

BOOK REVIEWS

Bent's Life Histories of North American Birds.—Edited by Henry Hill Collins, Jr. 1960. Vol. I, Water Birds, 356 pp.; Vol. II, Land Birds, 374 pp. Harper and Brothers, New York. \$5.95 per volume.—According to the jacket blurb these volumes at last make available to all bird lovers the “essence” of Bent's great work in convenient form, using full excerpts, not condensations. “The editor has generally omitted such technical data of the original as plumages, distribution, field marks, and focused on the more colorful personality of the individual birds, their places in history or in the modern world of men.”

The principal contribution of the original volumes consisted of the very sections on “technical data” omitted from the present work. This “abridgement” has simply lifted many paragraphs or sections *in toto*, mainly anecdotes or very general accounts written by Bent or contributed by many of the observers who collaborated with him. The result can in no way be considered “life histories.” These volumes are well printed on good paper and handsomely bound. The serious student of ornithology will find little of interest here, although there is much that should appeal to more casual students of the subject. There are no illustrations.—GEORGE E. HUDSON.

Sexual Selection and Species Recognition Marks in Birds.—A. B. Kistya-kovskiy. 1958. Kiev State University imeni T. G. Shevchenko. 199 pp. including contents and bibliography, no index, 3 col. pls. and 7 text figs. (In Russian. No summaries.) Paper cover. Four Continent Book Store. New York. \$.75.—The paper cover of this book bears an attractive water color of two ruffs in display; the three plates are similar decorative additions comparing species recognition marks in 18 ducks, 16 buntings (*Emberisa*), and 12 weaver finches. In these respects, as in price, quality of paper, and typography, the book resembles an American paperback intended to reach a very large public. It is somewhat surprising, therefore, to discover that it contains a fairly technical discussion based upon a more or less brief review of about 87 American and British, 60 Russian, 48 German, and half a dozen other titles germane to the subject in hand.

A brief historical account of the development of the theory of sexual selection is followed by a series of chapters dealing separately with: general characteristics of the functions of recognition marks; physiological and nervous implications; description of recognition marks in general; species recognition marks in relation to ontogenesis; geographic variation; species formation; recognition marks in other classes (reptiles, insects, amphibians, and mammals); and a chapter divided into separate sections dealing with color and form, size, voice, odor, polymorphism, and territory.

In his introductory paragraphs and from time to time in the text, the author summarizes his position that contemporary research validates the general Darwinian theory of sexual selection although modifying it with respect to details. He states (p. 37) “. . . it must be stressed that the recognition factor of species markings plus the recently established fact that external appearance and actions of the male influence ovigenesis in the female both supplement the theory of sexual selection but do not replace it. It is furthermore necessary (in the light of newly acquired data) to broaden our concept of the sphere of sexual selection, viewing it as an outcome not only of intraspecific but also interspecific relations, not as an independent, narrow aspect of selection, but as one of the forms of natural selection.”

The American student will be interested in many of Kistiyakovskiy's examples drawn from research in the USSR. For instance, in emphasizing the role of size as a species recognition mark, the disposition of three races of great tit (*Parus major major*, *P. m. wladivostokensis*, and *P. m. boharensis*) is described. The typical form ranges from Western Europe to the Pacific, north of about 50° N. Lat.; *P. m. boharensis* is a geographic race in the Central-Asiatic (Aral-Balkhash) area; and *P. m. wladivostokensis* occurs in North China and Maritime Siberia. Separated by the Gobi, *wladivostokensis* and *boharensis* do not come in contact, but both are in contact with the typical form to the north. The Far Eastern race is transitional in color between the typical and Central-Asiatic forms, but is closer in this respect to the typical form. The voice of *P. m. wladivostokensis* does not differ from that of the typical form, but it is distinctly smaller than either *P. m. major* or *P. m. boharensis*. However, ". . . while *P. m. boharensis* crosses freely with *P. m. major*, from which it differs distinctly in color, the Far Eastern form conducts itself exactly as if it were a 'good species' in the zone of contact with the typical form, showing no inclination to hybridize with the form which is similar to it in all respects except that of size."

Kistiyakovskiy is clearly familiar with Western trends in the study of evolution. It appears to this reviewer that no basic differences in attitude are expressed although one can find instances of where he rejects interpretations which seem to be gaining acceptance among British and American ornithologists. He takes issue, for example, with Julian Huxley's inclusion of certain actions plus markings under the term "threatening display." Kistiyakovskiy states the following (p. 72): "Threatening postures and sounds have nothing in common with display and to apply to them the term: 'threatening display' ['ugrozhayushcheye tokovaniye'] is of course completely incorrect." Although English *threat* and Russian *ugroza* are reasonably equivalent terms, *display* and *tokovaniye* are not precisely congruent. One might well expect linguistic misunderstanding to creep into an American interpretation of a Russian interpretation of Huxley's sophisticated English. However, Kistiyakovskiy's views are neither expressly nor inadvertently shrouded by language subtleties. He explains that: (1) Intensification of display on the part of a paired bird when a rival approaches results from the loss-of-mate-threat posed by the rival and a consequent strengthening of the courtship factors that bind the female to the male. (2) Display markings that are completely familiar to all the members of a flock (male and female) could not suddenly be converted into a threat; for a threat, unfamiliar patterns are required. (3) On the approach of a strange male to the vicinity of a paired male the characteristic courtship sounds and actions of the paired male are changed to similar but not identical threat behavior; or else threat behavior is alternated with courtship behavior.

Kistiyakovskiy's discussion does not include sections on the roles played by genetic mutation or differential reproduction in the process of selection. His book contains a great deal of typographical and editorial error. These deficiencies, however, are not grievous enough to preclude it from being used as an instrument to promote additional East-West cooperative thought on the as yet none too well understood functions of selection in general.—D. G. NICHOLS.

The Avian Embryo.—Alexis L. Romanoff. 1960. The Macmillan Company, New York. xvii + 1305 pp., 427 figs. \$35.—The accelerated rate of activity in the present era of scientific investigation, together with the staggering cost of publication of large volumes in limited editions, has exerted a seriously depressing

effect on the production of scholarly encyclopedic monographs. This tendency unfortunately comes at a time of increasing need for such publications in most fields of science. The appearance of Professor Romanoff's monumental treatise, a complement to his earlier "The Avian Embryo," is consequently an encouraging event. Specifically, this monograph is of singular importance to many aspects of biology because of the extensive use and importance of avian embryos as experimental animals. This wide use of the avian embryo in so many kinds of investigations has made the preparation of this volume a formidable task. A critical examination of more than 7,000 original publications, about two-thirds of which were in languages other than English, was necessary. The importance of this treatise is further emphasized when one recalls that more than five decades have passed since the publication of O. Hertwig's "Handbuch der vergleichenden und experimentellen Entwicklungslehre der Wirbeltiere" and Frank R. Lillie's "The Development of the Chick," and even three decades since Joseph Needham's monumental "Chemical Embryology."

After three initial chapters dealing with the reproductive cells, fertilization and fertility, and early morphogenesis, the remainder of the book consists of chapters devoted to the individual organ systems. Although the primary aspect is that of the classical embryology, there is extensive use of the enormous literature of experimental embryology, and considerable use of physiological and biochemical literature. It is patently clear that the production of this treatise has been possible only with strenuous, and doubtless painful, selection and condensation of a vast quantity of information of variable quality. This has been effected within an admirably integrative structure. Admitted there are instances, perhaps many, where there can be disagreement with the selection and interpretation. For example, although I would not disagree extensively with the author's selection of information influencing gametogenesis in birds, I feel that there is sufficient other information now at hand to allow a more satisfying integration. However, this criticism becomes essentially trivial and quite unjust in light of the enormity of the task of effecting a selection and integration of so many facets of this complex field.

Ornithologists will quickly recognize that most of this book is based on the embryo of the domestic fowl. This, of course, represents no basic choice of the author, who, indeed, has injected comparisons with other species wherever possible. It simply reflects the overwhelming selection of the embryo of this species by investigators. Professor Romanoff's study is thus replete with implicit challenges for investigations in comparative avian embryology. It is to be hoped that these challenges will prove to be among the many important functions of this outstanding monograph.—DONALD S. FARNER.

A Field Guide to the Birds of Texas.—Roger Tory Peterson. 1960. Published for the Texas Game and Fish Commission by Houghton Mifflin Co., Boston. xxx + 304 pp., 60 pls. (36 in full color), and numerous line illustrations (including 13 pp. of silhouettes). \$3.00. (Obtainable only from the Texas Game and Fish Commission, Walton Building, Austin, Texas; send check or money order; no C.O.D.)—The growth of ornithology in Texas, both as an area of biological research and as an educational and recreational activity, has long been hampered by the lack of an authoritative and comprehensive summary of distributional data and a convenient one-volume field guide. With a view to correcting this situation, five years ago the Texas Game and Fish Commission asked Peterson to prepare

the present book as part of a larger plan of the Commission to publish a series of works dealing with the wildlife resources of Texas. Under terms of an arrangement with the publisher, the Commission, which appropriated \$60,000 for the project, has exclusive control of distribution of the volume for a three-year period. Despite the fact that the new field guide has not been advertised, even in Texas, some 7,500 copies were sold by the end of April, two and one-half months after the publication date.

Both in format and in style, the Texas field guide is identical with Peterson's familiar eastern and western field guides. It is a pleasure to report that it has been prepared with the care and attention to detail that characterizes these companion volumes. Two-thirds of the 60 plates are new (some are to be used in a forthcoming new edition of the western field guide), and the other plates have already appeared in the eastern guide. The new plates, it may be noted, are distinctly superior to those in the western guide.

A total of 487 species are recorded as occurring regularly in Texas and are treated in full in the main body of the text. An additional 55 "accidentals" (species recorded in Texas less than six times) are briefly considered in Appendix I; 27 of the "accidentals" are regarded as "hypothetical" since their occurrence in the state is not substantiated by "a specimen, capture, or good photography." Fifteen extinct or unsuccessfully introduced species, together with several living species that no longer range into Texas, are treated in Appendix II. The total of 542 species recorded in Texas (excluding those listed in Appendix II) are, as Peterson notes, "three-quarters of all the species known to occur between Mexico and the Canadian border and very nearly as many as have been listed for all Europe west of the iron curtain."

This reviewer wishes to emphasize the importance of this new work, not only as an excellent and long-awaited field guide, but as the first book dealing in a comprehensive way with any aspect of the avifauna of Texas. Much of the data on distribution, obtained from the standard sources, by careful sifting of records from a variety of unpublished county check-lists and field cards, and from a group of 30 "key people" in the state who examined a draft of the manuscript, were hitherto unavailable in published form. Peterson's new book will be for many years to come the primary source of information on the distribution and status of birds in Texas. Its publication cannot fail to provide tremendous impetus to the development of ornithology in this state.—ROBERT K. SELANDER.

Diseases of Poultry.—Fourth Edition. Edited by H. E. Biester and L. H. Schwarte. 1959. Iowa State University Press, Ames, Iowa. xiii + 1103 pp. 402 figs.—The new edition of this standard treatise on poultry diseases contains contributions by 33 authors. Although its primary concern is the domestic fowl, the book contains much about other domestic species and considerable that is generally applicable to birds maintained in captivity. As in the previous edition there are 41 chapters, some of which have been extensively revised whereas others have been altered only slightly. The new edition has been set with two columns per page and with slightly smaller type with some economy of space. Among the chapters that should be most interesting and useful to the ornithologist are those on nutrition (Chapters 6 and 7), pullorum disease, paratyphoid infections, fowl typhoid, fowl cholera, tuberculosis, ornithosis, fowl pox, fungous diseases, fowl plague, and to a lesser extent those on external and internal parasites.—DONALD S. FARNER.

The Mystery of the Flamingos.—Leslie Brown. 1960. Country Life Limited, London. 116 pp., 32 figs. 25s.—For six years Leslie Brown dedicated all his leave and spare time studying the flamingos of East Africa. When he initiated his ornithological explorations, there were about three million lesser flamingos and something like fifty thousand greater flamingos on the alkaline lakes of the Rift Floor in Kenya; but no one had observed a nesting colony. Since Brown was particularly anxious to study breeding and nesting of flamingos, he began searching for a nesting colony. Foot safaris led him to many remote and inhospitable regions in Kenya and Tanganyika. In writing about these safaris, Brown reveals the hardship and pleasure, the bizarreness and beauty, of African life in a realistic manner. In the Rift Valley he encountered nomadic tribes unwilling to assist any European. They, like their overabundant herds of cattle, were thirsting and starving on overstocked ranges. Adhering to age-old tribal customs, they refused to sell their surplus stock, and hence their herds were ultimately reduced by drought and starvation. Yet in this bleak country of heat, dust, dying cattle, and millions of flies and mosquitoes, there are remote areas rich in wildlife where Brown realized an indescribable sensation of peace and escape from the banalities of the world. His safaris continued despite numerous hardships, disappointments, and perils. He camped near clear streams, slugged through soft sucking mud around soda lakes, struggled through slimy lake water unbelievably foul with blue-green algae and leprous floats of crystalline soda.

Brown's determined efforts were eventually rewarded; in 1957 he located and studied a breeding colony of lesser flamingos on Lake Natron. Here he obtained observations and took many pictures of the breeding, displaying, feeding, hatching, movements, molting, and concentrations of flamingos. I was impressed most by the: (1) possible social significance (mutual stimulation) that colony size or flamingo numbers might exert on the success of nesting, and (2) observations of mortality to flamingo populations. Most readers will enjoy Brown's style of writing; it is pleasing, easy to read, and interesting. In the full moon "faintly and exquisitely pink, they have a strange aura of radiance" (p. 16); in territorial display the "erected plumes make them look like huge pink feather dusters" or "like gigantic chrysanthemums" (p. 33). Although much remains to be learned about flamingos in East Africa, Brown's work provides a basis for further studies of this bird, and it should stimulate research on other aspects of wildlife in Africa. "In Africa discovery, in the true sense, still lies upon the doorstep, at least for those interested in natural history" (p. 9).—IRVEN O. BUSS.

Ekologia Zverey i Ptitz Lesostepnikh Dubrav. [Ecology of Birds and Mammals of the Forest-Steppe Oak Woods.]—G. A. Novikov. 1959. Izdat. Leningrad Univ., Leningrad. 351 pp., illus. R 23, 60 kop.—Oak woods extend over some thousand kilometers in the forest-steppe from southwestern Ukraine northeastward into the Urals. These are isle-like woods, surrounded by steppe, fields, and meadows. The animal populations have been since the Pleistocene more or less isolated. Due to the geographical site, favorable climatic conditions, food supply, and wide edge, there is in these woods a high concentration of both birds and mammals. Novikov lists 65 species of mammals and 139 species of birds. The natural density of birds varies from 8 to 84 birds per hectare, according to the structure and age of the woods. On the basis of the investigation of the distribution of over 3,000 nests in the particular tree species, it has been found that the oak is the most preferred tree species for nesting. Most of this book is

devoted to the trophic relations of birds and mammals: feeding on seeds and fruits of the woody plants, other plants, on lichens, moss, fungi, and the importance of water is stressed. The insect food—mainly forest pests—of birds is broadly discussed, and a valuable account on feeding of birds on ants is given. About one third of the birds considered feed on about 20 species of ants. In some woods by means of nest boxes the density of birds increased from 32 to 252 pairs of birds per hectare. An account of yearly, seasonal, and daily activity, as well as phenology, is given, and the succession of bird and mammal communities from cut-over areas to old stands of woods is discussed. Due to the wide extension of oak woods along the geographical longitude, they are extremely favorable for the study of geographical variation of the communities and populations. There is a selected literature of 20 pages.

The work is important for European ecology, and with its general conclusions, amount of material, and comparative value it is of interest outside the Old World, too.—F. J. TURČEK.