

(p. 432), Cobbara, N. S. Wales; *Pyrrholaemus brunneus milligani* (p. 489), Wongan Hills; *P. b. kalgoorlii* (p. 489) Kalgoorli; and *P. b. centra* (p. 489), Central Australia.—W. S.

Lucanus on 'The Mystery of Bird Migration.'¹—Friedrich von Lucanus, President of the German Ornithological Society has prepared a volume bearing the above title and treating of the various aspects of the migration of birds. Some idea of the scope of the work may be gained from the headings of the various chapters: Historical Review; Bird-banding; The Migration of Certain Species from the Results of Bird-banding; The Origin and Cause of Migration; The Direction of Migration and the Migration Route Problem; Orientation of the Migrating Bird; Relationship between Weather and Bird Migration; The Height of the Flight; The Velocity of the Flight; The Return in Spring; Peculiar Habits of the Migrating Bird. There follows an account of the Bird Observation Station at Rossiten and a brief chapter of Conclusions. In the latter, the author states that the autumnal flight of European migrants takes a westerly or southwesterly direction, and that for certain species a definite migration route may be designated. A migration route, he points out, is not a narrow highway but a broad, though well defined, area which is however not so wide as the breeding area.

In Europe there seem to be three principal routes (a) the west coast, and (b) the Italian-Spanish route, both of which cross the Mediterranean at Gibraltar; and (c) the Adriatic-Tunisian route which crosses by way of Sicily. He further states that birds of the same species and from the same breeding-zone may follow different directions on migration and seek different winter quarters, while between the direction of the flight and the geographic position of the breeding grounds there is no necessary connection. Birds from the same breeding spot flying in the same direction do not always attain the same destination but winter at some point within the migration path. The migratory impulse is also variably developed in different individuals.

Birds, moreover, do not reach their winter quarters by the shortest route but often make considerable detours. Our author also states that the autumnal migratory instinct awakens much earlier in birds of the year than in the adults, which results in a separation during migration.

In the spring the migrant has always the impulse to return to its home i. e. birth place.

The work is a valuable contribution to the subject of migration and contains much important data especially in the summary of recoveries of banded birds reported in various publications.

¹ Die Ratfel des Vögelzuges. Ihre Losung auf experimentellen Wege durch Aeronautik, Aviatik and Vögelberingung. Von Friedrich von Lucanus. Langenfalza, Hermann Beyer and Sohne (Beyer and Mann) 1922. pp. 1-226, four text figures and a plate.

The whole subject is however treated wholly from a European point of view and but few contributions to the literature have been consulted except those by Germans, French or some of the English writers. Naturally in failing to consult American publications much important data bearing upon the more general problems of migration have been omitted. The experiments of Dr. Watson with terns on the Dry Tortugas and the numerous papers by Cooke and others cannot be ignored without seriously impairing the value of an author's conclusions.—W. S.

Van Oort's 'Birds of the Netherlands.'¹—Parts 13-14 of this notable work consist, like those immediately preceding, wholly of plates, which are quite up to the standard. They consist of a Vulture, several Hawks and Eagles, the little Rails (*Porzana*) and, of special interest to Americans, various of the shore birds including species common to both sides of the Atlantic.

These show the Phalaropes, Golden Plover, Knot, and other species, in their various plumages while the large size of the figures—too large perhaps from an artistic point of view for the size of the sheets, nevertheless make it possible to show details of coloration with great accuracy.—W. S.

Scoville's 'Wild Folk.'²—In this little volume, Mr. Scoville's facile pen has sketched vivid pictures of the lives of various wild animals and birds which are most fascinating reading for those who enjoy the great outdoors and like to have their information presented in the form of nature-fiction, if we may so term it. "True stories about the wild folk", the publishers call them and so they are in the sense that the novel is a true story. But the novel is not history nor biography and we personally prefer nature-history and nature-biography and therefore we like Mr. Scoville's work best when he is describing actual incidents of his own observation, and had hoped that he would follow in the footsteps of Bradford Torrey, Frank Bolles and others of that school.

All forms of nature writing, however, have their place in literature and Mr. Scoville has acquired a high ability in his chosen field. His backgrounds based on personal studies are charming, and the lives of his characters skilfully and cleverly sketched. Only one chapter in the present volume treats of birds; "High Sky," in which a fanciful picture of the migrating host of birds is followed by accurate data based upon Professor Cooke's papers on the migratory routes of many species. While this chapter contains much instructive matter the critic might question the Gyrfalcon being driven south by cold as early as the plover flight, or a

¹ Ornithologia Neerlandica. De Vogels van Nederland door Dr. E. D. Van Oort. Martinus Nijhoff's Graven Nage, Afl. 13-14.

² Wild Folk. By Samuel Scoville, Jr. With Illustrations by Charles Livingston Bull and Carton Moorepark. The Atlantic Monthly Press. Boston. 1922. pp. 1-184, 8 plates, Price \$2.