

## REVIEWS

**Check-list of the Birds of the World.**—A continuation of the work of James L. Peters—IX, edited by Ernst Mayr and James C. Greenway, 1960. Mus. Comp. Zool., Cambridge, Mass. 506 pp. \$7.50.—The new volume of Peters' Check-list has been greatly welcomed, as ornithologists had long waited for it. An inevitable delay was caused by the death in 1952 of the original author, and the new editors have had a great deal of work and difficulty to establish a new basis for its production. It was obvious from the beginning that no single ornithologist could have enough time to complete such a list, and Peters only lived to write seven of the fifteen planned volumes. The eighth volume has been written by J. T. Zimmer, who himself died before its full completion. The remaining volumes will be the work of various authors, all highly qualified for the parts they are dealing with. It is of course a very considerable advantage to have each family reviewed by the best technician available, but it also has the slight drawback of a certain unevenness as each part necessarily reflects the tendencies of each author, as some recognize more genera, species, and subspecies than others. Each part, however, has been read by highly competent ornithologists, while the task of the editors has been a heavy one. In order to preserve the unity and cohesion of the work, they undoubtedly must now and then propose alterations and suggest corrections that are not always gladly accepted by the authors. The present volumes include the Oscines belonging to the following families: Alaudidae and Hirundinidae, already prepared by Peters; Motacillidae, by Vaurie, White, Mayr, and Greenway; Campephagidae, by Peters, Mayr, and Deignan; Pycnonotidae, by Rand and Deignan; Irenidae, by Delacour; Laniidae (including Prionopinae) and Vangidae, by Rand; Bombicillidae (including Ptilogonatinae and Hypocoliinae), Dulidae, and Clinclidae, by Greenway; Troglodytidae, by Paynter and Vaurie; and Mimidae, by Davis and Miller.

There is very little to criticize in this volume, and it is certainly even more accurate than any of the preceding ones because of the special familiarity of the authors with the birds they have reviewed. Only very few and unimportant points require correction. I happened to notice, for example, that Cochinchina and Phuquoc Island are omitted in the distribution of *Hirundo tahitica abbotti* (p. 109), and that a misprint in my own chapter (p. 307) indicates in the distribution of *Irena puella puella*, southwestern and northwestern India, instead of southeastern and northeastern. There is also a mysterious footnote (1, p. 193) on the invalidity of *Coracina ostenta* Ripley, which is difficult to understand. But such small lapses are hardly worth mentioning. May I say that I am personally gratified to find that the various authors have accepted the systematic modifications brought up by me previously for a better grouping of species and subspecies, with, of course, some necessary alterations due to the results of later investigation. It is now expected that the rest of the volumes will appear in quick succession, although not necessarily in the order of their number. This most important work is urgently needed by all ornithologists, and they cannot wait much longer for its full completion.—J. DELACOUR.

**Comparative Breeding Behavior of Four Species of North American Herons.**—Andrew J. Meyerriecks. 1960. Publications of the Nuttall Ornithological Club, No. 2, Cambridge, Mass., 158 pp., 39 line drawings, 15 pls.—An advantage of herons for the comparative study of behavior is the great variation

in degree of gregariousness in different species. This well-illustrated booklet, based chiefly on observations in New York and Florida, is a precise and detailed account of the locomotory, feeding, alarm, and pairing behavior of the Green Heron, Great Blue and Great White Herons (treated as conspecific), Reddish Egret, and Snowy Egret. A brief (22 pp.) section on evolutionary trends in heron behavior, together with a summary chart, concludes the presentation.

Throughout, the Green Heron, *Butorides virescens*, is used as the main basis for comparison. During three seasons on a small island in Jamaica Bay, Long Island, the author made many significant observations on pair formation in this relatively solitary species. He brings out very well the gradual increase in tolerance and decrease in hostility between male and female as pair formation progresses. Outstanding in the accounts of other species of heron are the spectacular courtship displays of the Reddish Egret and of the Snowy Egret, as well as the description of the nature and evolution of canopy feeding in the Reddish Egret. Comparisons of the behavior of different species of herons are for the most part scattered throughout the text. In general, the smaller species are more active and have more diversified feeding behavior and displays, e.g., special aerial displays, compared with the relatively sluggish larger herons. Meyerrieks indicates two types of pair formation. In the less gregarious species like the Green Heron, a stationary male displays and a mobile female roams from one male to another. In the more sociable species like the Snowy Egret, a rather mobile male displays and a number of conspecific individuals then gather about him, the whole party moving from place to place.

This work provides a solid basis for further study by use of marked individuals, the experimental method, and extension to other species, particularly to the bitterns. In general, the style is clear and logical, the book is well organized, and there are few difficulties to the reader. However, the author objects to pigeonholing displays as sexual or hostile, and then proceeds to classify certain displays, which he considers as primarily sexual, under the rubric "Hostile Behavior." The final discussion is too brief to do justice to the text in giving a comparative picture of the sexual and aggressive displays of the various species. The "Comparative Behavior Chart" at the end of the book summarizes in conservative fashion the distribution of some 60 specific behavior patterns among 10 species of North American herons (excluding bitterns). In almost every instance this table shows that a certain display is either present in a given species or else information is deemed inadequate to judge. One wonders if a table with such a dichotomy and so full of question marks is really an important gauge of our ignorance, or merely shows anew the difficulty of proving a negative in any absolute sense.

The close observation and detailed descriptions of the author are a fine contribution to our knowledge of the behavior of North American birds.—NICHOLAS E. COLLIAS.

**Proceedings of the First Pan-African Ornithological Congress.**—Ostrich, Supplement No. 3, 1959. x + 445 pp. Paper, 25 shillings.—Those fortunate enough to attend the Ornithological Congress at Victoria Falls, Rhodesia in 1957 will always treasure the memory of this occasion, especially against the recent somber turn of events in that continent. The 55 papers presented are here published in a well-produced and illustrated volume. Some of the contributions are rather sketchy, but others are extremely detailed and valuable, e.g., Broekuyzen's "Life History of the Curious Cape Sugarbird, *Promerops cafer*."—D. AMADON.

**The Galápagos Islands, A History of Their Exploration.**—Joseph Richard Slevin. 1959. Occasional Papers of the California Academy of Sciences, No. 25. x + 150 pp.—The Galápagos Islands, a volcanic archipelago of 15 islands, and numerous islets and rocks, are distinguished by the attention that they have attracted from a galaxy of scientific talent. Primarily this interesting publication is an account of the exploration of these islands beginning with the visit of Fray Tomás de Berlanga in 1535. It thus serves as a most useful complement to the many scientific papers that have resulted from investigations on these islands. Major attention is given to the visits of the *Rattler* (1793–1794), *Essex* (1813–1814), *Beagle* (1835), *Le Genie* (1846), and the *Decres*. There is also a brief account of the expeditions to the Galápagos. This emphasizes the role of the islands as a source of materials for the study of zoogeography and organic evolution.—D. S. FARNER.

**Fauna of the Aleutian Islands and Alaska Peninsula with Notes on Invertebrates and Fishes Collected in the Aleutians 1936-38.**—Olaus J. Murie and Victor B. Scheffer. 1959. North American Fauna No. 61. 406 pp. Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. \$1.25.—This number of the North American Fauna series is based primarily on a biological survey made during 1936 and 1937. The first part (pp. 1–364), prepared by Olaus J. Murie, consists of a general description of the area (pp. 1–26), an annotated list of birds (pp. 27–261), and an annotated list of mammals (pp. 262–339); the second (pp. 365–405), prepared by Victor B. Scheffer, is concerned with collections of invertebrates and fishes collected in conjunction with the biological survey. The annotated list of birds contains 204 species.—D. S. FARNER.

**Life Histories of Central American Birds II.**—Alexander F. Skutch. 1960. Cooper Ornithological Society. Pacific Coast Avifauna, 34: 593 pp., 100 figs., 1 col. pl.—The reputation of A. F. Skutch will be further enhanced by the second volume of his life history studies. The observations were made at several spots in Central America but principally in Costa Rica and Panama between 1929 and 1956. This volume includes rather fragmentary information on some scarce species whose life histories Skutch does not expect to complete. Only a summary is given for about eight species, whose life histories were published in detail in journals. The accounts include life histories of 3 vireos, 2 gnat-catchers, 5 thrushes, 12 wrens, 1 bush-tit, 2 jays, 3 swallows, and 31 flycatchers. A notable part is the general summary for each family giving comparisons. Where possible, information on range, food, voice, behavior, nest building, eggs, incubation, and nestlings is given. For many species a summary is available. A most commendable effort has been made to include quantitative data on clutch size and nesting dates.

Comparisons with my own notes for birds in Panama and British Guiana show no discrepancies. Skutch has clearly assembled over the years an authoritative description of the life histories of these species. The modernity of the concepts underlying the exposition of data is refreshing.—DAVID E. DAVIS.

**On the Birds of Afghanistan.**—Knud Paludan. 1959. The 3rd Danish Expedition to Central Asia, Zoological Results 25. Reprinted from Videnskabelige Meddelelser fra Dansk Naturhistorik Forening i København, 122. 332 pp. Bianco Lunos Bogtrykkeri A/S, Copenhagen. 35 Danish kroner.—The author studied and collected birds in Afghanistan from 13 December 1947 through 14 November 1948. A section of 38 pages is concerned with the physiography, ecologic distribu-

tion of birds, and migration. Most of the remainder of the book consists of an annotated list of 387 species, based primarily on the author's observations and collections but also with some reference to previously published information. This is an important contribution to the ornithology of an area whose avifauna is still imperfectly known. The author states that he collected and fixed the gonads, adrenals, thyroids, and hypophyses of large numbers of individual birds and that these are available for study to serious investigators as a supplement to current research. Application can be made to the Institut for Sammenlignende Anatomi, Universitetsparken 3, Copenhagen Ø.—D. S. FARNER.

**The Birds of Heard Island.**—M. C. Downes, E. H. M. Ealey, A. M. Gwynn, and P. S. Young. 1959. Australian National Antarctic Research Expeditions Reports, Series B, Vol. 1. 135 pp. Librarian, Antarctic Division, Department of External Affairs, 187 Collins Street, Melbourne, C. 1., Victoria, Australia.—This report summarizes primarily the ornithological observations made during the period 1948–1954. The extensively annotated list includes 28 species. Of particular interest and value are the treatises of the King Penguin, *Aptenodytes patagonica*; Gentoo Penguin, *Pygoscelis papua*; Macaroni Penguin, *Eudyptes chrysolophus*; Black-browed Albatross, *Diomedea melanophris*; Giant Petrel, *Macronectes giganteus*; and Fulmar Prion, *Pachyptila crassirostris*. This is a significant contribution to Antarctic ornithology.—D. S. FARNER.

**Birds of Anaktuvuk Pass, Kobuk, and Old Crow. A Study in Arctic Adaptation.**—Laurence Irving. 1960. United States Museum Bulletin 217. 409 pp. Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C. \$2.00.—This is a commendable synthesis of the natural history, ecology, and certain aspects of the physiology of arctic Alaskan birds. Individual chapters contain extensively annotated lists of the birds of Old Crow, Anaktuvuk Pass, and Kobuk. A further chapter compares the avifaunae of these three localities, and is an important contribution to our knowledge of the distribution of birds in arctic Alaska. A chapter on migration discusses routes, breeding and wintering ranges, and relationships to climate. Considerable attention is given to the correlation of migration and reproduction with the arctic summer. There is an interesting discussion of the use of fat as a source of energy, the usefulness of which could have been enhanced somewhat by a more extensive use of the rapidly expanding literature on fat as a readily mobilizable energy reserve. Perhaps the most significant and important chapter is the last, "Arctic Metabolic Economy of Warm-blooded Animals." It clearly defines the metabolic problems of arctic birds and mammals and the adaptations that they have developed. It concerns a field in which the author and his colleagues have made most significant research contributions. It is a chapter that can be read with profit by all ornithologists.—D. S. FARNER.