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(Continued from 3rd page of cover.)

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**Article I.—A LIST OF THE GENERA AND SUBGENERA OF
NORTH AMERICAN BIRDS, WITH THEIR TYPES, ACCORD-
ING TO ARTICLE 30 OF THE INTERNATIONAL CODE
OF ZOÖLOGICAL NOMENCLATURE.**

BY J. A. ALLEN.

I. INTRODUCTORY.

In a previous volume of this Bulletin (Vol. XXIII, pp. 279-384, April 15, 1907) I published a paper entitled 'The Types of the Genera of North American Birds,' in which the types of the originally typeless polytypic genera were determined in accordance with the rule of priority, or by the so-called method of elimination.

This investigation was undertaken for the purpose of determining the truth or fallacy of certain allegations regarding the results of type-determination by the method of elimination,¹ namely: (1) That the types of many

¹ The following recent papers on the determination of types of genera, with special reference to the first species rule, published mainly in 'Science,' N. S., Vols. XXI-XXVI, are of interest.

1. Nomenclature in Ichthyology. A Provisional Code Based on the Code of the American Ornithologists' Union. "Under the joint authorship of Doctors Jordan, Evermann and Gilbert." Condor, VII, Jan. 1905, pp. 28-30.

2. A New Code of Nomenclature. By J. A. Allen. Science, N. S., XXI, No. 533, pp. 428-433, March 17, 1905. In relation to the foregoing.

3. The Relative Merits of the 'Elimination' and 'First Species' Method in Fixing the Types of Genera—with Special Reference to Ornithology. By Witmer Stone. Science, N. S., XXIV, No. 618, pp. 560-565, Nov. 2, 1906.

4. The 'Elimination' and 'First Species' Methods of Fixing the Types of Genera. By J. A. Allen. Science, N. S., XXIV, No. 624, pp. 773-779, Dec. 14, 1906. A reply to No. 3.

5. Elimination in Fixing Genotypes. By F. A. Bather. Science, N. S., XXIV, No. 625, pp. 809, 810, Dec. 21, 1906.

6. The 'First Species Rule' vs. the 'Law of Priority' in determining the Types of Genera. By Ch. Wardell Stiles. Science, N. S., XXV, No. 630, pp. 145-147.

7. The First Species Rule versus Elimination. By Witmer Stone, Science, N. S., XXV, No. 630, pp. 147-151, Jan. 25, 1907.

8. Elimination versus the First Species Rule. By D. W. Coquillett. Science, N. S., XXV, No. 634, pp. 308, 309, Feb. 22, 1907.

9. The 'First Species' and the 'First Reviser.' By David Starr Jordan. Science, N. S., XXV, No. 638, pp. 467-469, March 22, 1907.

10. The First Species Rule for determining Types of Genera—How it works in Ornithology. By J. A. Allen. Science, N. S., XXV, No. 640, pp. 546-554, April 5, 1907.

11. The First Species Rule as it affects Genera of North American Birds. By Witmer Stone. Science, N. S., XXV, No. 644, pp. 708, 709, May 3, 1907. A reply to No. 10.

12. The First Reviser and Elimination. By D. W. Coquillett. Science, N. S., XXV, No. 642, pp. 625, 626, April 19, 1907.

13. The First Species Rule. By John B. Smith. Science, N. S., XXV, No. 645, pp. 744, 745, May 10, 1907.

December 1907.]

of the genera of North American birds as designated by a Committee of the American Ornithologists' Union, mainly in 1886, on the principle of elimination, were erroneously determined and should be changed; (2) that this method of determining types of genera is unsatisfactory, it being claimed that there are several different ways of 'eliminating,' and that in difficult cases different eliminators rarely reach the same results; (3) that the determination of genotypes by the 'first-species rule' requires little or no research and the results are necessarily always uniform; (4) that the number of changes in generic names necessary in order to correct the errors in the A. O. U. Check-List due to faulty elimination were about equal to the number that would be required under the first species rule.

The scope of this paper was restricted to the genera contained in the second (1895) edition of the Check-List and its subsequent supplements, the last of which (the thirteenth) was published in July, 1904, and hence did not include certain additional genera subsequently adopted by the Committee, but as yet not announced. The types dependent upon elimination were determined independently of any previous results reached by others. On comparison of the results thus obtained with the Check-List, it was found that in only four cases was the status of generic names subject to change, and in two of these other conditions than elimination were involved. On the other hand, it was found that under the strict enforcement of the first species rule twenty generic changes would be necessary, eighteen of which have since been tentatively adopted by the A. O. U. Committee. This is on the basis of the exclusion of Linnæan names from the action of the first species rule; their inclusion would increase the number of changes to upward of thirty in a total of about 130 genera involved.

In my recent paper above cited it seemed best to give the original composition of each genus, for the purpose of showing how the species now

14. Another Word on the *Vultur* Case. By J. A. Allen. *Science*, N. S., Vol. XXV, No. 647, p. 827, May 24, 1907.
15. The First Species Rule. By James A. G. Rehn. *Science*, N. S., XXV, No. 648, p. 870, May 31, 1907.
16. Elimination or First Species. By J. S. Kingsley. *Science*, N. S., XXV, No. 650, pp. 939, 940, June 14, 1907.
17. The First Species Rule: An Objection. By F. A. Bather. *Science*, N. S., XXV, No. 651, pp. 670, 671, June 21, 1907.
18. A Necessary Amendment in the Application of the Law of Priority in Zoological Nomenclature. By Thos. H. Montgomery, Jr. *Science*, N. S., Vol. XXVI, No. 653, pp. 19-21.
19. Another Word on the *Vultur* Case. By Witmer Stone. *Science*, N. S., XXVI, No. 653, p. 21, July 5, 1907.
20. Dr. Montgomery's proposed Amendment to the Rules of Nomenclature. By William H. Dall. *Science*, N. S., XXVI, No. 656, p. 117, July 26, 1907.
21. The Rules of Nomenclature. By Arthur Erwin Brown. *Science*, N. S., XXVI, No. 656, pp. 117, 118, July 26, 1907.
22. The First Species Rule: An Objection. By S. S. Buckman. *Science*, N. S., XXVI, No. 664, pp. 378, 379, Sept. 20, 1907.
23. The Types of the North American Genera of Birds. By J. A. Allen. *Bull. Amer. Mus. Nat. Hist.*, XXIII, pp. 279-384, April 15, 1907.
24. The Types of the North American Genera of Birds. By Witmer Stone. *Science*, N. S., XXVI, No. 666, pp. 444-446, Oct. 4, 1907. A criticism of the last.
25. Report of the International Commission on Zoological Nomenclature. By Ch. Wardell Stiles. *Science*, N. S., XXVI, No. 668, pp. 520-523.
26. Article 30 of the International Code of Zoological Nomenclature. By J. A. Allen. *Science*, N. S., XXVI, No. 673, pp. 719-723, Nov. 22, 1907.

currently accepted as its type came to be so recognized, and also, in the case of types determined by elimination, the entire basis of the decision. A plea was made for recognition of the work of the first reviser, which the first species rule necessarily ignores, but the first reviser rule, or the rule of 'type by subsequent designation,' was not invoked in my determination of types. A reference was usually made to designations of the first reviser, as information of interest, and I was surprised to find how frequently the type by the first reviser rule, or type by subsequent designation, agreed with type by elimination, as will be noted more fully later.

HISTORICAL RÉSUMÉ.

As time goes on, the importance of strict adherence to authoritative rules of nomenclature becomes more and more apparent. Hence the world-wide welcome accorded the work of the Nomenclature Commission of the International Zoölogical Congress, and the increasing cordiality with which its Code of Nomenclature is received. The time is doubtless now ripe for the acceptance on the part of zoölogists at large of an International Arbitration Commission on Nomenclature which shall not only provide a code of official rules, but be willing to act as arbiter in difficult and complicated cases where experts may reach different conclusions. To most systematists questions of nomenclature are distasteful, and they would gladly accept the decisions of a properly authorized International Commission rather than fritter away valuable time in attempting to solve nomenclatural riddles. Success in this thankless line of work requires natural aptness for such investigations, coupled with long experience and interest in such work. Nine tenths, if not ninety-nine one hundredths, of those who have occasion to use the technical names of animals, have not the time, the inclination, nor the proper training to deal successfully with such problems. Yet their correct solution is of importance to all. The adoption of uniform rules of nomenclature are essential to stability in nomenclature, but if they contravene well-established principles that have become the basis of modern usage they are not likely to meet with general acceptance. Happily the fundamental rules of nomenclature are few, and for many years have been embodied in all modern codes of nomenclature. Matters of detail are of less importance than unanimity of agreement, which may be easily reached by compromise and the waiving here and there of personal preference on minor points.

The nomenclature of to-day, like the sciences of which it is the indispensable servant, has been of slow growth, and prior to the promulgation of the British Association Code in 1842 was without form and to a large

extent void. Every man was his own arbiter, and did what seemed to him best, as to sources of names and their application. Subsequent to 1842 there was steady improvement; but old ways are not easily abandoned, and many of the leading zoölogists of that period gave only partial adherence to the B. A. Code, and others gave it no recognition whatever. Few systematists have ever adhered strictly to any code of nomenclature; while observing most of the rules, and applying them nearly always consistently, they have ignored some of them where a little laxness in their application would save an unwelcome change of names. From the publication of the American Ornithologists' Union 'Code of Nomenclature,' in 1886, dates a more rigid adherence to established rules of nomenclature, especially in America. The promulgation in 1905 of an International Code of Nomenclature is evidence of the wide-spread recognition of the importance of adopting uniform rules of nomenclature. The A. O. U. Code and the International Code are in virtual agreement on all points; the former is the more voluminous, treating more at length matters of detail.]

The New Article 30 of the International Code.]

Since 1905 both codes have been subjected to revision, the A. O. U. Code having been amplified at many points and thus rendered still more explicit, but unfortunately this revision is still unpublished. At the International Zoölogical Congress held in Boston in August, 1907, the Nomenclature Commission of this great representative body of zoölogists included in its report various modifications of the International Code, all in the nature of amplification and clearer definition of rules previously adopted. The chief modification relates to the determination of types of originally typeless genera, as embodied in Article 30. The former Article 30 is cancelled and replaced by a new article, embodying virtually all of the provisions of the original, restated in greater detail, with the addition of a series of recommendations. Its provisions totally exclude appeal to a 'first species rule,' and give the fullest possible recognition to the work of the 'first reviser,' masked under the happy euphemism, "type by subsequent designation." No new principle is introduced; all the provisions of Article 30 are as old as the B. A. Code. The essential rules for type determination of all previous codes are reënacted, in better form than ever before, and with the increased prestige of adoption by an International Congress.

As already stated, Article 30 consists of 'rules' and 'recommendations.' As the latter have only the force of suggestions they need not be further considered in the present connection. The rules offer several points for comment. The essential part of Article 30 is as follows:

"Art. 30.— The designation of type species of genera shall be governed by the following rules (a–g), applied in the following order of precedence:

"I. Cases in which the generic type is accepted *solely* upon the basis of the original publication.

"(a) When in the original publication of a genus, one of the species is definitely designated as type, this species shall be accepted as type regardless of any other considerations. (Type by original designation.)

"(b) If, in the original publication of a genus, *typicus* or *typus* is used as a *new* specific name for one of the species, such use shall be construed as 'type by original designation.'

"(c) A genus proposed with a single original species takes that species as its type. (Monotypical genera.)

"(d) If a genus, without originally designated (see a) or indicated (see b) type, contains among its original species one possessing the generic name as its specific or subspecific name, either as valid name or synonym, that species or subspecies becomes *ipso facto* type of the genus. (Type by absolute tautonomy.)

"II. Cases in which the generic type is not accepted *solely* upon the basis of the original publication.

"(e) The following species are excluded from consideration in selecting the types of genera:

"(a) Species which are not included under the generic name at the time of its original publication.

"(β) Species which were *species inquirendæ* from the standpoint of the author of the generic name at the time of its publication.

"(γ) Species which the author of the genus doubtfully referred to it.

"(f) In case a generic name without originally designated type is proposed as a substitute for another generic name, with or without type, the type of either, when established, becomes *ipso facto* type of the other.

"(g) If an author, in publishing a genus with more than one valid species, fails to designate (see a) or to indicate (see b, d) its type, any subsequent author may select the type, and such designation is not subject to change. (Type by subsequent designation.)

"The meaning of the expression 'select a type' is to be rigidly construed. Mention of a species as an illustration or example of a genus does not constitute a selection of a type."

The type species of a genus is thus determined by one or the other of the following four methods: (1) 'Type by original designation,' or by the designation of the founder at the time of the original publication of the genus. (2) Monotypical genera,' in which the only species originally

contained in the genus is necessarily the type. (3) 'Type by absolute tautonomy.' (4) 'Type by subsequent designation,' or by the action of a later author. The first three of these are 'hard and fast' rules, being absolutely without ambiguity. The rule based on tautonomy appears here for the first time as an authorized rule in any published code of rules, but it had previously received formal approval¹; it was virtually included in the B. A. Code of 1842, and has had practical recognition ever since. The fourth rule is equally time-honored, having been the foundation of type determination for originally typeless genera for three fourths of a century. It is made by Article 30 subject to the conditions imposed by the rules which precede it.² It thus becomes also a hard and fast rule, although considerable research may be sometimes necessary to find where, when, and by whom the type of a genus was established by subsequent designation.

The expression in rule *g.*, "any subsequent author may select the type, and such designation is not subject to change," is obviously to be taken in its common sense relation to the rules that precede it, and not in the abstract sense that such action must be final, right or wrong. As this latter construction is liable to be taken by inexperienced nomenclators, an explicit definition might well have been added by the Commission, as was done in the case of the expression "select a type," stating what species are not available as types by subsequent designation.

Our present fabric of nomenclatural rules has been of slow growth. Without going into details, it may be noted that prior to 1842 there was no official code of nomenclature; each author was his own arbiter, not only as to the sources from which names might be taken and to whom they should be accredited, but in respect to the sense in which they should be employed. It was considered proper to refer names, both generic and specific, back to Moerhing, Ray, or Willughby, or even to Gesner, that date properly only from Linnæus or some later author, and to construe them in their ancient sense when this differed from the modern application of them. They felt at liberty to discard or to transfer to new associations names bestowed upon groups by their predecessors or contemporaries, and even their own names, in cases where they thought they could suggest more appropriate ones, or where they fancied they could apply them in a more fitting manner.

Nor did these practices altogether cease till long past the middle of the nineteenth century. It is now recognized that a genus is not satisfactorily established until its type has been definitely assigned. Yet the concept of

¹ A Method of Fixing the Type in Certain Genera. *Science*, N. S., XVI, No. 394, pp. 114, 115, July 18, 1902.

² "The designation of type species of genera shall be governed by the following rules (*a-g*), applied in the following order of precedence."

a generic type, in the modern sense, had no existence till 1820 or later, and the conservation of a generic name in its original sense was not considered obligatory till a much later period. The idea that it was necessary to define a generic name by reference to it of a type species was of slow development, and did not obtain very general recognition till about 1825-1830, or later. The earlier systematists (Illiger, Vieillot, Lesson, Swainson, Vigors, Boie, Brehm, Kaup, etc.) thought it sufficient to cite one or more species — generally several — as examples of the genera they saw fit to recognize. From about 1824 on, a few writers when proposing new genera sometimes, but far from uniformly, specified some particular species as the type; and when revising the genera previously founded sometimes designated some one of its original species, or some other, as "type," but more frequently mentioned several species that might be considered collectively as "the types" or examples of the genus mentioned.

G. R. Gray as a First Reviser.

The designation of types for all genera of birds was made for the first time by George Robert Gray in 1840, in his 'List of the Genera of Birds,' which thus became an epoch making work in avian nomenclature, especially in the matter of supplying types for the previously typeless genera. In this work he formally recognized "1065 genera and subgenera," and formally designated a type species for each. A second edition¹ appeared in 1841, and a supplement was added in 1842. In the 1841 edition the number of genera and subgenera was reduced to 1037, the number of names treated

¹ The several editions of Gray's 'List' are as follows:

A List | of the | Genera of Birds, | with | an indication of the Typical Species of each Genus, | Compiled from various sources. | By | George Robert Gray, | Ornithological Assistant, Zool. Departm., British Museum; | and | author of several works on Entomology, etc. | Printed by Richard and John E. Taylor, Red Lion Court, Fleet Street. | 1840.—8vo, pp. viii + 80 + ii. No index, and genera not numbered. "1065 Genera and Subgenera, not including their synonyms," etc.—p. 80.

A List | of the | Genera of Birds, | with their Synonyma, | and | an indication of the Typical Species of each Genus. | By | George Robert Gray. | Second edition. | revised, augmented, and accompanied with an Index. | London: | Printed and sold by Richard and John E. Taylor, | Red Lion Court, Fleet Street. | 1841.—8vo, pp. xii + 115. Index, but the genera are not numbered.

About 1037 genera are here recognized, 20 of them being unnamed. Reissued in 1842, with an Appendix of 16 pages.

Catalogue | of the | Genera and Subgenera | of Birds | contained in the | British Museum. | London: | Printed by order of the Trustees. | 1855.—12mo, 2ll. (= title-page and "Introduction," by John Edward Gray), pp. 192. With an index, and the genera and subgenera consecutively numbered.

2403 numbered genera and subgenera of existing birds, with, in an appendix (Appendix II) an additional list of the fossil genera, etc.

"The principal object of the present Catalogue is to give a complete List of the Genera and Subgenera of Birds, with their chief Synonyma and Types: much attention has been paid to the date of publication of each name.

"It commences with the 'Systema Naturæ,' published by Linnæus in 1735, and great labour has been bestowed in collecting them from the various works and periodicals, to the present period.

"The Genera are marked by an Asterisk, and those left unmarked are to be considered only of subgeneric value."—*Introduction.*

765 are marked as genera, leaving 1638 subgenera.

as synonyms being considerably increased, a total of 2026 names being entered in the index. In 1855 he brought out another edition, in which the number of genera and subgenera for which he designated types was increased to 2403, and the number of names in the index to 4606. Of the 2403 names recognized as valid, 765 were given the rank of genera, and 1638 were rated as subgenera.

In 1840–1842 Gray's knowledge of the work of previous authors was confessedly incomplete, as he states in his preface that he had been unable to obtain access to some of the important systematic publications of continental ornithologists. A large number of the previously published genera of birds were consequently omitted from his 1840 'List'; most of them, however, were added in the subsequent editions. In the first edition he took Linnæan genera from their first date of publication (from 1735 and later, as the case might be), and ascribed many genera to Ray and other pre-Linnæan authors, adhering to their ancient signification when it differed from the modern acceptance. He wrongly ascribed many genera to Brisson, and discarded all names previously used in botany. He based his rulings on "the inflexible law of priority." In the 1855 edition he still took Linnæan genera from 1735–1766, and retained Moehring's names (1752), but abandoned other pre-Linnæan sources, and discarded many of the names he had previously wrongly taken from Brisson. Yet, notwithstanding all these sources of error, the greater part of his type designations were made in accordance with modern rules of nomenclature, which when the first three editions of his 'List of the Genera of Birds' were published had no official existence. These designations were for the most part accepted by his contemporaries and are now the currently accepted types of the genera in question. On the other hand, those designated erroneously have not been adopted by subsequent systematists and are not now and never have been the currently accepted types of the genera for which they were designated. A large number of these early errors were corrected by Gray himself in the later editions of his List, on the basis of subsequently acquired knowledge of the literature of ornithology, and of the relations of groups he at first wrongly relegated to synonymy, evidently in part due to Strickland's friendly criticism of the first edition.¹

Gray's errors of type designation in the early editions of his 'List of Genera' are not faults to be severely criticized but are to be looked upon as an exposition of the orderless condition of nomenclature at the date of the formulation of the British Association 'Series of Propositions for rendering

¹ Commentary on Mr. G. R. Gray's 'Genera of Birds.' 8vo, London, 1840. By H. E. Strickland. *Ann. and Mag. Nat. Hist.*, VI, Jan. 1841, pp. 410–423; VII, May, 1841, pp. 26–41, 159.

the Nomenclature of Zoology uniform and permanent.' He was even more consistent than most of his contemporaries in systematic ornithology, as Lesson, Bonaparte, Temminck, Swainson, and Vigors. Strickland, the acknowledged originator of the B. A. Code, had reached a higher plane, as shown in his 'Commentary' (*l. c.*) on Gray's 1840 'List.'

Gray was not the first author to designate generic types, but he was the first to do this in a uniform manner for a whole class of animals. Vigors, in 1825 and later, nearly always designated types for his own new genera, and occasionally indicated types for genera previously proposed by others. Lesson, in 1828, explicitly designated types for about 150 genera and subgenera out of about 342 genera and 30 subgenera recognized by him in his 'Manual d'Ornithologie.' About 90 of the genera for which he designated types were monotypic, and 40 were polytypic, with about the same proportions for the subgenera. His type designations are generally the same as Gray's and of course long antedate them. Swainson (1827-1837) was quite as irregular and erratic, often assigning as types of genera species not originally contained in them, or indicating several species as 'typical' which are now treated as noncongeneric. In 1827 (*Zool. Journ.*, III, 158-175, 343-363), he properly designated the types of 44 genera out of the 64 formally treated in his paper entitled 'On several Groups and Forms in Ornithology, not hitherto defined.' In 1837 (*Class. Bds.*, Vol. II), he gave examples and not types, in the sense of type designation as defined by Article 30 of the International Code. Only where new genera are proposed, containing only a single species, can his examples be taken as types under Article 30. Bonaparte (1827-1854) was even more inconsistent, and paid little respect to any rules of nomenclature, habitually disregarding even the law of priority. Yet the work of all these authors, under the 'type by subsequent designation' rule, must be seriously considered, and when their generic type designations are in conformity with the rules of Article 30 of the International Code are to be accepted, but not otherwise. In other words, their work is not exempt from the conditions to which present day systematists are subjected.

Rule *g* of Article 30 states: "The meaning of the expression 'select a type' is to be rigidly construed. Mention of a species as an illustration or example of a genus does not constitute a selection of a type." When, however, an author has restricted an early polytypic genus, notably a Linnaean genus, to a single species by placing all the others in other genera, his action should be taken as tantamount to establishing a type for the original genus thus restricted, since such action has been commonly recognized by subsequent systematists as virtually fixing the type. In some instances, noted in the following pages, unless such restriction is recognized

as a valid designation of a type complications ensue. Vieillot, in 1816 (Analyse), used 'esp.,' and not type, whether one or more species are cited. When only one is given that species has universally been accepted by later writers as the type, although the genus was evidently intended to include a number of species. The same practice prevails with respect to other authors when the conditions are similar. Thus Boie (Isis, 1826, 977) established a genus of woodpeckers in the following manner: "*Dryobates: Picus pubescens* Gm. u. s. w." Subsequent authors have not only recognized *Picus pubescens* Linn. as the type of *Dryobates*, but treat the genus as though it were monotypic when founded. In fact many so-called monotypic genera have had a similar origin.

As throwing light upon the way in which type designations were sometimes made by Gray in 1840, and changed by him later, the following illustrations (mostly North American genera) are given

Alca Linn., 1758.—Gray in 1840 designated *A. impennis* Linn. as the type, a species which became type of the monotypic genus *Plautus* Brünn. 1772, the genus now, and for several decades past, in current use as the generic designation of *A. impennis*; but Gray failed to cite *Plautus* Brünn. in any of his works, and it may thus be supposed to have been unknown to him. The type of *Alca* has long been universally recognized as *A. torda* Linn., the genus *Torda* Duméril, 1806, being a strict synonym of *Plautus*, and having nothing to do with *Alca torda*, as the name itself might seem to imply. The subsequent designation in the same year of *Alca torda* as "z. B." of *Torda* by Froriep has no force, as the diagnosis of *Torda* Duméril shows clearly that it was monotypic with *Alca impennis* Linn. as type, as now currently recognized. (See Baird, Brewer and Ridgway, N. Am. Water Bds., II, 1884, 466; Olgivie-Grant, Brit. Mus. Cat. Birds, XXVI, 1898, 562.) *Torda* Froriep is thus preoccupied by *Torda* Duméril.

Thalasseus Boie, 1822.—In 1840, Gray gave the type as "*T. cantiaca* (Gm.) Boie," but failed to mention, in synonymy or otherwise, *Actochelidon* Kaup, 1829, a monotypic genus with *Sterna cantiaca* Gmel. as type. He, however, recognized *Sylochelidon* Brehm, 1830, a monotypic genus with *S. caspia* Pall. as the type. In 1855, he gave both *Thalasseus* and *Actochelidon*, the latter with *S. cantiaca* as type, changing the type of *Thalasseus* to *Sterna caspia*, and citing *Sylochelidon* Brehm as a synonym of *Thalasseus*. Thus in 1855 he duly corrected his errors of 1840 in respect to these three genera.

Anous Stephens, 1826.—In 1840, Gray wrongly credited *Anous* to Leach, but correctly made its type *Anous niger* Leach = *Sterna stolidus* Linn. He wrongly synonymized with it *Hydrochelidon* Boie, 1822, and wrongly adopted *Megalopterus* Boie, 1826, as a genus distinct from *Anous*. This double error was soon after pointed out by Strickland (Ann. & Mag. Nat. Hist., VII, May, 1841, p. 40), who says: "Also note that *Anous*, Leach, is synonymous with *Megalopterus* Boié, and not with *Hydrochelidon*, Boié, and that *Anous niger*, Leach, is synonymous, not with *Sterna nigra*, Lin., but with *Megalopterus stolidus* (Lin.), Boié." (See also Boie, Isis, 1844, pp. 183, 187.) In 1841 Gray properly recognized *Hydrochelidon* Boie, with *Sterna nigra* Linn. as type, and "*Anous*, Leach, 1825 (in Steph.)" with *Sterna stolidus* Linn. as type.

Fulmarus Stephens (ex Leach MS.), 1826.— In 1840, Gray made *Fulmarus* Leach a synonym of *Wagellus* Ray, with *Procellaria glacialis* Linn. as type. In 1841 he discarded *Wagellus*, making both it and *Fulmarus* synonyms of *Procellaria* Linn., changing, as below noted, the type of *Procellaria* to *P. glacialis*. In 1855 he restored *Fulmarus* to generic standing, with *P. glacialis* as the type, and gave "*Wagellus*, G. R. Gray, 1840" as one of its synonyms, but wrongly cited the authority for *Fulmarus* as "Leach, 1816."

Procellaria Linn.— Type as designated by Gray in 1840, *P. æquinoctialis* Linn. In 1841 he changed the type to *P. glacialis* Linn., a species not originally included in the genus, and therefore not available as its type. In 1855 he again changed the type of *Procellaria* to *P. pelagica* Linn., which species became in 1825 — thirty years before — type by original designation of the monotypic genus *Thalassidroma* Vigors. Gray thus, in 1855, made this genus a synonym of *Procellaria*, although in 1840 he had correctly listed both as full genera with their proper types.

Herodias Boie, 1822.— This genus consisted originally of two species, *Ardea egretta* Gmel. and *Ardea garzetta* Linn. *Ardea garzetta* became type of the monotypic genus *Egretta* Forster, 1817, and type by tautonymy of *Garzetta* Kaup, 1829. (*Garzetta* Kaup is a synonym of *Herodias* Boie, containing the same two species, and no others.) *Egretta* Forster was apparently unknown to Gray, as he nowhere cites it. In 1840, he wrongly took *Egretta* from Brisson and made *A. garzetta* Linn. its type, at the same time referring *Herodias* Boie to "*Egretta* Brisson," as a synonym. In 1841 he reversed this proceeding, accepting *Herodias* Boie, with *A. garzetta* as type, and synonymizing with it *Egretta* Brisson. As, however, *Egretta* Forster, 1817, was monotypic, with *Ardea garzetta* as type, this species could not be the type of *Herodias* Boie, 1822, as designated by Gray in 1841. As *Herodias* cannot be cancelled, its type must be its only other original species, *A. egretta* Gmel., as correctly designated by Gray in 1855.

Vultur Linn., 1758.— In 1840 Gray took *V. auricularis* Daud. 1800, as the type, a species not originally included in the genus. In 1841 he made this species the type of his new genus *Otogyps*. In 1841 he ascribed the genus *Vultur* to Moerhing, 1752, and designated *V. cinereus* Gmel. as the type — also a species not originally included in the genus. In 1855 he gave the type of "*Vultur* Møhr, 1752, et p. Linn. 1756" as *Vultur monachus*, still also a species not originally included in the genus *Vultur*, which properly dates only from Linnæus, 1758. Yet this species has been the currently accepted type from its designation as such by Gray in 1855 till the end of the year 1906, when the present writer determined the type, by elimination, as *Vultur gryphus* (Science, N. S., XXIV, No. 624, 54, Dec. 14, 1906), which, under Article 30 of the International Code should be accepted as the type, this being the first designation of a type from among the originally included species.

Cathartes Illiger, 1811, **Catharista** Vieillot, 1816, and **Sarcorhamphus** Duméril, 1806.— In 1840, Gray recognized *Cathartes*, with *Vultur aura* Linn. as type, and made *Catharista* a synonym of *Cathartes*. He also recognized *Sarcorhamphus* with *V. gryphus* Linn. as type. In 1855 he recognized *Sarcorhamphus* as before, but gave also recognition to *Catharista*, with *V. aura* as type, and synonymized *Cathartes* partly with *Sarcorhamphus* and partly with *Catharista*, a much later genus! The type of *Cathartes* was fixed 'by subsequent designation,' by Vigors in 1825 as *V. aura*, so that *V. aura* was not available in 1855 as type of *Catharista*. The type of *Sarcorhamphus* was fixed by subsequent designation by Vigors in 1825 as *Vultur papa* Linn., rendering invalid Gray's designation in 1840 of *V. gryphus* as type.

Trochilus Linn., 1758.— In 1840, Gray designated *T. polytmus* Linn. as the type, but in 1855 changed the type to *T. colubris* Linn., which has been the universally recognized type ever since. There is nothing in Article 30 of the International Code, nor in any other authoritative code of nomenclature, in conflict with Gray's action in 1840 in making *T. polytmus* the type of *Trochilus*, as this species did not become the type, nor congeneric with the type, of any other genus till 1860, when it became type of the monotypic genus *Aithya* Cab. & Heine. In 1854 (Rev. de Zool., 2^e sér., VI, May, 1854, 256), Bonaparte restricted *Trochilus* to the two congeneric species *T. colubris* Linn. and *T. alexandri* B. & M., and Gray in 1855 selected from these *T. colubris* as the type, which, as already said, has since been universally recognized as the type. Article 30 renders it necessary to accept *T. polytmus* as the type of *Trochilus*, and some other name is necessary for the group universally known for more than half a century as *Trochilus*.

Ampelis Linn., 1758.— In 1840, Gray designated *A. cotinga* Linn. as the type, and referred *Cotinga* Brisson, 1760, with the same species as type by tautonymy, to *Ampelis* as a synonym. He also recognized *Bombycilla* "Brisson" (= Vieillot, 1808), with *A. garrulus* Linn. as type. In 1841 he recognized *Cotinga* as a genus, with *A. cotinga* Linn. as the type, and changed the type of *Ampelis* to *A. garrulus* Linn., which has since been generally recognized as the type of *Ampelis*, he now synonymizing *Bombycilla* Vieill. with *Ampelis*. Vieillot, in 1808 (Ois. Am. Sept., I, "1807," 88, pl. lvii), founded his genus *Bombycilla* on the American Cedarbird, which had previously been referred by all writers to *A. garrulus* Linn. (*Lanius garrulus* Linn. 1758) as a variety. As the two species, *A. ampelis* Linn. and *B. cedrorum* Vieill., are strictly congeneric, *A. garrulus* became, in 1808, a member of Vieillot's genus *Bombycilla* and no longer belonged in *Ampelis*, a fact generally recognized by most European (continental) writers for the next fifty years, and by some of them still, while most English and American writers have continued to refer it to *Ampelis*, following Gray's second (1841) and wrong designation of the type. Under Article 30 of the International Code, or the rules of any other authoritative code, Gray had no right to cancel *Bombycilla* and virtually take its type as the type of *Ampelis*.

At 1808 only three of the original species of *Ampelis* were left in the genus, namely, *tersa*, *carnifex* and *pompadora*. As *pompadora* was the last one to be provided with a generic resting place, becoming the type of the monotypic genus *Xipholena* Gloger, 1842, this species necessarily becomes the correct type of *Ampelis*.

Helinaia Audubon, 1839.— Gray, in 1841, designated as type "*H. vermivora* (Lath.) Aud." = *Motacilla vermivora* Gmel., a species which became type of the monotypic genus *Helmitheros* Rafinesque in 1819, and was thus unavailable as the type of *Helinaia* in 1841.

II. LIST OF THE GENERA AND SUBGENERA OF NORTH AMERICAN BIRDS, WITH THEIR TYPES.

The present list includes not only all of the genera of the A. O. U. Check List, but many others which necessarily require consideration in this connection, numbering altogether about 550. The genera formally treated are arranged in four categories, in accordance with the manner in which their types have been determined. Each series is arranged alphabetically,

but an index to all the genera mentioned is added at the end of the paper to facilitate reference to them.

The divisions of the list are based on Article 30 of the International Code and comprise two primary divisions based on whether or not the type is determined solely upon the original basis of the genus. The first primary division includes three subdivisions, in accordance with whether the type rests on original designation, on monotypy, or on tautonymy. The fourth category consists of genera with the type determined by subsequent designation.

In the case of the first three categories, it is difficult to draw a hard and fast line of separation, inasmuch as the types of some of the monotypic genera were also designated by the founder, and are also sometimes determinable by tautonymy. It has been thought best, therefore, to place in the list headed 'Type by Original Designation' only polytypic genera whose types depend upon the action of the founder at the time the genus was originally published. All monotypic genera are listed under the heading 'Monotypic Genera,' although some of them are tautonymic, and others, besides being monotypic, had their types originally designated by the founder. Under the heading 'Type by Tautonymy' are placed only polytypic genera the types of which depend upon tautonymy.

The original constitution of each genus has been given in a former paper (this 'Bulletin,' Vol. XXIII, April, 1907, pp. 287-379), and also the conditions under which the species here given as types came to be the types. It is considered unnecessary to repeat this information here.

1. TYPE DETERMINED SOLELY UPON THE BASIS OF THE ORIGINAL PUBLICATION OF THE GENUS.

a. *Polytypic Genera with Type by Original Designation.*

This list includes only polytypic genera which depend for type determination wholly upon the action of the founder at the time of the original publication of the genus. All monotypic genera are included in list *b*, whether or not they depend wholly upon monotypy for their types or have them also designated by the founder or determinable by tautonymy.

Amphispiza Coues, 1874. Type, *Emberiza bilineata* Cass.

Burrica Ridgway, 1887. Type, *Fringilla mexicana* Müller.

Callichelidon Baird, 1865. Type, *Hirundo cyaneoviridis* Bryant.

Canachites Stejneger, 1885. Type, *Tetrao canadensis* Linn. To replace *Canace* Reich. 1852, preoccupied.

Centrocercus Swainson, 1831. Type, *Tetrao urophasianus* Linn.

- Ceophloeus** Cabanis, 1862. Type, *Picus lineatus* Linn. Extralimital.
- Chamæthlypis** Ridgway, 1887. Type, *Geothlypis poliocephala* Baird.
- Cryptoglaux** Richmond, 1901. Type, *Strix tengmalmi* Gmel. To replace *Nyctala* Brehm, 1828, preoccupied.
- Cyanocitta** Strickland, 1845. Type, *Corvus cristatus* Linn.
- Gymochorea** Coues, 1864. Type, *Procellaria leucorrhoa* Vieill.
- Daption** Stephens, 1826. Type, *Procellaria capensis* Linn.
- Dendragapus** Elliot, 1864. Type, *Tetrao obscurus* Say. In reality monotypic, the several forms regarded as species in 1864 being now treated as subspecies of *T. obscurus*.
- Endomychura** Oberholser, 1899. Type, *Brachyrhamphus hypoleucus* Xantus. To replace *Micruria* Ogilvie-Grant, 1898, preoccupied.
- Fregetta** Bonaparte, 1855. Type, *Thalassidroma leucogastra* Gould = *Procellaria grillaria* Vieill.
- Glaucionetta** Stejneger, 1885. Type, *Anas clangula* Linn. = *Clangula* Leach, 1819, or Oken, 1817.
- Hydranassa** Baird, 1858. Type, *Ardea ludoviciana* Wils.
- Hylocichla** Baird, 1864. Type, *Turdus mustelinus* Gmel.
- Iridoprogne** Coues, 1878. Type, *Hirundo bicolor* Vieill.
- Lanivireo** Baird, 1866. Type, *Vireo flavifrons* Vieill.
- Melospiza** Baird, 1858. Type, *Fringilla melodia* Wils.
- Muscivora** G. Fischer, 1813 (ex Lacépède, 1799). Type, *Muscicapa forficata* Gmel.
- Myioborus** Baird, 1865. Type, *Setophaga verticalis* Swains.
- Myiozetetes** Sclater, 1859 (ex Bonaparte, 1854, *nomen nudum*). Type, "*Elainia cayennensis* auct." = *Muscicapa cayennensis* Linn.
- Platypsaris** Sclater, 1857 (ex Bonaparte, 1854, *nomen nudum*). Type, *Pachyrhamphus latirostris* Bonap.
- Sphyrapicus** Baird, 1858. Type, *Picus varius* Linn.

b. Monotypic Genera.

In many cases the type is also indicated 'by original designation,' and in a few cases also by tautonymy. In each case only a single species was included when the genus was originally founded. In some instances the type was virtually indicated by the founder without a distinct statement to that effect. It is thus often difficult to decide whether a genus should be placed here or in the preceding list, unless the separation is made on the basis of whether the genera are polytypic or monotypic.

Actochelidon Kaup, 1829. Type, *Sterna cantiaca* Gmel.

Actodromas Kaup, 1829. Type, *Tringa minuta* Leisler.

Æchmophorus Coues, 1862. Type, *Podiceps occidentalis* Lawr. Also by original designation.

Æronautes Hartert, 1892. Type, *Cypselus melanoleucus* Baird.

Æthia Dumont, 1816. Type, *Alca cristatella* Pall. Antedates *Simorhynchus* Merrem, 1819, with same type by subsequent designation.

Ajaia Reichenbach, 1852. Type, *Platalea ajaja* Linn. Also tautonymic.

Alcella Stone, 1907. Type, *Alca pygmæa* Gmel. Also by original designation. Replaces *Phaleris* of the A. O. U. Check-List.

Alle Link, 1806. Type, *Alca alle* Linn. Also tautonymic. [Not seen.]

Anhinga Brisson, 1760. Type, [*Anhinga*] *anhinga* Briss. = *Plotus anhinga* Linn. Also tautonymic. Antedates *Plotus* Linn.

Aphriza Audubon, 1839. Type, *A. townsendi* Aud. = *Tringa virgata* Gmel.

Aramus Vieillot, 1816. Type, *Ardea scolopacea* Linn.

Archibuteo Brehm, 1828. Type, *Falco lagopus* Linn.

Arctonetta Gray, 1855. Type, *Fuligula fischeri* Brandt. To replace *Lampronetta* Brandt.

Arenaria Brisson, 1760. Type, [*Arenaria*] *arenaria* Briss. = *Tringa interpres* Linn. Also tautonymic.

Aristonetta Baird, 1858. Type, *Anas vallisneria* Wilson. Also by original designation.

Arquatella Baird, 1858. *Tringa maritima* Brünn.

Arremonops Ridgway, 1896. Type, *Emberiza rufivirgata* Lawr. Also by original designation.

Asarcia Sharpe, 1896. Type, *Parra variabilis* Linn. 1766 = *Fulica spinosa* Linn. 1758.

Asturina Vieillot, 1816. Type, *A. cinerea* Vieill. = *Falco nitidus* Gmel.

Asyndesmus Coues, 1866. Type, *Picus torquatus* Wils. Also by original designation.

Auriparus Baird, 1864. Type, *Ægithalus flaviceps* Sund. Also by original designation.

Bæolophus Cabanis, 1850. Type, *Parus bicolor* Linn.

Bartramia Lesson, 1831. Type, *B. laticauda* Less. = *Tringa bartramia* Wils. = *T. longicauda* Bechst. Also tautonymic.

Basileuterus Cabanis, 1848. Type, *Sylvia vermivora* Vieill.

Bombycilla Vieillot, 1807. Type, *B. cedrorum* Vieill. Replaces *Ampelis* Linn. of the A. O. U. Check-List.

Brewsteria Maynard, 1896. Type, *Falco ferrugineus* Licht. Also by original designation.

Budytes Cuvier, 1817. Type, *Motacilla flava* Linn.

Bulweria Bonaparte, 1842. Type, *Procellaria bulweri* Jard. & Selby. Also by virtual tautonomy.

- Buteola** Bonaparte, 1855. Type, *Buteo brachyurus* Vieill.
- Butorides** Blyth, 1849. Type, *Ardea javanica* Horsf.
- Calamospiza** Bonaparte, 1838. Type, *Fringilla bicolor* Towns. (pre-occupied) = *Calamospiza melanocorys* Stejn.
- Calcarius** Bechstein, 1802. Type, *Fringilla lapponica* Linn.
- Calidris** Illiger, 1811. Type, *Charadrius calidris* Linn. = *Tringa arenaria* Linn. Also tautonymic.
- Callipepla** Wagler, 1832. Type, *C. strenua* Wagl. = *Ortyx squamatus* Vig.
- Calothorax** Gray, 1840. Type, *Ornismya cyanopogon* Less. = *Trochilus lucifer* Swains. Also by original designation.
- Campephilus** Gray, 1840. Type, *Picus principalis* Linn. Also by original designation.
- Camptostoma** Sclater, 1857. Type, *C. imberbe* Scl. Also by original designation. Replaces *Ornithion* of the Check-List, which is extralimital. (Cf. Ridgway, Bds. North and Mid. Amer., IV, 1907, 441 *et seq.*)
- Cardellina** Du Bus, 1850, Type, *C. amicta* Du Bus = *Muscicapa rubrifrons* Giraud. (Not seen.)
- Casarca** Bonaparte, 1838. Type, *Anas rutila* Pallas.
- Catherpes** Baird, 1858. Type, *Thryothorus mexicanus* Swains. Also by original designation.
- Catoptrophorus** Bonaparte, 1827. Type *Scolopax semipalmatus* Gmel.
- Centronyx** Baird, 1858. Type, *Emberiza bairdii* Aud.
- Centurus** Swainson, 1837. Type, *C. carolinensis* Wils. = *Picus carolinus* Linn. Also by original designation.
- Cepphus** Pallas, 1769. Type, *C. lacteolus* Pall. = *Alca grylle* Linn.
- Cerchneis** Boie, 1822. Type, *Falco rupicola* Licht.
- Cerorhinca** Bonaparte, 1828. Type, *C. occidentalis* Bonap. = *Alca monocerata* Pall.
- Chamæa** Gambel, 1847. Type, *Parus fasciatus* Gamb.
- Charitonetta** Stejneger, 1885. Type, *Anas albeola* Linn. Also by original designation.
- Chaulelasmus** Bonaparte (ex Gray, MS.), 1838. Type, *Anas strepera* Linn.
- Chelidonaria** Reichenow, 1889. Type, *Hirundo urbica* Linn. Also by original designation.
- Chen** Boie, 1822. Type, *Anser hyperboreus* Pall.
- Chondestes** Swainson, 1827. Type, *Chondestes strigatus* Swains.
- Chordeiles** Swainson, 1831. Type, *Caprimulgus virginianus* Gmel. Also by original designation.
- Ciceronia** Reichenbach, 1852. Type, *Phaleris nodirostris* Bonap. = *Uria pusilla* Pall.

Cinclus Borkhausen, 1797. Type, *Turdus cinclus* Linn.

Coccyzus Vieillot, 1816. Type, *Cuculus americanus* Linn.

Cœreba Vieillot, 1807. Type, *Certhiola flaveola* Linn.

Colinus Goldfuss, 1820. Type, *Tetrao virginianus* Linn.

Compsohalieu Ridgway, 1884. Type, *Carbo penicillatus* Brandt.
Also by original designation.

Conuropsis Salvadori, 1891. Type, *Psittacus carolinensis* Linn. Also
by original designation. Replaces *Conurus* Kuhl of the Check-List.

Coturnicops Bonaparte, 1856. Type, *Fulica noveboracensis* Gmel.

Creagrus Bonaparte, 1854. Type, *Larus furcatus* Neboux. Also by
original designation.

Creciscus Cabanis, 1856. Type, *Rallus jamaicensis* Gmel. Also by
original designation.

Crex Bechstein, 1802. *Rallus crex* Linn. Also tautonymic.

Crotophaga Linnæus, 1758. Type, *C. ani* Linn.

Cyanocephalus Bonaparte, 1842. Type, *Gymnorhinus cyanocephalus*
Wied. Also tautonymic.

Cyanolæma Stone, 1907. Type, *Ornismya clemencie* Lesson. Also
by original designation. Replaces *Cæligena* Lesson of the Check-List, ex-
tralimital.

Cyanosylvia Brehm, 1828. Type, *Motacilla suecica* Linn. = *Cyanecula*
Brehm, on a later page in the same paper, with type by tautonymy, *Sylvia*
cyanecula Wolf, congeneric with *M. suecica* Linn. Replaces *Cyanecula* of
the Check-List.

Cyrtopelicanus Reichenbach, 1852. Type, *Pelecanus trachyrhynchus*
Lath. = *P. erythrorhynchus* Gmel.

Dafila Stephens 1824. Type, *Dafila caudacuta* Steph. = *Anas acuta*
Linn. Also by original designation.

Dendroica Gray, 1842. Type *Sylvia coronata* Lath. Also by original
designation.

Dichromanassa Ridgway, 1878. Type, *Ardea rufa* Bodd. Also by
original designation.

Dolichonyx Swainson, June, 1827. Type, *Emberiza oryzivora* Wils. =
Fringilla oryzivora Linn. Also by designation of the founder in November,
1827.

Dumatella S. D. W[ood]¹, 1837. Type, *D. felivox* = *Turdus felivox*

¹ "S. D. W." is the author also of a number of other names, both generic and specific, including *Densirostra atricapilla*, proposed to replace *Pyrrhula vulgaris*, which is the only one of them I have seen cited in synonymy. This case was criticised by Hugh E. Strickland in Loudon's Mag. Nat. Hist., VIII Jan. 1835, p. 39, as follows:

"Can S. D. W., for instance, expect that the whole republic of science will take the trouble of relabeling their cabinets, altering their catalogues, or making notes in their works of reference, because an anonymous writer fancies that he can improve *Pyrrhula vulgaris* by changing it to *Densirostra atricapilla*?"

December, 1807.]

Vieillot = *Muscicapa carolinensis* Linn. *Dumatella* antedates *Galeoscoptes* Cabanis, Oct. (?) 1850, with same type by subsequent designation (Baird, Rev. Am. Bds., 1864, 54), and *Spodesilaura* Reichenbach, March, 1850, monotypic, based on the same species. (For further comment on *Dumatella* see Stone, Auk, XXIV, April, 1907, 193.)

Dryobates Boie, 1826. Type, *Picus pubescens* Linn.

Dytes Kaup, 1829. Type, *Colymbus auritus* Linn.

Egretta Forster, 1817. Type, *Ardea garzetta* Linn.

Elanoides Vieillot, 1818. Type *Falco forficatus* Linn.

Elanus Savigny, 1809. Type *E. cæsius* Savig. = *Falco melanopterus* Daudin.

Empidonax Cabanis, 1855. Type, *Tyrannula pusilla* Swains.

Ereunetes Illiger, 1811. Type, *E. petrificatus* Ill. = *Tringa pusilla* Linn. Antedates *Symphemia* Rafinesque, 1819, monotypic, with same type.

Ergaticus Baird, 1865. Type, *Setophaga rubra* Swains. Also by original designation.

Erionetta Coues, 1884. Type, *Anas spectabilis* Linn. Also by original designation.

Erismatura Bonaparte, 1832. Type, *Anas jamaicensis* Gmel. To replace *Oxyurus* Swainson, 1827, preoccupied.

Erolia Vieillot, 1816. Type, *Erolia variegata* Vieill. = *Tringa ferruginea* Brünn. Antedates *Ancylocheilus* Kaup, 1829, monotypic, with same type.

Eudromias Brehm, 1831. Type, *Charadrius morinellus* Linn.

Euethia Reichenbach, 1850. Type, *Fringilla lepida* Linn.

Eugenes Gould, 1856. Type, *Trochilus fulgens* Swains.

Euphagus Cassin, 1866. Type, *Psarocolius cyanocephalus* Wagler = *Scolecophagus* Swainson, 1832 (preoccupied), monotypic, with same type by original designation.

Eurynorhynchus Nilsson, 1824. Type, *E. griseus* Nilsson = *Platalea pygmaea* Linn.

Exanthemops Elliot, 1868. Type, *Anser rossii* Cass.

Florida Baird, 1858. Type *Ardea cærulea* Linn.

Fratercula Brisson, 1760. Type, [*Fratercula*] *fratercula* Briss. = *Alca arctica* Linn. Also tautonymic.

Fregata Lacépède, 1799. Type, le Frégate = *Pelecanus aquilus* Linn.

"*Densirostra* Wood" is cited by Gray in his 'List of Genera of Birds,' first as a synonym of *Strotilophaga* Vieillot, 1816 (1840-41), and later (1855) as a synonym of *Pinicola* Vieillot, 1807. Waterhouse gives: "*Densirostra* Wood, The Analyst, a Journ. Sci. Lit. Nat. Hist., III, pp. 32, 204 (1835)." This seems to satisfactorily identify "S. D. W." as S. D. Wood, who was for some years not only a frequent contributor to 'The Analyst' but to 'Loudon's Magazine of Natural History,' a dozen or more notes, short articles and book reviews, signed S. D. W., being contained in Vol. VIII, 1835.

Gelochelidon Brehm, 1830. Type, *G. balthica* Brehm. = *Sterna nilotica* Hasselq.

Geococcyx Wagler, 1831. Type, *G. variegata* Wagl. = *Saurothera californiana* Less.

Guara Reichenbach, 1852. Type, *Scolopax ruber* Linn.

Gymnogyps Lesson, 1842. Type, *Vultur californianus* Shaw. (Not seen.)

Hæmatopus Linnæus, 1758. Type, *H. ostralegus* Linn.

Haliæetus Savigny, 1809. Type, *H. nisus* Savign. = *Falco albicilla* Linn.

Halocyptena Coues, 1864. Type, *H. microsoma* Coues. Also by original designation.

Harelda Stephens, 1824. Type, *H. glacialis* = *Anas hyemalis* + *glacialis* Linn.

Harporhynchus Cabanis, 1847. To replace the monotypic genus *Harpes* Gambel, 1845 (preoccupied), with *Harpes rediviva* Gambel as type.

Helmitheros Rafinesque, 1819. Type, *H. migratorius* Raf. = *Sylvia vermivora* Wils. = *Motacilla vermivora* Gmel. Also type by "virtual tautonomy." Antedates *Vermivora* Swains. 1827, with same type by tautonomy and by designation of the founder.

Helodromas Kaup, 1829. Type, *Tringa ochropus* Linn.

Hesperiphona Bonaparte, 1850. Type, *Fringilla vespertina* Cooper. Also by original designation.

Heteractitis Stejneger, 1884. Type, *Scolopax incanus* Gmel. To replace *Heteroscelus* Baird, 1858, monotypic, with same type, preoccupied.

Hierofalco Cuvier, 1817. Type, *Falco candicans* Gmel. = *F. islandus* Brunn.

Histrionicus Lesson, 1828. Type, *Anas histrionicus* Linn. Also by both original designation and tautonomy.

Icteria Vieillot, 1807. Type, *Icteria dumicola* Vieill. = *Turdus virens* Linn.

Ictinia Vieillot, 1816. Type, *Falco plumbeus* Gmel.

Ionornis Reichenbach, 1850. Type, *Fulica martinica* Linn.

Ixoreus Bonaparte, 1854. Type, *Turdus naevius* Gmel. Also by original designation.

Jabiru Hellmayr, 1906. Type, *Ciconia mycteria* Lichtenstein (1819) = *Mycteria americana* auct. nec Linn. Also by original designation. (Cf. Hellmayr, Abhandl. der K. B. Akad. Wissen., II Kl., XXII Bd., 3 Abt., p. 711, May 20, 1906.) Replaces *Mycteria* of the Check-List and of authors generally.

Junco Wagler, 1831. Type, *Junco phæonotus* Wagler = *Fringilla cinerea* Swains. (preoccupied).

Kamptorhynchus Eyton, 1838. Type, *Anas labradoria* Gmel. = *Campotolaimus* Gray, 1841, of the Check-List.

Leptopelicanus Reichenbach, 1852. Type, *Pelecanus fuscus* Gmel. = *P. onocrotalus* β *occidentalis* Linn.

Leptotila Swainson, 1837. Type, *P. [eristera] rufaxilla* Selby.

Leucosticte Swainson, 1832. Type, *Linaria (Leucosticte) tephrocotis* Swains. Also by original designation.

Lobipes Cuvier, 1817. Type, *Tringa lobata* Linn.

Lophodytes Reichenbach, 1852. Type, *Mergus cucullatus* Linn.

Machetes Cuvier, 1817. Type, *Tringa pugnax* Linn. Antedates *Pavoncella* Forster, 1817, with same type by inference only.

Macronectes Richmond, 1905. Type, *Procellaria gigantea* Gmel. To replace *Ossifraga* H. & J., 1844, preoccupied, with same type.

Macrorhamphus Forster, 1817. Type, *Scolopax griseus* Gmel.

Megalestris Bonaparte, 1856. Type, *M. catarrhactes* Bonn. = *Catharacta skua* Brünn.

Melanerpes Swainson, 1831. Type, *Picus erythrocephalus* Linn. Also by original designation.

Mergellus Selby, 1840. Type, *Mergus albellus* Linn. (Not seen.)

Micropalama Baird, 1858. Type, *Tringa himantopus* Bonap. Also by original designation.

Micropallas Coues, 1889. Type, *Athene whitneyi* Cooper. To replace *Micrathene*. Coues, 1886, preoccupied, with same type by original designation.

Mimus Boie, 1826. Type, *Turdus polyglottos* Linn. Antedates *Orpheus* Swains., 1828, and *Mimetes* Gloger, 1842, each with same type.

Mniotilta Vieillot, 1816. Type, *Motacilla varia* Linn.

Molothrus Swainson, 1831. Type, *Fringilla pecoris* Gmel. = *Oriolus ater* Bodd. Also by original designation.

Myadestes Swainson, 1838. Type, *Myadestes genibarbis* Swains.

Mycteria Linnæus, 1758. Type, *M. americana* Linn. = *Tantalus loculator* Linn., posterior in precedence on the same page. Hence *Tantalus* is a synonym of *Mycteria*, both being founded on the same species.

The generic diagnosis of *Mycteria* was evidently taken from Marcgrave's figure and description of the Jabiru, but that of the species was based on Marcgrave's Jabiru-guacu = Catesby's Wood Pelican (*Pelecanus sylvestris* on the plate), which is the sole basis of Linnæus's *Tantalus loculator*. The amended Article 30 of the International Code of Nomenclature provides: "A genus proposed with a single original species takes that species as its type." The same provision is also included in the Revised A. O. U. Code

(as yet unpublished). This renders it necessary to treat *Tantalus* as a synonym of *Mycteria*, which precedes *Tantalus* on the same page.¹

Myiochanes Cabanis, 1859. Type, *Tyrannula curtipes* Swains. = *Platyrhynchus cinereus* Spix. apud Sclater, P. Z. S., 1859, 43, footnote. To replace *Syrichtha* Bonap., 1854 (preoccupied), with same type. = *Contopus* Cabanis, 1855 (preoccupied), type *Muscicapa virens* Linn., a species congeneric with *P. cinereus* Spix. = *Horizopus* Oberholser, 1899, to replace *Contopus* (preoccupied), with same type. (Cf. Ridgway, Bds. North and Mid. Amer., IV, 1907, 509.)

Nannus Bilberg, 1828. Proposed as a substitute for *Troglodites* Cuvier, 1817, monotypic and tautonymic, with *Motacilla troglodytes* Linn. as type. Antedates *Olbiorchilus* Oberholser, 1902, with same type. (On *Nannus* Bilberg, see Stone, Auk, April 1907, 194.)

Neocorys Sclater, 1857. Type, *Alauda spragueii* Aud. Also by original designation.

Netta Kaup, 1829. Type, *Anas rufina* Pall.

Nettion Kaup, 1829. Type, *Anas crecca* Linn.

Nomonyx Ridgway, 1880. Type, *Anas dominica* Linn. Also by original designation.

Nucifraga Brisson, 1760. Type, [*Nucifraga*] *nucifraga* Briss. = *Corvus caryocatactes* Linn. Also tautonymic.

Nuttallornis Ridgway, 1887. Type, *Tyrannus borealis* Swains. Also by original designation.

Nyctanassa Stejneger, 1887. Type, *Ardea violacea* Linn. Also by original designation.

Nyctidromus Gould, 1838. Type, *N. derbyanus* Gould = *Caprimulgus albicollis* Gmel.

Oceanites Keyserling & Blasius, 1840. Type, *O. wilsoni* Bonap. = *Procellaria oceanica* Kuhl. Also 'by virtual tautonymy.'

Oceanodroma Reichenbach, 1852. *Procellaria furcata* Gmel.

Ochthodromus Reichenbach, 1852. Type, *Charadrius wilsonius* Ord.

Onychoprion Wagler, 1832. Type *Sterna serrata* Wagler = *S. fuliginosa* Gmel. = *Haliplana* Wagler, 1832 (on a later page of the same volume), monotypic, with same type.

Oreortyx Baird, 1858. Type, *Ortyx pictus* Dougl. Also by original designation.

Oreospiza Ridgway, 1896. Type, *Fringilla chlorura* Aud. Also by original designation.

¹ By these changes *Mycteria americana* of the Check-List and of authors generally becomes *Jabiru mycteria* (Licht.) Hellmayr, and *Tantalus locustator* Linn. becomes *Mycteria americana* Linn. For a statement of the case in detail see Auk, XXV, Jan. 1908, p—.

Ornithion Hartlaub, 1853. Type, *Ornithion inerme* Hartl. Extralimital. Replaced by *Camptostoma* Sclater, 1857.

Oroscoptes Baird, 1858. Type, *Orpheus montanus* Towns.

Otocoris Bonaparte, 1838. Type, *Alauda chrysolæma* Wagler, a subspecies of *Alauda alpestris* Linn.

Otus Pennant, 1769. Type, *O. bakkamana* Penn. Antedates *Scops* Savigny, 1809, and *Megascops* Kaup, 1829, both with *Strix asio* Linn., a congeneric species, as type.

Oxyechus Reichenbach, 1852. Type, *Charadrius vociferus* Linn.

Pachysylvia Bonaparte, 1850. Type, *Sylvicola decurtata* Bonap. = *Hylophilus* Temminck, 1823 (preoccupied), with type *H. thoracicus* by subsequent designation.

Pagophila Kaup, 1829. Type, *Larus eburneus* Phipps = *L. albus* Gunn. = *Gavia* Boie, 1822, nec *Gavia* Forster, 1788, nec *Gavia* Goldfuss, 1820.

Pallasicarbo Coues, 1899. Type, *Phalacrocorax perspicillatus* Pallas. Also by original designation.

Pandion Savigny, 1809. Type, *Falco haliætus* Linn.

Parabuteo Ridgway, 1874. Type, *Falco unicinctus* Temm. To replace *Antenor* Ridgway, 1873, with same type by original designation.

Passerella Swainson, 1837. Type, *Fringilla iliaca* Merrem.

Pediæcetes Baird, 1858. Type, *Tetrao phasianellus* Linn. Also by original designation.

Pelagodroma Reichenbach, 1852. Type, *Procellaria marina* "Forst." (= Lath.).

Pelionetta Kaup, 1829. Type, *Anas perspicillata* Linn.

Penthestes Reichenbach, 1850. Type, *Parus lugubris* Temm.

Peucedramus Coues, 1876. Type, *Sylvia olivacea* Giraud. Also by original designation.

Phainopepla Sclater, 1858. Type, *Ptilogonys nitens* Swains. Also by original designation.

Phalænoptilus Ridgway, 1880. Type, *Caprimulgus nuttalli* Aud. Also by original designation.

Philacte Bannister, 1870. Type, *Anas canagica* Sevest.

Philohela Gray, 1841. Type, *Scolopax minor* Gmel. Also by original designation.

Phlæotomus Cabanis, 1863. Type, *Picus pileatus* Linn. To replace *Hylatomus* Baird, 1858, preoccupied.

Phœbastria Reichenbach, 1852. Type, *Diomedea brachyura* Temm. = *D. albatrus* Pall.

Phœbetria Reichenbach, 1852. Type, *Diomedea fuliginosa* Gmel.

- Phœnicopterus** Linnæus, 1758. Type, *P. ruber* Linn.
- Picicorvus** Bonaparte, 1850. Type, *Corvus columbianus* Wils.
- Pinicola** Vieillot, 1807. Type, *Pinicola rubra* Vieill. = *Loxia enucleator* Linn.
- Pipilo** Vieillot, 1816.¹ Type, *Fringilla erythrophthalma* Linn.
- Piranga** Vieillot, 1807. Type, *Piranga rubra* Vieill. = *Fringilla rubra* Linn.
- Pitangus** Swainson, 1827. Type, *Lanius sulphuratus* Linn.
- Plautus** Brünnich, 1772. Type, *Alca impennis* Linn. Antedates *Torda* Dumeril, 1806, with same type.
- Plectrophenax** Stejneger, 1882. Type, *Emberiza nivalis* Linn. Also by original designation.
- Plegadis** Kaup, 1829. Type, *Tringa autumnalis* Hasselq.
- Podasocys** Coues, 1866. Type, *Charadrius montanus* Towns. Also by original designation.
- Podilymbus** Lesson, 1831. Type, *Colymbus podiceps* Linn.
- Polyborus** Vieillot, 1816. Type, *Falco tharus* Mol.
- Polysticta** Eyton, 1836. Type, *Anas stelleri* Pall. = *Stelleria* Bonaparte, 1838, = *Eniconetta* Gray, 1840, both with same type.
- Poœcetes** Baird, 1858. Type, *Fringilla graminea* Gmel.
- Porzana** Vieillot, 1816. Type, *Rallus porzana* Linn. Also tautonymic.
- Priocella** Hombron & Jacquinot, 1844. Type, *P. garnottii* H. & J. = *Procellaria glacialoides* Smith.
- Progne** Boie, 1826. Type, *Hirundo purpurea* Wils. = *Hirundo subis* Linn.
- Protonotaria** Baird, 1858. Type, *Motacilla protonotaria* Gmel. = *Motacilla citrea* Bodd. Also tautonymic.
- Psaltiriparus** Bonaparte, 1850. Type, *Psaltiriparus personatus* Bonap. = *Parus melanotis* Hartl.
- Ptychoramphus** Brandt, 1837. Type, *Uria aleutica* Pall.
- Pyrhuloxia** Bonaparte, 1850. Type, *Cardinalis sinuatus* Bonap.
- Recurvirostra** Linnæus, 1758. Type, *R. avocetta* Linn.
- Regulus** Cuvier, 1799. Type, *Motacilla regulus* Linn. Also tautonymic.
- Rhantistes** Kaup, 1829. Type, *Procellaria glacialis* Linn. Replaces *Fulmarus* Stephens, 1826, *auct.*, of the Check-List, with same type by subsequent designation by Gray in 1855. Gray designated as type of *Fulmarus* a species already type of a monotypic genus.

¹ **Hortulanus** Vieillot, 1807. This genus contained originally three species, with no type indicated. Vieillot himself apparently never again made use of the name but later (1817) referred two of the species to his subsequent genus *Passerina* (1816), and made the other the type of his subsequent genus *Pipilo* (1816). No later author has cited the name except in synonymy, and it has consequently never had any standing, nor, of course, any type. All of the species originally referred to it later became the types of other genera. Under Article 30 of the International Code *Hortulanus* has no standing.

Rhodostethia Macgillivray, 1840. Type, *Larus rosea* Macgill. Also by original designation.

Rhynchofalco Ridgway, 1873. Type, *Falco femoralis* Temm. = *F. fusco-caerulescens* Vieill. Also by original designation.

Rhynchophanes Baird, 1858. Type, *Plectrophanes maccownii* Lawr.

Rhynchopsitta Bonaparte, 1854. Type, *Macrocercus pachyrhynchus* Swains.

Riparia Forster, 1817. Type, *Riparia europæa* Forst. = *Hirundo riparia* Linn. Also tautonymic. Antedates *Clivicola* Forster, 1817, and *Cotile* Boie, 1822, both with same type.

Rissa Stephens, 1825. Type, *R. brunnichii* Steph. = *Larus tridactylus* Linn. 1758 = *L. rissa* et *tridactyla* Linn. 1766; hence also tautonymic. Also type by original designation.

Rostrhamus Lesson, 1831. Type, *R. niger* Less. = *Herpetotheres sociabilis* Vieill.

Sayornis Bonaparte, 1854. Type, *Tyrannula nigricans* Swains.; *T. saya* Swains., by designation of Gray in 1855, a species congeneric with *nigricans*.

Sitta Linnæus, 1758. Type, *S. europæus* Linn.

Somateria Leach, 1819. Type, *Anas mollissima* Linn.

Spatula Boie, 1822. Type, *Anas clypeata* Linn. = *Anas* Swainson (nec Linn.) 1831, with same type.

Speotyto Gloger, 1842. Type, *Strix cunicularia* Mol.

Spizella Bonaparte, 1832. Type, *Fringilla pusilla* Wilson.

Starnœnas Bonaparte, 1838. Type, *Columba cyanocephala* Linn.

Steganopus Vieillot, 1819. Type, *S. tricolor* Vieill.

Stelgidopteryx Baird. Type, *Hirundo serripennis* Aud. Also by original designation.

Stellula Gould, 1861. Type, *Callothorax calliope* Gould.

Sternula Boie, 1822. Type, *Sterna minuta* Linn.

Sturnella Vieillot, 1816. Type, *Alauda magna* Linn.

Surnia Duméril, 1806. Type, *Strix funerea* Linn.

Syrnium Savigny, 1809. Type, *S. ululans* = *Strix aluco* Linn. 1766 (nec *aluco* Linn. 1758).

Tachybaptus Reichenbach, 1849. Type, *Colymbus ruficollis* Pallas. = *Podiceps* Latham, 1787, untenable. (Cf. Bull. Amer. Mus. Nat. Hist., XXIII, 1907, 289.)

Tachytiorchis Kaup, 1844. Type, *Falco pterocles* Temm. = *Buteo albicaudatus* Vieill.

Tangavius Lesson, 1839. Type, *T. involucratus* Lesson = *Molothrus* [æneus] *robustus* Cab. Antedates *Callothrux* Cassin, 1866, monotypic, with *Psarocolius æneus* Wagler as type.

Tantalus Linnæus, 1758. Type, *Tantalus loculator* Linn. = *Mycteria americana* Linn. Hence = *Mycteria* Linn.

Thalassidroma Vigors, 1825. Type, *Procellaria pelagica* Linn. Also by original designation. Replaces *Procellaria* of the Check-List.

Thalassogeron Ridgway, 1884. Type *Diomedea culminata* Gould. = *Thalassarche* Reich., 1852, preoccupied. Also by original designation.

Thrassaëtos Gray, 1838. Type, *Vultur harpyia* Linn. To replace *Harpyia* Ill., 1816, preoccupied.

Thryomanes Sclater, 1862. Type, *Troglodytes bewickii* Aud.

Thryothorus Vieillot, 1816. Type, *Troglodytes arundinaceus* Vieill. (part) = *Sylvia ludoviciana* Lath. (Cf. Baird, Bds. N. Am., 1858, 359; Allen, Bull. Am. Mus. Nat. Hist., XXIII, 1907, 374.)

Toxostoma Wagler, 1831. Type, *T. vetula* Wagler = *Orpheus curvirostris* Swains.

Trogon Brisson, 1760. Type, *Trogon strigilatus* Linn. = *T. viridis* Linn. Of Brisson's 6 species 3 are not positively identifiable; the other 3 are referable to a single species, commonly known as *Trogon viridis* Linn. = *T. strigilatus* Linn. which has precedence of position on the same page over *viridis*.

Tryngites Cabanis, 1856. Type, *Tringa subruficollis* Vieill. Also by original designation.

Tympanuchus Gloger, 1842. Type, *T. cupido* Glog. = *Tetrao cupido* Linn.

Urubitinga Lafresnaye, 1843. Type, *Falco urubitinga* Gmel. Also tautonymic.

Xanthocephalus Bonaparte, 1850. Type, *X. perspicillatus* (Licht.) = *Icterus xanthocephalus* Bonap. Also tautonymic.

Xema Leach, 1819. Type, *Larus sabinii* Leach.

Xenopicus Baird, 1858. Type, *Leuconerpes albolarvatus* Cass.

Zamelodia Coues, 1880. To replace *Habia* Reich. (preoccupied), monotypic, with *Guiraca melanocephala* Swains. as type.

Zenaidura Bonaparte, 1854. Type, *Columba carolinensis* Linn.

c. Polytypic Genera with Type dependent upon Tautonomy.

The following list includes only those genera of which the type rests solely upon the condition of tautonomy. Many other genera are tautonymic, but are also monotypic, and for reasons already stated (p. 13) are placed in list *b*.

Accipiter Brisson, 1760. Type, [*Accipiter*] *accipiter* Briss. = *Falco nisus* Linn.

Amizilis Gray, 1840. Type, *Orthorhynchus amizili* Less.

Anser Brisson, 1760. Type, [*Anser*] *domesticus* Briss. ex Gesner = *Anas anser* Linn.

Aquila Brisson, 1760. Type, [*Aquila*] *aquila* Briss. = *Falco chrysaetos* Linn.

Asio Brisson, 1760. Type, [*Asio*] *asio* Briss. = *Strix otus* Linn.

Bubo Duméril, 1806. Type, *Strix bubo* Linn.

Buteo Cuvier, 1799. Type, *Falco buteo* Linn.

Cardinalis Bonaparte, 1837. Type, *Cardinalis virginianus* Bonap. = *Loxia cardinalis* Linn.

Carduelis Brisson, 1760. Type, [*Carduelis*] *carduelis* Briss. = *Fringilla carduelis* Linn.

Clangula Leach, 1819 (ex Gesner), or Oken, 1817.¹ Type, *Anas*

¹ Oken in his 'Cuviers und Oken's Zoologien neben einander gestellt' (Isis oder Encyclopädische Zeitung, VIII, 1817, Nos. 144-148, pp. 1143-1186), in transcribing Cuvier's names of groups, gave to some of Cuvier's vernacular names a Latin form, without citing the vernacular names or giving any indication of their relation to Cuvier's groups beyond the order of succession and the fact that his names happen to be for the most part tautonymic. If these names of Oken are to be recognized, as some contend (see Gill, Proc. U. S. Nat. Mus., XXVI, 1903, pp. 965-967; and Stone, Auk, XXIV, 1907, p. 191), they will replace several current names and carry back the authority and date of a few others to Oken, 1817. The names in ornithology thus affected are:

Cuvier's Names.	Oken's Names.	Cuvier's Names.	Oken's Names.
Sarcelles.	Querquedula.	Les Colins.	Colin.
Les Tadornes.	Tadorna.	Les Francolins.	Francolinus.
Les Souchets.	Souchet.	Les Houppifères.	Houppifere.
Les Millouins.	Marila.	Les Alectors.	Alector.
Les Eiders.	Eider.	Les Jacamerops de Lavaillant.	Jacamerops.
Les Garrots.	Clangula.	Les Hoérotaires.	Hoerataria.
Les Macreuses.	Macreuse.	Les Remis.	Remis.
Les Bernaches.	Bernicla.	La Moustache.	Moustache.
Les Fregattes.	Fregata.	Le Sirli.	Sirli.
Les Noddis.	Noddi.	Le Calandre.	Calandra.
Le Courlan ou Courili.	Courlan.		Podarg.
La Demoiselle de Numidie.	Numidica.	La Grive proprement dite.	Grive
Les Tridactyles.	Tridactylus.		

As shown by the above list, some of Oken's names are merely Cuvier's vernacular names used in the singular instead of in the plural number. Fortunately, as in the cases of Macreuse and Colin, they refer to groups having a number of species, and no type is indicated; in other cases, as Souchet, Houppifere, and Noddi, they are monotypic, and the type is thus determinable. In still others, there are earlier names for the groups here designated by Oken by merely French names. A number of Oken's names that appear in Latin form are synonyms of earlier names; but seven appear here for the first time, though current in systematic ornithology from later authors. These are:

Querquedula, type by tautonymy, *Anas querquedula* Linn. = *Querquedula* Stephens, 1824.
Tadorna, type by tautonymy, *Anas tadorna* Linn. = *Tadorna* (Leach MS.) Fleming, 1822.
Marila, type by tautonymy, *Anas marila* Linn. = *Marila* Bonaparte, 1856 (nec Reichenbach, 1852) = *Fuligula* Stephens, 1824; type by tautonymy, *Anas fuligula* Linn., a species congeneric with *Anas marila*.
Clangula, type by tautonymy, *Anas clangula* Linn. = *Clangula* Leach, 1819.
Francolinus, type by tautonymy, *Tetrao francolinus* Linn. = *Francolinus* Stephens, 1819.
Houppifere, monotypic, with *Phasianus ignifer* Shaw & Nodder as type (nec *Houppifere* Guérin-Meneville, 1829-38) = *Lophura* Fleming, 1822.
Jacamerops, monotypic, with *Alcedo grandis* Gmel. as type = *Jacamerops* Lesson, 1831.
Hoerataria, monotypic, with *Certhia vestitaria* "Shaw" (i. e. Latham) as type = *Vestiaria* Fleming, 1822.

If these names be considered tenable, they will affect three genera of North American Birds, namely, *Querquedula*, *Fuligula*, and *Clangula*, changing the date and authority of the first two without affecting the type, and replacing *Fuligula* with *Marila*.

Personally I am opposed to recognizing any of the names proposed by Oken in the paper here under notice, and would favor the reference of this and all similar cases to the International Commission on Zoological Nomenclature for arbitration, its decision to be recognized as final. In this case of Oken, the correlation of his names with Cuvier's groups is wholly inferential, or on the principle of exclusion, as Oken mentions no species as either the type or as a representative species of any of his group names; their tautonymic character it thus also inferential, though probable. On the other hand, the new names given are often not the names he adopts in his own classification. As an example, Les Cormorans Cuvier are called in the Cuvier column *Cormoran*, although Cuvier used for them the technical name *Phalacrocorax*, with *Carbo* and *Halieus* as alternatives or synonyms, while Oken, in his own classification, adopts *Halieus*.

clangula Linn. Antedates *Glaucion* Stejneger, 1885, with same type by original designation.

Oeligena Lesson, 1832. Type, *C. (Ornismya) oeligena* Less.

Fuligula Stephens, 1824. Type, *Anas cristata* Stephens ex Ray = *Anas fuligula* Linn.

Gallinago Koch, 1816. Type, *Scolopax gallinago* Linn.

Gallinula Brisson, 1760. Type, [*Gallinula*] *gallinula* Briss. = *Fulica chloropus* Linn.

Glottis Koch, 1816. Type, *G. natans* Koch = *Totanus glottis* Bechst. = *Scolopax nebularius* Gunn.

Himantopus Brisson, 1760. Type, [*Himantopus*] *himantopus* Briss. = *Charadrius himantopus* Linn.

Icterus Brisson, 1760. Type, [*Icterus*] *icterus* Briss. = *Oriolus icterus* Linn.

Ispida Brisson, 1760. Type, [*Ispida*] *ispida* Briss. = *Alcedo ispida* Linn. This species was erroneously designated as the type of *Alcedo* Linn. by Gray in 1840. Extralimital.

Jacana Brisson, 1760. Type, [*Jacana*] *jacana* Briss. = *Parra jacana* Linn.

Lagopus Brisson, 1760. Type, [*Lagopus*] *lagopus* Briss. = *Tetrao lagopus* Linn.

Limosa Brisson, 1760. Type, [*Limosa*] *limosa* Briss. = *Scolopax limosa* Linn.

Numenius Brisson, 1760. Type [*Numenius*] *numenius* = *Scolopax arquata* Linn.

Nyctea Stephens, 1826. Type, *N. erminea* (Shaw), = *Strix nyctea* Linn.

Nycticorax Stephens. Type, *Nycticorax europeus* Steph. = *Ardea nycticorax* Linn.

Nyroca Fleming, 1822. Type, *Anas nyroca* Gldenst. (*Nyroca* Fleming = *Aythya* Boie, preoccupied.)

Passer Brisson, 1760. Type, [*Passer*] *passer domesticus* Briss. = *Fringilla domestica* Linn. = *Pyrgita* Cuvier, 1817, with same type. The type of *Passer* by designation of the first reviser (Gray, 1840) is also *Fringilla domestica* Linn., but this act was subsequent to the founding of *Pyrgita* (1817), and is thus void. The type of *Passer* as currently accepted thus depends upon tautonomy and not on the first reviser.

Phalacrocorax Brisson, 1760. Type, [*Phalacrocorax*] *phalacrocorax* Briss. = *Pelecanus carbo* Linn.

Phalaropus Brisson, 1760. Type, [*Phalaropus*] *phalaropus* Briss. = *Tringa fulicaria* Linn. Antedates *Crymophilus* Vieill, 1816, monotypic, with same type.

Pica Brisson, 1760. Type, [*Pica*] *pica* Briss. = *Corvus pica* Linn.

Puffinus Brisson, 1760. Type, [*Puffinus*] *puffinus* Briss. = *Procellaria puffinus* Brünn. (1764) and Linn. (1766).

Pyrrhula Brisson, 1760. Type [*Pyrrhula*] *pyrrhula* Briss. = *Fringilla pyrrhula* Linn.

Querquedula Stephens, 1824. Type, *Anas circia* Linn. = *Anas querquedula* Linn.

Quiscalus Vieillot, 1816. Type, *Gracula quiscalus* Linn.

Spinus Koch, 1816. Type, *Fringilla spinus* Linn.

Squatarola Cuvier, 1817. Type, *Tringa squatarola* Linn.

Stercorarius Brisson, 1760. Type, [*Stercorarius*] *stercorarius* Briss. = *Larus parasiticus* Linn.

Sula Brisson, 1760. Type [*Sula*] *sula* Briss. = *Sula piscator* Linn.

Tetrao Linnæus, 1758. Type, *T. tetrix* Linn., by "virtual tautonymy." Gray, in 1840, designated *T. urogallus* Linn. as type, the tautonymic type of *Urogallus* Scopoli, 1777, and of Fleming, 1822. Extralimital.

Totanus Bechstein, 1803. Type, *Scolopax totanus* Linn.

Tyrannus Lacépède, 1799. Type, *Lanius tyrannus* Linn.

Uria Brisson, 1760. Type, [*Uria*] *uria* Briss. = *Colymbus troile* Linn.

Urile Bonaparte, 1855. Type, *Phalacrocorax bicristatus* Pall. = *Pelecanus urile* Gmel. (part).

Vanellus Brisson, 1760. Type, [*Vanellus*] *vanellus* Briss. = *Tringa vanellus* Linn.

Zenaida Bonaparte, 1838. Type, *Columba zenaida* Bonap.

2. CASES IN WHICH THE GENERIC TYPE IS NOT ACCEPTED SOLELY UPON THE BASIS OF THE ORIGINAL PUBLICATION.

d. Polytypic Genera with Type by Subsequent Designation.

The following list includes only genera the determination of the types of which depends upon subsequent designation. In other words, genera containing more than one species when founded but for which no types were indicated by the founder at the time of the original publication of the genus.¹

Acanthis Borkhausen, 1797. Type, *Fringilla linaria* Linn., by elimination. = *Acanthis* Bechstein, 1802, with same type by designation of Stejneger in 1884 (Auk, I, 145).

Acanthopneuste Blasius, 1858. Type, *Phyllopneuste borealis* Blasius by designation of Ridgway in 1904 (Bds. N. and Mid. Amer., III, 1904, 694).

¹ The references to Gray are to his several 'List of Genera of Birds,' 1840, 1841, 1855. In case the type by subsequent designation rests on some other author, the place of such designation is definitely stated.

Actitis Illiger, 1811. Type, *Tringa hypoleucos* Linn., by designation of the A. O. U. Nomenclature Committee in 1866. = *Actitis* Boie, 1822, monotypic, with *T. hypoleucos* Linn. as type, all the other species of the original genus being removed to other genera.

Ægialitis Boie, 1822. Type, *Charadrius hiaticula* Linn., by designation of Gray in 1855. *Ægialitis* was rejected by Gray in 1840 because of its supposed prior use in botany. In its place he adopted *Hiaticula* Moehr., with the same species as type.

Æstrelata Bonaparte, 1856. Type, *Procellaria hasitata* Kuhl, by designation of Coues in 1866 (Proc. Acad. Nat. Sci. Phila., 1866, 137).

Agelaius Vieillot, 1816. Type, *Oriolus phaniceus* Linn., by designation of Gray in 1840.

Aimophila Swainson, 1837. Type, *A. rufescens* Swains., by designation of Gray in 1840.

Aix Boie, 1822. Type, *Anas sponsa* Linn., by designation of Gray in 1840. *Dendronessa* Swainson, 1831, sometimes synonymized with *Aix*, has *Anas galericulata* Linn. as type by original designation.

Alauda Linnæus, 1758. Type, *Alauda arvensis* Linn., by designation of Swainson in 1827 (Zool. Journ., III, 1827, 344).

Alca Linnæus, 1758. Type, *Alca torda* Linn., by designation of the A. O. U. Nomenclature Committee in 1886. (*Torda* Duméril, 1806, is based on *Alca impennis* Linn. and has nothing to do with *Alca torda* Linn.; it is a strict synonym of *Plautus* Brünn., 1772, and has been so synonymized by leading systematists for many years.

Ammodramus Swainson, June, 1827. Type, *Fringilla caudacuta* Wils. = *Oriolus caudacutus* Gmel., by designation of the founder in November, 1827.

A number of genera were founded by Swainson in 1827 under such peculiar circumstances that they require special consideration. These genera are *Vermivora*, *Tiaris*, *Ammodramus*, *Xiphorhynchus*, and *Lamprolaima*. They appeared first in a paper on the Bullock collection of Mexican birds. This paper was published in two parts, in the May and June numbers of the 'Philosophical Magazine' (new ser., I, pp. 364-369, May, 1827, and pp. 433-442, June, 1827). Another paper had been previously written and sent for publication to the 'Zoological Journal,' containing diagnoses of several genera, with explicit designation of their types, which first appeared in the paper on Mexican birds. The first-written paper was unexpectedly long delayed in publication, greatly to the disappointment of the author, as he has stated, who was powerless to prevent the inopportune delay. 'This paper was also published in two parts, in the 'Zoological Journal' (III, pp. 158-175) April-July, 1827, and pp. 343-363, August-November, 1827).

The Mexican collection contained birds referred to some of the new genera described in the 'Zoological Journal' paper, and, in lieu of describing these genera over again here, the author gave a reference to the other paper, giving as full a citation as possible, omitting only the page, in each case, as follows: "*Swains. in Zool. Journ.* No. 10," where a full description is given and a type designated. In several instances the species referred in the 'Philosophical Magazine' paper to these new genera are different from the species the author designated as the type; sometimes several were thus referred, sometimes only one. In the latter case the genus was monotypic when it appeared in May or June in the 'Philosophical Magazine,' two or five months (as the case may be) ahead of its intended first publication in the 'Zoological Journal,' and thus has in this actual first publication a basis by both priority and monotypy. In the former case, where several species were referred to one of the new genera, the first publication of the generic name fails to establish the type, which rests on subsequent designation by the author two or five months later.

The type by designation of the author has been universally recognized as the type in all these cases for three fourths of a century. The genera in question are for the most part large groups, as modern genera go, each containing several species and many subspecies. To now wrest from these genera their long-recognized types by the strict enforcement of a technicality, against palliative circumstances, will produce serious confusion in the nomenclature of these groups. If the author had failed to give a reference to the place of publication of the diagnoses and types, the latter obviously selected before the other paper was published, the case would be quite different. The author did all he could to establish his types, and his reference to the place of their publication makes them virtually types by original designation. I therefore prefer in the present connection to take the types designated by the author in preference to the fortuitous and unintentioned types resulting from the earlier publication of a later written paper. As this course is, however, opposed to the views of some of my colleagues, I respectfully offer this unique case to the Nomenclature Commission of the International Zoological Congress for final arbitration.

If the case is decided adversely to the types designated by the author in a paper intended to be the first place of publication of these genera, the following changes will result.

Helminthophila will be replaced by *Vermivora*, properly a synonym of *Helmiteros*.

Tiaris will be replaced by *Euetheia* Reichenb. 1850, and *Euetheia* will be replaced by *Charitospiza* Oberholser, 1905, based on the type of *Tiaris* as designated by the founder.

Ammodramus will be replaced by the later genus *Coturniculus*, and the group recognized for 75 years as *Ammodramus* becomes *Ammospiza* Oberholser, 1905, with the type designated by the founder of *Ammodramus* as the type of that genus, or by *Passerherbulus* Maynard, 1895, with the type a species congeneric with the type of *Ammodramus*.

Xiphorhynchus will replace *Dendroornis* Eyton, 1852, which is reduced to synonymy, and the group known universally for 75 years takes the new name *Xiphornis* Oberholser, 1905.

Lampornis will replace *Oreopyra* Gould, 1861, and the group universally recognized as *Lampornis* for 75 years will take the name *Anthracothonax* Boie, 1831.

In the 'Philosophical Magazine' paper (*l. c.*, p. 462) Swainson referred to it only the single species *Lampornis amethystinus* Swains. (not *Trochilus amethystinus* Gmel.), which subsequent writers appear to have wholly overlooked, as it is not cited by any of the recent monographers of the Trochilidae. The species is evidently *Oreopyra calolema* Salvin, 1864, a species considered congeneric with *Oreopyra leucaspis* Gould, 1861, which should apparently be known as either *Lampornis amethystina* Swains. or *Oreopyra amethystina* (Swains.).

In his later description of the genus *Lampornis* (*Zool. Journ.*, III, 1827, 358, Swainson referred to it three species, without designating either as the type, and without including the species originally referred to it. The type was subsequently designated by the founder in 1837 (*Class. Bds.*, II, 330) as *Trochilus mango* Linn., which species has since always been accepted as the type.

It should be added that Swainson's *L. amethystinus* was doubtless wrongly attributed to Mexico, as the genus *Oreopyra* Gld. is apparently not found north of Costa Rica. In like manner his *Cynanthus minimus*, described as a new species and not since recognized by monographers, was apparently based on a specimen of *Mellisuga minima* (Linn.), a West Indian species. Cf. Allen, this Bulletin, XXIII, 1907, 347, footnote.

Ampelis Linnæus, 1766. Type, *Ampelis pompadora* Linn., by elimination, no type having been correctly determined by subsequent designation. (See *antea*, p. 12.)

Anas Linnæus, 1758. Type, *Anas boschas* Linn., by designation of Gray in 1840. = *Boschas* Swainson, 1831, tautonymic, with same type. Before Swainson established *Boschas* in 1831, the genus *Anas* had been restricted by general consent to *Anas boschas* and closely allied (strictly congeneric) species, as it has been by all authors since. Gray, in designating *A. boschas* as the type, in 1840, only followed the general usage. Swainson's action in 1831, making *A. clypeata* the type of *Anas*, is obviously invalid, since *clypeata* was already the type of the monotypic genus *Spatula* Boie, 1822.

Anous Stephens, 1826. Type, *Anous niger* Steph. (not *Sterna nigra* Linn., as alleged by Stone¹) = *Sterna stolidus* Linn., by designation of Gray in 1840. (Cf. Strickland, *Ann. and Mag. Nat. Hist.*, VII, May, 1841, 40; also Saunders, *Brit. Mus. Cat. Bds.*, XXV, 1896, 136, 137.)

¹ Science, N. S., XXVI, 445, Oct. 4, 1907.

Anthus Bechstein, 1807. Type, *Anthus aquaticus* Bechst. = *Alauda spinoletta* Linn., by designation of Swainson in 1837 (Class. Bds., II, 249).

Antrostomus Bonaparte (ex Gould MS.), 1838. Type, *Caprimulgus carolinensis* Gmel., by designation of Gray in 1840.

Aphelocoma Cabanis, 1851. Type, *Garrulus californicus* Vigors, by designation of Sharpe in 1877 (Brit. Mus. Cat. Bds., 1877, 112).

Ardea Linnæus, 1758. Type, *Ardea cinerea* Linn., by designation of Gray in 1840.

Astragalinus Cabanis, 1851. Type, *Fringilla tristis* Linn., by designation of Gray in 1855.

Astur Lacépède, 1801. Type, *Falco palumbarius* Linn., by designation of Vigors, 1825 (Zool. Journ., I, Oct. 1824, 326).

Atthis Reichenbach, 1853. Type, *Ornismya heloisæ* Less. & Delatt., by designation of Gray in 1855.

Basilinna Boie, 1831. Type, *Trochilus leucotis* Vieill., by designation of Gray in 1855.

Bonasa Stephens, 1819. Type, *Tetrao umbellus* Linn., by designation of Gray in 1840. Antedates *Hyllobrontes* Stone, 1907, with same type.

Botaurus Stephens, 1819. Type, *Ardea stellaris* Linn., by designation of Gray in 1840.

Brachyrampus Brandt, 1837. Type, *Colymbus marmoratus* Gmel., by designation of Gray in 1840.

Branta Scopoli, 1769. Type, *Anas bernicla* Linn., by designation of Bannister in 1870 (Proc. Acad. Nat. Sci. Phila., 1870, 131).

Calypte Gould, 1856. Type, *Ornismya costæ* Bourc., by designation of Elliot in 1879 (Mon. Trochil., 106).

Carpodacus Kaup, 1829. Type, *Loxia erythrina* Linn., by designation of Gray in 1855. = *Erythrina* Brehm, 1828, with same type, preoccupied by *Erythrinus* Gron. 1763.

Catharista Vieillot, 1816. Type, *Vultur urubu* Vieill., by designation of Sharpe in 1874 (Brit. Mus. Cat. Bds., I, 23). *Catharista* originally included only two species, and the other (*aura*) is type of *Cathartes*, both by subsequent designation and elimination.

Cathartes Illiger, 1811. Type, *Vultur aura* Linn., by designation of Vigors in 1825 (Zool. Journ., II, Oct. 1825, 384). Antedates *Rhinogryphus* Ridgway, 1874, and *Ænops* Sharpe, 1874, both with same type.

Certhia Linnæus, 1758. Type, *Certhia familiaris* Linn., by designation of Swainson in 1837 (Class. Bds., II, 312) and by Gray in 1840.

Ceryle Boie, 1828. Type, *Alcedo rudis* Linn., by designation of Gray in 1840.

Chætura Stephens, 1825. Type, *Chætura macroptera* Swains. = *Hirundo*

caudacuta Lath., by designation of Swainson in 1837 (Class. Bds., II, 340). Not *Cypselus spinicaudus* Temm. as designated by Gray in 1855, this being not one of the original species.

Charadrius Linnæus, 1758. Type, *C. apricarius* Linn., by designation of Gray in 1840.

Chloroceryle Kaup, 1848. Type, *Alcedo amazona* Lath., by designation of Gray in 1840.

Circus Lacépède, 1801. Type, *Falco æruginosus* Linn., by designation of Lesson in 1828 (Man. d'Orn., I, 1828, 105) and by Gray in 1840. Gray changed his designation of type in 1855 to *F. cyaneus* Linn., a species congeneric with *F. æruginosus*.

Cistothorus Cabanis, 1850. Type, *Troglodytes stellaris* Licht., by designation of Gray in 1855.

Colaptes Swainson, June, 1827. Type, *Cuculus auratus* Linn., by designation of the founder in November, 1827.

Columba Linnæus, 1758. Type, *C. palumbus* Linn., by designation of Swainson in 1837 (Class. Bds., II, 348) and of Gray in 1840. The type by elimination falls on a congeneric species — *C. ænas* β *domestica* Linn. = *C. livia* Bonn., the species designated by Gray in 1855 as the type.

Columbina Spix, 1825. Type, *Columba passerina* Linn., by designation of Gray in 1840. Antedates *Chæmepelia* Swains. 1827, with same type by designation of Gray in 1841. Replaces *Columbigallina* Boie, 1826 (nec Oken, 1817, indeterminable), monotypic, with same type.

Colymbus Linnæus, 1758. Type *Colymbus cristatus* Linn., by designation of the A. O. U. Nomenclature Committee in 1886. Not *Colymbus glacialis* Linn. as designated by Swainson in 1837 and by Gray in 1840, this species being not one of the original species.

Compsothlypis Cabanis, 1850. Type, *Parus americanus* Linn., by designation of Gray in 1855.

Conurus Kuhl, 1820. Type, "*Conurus vittatus* (Shaw)" = *Psittacus vittatus* Shaw, by designation of Gray in 1840. = *Pyrrhura* Bonaparte, 1856, with same type. Not *Conurus* Lesson, 1828, with type, by original designation, "*Psittacus rufirostris* L. enl. 550" = *Psittacus torquatus* Bodd., which is the originally designated type of *Palæornis* Vigors, 1825. Extralimital.

Not *Conurus* Bonaparte, 1850, type *Psittacus carolinensis* Linn., the only described species referred to it, and thus monotypic; nor *Conurus* A. O. U. Nomenclature Committee, 1886, with same type by elimination.

Not *Conurus* Gray, 1855, type, by designation, "*Psittacus guianensis* Linn." = *P. leucophthalmus* Müller; nor *Conurus* Salvadori, 1891, with the same type by designation = *Psittacara* Vigors, 1825 with same type by original designation. In this connection the following related genera may be considered:

[**Aratinga** Spix, 1824. Type, *Aratinga cyanogularis* Spix = *Psittacus cruentatus* Wied, by designation of Bonaparte in 1854 (Rev. et Mag. de Zool., 1854, 150). Not *Aratinga* Bonaparte, 1856, monotypic, with *Psittacus guarouba* Gmel. as type; antedated by *Guarouba* Lesson, 1831, with same type by tautonomy. *Aratinga* Spix antedates *Pyrrhura* Bonaparte, 1856, with *Psittacus vittata* Shaw as type, this species being congeneric with the type of *Aratinga* as designated by Bonaparte in 1854.]

[**Psittacara** Vigors, 1825. Type, *Psittacus guianensis* Gmel. = *P. leucophthalmus* Müller, by original designation, later made the type of *Conurus* by Gray in 1855 (not 1840) and by Salvadori in 1891.]

Corvus Linnæus, 1758. Type, *C. corax* Linn., by designation of Gray in 1840.

Coturniculus Bonaparte, 1838. Type, *Fringilla passerina* Wils., by designation of Gray in 1840.

Cuculus Linnæus, 1758. Type, *C. canorus* Linn., by designation of Swainson in 1837 (Class. Bds., II, 322) and of Gray in 1840.

Cynanthus Swainson, 1827. Type, *C. latirostris* Swain., by designation of Stone (Auk, XXIV, 1907, 192) and Allen (Bull. Am. Mus. Nat. Hist., XXIII, 1907, 347) in 1907. = *Circe* Gould, 1857 (preoccupied), and *Iache* Elliot, 1879, both with same type.

Cypseloides Streubel, 1848. Type, *Hemiprocne fumigata* Streubel, by designation of Sclater in 1865 (P. Z. S., 1865, 614).

Cyrtonyx Gould, 1850. Type, *Ortyx montezumæ* Vig., by designation of Gray in 1855.

Dendrocygna Swainson, 1837. Type, *Anas arcuata* Horsf., by designation of Gray in 1840.

Diomedea Linn. 1758. Type, *D. exulans* Linn., by designation of Swainson in 1837 (Class. Bds., II, 373) and of Gray in 1840.

Dysporus Illiger, 1811. Type, *Pelecanus bassanus* Linn., by designation of Swainson in 1837 and Ogilvie-Grant in 1898 (Brit. Mus. Cat. Bds., XXVI, 423).

Ectopistes Swainson, 1827. Type, *E. migratoria* Swains. = *Columba migratoria* Wilson, by designation of the founder in 1837 (Class. Birds, II, 1837, 348).

Euphonia Demarest, 1805. Type, *Pipra musica* Gmel., by designation of Gray in 1840.

Falco Linnæus, 1758. Type, *Falco subbuteo* Linn., by designation of the A. O. U. Nomenclature Committee in 1886. Not *F. peregrinus* as designated by Gray in 1840, this being not one of the original species.

Fulica Linnæus, 1758. Type, *Fulica atra* Linn., by designation of Gray in 1840.

Fulmarus Stephens, 1826. When Gray, in 1855, designated *Procellaria*

glacialis Linn. as type of *Fulmarus*, it was the monotypic type of *Rhantistes* Kaup, 1829. As *Procellaria gigantea* Gmel. became the monotypic type of *Ossifraga* Homb. & Jacq. in 1844, the only species left of the three original species of *Fulmarus* after this date was *Procellaria antarctica* Gmel., which is therefore necessarily its type. Consequently *Fulmarus* must replace *Thalassea* Reich. 1852, based on *P. antarctica* Gmel. The long recognition of *Procellaria glacialis* as type of *Fulmarus* is due to Gray's overlooked error in designating it as the type in 1855, and improperly citing *Rhantistes* as a synonym of *Fulmarus*. Extralimital.

Gavia Forster, 1788. Antedates *Urinator* Cuvier, 1800; type *Colymbus imber* Gunn., by designation of A. O. U. Committee in 1886.

Geothlypis Cabanis, 1847. Type, *Turdus trichas* Linn. To replace *Trichas* Swainson, 1827, preoccupied, with the same type by tautonymy and subsequent designation by the founder.

Geotrygon Gosse, 1847. Type, *G. sylvatica* Gosse (by inference) = *Columba cristata* Temm. & Knip (nec. Gmel.) = *C. versicolor* Lafr., by designation of Gray in 1855.

Glaucidium Boie, 1826. Type, *Strix passerina* Linn., by designation of Gray in 1840. = *Noctua* Savigny, 1809, and *Athene* Boie, 1822, both preoccupied.

Grus Pallas, 1766 (or, preferably, Duméril, 1806). Type, *Ardea grus* Linn., by designation of Gray in 1840. The genus is thus tautonymic by subsequent designation of a type, the genus resting originally on a diagnosis only. (Cf. Allen, Bull. Amer. Mus. Nat. Hist., XXIII, 1907, 313.)

Guiraca Swainson, 1827. Type, *Loxia caerulea* Linn., by designation of Gray in 1840.

Gypagrus Vieillot, 1816. Type, *Vultur papa* Linn., by designation of Sharpe in 1874 (Cat. Bds. Brit. Mus., I, 22), and A. O. U. Committee in 1886. As *Vultur papa* became type of *Sarcorhamphus* of Duméril by subsequent designation by Vigors in 1825, *Gypagrus* is a synonym *Sarcorhamphus*.

Heleodytes Cabanis, 1850. Type, *Furnarius griseus* Swains., by designation of Gray in 1855.

Helinaia Audubon, 1839. Type, *Sylvia swainsonii* Aud., by designation of Coues in 1878 (Bds. Col. Vall., 212).

Helminthophila Ridgway, 1882. Type, *Sylvia rubricapilla* Wilson. To replace *Helminthophaga* Cabanis, 1850, with same type by designation of Gray in 1855.

Hirundo Linnaeus, 1758. Type, *H. rustica* Linn., by designation of Swainson in 1837 (Class. Bds., II, 340) and by Gray in 1840.

Herodias Boie, 1822. Type, *Ardea egretta* Gmel., by designation of Gray in 1855.

Hydrochelidon Boie, 1822. Type, *Sterna nigra* Linn., by designation of Strickland in 1841. Antedates *Viralva* Stephens (ex Leach MS.), 1825, with same type by designation of Strickland in 1841 (Ann. and Mag. Nat. Hist., VII, 40). *Hydrochelidon* was based exclusively on the two strictly congeneric species *Sterna nigra* Linn. and *S. leucoptera* M. & S., one of which must be its type.

Ixobrychus Bilberg, 1828. Type, *Ardea minuta* Linn., as designated by Stone in 1907 (Auk, April, 1907, 192). Antedates *Ardetta* Gray, 1842, monotypic, with same type. *Ixobrychus* originally contained two species: *Ardea minuta* Linn. and *A. stellaris* Linn. As Gray designated *A. stellaris* as type of *Botaurus* in 1840, only *A. minuta* was left in *Ixobrychus*, which thus became its type, so that Gray was in error when in 1842 he proposed *Ardetta* with *A. minuta* as its type and only species.

Lanius Linnaeus, 1758. Type, *L. excubitor* Linn., by designation of Swainson in 1824 (Zool. Journ., I, Oct. 1824, 294).

Larus Linnaeus, 1758. Type, *L. canus* Linn., by designation of Gray in 1855. In 1840 Gray designated *Larus glaucus* Brünn. as type, not described till six years after the genus was founded.

Lophortyx Bonaparte, 1838. Type, *Tetrao californicus* Shaw, by designation of Gray in 1840.

Loxia Linnaeus, 1758. Type, *L. curvirostra* Linn., by virtual designation of Brisson in 1760, whose sole species of *Loxia* was *L. curvirostra* Linn. Also by designation of Gray in 1840, but before Gray designated the type, Brehm (1827) had founded *Curvirostra* for the Crossbills, of which *Loxia curvirostra* is type by tautonymy. Hence, properly the type of *Loxia* Linn. is *L. curvirostra* by virtual designation of Brisson, 1760.

Lunda Pallas, 1811. Type, *Alca cirrhata* Pallas, by designation of Gray in 1840.

Mareca Stephens, 1824. Type, *Anas penelope* Linn., by designation of Gray in 1840.

Megaquiscula Cassin, 1866. Type, *Quiscalus major* Vieill., by designation of Sclater in 1886 (Brit. Mus. Cat. Bds., XI, 1866, 393).

Melanitta Boie, 1822. Type, *Anas fusca* Linn., by designation of Gray in 1840.

Meleagris Linnaeus, 1758. Type, *M. gallopavo* Linn., by designation of Gray in 1840. Antedates *Gallopavo* Brisson, 1760.

Melopelia Bonaparte, 1854. Type, *Columba meloda* Tsch., by designation of Gray in 1855.

Mergus Linn. 1758. Type, *Mergus castor* Linn. = *M. merganser* Linn., by designation of Swainson in 1837 (Class. Bds., II, 369) and of Gray in 1840. Antedates *Merganser* Brisson, 1760.

Motacilla Linnaeus, 1758. Type, *M. alba* Linn., by designation of Gray in 1840.

Myiarchus Cabanis, 1844. Type, *Muscicapa ferox* Gmel., by designation of Gray in 1855.

Oidemia Fleming, 1822. Type, *Anas nigra* Linn., by designation of Gray in 1840.

Olor Wagler, 1832. Type, *Anas cygnus* Linn., by designation of Gray in 1840.

Oporornis Baird, 1858. Type, *Sylvia agilis* Wils., by designation of the founder in 1865 (Rev. Am. Bds., 218).

Ortalis Merrem, 1786. Type, *Phasianus motmot* Linn., by designation of Gray in 1840. (Not seen.)

Parus Linnæus, 1758. Type, *Parus major* Linn., by designation of Gray in 1840.

Passerculus Bonaparte, 1838. Type, *Fringilla savanna* Wils., by designation of Gray in 1840.

Passerina Vieillot, 1816. Type, *Tanagra cyanea* Linn., by designation of Gray in 1840. Antedates *Cyanospiza* Baird, 1858, with same type by original designation.

Pelecanus Linneæus, 1758. Type, *P. onocrotalus* Linn., by designation of Swainson in 1837 (Class. Bds., II, 372) and of Gray in 1840.

Pelidna Cuvier, 1817. Type, *Tringa alpina* Linn., by designation of Coues in 1861 (Proc. Acad. Nat. Sci. Phila., 1861, 187).

Pendulinus Vieillot, 1816. Type, *Oriolus spurius* Linn., by designation of A. O. U. Nomenclature Committee in 1886; not *O. banana* Linn., as designated by Gray in 1855, this being not one of the original species.

Perisoreus Bonaparte, 1831. Type, *Corvus canadensis* Linn., by designation of Gray in 1840.

Petrochelidon Cabanis, 1850. Type, *Hirundo melanogaster* Swains., by designation of Gray in 1855.

Peuceea Audubon, 1839. Type, *Fringilla bachmani* Aud., by designation of Gray in 1855.

Phæthon Linnæus, 1758. Type, *P. æthereus* Linn., by designation of Gray in 1840.

Phaleris Temminck, 1820. Type, *Alca psittacula* Pall., by designation of Swainson in 1837 (Class. Bds. II, 371) and of Gray in 1840. (Not *Phaleris* of the A. O. U. Check-List, 1st and 2d editions.) Antedates *Cyclorhynchus* Kaup, 1829, monotypic, with same type.

Picoides Lacépède, 1801. Type, *Picus tridactylus* Linn., by designation of Gray in 1840. *Picoides*, though originally based on a diagnosis without mention of any species, is clearly monotypic, with type as given above, this being the only three-toed woodpecker known when the genus was founded.

Planesticus Bonaparte, 1854. Type, *Turdus jamaicensis* Gmel., as

designated by Baird in 1864 (Rev. Am. Bds., 12). = *Merula* Leach, 1816, tautonymic, with *Turdus merula* Linn. as type, preoccupied by *Merula* Koch, 1816, = *Pastor* Temm. 1815, with *Turdus roseus* Linn. as type.

Poliophtila Sclater, 1855. Type, *Motacilla cærulea* Linn., by designation of Gray in 1855, and as implied by the founder. = *Culicivora* Swainson, 1837, not of Swainson, 1827.

Priofinus Hombron & Jacquinot, 1844. Type, *Procellaria cinerea* Gmel., by designation of Gray in 1855.

Procellaria Linn., 1758. Type, *P. æquinoctialis* Linn., by designation of Gray in 1840.

Pyrocephalus Gould, 1841. Type, *Muscicapa coronata* Gmel. = *M. rubinus* Bodd., by designation of Gray in 1840.

Rallus Linnæus, 1758. Type, *Rallus aquaticus* Linn., by designation of Gray in 1840. = *Rallus* Bechstein, 1802, and of Boie, 1822; each of these authors restricted *Rallus* to *R. aquaticus* by transferring all of the other original species to other genera, this action, in each case, being tantamount to a 'designation' of *R. aquaticus* as the type of *Rallus*.

Rhyacophilus Kaup, 1829. Type, *Tringa glareola* Linn., by designation of Gray in 1855.

Rhynchodon Nitzsch, 1829. Type, *Falco peregrinus* Latham, by designation of the A. O. U. Nomenclature Committee in 1886.

Salpinctes Cabanis, 1847. Type, *Troglodytes obsoletus* Say, by designation of Gray in 1855.

Sarcorhamphus Duméril, 1806. Type, *Vultur papa* Linn., by designation of Vigors in 1825 (Zool. Journ., II, 381, 384). Replaces *Gypagus*.

Saxicola Bechstein, 1803. Type, *Motacilla œnanthe* Linn., as designated by Gray in 1840.

Scardafella Bonaparte, 1854. Type, *Columba squamosa* Temm., by designation of Gray in 1855.

Scolopax Linnæus, 1758. Type, *S. rusticola* Linn., by designation of Gray in 1840, and as restricted by Koch in 1816. *S. rusticola* is also type by tautonymy of *Rusticola* Vieillot, 1816. Of the several Linnæan species of *Scolopax* found in Bavaria, Koch (Syst. Baier. Zool., I, 1816, p. 310) removed from it all except *rusticola*, making a new (tautonymic) genus for one of them (*S. gallinago*) and placing all the others except *rusticola* in other genera. But he of course formally 'designated' no type. There is thus the alternative of taking Vieillot's tautonymic genus *Rusticola*, of ostensibly¹ the same date with Koch's restriction, and ignoring Koch, thus overthrowing Gray's much later designation of a type, and contravening general usage

¹ It has been claimed that Vieillot's 'Analyse' in which *Rusticola* was proposed, was not published till 1817. Cf. Lesson, Man. d'Orn., I, 1828, 50, footnote.

for nearly a century. Only by respecting Koch's virtual designation of a type for *Scolopax* in 1816 can the traditional type of *Scolopax* be preserved.

Scotiaptex Swainson, 1837. Type, *Strix cinerea* Gmel. = *S. nebulosa* Forster, by designation of the A. O. U. Nomenclature Committee in 1889 (First Suppl. A. O. U. Check-List, 1889, 21).

Seiurus Swainson, May, 1827. Type, *Motacilla aurocapillus* Linn., by designation of the founder in July, 1827.

Selasphorus Swainson, 1831. Type, *Trochilus rufus* Gmel., by designation of Gray in 1855.

Setophaga Swainson, May, 1827. Type, *Muscicapa ruticilla* Linn., by designation of the founder in November, 1827.

Sialia Swainson, May, 1827. Type, *Motacilla sialis* Linn., by designation of the founder in November, 1827.

Spiza Bonaparte, 1824. Type, *Emberiza americana* Gmel., by designation of the founder in 1827 (Specch. Comp. della Orn. di Roma e di Filadelfia, 1827, 47, footnote). Antedates *Euspiza* Bonap., 1832, with same type.

Sporophila Cabanis, 1844. Type, *Pyrrhula cinereola* Temm. = *Fringilla hypoleuca* Licht., by designation of Sharpe, 1888 (Brit. Mus. Cat. Bds., XII, 1888, 90); not *Pyrrhula falcistrostris* Temm. sp. indet., as designated by Gray in 1855. Established as a substitute for *Spermophila* Swainson, 1827 (preoccupied), and therefore *Sporophila* takes the same type. As *Spermophila* originally contained only two species, and one of them has proved to be indeterminable, the type is necessarily the other = *Fringilla hypoleuca* Licht.

Streptoceryle Bonaparte, 1854. Type, *Alcedo torquata* Linn., by designation of Gray in 1840.

Strix Linnaeus, 1758. Type, *Strix flammea* Linn., by designation of Lesson in 1828 (Man. d'Orn., I, 1828, 114) and of Gray in 1840.

Sturnus Linnaeus, 1735. Type, *S. vulgaris* Linn., by designation of Swainson in 1837 and of Gray in 1840.

Synthlyboramphus Brandt, 1837. Type, *Alca antiquus* Gmel., by designation of Gray in 1840.

Tachycineta Cabanis, 1850. Type, *Hirundo thalassina* Swains., by designation of Gray in 1855.

Thalasseus Boie, 1822. Type, *Sterna caspia* Pallas, by designation of Gray in 1855, and long previously by elimination, the other two of the three species becoming the types of monotypic genera, respectively, in 1829 and 1830. In 1840 Gray erroneously designated *S. cantiaca*, this species having been made the type of the monotypic genus *Actocheilidon* Kaup, 1829, a genus evidently unknown to Gray in 1840, since in 1855 he not only recognized *Actocheilidon* with *cantiaca* as type, but changed the type of *Thalasseus* from *cantiaca* to *caspia*.

Tiaris Swainson, June, 1827. Type, *Fringilla ornata* Wied, by designation of the founder in November, 1827.

Tinnunculus Vieillot, 1807. Type, *Falco columbarius* Linn., by designation of A. O. U. Nomenclature Committee in 1903 (Auk, XX, 1903, 339). Not *Falco tinnunculus* Linn., as designated by Gray in 1840, this being not one of the original species.

Tringa Linnæus, 1758. Type, *Tringa canutus* Linn., by designation of Gray in 1840. The case of *Tringa* is nearly parallel with that of *Scolopax* (q. v.), *T. canutus* being already the tautonymic type of *Canutus* Brehm (1831) when Gray made it 'type by subsequent designation' of *Tringa* in 1840. As, however, *T. canutus* was the last species removed from *Tringa*, it is its type both by elimination and subsequent designation.

Trochilus Linnaeus, 1758. Type, *Trochilus polytmus* Linn., by designation of Gray in 1840. Antedates the monotypic genus *Aithurus* Cab. 1860, with same type. (See *antea*, p. 12). Swainson in 1837 (Class. Bds., II, 330) gave "*T. longirostris* auct." as type, but this was not one of the original species.

Troglodytes Vieillot, 1807 (= 1808). Type, *T. aëdon* Vieill., by designation of Oberholser in 1902 (Auk, XIX, 175, 176). Not *Troglodites* Cuvier, 1817.

Turdus Linnæus, 1758. Type, *Turdus viscivorus* Linn., by designation of Gray in 1840.

Uranomitra Reichenbach, 1853. Type, *Trochilus franciæ* B. & M., 1846, by designation of Elliot in 1879 (Synop. Trochil., March, 1879, 195).

Vermivora Swainson, June, 1827. Type, *Sylvia vermivora* Wils., by designation of the author in November, 1827. Antedated by *Helmitheros* Rafinesque, 1819, monotypic, with the same type. (See *antea*, pp. 29-31.)

Vireo Vieillot, 1807. Type, *Muscicapa noveboracensis* Gmel., by designation of Gray in 1840.

Vireosylva Bonaparte, 1838. Type, *Muscicapa olivacea* Linn., by designation of Gray in 1840.

Wilsonia Bonaparte, 1838. Type, *Motacilla mitrata* Gmel., by designation of A. O. U. Nomenclature Committee in 1899 (Auk, XVI, 1899, 123).

Xanthoura Bonaparte, 1850. Type, *Corvus peruanus* Gmel. = *C. yncas* Bodd., by designation of Gray in 1855.

Yphantes Vieillot, 1816. Type, *Oriolus baltimore* Linn., 1766. = *Cora-cias galbula* Linn., 1758, by designation of Gray in 1855.

Zonotrichia Swainson, 1831. Type, *Fringilla pennsylvanica* Lath. = *F. albicollis* Gmel., by designation of Bonaparte in 1832 (Sagg. Distr. Metod. Anim. Vertebr., 1832, 83).

III. SUMMARY.

An analysis of the foregoing lists of genera and subgenera yields results of interest. A few exotic genera are included, but 429 of the 442 formally considered are represented in the A. O. U. Check-List area of North America.

Monotypic genera, or those containing only a single species when founded	236
Polytypic genera, or those containing two or more species when founded	206
	—
	442
Polytypic genera with type by original designation	25
Polytypic genera with type by absolute tautonymy	44
Polytypic genera with type by subsequent designation	137
	—
	206

Of these 442 genera and subgenera, 71 per cent. have the type determinable on the basis of the original description, and in 29 per cent. the determination of the type depends upon subsequent conditions.

In the monotypic genera, which exceed 56 per cent. of the total, the type is fixed automatically at the time the genus is founded. About one third of the monotypic genera have the type also designated by the founder, and in about one tenth the type is also tautonymic.

Of the polytypic genera, the type is found to depend upon the designation of the founder at the time of the original publication of the genus in slightly over 12 per cent. of the cases, and upon absolute tautonymy in 21 per cent. of the cases. This leaves 66 per cent. in which type determination rests upon subsequent action by the founder or by some other author.

A careful analysis of the list of polytypic genera shows that the type is absolutely determinable by elimination, in its most restricted sense, in only 94 out of 139 cases, or in a little more than 67 per cent. The cases to which restricted elimination does not apply are: (1) genera based solely on a diagnosis; (2) genera containing originally only congeneric species; (3) genera containing two or more congeneric species after the noncongeneric species have been removed. These three categories form 33 per cent. of the total number of polytypic genera, in which the type is necessarily established solely on the basis of subsequent designation. In the case of many of the early genera, the type was established by elimination 20 to 50 years or more before any species became "type by subsequent designation" as defined under rule *g* of Article 30 of the International Code.

Restricted elimination is difficult to apply in the case of some of the large Linnæan genera, where, through the action of such ultra splitters as

Boie, Kaup, Brehm, Bonaparte, Reichenbach, and others, of the middle of the last century, every species became the type of some so-called genus or subgenus,—in some instances the type of several such divisions,—now rated as nominal. Only by relegating these to synonymy can a type be selected by elimination which will be the same as the type now accepted by general consent. In several cases the species which have come to be the unanimously accepted types of these genera became so by the restriction of the original genus by some early author to one of its species, as in *Loxia*, *Actitis*, and *Scolopax*, a proceeding tantamount to 'type by subsequent designation,' though not so recognized by Article 30.

In the present paper, when the designation of a type by a first reviser has been made in contravention of all official rules of nomenclature, from 1842 to 1905, and of the new Article 30 of the International Code when logically construed, such designations have been rejected as invalid. Illustrations, taken from Gray, have already been given (pp. 10–13) of invalid types by subsequent designation. The two principal sources of such errors are: (1) the designation of a species as a type which was not one of the originally included species of the genus; (2) the selection of a type which was already the type of some other genus. These errors were frequently committed by Gray's predecessors in type designation, as well as by Gray himself; but Gray, as already stated (*antea*, p. 8), corrected most of his errors in type fixing, and his corrections have been accepted by subsequent authors, while his erroneous determinations of types have been as uniformly rejected. Thus, to mention a few cases among many, he designated as types of *Colymbus*, *Larus*, *Falco*, *Tinnunculus*, *Vultur*, and *Troglodytes* species not originally included in them, and for *Alca*, *Thalasseus*, *Fulmarus*, *Tetrao*, *Cyanocitta*, and *Ampelis*, species that had long before become the types of other genera.

To make a fetish of the 'type by subsequent designation' rule, and give it precedence over all other rules, would be not only revolutionary but grossly illogical, resulting in the needless overturn of a large number of genera long accepted in their present sense. And without any compensating advantages whatever, for type by first subsequent designation, right or wrong, is no more a hard and fast rule than type by subsequent designation in conformity to rules *a–d* of Article 30. The two methods are also on an absolute parity in respect to facility of enforcement.

Of the 197 polytypic genera and subgenera of the A. O. U. Check-List, 8 become changed through the determination of the type by rule *g* of the new Article 30 of the International Code of Nomenclature, namely, *Fulmarus*, *Procellaria*, *Mergus*, *Gypagus*, *Conurus*, *Trochilus* *Ampelis*, and *Passerina*, in each case the type species being different from that reached by restricted elimination. In the case of *Fulmarus*, *Procellaria*, and *Ampelis*, elimination,

for the A. O. U. Check-List, was based on the "non-exotic species" rule (A. O. U. Code, Canon XXIII; International Code of 1905, Article 30, recommendation c), which provides that "the process of elimination is to be restricted to the non-exotic species," from the standpoint of the author. In each of these genera there was only one non-exotic species, which was hence the type, but they would not have been types under unrestricted elimination. In the case of *Trochilus*, elimination fails to give satisfactory results, and the hitherto current type rests on general usage, or "consensus of opinion." In the *Mergus*, *Gypagus*, *Conurus*, and *Passerina* cases, the type by elimination is changed by the "type by subsequent designation" rule = 5 instances in a total of 197 genera.

On the other hand, to take the species *first* made the type by subsequent designation, *right or wrong*, many additional and wholly superfluous changes in generic names would be necessary, of which the following may serve as examples, based on Gray's work as a first reviser. If Swainson and others were also included, many changes additional to those here given would probably be required. The following illustrations also exclude genera the types of which by subsequent designation were species not originally included in them.

Alca Linn. 1758, would become *Pinguinus* Bonn. 1790.

Plautus Brünn. 1772, would become *Alca* Linn.

Thalasseus Boie, 1822, would become *Hydroprogne* Kaup, 1829.

Actochelidon Kaup, 1829, would become *Thalasseus* Boie.

Egretta Forster, 1817, would become *Herodias* Boie, 1822.

Herodias of the Check-List would become *Leucophoyx* Sharpe, 1894.

Micropalama Baird, 1858, would become *Hemipalama* Bonap. 1828.

Catharista Vieill. 1816, would become a synonym of *Cathartes* Ill. 1811.

Catharista of current usage would require a new name.

Urubitinga Lafres. 1843, would become *Morphnus* Cuv. 1817.

Morphnus of current usage would require a new name.

Helinaia Aud. 1839, would become a synonym of *Helmitheros* Raf. 1819.

Helinaia of current usage would require a new name.

I do not attribute to the learned Nomenclature Commission of the International Zoölogical Congress the intention of making rule *g* of Article 30 superior to the rules which precede it, and which it is explicitly stated shall be applied "in the order of precedence," and thus enforce first type designations whether right or wrong, in contravention of fundamental rules of all previous official codes; the possibility of such a conception would not have occurred to me had it not been forced upon my attention by certain naturalists who have placed this construction upon rule *g*. The one method conserves present generic nomenclature, the other entails needless changes and confusion.

Concordance of Changes from the A. O. U. Check-List, as recognized in 1904.

Since the publication of the last supplement to the A. O. U. Check-List in July, 1904, nearly 40 changes in the generic and subgeneric names then recognized have been shown, through the labors of various investigators, chiefly members of the A. O. U. Nomenclature Committee, to be necessary, most of them through the discovery of earlier names than those adopted, or the non-pertinency, for various reasons, of others. Nearly all these changes have been previously published, and some of the new names have become more or less current. The following concordance is based on the present paper, and includes some changes not yet endorsed by the A. O. U. Committee, while some changes endorsed by the Committee, especially in respect to the Swainsonian genera discussed on preceding pages (pp. 29-31), are not included in the concordance. A number have been acted upon by the Committee tentatively, and are thus virtually still open cases. The order of arrangement is alphabetic; the Check-List names of 1904 are given in the first column, the names here adopted in the second, and the reason of the change in the third.

<i>Check-List Names.</i>	<i>Names here adopted.</i>	<i>Reason of the change.</i>
Ampelis.	Bombycilla.	Not pertinent
Ardetta.	Ixobrychus.	Priority.
Aythya	Nyroca.	"
Callothorus.	Tangavius.	"
Camptolaimus.	Kamptorhynchus.	"
Ceophloeus.	Phlœotomus.	Not pertinent.
Cœligena.	Cyanolæma.	Tautonomy.
Columbigallina.	Columbina.	Preoccupied
Contopus.	Myiochanes.	"
Conurus.	Conuropsis.	Type by subsequent designation.
Crymophilus.	Phalaropus.	Tautonomy.
Cyanecula.	Cyanosylvia.	Priority.
Cyanospiza.	Passerina.	Type by subsequent designation.
Cyclorrhynchus.	Phaleris.	Priority.
Tiaris.	Euetheia.	Not pertinent.
Fulmarus.	Rhantistes.	"
Galeoscoptes.	Dumatella.	Priority.
Gypagus.	Sarcorhamphus.	Type by subsequent designation.
Hylophilus.	Pachysylvia.	Preoccupied.
Iache.	Cyanthus.	Priority.
Megascops.	Otus.	"
Merganser.	Mergus.	Not pertinent
Mergus.	Mergellus.	Type by subsequent designation.
Merula.	Planesticus.	Preoccupied.
Mycteria.	Jabiru.	Not pertinent.

<i>Check-List Names.</i>	<i>Names here adopted.</i>	<i>Reason of the change.</i>
Olbiorchilus.	Nannus.	Priority.
Ornithion.	Camptostoma.	Not pertinent.
Parus.	Penthestes.	" "
Passerina.	Plectrophenax.	Type by subsequent designation.
Pavoncella.	Machetes.	Priority.
Phaleris.	Alcella.	Not pertinent.
Phalaropus.	Lobipes.	Tautonomy.
Procellaria.	Thalassidroma.	Not pertinent.
Podiceps.	Tachybaptus.	" "
Simorhynchus.	Æthia.	Priority.
Tantalus.	Mycteria.	"
Trochilus.	—	Type by subsequent designation.

Index to the Generic Names referred to in this paper.

The names of the genera and subgenera here adopted as tenable for North American birds are printed in plain type; those incidentally mentioned, either as synonyms or as extralimital, are in italic type. The A. O. U. Check-List genera and subgenera number 429 = 388 genera + 41 subgenera. The 126 synonyms and extralimital genera mentioned raise the whole number to 555, for each of which the manner of type determination is indicated.

By the use of abbreviations, placed after the names, the index shows at a glance the basis of the determination of their types, and also whether they were monotypic or polytypic when originally founded. Thus

m = monotypic.

o = type by original designation.

t = type by absolute tautonomy.

m, o = type by both monotypy and original designation.

m, t = type by both monotypy and absolute tautonomy.

m, o, t = type determinable by original designation and by tautonomy as well as by original designation.

ex., = extralimital.

Acanthis, s, 28.	Aimophila, s, 29.	Amphispiza, o, 13.
Acanthopneuste, s, 28.	Aithurus, m, ex., 12, 40.	Anas, s, 31.
Accipiter, t, 25.	Aix, s, 29.	Ancylocheilus, m, 18.
Actitis, s, 29.	Ajaia, m, o, t, 15.	Anhinga, m, t, 15.
Actodromas, m, 14.	Alauda, s, 29.	Anous, s, 10, 31.
Actocheilidon, m, 10, 14, 39, 43.	Alca, s, 10, 29, 43.	Anser, t, 26.
Æchmophorus, m, o, 15.	Alcedo, s, ex., 27.	Antenor, m, 22.
Ægialitis, s, 29.	Alcella, o, 15.	Anthracothorax, ex., 31.
Æronautes, m, 15.	Alle, m, t, 15.	Anthus, s, 32.
Æstelata, s, 29.	Amizilis, o, 26.	Antrostomus, s, 32.
Æthia, m, 15.	Ammodramus, s, 29.	Aphelocoma, s, 32.
Agelaius, s, 29.	Ammospiza, o, 31.	Aphriza, m, 15.
	Ampelis, s, ex., 12, 15, 31.	Aquila, t, 26.

- Aramus, m, 15.
Aratinga, s, ex., 34.
 Archibuteo, m, 15.
 Arctonetta, m, 15.
 Ardea, s, 32.
Ardetta, o, 36.
 Arenaria, m, t, 15.
 Aristonetta, m, o, 15.
 Arquatella, m, 15.
 Arremonops, m, o, 15.
 Asarcia, m, 15.
 Asio, t, 26.
 Astragalinus, s, 32.
 Astur, s, 32.
 Asturina, m, 15.
 Asyndesmus, m, o, 15.
Athene, s, 35.
 Atthis, s, 32.
 Auriparus, m, o, 15.
Aythia, s, 27.
 Bæolophus, m, 15.
 Bartramia, m, t, 15.
 Basileuterus, m, 15.
 Basilinna, s, 32.
Bernicla, t, 26.
 Bombycilla, m, 15.
 Bonasa, s, 32.
Boschas, t, 31.
 Botaurus, s, 32.
 Brachyramphus, s, 32.
 Branta, s, 32.
 Brewsteria, m, o, 15.
 Bubo, t, 26.
 Budytes, s, 15.
 Bulweria, m, t, 15.
 Burrica, o, 13.
 Buteo, t, 26.
 Buteola, m, 16.
 Butorides, m, 16.
 Calamospiza, m, 16.
 Calcarius, m, 16.
 Calidris, m, t, 16.
 Callichelidon, o, 13.
 Callipepla, m, 16.
Callothrux, m, 24.
 Calothorax, m, o, 16.
 Calypste, s, 32.
 Campephilus, m, o, 16.
Camptolaimus, m, 20.
 Campptostoma, m, o, 16.
Canace, m, 13.
 Canachites, o, 13.
Canutus, t, 40.
 Cardellina, m, 16.
 Cardinalis, t, 26.
 Carduelis, t, 26.
 Carpodacus, s, 32.
 Casarca, m, 16.
 Catharista, s, 11, 32, 43.
 Cathartes, s, 11, 32, 43.
 Catherpes, m, o, 16.
 Catoptrophorus, m, 16.
 Centrocercus, o, 13.
 Centronyx, m, 16.
 Centurus, m, o, 16.
Ceophlæus, o, ex., 14.
 Cepphus, m, 16.
 Cerchneis, m, 16.
 Cerorhinja, m, 16.
 Certhia, s, 32.
 Ceryle, s, 32.
Chæmapelia, s, 33.
 Chætura, s, 32.
 Chamæa, m, 16.
 Chamæthlypis, o, 14.
 Charadrius, s, 33.
 Charitonetta, m, o, 16.
Charitospiza, o, 30.
 Chaulelasmus, m, 16.
 Chelidonaria, m, o, 16.
 Chen, m, 16.
 Chloroceryle, s, 33.
 Chondestes, m, 16.
 Chordeiles, m, o, 16.
Circe, m, 34.
 Ciceronia, m, o, 16.
 Cinclus, m, 17.
 Circus, s, 33.
 Cistothorus, s, 33.
 Clangula, t, 26.
Clivicola, m, 24.
 Cœcyzus, m, 17.
Cœligena, t, ex., 17, 27.
 Cœreba, m, 17.
 Colaptes, s, 33.
 Colinus, m, 17.
 Columba, s, 33.
Columbigallina, m, 33.
 Columbina, s, 33.
 Colymbus, s, 33.
 Compsohaleus, m, o, 17.
 Compsothlypis, s, 33.
Contopus, m, o, 21.
 Conuropsis, m, o, 17.
Conurus, s, ex., 17, 33.
 Corvus, s, 34.
Cotile, m, 14.
 Coturnicops, m, 17.
 Coturniculus, s, 34.
 Creagrus, m, o, 17.
 Creciscus, m, o, 17.
 Crex, m, t, 17.
 Crotophaga, m, 17.
Crymophilus, m, 27.
 Cryptoglaux, o, 14.
Cuclicivora, s, 38.
Curvirostra, t, 36.
 Cuculus, s, 34.
Cyanecula, t, 17.
 Cyanocephalus, m, t, 17.
 Cyanocitta, o, 14.
 Cyanolæma, m, o, 17.
Cyanospiza, o, 37.
 Cyanosylvia, m, 17.
Cyclorrhynchus, m, 37.
 Cymochorea, m, 14.
 Cynanthus, s, 34.
 Cypseloides, s, 34.
 Cyrtonyx, s, 34.
 Cyrtopelicanus, m, o, 17.
 Dafila, m, o, 17.
 Daption, o, 14.
 Dendragopus, m, o, 14.
 Dendrocygna, s, 34.
 Dendroica, m, o, 17.
Dendronessa, o, 29.
Dendronis, ex., 31.
Densirostra, m, 18.
 Dichromanassa, m, o, 17.
 Diomedea, s, 34.
 Dolichonyx, m, o, 17.
 Dryobates, m, 10, 18.
 Dumatella, m, 17.
 Dysporus, s, 34.

- Dytes, m, 18.
 Ectopistes, s, 34.
 Egretta, m, 11, **18**, 43.
 Elanoides, m, 18.
 Elanus, m, 18.
 Empidonax, m, 18.
 Endomychura, o, 14.
 Eniconetta, m, 23.
 Ereunetes, m, 18.
 Ergaticus, m, o, 18.
 Erionetta, m, o, 18.
 Erismatura, m, 18.
 Erolia, m, 18.
 Erythrina, t, 32.
 Eudromias, m, 18.
 Euetheia, m, o, **18**, 30.
 Eugenex, m, 18.
 Euphagus, m, 18.
 Euphonia, s, 34.
 Eurynorhynchus, m, 18.
 Euspiza, o, 39.
 Exanthemops, m, 18.
 Falco, s, 34.
 Florida, m, 18.
 Francolinus, t, ex., 26.
 Fratercula, m, t, 18.
 Fregata, m, 18.
 Fregetta, o, 14.
 Fulica, s, 34.
 Fuligula, t, 26, 27.
 Fulmarus, s, ex., 11, **23**, 34.
 Galeoscoptes, s, 18.
 Gallinago, t, 27.
 Gallinula, t, 27.
 Gallopavo, t, 36.
 Garzetta, t, 11.
 Gavia, s, 22, **35**.
 Gelocheleon, m, 19.
 Geococcyx, m, 19.
 Geothlypis, o, 35.
 Geotrygon, s, 35.
 Glaucidium, s, 35.
 Glaucionetta, o, 14, 27.
 Glottis, t, 27.
 Grus, s, 35.
 Guara, m, o, 19.
 Guarouba, t, ex., 34.
 Guiraca, s, 35.
 Gymnogyps, m, 19.
 Gypagrus, s, 35, 38.
 Habia, m, 25.
 Hæmatopus, m, 19.
 Haliæetus, m, 19.
 Haliplana, m, 21.
 Halocyptena, m, o, 19.
 Harelda, m, 19.
 Harpes, m, 19.
 Harporhynchus, m, 19.
 Harpyia, m, 25.
 Heleodytes, s, 35.
 Helinaia, s, **35**, 43.
 Helminthophaga, s, 35.
 Helminthophila, s, 30, **35**.
 Helmitheros, m, 19.
 Helodromas, m, 19.
 Hemipalama, s, 43.
 Herodias, s, 11, **35**, 43.
 Hesperiphona, m, o, 19.
 Heteractitis, m, 19.
 Heterocelus, m, 19.
 Hierofalco, m, 19.
 Himantopus, t, 27.
 Hirundo, s, 35.
 Histrionicus, t, 19.
 Hætataria, m, ex., 26.
 Horizopus, o, 21.
 Hortulanus, 23.
 Houppijere, m, ex., 26.
 Hydranassa, m, 14.
 Hydrochelidon, s, 10, **36**.
 Hydroprogne, t, 43.
 Hylatomus, m, 22.
 Hylobrontes, o, 32.
 Hylocichla, o, 14.
 Hylophilus, s, 22.
 Iache, o, 34.
 Icteria, m, 19.
 Icterus, t, 27.
 Ictinia, m, 19.
 Ionornis, m, o, 19.
 Iridoprogne, o, 14.
 Ispida, t, ex., 27.
 Ixobrychus, s, 36.
 Ixoreus, m, o, 19.
 Jabiru, m, o, 19.
 Jacamerops, m, ex., 26.
 Jacana, t, 27.
 Junco, m, 19.
 Kamplorhynchus, m, 20.
 Lagopus, t, 27.
 Lampornis, s, ex., 31.
 Lampronetta, m, 15.
 Lanius, s, 36.
 Lanivireo, o, 14.
 Larus, s, 36.
 Leptopelicanus, m, o, 20.
 Loptotila, m, 20.
 Leucophoyx, m, 43.
 Leucosticte, m, o, 20.
 Limosa, t, 27.
 Lobipes, m, 20.
 Lophodytes, m, o, 20.
 Lophortyx, s, 36.
 Loxia, s, 36.
 Lunda, s, 36.
 Machetes, m, 20.
 Macronectes, m, 20.
 Macrorhamphus, m, 20.
 Mareca, s, 36.
 Marila, t, 26.
 Megalestris, m, 20.
 Megalopterus, m, 10.
 Megaquiscula, s, 36.
 Megascops, m, 22.
 Melanerpes, m, o, 20.
 Melanitta, s, 36.
 Meleagris, s, 36.
 Melopelia, s, 36.
 Melospiza, o, 14.
 Merganser, s, 36.
 Mergellus, m, 20.
 Mergus, s, 36.
 Merula, t, 38.
 Micrathene, m, o, 20.
 Micrura, o, 14.
 Micropalama, m, o, **20**, 43.
 Micropallas, m, o, 20.

- Mimetes*, m, 20.
Mimus, m, 20.
Mniotilta, m, 20.
Molothrus, m, o, 20.
Morphnus, s, ex., 43.
Motacilla, s, 36.
Muscivora, o, 14.
Myadestes, m, 20.
Mycteria, m, 20.
Myiarchus, s, 37.
Myioborus, o, 14.
Myiochanes, m, 21.
Myiozetetes, o, 14.

Nannus, m, 21.
Neocorys, m, t, 21.
Netta, m, 21.
Nettion, m, 21.
Noctua, m, 35.
Nomonyx, m, o, 21.
Nucifraga, m, t, 21.
Numenius, t, 27.
Nuttallornis, m, o, 21.
Nyctala, m, 14.
Nyctanassa, m, o, 21.
Nyctea, t, 27.
Nycticorax, t, 27.
Nyetidromus, m, 21.
Nyroca, t, 27.

Oceanites, m, 21.
Oceanodroma, m, o, 21.
Ochthodromus, m, o, 21.
Œnops, s, 32.
Oidemia, s, 37.
Olbiorchilus, o, 21.
Olor, s, 37.
Onychoprion, m, 21.
Oporornis, s, 37.
Oreopyra, m, ex., 31.
Oreortyx, m, o, 21.
Oreospiza, m, o, 21.
Ornithion, m, ex., 16, 22.
Oroscoptes, m, 22.
Orpheus, m, 20.
Ortalis, s, 37.
Ossifraga, m, 20, 35.
Otogyps, m, o, ex., 11.
Otocoris, m, 22.

Otus, m, 22.
Oxyechus, m, o, 22.

Pachysylvia, m, 22.
Pagophila, m, 22.
Pallasicarbo, m, o, 22.
Pandion, m, 22.
Parabuteo, m, o, 22.
Parus, s, 37.
Passer, t, 27.
Passerculus, s, 37.
Passerella, m, 22.
Passerherbulus, m, o, 31.
Passerina, s, 37.
Pastor, ex., 38.
Pavoncella, m, 20.
Pediæcetes, m, o, 22.
Pelagodroma, m, o, 22.
Pelecanus, s, 37.
Pelidna, s, 37.
Pelionetta, m, 22.
Pendulinus, s, 37.
Penthestes, m, o, 22.
Perisoreus, s, 37.
Petrochelidon, s, 37.
Peucea, s, 37.
Peucedramus, m, o, 22.
Phaëthon, s, 37.
Phainopepla, m, o, 22.
Phalacrocorax, t, 27.
Phalænoptilus, m, o, 22.
Phalaropus, t, 27.
Phaleris, s, 37.
Philacte, m, 22.
Philohela, m, o, 22.
Phlæotomus, m, o, 22.
Phœbastria, m, o, 22.
Phœbetria, m, o, 22.
Phœnicopterus, m, 23.
Pica, t, 28.
Picicorvus, m, 23.
Picoides, m, s, 37.
Pinguinus, s, 43.
Pinicola, m, 23.
Pipilo, m, 23.
Piranga, m, 23.
Pitangus, m, 23.
Planesticus, s, 37.
Platypsaris, o, 14.

Plautus, m, 10, 23, 43.
Plectrophenax, m, o, 23.
Plegadis, m, 23.
Plotus, m, 15.
Podasocys, m, o, 23.
Podiceps, s, 24.
Podilymbus, m, 23.
Polioptila, s, 38.
Polyborus, m, 23.
Polysticta, m, 23.
Poecetes, m, 23.
Porzana, m, t, 23.
Priocella, m, 23.
Priofinus, s, 38.
Procellaria, s, ex., 11, 25, 38.
Progne, m, 23.
Protonotaria, m, t, 23.
Psaltiriparus, m, 23.
Psittacara, o, ex., 33, 34.
Ptychoramphus, m, 23.
Puffinus, t, 28.
Pyrgia, s, 27.
Pyrocephalus, s, 38.
Pyrrhula, t, 28.
Pyrrhuloxia, m, 23.
Pyrrhura, m, ex., 33, 34.

Querquedula, t, 26, 28.
Quiscalus, t, 28.

Rallus, s, 38.
Recurvirostra, m, 23.
Regulus, m, t, 23.
Rhantistes, m, 23, 35.
Rhinogrrhyphus, o, 32.
Rhodostethia, m, o, 24.
Rhyacophilus, s, 38.
Rhynchodon, s, 38.
Rhynchofalco, m, o, 24.
Rhynchophanes, m, 24.
Rhynchopsitta, m, 24.
Riparia, m, t, 24.
Rissa, m, o, t, 24.
Rostrhamus, m, 24.
Rusticola, t, 38.

Salpinctes, s, 38.
Sarcorhamphus, s, 11, 38.

- Sayornis, m, or s, 24.
 Saxicola, s, 38.
 Scardafella, s, 38.
Scolecophagus, m, 18.
 Scolopax, s, 38.
Scops, m, t, 22.
 Scotiaptex, s, 39.
 Seiurus, s, 39.
 Selasphorus, s, 39.
 Setophaga, s, 39.
 Sialia, s, 39.
Simorhynchus, s, 15.
 Sitta, m, 24.
 Somateria, m, 24.
 Spatula, m, 24.
 Speotyto, m, 24.
Spermophila, s, 39.
 Spinus, t, 28.
 Spiza, s, 39.
 Spizella, m, 24.
Spodesilaura, m, 18.
 Sporophila, s, 39.
 Sphyrapicus, o, 14.
 Squatarola, t, 28.
 Starnoenas, m, 24.
 Steganopus, m, 24.
 Stelgidopteryx, m, o, 24.
Stelleria, m, 23.
 Stellula, m, 24.
 Stercorarius, t, 28.
 Sternula, m, 24.
 Streptoceryle, s, 39.
 Strix, s, 39.
 Sturnella, m, 24.
 Sturnus, s, 39.
 Sula, t, 28.
 Surnia, m, 24.
Sylochelidon, m, 10.
Symphemia, m, 18.
 Synthlyborhamphus, s, 39.
Syrichtha, m, 21.
 Syrnum, m, 24.
 Tachybaptus, m, o, 24.
 Tachycineta, s, 39.
 Tachytriorchis, m, 24.
Tadorna, t, ex., 26.
 Tangavius, m, 24.
Tantalus, m, 20, 25.
Tetrao, t, ex., 28.
Thalassarche, m, o, 25.
 Thalasseus, s, 10, 39, 43.
 Thalassidroma, o, 11, 25.
Thalassoca, m, o, 35.
 Thalassogeron, m, o, 25.
 Thrassaetos, m, 25.
 Thryomanes, m, 25.
 Thryothorus, m, 25.
Tiaris, s, ex., 30, 40.
 Tinnunculus, s, 40.
Torda, m, 10, 23.
 Totanus, t, 28.
 Toxostoma, m, 25.
Trichas, t, 35.
 Tringa, s, 40.
Trochilus, s, ex., 12, 40.
Troglodites, m, 21, 40.
 Troglodytes, s, 40.
 Trogon, m, 25.
 Tryngytes, m, 25.
 Turdus, s, 40.
 Tympanuchus, m, 25.
 Tyrannus, t, 28.
 Uranomitra, s, 40.
 Uria, t, 28.
 Urile, t, 28.
Urinator, s, 35.
Urogallus, t, 28.
 Urubitinga, m, t, 25, 43.
 Vanellus, t, 28.
Vermivora, s, t, 19, 29, 30, 40.
Vestiaria, m, ex., 26.
Vireo, s, 40.
 Vireosylva, s, 40.
Vultur, s, ex., 11.
Wagellus, o, 11.
 Wilsonia, s, 40.
 Xanthocephalus, m, t, 25.
 Xanthoura, s, 40.
 Xema, m, 25.
 Xenopicus, m, 25.
Xipholena, m, 12.
Xiphorhynchus, o, ex., 31.
Xiphornis, o, 31.
 Yphantès, s, 40.
 Zamelodia, o, 25.
 Zenaida, t, 28.
 Zenaidura, m, 25.
 Zonotrichia, s, 40.

ADDENDUM.

In the preceding list of 'Monotypic Genera' (*antea*, pp. 14-25), to all of Reichenbach's genera should have been added: "Also type by original designation," omitted by oversight. They are properly designated, however, in the index by the affixed abbreviations *m*, *o*. The record may be here completed, as follows:

Add after <i>Ajaja</i> , p. 15.	Also by original designation.
" " <i>Ciceronia</i> , p. 16.	" " "
" " <i>Cyrtopelicanus</i> , p. 17.	" " "
" " <i>Euethia</i> , p. 18.	" " "
" " <i>Guara</i> , p. 19.	" " "

Add after <i>Ionornis</i> , 19.		Also by original designation.		
"	"	<i>Leptopelicanus</i> , p. 20.	"	"
"	"	<i>Lophodytes</i> , p. 20.	"	"
"	"	<i>Oceanodroma</i> , p. 21.	"	"
"	"	<i>Ochthodromus</i> , p. 21.	"	"
"	"	<i>Oxyechus</i> , p. 22.	"	"
"	"	<i>Pelagodroma</i> , p. 22.	"	"
"	"	<i>Penthestes</i> , p. 22.	"	"
"	"	<i>Phæbастria</i> , p. 22.	"	"
"	"	<i>Phæbetria</i> , p. 22.	"	"
"	"	<i>Tachybaptus</i> , p. 24.	"	"

ERRATA.

Page 17, last line of text, for **Dumatella** read **Dumetella**.

" 32, line 27, for *Loxia erythrina* Linn., by designation of Gray in 1855, read *Fringilla rosea* Pall., by designation of Gray in 1842.

" 33, " 7, for Gray in 1840 read Gray in 1855.

" 37, " 30, for Gray in 1855, read Gray in 1841.

" 38, " 12, for Gray in 1840, read Gray in 1841.

" 38, " 19, for Gray in 1855, read Gray in 1842.

" 40, " 19, for Oberholser in 1902 read A. O. U. Nomenclature Committee in 1886.