

Article V.—PENNANT'S 'INDIAN ZOOLOGY.'

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The story of Pennant's 'Indian Zoology' has been told in outline by A. O. Hume, in 'Stray Feathers' (Vol. VII, 1878, pp. 506-508), but at the time of writing this account he was unable to examine a copy of the work and was thus unable to determine whether or not Pennant gave scientific names to all of his species. A year later Alfred Newton (Stray Feathers, VIII, 1879, pp. 414, 415) supplied this missing information from a copy he found at the British Museum, and gave a list of the species figured and described in the work with the Latin names given them by Pennant. Yet little use appears to have been made of this information by subsequent writers.

The work is of special interest in reference to the first use of the generic name *Otus* in binomial nomenclature,¹ but it also has an important bearing on the nomenclatural history of a number of other species which here for the first time received technical designations. As a copy of this rare work has recently come to light in the Library of the American Museum of Natural History, I have the means at hand to settle various questions of nomenclature dependent upon this little known brochure. Like the copy in the British Museum described by Newton, it lacks the original wrapper, and has no title-page, and in all probability never had any, it being the first fasciculus of a work of which no more was published. The present copy differs from the British Museum copy in having all the plates plain instead of colored. Professor Newton says the British Museum copy is from the "Banksian Library" and bears the book-stamp "Jos. Banks." The copy here under notice belongs to the library of the New York Academy of Sciences, now on deposit at the American Museum, and has, written in ink at the top of the first page, "De Kay Edin 1818," evidently the autograph of the late James E. Dekay, with the place and date of procurement, "Edin" doubtless standing for Edinburgh. On all the plates is stamped, in red ink, "Lyceum of Natural History," and at the bottom of the last page, "Library, N. Y. Academy of Sciences," in blue ink. It bears no other marks.

The library of the American Museum of Natural History has also a copy of Forster's 'Indische Zoologie,' referred to by Hume (*l. c.*), so that direct

¹ Cf. Stone, Auk, XX, 1903, pp. 273-275; Allen, Bull. Am. Mus. Nat. Hist., XXIII, 1907, p. 334.

comparison may be made of the two works, and also with Pennant's "second edition" of his 'Indian Zoology.'

Hume's account of Pennant's work is evidently based on Forster's preface to the 'Indische Zoologie.' From this preface we learn that Gideon Loten, for a time governor of Ceylon for the Dutch East India Company, was an ardent naturalist and a good natural history draftsman, and that during his residence in Ceylon he not only made many drawings of animals himself but also trained some of his native servants to make them, so that when he returned to Europe he brought with him a large collection of colored drawings of Ceylon animals. He resided for some time in England, and showed these drawings to Sir Joseph Banks, who became greatly interested in them, and obtained permission to have some of them copied. An arrangement was also made with Thomas Pennant to have some of them engraved on copper for publication, Loten to furnish the drawings and Pennant the descriptions. This proved very fortunate, as later Loten decided to send the drawings to Holland, and the vessel in which they were shipped was wrecked and all the drawings were lost. Fifteen of the drawings had already been engraved, and twelve had been published, they forming the basis of Pennant's 'Indian Zoology,' here under notice.¹

This work is printed in English and French, in parallel columns. Forster being in England when Pennant's work was about ready for publication he was asked, he tells us in the preface to his 'Indische Zoologie,' to furnish a French translation of the English text, which he says he undertook very willingly and with great care. As, however, the proofreading was entrusted to incompetent hands, he found the French text full of errors.

On the return of Sir Joseph Banks from his long voyage around the world with Captain Cook, Sir Joseph, in conjunction with Loten and Pennant,² presented the copper-plates of the 'Indian Zoology' to Forster, together with the descriptions. These plates and descriptions thus became the basis of Forster's 'Indische Zoologie,' published in Halle twelve years later, Forster translating Pennant's descriptions into German and Latin, "improving and correcting them," as he says, and adding the synonymy. Forster's work is thus also bilingual, and has two title-pages, the first in German, the second in Latin, which accounts for the two methods of cita-

¹ Pennant says, in the preface to his second edition: "This work, or rather fragment, was begun in the year 1769. The descriptive part fell to my share: the expense of the plates was divided between Mr. BANKS, now Sir JOSEPH BANKS, *Baronet*; JOHN GIDEON LOTEN, Esq., a governor in *Ceylon*; and myself. Twelve only were engraved and published: soon after which, the undertaking appeared so arduous that the design was given over. . . . I prevailed on my two friends to unite with me in presenting the learned JOHN REINHOLD FORSTER with the plates. I also bestowed on him three others, engraven at my own expense, before the work was dropped. These were never published in *England*; but when Dr. *Forster* left our island, he took the whole with him, and in 1781 printed, at *Halle*, in *Saxony*, an edition very highly improved, and translated into *Latin* and *German* . . ."

² See last part of preceding footnote.

tion — 'Ind. Zool.' and 'Zool. Ind.' — so often met with, some writers citing the German, others the Latin title. The two title-pages are as follows:

Indische Zoologie | oder | systematische Beschreibungen | seltener und unbekannter Thiere | aus Indien, | mit 15 illuminirten Kupfertafeln erläutert. | — | Nebst | einer kurtzen vorläufigen Abhandlung | über | den Umfang von Indien und die Beschaffenheit | des Klima, des Bodens und des Meeres daselbst, | und einen Anhang, | darin | ein kurzes Verzeichniss der Thiere in Indien | mitgetheilt wird, | herausgegeben | von | Johann Reinhold Forster, | der Rechte, Medizin und Weltweisheit Doctor. | — | Halle, | bey Johann Jacob Gebauer 1781.

Zoologia Indica | selecta | Tabulis XV Aeneis illustrata. | — Praemittitur | de finibus et indole aeris, | soli, marisque indici | brevis lucubratio. | Sequitur ad calcem | brevis enumeratio Animalium Indiae. | Auctore | Joanne Reinoldo Forster | LL.M. et Ph.D. | — | Halae, | Impensis Joannis Jacobi Gebaveri. | MDCCLXXXI. | — Folio, 4 ll. (= 2 title-pages and dedication), pp. i-iv (preface, in Latin and German), pp. 1-42, pll. i-xii + 3 pll. not numbered, all colored; all but one signed "P. Mazell, Sculp."

The 'Vorläufige Abhandlung' occupies pp. 1-10; the 'Auswahl der Indischen Zoologie,' pp. 11-38; the 'Specimen Faunulae Indicae,' pp. 39-42.

Forster's 'Indische Zoologie' has thus for its basis the original twelve plates of Pennant's 'Indian Zoology,' with three additional plates not previously published,¹ and Pennant's original descriptions, which are not essentially altered in the new translations; but Pennant's proposed account "Of the Bird of Paradise: and the Phoenix," of which only the title is given at the bottom of the last page of Pennant's brochure, is furnished by Forster, being elaborated to great length (pp. 26-38). He also added descriptions of the three new birds and two fishes figured on the new plates.

Pennant's 'Verzeichniss der Thiere von Indien,' entitled: "Specimen Faunulae Indicae. Auctore Thoma Pennant Armigero R. S. S." (pp. 39-42) is a nominal list, the names of the mammals being for the most part without authorities or references to preceding authors and thus *nomina nuda*; the bird names are followed, in many cases, by authorities, or by references to the 'Pl. enl.,' or to the plates of Edwards or Brisson, or to unpublished plates of Loten. Thus many of the names are Linnæan or Brissonian, others are based on Edwards or on the 'Planches enluménées,' etc. Some of the latter antedate names given by Boddaert (1783) and Gmelin (1788); but in most cases the names are the same, so that only the authority need be changed.

The names of the species described in these two works — Pennant, 1769, and Forster, 1781 — are given below in parallel columns, the first twelve in the two columns being exact equivalents, though some of Pennant's species

¹ These three plates follow the original twelve in Forster's work and are not numbered, and one of them lacks the engraver's signature borne by all the others.

are referred to different genera, and the spelling of some of the specific names is more or less altered.

PENNANT, 1769.

1. *Sciurus macrourus*, p. 1, pl. i.
2. *Falco melanoleucos*, p. 2, pl. ii.
3. *Otus bakkamoena*, p. 3, pl. iii.
4. *Picus miniaceus*, p. 4, pl. iv.
5. *Trogon fasciatus*, p. 4, pl. v.
6. *Cuculus pyrrhocephalus*, p. 6, pl. vi.
7. *Columba melanocephala*, p. 6, pl. vii.
8. *Motacilla sutoria*, p. 7, pl. viii.
9. *Gallinula phoenicurus*, p. 10, pl. ix.
10. *Tantalus leucocephalus*, p. 11, pl. x.
11. *Anser melanotos*, p. 12, pl. xi.
12. *Anhinga melanogaster*, p. 13, pl. xii.

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FORSTER, 1781.

1. *Sciurus (macrourus)*, p. 11, pl. i.
2. *Falco melanoleucus*, p. 12, pl. ii.
3. *Strix bakkamuna*, p. 13, pl. iii.
4. *Picus miniatus*, p. 14, pl. iv.
5. *Trogon fasciatus*, p. 15, pl. v.
6. *Cuculus pyrrhocephalus*, p. 16, pl. vi.
7. *Columba melanocephala*, p. 16, pl. vii.
8. *Motacilla sutoria*, p. 17, pl. viii.
9. *Rallus phoenicurus*, p. 19, pl. ix.
10. *Tantalus leucocephalus*, p. 20, pl. x.
11. *Anser melanotos*, p. 21, pl. xi.
12. *Anhinga melanogaster*, p. 22, pl. xii.
13. *Anas poecilorhyncha*, p. 23, pl. xiii, fig. 1.
14. *Squalus tigrinus*, p. 24, pl. xiii, fig. 2.
15. *Labrus zeylanicus*, p. 24, pl. xiii, fig. 3.
16. *Perdix bicalcarata*, p. 25, pl. xiv.
17. *Muscicapa flammea*, p. 25, pl. xv.

Of the 12 species described by Pennant, only 3 (Nos. 1, 5, and 11) are currently accredited to him; No. 12 is accredited to Gmelin, and the remaining 8 to Forster, 1781. The proper modern equivalents of Pennant's names, and their current ascriptions, are:

1. *Ratufa macroura* (Pennant); currently attributed to Pennant.
2. *Circus melanoleucos* (Pennant); wrongly attributed to Forster.
3. *Otus bakkamæna* (Pennant) = *Scops bakkamæna* (Pennant). Cf. Blandford, Faun. Brit. Ind., Birds, III, 1895, p. 297 (Pennant cited as authority); Sharpe, Hand-List of Birds, I, 1899, p. 286 (Forster cited as authority).
4. *Chrysophlegma miniaceum* (Pennant) = *Chrysophlegma miniatum* (Forster).
5. *Pyrotrogon fasciatus* (Pennant); currently attributed to Pennant.
6. *Phoenicophaus pyrrhocephalus* (Pennant); wrongly attributed to Forster.
7. *Spilotreron melanocephala* (Pennant); wrongly attributed to Forster.
8. *Sutoria sutoria* (Pennant); wrongly attributed to Forster.
9. *Amaurornis phoenicura* (Pennant); wrongly attributed to Forster.
10. *Pseudotantalus leucocephalus* (Pennant); wrongly attributed to Forster.
11. *Sarcidiornis melanonota* (Pennant); currently attributed to Pennant.
12. *Anhinga melanogaster* (Pennant); wrongly attributed to Gmelin.

The three species of birds added in Forster's edition are properly ascribed to him by most writers on Indian ornithology, but in the British Museum 'Catalogue of Birds' (Vol. XXIII, p. 264) one is erroneously attributed to Pennant at 1769.¹ The author was possibly misled by Hume (Stray Feathers,

¹ "Perdix bicalcaratus Penn. Ind. Zool., p. 40, pl. vii (1769)"!

VII, 1878, p. 453) who says: "As a matter of fact, Pennant's name *Perdix bicalcaratus* appears to have been first published in the London Folio edition of 1769 . . .," which is, of course, a misstatement. The modern equivalents (as given in Sharpe's 'Hand-List of Birds') of Forster's three species are as follows:

Anas poecilorhynchus = *Polionetta poecilorhyncha* (Forster).

Perdix bicalcaratus = *Galloperdix bicalcarata* ("Penn." = Forster).

Muscicapa flammea = *Pericrocotus flammeus* (Forster).

The plate and description of Pennant's *Otus bakkoemena* (= Forster's *Strix bakkamuna*) are not very satisfactory, but both Oates (Birds of Ceylon, Part I, 1880, pp. 135-138) and Blandford (Faun. Brit. Ind., Birds, III, 1895, pp. 297-300) consider that Pennant's name applies to the little *Scops* Owl of Ceylon and southern India.

A second edition of Pennant's 'Indian Zoology' bears date 1790, although the author's preface is dated "Downing, March 1, 1791." The title-page is as follows:

Indian Zoology, | Second Edition. | [Vignette = "Bird of Paradise, with a view of Dory Harbour, New Guinea"] London. | Printed by Henry Hughs, for Robert Faulder. | MDCCXC.—4to, pp. i-viii, 1-161 + 1 leaf, containing list of errata, and pl. i-xvi. The plates, reduced in size and reengraved, are all signed "P. Mazell. Sculp.," except pl. v. unsigned.

This edition is wholly in English, and consists of (1) 'An Essay on India, its Boundaries, Climate, Soil, and Sea' (half-title and pp. 3-12, translated by Dr. John Aiken from the Latin of John Reinhold Forster); (2) 'On the Birds of Paradise, and the Phoenix' (pp. 13-27, translated by Aiken from the Latin of Forster); (3) 'Indian Zoology' (half-title, pp. 31-56, pl. i-xvi), a literal reprint of the English descriptions of the first edition, so far as the species are the same, and new descriptions of the others (not strict translations of Forster's, though possibly based on them); (4) 'The Indian Faunula' (half-title, and pp. 59-161, followed by one leaf, with a list of errata).

The 'Faunula' is a series of nominal lists, made up as follows: the mammals, consisting of English names only and references to Pennant's own 'History of Quadrupeds'; the birds, with English names only, furnished by John Latham from his 'Synopsis of Birds'; the Amphibia, Pisces, Insecta, and Vermes, under Latin names, with references to place of publication. "The more laborious part, relative to the Insects, fell to the share of Mr. [John] Latham; the rest to that of Mr. [Hugh] Davies" (*cf.* preface, p. iii).

From a nomenclatorial standpoint the second edition is unimportant, being practically merely an English reprint of Forster's 'Indische Zoologie,'

with a new 'Faunula Indica,' made up by Latham and Davies, by Pennant's solicitation, as explained in the preface. There are several changes in the technical names of the 'Fauna,' as *Picus miniatus* in place of *Picus miniacus* of the first edition, and bibliographic references to other authors are frequently added; but we have here *Otus bakkamoema*, as in the 1769 edition.