

CATALOGUE OF TYPE SPECIMENS OF FOSSIL VERTEBRATES  
ACADEMY OF NATURAL SCIENCES, PHILADELPHIA  
PART III: BIRDS

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ABSTRACT. — There are seven type-specimens of fossil birds in the collection of vertebrate fossils, Academy of Natural Sciences of Philadelphia. Six of the types were established by O. C. Marsh in 1870 and 1872; one was named by A. Wetmore in 1921.

INTRODUCTORY REMARKS

The collection of vertebrate fossils at the Academy of Natural Sciences of Philadelphia contains but 7 type-specimens of fossil birds. Of these, all but one were described by O. C. Marsh and were later discussed and illustrated, though by no means always adequately, by R. W. Shufeldt (1915). The value of the present list lies as much in showing what is *not* to be found at the Academy as in showing what is. For example, the types of *Sula loxostyla* Cope and *Creccoides osbornii* Shufeldt, both of which once were at least in the temporary possession of E. D. Cope and thus likely to be at the ANSP, have not been located there or elsewhere. It may be said, however, that all of the type-specimens of fossil birds known with certainty to have been in the Academy's collections have been accounted for.

The format follows that established for Part I: Marine Mammals and Part II: Terrestrial Mammals (Proceedings of the

Academy of Natural Sciences 1975, and 1976, respectively). Part IV: Reptilia, Amphibia, and Tracks, and Part V: Fishes, appear in the present volume.

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CATALOGUE: PART III

*affinis*, *Catarractes* Marsh 1872. American Journal of Science and Arts (Ser. 3) 4: 259.

13358 holotype; complete right humerus; 47 feet below surface of railroad cut on the banks of the Penobscot River, Bangor, Maine; "post-Pliocene" (= Pleistocene); collected by A. C. Hamlin; referable to *Uria* but larger than the modern Atlantic forms of the genus.

*altus*, *Meleagris* Marsh 1870 (July *vide* Brodkorb, 1964). American Naturalist (for 1871) 4: 317.

12137 syntype; proximal fourth of right tarsometatarsus; Monmouth County, New Jersey (Manalapan, near Freehold *vide* Shufeldt, 1915); post-Pliocene (= Pleistocene cave deposits); collected by J. C. Thompson; the only indication that this specimen is a "type" is that it is so labeled, the remainder of the rather extensive type-series from the same locality being in the Peabody Museum of Natural History, Yale University, and the Museum of Princeton University; *Meleagris altus* Marsh 1870 (March) PANS 22: 9 is a *nomen nudum*; *Meleagris superba* Cope 1870 (December) TAPS (2)14, Part 1: 239, is a junior synonym based on the same material; the spelling of the specific name should be *alta*; *M. alta* is a synonym of modern *M. gallopavo* (D. W. Steadman, personal communication).

*antiquus*, *Catarractes* Marsh 1870. American Journal of Science and Arts, (2)49: 213.

13357 holotype, complete left humerus; Tarboro, Edgecomb County, North Carolina; "Tertiary" (exposures at Tarboro are in the Yorktown Formation, Lower Pliocene [Thomas G. Gibson, pers. comm.] and this specimen matches certain other Yorktown-age alcids from elsewhere in North Carolina); collected by Dr. Booth; probably referable to *Australca* Brodkorb.

*conradi*, *Puffinus* Marsh 1870. American Journal of Science and Arts, (Ser. 2)49: 212.

13360 lectotype; distal two-fifths of left humerus; Maryland (Calvert County); Miocene (Calvert Formation); collected by T. A. Conrad; original material also includes a distal end of an ulna which Wetmore (1926) found to belong to a smaller unnamed species, his actions establishing the humerus as lectotype.

*haydeni*, *Grus* Marsh 1870. American Journal of Science and Arts, (Ser. 2)49: 214.

13359 holotype; distal end of left tibiotarsus lacking anterior portion of internal condyle; Niobrara River (Nebraska); "later Tertiary beds" (label says Pliocene); collected by F. V. Hayden; regarded by most authors as Pleistocene and by Wetmore (1928) as conspecific with modern *G. canadensis* but pos-

sibly neither assumption is correct, as the specimen is more similar to *G. americana*.

*saurodosis*, *Minerva* Wetmore 1921. PANS 73: 455, figures 1-2.

9121 holotype; distal end of left humerus; Lodge Pole Trail Crossing on (Little?) Dry Creek, about 10 miles from Fort Bridger, Wyoming; Bridger Formation, Middle Eocene; collected by Dr. James Van A. Carter; originally part of the type material of *Saniwa major* Leidy (q.v., Part IV); placed in *Protostrix* by Wetmore (1933).

*vetus*, *Palaeotringa* Marsh 1870. American Journal of Science and Arts, (Ser. 2)49: 209.

13361 holotype, distal portion of left tibiotarsus in three pieces; Arneytown, Burlington County, New Jersey; Cretaceous (Hornertown Formation, late Maestrichtian *vide* Baird, 1967).

#### LITERATURE CITED

- BAIRD, D. 1967. Age of Fossil Birds from the Greensands of New Jersey. *Auk* 84: 260-262.
- BRODKORB, P. 1964. Catalogue of Fossil Birds; Part 2 (Anseriformes through Galliformes). *Bulletin of the Florida State Museum, Biological Sciences* 8: 195-335.
- SHUFELDT, R. W. 1915. Fossil Birds in the Marsh Collection of Yale University. *Transactions of the Connecticut Academy of Arts and Sciences* 19: 1-110.
- WETMORE, A. 1926. Observations on Fossil Birds Described from the Miocene of Maryland. *Auk* 43: 462-468.
- . 1928. Additional Specimens of Fossil Birds from the Upper Tertiary Deposits of Nebraska. *American Museum Novitates* 303: 1-5.
- . 1933. The Status of *Minerva antiqua*, *Aquila ferox*, and *Aquila lydekkeri* as Fossil Birds. *American Museum Novitates* 680: 1-4.

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