

The value of this series of volumes as works of reference and as beautiful illustrated books for the ornithological library cannot be overstated. We congratulate Mr. Robinson for placing within our reach such an admirable review of the avifauna of a remote but fascinating region which but few of us can hope to visit in person.—W. S.

Grinnell on the Birds of Lower California.—Dr. Joseph Grinnell has presented in this well gotten-up publication¹ another of his excellent distributional lists and one that is particularly welcome since it treats of Lower California, the avifauna of which has been sadly in need of revision. Through the generosity of Miss Annie Alexander the Museum of Vertebrate Zoology was enabled to carry on field work in the Peninsula for the greater part of three years, especially in the San Pedro Martir Section, and valuable collections were obtained. Upon this material, as well as upon earlier collections in various museums and upon the extensive literature of Lower California ornithology, the present report is based. The study was beset with many difficulties due to the constant duplication of locality names and the uncertainty as to which one the earlier writers referred to; to the careless or incompetence of certain writers in identifying their material; and to the loss of the valuable Bryant collections in the San Francisco fire. Nevertheless Dr. Grinnell has turned out an exceedingly accurate and valuable piece of work.

He recognizes in Lower California several "differentiation areas," as he terms them, in which the differentiation of species or subspecies appears to be directly correlated with conditions having to do with the degree and duration of isolation together with peculiarities of climate, shelter and food. These districts are the Cape, San Pedro Martir (including San Quentin), San Ignacio, the Colorado Desert, San Diegan, Sierra Juarez, Guadeloupe Island, San Bonito Islands, Los Coronados Islands, and Santa Barbara Islands; the peculiar forms differentiated in each ranging from one in the Los Coronados to forty-six in the Cape San Lucas district.

Dr. Grinnell agrees with previous writers that the fauna of the entire Peninsula has been derived from the north and even in the farthest remote Cape district forty-three of the forty-six peculiar forms are apparently so derived, only three, *Crotophaga sulcirostris pallidula*, *Basilinna xantusi* and *Dendroica erithachorides castaneiceps*, having been derived from the tropical coast of Mexico immediately across the Gulf of California.

Dr. Grinnell's chapter on the "Significance of Faunal Analysis for General Biology" is of sufficient importance to have been published separately and will, we fear, be overlooked by many, buried as it is in a work of very different title. He says in introducing his subject that "the importance of carefully differentiating species and subspecies and tracing

¹ A Distributional Summation of the Ornithology of Lower California. By Joseph Grinnell. Univ. Calif. Publ. in Zool. Vol. 32, No. 1, pp. 1-300, figg. 24. University of California Press, Berkeley, Calif. 1928.

their respective ranges is of the utmost biological importance since in this work we are scrutinizing evolution now in progress." This we heartily endorse as well as his further statement "that apart from the presence or absence of intergrading specimens there is no difference between a subspecies and a species," and once more, when, in objecting to the criticism of the recognition of subspecies in nomenclature because they are considered as difficult of recognition and of no practical utility, he asks, "is the histologist, the embryologist, or the bacteriologist expected to confine his labors within limits easily comprehended by the laity? and if not why should the faunal zoologist be expected to keep his investigations within any such bounds?"

Dr. Grinnell's discussion of the origin of species and his opposition to the claims of those who advocate evolution through mutation deserve careful consideration, and we are inclined to give support to his claim that "the problem of the origin of species ought to be dissociated largely from the problem of inheritance," and that the former "would seem to lie much more nearly to the province of the geographer and climatologist than to that of the geneticist." Animal adaptation he regards as "merely the demonstration of a capacity to survive under conditions at the moment existing" and that "animals do just as little adaptation as they can" and "get by."

The main part of Dr. Grinnell's work consists of a list of species and subspecies in the order of A. O. U. 'Check-List' of 1910, with a statement of their general status and range in the Peninsula and a discussion of all the important records with dates and references. A perusal of the accounts of a few of the species impresses one with the enormous amount of time and labor that the author must have expended upon this "summation" which will prove of the greatest aid to the student of geographical distribution. In addition to the "summation" there is a gazeteer of localities, a nominal list of species in the order of the new 'Check-List,' now in process of compilation, and a bibliography. A number of useful outline maps are scattered through the text which illustrate graphically the range of the subspecies of many groups.

We have already expressed our disagreement with Dr. Grinnell upon the subject of vernacular names, which he has revised so that they are usually binomial for species and trinomial for subspecies, just as are the technical names. We cannot appreciate the necessity for this rather far-fetched "consistency," and when two subspecies have accumulated a large literature and are generally known under the names Red-shouldered Hawk and Red-bellied Hawk, we fail to see anything but confusion in calling the latter the "Red-bellied Red-shouldered Hawk" simply because the two are regarded as subspecies. Is anyone, moreover, going to use such vernaculars as "San Pedro Martir Mexican Bluebird" or "Long-tailed Yellow-breasted Chat"? and if not why coin such book names? We had hoped that in our vernaculars at least we had some stability in

nomenclature. However, this does not affect the value of Dr. Grinnell's admirable "Summation."—W. S.

Sutton's 'Introduction to the Birds of Pennsylvania.'—Mr. Sutton in his work for the Pennsylvania Game Commission has found a wide-spread need throughout the state, especially among school teachers, for a book that would furnish information on the distribution, abundance, etc., of the birds of the Commonwealth, and he has prepared this little volume¹ to meet the want. That he has successfully accomplished his task I think all will agree.

He has prepared brief but adequate descriptions of the various species with details of distribution in Pennsylvania and accounts of their nesting, while there is a paragraph or two on habits, song, etc. There are also, and this is a most important feature, line drawings by the author, of most of the species. Mr. Sutton, as is generally known, is primarily a bird artist, one of the best in America, and his ability to present an identifiable portrait of a bird without the use of colors is well shown in these admirable sketches. In every case he has caught a characteristic pose and has brought out the color values in black and white in a remarkable manner. Would that all who try to draw birds possessed this ability.

While the details of distribution for the western parts of the state with which Mr. Sutton is most familiar, seem to be excellent, it is unfortunate that he could not have had the benefit of the assistance of some one equally familiar with the eastern counties as some of the ranges for this region might have been improved.

While many very rare species, for some of which we lack definite state records, are included, curiously enough, no mention is made of the King Eider, several of which were killed on the Susquehanna River near Harrisburg in December 1920 (*Auk*, 1921, p. 270) and some of them, we understand, mounted for the State Museum.

Mr. Sutton's little book will, we feel sure, be of the greatest benefit to beginners in the study of Pennsylvania ornithology and to teachers who are in search of reliable information to use in instructing their classes.—W. S.

Phillips' 'A Sportsman's Scrapbook.'—Lovers of the great outdoors always enjoy a sportsman's reminiscences and this volume² of disconnected accounts of Dr. Phillips' hunting experiences in various parts of the country, will prove well worth reading. There are boyhood recollections, and

¹ *An Introduction to the Birds of Pennsylvania.* By George Miksch Sutton, State Ornithologist of Pennsylvania, etc. J. Horace McFarland Company, Harrisburg, Pa. 1928. pp. i-viii + 1-169, numerous cuts and frontispiece, color plate. Price \$1.00. (Mrs. L. A. Lutringer, Jr., 1724 Herr St., Harrisburg, Pa.)

² *A Sportsman's Scrapbook.* By John C. Phillips with illustrations by A. L. Ripley. Houghton Mifflin Co., Boston and New York. pp. 1-212, many illustrations. Price \$5.00.

