

contained in this matrix is upon its dark side, and is, without doubt, the feather of some rather large bird. When the slab is wet, this feather comes out much more clearly into view, and when it was in that condition, I made a photograph of it natural size, to file, along with similar ones, in my collection.

Although this fossil feather has the appearance of being somewhat plumulaceous in character, I am strongly of the opinion that it is a primary feather from a wing. Its quill has a length of about 4 cm., and the vane about 7.3 cm. In other words, it was a feather about 11.3 cm. long, and apparently belonged to a bird of considerable size. As the photograph shows, the impression is very faint, and even with a strong lens it is quite impossible to make out the minute structure or any part of it, as is so frequently the case in fossil feathers. This specimen is No. 111 in the Paulista Museum, and is of interest from the fact that it furnishes evidence of the existence of highly developed birds in that particular formation in which it occurred.— R. W. SHUFELDT, *Washington, D. C.*

RECENT LITERATURE.

Bryan's Natural History of Hawaii.¹— Quoting the words of the author in his preface: "In the preparation of the following pages it has been the aim of the author to bring together into one volume the more important and interesting facts about the Hawaiian Islands and their primitive inhabitants, as well as information concerning the native and introduced plants and animals of the group."

The results of the author's labors appear in a large volume of nearly 600 pages, illustrated by 117 full-page plate photographs. The scope of the volume and the subjects treated appear from the following chapter headings:

Coming of the Hawaiian Race; Tranquil Environment of Hawaii and its Effect on the People; Physical Characteristics of the People; Their Language; Manners and Customs; Religion of the Hawaiians: Their Method of Warfare and Feudal Organization; The Hawaiian House: Its Furnishings and Household Utensils; Occupations of the Hawaiian People; Tools, Implements, Arts and Amusements of the Hawaiians; Coming of Pele

¹ "Natural History of Hawaii." Being an Account of the Hawaiian People, the Geology and Geography of the Islands, and the Native and Introduced Plants and Animals of the Group. By William Alanson Bryan, B. Sc., Professor of Zoölogy and Geology in the College of Hawaii. The Hawaiian Gazette Co., Ltd., 1915. Price, \$5.50.

and an Account of the Low Islands of the Group; The Inhabited Islands: A description of Kauai and Niihau; Island of Oahu; Islands of Molokai, Lanai, Maui and Kahoolawe; Island of Hawaii; Kilauea, the World's Greatest Active Volcano; Condensed History of Kilauea's Activity; Plant Life of the Sea-shore and Lowlands; Plant Life in the High Mountains; A Ramble in a Honolulu Garden; Tropical Fruits in Hawaii; Agriculture in Hawaii: Its Effect on Plant and Animal Life; Various Animals from Land and Sea; Introduced Birds; Birds of the Sea; Birds of the Marsh, Stream and Shore; Birds of the Mountain Forests; Hawaiian Fishes; Introduced Fresh Water Fish; Important Economic Insects; Native Insects; Land and Fresh Water Shells; Shells from the Sea-shore; Plants and Animals from the Coral Reef.

The long residence of the author in the archipelago, his extensive knowledge of biological subjects, and his sympathetic acquaintance with the natives and their ways eminently fit him for his self-imposed task, and the result is a volume which cannot fail to be of great value to the general student of island history, the visitor who seeks for information and an explanation of what he sees about him, and for the residents. Hitherto much of the information in regard to the islands and the natives, especially on scientific subjects, has been locked up in special treatises not accessible to the general public, or in expensive volumes out of reach of all but the wealthy.

Readers of 'The Auk' will be chiefly interested in the chapters on birds, which fill pages 304 to 338, and contain brief accounts, but no formal descriptions, of many of the islands' native birds and also the seven introduced species; English Sparrow, Rice Bird, Chinese Turtle-dove, Mynah, Sky-lark, Pheasant, and California Partridge.

Under the caption Birds of the Sea and Oceanic Islands the author treats of many of the more interesting species permanently residing on the islands or spending the winter on them. Under this head are included also the Laysan Islands birds, which are of special interest to the ornithologist.

Under the caption 'Birds of the Mountain Forests' are mentioned the more notable of the native woodland birds, including the famous and now extinct Mamo, and the O-o.

American ornithologists will hardly be able to understand the statement that were it not for the presence of a dozen or more species of birds that have been introduced into Hawaii by accident or design, it is doubtful if the average tourist would see or hear a single bird during his journeys through the islands. Nevertheless, the statement is literally true, so closely are the native species confined to the deep forests and steep mountain-sides and so difficult of access are these semi-tropical fastnesses.

Recalling the roving disposition of our mainland crows, the American ornithologist will be surprised to learn that the Hawaiian Crow (*Corvus hawaiiensis*) is restricted to a part of one island, and not only has failed to occupy the other islands of the group, but fails to enter even the neighboring districts where vegetation is similar and food appears equally abundant.

Even more remarkable is the case of one of the *Drepanine* birds, *Viridonia sagittirostris*, which is confined to a tract of the deep forests in Hawaii a few miles square, although the surrounding forest seems to be in every respect similar.

Seven black-and-white plates fairly well illustrate the more interesting of the Hawaiian birds. As many of these birds are beautifully colored, it seems a pity that adequate illustrations in color could not have been furnished. The accounts of the Hawaiian birds, while not written for the professional ornithologist, contain many facts of interest and give an excellent birds-eye-view of the subject. The non-professional, however, for whom the accounts of the islands birds are chiefly intended, will find the treatment given by the author entirely adequate to his needs. The index and glossary to the volume have been made a special feature. They have been prepared with great care, and render the contents of the book readily accessible to every seeker for the wealth of material which it contains.—
H. W. H.

The B. O. U. Jubilee Supplement to the Ibis, No. 2.¹—In December, 1908, the British Ornithologists' Union, as part of the activities connected with the celebration of its fiftieth anniversary, arranged to send an expedition to Dutch New Guinea to explore the Snow Mountains, with especial consideration of its avifauna. This expedition under the leadership of Mr. Walter Goodfellow met with unforeseen obstacles and while it acquired much valuable information and many specimens, it failed to accomplish all that was hoped for. The ornithological results appeared in 'The Ibis' for 1913, pp. 76-113.

A second expedition, under Mr. A. F. R. Wollaston, who had accompanied the first one, met with complete success, reaching the highest peaks of the Snow Mountains and bringing back large collections. The present report covers both collections—representing 321 species and includes additional forms obtained by other expeditions. It contains a vast amount of information upon the relationship and status of the birds of this portion of New Guinea which could only be obtained from adequate series of specimens such as are here available. Many important facts regarding the plumage of Birds of Paradise are brought out for the first time.

As might have been expected, Bowdler-Sharpe's statement that the glossy green racket shaped tail feathers of the King Bird of Paradise are apparently derived from the curved brown ones without molt, proves to be erroneous. The green racket shaped feathers are acquired in the fourth year by a regular molt, encased in curious circular sheaths "for all the world like miniature motor-tyres." There are also numerous valuable field

¹The Ibis, Jubilee Supplement No. 2. 1915. Report on the Birds collected by the British Ornithologists' Union Expedition and the Wollaston Expedition in Dutch New Guinea. By W. R. Ogilvie-Grant. pp. i-xx + 1-336, 8 plates and two maps. December, 1915.