

of birds with much discussion of their reptilian relationships, and the author's conclusions on the subject. His researches have been exhaustive and his success in digesting and presenting in readable form a resumé of such varied publications is remarkable, especially when we realize that Dr. Heilmann is a Dane writing his treatise in English.

He divides his work into four parts: In Part I he considers "Some Fossil Birds," first *Archaeornis* and *Archaeopteryx* and then *Ichthyornis* and *Hesperornis*. He has studied exhaustively the specimen of *Archaeornis* in the Berlin Museum and given us a colored restoration of it as a frontispiece to his book as well as one of the Loon-like *Hesperornis*, and his graphic pen pictures of the life of these birds respectively in the tree fern forests of the Jurassic and in the Cretaceous seas, and their conflicts with their reptilian contemporaries is vivid indeed. He also by means of numerous original drawings and photographs shows us the close correspondence in the skeletal structures of reptiles and birds. Part II discusses the embryonic stages of birds and reptiles and sketches the development of the skeleton in the two groups.

Part III consists of "Some Anatomical and Biological Data" in which are considered the supra-temporal fenestra, digital claws, cerebrum and cerebellum, organs of sense, sexual organs and secondary sexual characters in birds and reptiles.

Taken together the data presented in these three parts serve to demonstrate the close relationship between birds and reptiles and the certainty of their common ancestry, preparing us for Part IV in which Dr. Heilmann seeks for the group of reptiles from which the birds probably sprung, *i.e.*, the "Proavian." This he considers is found in the *Pseudosuchia* a group of fossil reptiles less specialized than the Dinosaurs. Some of these had evidently developed into terrestrial runners with the fore part of the body elevated from the ground and from these arose arboreal climbers from which was evolved the *Archaeornis* and eventually the modern birds.

The resemblances of the Pterodactyls to birds he considers merely superficial and the claims advanced for *Iguanodon* and certain other types as the direct avian ancestor are disposed of. The many sketches of restorations give the reader a much clearer idea of these various early types than is possible in a description, and for those who wish to follow the subject further the excellent bibliographies, often accompanied by synopses, are a great help.

Dr. Heilmann is to be congratulated upon producing a book at once interesting to the scientific investigator and yet understandable by the layman desirous of getting some knowledge of this interesting problem.—W. S.

Wetmore on Patagonian Birds.—While engaged in working up his collection from Argentina and the adjoining countries Dr. Wetmore worked up a collection of Patagonian birds obtained by Mr. J. R. Pemberton, while engaged in geological work from 1911 to 1915, and presented to the Museum

of Vertebrate Zoology of the University of California. This collection numbering 349 skins represented no less than 150 species and subspecies some of which have been described as new by Dr. Wetmore in earlier papers. The present report¹ contains a descriptive list of localities in the reparation of which Mr. Pemberton gave his assistance and a number of illustrations of the scenery, and following this an annotated list of the species with detailed discussion of the specimens and numerous notes on relationship and nomenclature. There are illustrations in half-tone from paintings by Louis Agassiz Fuytes, of three birds characteristic of the region—the Bronze-winged Duck, White-throated Caracara and Patagonian Flicker. Dr. Wetmore has performed an excellent service in working up this rich collection from a region only too little known ornithologically.—W. S.

Hartert on the Birds of Feni and Nissan Islands.²—Apparently no collections of birds have heretofore been made on these islands situated east of south New Ireland, so that the collections here reported upon and made by A. F. Eichorn, for the Tring Museum, are of much interest. Dr. Hartert finds the avifauna of the former island related to that of New Ireland with some Solomon Islands influx, while that of the latter is entirely related to that of the Solomons. Thirty-seven species are listed from Feni and twenty-three from Nissan; *Accipiter eichorni* (p. 36) and races of *Monarcha cinerascens* and *Cinnyris sericeus* are described from the former and a new form of *Ptilinopus solomonensis* from the latter while incidentally a race of *Accipiter eichorni* is described from Choiseul Island. The question is raised in this paper whether the name *Lorius cardinalis* Gray, 849—an *Eos* is preoccupied by the combination *Lorius cardinalis* (Bodd) previously mentioned by Gray but originally described as *Psittacus cardinalis*. Such names were considered in the Revised Code of the A. O. U. and it was ruled that a mere combination such as this did not affect a newly proposed name or identical form unless both species belong to the same genus.—W. S.

Grinnell and Swarth on the Pacific Brown Towhees.³—In the light of more adequate series of specimens the authors find that *Pipilo fuscus senicula* does not range north of Lower California, the birds from the boundary north to Monterey being referable to *P. f. crissalis* while those from Monterey northward belong to a different race, which they describe as *P. f. petulans* (p. 430). The interior valley form is *P. f. carolae* but the birds from the valleys of Josephine and Jackson Counties, Oregon, again represent an undescribed race which is here named *P. f. bul-*

¹ Report on a Collection of Birds made by J. R. Pemberton in Patagonia. By Alexander Wetmore. Univ. of Calif. Publ. in Zoology, Vol. 24, No. 4, pp. 395-474, pls. 12-14, 11 figs. in text. Berkeley, Calif. 1926.

² On the Birds of Feni and Nissan Islands, east of South New Ireland. By Ernst Hartert. Novit. Zool., XXXIII, pp. 33-48. March 1926.

³ Systematic Review of the Pacific Coast Brown Towhees. By Joseph Grinnell and Harry S. Swarth. Univ. of Calif. Publications in Zool., Vol. 21, No. 18, pp. 427-433. Berkeley, Calif. 1926.