 336 pp.].

d'Orbigny, A. D., and F. de Lafresnaye
1837. Synposis avium. Mag. Zool. 7: 1–88.
Rhinomyidae
1838. Synposis avium. Mag. Zool. 8: 1–34.
Coerebidae, Upucerthiinae

di Capporiacco, L.
1950. More on zoological nomenclature. Science 111: 237.

Domaniewski, J. v.
1918. Die Stellung des *Urocynchramus pylzovi* Przev. in der Systematik. J. Ornithol. 66: 421–424.
Urocynchraminae

Dougherty, E. C.
1958. Document 25/4. Questions arising in connection with the naming of orders and taxa of higher rank. Bull. Zool. Nomencl. 15 (16/17): 523–539. [21 March 1958].

Douvillé, H.
1881. Règles proposées par le Comité de la

Nomenclature paleontologique. Congr. Géol. Int. (1881), Compt. Rend. 2me Sess., Boulogue, pp. 594–595.

Dubois, A.

1891. Revue des derniers systèmes ornithologiques et nouvelle classification proposée pour les oiseaux. Mém. Soc. Zool. France 4: 96–116.

1899–1904. Synopsis avium. Nouveau manuel d'ornithologie. Brussels: H. Lamertin; 1902. Part 1 (1899–1902), xvi + 729 pp; 1904. Part 2 (1902–1904), x + 730–1339 pp.

Gymnogenyinae

Duméril, A. M. (ed.)

1800–5. Lecons d'anatomie comparée de M. G. Cuvier, recueillies et publiées par Duméril et Duvernoy. Paris: Baudoin, 5 vol.

[Table 5 in volume 1, 1800, presents a classification of insects which uses two categorical levels between the class and the genera, these categories are not named but are presumably orders and families. The names for these taxa, especially those for the families are based on French names, not on the stem of the genus. This system of orders and families is presented only in this table, not in any of the other six tables in this volume or elsewhere in these volumes.]

Dundee, H. A.

1989. Higher category name usage for amphibians and reptiles. Syst. Zool. 38: 398–406.

Eisenmann, E.

1967. Report of the Standing Committee on Ornithological Nomenclature of the International Ornithological Congress, 1963-66. Proc. XIV Int. Ornithol. Congr., Oxford, 1966, pp. 359–364. Oxford: Blackwell.

1972. Thraupidae (Aves). Comment on proposals (a) to amend author and date. (Z.N.(S.)1976) and (b) to change spelling of name (Z.N.(S.) 1965). Bull. Zool. Nomencl. 29(4): 197.

1976. Report of the Standing Committee on Ornithological Nomenclature. Proc. XVI Int. Ornithol. Congr., Canberra, 1974, pp. 11–13. Canberra: Australian Academy of Sciences.

1980. Report of the Standing Committee on Ornithological Nomenclature of the International Ornithological Congress, 1966–1970. Proc. XVII Int. Ornithol. Congr., Berlin, 1978, pp. 61–62. Berlin: Deutsche Ornithologen-Gesellschaft.

Engelmann, W.

1846. Bibliotheca Historico-Naturalis. Verzeichniss der Bücher über Naturgeschichte welche in Deutschland, Scandinavien, Holland, England, Frankreich, Italien und Spanien in den Jahren 1700–1846 erschienen sind. Leipzig: Verlag W. Engelmann, viii + 786 pp.

1861. Bibliotheca Zoologica. *In* J. Victor Carus and W. Engelmann, eds. Verzeichniss der Schriften über Zoologie in den periodischen Werken erthalten und von Jahre 1846–1860 selbständig erschienen sind. Leipzig: Verlag W. Engelmann; 1: x + 950 pp. 2: xi–xxiv + 951–2144 pp.

Edwards, E. P.

1982–86. A coded workbook of birds of the world. Second Edition. 1982. Vol. 1: Non-passerines. xxi + 134 pp. 1986. Vol. 2: Passerines. x + 170 pp. Privately published, Sweet Briar, Virginia.

Conirostridae

Eudes-Deslongchamps, E.

1881. Catalogue descriptif des trocheilidés, ou oiseaux-mouches aujourd'hui connus. Caen: F.le Blanc-Hardel.

Coeligeninae, Eugeninae, Eupherusinae, Lafresnayinae

Eyton, T. C.

1838. Monograph on the Anatidae, or duck tribe. London: Longman, Orme, Brown, Green, & Longmans, viii + 183 pp.

Erismaturinae, Plectropterinae

1867. Osteologia avium; or, a sketch of the osteology of birds. London: Williams & Norgate, x + 229 + vii + iv + 41 plates; 1869. Supplement to osteologia avium. 18 plates; Supplement II to osteologia avium. 42 pp + 27 plates.

No new family-group names are introduced in this work, but this work contains numerous misspellings which can cause confusion. Some should be mentioned, such as Centropinae for Centropodinae, Theroninae for Treroninae, Melagrinae for Meleagridinae, Rhyncopsini for Rynchopini, Ptilorhycidae for Ptilonorhynchidae, Oroalidae for Oriolidae, Buceridae for Bucerotidae, Spheriseidae for Sheniscidae, and Phactonidae for Phaethontidae, and many additional obvious errors. Most serious is Eyton's consistent error of using the generic name *Sternus* and hence the family-group name Sternidae instead of *Sturnus* Linnaeus 1758 (*vulgaris*) and Sturnidae for the starlings, in addition to using Sterninae based on *Sterna* for the terns. Eyton also introduced the name Walurinae (unavailable for zoolog-

ical nomenclature) for the genus *Atrichia* Gould, 1844 (*clamosa* = *Atrichornis* Stejneger, 1885) which made no sense, until it became clear that the "W" was an inverted "M" and the name should have been Malurinae.] [Waluridae]

Feduccia, A.

1973. Evolutionary trends in the Neotropical ovenbirds and woodhewers. Ornithol. Monogr., AOU. 13: iii + 69 pp.

Finsch, O.

1865. Index ad Caroli Luciani Bonaparte conspectum generum avium. Leiden: E. J. Brill, 25 pp.

1867–68. Die Papagein. Leiden: E. J. Brill; 1867, 1: xii + 561 pp.; 1868, 2: vi + 966 pp.

Sittacini, Stringopinae

Finsch, O., and G. Hartlaub

1870. Die Vögel Ost-Africas. Leipzig und Heidelberg: C. F. Winter, x + 897 pp.

SAGITTARIIDAE

Fitzinger, L. J.

1856–65. Über das System und die Charakteristik der natürlichen Familien der Vögel. Sitzungsber. math.-naturw. Classe d. Kais. Wein Acad. Wissensch., 1856, Part 1. 21: 277–322; 1863 [1862], Part 2. 46: 194–240; 1865, Part 3. 51: 285–322.

Pogoniidae

Fleming, C. A.

1956. Proposed validation of the generic name "*Heteralocha*" Cabanis [1851], for the New Zealand Huia (Class Aves). Bull. Zool. Nomencl. 12(5): 139–140.

Fleming, J.

1822. The philosophy of zoology; or a general view of the structure, functions, and classification of animals. Edinburgh: Archibald, Constable & Co.; 1: lii + 432 pp; 2: 1–618 pp.

[This is an early textbook of zoology, including a detailed classification and synopsis of animal groups.]

Ampelidae, MUSCICAPIDAE, Vulturidae

Fletcher, J. J. (ed.)

1893. The Macleay memorial volume. Linnean Soc. of New South Wales, Sydney, li + 308 pp.

[This volume contains a detailed account of the contributions of the members of the Macleay family to the natural history of Australia.]

Follett, W. I.

1953. Document 3/34.

[On family-group names in zoology. Statement submitted on behalf of the Nomenclature Committee of the Society of Systematic Zoology.] Bull. Zool. Nomencl. 8(6/9): 245–262. [July 1953].

[This includes comments by Dr. C. Sabrosky and R.L. Usinger, pp. 249–254, 259–260, and by Dr. J. Chester Bradley, pp. 255–258.]

1955. An unofficial interpretation of the International rules of zoological nomenclature as amended by the XII International Congress of Zoology, Paris, 1948 and by the XIV International Congress of Zoology Copenhagen, 1953. Privately published, San Francisco, v + 99pp.

[In the strange world of zoological nomenclature, which is most concerned as to whether works are actually published, this most useful pamphlet is claimed to be "Issued, but not published." Note the peculiar Preface in which the author fails to distinguish between a published work and an official one. Words aside, this pamphlet more than meets all the criteria established by the rules of zoological nomenclature for publication as well as by the generally accepted definition of "published," and will be here so considered. It provides a most useful summary of the proposed rules of zoological nomenclature advanced in the uncertain period of zoological nomenclature between the years 1948 and 1961. However, Follett never made it clear whether these proposed changes to the Règles made between 1948 and 1961 were ever official; they were not as they were never properly published, statements by Hemming not withstanding.]

Forbes, W. A.

1882a. Contributions to the anatomy of passerine birds.—Part VI. On *Xenicus* and *Acanthisitta* as types of a new family (Xenicidae) of mesomyodian Passeres from New Zealand. Proc. Zool. Soc. London, 1882, pp. 569–571.

Xenicidae

1882b. Report on the anatomy of the petrels (Tubinares) collected during the voyage of H.M.S. 'Challenger'. *In* F. T. Thomson and J. Murray (eds.), Report on the Scientific Results of the Voyage of H.M.S. 'Challenger' during the years 1873–76. Zoology. 4(11): 1–64.

Oceanitidae

Fürbringer, M.

1888. Untersuchungen zur Morphologie und Systematik der Vögel. II. Allgemeiner Theil. Amsterdam: TJ. Van Holkema.

Gadow, H.

1893. Vögel. Part II. Systematischer Theil. *In*

Bronn's Klassen und Ordnungen des Thier-Reichs. Leipzig: C. W. Winter, Vol. 6, Part 4.

Garrod, A. H.

1874a. On certain muscles of the thigh of birds and of their value in classification. Part. II. Proc. Zool. Soc., London, pp. 111–123.

Bulweriidae

1874b. On some points in the anatomy of the parrots which bear on the classification of the suborder. Proc. Zool. Soc. London, pp. 586–598.

Chrysotini, Pyrrhurini

1881. Notes on the anatomy of Pelecanoides (*Puffinuria*) urinatrix. *In* W. A. Forbes (ed.), The collected scientific papers of the late Alfred Henry Garrod. London: R. H. Porter, xxv + 537 pp.

Giebel, C. G.

1872–77. Thesaurus Ornithologiae. Repertorium der gesammten ornithologischen Literatur und Nomenclator sämmtlicher Gattungen und Arten der Vögel, nebst Synonymen und geographischer Verbreitung. Leipzig: F. A. Brockhaus; 1872, 1: ix + 868 pp.; 1875, 2: v + 787 pp.; 1877, 3: vi + 861 pp.

Glenny, F. H.

1957. A revised classification of the Psittaciformes based on the carotid artery arrangement patterns. Ann. Zool. 2(4): 45–56.

[The family-group names, e.g., Neopsittacinae and Paleopsittacinae, introduced in this paper are descriptive terms only and are not available for zoological nomenclature.]

Goode, G. B.

1896. Bibliography of the published writings of Philip Lutley Sclater, F.R.S., Secretary of the Zoological Society of London. Bull. U.S. Natl. Mus. 49: xix + 135.

Gould, J.

1844–50. A monograph of the Odontophorinae or partridges of America. Privately published, London, 23 pp. + unpaginated text and 32 unnumbered plates.

[Probably the introduction was published in 1850, but the name Odontophorinae was used in the title, and hence presumably stems from 1844.]

ODONTOPHORINAE

Grant, C. H. B.

1948. The genotype of the genus *Colymbus* Linnaeus Syst. Nat. (1758): 84. Ibis 90: 330–331.

Gray, G. R.

1840. A list of the genera of birds, with an indication of the typical species of each genus. London: Richard and John E. Taylor, viii + 80 + ii pp.

[I have accepted Gray as the author of any name which both he and Selby proposed in 1840 because Selby always follows the lead of Gray; *see below*, under Selby, 1840.]

Accentoridae, APTERYGIDAE, ARINI, CACATUINAE, Celeini, COLAPTINI, CURSORIINAE, DENDROCOLAPTIDAE, DIOMEDEIDAE, DROMADIDAE, DRYOCOPINI, FORMICARIIDAE, FURNARIIDAE, Gallinulinae, Gecinini, GOURINAE, Gymnorhininae, HELIORNITHIDAE, Limosini, Manorinidae, MELEAGRIDINAE, MOMOTIDAE, Myzomelidae, NUMENIINI, Oedicnemidae, ORTHONYCHIDAE, Parridae, Phaleridae, PICUMNINAE, PYCNONOTIDAE, Pyroderidae, Racaminae, Strepsilinae, TINAMIDAE, TITYRINAE, TRERONINAE, TURNICIDAE, Turturinae

1841. A list of the genera of birds, with their synonyms and an indication of the typical species of each genus. London: Richard and John E. Taylor, xii + 115 pp.; 1842. Appendix to a list of the genera of birds. London: Richard and John E. Taylor, iv + 16 pp.

[This is the second edition of Gray, 1840, in which he corrects a number of errors pointed out by Strickland in his review of the first edition.]

[Cinclinae], Graculinae, Lophophorini, Lusciniinae, Melithreptidae, PTILONORHYNCHIDAE

1844–49. The genera of birds: Comprising their generic characteristics, a notice of the habits of each genus and an extensive list of species referred to their several genera. London: Longman, Brown, Green, and Longman, 3 vol.

[These volumes are not paginated, but dates are provided for the publication of all plates; these have been used to ascertain the priority of the family-group names proposed in these volumes.]

Alectrurinae, DIDUNCULINAE, Erithacinae, Grypinae, MELANERPINI, Mellisuginae, Mniotiltidae, Phonygamminae, Podagerinae, Pyrrhocoracidae, Sarcoramphidae

1855. Catalogue of the genera and subgenera of birds contained in the British Museum. London: British Museum, 192 pp.

Caccabidini, Eulabetinae, Juidinae, Simorhynchidae

1869–71. Handlist of genera and species of birds, distinguishing those contained in the British Museum. London: British Museum; 1869, Part 1. Accipitres, Fissirostres, Tenuirostres, and Dendirostres. xx + 404 pp.; 1870, Part 2. Conirostres, Scansores, Columbae, and Gallinae. xv + 278 pp.; 1871, Part 3. Struthiones, Grallae, and Anseres, with indices of genera and specific names. xx + 350 pp.

[This is George Robert Gray's last contribution to avian classification and nomenclature as he died in 1872. Although in this work, Gray provided citations to publication and/or use of avian family-group names, much of this information on the first proposal of avian family-group names and their synonyms is inaccurate. This work cannot be used as a reliable source for information on the first publication of avian family-group names as had been used by many ornithologists.]

Aegithinidae, Atagenidae, Calamodytinae, Enicocichlidae, PELECANOIDIDAE, STERCORARIINAE, Tatarinae, Trichadidae

Gray, J. E., and G. R. Gray

1844–68. List of specimens in the collection of the British Museum. London: British Museum; 1844, Part 1. viii + 53 pp; 1848, Part 1. Second Edition. viii + 120 pp; 1848, Part 2. 80 pp; 1844, Part 3. 209 pp; 1855, Part 3. Section 1. Ramphastidae. 16 pp; 1859, Part 3. Section 2. Psittacidae. 110 pp; 1868, Part 3, Section 3 & 4. Capitonidae and Picidae. 137 pp; 1856, Part 4. Columbae. 75 pp; 1867, Part 5. Gallinae. 120 pp.

[This series appears to be incomplete and only these parts appear to have been published.]

Neophroninae, Syrniinae

Greenway, J. C., Jr.

1967a. Family Rhabdornithidae, Philippine creepers. *In* Peters' check-list of birds of the world 12: 161–162. Cambridge, MA: Mus. Comp. Zool., ix + 495 pp.

RHABDORNITHIDAE

1967b. Family Sittidae. *In* Peters' check-list of birds of the world 12: 125–149. Cambridge, MA: Mus. Comp. Zool., ix + 495 pp.

Grensted, L. W.

1947. On the formation of family names. A note on the implications of Opinion 143 of the International Commission on Zoological Nomenclature. Entomol. Monthly Mag., 83: 137–141.

1953. Document 3/6. [On family-group Names in zoology]. Bull. Zool. Nomencl., 8(6/9): 176–182. [July 1953].

Hachisuka, M.

1930. Contribution to the birds of the Philippines. No. 2. Part 6. Suppl. Publ. No. 14, Ornithol. Soc. Japan, pp. 141–222.

Hypocryptadiidae

1953. The Dodo and kindred birds, or The extinct birds of the Mascarene Islands. London: H. F. & G. Witherby, xvi + 245 pp.

Pezophabidae

Hardy, J. W.

1961. Studies in the behavior and phylogeny of certain New World jays (Garrulinae). Univ. Kansas Sci. Bull. 42: 13–149.

Aphelocomidae

Hartert, E.

1891. Katalog der Vogelsammlung in Museum der Senckenbergischen Naturforschungen Gesellschaft in Frankfurt am Main. Frankfurt a. M.: Gebrüder Knauer, xxii + 259 pp.

Hartlaub, G.

1877. Die Vögel Madagascars und der benachbarten Inselgruppen. Ein Beitrag zur Zoologie der äthiopischen Region. Halle: H. W. Schmidt, xlii + 426 pp.

Artamiidae

Heikertinger, F.

1916a. Zur Kritik der strikten Anwendung des Prioritätsprincips in der Nomenklatur. Wien Entomol. Ztg. 37: 108–116.

1916b. Die Nichteignung des Prioritätsprincips zur Stabilisierunbg der Nomenklatur. Das Kontinuitätsprinzip in der Tier und das Utilitätsprinzip in der Autorennung. Wien Entomol. Ztg. 37: 129–147.

1924a. Was leistet das Kontinuitätsprinzip in der Nomenklatur. Zool. Anz. 58: 115–131.

1924b. Über das Wesen des Kontinuitätsprinzip in der Nomenklatur. Verh. z. b. Ges. Wien, 73 (1923): 182–186.

1943. Kann Kontinuität der Tiernamen mit der Prioritätsregel erreich werden? Zool. Anz., 141: 35–52.

Heine F., and A. Reichenow

1882–90. Nomenclator Musei Heineani Ornithologici. Berlin: R. Friedländer & Sohn, vi + 373 pp.

Chalybaeinae, Hippalectryonidae, Triccinae

Hellmayr, C. E., and B. Conover

1949. Cathartidae—Accipitridae—Pandionidae—Falconidae. *In* Hellmayr's catalogue of birds of the Americas and the adjacent islands. Field Mus. Nat. Hist. (zool. ser.) 13 (1, 4): vi + 358 pp.

Daptriinae

Hemming, F.

1936. "Report on the meeting of the International Commission on Zoological Nomenclature." *In* A. R. Jorge (ed.), Proceedings XIIth International Congress of Zoology, Lisbon, 1935, pp. 181–196. Lisbon: Casa Portuguesa.

1943a. The functions and powers of the International Commission on Zoological Nomenclature. Bull. Zool. Nomencl. 1: iv–xxvi.

1943b. Estimated expenditure required to enable the International Commission on Zoological Nomenclature to discharge its outstanding scientific commitments. Bull. Zool. Nomencl. 1: xxxiv–xxxviii.

1943c. On the Lisbon decisions of the International Commission on Zoological Nomenclature. Bull. Zool. Nomencl. 1: 1–4.

1943d. The official record of Proceedings of the International Commission on Zoological Nomenclature at their session held at Lisbon in September 1935. (Prepared by Commissioner Frances Hemming at the request of the International Commission). Bull. Zool. Nomencl. 1: 5–63.

1943e. Plenary conference between the President of the International Commission on Zoological Nomenclature and the Secretary to the International Commission. Bull. Zool. Nomencl. 1: 70–86. [October 1943].

1944. Report by the International Commission on Zoological Nomenclature for the year 1943. Bull. Zool. Nomencl. 1: xli–xlviii.

1945. Report by the International Commission on Zoological Nomenclature for the year 1944. Bull. Zool. Nomencl. 1: lxi–lxix.

1947. [Announcement of visit to Canada and the United States]. Science 106: 579–580.

1948. Important advances in zoological nomenclature achieved at 13th International congress of Zoology. Science 108: 156–157.

1949a. Report by the International Commission on Zoological Nomenclature to the Thirteenth International Congress of Zoology. pp. 579–587. *In* Comptes Rendus XIII^{e} Congrès International de Zoologie, Paris, 1948.

1949b. Letter of reply to the letter of inquiry of R.C. Moore. J. Paleontol. 23: 225–229.

1950a. Memoranda and other documents considered by the International Commission on Zoological Nomenclature and by the Section on Zoology during the Thirteenth International Congress of Zoology, Paris, July 1948. Bull. Zool. Nomencl. 3: xxx + 237.

1950b. Draft of Report to be submitted to the Congress by the International Commission on Zoological Nomenclature. Bull. Zool. Nomencl. 3: 139–153.

1950c. The Official record of the Proceedings of the International Commission on Zoological Nomenclature at their Session held in Paris in July 1948. Bull. Zool. Nomencl. 4: L + 760 pp.

1950d. Report by the International Commission on Zoological Nomenclature to the Thirteenth International Congress of Zoology. Bull. Zool. Nomencl. 5: 135–151.

1950e. More on zoological nomenclature. Science 111: 234–235.

1950f. Date of entry into force of the amendments to the "Règles" decided upon by the Thirteenth International Congress of Zoology, Paris July 1948. Bull. Zool. Nomencl. 4: vii–viii.

1950–59. Official Publication of the Minutes of the Section on Nomenclature, Thirteenth International congress of Zoology, Paris, July, 1948, and of the reports submitted thereby for approval by the Congress in Plenary Session. Bull. Zool. Nomencl. 5: ix–xxi + 1–168 (1950); 169–194 (1959).

1952a. Seven problems of zoological nomenclature involving the clarification, amendment or expansion of the "Règles Internationales" which will be considered by the Fourteenth International congress of Zoology, Copenhagen, 1953: Preliminary appeal to zoologists for advise. Bull. Zool. Nomencl. 7(1/2): 1–3. [25 February 1952].

1952b. Proposed clarification, amendment and expansion of the provisions in the "Règles" relating to the formation of the names of families and subordinate rank: An appeal to zoologists for advice. Bull Zool. Nomencl. 7(3): 61–94. [15 March 1952].

1952c. Report on the problems raised by the generic name "*Colymbus*" Linnaeus, 1758 (Class Aves). Bull. Zool. Nomencl. 9: 8–29.

1952d. Problems requiring considerations if provisions relation to the naming of orders and higher taxonomic categories are to be included in the "Règles": An appeal to zoologists for advice. Bull Zool.

Nomencl. 7(4): 95–108. [15 March 1952].

1952e. On the means to be found for promoting the greatest possible stability in zoological nomenclature: An appeal to zoologists for advice. Bull. Zool. Nomencl. 7(5/6): 148–188. [15 March 1952].

1953a. Document 3/41. [On family-group Names in zoology. Report on the problems involved in the regulation of the naming of families and other suprageneric categories below that of sub-order]. Bull. Zool. Nomencl. 8(6/9): 303–311.

1953b. Copenhagen decisions on zoological nomenclature. Additions to, and modifications of, the Règles internationales de la nomenclature zoologique. Approved and adopted by the Fourteenth Congress of Zoology, Copenhagen, August, 1953. London: Int. Trust Zool. Nomencl., xxix + 135 pp. [31 December 1953].

[Except for the title page, an identical second edition was published in 1957 using the same type saved from the printing of the 1953 edition.]

1953c. Case 4. Documents relevant to the consideration of the problem of regulating the naming of orders, classes and other taxonomic categories above the family level. Bull. Zool. Nomencl., 10(1/2): 1–60. [25 June 1953].

1953d. Action taken to secure the advice and assistance of interested institutions and individual specialists on the aspects of zoological nomenclature on which the thirteenth International Congress of Zoology, Paris, 1948, invited the secretary to the International Commission on Zoological Nomenclature to prepare reports for consideration by the fourteenth International Congress to be held at Copenhagen in 1953. Bull Zool. Nomencl. 8(1/3): 2–4. [25 June 1953].

1954a. Case No. 1. The problem of securing greater stability in zoological nomenclature. Bull. Zool. Nomencl., 8: 1–108; 287–294 [30 September 1954].

1954b. Opinion 241. Rejection for nomenclatural purposes of Nozeman & Vosmaer, 1758 *Geslachten der Vogelen*, a Dutch translation of Moehring's pre-Linnaean work entitled *Avium Genera* published in 1752. Opinions and Declarations ICZN, 5(2): 13–22. [*See*, China, W. E. 1967; Möhring, P. H. G 1758; Nozemann, C., and A. Vosmaer, 1758].

1957a. London Congress Agenda Paper. Case 2. Bull. Zool. Nomencl. 15 (5/6): 121–154. [31 October 1957].

1957b. Report on the question of the application of the generic name "*Calandra*" Clairville & Schellenberg, 1798 (Class Insecta, Order Coleoptera) and matters incidental thereto. Bull. Zool. Nomencl. 16: 5–47.

1957c. Opinion 401. Suppression under the plenary powers of the generic names *Colymbus* Linnaeus, 1758, and addition to the *Official List of Generic Names* of the generic names *Gavia* Forster, 17788, and *Podiceps* Latham, 1787 (Class Aves). Opinions and Declarations, ICZN, 13(1): 1–64. (24 July 1956).

1957d. Direction 75. Suppression under the plenary powers of the family-group name Urinatoridae (correction of Urinatores) Vieillot, 1818, and addition of the names Podicipitidae (correction of Podicepinae) Bonaparte, 1831, and Gaviidae Coues, 1903, as the family-group names for grebes and divers (loons) respectively (Class Aves) (Direction supplementary to Opinion 401). Opinions and Declarations, ICZN, 13(22): 291–308. (21 July 1957).

1958a. Official text of the "Règles internationales de la nomenclature zoologique" (International code of zoological nomenclature) as it existed up to the opening of the Paris Congress in 1948. Bull Zool. Nomencl. 14: i–xxviii. [27 June 1958].

1958b. Index to Professor Chester Bradley's draft of the revised text of the "Règles" arranged by reference to the article numbers in the existing "Règles". Bull. Zool. Nomencl. 14(10/11): 287–370. [9 May 1958].

1958c. Draft of a French text of the "Règles" based upon the draft of the English text prepared by Professor J. Chester Bradley. Bull. Zool. Nomencl. 14(12/16): 371–538; (17/19): 539–634. [7 July 1958].

1958d. Case No. 25. Draft "Règles", Article 12, Section 1 (Names for taxa of the order/class and higher categories). Bull. Zool. Nomencl. 15(16/17): 489–496. [21 March 1958].

1958e. Report on the work carried out by the International Trust for Zoological Nomenclature in the five-year period 1953-1957. Bull. Zool. Nomencl. 15 (39): i–viii. [7 July 1958].

1958f. Official list of generic names in zoology. First instalment: names 1–1274. London: Int. Trust Zool. Nomencl., xxxvi + 200 pp.

1958g. Official index of rejected and invalid generic names in zoology. First instalment: names 1–1169. London: Int. Trust Zool. Nomencl., xii + 132 pp.

1958h. Official list of family-group names in zoology. First installment: names 1–236. London: Int. Trust Zool. Nomencl., xviii + 38 pp.

1958i. Official index of rejected and invalid family-group names in zoology. First installment: names 1–273. London: Int. Trust Zool. Nomencl., xii + 38 pp.

1958j. Opinion 514. Validation under the plenary powers of the generic name *Heteralocha* Cabanis, [1851] (Class Aves). Opinions and Declarations rendered by the ICZN, ITZN, London. [2 May 1958].

1958k. Secretaryship of the International Commission on Zoological Nomenclature. Retirement of Mr. Francis Hemming on account of ill-health. Bull. Zool. Nomencl. 16: i–viii. [June 1958].

1958l. Appointment of officers of the Colloquium on Zoological Nomenclature, London, 1958. Bull. Zool. Nomencl. 15(31/33): 997. [27 June 1958].

1958m. Chairmanship of the International Trust. Bull. Zool. Nomencl. 15(31/33): 998. [27 June 1958].

1959. Work of the secretariat of the International Commission on Zoological Nomenclature during the period 1936-1948. Report by the Secretary prepared for consideration at the meeting held in Paris in July 1948. Bull. Zool. Nomencl. 5(7): 169–176.

[9 July 1959 = ? 17 August 1959 as written on the copy in the AMNH].

1960. Karl Jordan, 1861–1959. Bull. Zool. Nomencl. 17: 259–266.

1962. Brisson, 1760 "Ornithologie": Proposed restriction of validation granted under the plenary powers to certain portions of that work. Z.N.(S.) 702. Bull. Zool. Nomencl. 19(1): 9–14.

Hindle, E., and N. D. Riley

1950. More on zoological nomenclature. Science 111: 236–237.

Hogg, J.

1846. On the classification of birds, and particularly on the genera of European birds. Edinburgh New Philos. J. 41: 1–22.

Aedonidae, Apternidae, Hemipodidae, Mormonidae

Holthuis, L. B.

1953. Document 3/15 [On family-group names in zoology]. Bull. Zool. Nomencl. 8(6/9): 190–191. [July 1953].

Homberger, D. G.

1980. Funktionell-morphologische Untersuchungen zur Radiation der Ernährungs- und Trinkmethoden der Papageien (Psittaci). Bonn Zool. Monogr., 13: 1–192.

Hoppe, D.

1986. Kakadus. Lebensweise, Haltung und Zucht. Stuttgart: Verlag Eugen Ulmer.

Callocorydontinae

Horsfield, T.

1821a. Systematic arrangement and description of birds from the Island of Java. (Read 18 April 1820). Trans. Linn. Soc. London, 13: 133–200.

[This paper appeared prior to Horsfield 1821–24, as Horsfield cited page references from the present paper in the first avian species account in his 1821–24 paper.]

BUCCONIDAE, PHASIANIDAE

1821b. [*See* Horsfield, 1821–24].

1821–24. Zoological researches in Java and the neighbouring islands. Numbers 1–8, unpaginated, London.

[1821, Numbers 1–3; 1822b, Numbers 4–5; 1823, Number 6; 1824, number 7–8. [Horsfield's basic classification in this paper followed that used in Horsfield, 1822a, which is cited with page citations in the first avian species account in Number 1, 1821, of the current publication.]

CENTROPODINAE, MOTACILLIDAE, PHAENICOPHAEINAE, Platyrinchinae

1822. [*See* Horsfield, 1821–24].

1823. [*See* Horsfield, 1821–24].

Horsfield, T., and F. Moore

1854–58. A catalogue of the birds in the museum of the Hon. East-India Company. London, 1854, 1: xx + 452 pp.; 1856-58, 2: xx–xxx + 453–752 + i–iv, i–ix pp.

PARADOXORNITHINAE

Horváth, G.

1911. Nomenclature des familles des Hémiptères. Ann Mus. Nat. Hungary 9: 1–34.

1912. Sur les noms des familles et des sous-familles de règne animal. Verh. 8th Int. Zool. Kongr. Graz, pp. 851–855.

Hubbs, C. L.

1956. Ways of stabilizing zoological nomenclature. Proceedings of the XIV International Congress of Zoology. Copen-

hagen: Danish Scientific Press, pp. 548–533.

Hurcomb, [Lord]

1958. Comment on the report of the Interim Committee on the subject of the future organisation of the work of the International Commission on Zoological Nomenclature. Statement dated 8th July prepared by the International Trust for Zoological Nomenclature. Bull. Zool. Nomencl. 15(40): xxxiii–xxxv. [14 July 1958].

Huxley, T. H.

1868. On the classification and distribution of the Alectoromorphae and Heteromorphae. Proc. Zool. Soc. London, pp. 294–319.

DROMAIIDAE

Ihering, H. v.

1904. The biology of the Tyrannidae with respect to their systematic arrangement. Auk 21: 313–322.

Euscarthminae, Pitanginae, Serpophaginae

Illiger, C.

1811. Prodromus systematis mammalium et avium. Berlin, 302 pp.; Part II Avium. pp. 194–302.

[This publication is generally regarded as the first publication in which families of birds are recognized. However, in this paper and many other early systematic works on birds, the authors do not formulate family-group names on the name of a type genus. Family names used in this work are not based on the name of a type genus.]

International Commission on Zoological Nomenclature (ICZN)

1902. Rules of zoological nomenclature. [English Version of the "Règles internationales de la nomenclature zoologique"], pp. 963–972. *In* P. Matschie (ed.), Verhandlungen des V Internationalen Zoologen Congress zur Berlin. 12–16 August 1901. Jena: G. Fischer.

[The proceedings of the Berlin International Zoological Congress contains French, German, and English versions of the Règles adopted by this Congress. These rules were published separately in 1905 (*see* Blanchard, 1905) which is considered the first official publication of the Règles and generally cited as 1905.]

1956. [Report of the ICZN and the Section on Nomenclature at the XIV ICZ]. Proceedings XIV International Congress of Zoology, 1953, p. 546. Copenhagen: Danish Science Press.

[This report does not include any of the normal activities of the ICZ and the SN at a congress such as reporting on the past activities of the ICZN, changes in membership of the Commission, including election of new members, etc. Rather it implies that a full report can be found in the "Copenhagen Decisions" (Hemming, 1953). That volume, however, contains only a report of the results of the Colloquium on Nomenclature and scarcely mentions the ICZN. It does not include any report of the ICZN or of the SN at the 1953 congress.]

1961. International code of zoological nomenclature, adopted by the XV International Congress of Zoology. London: Int. Trust Zool. Nomencl., xviii + 176 pp.

1964a. International code of zoological nomenclature, adopted by the XV International Congress of Zoology. Second edition. London: Int. Trust Zool. Nomencl., xx + 176 pp.

1964b. Constitution of the International Commission on Zoological Nomenclature. Bull. Zool. Nomencl. 21: 181–185.

1965. By-laws of the International Commission on Zoological Nomenclature. Bull. Zool. Nomencl. 22: 3–8.

1974. Constitution of the International Commission on Zoological Nomenclature. Bull. Zool. Nomencl. 31: 90–101.

1977a. Proposed amendments to the constitution of the Commission. Z.N.(G.) 181. Bull. Zool. Nomencl. 34(3): 174–175.

1977b. Bylaws of the Commission. Bull. Zool. Nomencl. 34(3): 176–184.

1985a. International code of zoological nomenclature, adopted by the XX General Assembly of the International Union of Biological Sciences. Third edition. London: Int. Trust Zool. Nomencl., in association with the British Museum of Natural History, and Berkeley and Los Angeles: University of California Press, xx + 338 pp.

1985b. Revision of the by-laws. Bull. Zool. Nomencl. 42(X): 316–317.

1989. Revision of the by-laws. Bull. Zool. Nomencl. 46(X): 7–8.

International Congress of Zoology

1889. Compte-rendu des séances du Congrès International de Zoologie, Paris, 1889. R. Blanchard (ed.), Paris: Soc. Zool. France.

1892. Proceedings of the International Congress of Zoology, Moscow, 1892. Moscow: Laschkevitsch, Znamensky.

1896. Compte-rendu des séances du troisième Congrès International de Zoologie,

Leyde, 1895. P. P. C. Hoek (ed.), Leiden: Brill.

1898. Proceedings of the Fourth International Congress of Zoology, Cambridge, 1898. A. Sedgwick (ed.), London: Cambridge Univ. Press.

1902. Verhandlungen des V Internationalen Zoologen Congress zur Berlin, 1901. P. Matschie (ed.), Jena: G. Fischer.

1936. Proceedings of the XIIth International Congress of Zoology, Lisbon, 1935. A. R. Jorge (ed.), Lisbon: Casa Portuguesa.

1949. Comptes Rendus XIII[e] Congrès International de Zoologie, Paris, 1948. Paris.

1956. Proceedings of the XVth International Congress of Zoology, Copenhagen, 1953. Copenhagen.

1959. Proceedings of the XVth International Congress of Zoology, London, 1958. H. R. Hewer and N. D. Riley (eds.), London: Linnean Society of London.

International Ornithological Congress

1951. Proceedings of the Xth International Ornithological Congress. Uppsala, 10–17 June 1950. Uppsala and Stockholm: Almqvist & Wiksells Boktryckeri AB, 662 pp.

1955. Acta XI Congressus Internationalis Ornithologici. Basel, 29 May–5 June 1954. Basel and Stuttgart: Birkhäuser Verlag, 680 pp.

1960. Proceedings of the XII International Ornithological Congress. Helsinki, 5–12 June 1958. Helsinki: Akateeminen Kirjakauppa, 1: 1–436; 2: 437–820.

1963. Proceedings of the XIII International Ornithological Congress. Ithaca, 17–24 June 1962. Lawrence, KA: Allen Press for the AOU, 1: xiv + 610 pp; 2: 611–1246.

1967. Proceedings of the XIV International Ornithological Congress. Oxford, 24–30 July 1966. Oxford and Edinburgh: Blackwell, xxiii + 405 pp.

1972. Proceedings of the XV International Ornithological Congress. The Hague, 30 August–5 September 1970. Leiden: Brill, viii + 845 pp.

1976. Proceedings of the 16th International Ornithological Congress. Canberra, 12–17 August 1974. Canberra: Australian Acad. Sci., xvii + 765 pp.

1980. Acta XVII Congressus Internationalis Ornithologici. Berlin, 5–11 June 1978. Berlin: Verlag der DO-G, 1: 1–747; 2: 753–1463.

1985. Acta XVIII Congressus Internationalis Ornithologici. Moscow, 16–24 August, 1982. Moscow: Nauka, 1: 1–776; 2: 777–1336.

1988. Acta XIX Congressus Internationalis Ornithologici. Ottawa, 22–29 June 1986. Ottawa: Nat. Mus. Nat. Sci. 1: 1–1404; 2: 1405–2815.

1991. Acta XX Congressus Internationalis Ornithologici. Christchurch, 2–9 December 1990. Wellington: New Zealand Ornithological Congress Trust Board, 4 vol + Suppl.

Iredale, T.

1948. A check list of the birds of paradise and bower-birds. Australian Zool. 11: 161–189.

Ailuroedidae, Amblyornithidae, Chlamyderidae, Cicinnurinae, Parotiinae

Iredale, T., and D. A. Bannerman

1921. [Note with regard to the generic names *Textor* and *Hyphantornis*]. Bull. Br. Ornithol. Club 41: 129.

BUBALORNITHINAE

Jardine, W.

1833. Ornithology, Vol. II. Hummingbirds. Edinburgh: The Naturalists Library, W. H. Lizars.

Campylopterinae, Cynanthinae, Lampornithinae, PHAETHORNITHINAE

1857. Memoirs of Hugh Edwin Strickland, M.A. London: John Van Voorst, cclxv + xvi + 441 pp.

Jarocki, F. P.

1821. Zoologia czyli zwierzetopismo ogólne podlug naynowszego systemu ulozone. Warsaw: Drukarnia Latkiewicza, 319 pp.

[Although Jarocki did describe avian orders and families as stated by Mathews and Iredale, 1918, he did not use properly formed family-group names based on the stem of an included generic name.]

Jehl, J. R., Jr.

1975. *Pluvianellus socialis*: Biology, ecology, and relationships of an enigmatic Patagonian shorebird. Trans. San Diego Soc. Nat. Hist. 18: 25–74.

Pluvianellinae

Jerdon, T. C.

1862–64. The birds of India; being a natural history of all the birds known to inhabit continental India. Calcutta: Military Orphan Press; 1862. 1: xlv + 535 pp.; 1863. 2, Part 1: 1–439; 1864. 2, Part 2 (cited as vol. 3 on the title page): 440–876 + i–xxvii pp.

[Attagenidae], Cochoinae, Dendrocittidae, [Graculinae], IRENIDAE, Ixulinae, Phylloscopinae, Thryothoridae

Johnsgard, P. A.
1981. The plovers, sandpipers, and snipe of the world. Lincoln: Univ. Nebraska Press, xvi + 493 pp.
Hoploxypterinae, Limnodrominae
Jordan, K.
1943. Decision to establish the Bulletin of Zoological Nomenclature. Bull. Zool. Nomencl. 1: i–iii.
Jorge, A. R.
1936. Comptes rendus XII Congrés International de Zoologie tenu à Lisbonnedu 15 au 21 Septembre 1935. Lisbon: Casa Portugesa.
Kakizawa, R., and M. Watada
1985. The evolutionary genetics of the Estrildidae. J. Yamashina Inst. Ornithol. 17: 143–158.
Heteromuniinae
Kaston, B. J.
1938. Family names in the order Araneae. Am. Midl. Nat. 19: 638–646.
Kaup, J. J.
1836. Das Theirreich in seinen Hauptformen systematisch beschrieben. Zweiter Band, Erster Theil. Naturgeschichten der Vögel. Darmstadt: J. P. Diehl, viii + 392 pp.
1844. Classification der Säugerthiere und Vögel. Darmstadt: C.W. Laske, x + 144 pp. Nachträge. vi + 14 pp.
[Kaup spoke of families and of groups which he called "hordes", but without the use of formal names. Kaup included a discussion of avian families, and the use of the ending "idae" for families and of "inae" for subfamilies which he did not accept, and said that he used the plural of the generic name for family names. However, there does not appear to be any evidence that he followed the latter system of names in his paper.]
1847. Monographien der Genera der Falconidae. Isis von Oken 40: 39–80; 83–121; 161–212; 241–283; 325–386.
CASUARIIDAE
1849. Erste zoologische Vorlesung. Über Classification der Vögel. Darmstadt: Ernst Bekker, x + 40 pp.
1855. Einige Worte über die systematische Stellung der Familie der Raben, Corvidae. J. Ornithol. 2 (Suppl. 3): xlvii–lxi.
Cissidae, Cyanocittidae, Cyanocoracidae, Keropiidae, Lophocittidae, [Monedulidae]
Keen, A. M., and S. W. Muller
1948. Revised edition of Schenk and McMasters, Procedure in taxonomy. Stanford: Stanford Univ. Press, [1956, Third edition enlarged and in part rewritten].
Kevan, D. K. McE.
1953. Document 3/16. Comments on the problems involved in the regulations of the names of families discussed in part 3 of volume 7 of the "Bulletin of Zoological Nomenclature". Bull. Zool. Nomencl. 8(6/9): 191–194. [July 1953].
Kirby, W.
1813. Strepsiptera, a new order of insects proposed; and the characters of the order, with those of its genera laid down. Trans. Linn. Soc. London 11: 86–122, [Read March 19, 1811].
Kripke, S. A.
1982. Wittgenstein on rules and private language. Cambridge, MA: Harvard Univ. Press, x + 150 pp.
Latreille, P. A.
1796. Précis des caracéres génériques des Insectes, disposés dans un Ordre naturel. Paris: Boundeaux, xiii + 198 pp.
[Latreille is credited with introducing the concept of family-level taxa for animals in this publication.]
Laubmann, A.
1924. Conspectus generum avium alcedinidarum. Verh. Ornithol. Ges. Bayern 16: 129–138.
Ramphalcyoninae
Leach, W. E.
1815. A tabular view of the external characteristics of the four classes of animals which Linné arranged under insecta; with the distribution of the genera composing three of these classes into orders, & c. and descriptions of several new genera and species. Trans. Linn. Soc. London 11: 306–400.
[William Elford Leach (1790–1836; *see* Mearns and Mearns; 1988: 223–226) was a member of the staff of the British Museum from 1813 until his retirement because of reasons of health in 1822. During his tenure at the British Museum, Leach was best known as a specialist in arthropods and especially crustaceans, and he made important contributions curating the zoology collections which had fallen into serious disorder. He was a most respected zoologist of his time, but is little known today because his career was cut short because of illness and his early retirement from the British Museum in 1822, and his early death in 1836 well before he should have reached the peak of his abilities and contributions (see Swainson, 1840: 237–240). Mr. Leach published nothing on vertebrates following his retirement from the British Museum in 1822, but did complete several large

works on mollusks and crustaceans. Leach had succeeded George Shaw, and was followed by J. G. Children who accomplished little for ornithology at the British Museum (*see* Stresemann, 1975: 92) and for zoology in general as far as I have been able to ascertain.]

[Read 19 April, 3 May and 1 June 1814. Leach did not use families consistently, but used divisions and subdivisions, generally without names. On page XX, Leach mentioned the families Pagarii (*Pagarus*), Palinurini (*Palinurus*), Astacini (Astacus) and Squillares of Latreille. Starting on page 376, Leach in his analysis of the class Myriapoda, used families, but with the ending "ides" with names such as Glomeridae (*Glomeris*), Julides (*Julus*), etc.]

1816. Systematic catalogue of the specimens of the indigenous mammalia and birds that are preserved in the British Museum; with their localities and authorities. To which is added a list of the described species that are wanting to complete the collection of the British mammalia and birds. London: R. & A. Taylor, iv + 5 + 43. [Reprinted by the Willughby Society. vol. 3, 1882].

1818. On the classification of the natural tribe of insects notonectides, with descriptions of the British species. Trans. Linn. Soc. London 12: 10–18.

[Read 4 April 1815. In this paper Leach used the ending "ides" for tribes, and mentioned families but only by numbers and without providing family-group names.]

1820. Eleventh Room. *In* Synopsis of the Contents of the British Museum, pp. 65–70. 17th Edition, London: British Museum.

[All the parts of this public guide to the British Museum are unsigned, however, this part was clearly written by Leach as indicated by the fact that he was Keeper of Zoology at the time and by the numerous references to Leach's list of family-group names by his contemporaries. This is the first list of avian family-group names in which all of the names are properly formed on the stem of the name of the type genus and use the "idae" ending.]

ALCIDAE, ANATIDAE, ARDEIDAE, CERTHIIDAE, CHARADRIIDAE, COLUMBIDAE, [Colymbidae], CORVIDAE, CUCULIDAE, FALCONIDAE, FRINGILLIDAE, PICIDAE, PROCELLARIIDAE, TETRAONINAE, STRIGIDAE, SYLVIIDAE, UPUPIDAE

LeCroy, M.

1983. The spelling of *Semioptera wallacii* (Paradisaeidae). Bull. Br. Ornithol. Club 103(4): 144–145.

Legge, W. V.

1887. Systematic list of Tasmanian birds. Papers Proc. R. Soc. Tasmania for 1886: 235–245. [*see* also Legge, W.V., 1887. On the position of the genus *Ephthianura*. Ibid: 247–248].

Ephthianuridae

Le Maout, E.

1852. Histoire naturelle des oiseaux survant la classification de M. Isidore Geoffroy-Saint-Hilaire. Paris: L. Curmer, xlviii + 428 pp.

Lophyridae, Microdactylidae, Ortyxelidae, Salanganini

Lemche, H.

1953. Document 3/28. Remarks to the proposals concerning family names in zoology. Bull. Zool. Nomencl. 8(6/9): 235–239.

1958a. Document 25/8. Question of the rules for the naming of orders and taxa of higher rank. Bull. Zool. Nomencl. 15 (16/17): 553–554. [21 March 1958].

1958b. Document 25/10. Order/class names. A new proposal. Bull. Zool. Nomencl. 15 (22): 736–740. [25 April 1958].

1972. *Aglaja* Renier, 1807, *Aglaja depicta* Renier, 1807, and *A. tricolorata* Renier, 1807 (Mollusca Opisthobranchia): Proposed validation under the plenary powers. Z.N.(S.) 1092. Bull. Zool. Nomencl. 29: 127–130.

Lemche, H., and R. Spärck

1950. More on zoological nomenclature. Science 111: 236.

Lesson, R. P.

1828. Manuel d'ornithologie. Paris: Roret, 1: 1–421; 2: 1–448.

Asturinae, BUPHAGINAE, CHIONIDAE, Eurystominae, Harpiinae, MENURIDAE, Morphninae, MUSOPHAGIDAE, Philedonidae, Serpentariidae, SITTIDAE, TROGONIDAE

1831a. Traité d'ornithologie, ou tableau méthodique des ordres, sous-ordres, familles, tribus, genres, sous-genres, et races d'oiseaux. Paris: F.G. Levrault, xxxii + 659 pp.

EURYLAIMIDAE, Mainatidae, MEGAPODIIDAE

1831b. Illustrations de zoologie. Paris: Arthus Bertrand, not paginated.

[Family names used in this work are not based on the name of a type genus, as is the case in many, but not all, of Lesson's other publications.]

1843. Index ornithologie. L'Echo du Monde Savant, 10^{e} Année, No. 3, col. 60–63.

Herpetotherinae
L'Herminier, F. J.
1827. Recherches sur l'appareil sternal des oiseaux. Mémoires Soc. Linn., Paris 6: 3–93.
[Family names used in this work are not based on the name of a type genus.]
Lilljeborg, W.
1866. Outlines of a systematic review of the class of birds. Proc. Zool. Soc. London, pp. 5–20. [Reprinted, 1872, Annual Report Smithsonian Inst. for 1865, pp. 436–450].
Hybreinae
Linsley, E. G.
1942. The present status of entomological nomenclature. J. Econ. Entomol. 35: 758–761.
Linsley, E. G. and R. L. Usinger
1953. Document 3/10. Bull. Zool. Nomencl. 8(6/9): 187. [July 1953].
Livezey, B. C.
1986. A phylogenetic analysis of recent anseriform genera using morphological characters. Auk 103: 737–754.
Thalassornithinae
Low, G. C.
1924. The literature of the Charadriiformes from 1894 to 1924, with a classification of the order and lists of the genera, species and subspecies. London: Wheldon & Wesley.
Lobibyxinae
Lowe, P. R.
1915. Studies in the Charadriiformes. I. Ibis, pp. 609–616.
Eroliinae
1922. On the significance of certain characters in some charadriine genera, with a provisional classification of the order Charadriiformes. Ibis, pp. 475–495.
Rhynchaeidae
1938. Some anatomical and other notes on the systematic position of the genus *Picathartes*, together with some remarks on the families Sturnidae and Eulabethidae. Ibis 80: 254–269.
PICATHARTINAE
1949. On the position of the genus *Zavattariornis*. Ibis 91: 102–104.
Zavattariornithidae
Lynn, J., and A. Jay
1981. The complete Yes Minister. The diaries of a cabinet minister by the Right Hon. James Hacker MP. New York: Harper & Roe.
Lyon, M. W.
1920. Family and subfamily names in zoology. Science 52: 291–292.
MacGillivray, W.
1837. A history of British birds (indigenous and migratory). London: Scott, Webster & Geary, 1: xv + 631 pp.
[MacGillivray follows N. A. Vigors's (1825a) classification in these volumes.]
Thremmophilinae
1839. A history of British birds (indigenous and migratory). London: Scott, Webster & Geary, 2: xii + 503 pp.
Myrmotheridae
1840. A history of British birds (indigenous and migratory). London: Scott, Webster & Geary, 3: xii + 768 pp.
1852a. A history of British birds (indigenous and migratory). London: Scott, Webster & Geary, 4: xxviii + 700 pp.
Pluvialinae
1852b. A history of British birds (indigenous and migratory). London: W.S. Orr, 5: xx + 688 pp.
Merganserinae
MacLeay, W. S.
1819–21. Horae entomologicae, or essays on the annulose animals. London: S. Bagster, 1 (Part 1): xxxi + 160 pp.; 1 (Part 2): 161–524 pp.
[W. S. MacLeay (1792–1865) never held a post as a zoologist, but was in the British diplomatic service in France and later in Cuba from 1814 to 1836; he retired from public service in 1837. Because of health reasons, MacLeay decided to join the rest of his family in Australia in 1839; his father went there in 1825 as Colonial Secretary to the government of New South Wales. William S. MacLeay continued the work of his father, who established a private museum and was also instrumental in founding the Australian Museum in Sydney, until his death in 1865. The private collection of the MacLeays went to a cousin of W. S. MacLeay, a Sir William John MacLeay, who expanded it greatly and finally donated it to the University of Sydney in 1890 shortly before his death in 1891. *See* Fletcher, 1893 and Stanbury and J. Holland, 1988, for additional comments on the important contributions to Australian natural history, including the founding of the museum in Sydney, by members of the MacLeay family.]
1825. Remarks on the Identity of certain general laws which have been lately observed to regulate the natural distribution of insects and fungi. Trans. Linn. Soc. London 14(3): 46–68.
[Read 5 November 1822. On page 62, MacLeay states that he developed the quinary system in 1817, but only published it in 1819 in his "Horae Entomologicae".]

Mannucci P., and A. M. Simonetta
1978. Is *Caloramphus fuliginosus* (Aves) a capitonid?. Atti Soc. Tosc. Nat. Mem., ser. B, 85: 115–130.
Calorhamphidae
Marshall, C. H. T., and G. F. L. Marshall
1870. Notes on the classification of the Capitonidae. Proc. Zool. Soc. London, pp. 117–120.
Pogonorhynchidae
Martorelli, G.
1900. Nota ornitologica sullo *Spiziapteryx circumcinctus* (Kaup). Atti Soc. Ligust. Sci. Nat. Geogr. 10: 4–11.
Spiziapteryginae
Mathews, G. M.
1910. On some necessary alterations in the nomenclature of birds. Novit. Zool. 17: 492–503.
1912a. A reference-list to the birds of Australia. Novit. Zool. 18: 171–455.
BURHINIDAE, Cacatoinae, Catharactinae, Opopsittini, Tracheliinae, TYTONIDAE
1912b. On the generic name of the Barn-owl. Austral Avian Rec. 1: 104.
[Mathews provided reasons why he accepts the name *Tyto* Billberg 1828, but he did not use the name Tytonidae.]
1912–13. The birds of Australia. London: Witherby, 2: xiv + 527 pp. [1912, i–xiv + 478; 1913, 479–527].
HYDROBATIDAE
1913a. On the generic names *Ibis* Lacépède and *Egatheus* Billberg. Auk 30: 92–95.
Plegadinae
1913b. A list of the birds of Australia. Containing the names and synonyms connected with each genus, species, and subspecies of birds found in Australia, at present known to the author. London: Witherby, xxvii + 453 pp.
[Psophiinae]
1913–14. The birds of Australia. London: Witherby, 3: xvii + 512 pp. [1913, i–xvii + 385; 1914, 386–512].
Morinellinae, ROSTRATULIDAE
1916–17. The birds of Australia. London: Witherby, 6: xix + 516 pp. [1916, i–xix + 104; 1917, 105–516].
[Kakatoeinae], Leptolophinae, Polytelini, Proboscigerinae
1918–19. The birds of Australia. London: Witherby, 7: xii + 499 pp. [1918, i–xii + 394; 1919, 395–499].
Eudynameinae
1919–20. The birds of Australia. London: Witherby, 8: xiv + 316 pp. [complete volume published in 1920].
Gerygoninae, PETROICIDAE, Seisurinae
1920–25. Supplements to the birds of Australia. London: Witherby; 1920. Suppl. 1: iv + 116; 1923. 2: 117–156; 1924. 3: vii–viii + 157–244; 1925. 4 & 5, Bibliography: viii + 149.
[The bibliography, parts 4 and 5, is a most useful source of information on details, including dates of publication of systematic papers in ornithology.]
Polophilinae, STRUTHIDEINAE
1921–22. The birds of Australia. London: Witherby, 9: xiv + 518 pp. [1921, i–xiv + 241; 1922, 242–518].
Cinclosomatidae
1925. Bibliography of the birds of Australia. *See* Mathews, 1920–25, Suppl. Nos. 4 & 5.
1925–27. The birds of Australia. London: Witherby, 12: xii + 454 pp. [1925, i–xii + 225; 1927, 226–454].
CORCORACINAE
1927–30. Systema avium Australasianarum. London: Wheldon & Wesley; 1927. Pt 1: xvii + 1–426, 1930. 2: iv + 427–1048.
GRALLINIDAE, Traversiidae, Xenicornithidae
1946. A working list of Australian birds, including the Australian quadrant and New Zealand. Sydney: Shepherd & Newman, 184 pp.
Acanthorhynchidae, Alecturidae, Amytornithidae, Aphelocephalinae, Biziurinae, Capellinae, Cheniscinae, Eopsaltriidae, Mirafridae, MOHOUINAE, Philesturnidae, Phoebetriidae, Phylidonyridae, Philemonidae, Sericornithinae
Mathews, G. M., and T. Iredale
1913. A reference list of the birds of New Zealand. Ibis, pp. 201–263; 402–452.
Bowdleriinae, Creadionidae
1918. A forgotten ornithologist. Austral Avian Rec. 3: 142–158.
[Discussion of F. P. von Jarocki's 1821 volume on birds].
1920a. Avian taxonomy. Austral Avian Rec. 4: 29–48.
Amazonini, Heteralochidae, Sphenostomidae, Sphecotheridae
1920b. A name-list of the birds of New Zealand. Austral Avian Rec. 4: 49–64.
1920c. A name-list of the birds of Australia. Austral Avian Rec. 4: 65–113.
Matschie, P.
1902. Vorbemerkung [to the rules of zoological nomenclature]. pp. 929–932. *In* P. Matschie (ed.), Verhandlungen des V Internationalen Zoologen Congress zur Berlin, 1901. Jena: G. Fischer.

Mayr, E.
1962. Family Paradisaeidae, birds of paradise. *In* Peters' Check-list of birds of the world 15: 181–204. Cambridge, MA: Mus. Comp. Zool., x + 315 pp. [*See* also Bock, 1963].
CNEMOPHILINAE
1969. Principles of Systematic Zoology. New York: McGraw-Hill, xi + 428 pp.
1986. Family Eopsaltriidae. *In* Peters' Check-list of birds of the world 11: 556–583. Cambridge, MA: Mus. Comp. Zool., xii + 638 pp.
1989a. Attaching names to objects. *In* M. Ruse (ed.), What the philosophy of biology is—Essays for David Hull, pp. 219–227. Dordrecht, Netherlands: Kluwer Academic.
1989b. Commentary—A new classification of the living birds of the world. Auk 106: 508–512.
Mayr, E., and D. Amadon
1951. A classification of recent birds. Am. Mus. Novitates 1496: 42 pp.
PITYRIASEINAE, Pyrrhuloxiinae, SALPORNITHINAE
Mayr, E., and P. D. Ashlock
1991. Principles of Systematic Zoology. Second Edition. New York: McGraw-Hill.
Mayr, E., and W. J. Bock
1994. Provisional classifications versus standard avian sequences: Heuristics and communication in ornithology. Ibis 136: 12–18.
Mayr, E., E. Eisenmann, and K. C. Parkes
1984. Threskirnithidae Richmond, 1917 (Aves): Application to place on official list of family-group names in zoology and to give precedence over Plataleinae Bonaparte, 1838, and other competing family-group names. Z.N.(S.) 2136. Bull Zool. Nomencl. 41(4): 240–244.
Mayr, E., A. Keast, and D. L. Serventy
1964. The name *Cacatua* Brisson, 1760 (Aves): Proposed validation under the plenary powers. Z.N.(S.) 1647. Bull. Zool. Nomencl. 21(5): 372–374.
Mayr, E., E. G. Linsley, and R. L. Usinger
1953. Methods and principles of systematic zoology. New York: McGraw-Hill, ix + 328 pp.
Mayr, E., R. A. Paynter, and M. A. Traylor
1968. Family Estrildidae, waxbills, grass finches, and mannikins. *In* Peters' Check-list of birds of the world 14: 306–390. Cambridge, MA: Mus. Comp. Zool., x + 433 pp.
POEPHILINAE
Mayr, E. et al.
1962. Report of the by-laws committee. Bull. Zool. Nomencl. 19: 358–374.
McAlpine, D. K.
1979. The correct name and authorship for Wallace's Standard Wing (Passeriformes, Paradiseidae). Bull. Br. Ornithol. Club 99(3): 108–110.
McAtee, W. L.
1921. The selection of family names in zoology. J. Washington Acad. Sci. 11: 230–235.
McGregor, R. C.
1909–10. A manual of Philippine birds. Manila: Bureau of Printing, 1909. Part 1. Galliformes to Eurylaemiformes. x + 192 pp.; 1909 (1910). Part 2. Passeriformes. xvi + 413–588 pp.
Muscadivorinae
1920. Index to the genera of birds. Bureau of Science, Dept. of Agriculture and Natural Resources, Manila, Publ. No. 14, 185 pp.
Mearns, B., and R. Mearns
1988. Biographies for birdwatchers. The lives of those commemorated in western Palearctic bird names. London: Academic Press, xx + 490 pp.
1992. Audubon to Xántus. The lives of those commemorated in North American bird names. London: Academic Press, xix + 588 pp.
Mees, G. F.
1969. A systematric review of the Indo-Australian Zosteropidae (Part III). Zool. Verhand. (Leiden), 102: 1–390.
Meinertzhagen, R. et al.
1952. Proposed use of the plenary powers to put an end to the confusion arising from the discordant use of the generic name "*Colymbus*" Linnaeus, 1758 (Class Aves). Bull. Zool. Nomencl. 9: 6–7.
Melander, A. L.
1929. The selection of family names. Proc. 4th Int. Congr. Entomol. (Ithaca)., 2: 657–663.
Melville, R. V.
1958a. Draft "Règles", Article 5, Section 1: Question of the aptness of the principle of "*stare decisis*" to the "Règles". Bull. Zool. Nomencl. 15(34/36): 1182–1184. [2 July 1958].
1958b. Document 27/9. Objection to the introduction of a "principle of conservation" into the "Règles". Bull. Zool. Nomencl. 15(37/38): 1247–1250 [7 July 1958].
1958c. Case No. 79. Draft "Règles", Article 29: Question of including in the revised

"Règles" Paris provisions on the organic rules of the commission not included in the draft "Règles". Clauses relating to the "Official Lists" and "Official Indexes", to the cancellation of "Opinions" for interpretative purposes and to the "Completeness of Opinions" rule. Bull. Zool. Nomencl. 15(37/38): 1207–1213. [7 July 1958].

1959. Section 12. Nomenclature. Including the report of the ICZN. *In* H. R. Hewer and N. D. Riley (eds.), Proceedings of the XVth International Congress of Zoology, London, 16–23 July 1958, pp. 903–916. London: Linnean Society of London.

1974. International Commission on Zoological Nomenclature. Report of Special Session held at Ustaaoset, Norway. September 1973 (Z.N.(G.) 166). Bull. Zool. Nomencl. 31: 66–101.

1977a. Opinion 1079. *Aglaja* Renier, [1807]; *A. depicta* Renier, [1807] and *A. tricolorata* Renier, [1807] (Mollusca: Gastropoda), rendered available under the plenary powers. Bull. Zool. Nomencl. 34: 16–20.

1977b. Opinion 1069. Correction of entry in official list of family-group names in zoology for name number 428 (Thraupidae). Bull. Zool. Nomencl. 33(3/4): 162–164.

1977c. Opinion 1068. Leptosomatidae in Aves and Nematoda: Resolution of homonymy arising from similarity in the names of the type-genera. Bull. Zool. Nomencl. 33 (3/4): 159–161.

1985. The family names for the storm petrels and the dippers. Bull. Zool. Nomencl. 42(4): 398–400.

Melville, R. V., and J. D. D. Smith

1987. Official lists and indexes of names and works in zoology. London: Int. Trust Zool. Nomencl., 366 pp.

Mengel, R. M.

1972. A catalogue of the Ellis collection of ornithological books in the University of Kansas libraries. Volume 1. A–B. Lawrence, KS: Univ. Kansas.

Merrem, B.

1813 [= 1816]. Tentamen systematis naturalis. Abh. königl. Acad. Wissen., Berlin, pp. 237–259.

[Family names used in this work are not based on the name of a type genus.]

Meyer, A. B.

1879. Index zu L. Reichenbach's Ornithologischen Werken. Berlin: R. Freidländer & Sohn, vii + 150 pp.

[Meyer provides an index to the generic names used by Reichenbach and attempts to date the publication of the several works of Reichenbach. Meyer, along with others, pointed out that it is simply not possible to date the publication of Reichenbach's ornithological publications with any accuracy.]

Miller, W. deW.

1915. Notes on ptilosis, with special reference to the feathering of the wing. Bull. Am. Mus. Nat. Hist. 34: 129–140.

Hylomanidae

1922. [Remarks on the Ramphocaeninae]. Auk 39: 88.

Ramphocaeninae

Milne Edwards, A., and A. Grandidier

1879. Histoire naturelle des oiseaux. *In* A. Grandidier (ed.), Histoire physique, naturelle et politique de Madagascar. Vol. 12, Tome 1, Texte, 779 pp. Paris: Imprimerie Nationale.

Macheiramphinae, Phyllastrephidae

Michener, C. D.

1953. Document 3/35. [On family-group names in zoology. Statement of the views of the American Committee on Entomological Nomenclature]. Bull. Zool. Nomencl. 8(6/9): 263–269. [July 1953].

1986. Family-group names among bees. J. Kansas Entomol. Soc., 59: 219–234.

Möhring, P. H. G.

1758. Geslachten der Vogelen. (translated and edited by Nozeman and Vosmaer), Amsterdam, 97 pp.

[This is a direct translation from German into Dutch of Möhring, P. H. G., 1752. Avium genera. Bremen, 88 pp. The 1752 book is a pre-Linnaean work, and its translation and publication is 1758 is not sufficient to validate this work for purposes of zoological nomenclature. The 1758 translation was rejected for purposes of zoological nomenclature by the ICZN (Opinion 241, issued 21 May 1954; *see* Hemming, 1954b) and again in 1967 (Opinion 801, issued 23 December 1966; see China, 1967); this book is Work No. 6 in the Index of Rejected Works for Zoological Nomenclature (China, 1966d) and is listed under Nozeman and Vosmaer who are the translators, not under Möhring. In similar fashion Möhring, 1758 is listed under Nozeman and Vosmaer, 1758 in Melville and Smith, 1987, p. 319, which does not list opinion 801. The second decision by the ICZN (1967) to declare invalid for purposed of nomenclature the 1758 translation of Möhring's 1752 volume was

doubtlessly because the earlier Opinion 241 on Möhring, 1758 was listed under Nozeman and Vosmaer, and no one thought to look for this work under these translators. I made the same error early in this study when I was concerned about the availability of the Möhring 1758 names and believed that no action had been taken on this volume because I looked it up under Möhring, not Nozeman and Vosmaer in the Official Indexes.]

Moore, R. C.
1953. Document 3/25. [On family-group names in zoology]. Bull. Zool. Nomencl. 8(6/9): 213–229. [July, 1953].

Morony, J. J., Jr., W. J. Bock, and J. Farrand, Jr.
1975. Reference list of the birds of the world. New York: Am. Mus. Nat. Hist., x + 207 pp.

Müller, J.
1846. Ueber die bisher unbekannten typischen Verschiedenheiten der Stimmorgane der Passerinen. Abh. königl. Akad. Wissen., Berlin, pp. 321–391.
Scytalopodidae

Müller, J. W. v.
1865. Beiträge zur Geschichte Statistik und Zoologie von Mexico. Vol. 3. Reise in den Vereinigten Staaten, Canada und Mexico. Leipzig: F. A. Brockhaus, vii + 643 pp.
Thalassidromidae

Mulsant, E.
1875. Catalogue des oiseaux-mouches, ou colibris. Lyon: H. Georg, 32 pp.
Acesturinae, Amalasiinae, Belloninae, Calliphloxinae, Calyptinae, Dorichinae, Eulampinae, Eupogoninae, Helianctininae, Heliodoxinae, Ionolaeminae, Microcherinae, Panychlorinae, Polemistriinae, Primnacanthinae, Schistinae, Urostictinae

Mulsant, E., J. Verreaux, and E. Verreaux
1866. Essai d'une classification méthodique des trochilidés ou oiseaux-mouches. Mém. Soc. Impér. Sci. Nat., Cherbourg 12: 149–242.
Adelomyiinae, Aglaeactinae, Amathusiinae, Avocettininae, Calliperidiinae, Chlorolampinae, Chrysolampinae, Clytolaeminae, Diphlogeninae, Eriocneminae, Euclosiinae, Leucoliinae, Ornysmiinae, Oxypogoninae, Platurinae, Selasphorinae, Thaluraniinae, Zephyritinae

Murray, J. A.
1888–90. The avifauna of British India and its dependencies. London and Bombay: Educational Society's Press; 1888. 1: xxiv + viii + 325 pp.; 1890. 2: vii + xvii + 838 + 42 pp.
Zootherinae

Myers, G. G., and A. E. Levitan
1962. Generic classification of the high-altitude pelobatid toads of Asia (*Scutiger*, *Aeluropryne*, and *Oreolalax*). Copeia 1962 (2): 287–291.

Neave, S. A.
1939–75. Nomenclator zoologicus. A list of the names of genera and subgenera in zoology from the tenth edition of Linnaeus to the end of 1935. Zool. Soc. London; 1939. 1 (A–C): xiv + 957 pp.; 1939. 2 (D–L): 1025 pp.; 1940. 3 (Q–Z and Supplement): 758 pp.; 1940. 5 (1936–1945): 308 pp.; 1966. 6 (1946–1955): 329 pp., (M. A. Edwards and A. Tindell, eds.); 1975. 7 (1956–1965): 374 pp., (M. A. Edward and H. Gwynne Vevers, eds.).

Needham, J. G.
1910. Practical nomenclature. Science 32: 295–300.
1911. The law that inheres in nomenclature. Science 33: 813–816.
1928. Scientific names. Science 71: 26–28.

Newton, A.
1875. Birds. *In* Encyclopaedia Britannica. 9th Edition, Edinburgh: Adam and Charles Black, 3: 699–778.
Atrichiidae
1876. On the assignment of a type to Linnaean genera, with special reference to the genus *Strix*. Ibis, pp. 94–105.
1885. Ornithology. *In* Encyclopaedia Britannica. 9th Edition, Edinburgh: Adam and Charles Black, 18: 2–50.
1896. A dictionary of birds. London: Adam and Charles Black, xii + 1088 pp.
Acanthidosittidae

Newton, A. F., Jr., and M. K. Thayer
1992. Current classification and family-group names in Staphyliniformia (Coleoptera). Fieldiana, Zoology, n. ser., 67: 92 pp.

Nitzsch, C. L.
1829. Observationes de avium arteria carotide communi. Halle, 36 pp. [Reprinted in 1867 as Nitzsch's Pterylography. The Ray Society for the Year 1866, P. L. Sclater (ed.), London: Robert Hardwicke, pp. 165–175].
FULICINAE

Nozeman, C., and A. Vosmaer
1758. *See* Möhring, 1758.
[Nozeman and Vosmaer are the translators of Möhring's 1752 book Avium genera into Dutch which was published in 1758 as Geslachten der Vogelen. This book is listed under the Nozeman and Vosmaer in the ICZN Official Index of Rejected and Invalid Works in

Zoology, *see* Melville, R. V., and J. D. D. Smith, 1987.]

Oates, E. W.

1889–90. Birds. *In* W. T. Blanford (ed.), The fauna of British India, including Ceylon and Burma. London: Taylor and Frances; 1889. 1: xx + 556 pp.; 1890. 2: x + 407 pp.

Sibiinae

Oberholser, H. C.

1899. Some untenable names in ornithology. Proc. Acad. Nat. Sci. Philadelphia 59: 201–216.

1906. The status of the generic name *Hemiprocne*. Proc. Biol. Soc. Washington 19: 67–70.

HEMIPROCNIDAE

1917a. The birds of Bawean Island, Java Sea. Proc. U.S. Natl. Mus., 52: 183–189.

1917b. Ornithology.—Diagnosis of a new laniine family of Passeriformes. J. Washington. Acad. Sci. 9: 180–181.

Tyladidae (proposed as Tylidae)

1919a. Ornithology.—Spizixidae, a new family of pycnonotine Passeriformes. J. Washington. Acad. Sci. 9: 14–16.

Spizixidae

1919b. The family name of the American Wood Warblers. Proc. Biol. Soc. Washington 32: 46.

Compsothlypidae

1919c. The names of the subfamilies of Scolopacidae. Proc. Biol. Soc. Washington 32: 200.

Canutinae

1919d. Ornithology.—Grandalidae, a new family of turdine Passeriformes. J. Washington. Acad. Sci. 9: 405–407.

Grandalinae

1920. The nomenclature of families and subfamilies in zoology. Science, 52: 142–147.

1921. *Textor* Temminck versus *Alecto* Lesson. Proc. Biol. Soc. Washington 34: 78–79.

Alectuidae

Ogilvie Grant, W. R.

1892. Suborder Bucerotes. *In* R. B. Sharpe (ed.), Catalogue of the birds in the British Museum, pp. 347–428. 17: xi + 522.

Bucoracidae

Oliver, W. R. B.

1930. New Zealand birds. Wellington, Fine Arts (N.Z.), viii + 541 pp.

Pachyptilidae

Olphe-Galliard, L.

1857. Versuch eines natürlichen Systems der Vögel. Naumannia 7: 151–177.

Ruticillinae

1884–91. Contributions à la faune ornithologique de l'Europe occidentale. 4 vol. Bayonne: Lassere.

[The four volumes are composed of separate fascicles which are dated and are paginated only within the fascicles. The fascicles were not issued in any particular order relative to their numbering. The title pages for all four volumes bear the date 1896 which is well after the final fascicle appeared.]

Allidae, Alsoecinae, APODIDAE, Ardeolini, Biblidinae, Brantinae, Bubulcini, Cerchneinae, Chauliodinae, Chelidoninae, Clivicolinae, Crecinae, Cyaneculinae, [Dendrodrocopini], Ephialtinae, GALLINAGININAE, Galeriddidae, Glaucionettinae, Herodiini, Hypolaidinae, Hypotriorchinae, Ixocossyphinae, Kazarkinae, Lyrurinae, Machetinae, Melanocoryphinae, Pastorinae, PICOIDINI, Plectrophenacinae, REMIZIDAE, Spatulinae, Spininae, Tetrastinae

Olson, S. L.

1985. The fossil record of birds. *In* D. S. Farner, J. R. King, and K. C. Parkes (eds.), Avian biology, 8: 79–238. New York: Academic Press.

1987. On the extent and source of instability in avian nomenclature, as exemplified by North American birds. Auk 104: 538–542.

1991. Remarks on the fossil record and suprageneric nomenclature of barbets (Aves: Ramphastidae). Bull. Br. Ornithol. Cl. 111(4): 222–225.

Pallas, P.

1811. Zoographia Rosso-Asiatica. Imp. Acad. Sci., Petersburg, Part 1: xxii + 568 pp.; 2: vii + 374 pp.

[Pallas used a old system of classification, similar to if not identical to that of Linnaeus. His nomenclature is difficult to figure out, but appears to have names for orders and for genera and species. The names under these of the orders, numbered up to xlviii appear to be generic plurals as headings to broad Linnaean genera. In no way can any of Pallas's names be regarded as available family-group names.]

Payne, R. B., and C. J. Risley

1976. Systematics and evolutionary relationships among the herons (Ardeidae). Misc. Publ., Mus. Zool., Univ. Michigan, 150: 115 pp.

Zebrilini

Peters, J. L.

1931. Check-list of birds of the world. Cambridge, MA: Mus. Comp. Zool., 1: xviii + 345 pp.

Nyrocinae, Polihieracinae

1934. Check-list of birds of the world. Cam-

bridge, MA: Mus. Comp. Zool., 2: xvii + 401 pp.

1955. Check-list of birds of the world. Cambridge, MA: Mus. Comp. Zool., 5: xi + 306 pp.

Peters, J. L., E. Mayr, J. C. Greenway, Jr., and others, eds.

1931–86. Check-list of birds of the world. Cambridge, MA: Mus. Comp. Zool., vol. 1–15.

Poche, F.

1904. Ein bisher nicht berücksichtigtes zoologisches Werk aus dem Jahre 1758, in dem die Grundsätze der binären Nomenklatur befolgt sind. Zool. Anz. 27: 495–510.

[All family-group names proposed by Poche in this paper are included for the sake of completeness. A number of these names are based on generic names proposed by Möhring, 1752 and are hence unavailable; see P. H. G. Möhring, 1758.]

Anorthuridae, Aquatilidae, [Atagenidae], [Buteonini], [Celidae], [Cepphidae], Craxireginae, Cyphidae, Dypsicleidae, Erythroscelini, [Graculinae], Melanopelargidae, [Merulidae], [Nisinae], [Palamedaeidae], [Ptynginae], [Raphidae], THRESKIORNITHIDAE, Urocoliidae

Prum, R. O.

1988. Phylogenetic interrelationships of the barbets (Aves: Capitonidae) and toucans (Aves: Ramphastidae) based on morphology with comparisons to DNA-DNA hybridization. Zool. J., Linn. Soc., London 93: 313–343.

Gymnobucconidae, Semnornithidae, Trachyphonidae

1992. Syringeal morphology, phylogeny, and evolution of the neotropical manakins (Aves: Pipridae). Am. Mus. Novitates 3043: 65 pp.

Ilicuridae, Machaeropteridae, Manacidae

1993. Phylogeny, biogeography, and the evolution of the broadbills (Eurylaimidae) and Asities (Philepittidae) based on morphology. Auk 110: 304–324.

Pseudocalyptomeninae

Pycraft, W. P.

1898. A contribution toward our knowledge of the morphology of the owls. Trans. Linn. Soc., London, 2nd ser., 7 (Zoology): 223–275.

Nyctalinae

1907. Contributions to the osteology of birds—Part IX. Tyranni; Hirundines; Muscicapae; Larii; and Gymnorhines. Proc. Zool. Soc. London, pp. 352–379.

CYCLARHIDINAE, VIREOLANIINAE

Rafinesque [-Schmaltz], C. S.

1815. Analyse de la nature, ou tableau de l'univers et des corps organisés. Privately printed, Palerme, 224 pp.

[Some question can be raised on whether this work was properly published under the rules of nomenclature because of the way that it was distributed. However the ICZN has accepted several of the family-group names proposed in this work and it is best to consider it as available for purposes of zoological nomenclature. A number of generic names are apparently nomina nuda. The ornithological section, pp. 61–72, 219, have been reprinted in The Auk 26: 37–55, 1909, *see* Richmond, 1909. In this work, Rafinesque clearly denotes families and subfamilies below his orders, using the headings of families and subfamilies in spite of the peculiar endings of the family-group names.]

ALCEDINIDAE, Anseriinae, BUCEROTIDAE, CORACIIDAE, CRACIDAE, HIRUNDINIDAE, LANIIDAE, LARIDAE, MERGINAE, MEROPIDAE, OTIDIDAE, PASSERIDAE, Pavonidae, PELECANIDAE, PIPRIDAE, Plotinae, PSITTACIDAE, RALLIDAE, SCOLOPACIDAE, STURNIDAE, TRINGINAE, Turacidae, TURDIDAE; the following names are unavailable as the name of the type genus is a nomen nudum: Platamphidae (Platamphus), Lophaliidae (Lophalia), and perhaps Anseriinae (Anseria); other family-group names are not based on the name of an included genus and hence have no nomenclatural status.

Rand, A. L.

1936. The rediscovery of the nuthatch *Daphoenositta* with notes on its affinities. Auk 53: 306–310.

Daphoenosittinae

Rand, A. L., and H. G. Deigan

1960. Family Pycnonotidae. *In* E. Mayr and J. C. Greenway, Jr. (eds.), Peters' Check-list of birds of the world, 9: 221-300. Cambridge, MA: Mus. Comp. Zool., xii + 506 pp.

Reichenbach, A. B.

1845. Practische Naturgeschichte des Menschen und der Thiere für Gebieldert aller Stände. Leipzig: Gebhardt & Reisland, 3: 1–528.

Reichenbach, H. G. L.

[1847–1855]. Die vollständigste Naturgeschichte des In-und Auslandes. Abt. II. Vögel. Dresden & Leipzig: Expedition der vollständigsten Naturgeschichte, 4 volumes in 7, 875 color plates + 1 volume of text.

[The publication arrangement and dates of publication of this work are most confusing. **All parts will be cited in order, regardless of probable date of publication, as listed in the Catalogue of Books in the British Museum and the Museum of Comparative Zoology library catalogues.** *See also* H. G. L. Reichenbach, 1870, who provided a list of his publications. The listed date of publication will be given in square brackets followed by the presumed date of publication. As pointed out by Meyer, 1879, it is almost impossible to be certain of the exact date of publication of the several parts of this work so that arguments of precise priority of some names proposed by Reichenbach with respect to other names, especially those of Bonaparte, becomes completely academic. A number of the names in the Reichenbach publications are dubious, but they have been accepted as long as the available name of a corresponding type genus existed. See separate parts for the new avian family-group names proposed in each.]

[1849] 1848. See below, before [1851] 1851c.

1849. [*See* Reichenbach, 1849–50].

1849–50. [Cited as 1849, 1850a, or 1849–50]. Die vollständigste Naturgeschichte des In-und Auslandes. Abt. II. Vögel, Band I. Avium systema naturale. Das natürliche System der Vögel. Vorläufer einer Iconographie der Arten der Vögel aller Welttheile. Dresden & Leipzig: Expedition der vollständigsten Naturgeschichte, viii + 36 + xxxi pp. and 100 uncolored plates.

[It is not clear whether this work is published as a single unit or in two separate parts, 1848 and 1849–50. If the latter, it is not clear exactly how it is divided. This work appears to be a general systematic introduction to Reichenbach's series of publications with this general title. Names proposed in this publication will be given priority over those proposed in other parts of Reichenbach's series. Family-group names are used on the plates which have been checked and included; these names are cited as 1849 or 1850a according to the cited date of publication of the plate. Those proposed in the text are cited as 1849–50.]

AEGITHALIDAE, Alectoridini, ANHINGINAE, Apiasteridae, [Ardeolidae], Avocettidae, Avocettulidae, Berniclinae, Boschinae, BOTAURINAE, CALIDRINAE, Cepphidae, Clangulinae, Colymbidae (type *C. cristatus*), Cygnopsidinae, Dafilinae, DENDROCYGNINAE, Dendronessinae, Ficedulinae, Hareldinae, Heteropodinae, Lobipodinae, Marecinae, Marilinae, Muscipetidae, Olorinae, Ostralegidae, Palumbinae, Percnopterinae, Peristerinae, PHALACROCORACIDAE, Polytminae, Porphyrioninae, Querquedulinae, Somateriinae, [Sulariidae], SULIDAE, Tachydrominae, TADORNINAE, [Triolidae], Xanthornidae

1850a. [See Reichenbach, 1849–50].

[1848] 1850b. Die vollständigste Naturgeschichte des In-und Auslandes. Abt. II. Vögel. Band III. Synopsis Avium. Part 1. Natatores. Dresden & Leipzig: Expedition der vollständigsten Naturgeschichte, 5 [= 14] pp. and 113 plates.

Puffinidae

[1848] 1851a. Die vollständigste Naturgeschichte des In-und Auslandes. Abt. II. Vögel. Band III. Synopsis Avium. Part 2. Grallatores. Dresden & Leipzig: Expedition der vollständigsten Naturgeschichte, 5 pp. and 75 plates.

[1847] 1851b. Die vollständigste Naturgeschichte des In-und Auslandes. Abt. II. Vögel. Band III. Synopsis Avium. Part 3. Rasores: Fulicariae et Rallariae. Dresden & Leipzig: Expedition der vollständigsten Naturgeschichte, 14 pp. and 34 plates.

[1851] 1862. Die vollständigste Naturgeschichte des In-und Auslandes. Abt. II. Vögel. Band III. Synopsis Avium. Part 4. Tauben und taubenartigen Vögel: Wallnister, Erdtauben, Baumtauben, Hocco's. Columbariae: Megapodinae, Peristerinae, Columbinae, Alectorinae. Dresden & Leipzig: Expedition der vollständigsten Naturgeschichte, 206 pp. and 75 plates.

Duculinae, Geophabinae, Geotrygoninae, Leipoidae, Leucotreroninae, Mesoenatidae, Myristicivorinae, Ocyphabinae, Osmotreroninae, Phalacrotreroninae, Phapitreroninae, Sphenocercinae, Vinagininae, Zonoenadinae

[1849] 1848. Die vollständigste Naturgeschichte des In-und Auslandes. Abt. II. Vögel. Band III. Synopsis Avium. Part 5. Gallinaceae. Dresden & Leipzig: Expedition der vollständigsten Naturgeschichte, 10 pp. and 119 plates.

Attagidae, Callipeplinae, Coturnicini, Cryptonychini, Francolinini, Nycthemerini, Pluvianinae, Satyrini, Urogallinae

[1851] 1851c. Die vollständigste Naturgeschichte des In-und Auslandes. Abt. II. Vögel. Band III. Synopsis Avium. Part 6. Handbuch der speciellen Ornithologie. Part 1 (Cont. viii). Alcedineae. Dresden & Leipzig: Expedition der vollständigsten Naturgeschichte, iv + 44 pp. and 44 plates

CERYLINAE, Ispidininae

[1852] 1852. Die vollständigste Naturgeschichte des In-und Auslandes. Abt. II. Vögel. Band III. Synopsis Avium. Part 6. Handbuch der speciellen Ornithologie. Part 2 (Cont. ix). Meropinae. Dresden & Leipzig: Expedition der vollständigsten Naturgeschichte, 45–144 pp. and 67 plates.

Glyciphilidae, Melittotheridae, Nyctiornithidae, Ptilotidae, Phlotridae, Tropidorhynchidae

[1853] 1853a. Die vollständigste Naturgeschichte des In-und Auslandes. Abt. II. Vögel. Band III. Synopsis Avium. Part 6. Handbuch der speciellen Ornithologie. Part 3 (Cont. x). Scansoriae: A. Sittinae. Dresden & Leipzig: Expedition der vollständigsten Naturgeschichte, 145–218 pp. and 43 plates.

[1853] 1853b. Die vollständigste Naturgeschichte des In-und Auslandes. Abt. II. Vögel. Band III. Synopsis Avium. Part 6. Handbuch der speciellen Ornithologie. Part 4 (Cont. xi). Scansoriae: B. Tenuirostres. Dresden & Leipzig: Expedition der vollständigsten Naturgeschichte, 219–336 pp. and 62 plates.

Arachnoraphididae, Chalcomitridae, Euchloridiidae, Hemignathinae

1853c. Aufzählung der Colibris oder Trochilideen in ihrer wahren natürlichen Verwandtschaft nebst Schlüssel ihrer Synonymik. J. Ornithol. 1 (Special Number): 1–24.

Docimastinae, Glaucidinae, Heliantheinae, Hylocharitinae, Lesbiinae, Metallurinae, Oreotrochilinae, Orthorhynchinae, Petasophorinae

[1854] 1854. Die vollständigste Naturgeschichte des In-und Auslandes. Abt. II. Vögel. Band III. Synopsis Avium. Part 6. Handbuch der speciellen Ornithologie. Part 5 (Cont. xii). Scansoriae: C. Picinae. Dresden & Leipzig: Expedition der vollständigsten Naturgeschichte, 337–434 pp. and 66 plates.

[1855] 1855a. Die vollständigste Naturgeschichte des In-und Auslandes. Abt. I. Vögel. Band 4. Part 6. Trochilinae. Dresden & Leipzig: Expedition der vollständigsten Naturgeschichte, 12 pp. and 177 plates.

[1851] 1862. See above, following [1847] 1851b.

1862–63. Die Singvögel als Fortsetzung der vollständigsten Naturgeschichte, und zugleich als Central Atlas für zoologische Gärten und für Thierfreunde. Dresden & Leipzig: Expedition der vollständigsten Naturgeschichte, 90 pp.; Nachweisung der abgebildeten und beschriebenen Arten. i–x pp. and li plates.

1870. Elenchus operum scriptorumque editorum ab Academiae Caesareae Leopoldino-Carolinae Germaniae Naturae Curiosorum. Dresden, x + 10 pp. [This publication provides citations to Reichenbach's works, but it does not always provide dates of publication, and it is not clear whether the list is complete.]

Reichenow, A.

1881. Conspectus psittacorum. Systematische Übersicht aller bekannten Papageienarten. J. Ornithol. 29: 1–49, 113–177, 225–289, 337–398.

MICROPSITTINAE, Pionini, Plissolophinae

1882–84. Die Vögel der zoologischen Garten. Leitfaden zum Studium der Ornithologie mit besonderer Berücksichtigung der in Gefangenschaft gehaltenen Vögel. Leipzig: L. A. Kittler; 1882. 1: xxx + 278 pp.; 1882–84. 2: xix + 456 pp.

[The dates for these volumes, especially that for the second are taken directly from the title pages of the two volumes examined in the Museum Koenig. This agrees with the information given in the Catalogue of Books in the British Museum and in Zimmer, 1926. But there is no evidence which part of the second volume was published in 1882 and which is 1884. All of the new names published in this work are in the second volume and are cited as 1884.]

Coccoborinae, Coccystinae, Geococcyginae, Hylactidae, [Psilorhinae], [Tectonarchidae]

1889. Systematisches Verzeichniss der Vögel Deutschlands und des angrenzenden Mittel-Europas. Berlin: Verlag d. Linnaea, 68 pp.

[Reichenow uses Colymbidae based on *Colymbus*, type *cristatus*.]

1894. *Colymbus* oder *Podiceps*? Ornithol. Monatsb. 2: 154–155.

[The history of these names is discussed but no family-group names are used.]

1900-5. Die Vögel Afrikas. Neudamm: Verlag J. Neumann; 1900-1. 1: Civ + 706 pp.; 1902–2. 2: xvi + 752 pp.; 1904–5. 3: xxv + 880 pp.; 1902–5. Illustrations—Atlas: 50 pp + 30 plates.

[Reichenow uses Colymbidae based on *Colymbus*, type *cristatus*.]

1902. Die Kennziechen der Vögel Deutschlands. Neudamm: Verlag J. Neumann.

[Reichenow uses Colymbidae based on *Colymbus*, type *cristatus*.]

1913–14. Die Vögel. Handbuch der systematischen Ornithologie. Stuttgart: F. Enke; 1913. 1: viii + 529 pp.; 1914. 2: viii + 628 pp.
Aratingini, Calypturidae, Cephalopteridae

Rheinwald, G.
1968. Die Mallophagengattung *Ricinus* De Geer 1778. Revision der ausseramerikanischen Arten. Mitt. Hamburg. Zool. Mus. Inst. 65: 181–326.
Erythropygiidae

Richardson, J.
1837. Report on North American Zoology. Report 6th Meeting, Br. Assoc. Adv. Sci. (Bristol, 1836) 5: 121–224.

Richmond, C. W.
1902. List of generic terms proposed for birds during the years 1890 to 1900, inclusive, to which are added names omitted by Waterhouse in his "Index generum avium." Proc. U.S. Natl. Museum 24: 663–729.
1908. Generic names applied to birds during the years 1901 to 1905, inclusive, with further additions to Waterhouse's "Index generum avium." Proc. U.S. Natl. Museum 35: 583–655.
Dromiceiidae, Microgouridae, PRUNELLIDAE
1909. A reprint of the ornithological writings of C.S. Rafinesque. Part 1, Auk 26: 37–55; Part 2, Ibid. 26: 248–261.
1917. Generic names applied to birds during the years 1906 to 1915, inclusive, with further additions and corrections to Waterhouse's "Index generum avium." Proc. U.S. Natl. Museum 53: 565–636.
Claravinae, Megalornithinae, Turdoidinae
1927. Generic names applied to birds during the years 1916–1922, inclusive, with additions to Waterhouse's "Index generum avium." Proc. U.S. Natl. Museum 70: 1–44.
1992. The Richmond index to the genera and species of birds. Boston, MA, G. K. Hall, 108 fiche cards.

Richter, R.
1948. Einführung in die Zoologische Nomenklatur durch Erläuterung der International Regeln. Frankfurt a.M.: W. Kramer, 252 pp.

Ride, W. D. L., A. J. Cain, R. Meinertzhagen, F. Hemming, and D. N. Noakes
1956. Proposed use of the plenary powers to validate the specific name "*punctata*" as the name for the Hottentot Teal (Class Aves). Bull. Zool. Nomencl. 12: 35–48.

Ridgway, R.
1873. Catalogue of the ornithological collection of the Boston Society of Natural History. Part II. Falconidae. Proc. Boston Soc. Nat. Hist. 16: 43–106.
Archibuteoninae, Geranospizinae, Ictiniinae, Micrasturinae, Nisinae, Urubitinginae
1901. The birds of North and Middle America. Bull. U.S. Natl. Mus. 50 (1): xxxi + 715 pp.
Ammodraminae, Calamospizinae, Calcarinae, CARDINALINAE, CATAMBLYRHYNCHINAE, Certhideinae, Chondestinae, Guiracinae, Haplospizinae, Oryzoborinae, Sporophilinae
1902. The birds of North and Middle America. Bull. U.S. Natl. Mus. 50 (2): xx + 834 pp.
Cacicinae, Cassidicinae, DOLICHONYCHINAE, Helinaiidae, Rhodinocichlinae, Trupialinae
1904. The birds of North and Middle America. Bull. U.S. Natl. Mus. 50 (3): xx + 801 pp.
NEOSITTINAE, Psaltriparidae
1906. Some observations concerning the American families of oligomyodian Passeres. Proc. Biol. Soc. Washington 19: 7–16.
OXYRUNCIDAE
1907. The birds of North and Middle America. Bull. U.S. Natl. Mus. 50 (4): xxii + 973 pp.
Calyptophilinae, TERSININAE, Zeledonidae
1911. The birds of North and Middle America. Bull. U.S. Natl. Mus. 50 (5): xxiii + 859 pp.
Automolinae, Dendrocinclidae, Drymornithidae, Margarornithinae, Pittasomatidae, Pithyidae, Pseudocolaptinae, Rhopoterpidae, Sittasomidae, Xiphocolaptidae
1914. The Birds of North and Middle America. Bull. U.S. Natl. Mus. 50 (6): xx + 882 pp.
Campetherini, Dryobatini, Malacoptilidae
1919. The Birds of North and Middle America. Bull. U.S. Natl. Mus. 50 (8): xvi + 852 pp.
Brachyramphidae, Synthliboramphidae

Riley, N. D.
1962. Secretary's note on "The constitution of the International Commission on Zoological Nomenclature. Bull. Zool. Nomencl. 19: 355–357.
1964. An appreciation of the late Frances Hemming, C.M.G., C.B.E., for many years secretary of the International

Commission on Zoological Nomenclature. Bull. Zool. Nomencl. 21: 402–404.

Ripley, S. D. and L. L. Scriber
1961. Ornithological books in the Yale University Library, including the library of William Robertson Coe. New Haven: Yale Univ. Press, 338 pp.

Roberts, A.
1922. Review of the nomenclature of South African birds. Ann. Transvaal Museum 8: 187–272.
Priniinae, Prodotiscidae
1947. Reviews and criticism of nomenclatural changes. Ostrich 18: 59–85.
Amblyospizinae, Anomalospizinae, Euplectinae, Philetairinae

Ronsil, R.
1948–49. Bibliographie ornithologique Francaise. Paris: Lechevalier; 1948. vol 1. Bibliographie. (vol. 8. Encyclopédie ornithologique). 534 pp.; 1949. Vol. 2. Abréviations des titres des publications periodiques. (Vol. 9. Encyclopédie ornithologique). 89 pp.

Sabrosky, C. W.
1939. A summary of family nomenclature in the order Diptera. Verh. 7th Int. Congr. Entomol. 1: 599–612.
1947. Stability of family names, some principles and problems. Am. Nat. 81: 153–160.
1953. Document 3/5. The correct names for families in zoology. Bull. Zool. Nomencl. 8(6/9): 171–176. [July 1953].
1954. Nomenclature of families and superfamilies. J. Paleontol., 28: 489–490.
1958. Document 27/8. Comment on the "principle of conservation". Bull. Zool. Nomencl. 15(37/38): 1244–1246. [7 July 1958].

Sabrosky, C. W., and R. I. Sailer
1948. A proposed petition to the International Commission on Zoological Nomenclature. Science 107: 543–544.

Salomonsen, F.
1951. A nomenclatural controversy: The genus *Colymbus* Linnaeus 1758. *In* Proc. Xth Int. Ornithol. Cong., pp. 149–154. Uppsala: Almqvist & Wiksells Boktryckeri AB.
1960. Report of the Standing Committee on Ornithological Nomenclature. *In* Proc. XIIth Int. Ornithol. Cong., Helsinki, 1958, pp. 30–43.

Salvadori, T.
1888. On the dates of publication of Bonaparte's 'Iconografia della fauna Italica.' Ibis, pp. 320–325.
[Concludes that the introduction to this work, which contains all of the newly proposed family-group names was published in 1841.]
1891. Catalogue of the Psittaci, or parrots. *In* R. B. Sharpe (ed.), Catalogue of the birds in the British Museum, 20: xviii + 658 pp.
Cyclopsittacini, Calopsittinae
1893. Catalogue of the Columbae, or Pigeons. *In* R. B. Sharpe (ed.), Catalogue of the birds in the British Museum, 21: xvii + 676 pp.
Ectopistinae
1895. Catalogue of the Chenomorphae (Palamedeae, Phoenicopteri, Anseres), Crypturi, and Ratitae. *In* R. B. Sharpe (ed.), Catalogue of the birds in the British Museum, 27: xv + 636 pp.
Chenonettinae

Salvin, O.
1882. A catalogue of the collection of birds formed by the late Hugh Erwin Strickland, M.A. Cambridge: Cambridge Univ. Press, xvi + 652 pp.
Acrocephalinae, Agapornithini

Schenk, E. T., and J. H. McMasters
1936. Procedure in taxonomy. Stanford: Stanford Univ. Press.
[The rules of zoological classification reprinted in this book is reprinted from the rules published in the Proc. Biol. Soc. Washington, 36: 75–104, with the addition of amendment to Art. 25. which is the important change made at the Budapest Congress, 1927. It does not include the relatively minor changes made at the Padua Congress, 1930.]

Schmidt, K. P.
1950. More on zoological nomenclature. Science 111: 235–236.

Schodde, R.
1975. Interim list of Australian songbirds. Melbourne: Royal Aust. Ornithol. Union, iv + 46 pp.
Pomatostominae

Sclater, P. L.
1854. A synopsis of the fissirostral family Bucconidae. Ann. & Mag. Nat. Hist. ser. 2, 8: 353–365; 474–484.
[*See* Goode, 1896, for a bibliography of the published papers of P. L. Sclater].
1855a. On the genus Culicivora of Swainson, and its component species. Proc. Zool. Soc. London, pp. 11–12.
1855b. Characters of some apparently new species of Bucconidae, accompanied by a geographical table of the family. Proc. Zool. Soc. London, pp. 193–196.
1858. Synopsis of the American ant-birds (Formicariidae). Part II. Containing the

Formicivorinae or ant Wrens. Proc. Zool. Soc. London, pp. 232–254.
Pteroptochidae

1862. Catalogue of a collection of American birds belonging to Philip Lutley Sclater. London: N. Trubner, xvi + 338 pp.
Attilinae, Cyanospizinae, Diplopterinae, DULIDAE, Henicocichlidae, [Procniatidae]

1874. On the Prionochili of British India. Ibis, pp. 1–3.

1875. Synopsis of the species of the subfamily Diglossinae. Ibis, pp. 204–221.
Diglossinae

1880a. Remarks on the present state of the systems avium. Ibis, pp. 340–350, 399–411. [Reprinted in the Bull. Nuttall Ornithol. Club, 4: 28–37;73–84, 1881].

1880b. List of the certainly known species of Anatidae, with notes on such as have been introduced into the zoological gardens of Europe, and remarks on their distribution. Proc. Zool. Soc. London, pp. 496–536.
ANSERANATINAE

1879–82. A monograph of the jacamars and puffbirds, or families Galbulidae and Bucconidae. London: R. H. Potter, liii + 171 pp.
Jacameropidae

1886. Catalogue of the Passeriformes, or perching birds, Fringilliformes: Part II, containing the families Coerebidae, Tanagridae, and Icteridae. *In* R. B. Sharpe (ed.), Catalogue of the birds in the British Museum 11: xvii + 494 pp.
Glossiptilinae, Lamprotinae, Phaenicophilinae

1888. Catalogue of the Passeriformes, or perching birds, Oligomyodae, or the families Tyrannidae, Oxyrhamphidae, Pipridae, Cotingidae, Phytotomidae, Philepittidae, Pittidae, Xenicidae, and Eurylaemidae. *In* R. B. Sharpe (ed.), Catalogue of the birds in the British Museum 14: xix + 494 pp.
Oxyrhamphidae, Ptilochloridae

1893. Notes on Paramythia montium and Amalocichla. Ibis, pp. 243–246.
Paramythiinae

1894. Review of Reichenow's list of German birds. Ibis, pp. 130–132.

Sclater, P. L., and O. Salvin

1873. Nomenclator avium neotropicalium. London: J. W. Elliot, viii + 163 pp.
Conopophagidae, Grallariidae, PHILYDORINAE

Sclater, W. L.

1924. Systema avium aethiopicarum. A systematic list of the birds of the Ethiopian region. Part 1, pp. 1–304; 1930: Part 2, pp. 305–922. London: British Ornithol. Union.
Aegypiinae

Scudder, S. H.

1882. Nomenclator zoologicus. An alphabetical list of all generic names that have been employed by naturalists for recent and fossil animals from the earliest times to the close of the year 1879. In two parts. 1. Supplemental List. 2. Universal Index. Bull. U.S. Natl. Mus. 19: xix + 340 pp.

Seebohm, H.

1877a. On the Phylloscopi or willow-warblers. Ibis, pp. 66–108.

1877b. On the Salicariae of Dr. Severtzoff. Ibis, pp. 151–156.

Selby, P. J.

1835. Natural history of pigeons. *In* W. Jardine (ed.), The naturalists library. Edinburgh: W. H. Lizars, 228 pp.
[In this work, Selby discussed the classification of pigeons in an informal way and stated that five (three ?) subfamilies can be recognized. However, as far as I could determine, Selby uses only the names Ptilinopodinae (Ptilinopi) and Carpophaginae (Carpophagae) and those in a rather off-handed way, but sufficiently so that he must be considered as the author of these names. However, as far as I can determine, Selby never uses a name Peristerinae or any other name based on the generic name *Peristera* in this work, and hence cannot be considered as the author of this family-group name as claimed by Brodkorb, 1963–78. Presumably Selby obtained his information on the classification of the pigeons from Swainson, but there is no evidence of this in his writings or from any of Swainson's papers.]
Carpophaginae, Ptilinopodinae

1836. Parrots. Ornithology, 6. *In* W. Jardine (ed.), The naturalists library. Edinburgh: W. H. Lizars, 187 pp.
[The two new names proposed in this work appear to be based on Swainson, 1837a, and it is not clear which worker should be cited as the author. It appears that Swainson should be recognized as the real authority responsible for the systematic conclusions on the classification of the parrots and that he shared his information with Selby, but Selby remains the proper author of these names.]
LORIINAE, PLATYCERCINI

1840. A catalogue of the generic and sub-generic types of the class Aves, birds, arranged according to the natural system; with separate lists, distinguishing the

various quarters of the globe in which they are to be procured. Newcastle: T. & J. Hodgson, 70 pp.

[This paper is quite rare and little known, but of great importance because Selby fixed a large number of generic types in it. Selby was a close friend of Swainson and was clearly influenced strongly by Swainson's taxonomic and nomenclatural decisions. The classification used in this work follows that of Swainson, 1836–7 closely. There is no indication that this publication appeared prior to Gray, 1840; Mathews, 1925, does not comment on this point. Nor does it matter because no established family-group names depend on this question. Therefore I have accepted Gray as the author of any family-group name published in 1840 by both Gray and Selby.]

EURYPYGIDAE, Himantopodidae

Sharpe, R. B.

1868–71. A monograph of the Alcedinidae: or, family of kingfishers. London, published privately.

1870a. On the Hirundinidae of the Ethiopian region. Proc. Zool. Soc. London, pp. 286–321.

Psalidoprocninae

1870b. Contributions to the ornithology of Madagascar.—Part I. Proc. Zool. Soc. London, pp. 384–401.

PHILEPITTIDAE

1881. Catalogue of the Passeriformes, or perching birds, *In* R. B. Sharpe (ed.), Catalogue of the birds in the British Museum. 6:

1883. Catalogue of the Passeriformes, or perching birds, Cichlomorphae: Part IV, containing the concluding portion of the family Timaliidae. *In* R. B. Sharpe (ed.), Catalogue of the birds in the British Museum 7: xvi + 698 pp.

Bradypterinae, Eremomelinae, Thamnobiinae

1891. A review of recent attempts to classify birds. 2nd Int. Ornithol. Congress, Budapest, 90 pp.

Ortygometridae, Podicidae

1896. Catalogue of the Limicolae. *In* R. B. Sharpe (ed.), Catalogue of the birds in the British Museum 24: xii + 794 pp.

Lobivanellinae, Peltohyatinae

1899–1909. Hand-list of the genera and species of birds. London: Br. Mus. (Nat. Hist.); 1899. 1: xxi + 303; 1900. 2: xv + 312; 1901. 3: xii + 367; 1903. 4: xii + 391; 1909. 5: xx + 694.

Aerocharitidae, Glyphorhynchidae, Ketupinae

Shaw, G., and J. F. Stephens

1809–26. General zoology or systematic natural history. Aves; 1809. vol. 7, (1 & 2); 1812. vol. 8, (1 & 2); 1815. vol. 9, (1 & 2; 1817). vol. 10, (1 & 2); 1819. vol. 11, (1 & 2); 1824. vol. 12, (1 & 2); 1825. vol 13, (1 & 2); 1825. vol. 14, Part 1 and General Index. London: G. Kearsley.

[J. F. Stephens authored these books starting with volume 9. Properly formed family-group names are used starting with volume 12 (2) in which Stephens states definitely that he adopts Vigors (1825a) family-group names which he follows exactly.]

Shelley, G. E.

1876–80. A monograph of the Nectariniidae or family of sun-birds. Privately published, London, cviii + 393 pp.

NEODREPANIDINAE

Shelley, G. E.

1891. Suborder Coccyges. *In* R. B. Sharpe (ed.), Catalogue of the birds in the British Museum, pp. 209–456, 19: xii + 484 pp.

NEOMORPHINAE

1896. The birds of Africa. London: R. H. Porter, 1: viii + 196 pp.

Hypositttidae, Laniariinae, Pratincolinae, PSEUDOCHELIDONINAE, Terpsiphonidae

1900. The birds of Africa. Comprising all the species which occur in the Ethiopian region. London: R. H. Porter, 2: vii + 348 pp.

Parisomatinae

Sherborn, C. D.

1902. Index animalium. Section 1. Cambridge: Cambridge Univ. Press, lix + 1195 pp.

1922–32. Index animalium. Section 2; 1922–4. 1 (A–B): cxxxi + 943 pp.; 1924–25. 2 (C): 944–1771; 1925–26. 3 (D–Gy): 1772–2880; 1927. 4 (H–Ly): 2881–3746; 1928. 5 (M–Ny): 3747–4450; 1929. 6 (O–Py): 4451–5348; 1930–1. 7 (Q–Sz): 5349–6357; 1931–32. 8 (T–Zy): 6358–7056; 1932–33. 9 (Epilogue, Index, Addenda): cxxxii–cxlvii + 1–1098 pp. Cambridge: Cambridge Univ. Press.

Short, L. L.

1982. Woodpeckers of the world. Greenville, Delaware: Delaware Mus. Nat. Hist., Monogr. Ser. No. 4: xviii + 676 pp.

Meiglyptini

Shufeldt, R. W.

1891. Some comparative osteological notes on the North American kites. Ibis, pp. 228–232.

Elanoidinae, Rostrhaminae

Sibley, C. G., and J. E. Ahlquist

1985a. The phylogeny and classification of the Australo-Papuan passerine birds. Emu 85: 1–14.

Dasyornithinae, Melanocharitinae, Oreoicidae, Stipituridae

1985b. The relationships of some groups of African birds, based on comparisons of the genetic material, DNA. *In* K.-L. Schuchmann (ed.), Proceedings of the symposium on African vertebrates, pp. 115–161. Bonn: Zool. Forschungsinst. u. Mus. Koenig, 583 pp.

Apalodermatidae, Lybiidae, Rhinopomastidae

1985c. The phylogeny and classification of the New World suboscine passerine birds (Passeriformes: Oligomyodi: Tyranni). *In* P. A. Buckley, M. S. Foster, E. S. Morton, R. S. Ridgely, and F. G. Buckley (eds.), Neotropical Ornithology. Ornithol. Monogr. 36: 396–428.

Mionectinae, Schiffornithidae

1990. Phylogeny and classification of the birds of the world. New Haven, CT: Yale Univ. Press, xxiii + 976 pp.

Sibley, C. G., and B. L. Monroe, Jr.

1990. Distribution and taxonomy of birds of the world. New Haven, CT: Yale Univ. Press, xxiv + 1111 pp.

Sibley, C. G., J. Ahlquist, and B. L. Monroe, Jr.

1986. An introduction on classification of living birds of the world. Mem. Beijing Nat. Hist. Museum 37: 9–14.

Batrachostomidae, Eurostopodidae, Harpactidae

1988. A classification of the living birds of the world based on DNA-DNA hybridization studies. Auk 105: 409–423.

Guirinae, Toxorhamphidae

Siegel-Causey, D.

1988. Phylogeny of the Phalacrocoracidae. Condor 90: 885–905.

Leucocarboninae

Simon, E.

1921. Histoire naturelle des Thochilidae (synonsis et catalogue). Paris: Encyclopédie Roret.

Agyrtrininae, Archilochinae, Augastinae, Bourcieriinae, Chalyburinae, Chlorostilboninae, Eupetomeninae, Eustephaninae, Eutoxerinae, Goldmaniinae, Heliomasterinae, Klaiinae, Loddigornithinae, Opisthoprorinae, Oreonymphinae, Phaeochroinae, Phaeoptilinae, Popelairiinae, Sapphinae, Spathurinae, Topazinae

Smythies, B. E.

1986. The birds of Burma. 3rd Edition. Liss, U.K., Nimrod Press, Ltd., xxxii + 432 pp.

Stanbury, P., and J. Holland (eds.)

1988. Mr Macleay's Celebrated Cabinet. The history of the Macleays and their museum. Sydney: Macleay Museum, Univ. of Sydney, 171 pp.

Staude, F.

1854. Grundriss eines natürlichen Systemes der Vögel. Für die Ordnung der ornitholog. Sammlung des Herzogl. Naturalienkabinets zu Coburg. Naumannia, pp. 311–319, 357–388.

Steering Committee, Nomenclature Discussion Group, U.S. National Museum, Washington, DC

1949. Basic issues in the controversy on zoological nomenclature. Science 110: 594.

1950. Zoological nomenclature. A reply. Science 112: 27–30.

Steiner, H.

1960. Klassifikation der Prachtfinken, Spermestidae, auf Grund der Rachenzeichnungen ihrer Nestlinge. J. Ornithol. 101: 92–112.

Amandavinae, Chloromuniinae, Cryptospizinae, [Didymostictinae], Granatininae, Lagonostictinae, LONCHURINAE, Zonaeginthinae

Stephens, J. F.

1824. [*See* Shaw, G. and J. F. Stephens, 1809–1826].

Stejneger, L.

1882. On some generic and specific appellations of North American and European birds. Proc. U.S. Natl. Mus. 5: 28–43.

[Claims that *Colymbus* should be used for grebes, based on Brisson, 1760, but does not use any family-group names. The author of this paper is Stejneger, not Ridgway, as claimed by P. L. Sclater, Ibis, pp. 130–132, 1894.]

1883. Remarks on the systematic arrangement of the American Turdidae. Proc. U.S. Natl. Museum 5: 449–483.

Platycichlinae, Sialiinae

1885. [Most articles on the individual avian families, although they are not separately signed]. *In* J. S. Kingsley (ed.), The Standard Natural History. Vol. 4. Birds. Boston: S. E. Cassino, vii + 558 pp.

ANHIMIDAE, ARENARIINAE, ATRICHORNITHIDAE, Enicurinae, [Micropodini], Suthorinae

1924. A chapter in the history of zoological

nomenclature. Smithson. Misc. Coll. 77(1): 1–21.

Stiles, C. W.

1898. [Report from the International Commission on Zoological Nomenclature]. Pp. 54–55. *In* A. Sedgwick (ed.), Proceedings of the Fourth International Congress of Zoology, Cambridge, 1898. London: Cambridge Univ. Press.

1902. [Report of the International Commission on Zoological Nomenclature]. Pp. 882–890. *In* P. Matschie (ed.), Verhandlungen des V Internationalen Zoologen Congress zur Berlin, 1901. Jena: G. Fischer.

1905. The International Code of Zoological Nomenclature as applied to medicine. Washington, DC: Hygienic Laboratory, Bull. 24.

1912. [Report of the International Commission on Zoological Nomenclature]. *In* R. Ritter von Stummmer-Traunfels (ed.), Verhandlungen VIII Internationalen Zoologen-Kongress zur Graz, 15–20 August 1910, pp. 320–329. Jena: G. Fischer.

[This report includes the first By-Laws of the ICZN (pp. 321–323) which actually constitute a constitution. These By-Laws of the ICZN are, to my knowledge the only ones published until a new Constitution and By-laws of the ICZN were published in the 1960's. Further, I know of no amendments published to these By-Laws until those published in the 1960s.]

1913. Suggested Amendments to the International Code of Zoological Nomenclature. Zool. Anz. 41: 37–47.

1929a. Proposed amendments: International rules of zoological nomenclature. Entomol. News 40: 329–333.

1929b. Annexe to Section IX.—Nomenclature zoologique. International rules of zoological nomenclature. *In* E. Csiki (ed.), Proceedings X Congrès International de Zoologie tenu à Budapest du 4 au 10 Septembre 1927, pp. 1583–1597. Budapest: Stephaneum S.A.

Stoll, N. R.

1961. Introduction. *In* N. S. Stoll et al. (eds.), International code of zoological nomenclature adopted by the XV International Congress of Zoology, pp. vii–xvii. London: Int. Trust for Zoological Nomenclature.

Storer, R. W.

1971. Classification of birds. *In* D. S. Farner, and J. R. King (eds.), Avian Biology, pp.1–18. New York and London: Academic Press, 1: xix + 586 pp.

Stresemann, E.

1927–34. Sauropsida: Aves. *In* Krumbach (ed.), Handbuch der Zoologie. Berlin und Leipzig: Walter de Gruyter, 7(2): xi + 899 pp.

1950. The development of theories which affected the taxonomy of birds. Ibis, 92: 123–131.

1975. Ornithology: From Aristotle to the present. Cambridge, MA: Harvard Univ. Press, xii + 432 pp. [Translation of 1951. Entwicklung der Ornithologie. Berlin: F. W. Peters].

Strickland, H. E.

1841. Commentary on Mr. G. R. Gray's "Genera of birds." 8 vol, London, 1840. Ann. Mag. Nat. Hist. 6: 410–422.

Vitiflorinae

1842a. Rules for zoological nomenclature. Report of the 12th meeting of the British Association held at Manchester in 1842. Br. Assoc. Adv. Aci. Rpt., 1842: 105–121.

1842b. On some new genera of birds. Ann. Mag. Nat. Hist. 8: 520–527.

PARDALOTINAE

1843. On the structure and affinities of *Upupa*, Lin., and *Irrisor*, Lesson. Ann. Mag. Nat. Hist. 12: 238–243.

Irrisoridae

1845. Report on the Recent Progress and Present State of Ornithology. Report 14th Meeting of the Br. Assoc. Adv. Sci., York 1844, pp. 170–221. London: J. Murray.

Strickland, H. E., and A. G. Melville

1848. The Dodo and its kindred; or the history, affinities and osteology of the dodo, solitaire, and other extinct birds of the Islands Mauritius, Rodrigeuz, and Bourbon. London: Reeve, Benham & Reeve, 141 pp.

Gnathodontinae

Strong, R. M.

1939–56. A bibliography of birds, with special reference to anatomy, behavior, biochemistry, embryology, pathology, physiology, genetics, ecology, aviculture, economic ornithology, poultry culture, evolution, and related subjects. Zool. Ser., Field Mus. Nat. Hist., vol. 25; 1939. Part 1. Author Catalogue. A–J. (Publ. 442), 1–464 pp.; 1939. Part 2. Author Catalogue. K–Z. (Publ. 457), 465–937 pp.; 1946. Part 3. Subject Index. (Publ. 581), 1–528 pp.; 1956. Part 4. Finding Index. (Publ. 870), 1–186 pp.

Sundevall, C. J.

1836. Ornithologiskt system. Kongl. Vetenskops Acad. Handl. for 1835: 43–130.

[This work bears the date 1835 on the title page, but was apparently published in 1836. In his 1872 paper, Sundevall refers to this paper as being published in 1835.]

Alcyoninae, Anabatinae, Aptenodytidae, Baritinae, CALLAEIDAE, CICONIIDAE, CINCLIDAE, Circinae, COLIIDAE, Cypselidae, Dacninae, Dicholophidae, Dysporidae, Epimachinae, Gymnopinae, Halieinae, Pitylinae, PLOCEIDAE, THINOCORIDAE, Uriidae

1872. Methodi naturalis avium disponendarum tentamen. [I referred to the translated edition, 1889. Sundevall's Tentamen. Translated and edited by F. Nicholson. London: R. H. Porter, xiii + 316 pp.].

ACANTHISITTIDAE, Androglossini, Arbelorhinidae, Arremoninae, Brachypteryginae, Camptolophinae, Catheturidae, Chalcophaninae, Chloridinae, Cissopinae, Cisticolinae, Copsychinae, Dendroicidae, Glaucidiinae, Heliangelinae, Hemithraupinae, Hypermetrinae, Hypsibemonidae, Megapeliinae, Myrmornithidae, Paictinae, Pericrocotidae, PLATYSTEIRINAE, Ptenoedinae, Ramphodontinae, Ramphodontinae, RHIPIDURIDAE, Toxostomidae, Zanclostominae

Sushkin, P. P.

1927. On the anatomy and classification of the weaver-birds. Bull. Am. Mus. Nat. Hist. 57: 1–32.

Sporopipinae

Swainson, W.

1820–23. Zoological illustrations, or original figures and descriptions of new, rare, or interesting animals, selected chiefly from the class of ornithology, entomology and conchology, and arranged according to their natural affinities. London, Three volumes (1820–1, ix + unpaginated; 1821–2, unpaginated; 1822–3, x + unpaginated).

[William Swainson (1789–1855; *see* Swainson, 1840: 338–352; Mearns and Mearns 1988: 359–364) had hoped for the position in the British Museum vacated by W. E. Leach in 1823 and was greatly disappointed when this position went to J. G. Children. He subsequently turned to writing and illustrating natural history books, being highly successful. Swainson's color illustrations of birds and other animals were probably the best of the early 19th century natural history illustrations (see those in Swainson and Richardson, 1831). Late in the 1830's his fortunes were reversed because of failure of a Mexican mining venture, and he had to modify his future plans considerably. Swainson had amassed a large private collection of birds and other animals in connection with his numerous writings, and in 1838 offered it for sale (*see* the statement on the "Swainsonian Museum" on the unpaginated end page in Swainson, 1838). His collections were sold to the Natural History Museum at Cambridge University (Mearns and Mearns, 1988) prior to Swainson's departure for New Zealand. In 1840, Swainson left the United Kingdom for New Zealand where he purchased a farm and spent the rest of his life there until his death in 1855, but Swainson made no further major contributions to avian classification during his 15 years in New Zealand.]

[This work must be distinguished from the later 1832–3 publication of the same title which differs only by the addition of "New Series". Family-group names are not used in this publication, although Swainson does use some generic plurals which are clearly generic plurals and not family-group names as shown by the discussion in the text accompanying plate 156. Apparently Swainson first used family-group names in his 1824 publication.]

1824. An inquiry into the natural affinities of the Laniadae, or shrikes; preceded by some observations on the present state of ornithology in this country. Zool. J. 1: 289–307.

[Concluding part of this paper was apparently never published.]

Edoliidae, MALACONOTINAE, Thamnophilidae

1825. On the characters and natural affinities of several new birds from Australia; including some observations on the Columbidae. Zool. J. 1: 463–484.

Ceblepyridae

1826. On the tyrant shrikes of America. Q. J. Sci., Lit. Arts 20: 267–285.

Drymophilidae

1827. On several groups and forms in ornithology, not hitherto defined. Zool. J. 3: 158–175, 343–363.

Scleruridae, TICHODROMINAE

1831 [= 1832]. *See* Swainson and Richardson, 1831 [= 1832].

1832–33. Zoological illustrations, or original figures and descriptions of new, rare, or interesting animals, selected chiefly from the class of ornithology, entomology and conchology, and arranged according to their natural affinities. New series. London: Baldwin & Cradock, unpaginated.

FLUVICOLINAE, [Macropodinae], Prionitidae, Psaridinae

1835. A treatise on the geography and classi-

fication of animals. London: Lardner Cabinet Cyclopaedia, Longman, vii + 367 pp.

Dididae

1836. Natural history and classification of birds. Vol. 1. London: Longman, 365 pp.

1837a. Natural history and classification of birds. Vol. 2. London: Longman, 398 pp.

Coccyzinae, CROTOPHAGINAE, Cymindidinae, INDICATORIDAE, Leptostominae, PHYTOTOMIDAE, Querulidae, Quiscalinae, VIREONIDAE

1837b. On the natural history and relationships of the family of Cuculidae or cuckoos, with a view to determine the series of their variation. Mag. Zool. Bot. 1: 213–225, 430–437.

OPISTHOCOMIDAE, Saurotherinae

1840. Taxidermy, with the biography of zoologists and notices of their works. London: Longman, Orme, Brown, Green, & Longmans, 392 pp.

[A useful source of information of early ornithological workers, including an autobiographical account.]

Swainson, W., and J. Richardson

1831 [= 1832]. Fauna boreali-americana. Part 2. The Birds. London: J. Murray, lxvi + 523 pp.

[Swainson is credited with all of the parts of this work dealing with the taxonomic system of birds, including the names for avian family-level taxa. His contribution stops abruptly on page 366 with reference to an explanation on page 328 where Swainson simply states that he will no longer comment on the relationships of the included species, but gives no reasons. The title page of this work bears the date of 1831, but it was published in 1832 according to Mathews, 1925.]

Agelaiinae, BOMBYCILLIDAE, Brachypodidae, Coccothraustinae, Coracinidae, Crateropodinae, Crypsirinidae, Culicivorinae, Dasycephalinae, Fregilidae, Fuligulinae, Glaucopididae, JYNGINAE, Lagopodinae, Lamprotornithinae, Leiothrichinae, MALURIDAE, Ocypteridae, Oidemiinae, Oxyrhynchidae, OXYURINAE, PACHYCEPHALIDAE, Philomelinae, PITTIDAE, Querulidae, Scaphidurinae, Setophagidae, Sylvicolidae, Totanini, Trichophoridae, TROGLODYTIDAE, [Tyrannulinae], VANGIDAE, Vermivoridae

Temminck, C. J.

1820–1840. Manuel d'ornithologie. Second Edition. Paris; 1820. 1: cxv + 439 pp.; 1820. 2: 440–940; 1835. 3: lxxiv + 305 pp.; 1840. 4: 306–691.

[Family names used in this work are not based on the name of a type genus.]

Temple, J. T.

1962. Case 2. The international code provisions on family-group names and their effects on Trilobite taxonomy (Z.N.(S.) 1538). Bull. Zool. Nomencl. 19: 338–344.

Traylor, M. T.

1968. *In* Mayr, Paynter, and Traylor, 1968.

Tubbs. P. K.

1992a. Opinion 1674. THRESKIORNITHIDAE Poche, 1904 (Aves, Ciconiiformes): given precedence over PLATALEIDAE Bonaparte, 1938 and EUDOCIMIDAE Bonaparte, 1854. Bull. Zool. Nomencl. 49(1): 97–99.

1992b. Opinion 1696. HYDROBATIDAE Mathews, 1912 (1865) (Aves, Procellariiformes): conserved. Bull Zool. Nomencl. 49(3): 250–151.

Usinger, R. L.

1972. Autobiography of an entomologist. San Francisco: Calif. Acad. Sciences, xiii + 330 pp.

Van Duzee, E. P.

1916. Priority in family names and related matters. Ann. Entomol. Soc. Am. 9: 89–93.

Van Tassel, R., and L. Van Meel

1962. René Verheyen (1907–1961). Notice biographique. Bull. Inst. R. Sci. Nat. Belgique 38(1): 1–14.

[Includes a complete bibliography of Verheyen's writing.]

Vaurie, C.

1972. Report of the standing committee on ornithological nomenclature. Proc. XVth Int. Ornithol. Cong., The Hague, 1968, pp. 12–14. Leiden: E. J. Brill.

1965. Memorandum on proposal to validate *Cacatua*. Bull. Zool. Nomencl. 22(3): 156–164.

Verheyen, R.

1953. Bijdrage tot de osteologie en de systematiek der Anseriformes. (Contribution à l'ostéologie et à la systematique des Ansériformes). Le Gerfaut 43: 373–497.

Bucephalinae, Callonettinae, Cyanocheninae, Neocheninae, Sarkidiornithinae, Sibirionettinae, Tachyerinae

1955. La systématique des Ansériformes basée sur l'ostéologie comparée. Bull. Inst. R. Sci. Nat. Belgique 31(35): 1–18; 31(36): 1–16; 31(37): 1–22; 31(38): 1–16.

Aiginae, Amazonettinae, Melanittinae
1956a. Les striges, les trogones et les Caprimulgi dans la systématique moderne. Bull Inst. R. Sci. Nat. Belgique 32(3): 1–31.
Semeiophorinae
1956b. Contribution à l'anatomie et à la systématique des Galliformes. Bull. Inst. R. Sci. Nat. Belgique 32(32): 1–24.
Afropavonini, Macrocephalidae, Pipilidae
1956c. Contribution à l'anatomie et à la systématique des touracos (Musophagi) et des coucous (Cuculiformes). Bull. Inst. R. Sci. Nat. Belgique 32(23): 1–28.
Carpococcyginae, Corythaeolidae, Criniferidae, Piayinae, Surniculinae, Taperinae, Tauracidae
1956d. Analyse du potentiel morphologique et projet d'une nouvelle classification des Psittaciformes. Bull. Inst. R. Sci. Nat. Belgique 32(55): 1–54.
Lathamini, LORICULINAE
1957a. Analyse du potentiel morphologique et projet de classification des Columbiformes (Wetmore 1934). Bull. Inst. R. Sci. Nat. Belgique 33(3): 1–42.
Cosmopeliinae, Gallicolumbinae, Hemiphaginae, Leucosarciinae, Megaloprepiinae, Oeninae, OTIDIPHABINAE, Trugoninae
1957b. Contribution au de'membrement de l'ordo artificiel des Gruiformes (Peters 1934). I. Les Ralliformes. Bull. Inst. R. Sci. Nat. Belgique 33(21): 1–44.
Lissotididae, Neotididae, Sarothrurinae
1958a. Contribution au de'membrement de l'ordo artificiel des Gruiformes (Peters 1934). IV. Les Turniciformes. Bull. Inst. R. Sci. Nat. Belgique 34(2): 1–18.
Moniidae
1958b. Analyse du potentiel morphologique et projet d'une nouvelle classification des Charadriiformes. Bull. Inst. R. Sci. Nat. Belgique 34(18): 1–35.
Lymnocryptinae, Philomachinae
1958c. Note sur la classification des Procellariiformes (Tubinares). Bull. Inst. R. Sci. Nat. Belgique 34(30): 1–22.
Macronectidae, Pagodromidae, Pterodromidae
1958d. Contribution à la systématique des Alciformes. Bull. Inst. R. Sci. Nat. Belgique 34(45): 1–15.
Cerorhincidae
1959a. Note sur la systématique de base des Lariformes. Bull. Inst. R. Sci. Nat. Belgique 35(9): 1–16.
Gygini
1959b. Contribution à l'anatomie et à la systématique de base des Ciconiiformes (Parker 1868). Bull. Inst. R. Sci. Nat. Belgique 35(24): 1–34.
Leptoptilidae
1959c. Révision de la systématique des Falconiformes. Bull. Inst. R. Sci. Nat. Belgique 35(37): 1–51.
Busarellinae, Buteogallinae, Coragypidae, Hamirostrinae, Harpyopseinae, Necrosyrtinae
1961. A new classification for the non-passerine birds of the world. Bull. Inst. R. Sci. Nat. Belgique 37(27): 1–36.
[This paper includes citations to almost all of Verheyen's papers on avian classification. See also Van Tassel and Van Meel, 1962.]

Vieillot, L. J. P.
1816. Analyse d'une nouvelle ornithologie élémentaire. Paris: Deterville, 70 pp.
[Family names used in this work are not based on the name of a type genus.]
1816–19. [Series of articles on birds, including articles under the headings of the names of most of the families]. Nouveau dictionnaire d'histoire naturelle. Paris: Deterville, 36 vols.
[The classification and the names for these families is the same at that used in Vieillot, 1825. These names are not properly based on the name of a type genus, even if they appear to be the same as some of the common French names for these groups are based on the same classic words. Hence these family-group names are not valid in my opinion. *See* Vieillot, 1818.]
1818. Plongeurs, Urinatores, Vieill. *In* Nouveau dictionnaire d'histoire naturelle vol 27: 120, Pla–Por. Paris: Deterville.
[The family-group name "Urinatores" is not available as it is not based on a corresponding generic name recognized by the author as valid, contrary to the decision of the ICZN. In a previous article, Plongeon, *Colymbus*, Linn.", (vol. 27, Pla–Por. pp. 114–120; 1818) Vieillot does not use the generic name *Urinator* Lacépède 1799, and hence the family-group name, Urinatores, is not properly based on a valid generic name used by the author, but is based on the Latin "urinator" meaning a diver which is a good descriptive term for this group. The names used for families in this work are clearly descriptive terms and are not formed on the stem of the name of type genera. Many definite examples can be cited, such as "Siphornis, Siphornini" for the albatrosses, shearwaters and petrels (vol. 31, Seo–Spe. p. 313; 1819), "Dermorhynques, Dermorhynchi, Vieill." for the ducks geese and swans

(vol. 9, Cun–Dzw, p. 365; 1817), "Macrodactyles, Macrodactyli" for the rails and gallinules (vol. 18, Lig–Mam, p. 350; 1817), Nudipèdes for the pheasants, quail and grouse (vol. 23, Nil–Orc, p.113; 1818), "Aegialites" for plovers (under "Pluvier", vol. 27, Pla–Por, p.131; 1818), "Helonomes, Helonomi" for the sandpipers (vol. 14, Gue–Hom, p.295; 1817), "Anthomyses, Anthomysi" [Anthomyzes, vol. 14, Gue–Hom, p. 321; 1817] for hummingbirds and nectar-feeding passerine birds (vol 2, Ani–Ase, pp. 150–151; 1816). Even when the family-group name appears to be based on an existing name such as "Accipitrins, (Accipitrini)" (vol. 1, Aba–Ani, pp. 78–80; 1816) or "Perroquets ou Psittacins, Psittacini" (Virey, vol. 25, Pas–Pho, pp. 292–299; 1818), the basis of the name is the French name and is not formulated on a generic name. To conclude otherwise is to claim that Vieillot, who wrote most or all of these articles on birds, was inconsistent. Moreover, it is far more probable that the headings for these articles in a general encyclopedia would have used French names, not technical scientific names.]

1825. La Galerie des Oiseaux. Paris: Constant-Chntpie; 1 (Pts. 1 & 2): iii + 344 pp.; 2 (Pts. 3, 4 & 5): 1–248.

[Family-group names used in this publication are not based on the name of a type genus even when there is a resemblance in the names because of the similarity between Latin and French.]

Vigors, N. A.

1824. Sketches in ornithology; or, observations on the leading affinities of some of the more extensive groups of birds. On the groups of the Falconidae. Zool. J. 1: 308–346.

[N. A. Vigors (1785–1840) together with W. Swainson, accepted and further developed the quinary system proposed by W. S. MacLeay, 1819–21.]

ACCIPITRIDAE, Buteoninae, Milvinae

1825a. Observations on the natural affinities that connect the orders and families of birds. Trans. Linn. Soc. London 14: 395–517.

[Read December 3, 1823. This paper is the first major work on the classification of birds in which family-group names formed on the stem of an included (= type) genus and ending in "idae" are used in a consistent manner. Vigors and several other early workers refer to a number of avian family-group names citing Leach as the author. The Leach paper was published in 1820, see above, and provides a list of names of avian families found in the United Kingdom.]

ANSERINAE, Aquilinae, ARTAMIDAE, BUCEROTIDAE, CAPRIMULGIDAE, Cinnyrididae, DICRURIDAE, GALBULIDAE, GRUIDAE, Halcyoninae, ICTERIDAE, Loxiinae, MELIPHAGIDAE, Merulidae, NECTARINIIDAE, ORIOLIDAE, PARIDAE, Pelecanidae, PARADISAEIDAE, Promeropidae, RAMPHASTIDAE, Regulinae, SAXICOLINAE, STERNINI, STRUTHIONIDAE, Tanagrinae, TETRAONINAE, TODIDAE, TROCHILIDAE, TYRANNIDAE

1825b. [*See* Vigors, N. A., 1825–26].

1825–26. [Cited as 1825b]. Sketches in ornithology; or, observations on the leading affinities of some of the more extensive groups of birds. Zool. J. 2: 37–70; 182–197; 368–405; (1826) 466–483.

[All new avian family-group names proposed in this publication are found in the section entitled: On the arrangement of the genera of birds, vol 2: 391–405, 1825, which was published after Vigors, 1825a.]

ALAUDIDAE, Asioninae, BUBONINAE, CAMPEPHAGIDAE, CARDUELINAE, Cereopseinae, Cossyphinae, Cygninae, EMBERIZIDAE, Gypogeranidae, Macrocercini, Myiotheridae, Nocturinae, Palaeornithini, Plyctolophinae, PSITTACULINI, Pyrrhulinae

Vigors, N. A., and T. Horsfield

1827. A description of the Australian birds in the collection of the Linnean Society; with an attempt at arranging them according to their natural affinities. Trans. Linn. Soc. London 15: 170–331.

[The second part of this work was never published.]

TIMALIIDAE

Wagler, J.

1830. Natürliches System der Amphibien mit vorangehender Classification der Saügthiere und Vögel. München, Stuttgart and Tübingen: J. G. Gotta'schen Buchhandlung, vi + 354 pp.

[Family names used in this work are not based on the name of a type genus.]

Waterhouse, F. M.

1889. Index generum avium. A list of the genera and subgenera of birds. London: R. H. Porter, v + 240 pp.

Wells, R. W., and R. Wellington

1992. A classification of the cockatoos and parrots (Aves: Psittaciformes) of Australia. Sydney Basin Nat. 1: 107–169.

Callocephaloninae, Geopsittacini

Wetmore, A.
1930. A systematic classification for the birds of the world. Proc. U.S. Natl. Mus. 76(24): 1–8.
RHINOCRYPTIDAE
1951. A revised classification for the birds of the world. Smithsonian Misc. Coll. 117(4): 1–22.
1960. A classification for the birds of the world. Smithsonian Misc. Coll. 139(11): 1–37.
Chloropseidae, MESITORNITHIDAE
Wetmore, A., and W. deW. Miller
1926. The revised classification for the fourth edition of the A. O. U. Check-list. Auk 43: 337–346.
Richmondeninae
Wetmore, A., H. Friedmann, F. C. Lincoln, A. H. Miller, J. L. Peters, A. J. van Rossem, J. Van Tyne, and J. T. Zimmer
1947. Twenty-second supplement to the American Ornithologists' Union check-list of North American birds. Auk 64: 445–452.
PARULIDAE
Wheeler, G.
1913. Suggestions for securing simplification and permanency in nomenclature. Trans. Int. Congr. Entomol. Oxford, 2: 97–108.
Wittgenstein, L.
1958. Philosophical investigations. The English text of the third edition. New York: Macmillian, v + 250 pp.
Wolters, H. E.
1952. Die Gattungen der westpalaearktischen Sperlingvögel (Ordn. Passeriformes). Bonner zool. Beit. 3: 231–288.
Malimbinae
1975. [*See* Wolters, H. E. 1975–82].
1975–82. Die Vogelarten der Erde. Hamburg and Berlin: Paul Parey, xx + 745 pp.
[The individual fascicles are cited from 1975 to 1980; these are as follows: 1975, 1: 1–80; 1976, 2: 81–160; 1977a, 3: 161–240; 1979, 4: 241–320; 1980, 5: 321–400; 1980, 6: 401–452; 1982, 7: 453–748. The last fascicle contains only the indices and no new avian family-group names are proposed therein.]
Auriparidae, Bartramiini, Brotogeryini, Cephalopyridae, Clamatorinae, Coracopsini, Corythopidinae, Drymodinae, Dryoscopinae, Galloperdicini, Gampsonychinae, Illadopseinae, Ithaginini, Lamproliidae, Leptopoecilinae, Macgregoriinae, Metopothrichinae, Neophemini, Nephelornithinae, NESOCTITINI, Pheucticinae, Pholidornithidae, Pionitini, Pithecophaginae, Psilorhamphidae, Peucedramidae, Poospizinae, Psittacellini, Ptilopachini, Pucrasiini, Pygarrhichadinae, Spelaeornithinae, Stiltiinae, Tchagrinae, Triclariini, Xenerpestinae, Yuhininae
1976. [*See* Wolters, H. E. 1975–82].
1977a. [*See* Wolters, H. E. 1975–82].
1977b. Die Gattungen der Nectariniidae (Aves, Passeriformes). Bonner zool. Beit. 28: 82–101.
Hypogrammatinae
1979. [*See* Wolters, H. E. 1975–82].
1980. [*See* Wolters, H. E. 1975–82].
1983. Die Vögel Europas im System der Vögel. Baden-Baden: Biotropic Verlag, 70 pp.
Apalinae, Bathmocercinae, Butasturinae, Cercotrichadinae, Eminiinae, Macrospheninae, Neocossyphinae, Oenanthinae, Orthotominae, Pseudonigritinae, Stachyrinae
Wood, C. A.
1931. An introduction to the literature of vertebrate zoology. London: Oxford Univ. Press, xix + 634 pp.
Wood, N.
1836. The ornithologists's text book. Being reviews of ornithological works; with an appendix, containing discussions on various topics of interest. London: John W. Parker, 232 pp.
[A useful source of information of early ornithologists and early avian classifications.]
Zimmer, J. T.
1926. Catalogue of the Edward E. Ayer ornithological library. Vol. XVI. Zool. Ser., Field Mus. Nat. Hist.; Part 1 (Publ. 239): x + 364 pp.; Part 2 (Publ. 240): 365–706.
1953. Document 3/30. [On family-group names in zoology. Statement of the views of the committee on nomenclature of the American Museum of Natural History, New York]. Bull. Zool. Nomencl. 8(6/9): 241. [July 1958].

X. INDEX OF AVIAN FAMILY-GROUP NAMES

A. INTRODUCTION

This index includes all avian family-group names, including valid names, synonyms, homonyms, objectively invalid names, most unavailable names, and many spelling variants arranged alphabetically. The valid names are in full CAPITALS, and all other names are in initial capital plus lower case with the equivalent valid name following in capitals. Most spelling variants are not on the main list, and hence are not included here. Homonyms, objectively invalid and unavailable family-group names, and the few spelling variants included in this index are placed within square brackets. The page numbers are to valid names in the main list of avian family-group names on pages 129–158. With the help of the index, it should be possible to locate any avian family-group name in the main list and from there to ascertain the publication in which it was proposed and any discussion of problems associated with the name.

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