

how far a given species has journeyed away from its proto-avian stem, since it seems probable that the farther a bird is from its primitive ancestry, provided it does not later degenerate, the higher will be its temperature. I doubt very much that the present mainstays of taxonomy can alone measure this space between pro-bird and super-bird. I believe that future students of avian taxonomy will have to give more consideration, not only to embryology, but also to bird physiology, in order to correctly locate and plot the mileposts in a bird's journey."

In considering his data Dr. Bergtold calls attention to the real and apparent time of incubation, the latter being the actual time plus that due to errors of observation or to the fact that in some species early laid eggs are incubated to some extent during the laying of the subsequent ones — facts that should be considered in making use of published data. The lamentable scarcity of information on the weights and temperatures of birds is emphasized as well as the numerous opportunities for experimental investigation which the problems here discussed offer.

Dr. Bergtold's book is a valuable contribution to a neglected line of research and can be read with profit by all ornithologists. That it does not represent the last word on the subject the author is the first to admit but it is so suggestive throughout that it cannot help but attract others to this interesting field, and we trust that ere-long the accurate detailed data necessary for the final consideration may be forthcoming. And in this work our Australian friends can give valuable assistance by supplying the data on the temperature of the Megapodes which Dr. Bergtold has been unable to obtain.

Pending the accumulation of further data we may accept his conclusions as the most plausible solution of the problem yet presented, and even if, as the author suggests, they be not entirely original they are certainly more concisely and convincingly set forth than has been done by anyone else.

We regret that the book shows numerous evidences of hasty proof-reading resulting in some misleading errors, as "egg-white" for egg-weight, on page 44. We also notice on page 16 a reference to the relationship of "the finches of Australia . . . to their cousins of the North" but the so called "finches" of Australia are really Weavers and belong to a different family.— W. S.

**Howell on the Birds of the California Coast Islands.**<sup>1</sup>— This admirable paper forms No. 12 of the 'Pacific Coast Avifauna' published by the Cooper Ornithological Club and maintains the same excellence in style and typography presented by recent numbers of the same series. Mr. Howell having formed a personal acquaintance with the birds of some of the islands, was impressed with the need of a comprehensive treatise on the avifauna

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<sup>1</sup> Birds of the Islands off the Coast of Southern California. By Alfred Brazier Howell. Pacific Coast Avifauna No. 12. Cooper Ornithological Club. June 30, 1917. pp. 1-127. Price \$1.50.

of the group as a whole and began a compilation of data from published papers and manuscript notes of others who had visited the islands, which has resulted in the brochure before us. The author covers the whole series of islands generally known as the Santa Barbaras, from San Miguel on the north to San Clemente on the south as well as Los Coronados lying off the northern part of Lower California, which so far as their fauna is concerned belong to the same group.

Altogether 195 species are considered, with 13 others in a hypothetical list. A full synonymy under each species gives all references to papers dealing with its occurrence on the islands. The text consists of a summary of these and other original data as well as a consideration of the relation of the island birds to those of the mainland in the case of resident species where there is any reason to suspect subspecific differences. Nineteen island forms have been named, some of which have not been considered by the A. O. U. Committee as sufficiently differentiated to warrant recognition. Mr. Howell follows the views of the Committee in such cases so far as nomenclature is concerned though the differences are fully discussed in his text. In one or two cases he points out slight differences between island and mainland representatives of other species but wisely refrains from burdening them with names. In a table appended to the list proper, the occurrence of each species on the various islands is graphically shown, and they are further listed according to time and character of occurrence. We find here that no less than 56 species are resident, while eight others occur at any time of year but do not breed on the islands and six additional species are summer visitants.

In the introductory pages Mr. Howell gives an interesting account of the physical features of the several islands and discusses the problems which their fauna presents. He considers the recognition of a Santa Barbara Island Faunal Area more a matter of geographical convenience than an indication of any peculiarity in the fauna. In the main he considers the island fauna San Diegan, though it contains Sierran elements and a suggestion of the San Francisco Bay Region. Changes in the habit of the resident birds and the earlier nesting dates and period of molt as compared with birds of the mainland are described and an excellent bibliography and index close the publication.

The plan of Mr. Howell's fauna is excellent and it has been admirably carried out. Both he and the Cooper Club are to be congratulated upon this addition to their series.—W. S.

**Shufeldt on a Fossil Bird from the Florissant Shales.**<sup>1</sup>—This brief paper describes impressions of the foot and pelvis of a bird which Dr. Shufeldt regards as most closely resembling the Purple Grackle so far as measurements go and he is inclined to think that they represent a passerine

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<sup>1</sup> Fossil Remains of What Appears to be a Passerine Bird from the Florissant Shales of Colorado. Proc. U. S. Nat. Mus., Vol. 53, pp. 453-455, pls. 60-61. August 15, 1917.