REVIEWS

EDITED BY KENNETH C. PARKES

A survey of the birds of Mongolia.—Charles Vaurie. 1964. *Bull. Amer. Mus. Nat. Hist.*, 127 (3): 103–144, 1 pl., 2 text figs. $1.50.—Once again the English language literature of ornithology has profited from Dr. Vaurie's excellent relations with his Russian colleagues and his unsurpassed knowledge of Palearctic zoogeography. The present publication is something of a miscellany but all of its chapters bear on the ornithology of what used to be called Outer Mongolia and is now officially the Mongolian People's Republic. Dr. Vaurie was able to examine Mongolian specimens in Russian collections and was directed to (and given some) rare Russian publications by Mme E. V. Kozlova and Professor G. P. Dementiev. Mme Kozlova has published the major papers on the birds of this region, so little known to Americans.

The first chapter is a description of the physiography and phytogeography of Mongolia, illustrated by two maps. One shows the physico-geographic divisions of the country as proposed by Murzaev, while a larger map shows the phytogeographic and faunistic zones preferred by Vaurie. Statements of distribution in the remainder of the paper are keyed to the zones and localities on this map.

Then follows a list (binomials only) of the 333 species of birds recorded from Mongolia, with their ranges within the country. Vaurie apparently expected that the second volume (non-passerines) of his *Birds of the Palearctic fauna* would have been published prior to the appearance of the present paper, as it is cited in the text and listed in the bibliography without any statement that it is in press. To some extent, therefore, this Mongolian list is a preview of the classification of the non-passerines to be expected in Vaurie's check-list.

A short chapter lists 98 species collected by Tugarinov (reported in a Russian paper in 1916) just outside the political boundary of Mongolia, in an area ecologically continuous with Mongolian territory. Of these, only the Goldfinch (*Carduelis carduelis*) is not known from Mongolia but three species were reported by Tugarinov as breeding that are not yet definitely known as breeders in Mongolia proper.

A major chapter is entitled "Faunistic analysis of the avifauna of Mongolia." A portion of this represents the kind of "numbers game" currently popular among certain ornithologists; for instance, a list by families giving the number of species breeding in the Palearctic Region and the number of these that breed in Mongolia. The chief value of this is to show the abundant representation of certain groups (waders, diurnal birds of prey) and the paucity of others (larks, babblers). The actual figures are relatively meaningless for two reasons: the subjectivity of the species counts (i.e., Vaurie recognizes five rather than the usual four species of loons), and the incompleteness of breeding information from Mongolia. More interesting is the analysis of distribution in relation to the zones within Mongolia, and of the faunal affinities of the avifauna in relation to the Palearctic Region as a whole.

The primarily paleontological expeditions to Mongolia sponsored by the American Museum of Natural History collected a total of 211 specimens of 79 species of birds in 1919, 1922, 1923, and 1925. This was a notable achievement, as no ornithologist was attached to the expeditions, and the birds were collected and prepared by Roy Chapman Andrews and Walter Granger in spite of their many other duties. Vaurie gives a complete list of these for the first time. He also quotes from Andrews' field notes on 11 species; most of this material has been published previously, but in a publication overlooked by most ornithologists. Vaurie also presents taxonomic com-

ments on four non-passerine and three passerine species; the treatment of one of the latter, *Passer ammodendri*, differs markedly from that in Vaurie's check-list.

I have only two criticisms, one relatively minor. Vaurie's map contains 15 numbered dots; there is nothing in the legend to explain that these represent the collecting localities of the American Museum's expeditions, nor that these are listed in the text 23 pages beyond. Second, the name of each Russian author is given in the bibliography in its proper place in English alphabetical order, with a reference to entries in the bibliography of Russian publications, but these are unfortunately neither translated nor transliterated.—KENNETH C. PARKES.

Las aves silvestres de importancia económica del Perú.—Hans-W. Koepcke and Maria Koepcke. 1963–1964. Ministerio de Agricultura. Servicio Forestal y de Caza and Servicio de Pesquería. Lima, Peru. Price: S/. 5 per fascicle of 8 pp. (32 pp. so far published).—Since Taczanowski's *Ornithologie du Pérou* (1884–1886), there has been no descriptive book on the tremendously rich avifauna of Peru, despite many important taxonomic and distributional contributions of zoologists, notably the late J. T. Zimmer. For the past 15 years Dr. Maria Koepcke, an ornithologist, and her husband Dr. H.-W. Koepcke, an ecologist, have lived in Peru, studying its wildlife in the field. They estimate that about 1,500 bird species are presently known in Peru, including about 2,200 geographic races. The current work, being issued in parts, is designed to facilitate the identification and to summarize the biological status of those species with some economic significance or special interest. The preface indicates that "importancia económica" of the title will be broadly interpreted, as the authors plan to cover about a sixth of all Peruvian species, including most of the larger ones. In these days when, increasingly, biologists and bird watchers travel abroad to study or merely to see birds, practically all species have economic importance from the viewpoint of tourism.

The first 32 pages, now available, treat very fully 28 species. Each fascicle of eight pages covers eight species, except the first part, which contains four pages of introductory matter. The systematic order of Wetmore is followed and the published parts include one or more Peruvian representatives of the penguins, rheas, tube-noses, pelicans, boobies, and cormorants. One full page is devoted to each of these species, accompanied by a good drawing of the bird in its habitat prepared by Maria Koepcke. Allied species found in Peru but not treated are often mentioned and identifying differences are indicated. For each species the authors give the preferred Peruvian name, the scientific name, and the order and family. Under appropriate subheadings they mention other Latin American vernacular names, English names (chiefly from Cory, Hellmayr, and Conover), taxonomic position including number of species in the family and number in Peru, general range of the species, and the geographic races in Peru with their scientific names, distribution, and distinguishing features. Other sections concisely summarize plumage characters, size (linear measurements and in some cases weights), voice, field marks, and the discrimination of confusingly similar species. Of great interest is the subheading "Ecología," which treats not only habitat but food, nesting, and general habits. The final subdivision deals with relations of birds to man and comments on their significance in regard to agriculture, fisheries, food value, sport, aviculture, aesthetic interest, or the ecological community. The information compressed in one page does more than summarize widely scattered items from the literature; it includes many unpublished facts gathered in the field by the authors. This is particularly true of the tinamous; 13 species of this imperfectly known family are treated and distinguishing marks of others are indicated.

This work combines scientific accuracy with clarity of presentation in simple Spanish, making it valuable both to the zoologist and the layman. Let us hope that the divisions of the Peruvian Ministry of Agriculture sponsoring and financing this venture will support it to its completion. Measures necessary for preservation of natural habitats and wildlife cannot be effective without popular support and interest. Experience indicates that public concern with conservation is best stimulated by books facilitating identification of animals. Meaningful concern is hard to arouse regarding the extirpation of creatures about which we know nothing—not even what they look like. A work like this, providing the Peruvians with accurate information about their birds and picturing a good proportion of them, should stimulate an interest both in the avifauna and in the preservation of the essential natural environment. Much of this environment is being destroyed in Latin America, by bulldozers and other modern equipment, with truly unprecedented rapidity.

The price of this work is modest. North Americans can conveniently procure the already published fascicles (32 pages), with a special folder, from Horst Dickudt, Libreria, Pasaje Acuña 15 Casilla 1981, Lima, Peru, enclosing a check for $1.25 (U. S. currency), payable to "The National City Bank of New York, Lima." This will cover mailing cost of the four parts and folder. Request may further be made that additional parts be mailed and billed as they appear.—E. EISENMANN.

The Black-tailed Godwit.—F. Haverschmidt. 1963. Leiden, E. J. Brill. Pp. viii + 120, frontis., 2 maps, and 17 photos. by the author. 8¼ × 5½ in. $3.00 in boards.—This is a semi-popular general account of *Limosa limosa*, with emphasis on data from Holland. Of particular interest are the discussions of nesting habitat and the assembled information on breeding and on the preflight stage. Also there are data on migration (including ringing results), a section on problems of conserving and increasing the population of this bird in Holland, bibliographies for the various sections, and an index. As the author hints in the preface, Lind's behavioral study (*Meddelelse fra Naturfredningsrådets Reservatudvlag* no. 66: 157 pp., Munksgaard, Copenhagen, 1961) and this little book together provide a rounded knowledge of this species.—RALPH S. PALMER.

The junglefowl, spurfowl and peafowl of the world.—J. G. Suthard (junglefowl and spurfowl) and George A. Allen, Jr. (peafowl). 1964. Salt Lake City, Utah, Allen Publishing Co. Pp. 73, 6 col. pls., illus. 9¼ × 7 in. $7.00.—This volume, prepared by the same press which publishes the *Game Breeder's Gazette* under the direction of the co-author, Mr. Allen, is printed in the same photo-offset manner as that magazine, and is designed primarily for hobbyists of aviculture. Mr. Suthard is a well known amateur ornithologist, who was the first person in the United States to rear the Ceylon Junglefowl and the Ceylon Spurfowl. The accounts of rearing junglefowl in captivity are readable and informative, as is the account of the common peafowl and its mutant forms. The taxonomic material and species descriptions are largely quoted from J. Delacour, E. C. Stuart Baker, G. M. Henry, and other writers on birds of India and Ceylon.

The six colored plates, of which five by G. M. Henry and S. Kobayashi are newly printed in this volume, along with range maps and cuts of birds and brooders, complete this useful little compendium for the aspiring aviculturalist.—S. DILLION RIPLEY.

A systematic and ecological study of birds of New Guinea.—S. Dillon Ripley. 1964. *Peabody Mus. Nat. Hist., Yale Univ., Bull. no. 19*, pp. 1–85, 2 pls., 3 text figs. —This is a report based chiefly on birds collected and observations made by Dr. Ripley in 1954 and 1960 during four months' field work. The main areas visited were: the islands west of New Guinea; lowlands on the north coast near Hollandia; and the mid-mountain Ilaga Valley and alpine plateau northeast of Mt. Carstenz. The mountain area was an untouched one between the Baliem–Mt. Wilhelmina area to the east, studied by Archbold Expeditions, and the Wissel Lakes area reported on by Junge.

After a brief introduction and discussion of habitats, altitudinal and ecological aspects of feeding at flower trees, and breeding seasons, most of the paper is devoted to an annotated list of about 380 species and subspecies with comments on taxonomy, nomenclature, color of soft parts, range extensions, nests, eggs, breeding seasons, and habits as available and pertinent. Thus this is a welcome addition to the basic literature on New Guinea birds.

The work on the faunally lesser-known mountains yielded some of the great rarities, at least in collections, such as the quail, *Anurophasis*, the nuthatch, *Daphoenositta*, and the honey-eater, *Oreornis chrysogenys*. However, it is from the lower altitudes that the more generally interesting biological observations come: that four species of megapodes live on the island of Misool; of the altitudinal movements and "mountain" birds found in the lowlands; and of the interrelationships of some of the many species, some congeneric, feeding at fruit and flower trees, whose local abundance may vary with the periodical abundance of such food.

These results indicate the most productive approach in the immediate future to increasing our knowledge and understanding of New Guinea birds. Longer stays at more accessible lower altitudes to study the richer fauna there may be more productive, especially considering the time, effort, and expense spent to reach the high altitudes with their poorer avifauna.

New subspecies described in this paper are: *Notophoyx novaehollandiae austera, Aythya australis papuana, Tyto capensis baliem*, and *Lonchura teerinki mariae*.—A. L. Rand.

The life of birds.—Joel Carl Welty. 1962. Philadelphia and London, Saunders. Pp. xiii + 546, 273 figs. $9.00.—This book is becoming one of the best-known and most widely used textbooks and general reference works in ornithology. At least one foreign edition has been prepared, a translation into German by Günther Niethammer. At its best, the book has virtues, which may be summarized briefly: it has persistent reference to birds as living organisms rather than as members of a particular taxonomic group, it more nearly covers the field than does any other book, and it gives entrance to more of the important ornithological literature, especially the European, than does any other book. It cannot be emphasized too strongly that the scope of the book is very large and that it is a good book on many counts. Nevertheless, the work is flawed, and in a fundamental way.

The flaw is a single one, but it ramifies throughout the book, for it concerns imprecise and frequently impossible reference to the evolutionary process. This is nowhere better illustrated than in Welty's summary of the chapter on evolution of birds; this is the book's penultimate paragraph (p. 502): "To sum up, evolution is based primarily on isolation, variation, and selection. If isolation is too pronounced, gene mutations run on unchecked and produce excessive variation, which results in

freaks and monsters. If selection is too rigorous, the result may be overspecialization, which makes the bird vulnerable to environmental change. The fact that such a rich and colorful variety of birds exists today shows that there has been and continues to be a healthful balance between the forces of selection and mutation."

There are a considerable number of errors and infelicities in this paragraph. The first five can be considered in sequence. To say that "evolution is based primarily . . ." is to imply at least secondary "bases," an implication of major importance which, however, is not followed up. To conceive of "isolation" as something that can be "too pronounced" is to initiate a new mythology; students of speciation doubtless would like to hear more about too pronounced isolation, since isolation of any degree has no necessary relationship to rate of gene mutation but does have bearing on existence and rate of local differentiation. "Unchecked" mutation (a concept which must assume that rate of mutation or stability of the hereditary material is not itself subject to selection) producing "excessive variation" suggests the science fiction that immediately follows in the reference to freaks and monsters; teratological causality is partly genomic, but teratologies occur in lines of restricted as well as broad variability and have no primary relationship to "excessive" and "unchecked" variation and mutation. Likewise, "too rigorous selection," "overspecialization," "vulnerable to environmental change," and "the healthful balance between forces of selection and mutation" are inappropriate.

One example of how this erroneous approach mars the book is the remarkable diagram of avian relationships appearing on page 16; the examples in text are legion. On page 291 we can read, *apropos* consideration of two congeneric caprimulgids with clutch-sizes of one and two eggs, "Here the primeval dilemma of race survival—whether to devote more care to fewer but larger eggs or to dilute the care and gamble on greater numbers of young—seems to have been resolved by natural selection through pushing close relatives in contrary directions." This moves us into the realm of the Big Error; one is tempted first to deal with the false dilemma (solved, you see, through a benevolent selection created in our own image) but Welty's choice of words is bad, the emphasis on "care" and gambling is absurd, and the anthropomorphic bias so pronounced that they effectively preclude intelligent treatment of something David Lack showed to be beautifully simple.

But I should not belabor the point. The book cannot be used in a college classroom without close critique by an instructor, but with a good critique it is in some ways the best available text in ornithology.—RICHARD F. JOHNSTON.

Bird songs from the tropics.—Paul Schwartz (recorded and produced for the Instituto Neotropical, Caracas, Venezuela). 1963. One LP (33⅓ RPM) record in sleeve. Available in the U. S. through the Laboratory of Ornithology, Cornell University, Ithaca, New York. $7.75 postpaid.—There are about 1,300 species of birds known from Venezuela. We are obviously unlikely to have for many years, if ever, recordings comparable to those available for the North American avifauna, emphasizing *identification* of birds by their sounds. This new record, which includes the voices of but 40 species, must serve instead as an introduction to the sounds of Neotropical birds. In addition, it will certainly have an evocative effect on any listener who has previously heard birds "south of the border." Paul Schwartz has chosen from his library of sounds an excellent sample of passerine and non-passerine birds from various Venezuelan habitats.

Several of the species included on this fine record have extensive ranges in the New

World. It is fascinating to note the constancy in the voices of some species, and the geographic variation in others. To my ear, at least, the voice of the Venezuelan individual of the "Great Kiskadee" (a name, incidentally, that I cannot get used to, having grown up with the book name "Derby Flycatcher" and then learned the Argentine vernacular "Benteveo") sounds much the same as did the different subspecies of *Pitangus sulphuratus* that I heard in Argentina and Mexico, but the House Wren (*Troglodytes aedon*) and the Short-billed Marsh Wren (*Cistothorus platensis*) will seem to the North American listener to have distinct foreign accents. And the Rufous-collared Sparrow (*Zonotrichia capensis*), a notoriously polytypic species, is nicely shown by Mr. Schwartz to vary markedly in song even within Venezuela. I was enchanted by some of the sounds that were utterly new to me; the incredibly sustained performance of the Rufous-tailed Antthrush (*Chamaeza ruficauda*), the name-justifying song of the Musician Wren (*Cyphorhinus aradus*), and the haunting, otherworldly call of the Common Potoo (*Nyctibius griseus*).

The quality of the recording, which was made in Venezuela, is equal to the best available from this or any other country, at least to an untrained ear. The sleeve (which bears a complete list of English and scientific names as well as a reproduction of one of Mr. Schwartz's fine color photographs) is perhaps a little flimsy. If the Instituto Neotropical produces additional records (an intent suggested by the labeling of the present one as "Naturaleza Venezolana 1"), or reissues this one, the sleeves should be printed on a sturdier stock. The commentary, spoken by Paul Schwartz himself, is reasonably straightforward, although now and then a saccharine element creeps in. According to information on the sleeve, a version with Spanish narration is also available, under the title "Cantan los Pajaros."—KENNETH C. PARKES.

Bird study in the mid-south.—Will Hon. 1963. Nashville, Tennessee Game and Fish Commission. Pp. 1–92, 5 color pls., many black-and-white illus. 8½ × 11 in. Paper. $1.50.—In this elementary introduction to bird study in Tennessee and vicinity, the author has used a "habitat approach" to acquaint the reader not only with the commonest birds of the area but also with the concept that ecological requirements determine the type of habitat a species will be found in at any given time of year. Thus the book is organized into units such as "woodland birds in winter" and "the Alleghenian zone in summer," with emphasis on behavior, nesting requirements, and food habits rather than on plumages and field marks. Interspersed with these habitat-oriented accounts are several short discussions on a variety of related topics: migration, bird-banding, territoriality, etc.

Generally the book has a high incidence of typographical, grammatical, and factual errors; the latter are particularly evident in the biological discussions, where the author occasionally displays a lack of understanding of his topic. To mention only a few of the many errors found: it is not true that "all wrens" are "box nesters" (pp. 87–88), nor are bluebirds, as a species, non-migratory (pp. 32 and 55–56); hormones are not "special fluids in the body" (p. 54) nor is the function of territorial song to ". . . tell the world about the fine family they are raising" (p. 14). In several attempts at simplification for his amateur audience, the author has ended with a statement that is either too vague to be meaningful or overgeneralized to the point of inaccuracy: for instance, "Bird lice . . . sometimes become a human problem where birds nest in house eaves or attics" (p. 38). Anyone who has handled a recently abandoned phoebe nest and been inundated with its mites (not lice) will appreciate the author's intention, but his statement, as worded, leaves a false impres-

sion that bird lice will also feed on man. In view of the intended readership, many of the anthropomorphic phrases may be overlooked but on p. 54 the author valiantly attempts to explain the fallacies of teleology and then finds it necessary to invoke the "planning" of "the Creator" instead. In many other cases he sidesteps both teleological and biological explanations by the use or misuse of the all-encompassing but highly inadequate word "instinct": "The mockingbird is acting through instinct, and he acts differently than a myrtle warbler at the feeding station because the two have very different instincts" (p. 14).

The book is liberally illustrated by the author with cartoons, marginal sketches of varying quality, and a few formal plates. Several additional plates, including excellent black-and-white drawings by Charles Schwartz, Ned Smith, and Bob Hines are reprinted from other sources. These illustrations form an unfortunate contrast to the very poor color plates by Jacob Bates Abbott.—MARY A. HEIMERDINGER.

The vertebrates of Arizona.—Charles H. Lowe, editor. 1964. Tucson, University of Arizona Press. x + 259 pp., 71 figs. 9½ × 6¼ in. $5.00 (Part 4 of this book, separately paged, is available as *A checklist of the birds of Arizona*, by Gale Monson and Allan R. Phillips; 74 pp., 4 figs., paper. $1.75.)—This compact book summarizes the distribution of all of the Recent species of vertebrates of Arizona. The introductory Part 1, "Arizona landscapes and habitats," by Lowe, is an instructive and detailed ecological discussion of the diversified topography, climate, and flora of the state, illustrated with numerous excellent photographs. Although Lowe emphasizes the Merriam Life Zone system, he concedes that it is imperfect, recognizing (p. 17) that: "As a tool, if not a completely satisfactory biogeographic system, it still endures; in short, it is simple, straightforward, and works throughout western North America." In this book we find it employed in the checklists of amphibians, reptiles, and birds, but not in those of mammals and fishes. Particularly interesting are photographs of landscapes taken from 1908 to 1915, with Lowe's comments indicating that little change has since occurred in the Sonoran desert and the coniferous forest climax. In recent years the Desert Grassland has been invaded by mesquite and shrubs at its lower elevations and because of (p. vi) "critically lowered soil moisture content" the oaks at the lower edge of the Evergreen Woodland have died. The chapter is amply documented by a 27-page bibliography that includes almost every ecological text and important publication dealing with the biology of Arizona. I recommend this chapter to everyone interested in birds. Despite its length (text and illustrations together comprise 107 pages) and the occasional use of difficult ecological jargon, I found it fascinating and stimulating. It alone is worth the price of the book.

Part 2, by Robert Rush Miller and Charles H. Lowe, lists 64 species of fishes and includes a drainage map of Arizona. Part 3, by Lowe, lists 22 species of amphibians and 94 of reptiles. Part 5, by E. Lendell Cockrum, lists 137 mammals.

In Part 4, Gale Monson and Allan R. Phillips present the first extensive treatment of the distribution of the Arizona avifauna since Swarth's list (*Pacific Coast Avif.* no. 10, 1914). Phillips began his field work over 30 years ago, and has thoroughly checked practically all of the collections known to contain Arizona specimens. Monson, who has an intimate knowledge of the birds of the Colorado River valley, compiled for many years the information for the "Southwest Region" of *Audubon Field Notes*. The authors point out the need for more field work in the Kaibab Plateau, the region westward to Lake Mead, and in the northeastern part of the state.

There are 434 species of birds listed, all represented by at least one specimen.

There is a hypothetical list of 30 species. The number of species known to breed or to have bred in Arizona now totals 250. It seems unfortunate to this reviewer that the authors were required by the editorial format of this book to list the birds at the species level only. Lowe assures us in the preface, however, that "comprehensive treatments of the taxonomy" are in progress. As a matter of fact, a larger book on the birds of Arizona, by Phillips, Monson, and Joe Marshall, and including a thorough consideration of taxonomic matters, is in press as this review is being written [Review Editor's note.—This book has been published since the manuscript of the present review was received. A review of *The birds of Arizona*, with emphasis on taxonomy and nomenclature, will appear in a forthcoming issue of *The Auk*.]. The inclusion of subspecies in the present list would have required using trinomials for all polytypic species and the addition of perhaps 90 subspecies, and would have consumed about 10 more pages of text—not, I think, a prohibitive number.

The scientific names used are those of the 1957 A.O.U. Check-list, although Phillips indicated disagreement, by placing quotation marks around generic or specific names in no less than 40 instances. We may anticipate explanation in the forthcoming larger book. In any event, within a single year we will have two lists of Arizona birds, both avowedly up-to-date, but with striking, if not confusing, differences in their taxonomy and scientific nomenclature. In the past, I think, common names have shown a tendency to be more stable than scientific names. In this checklist we are offered, besides the standard A.O.U. name, that used by Swarth. Occasionally, as in the case of the Oregon Junco, subspecific common names of days long gone are also listed.

The distributional accounts are concise; they indicate seasonal status and often give information on habitats. Dates of collected specimens are given without the name of the collector or citations if published. Documentation of these records will no doubt be available in the larger book now in press. Among many interesting items in the species accounts are reports of flights into southwestern Arizona of jays, nutcrackers, woodpeckers, and nuthatches; of the status of the Yellow-headed Blackbird, whose winter numbers in Arizona are composed almost exclusively of males; of the Bobwhite, "grazed out of existence" (could not drought and/or indiscriminate shooting have been partially responsible?); and of the Inca Dove "probably absent from the state prior to 1870" (were Indian villages inferior habitats for this city dweller?). The statement that the Thick-billed Parrot was a "formerly erratic visitant mainly in winter" appears misleading. Most of the birds arrived in July and August to remain until spring (A. Wetmore, *Condor*, 37: 18–21. 1935).

There are an enormous amount of new data in this checklist. Not only do we find 102 species added since 1914 but there are important additions to the accounts of practically all of the birds listed by Swarth. There are numerous corrections of earlier errors, including a number in the A.O.U. Check-list. The fruits of Monson's long residence in the Colorado River valley are apparent in the now large representation of water birds. The authors state (p. 178) that this checklist is but a "yardstick or foundation for future research." I feel confident that this publication will be used constantly by Arizona field workers, and that many years will pass before it is out of date.—Anders H. Anderson.