

## REVIEWS

**Complete Field Guide to American Wildlife/East, Central and North.**—Henry Hill Collins, Jr. 1959. Harper and Brothers, New York, N. Y. xix + 683 pp., 48 col. pls., many figs. Price \$6.95.—Included are birds (they come first), mammals, reptiles, amphibians, food and game fishes, seashells, and principal marine invertebrates "occurring annually" in North America east of the Rockies and north of the 37th parallel.

Birds—249 pp., 28 col. pls., etc. The boiling-down process, to try to crowd in everything, including irrelevant material, has resulted in numerous brief generalities in text instead of really diagnostic information. By cutting down on such useful components as adequate comparisons with confusing species, room has been made for sundry quotations (Shakespeare, Whitman, *et al.*, rather heavy on Kipling) and bits of useless information (Bachman's sons married Audubon's two daughters). These might get by in a bedside book, not a field guide. The small range maps are rather useful. The color plates (turn to mammal section for four of them) leave the sort of impression one might get on seeing Roger Peterson's work imitated poorly, with figures sometimes reversed, rearranged, and scale ignored. On one plate Cooper's Hawk is longer than Black Vulture!

Although other sections of the book are largely outside the scope of this review, perhaps it should be mentioned that the only features that tend to approach the high standards set by the best available guides are Yrizarry's plates of reptiles and amphibians.—RALPH S. PALMER.

**Birds of the Belorussian Forestland.**—M. S. Dolbik. 1959. Minsk. 268 pp., 50 line drawings and photoreproductions, bibliography. (In Russian: no foreign language summaries.) \$1.90. Victor Kamkin, Washington, D.C.—The Belorussian forestland constitutes approximately 12 million hectares of watery lowland between the Dnepr and Bug rivers, drained by the Pripet River and its many tributaries. On the map it forms a rough triangle between Brest (to the west), Minsk (to the north), and Gomel (to the east). The area is frequently labelled "Pripet Marshes." It contains deciduous, coniferous, and mixed woodland with a substantial amount of swamp, river bank, meadow, and agricultural habitat as well.

On the basis of seven years (1948–1956) of collecting and observational field work plus a review of literature, the author describes the status of 250 species in the area, 192 of which breed there. The amount of data recorded for each reflects the bird's rarity or abundance. For the Lesser White-fronted Goose (*Anser erythropus*), for example, there is the cryptic comment: "Rarely encountered on migration. There is one known record of a bird taken October 9, 1927 by I. N. Serzhanin in the vicinity of Lyuban in the Minsk Oblast." On the other hand, there are several pages on the Black Tern (*Chlidonias nigra*), a very common breeding species.

In addition to the annotated list, which forms the bulk of the book, there is: a brief chapter on the climate and general natural history of the area; a chapter on habitat disposition including a tabular arrangement of the breeding birds with respect to 19 specific different habitats where they occur; a chapter of zoogeographic analysis centered on a discussion of the history of the formation of the avifauna of the area; and a helpful bibliography. As in other Soviet regional studies, this book has quite a few notes on stomach contents of the species collected.

This is an inexpensive, unpretentious book, written in a clear, terse manner.

As the swamps of Pripet are drained, the woods cleared, and settlement extended, the bird life in this area will continue to change. (As the author points out, it has been doing this slowly since Shnitnikov's review of the birds of Minsk in 1913.) This book will be permanently useful as a sound presentation of the ornithological status quo of the Pripet marshes at midcentury.—D. G. NICHOLS.

**Las Aves Argentinas. Una Guia de Campo.**—Claes Chr. Olrog. 1959. "Miguel Lillo," Universidad Nacional de Tucuman, Tucuman, Argentina. 343 pp., 48 col. pls., numerous maps and text figs. 150 Argentine pesos (about \$1.70).—Visitors to South America are constantly inquiring about bird identification books. Aside from the excellent two volume "Las Aves de Chile," which covers a peculiar and small avifauna, there has been no modern work useful in field identification. The present book is designed as a field guide covering the over 900 species included in the avifauna of Argentina, ranging from numerous tropical species in the north to birds breeding in that large segment of Antarctica and the South Atlantic islands (including the Falklands and dependencies) claimed by Argentina. Dr. Olrog has provided drawings in color of each species; the text gives Argentine and scientific names, distinguishing characters, data on field recognition (including habitat), Argentine subspecies and their distribution, plus a small map showing range within Argentina of the species as a whole. Getting a vast number of species into a small pocket-sized volume required the text to be severely compressed, so that only two or three lines are usually devoted to description of a species. Nevertheless, with the accompanying illustrations, field identification should be feasible in most cases. Dr. Olrog is an ornithologist, not an artist, and his schematic drawings are amateurish; in some instances the poor color reproduction may prove misleading. But the book is unique in its field, and the price is extremely modest. It should prove tremendously useful not only to the people of Argentina and to visiting bird spotters, but also to ornithologists. In addition to the main text, which in itself is an up-to-date Argentina check-list, there is a convenient separate list of the 1,131 forms included in the avifauna, a tabular summary of the number of species and forms in each family (with indication of the breeding area of migrants and casuals), and an introductory chapter on Argentine zoogeography and habitats. As a final convenience to the tourist, there is a Spanish-English glossary covering the simple vocabulary of the text.

This book should be useful not only in Argentina, but also in southern Brazil, Uruguay, Paraguay, Bolivia, Antarctica, and to some extent in Peru and Chile. It is a pity, therefore, that the extra-Argentine ranges of the species treated were not briefly indicated. The guide will contribute to increasing popular interest in Argentine birds both within and without the country. The author and the Instituto "Miguel Lillo" thus deserve the gratitude of conservationists and bird students for making this work available at a price that all can afford.—E. EISENMANN.

**Ein dritter *Archaeopteryx*-Fund aus den Solnhofener Plattenkalken von Langenaltheim/Mfr.**—Florian Heller. 1959. Erlanger Geologische Abhandlungen, Heft 31, 25 pp. with 15 pls. and two text figs. (Obtainable from the Geologisches Institut der Universität Erlangen, Schlossgarten 5, Erlangen.) 20 Deutsche Mark.—In the preface to de Beer's monograph on *Archaeopteryx*, W. H. Edwards expressed doubt as to whether another specimen of this unique bird could be expected from the intensively collected Solnhofen quarries. In 1956, however,

another skeleton of *Archaeopteryx* was discovered in the quarry of Eduard Opitsch in Langenthalheim, Bayern, the site being only 250 meters from that of the London specimen. Because of its poor state of preservation, the fossil did not arouse much interest among the local workers, and it was not until 1958 that it was shown to Klaus Fesefeldt, a student at the Geologisches Institut der Universität Erlangen, who immediately conveyed the information to the University. Arrangements were made to have the specimen brought to Erlangen where it was studied by Professor Heller. The results of his study are given in this paper.

The first question that arose was whether the new find came from the same level as the London specimen. For the answer to this question, Professor Heller turned to Klaus Fesefeldt, who had made an intensive study of the stratigraphy of the Solnhofen limestones. Fesefeldt determined that the stratum in which the new specimen was found lies about six meters above the layer in which the London specimen was discovered. This indicates that *Archaeopteryx* had occurred in the Solnhofen region for some time and that the chances of uncovering more specimens may be better than formerly believed.

Because many of the bones were badly fractured, preparation of the fossil was limited to the removal of a thin film of limestone from the surface of the counterslab and the excavation of a few bones, such as the left humerus, on the counterslab. However, several photographic techniques were used extensively. Both slabs were photographed with normal light, including the use of shadow effects and stereophotography, and with ultraviolet light, which causes the bone to fluoresce. The slabs were also x-rayed, which led to the discovery of several concealed elements. By the use of these techniques, Professor Heller was able to study the fossil so thoroughly that it is extremely doubtful that future workers will be able to add anything new to his findings.

The new *Archaeopteryx* fossil consists of two slabs, with most of the bones being found on the counterslab. Unfortunately, the bird was in an advanced state of decomposition by the time it was finally covered with sediment, so that a good part of the skeleton is missing, and most of the remaining bones are disarticulated. The bones are not spread out as in the London and the Berlin specimens, but they are clustered together and frequently lie over one another. The preserved and identifiable bony elements are as follows: the vertebral column with the exception of the caudal vertebrae, most of the bones comprising both forelimbs, one scapular, most of the furcula, and parts of the hind limbs. In addition, there are scattered pieces of ribs and other bony scrap. The head, tail, pelvic girdle, and most of the pectoral girdle are missing. The feather impressions are poor; indeed, they show little more than the presence of feathers. All preserved elements were carefully described, illustrated with numerous photographs and line drawings, and compared with the London and Berlin specimens. The new specimen agrees with these older specimens in all essential details. In size, it is almost identical with the London specimen. Even though the new find is in a poor state of preservation as compared with the previous finds, Professor Heller was able to uncover several important new features in the structure of *Archaeopteryx* and confirm several others. One of the most important features of the new find is that, for the first time, the tarsometatarsus can be seen from the frontal plane. The metatarsi of the three anterior toes lie next to one another and have started to fuse together to form a true tarsometatarsus; they are not separate as previously suspected. The other important find is that the long bones are hollow and doubtlessly pneumatic. This can be seen clearly in many bones because of the great amount of

fracturing. In the previous specimens, the bones were not broken, and because no pneumatic fossae were found, it was naturally concluded that the bones were nonpneumatic. In addition to these new finds, a complete furcula and an almost complete fibula (the extreme distal end is lacking, but this is probably due to immaturity or poor preservation) were found. The body vertebrae are amphicoelous as can clearly be seen in the x-ray photographs; however, the articular surfaces of the cervical vertebrae could not be seen clearly.

Professor Heller concluded that the recent find should be referred to the species *Archaeopteryx lithographica* and agreed with de Beer that *Archaeopteryx* should be considered a true bird, although it is probably ancestral to all other birds, and that it dwelt in trees. The discovery of this fossil also raises our hopes that more specimens may be found and that perhaps we may eventually learn more about the structure of such poorly known features as the sternum and parts of the skull. Ornithologists are certainly in the debt of Eduard Opitsch and his workers for the discovery of this new specimen of *Archaeopteryx*, to Klaus Fesefeldt for his part in bringing the attention of the scientific world to the fossil, and especially to Professor Heller for his masterly investigation of this third specimen of *Archaeopteryx*.—WALTER J. BOCK.

**The Waterfowl of the World. Vol. 3.**—Jean Delacour. 1959. Country Life Limited, London. 270 pp., with 20 col. pls. by Peter Scott and 46 distribution maps. Six guineas.—This volume concludes the systematic review of the Anatidae, covering the eiders (*Somateriini*), the pochards (*Aythiini*), the perching ducks (*Cairinini*), the scoters, goldeneyes, and mergansers (*Mergini*), and the stiff-tailed ducks (*Oxyurini*). The systematic arrangement follows closely that of Delacour and Mayr published in *The Wilson Bulletin* (57 (1): 1945). An important exception is the separation of the eiders from the Tribe *Mergini*, following recent recommendations by P. S. Humphrey, based on a study of tracheal morphology, plumage patterns, and food habits. This new arrangement reflects the view that the eiders and pochards arose as independent lines of evolution from the dabbling ducks (*Anatini*).

As in the two previous volumes, most of the space is devoted to discussions of general habits, courtship and breeding behavior, and response to captivity. The author not only draws heavily on his extensive personal experience with many forms, but quotes extensively from private correspondence as well as from published accounts. Attention is called to unfilled gaps in our knowledge of the habits and breeding biology of various forms, a feature of no little importance and a challenge to future observers.

In the case of migratory species, the distribution maps show the breeding range and winter range as sharply delimited areas, giving the impression that there is never any overlap. The hallux (p. 43 and elsewhere) is inexplicably called the "thumb." As usual, the splendid color plates by Peter Scott are an attractive and useful feature of this important work. This is especially true of the 54 figures of downy young.

Although the book is handsomely printed, illustrated, and bound, the price of six guineas (about \$17.64 U.S.) seems very high for a volume of less than 300 pages. It appears likely that a 50 per cent reduction in price would increase the sales several hundred per cent, thereby reaching a much wider audience and perhaps increasing the net returns to the publisher.

The fourth and last volume is expected to cover such topics as morphology,

anatomy, and biology of the family, history, sport, care and breeding, and bibliography—GEORGE E. HUDSON.

**Vara Faglar i Norden. Vol. I** (Revised Ed.).—Kai Curry-Lindahl, editor. Bokförlaget Natur och Kultur, Stockholm. 557 pp., 40 figs., 373 black-and-white photographs, and 85 col. pls.—Volume I of the very extensively revised edition of this well-known popular treatise of the birds of Scandinavia and Finland contains preliminary sections on morphology and anatomy (pp. 11–21) and investigations on migratory species (pp. 22–28). The remainder of the volume consists of treatises of the loons, grebes, fulmars, gannets, cormorants, herons, storks, ducks, geese, and hawks, a total of 67 species, which occur regularly in Sweden.—D. S. FARNER.

**Techniques for Drawing and Painting Wildlife.**—Fredric Sweney. 1959. Reinhold Publishing Corp., New York. 144 pp., many illus. (3 in color). \$10.00.—This book (page size  $8\frac{1}{4} \times 10\frac{1}{4}$  inches) deals with illustrating birds, fishes, and "animals" (mammals). The novice who does not have access to art school or guidance of a suitable teacher, and who desires instruction via a book using wildlife materials, will find this one to be a helpful introduction to such topics as anatomy, perspective, and step-by-step construction of a picture.—R. S. PALMER.

**The Birds of the British Isles. Vol. 8.**—D. A. Bannerman. 1959. Oliver and Boyd, Edinburgh. x + 400 pp., 26 col. pls. 63 shillings.—This volume covers 37 species in nine families in this sequence: Phalacrocoracidae, Sulidae, Fregatidae, Procellariidae, Diomedidae, Podicipedidae, Gaviidae, Columbidae, and Pteroclididae. There are sections by George Waterston, R. M. Lockley, Brian Roberts, L. H. Matthews, K. E. L. Simmons, and accounts of two *Puffinus* species by A. Wetmore. As in earlier volumes, Bannerman attempts to expand (and at times also to correct) existing knowledge of the species he includes. This makes for uneven treatment since, depending on the species, what he chooses to include may pertain to description, distribution, migration, habits, or several such topics. There is a wealth of important new information, which no student of these particular species can afford to ignore. Bannerman's views on nomenclatorial and other matters are presented in a very forthright manner. This reviewer admires Lodge, who was long past his prime as a painter when he illustrated this volume; at times he obviously was painting by formula rather than from first-hand knowledge—a handicap most evident in some of the Tubinare plates.—R. S. PALMER.