

owing to its geographical position and peculiar physical characteristics, and Mr. Brewster's detailed and painstaking analysis of its bird life is a most welcome addition not only to the literature of ornithology but to geographical zoölogy.—J. A. A.

**Henshaw's 'Birds of the Hawaiian Islands.'**<sup>1</sup>—The author modestly says: "There being at present no popular work upon Hawaiian birds, the present little volume has been prepared with the view of breaking ground in this department, and with the hope that it may prove of assistance to those who are already bird-lovers and, as well, may stimulate others to become such." While thus avowedly popular in character, it is much out of the line of ordinary popular bird books, inasmuch as it deals with questions outside of the usual range of such works. Nearly the first quarter of the book is devoted to such general subjects as the origin of the Hawaiian avifauna, its peculiar environmental conditions, environmental changes disastrous to Hawaiian birds, the diseases of Hawaiian birds, the ornithological knowledge of the natives, the history of ornithological investigations in the islands, faunal zones, etc. This is followed by 'Part II. Descriptive,' which gives a very full biographical account of each species, and a description of its external characters. Following this is a table showing the geographical distribution of the native species by islands, and an index.

The number of species treated is 125, "including residents, migrants and strays, together with a few that are extinct or practically so." Eleven species have been introduced into one or more of the islands and have become more or less firmly established. "There are 60 species of woodland Passeres that are endemic and are peculiar to the islands, these being distinctively *the Hawaiian Birds*."

Notwithstanding the fact that in recent years so much has been done to make known scientifically the birds of the Hawaiian Islands, through the great works of Mr. Scott B. Wilson and Mr. Walter Rothschild, and the lesser writings of other investigators, we have here for the first time an attempt to place within the reach of the ordinary bird lover a descriptive list combined with a full account of what is known of their life histories, based largely on the original observations of the author.

"With the exception of a few species," says Mr. Henshaw, "that are evidently comparatively recent comers from America, like the Night Heron, Gallinule, Marsh Hawk, and the Short-eared Owl, Hawaiian birds are quite unlike any others. They fall naturally into a few groups of related species, and so different are they from the birds of other lands that their relationships are traceable only with great difficulty." Accord-

---

<sup>1</sup>Birds of the Hawaiian Islands | being a | Complete List | of the | Birds of  
the Hawaiian Possessions | with Notes on their Habits | By | H. W. Henshaw  
| — Price \$1.00 | — | Honolulu, H. I. | Thos. G. Thrum, Publisher. | 1902 —  
8vo, pp. 146.

ing to Dr. Gadou, the greater part of the distinctively Hawaiian birds belong to the single family Drepanididæ, almost beyond doubt of American origin, and find their nearest relationship in the American family Cœrebidæ. They were probably the first birds to obtain a foothold in the islands, and later received a few additions from Australia.

Hawaiian birds apparently do not take kindly to innovations, and prefer the virgin forests to the proximity of man. "Unlike many European and American birds, which flourish in the garden and orchard and find comfort and safety in man's protection, none of the island species seem to desire to be on neighborly terms with man, or to be capable of adapting themselves to the changes which follow in his wake. For a time they are content to fly over his clearings and to feed in the forest hard by; but to nest by his door and profit by his bounty seem to be foreign to their wild natures and presently, unable to reconcile themselves to his unwarranted intrusion into their ancient fastnesses, they retreat to the unvexed and virgin forest." The destruction of the forests, that has followed the invasion of civilized man, is hemming them into constantly diminishing areas, "and in a few years the opportunity to study the habits of some of the unique bird forms which have been developed upon these islands will be lost forever." Even slight changes in environmental conditions have a marked influence and species "even become extinct when the causes seem wholly inadequate." Mr. Henshaw believes that among the causes of the decline of certain species is "the necessity of continuous inbreeding," and gives his reasons at considerable length for this belief, citing examples in illustration. They are also obviously affected by prolonged storms and slight changes of temperature, and are also subject to diseases, especially by the growth of tumours on the feet, and sometimes about the mouth. These tumours have been found to be of bacillic origin, and are most prevalent on "the windward side of Hawaii, where the annual rainfall is from 130 to 180 inches." Apparently fully one tenth of the species of Hawaiian birds are either extinct or rapidly approaching extinction, or about one sixth of the distinctively Hawaiian forms.

In referring to the work of Mr. R. C. L. Perkins, who began collecting in 1892, Mr. Henshaw notes that as his large collections contained but one new species, we may consider that the list of Hawaiian birds is practically complete, but the still more important study "of their life histories, of their relations to each other and to the avifauna of other lands," remains as a still more important study. To this end the author's 'Birds of the Hawaiian Islands' is an important contribution, as well as an incentive and an aid to future observers.—J. A. A.

**Snodgrass and Heller on the Birds of Clipperton and Cocos Islands.<sup>1</sup>**

<sup>1</sup> Papers from the Hopkins Stanford Galapagos Expedition, 1898-1899. XI. The Birds of Clipperton and Cocos Islands. By Robert Evans Snodgrass and Edmund Heller. Proc. Washington Acad. of Sciences, Vol. IV, pp. 501-520. Sept. 30, 1902.