

migration flight of a flock of birds from their breeding grounds in the northeast to their winter quarters in the southwest of Europe is thus acutely summarized: "Let us suppose that we are dealing with one of the 'many hundreds' which pass Heligoland on their journeys from 'far eastern Asia.' It is dusk—and the time for departure has arrived. Without more flocking together than has accidentally taken place during feeding time, all the residents in a particular area set out from their breeding grounds on a journey of two thousand miles or more. No food has been taken for some hours, and the winds being unfavourable near the surface of the earth, all rise to a height of at least 20,000 feet, whence guided by some unknown power, and at a speed of 150 to 200 miles an hour, they set out on their rushing and undeviating flight to the west of Europe. Here, however, the direction of the latter must be altered and a turn to the south executed in mid-air, which carries them, after a further flight, to the neighborhood of Heligoland, where again a second turn is accomplished and the remainder of the journey is performed in the old undeviating westerly direction, until dawn finds them at their goal on the shores of England; neither tired nor hungry after their great exertions." This is a fair statement of Herr Gätke's theories on this subject, and needs no comment to render their absurdity apparent to any thoughtful ornithologist.

"In estimating the value of his [Herr Gätke's] theories," says Mr. Whitlock (p. vi), "it must not be forgotten that they are based on observations conducted in a very limited and somewhat exceptionally situated area; outside this area his personal experience seems to have been very small." (*Cf.* Auk, XIII, 1896, p. 138, 139). Add to this his lack of scientific training, his evident but doubtless unconscious tendency to exaggeration, and an imaginative turn of mind, and we need not seek further for an explanation of the overdrawn statements and ridiculous speculations found in 'Heligoland.'

Mr. Whitlock has done good service to ornithology in publishing his, on the whole, temperate, and well-considered critique of a work that is both a valuable and an unfortunate contribution to ornithology, as the exaggerations and wild speculations it contains are the parts seized upon with greatest avidity by the thoughtless compiler for introduction broadcast into the popular literature of ornithology. It need hardly be said, in conclusion, that Mr. Whitlock's book will not prove very agreeable reading matter to the many who have idealized and idolized the author of 'Heligoland.'—J. A. A.

Suchetet on Hybrids among Wild Birds.¹—In a thick octavo volume of 1154 pages Mr. Suchetet has brought together all the facts he has been

¹ Des | Hybrides | à | l'état sauvage | — | Règne Animal | — | Tome Premier | Classe des Oiseaux | Par | André Suchetet. | . . . [Motto] | — | Paris | Libraire J.-B. Baillière et Fils | 19, Rue Hautefeuille, 19 | 1897 — Large 8vo, pp. clii + 1002. (Price, 28 fr.)

able to gather respecting hybridity among birds in a state of nature. These cases number 271, of which, however, some are doubtful. Of these 189 are crosses between species, and 82 between 'races' or 'varieties.' The total number of species involved is 166, and of varieties, 49. The evidence in each case is fully presented and its merits duly weighed. This work has occupied the author for ten years, and the amount of labor involved is certainly immense. The list of works and papers cited exceeds 1100, and the list of persons with whom the author has corresponded includes the names of nearly 500 more or less well-known naturalists, to whom reference is made in the course of the work. He further gives a list of 85 museums and collections with which he has been in communication, which contain hybrids or reputed hybrids, with an indication of the character of each specimen. These number 236, of which 52 are Passerine, 1 Ralline, 2 Columbine, 75 Anatine, and 106 Galline.

The work is divided into five parts, which have appeared at intervals from 1890 to the present time. Thus Part I, Gallinacés et Colombes (pp. 3-107), was issued in 1890; Part II, Palmipèdes et Echassiers (pp. 109-177), in 1891; Part III, Passereaux (pp. 179-451), in 1892¹; Part IV, Accipitres et Perroquets (pp. 453-472), in 1893; Part V, Additions, Corrections et Examens d'après nature, pp. 473-873, in 1895. Part VI, Nouvelles Additions (pp. 907-990), as well the alphabetic list of authors cited (pp. 875-905), with the Introduction (pp. iii-clii) and contents are now added. The introduction gives an historical account of the subject, with a summary of the views of naturalists, ancient and modern, and discusses at length the value of fertility or infertility in hybrids as a test of specific identity.

As said in our review of Part III, the work has involved a vast amount of laborious research, and gives apparently an excellent summary of the literature of the subject. It therefore affords a mine of information for those who wish to pursue the subject of hybridity among birds.

The present volume is to be followed by a second on hybridity among insects and in fishes. The author also proposes to publish an annual supplement to the volume on birds, giving the new facts as they appear, and solicits aid in the work from other observers. He also has given notice that as soon as he receives enough subscriptions to warrant the undertaking he will begin the publication of life-size colored illustrations of about 200 of the hybrids he has made the subject of study. — J. A. A.

Publications Received. — **Beal, F. E. L.** The Blue Jay and Its Food. (Yearbook of the U. S. Department of Agriculture for 1896, pp. 197-206.)

Bradford, Mary Fluker. Audubon. 16mo, pp. 82. New Orleans, 1897. Price, \$1.00.

Chapman, Frank M. Handbook of Birds of Eastern North America. 12mo. pp. xiv + 431. New York: D. Appleton & Co. (Price, \$3.00.)

¹ Reviewed in this journal, IX, 1892, pp. 382, 383.