

by the 'Key to the Species' (pp. 13-29), and then by formal descriptions, in systematic sequence, of the North American species of Limicolæ. Both the 'Key' and the body of the work are profusely illustrated with half-tone and line cuts of heads, feet, tail-markings, etc., with some full-length figures, which, with the key and the descriptive text, must serve to make identification a simple matter. Besides the technical descriptions, a brief account is given of the distribution and life history of each species.—J. A. A.

Chapman's 'Handbook,' 4th Edition.¹—The increasing demand for ornithological text-books is shown by the fact that the publishers of this work have issued a fourth edition of this work within two years of its publication. The present edition differs from the preceding ones through some slight alterations in the text and in the addition of an 'Appendix,' giving a list of the numerous changes in nomenclature, etc., which have occurred since the appearance of the first edition.—J. A. A.

Hartert on the Podargidæ, Caprimulgidæ and Macropterygidæ.—The first part of the division of 'Das Tierreich' devoted to Aves is by Mr. Hartert, and includes the three families Podargidæ, Caprimulgidæ and Macropterygidæ, or the Goatsuckers and Swifts.² For this work Mr. Hartert is especially fitted, being the monographer, five years ago, of these same groups for the British Museum 'Catalogue of Birds.'³ The considerable number of species described since the appearance of the 'Catalogue,' are here duly interpolated, but there are comparatively few changes in nomenclature. *Nanochordeiles* is a new generic division for *Chordeiles pusillus* Gould, while *Cosmetornis* is suppressed. The family name Cypselidæ gives place to Macropterygidæ, and we have *Apus* in place of *Micropus*, and Apodinæ in place of Cypselinæ,—these changes being adopted from Dr. A. Reichenow, but they are apparently not tenable.⁴

The text consists of brief diagnoses of all the groups, from families to subspecies, with analytical tables, and the citation of the synonymy

¹ Handbook of Birds of Eastern North America. . . . By Frank M. Chapman. 12mo, pp. xiv + 431. Fourth Edition. New York. D. Appleton & Co. 1897. \$3.00.

² Podargidæ, Caprimulgidæ und Macropterygidæ bearbeitet von Ernst Hartert, Direktor des Zoologischen Museums in Tring (England). Mit 16 Abbildungen im Texte. Berlin: Verlag von R. Friedländer und Sohn. = Das Tierreich. Eine Zusammenstellung und Kennzeichnung der rezenten Tierformen. Herausgegeben von der Deutschen Zoologischen Gesellschaft. General Redakteur: Franz Eilhard Schulze. — 1. Lieferung. Aves. Redakteur: A. Reichenow. — 8vo, pp. viii + 98. (Subscription price, 4.50 marks.)

³ Cf. Auk, X, 1893, pp. 67, 68.

⁴ Cf. Stejneger, Science, N. S., V, No. 126, p. 847, May 28, 1897.

and most important references. The work is thus condensed, yet sufficiently comprehensive to meet the needs of the specialist and general student, for whom the work is particularly designed. If the succeeding bird parts conform to the present standard it will be of the utmost service, and deserve the wide support we heartily wish it. — J. A. A.

Mearns on the 'Ornithological Vocabulary of the Moki Indians.'¹ — In this paper the Moki names are given for most of the birds found in the Moki country in Arizona, some two hundred or more in number. The list was prepared with the aid of Dr. Mearns's "venerable friend Ongwischey (Raven)," an intelligent Indian who took interest in the work. A brief account of the Moki people and their country precedes the vocabulary of bird names. In addition to the names there are annotations here and there of much ornithological interest, but the paper is mainly of value to the anthropologist. — J. A. A.

Papers on Economic Ornithology. — Mr. Sylvester D. Judd's paper entitled 'Methods in Economic Ornithology, with special reference to the Catbird'² is of special interest, aside from its bearing on Economic Ornithology, from the fact that insects supposed to be distasteful to birds on account of their nauseous odors or more or less acrid secretions, do not in fact prove to be so, and are thus not secure from the attacks of birds by these supposed 'protective' qualities, as so many writers on 'protective mimicry' have assumed. Thus Mr. Judd has found that 9 out of 13 Catbirds taken in a little gully near Washington, on July 30, 1895, where ripe elderberries and blackberries were abundant, had partaken liberally "of the destructive locust beetle, 18 of these orange and black pests having been taken from one bird. This is surprising, because beetles of this family (Chrysomellidæ) secrete a substance which is supposed to be distasteful to birds. . . . In the insect food of these birds there were no ants or grasshoppers, but, on the other hand, the supposedly distasteful locust leaf mining beetles." Again, in his experiments with live birds kept in a cage for the purpose of studying their food preferences, Mr. Judd found that "Stink bugs (Pentatomidæ), whose nauseating odor is familiar to every one who has been berrying, were eaten by the Catbirds, even when they had been well fed with other food." He says further: "Bad smelling beetles (Carabidæ), which have been supposed to develop their stench to protect them from birds, were snatched as soon as they were put on the cork" (a floating cork island in a large bowl of water, used to prevent the insects escaping). That this preference was not due to confinement or unnatural conditions is shown by the fact that "Beetles formed, in the 200 [wild] Catbird stomachs examined, the most important part of the

¹ Amer. Anthropologist, Dec., 1896, pp. 391-403.

² American Naturalist, May, 1897, pp. 392-397.