

RECENT LITERATURE.

Friedmann's 'The Cowbirds.'—As many of our readers are aware Dr. Herbert Friedmann has been, for some years, investigating the subject of parasitism in birds, a topic which has brought into print more nonsense and pure theory and fiction than perhaps any other phase of bird life, and which was in need of much scientific investigation.

The work now before us¹ comprises the results of his field work on the Cowbirds—three years intensive study of the Eastern Cowbird at Ithaca, N. Y., one breeding season spent in Argentina and one on the Texas-Mexican border, investigating the Cowbirds found there; also the results of an exhaustive study of the literature of the subject.

Dr. Friedmann has first considered all of the species of Cowbirds which he arranges in three genera, *Agelaioides*, *Molothrus* and *Tangavius*. He discusses under each, its range, migration, courtship and mating, song and call notes, sexual relations, territorial relations, nests and nest building (if any), eggs and egg laying, young, food, plumage and molts, enemies, and common names; with full synonymy and keys for determination. Besides his personal observations extracts from pertinent literature are included, in their proper place, thus putting at the disposal of the reader practically all the information now available. Under the purely parasitic species, cases of parasitism in connection with various hosts are considered in detail—involving no less than 114 species and subspecies parasitized by the Eastern Cowbird, which require 54 pages for their discussion. There is also, under this species, a detailed analysis of its food.

At the close of the systematic treatment, which occupies the bulk of the text, Dr. Friedmann presents two chapters in which the results of his work are summarized; one on the evolution of the present Cowbirds and the other on the origin and evolution of the parasitic habit. The appendix contains a discussion of the habits etc. of the Rice Grackle (*Casidix oryzivora*), which is in many ways an enlarged Bronzed Cowbird; and a bibliography of some 650 titles.

We must leave to the reader the study of the details of this important and interesting monograph—the reasons for considering some of the Cowbirds as developing evidence of host specificity (parasitism on a single species only); the habit of associating with cattle, originally developed on the western prairies with the wild buffalos; the actions of the young fledgling in demanding food from passing birds which are not even its foster parents, etc., etc. We may here, however, briefly summarize Dr. Friedmann's last chapter. He considers that his evidence shows that Cowbirds were originally normal nest building birds. He finds that the

¹ The Cowbirds, A Study in the Biology of Social Parasitism. By Herbert Friedmann, Amherst College. Charles C. Thomas, Publisher. Springfield, Illinois, Baltimore, Maryland. 1929 pp. i-xvii + 1-421. Price \$6.00.

Bay-winged Cowbird (*Molothrus badius*) of South America, while usually appropriating the nest of other species, sometimes builds one of its own, and always incubates its eggs and rears its own young. The Shiny Cowbird (*Molothrus bonariensis*) is parasitic but has the habit poorly developed, while the Eastern Cowbird of the United States has the parasitic habit fully developed. Thus we have a gradual evolution of the habit in the various species.

He finds moreover that while, like other birds, the male of some Cowbirds establishes a territory which he protects from intruders, this is only perfectly developed in the monogamous Bay-winged species and becomes less apparent in the parasitic species, while the protective instinct of the male in defending the nest decreases correspondingly. With the lessening of interest in the nest and the lack of protection on the part of the male, the normal life is distorted and the way laid open to parasitism. It is the use of a nest already built, and the consequent placing of nest ahead of territory that, in his estimation, tends to break down the female's interest in the nest and the male's habit of territory defense.

Dr. Friedmann concludes by stating that his explanation is by no means the last word on the subject, and is offered more as a suggestion than anything else. We must know more about the physiology of reproduction in birds, especially the physiological basis of instinct, before we can hope to progress much further, and much more careful and accurate field observation is needed.

Dr. Friedmann has brought together a most valuable mass of information and has placed his subject on a basis where definite advance in our knowledge should be more easily possible. The book is well printed and the numerous photographs of nests and young add to its interest. We are sorry to find that apparently the quotations have not all been checked with the originals as for example, in a paragraph from Wilson on p. 159, the use of "not" for "now" and "affection" for "affectation" materially alters the sense.

We also notice, as is frequently the case in linotype printing, that the wrong line is sometimes removed or a rejected line inserted where it does not belong.

Dr. Friedmann is to be congratulated upon his painstaking study of the complicated problem of parasitism and we shall look forward with interest to his further publications on the subject, wherein he promises to discuss it more widely with reference to all of the parasitic species.—W. S.

Saunders on Bird Song.—It is by no means the largest and most conspicuous works that contain the most important matter, and a little brochure on 'Bird Song'¹ by Aretas A. Saunders seems to us to rank as one of the most important contributions to ornithological literature of the last few months.

¹ Bird Song. By Aretas A. Saunders, New York State Museum, Albany. 1929. New York State Museum Handbook 7, pp. 1-202.