a consideration of the Goshawks (*Astur gentilis*) of which eleven Palaearctic races are recognized, *A. g. moscoviae* (p. 8) from Russia being described as new.

The author's studies indicate two fairly distinct groups of these birds a northern and southern with two races that are somewhat intermediate. He considers that the Goshawks originated in the western Palaearctic region and broke up into the two series of races as they spread eastward. He also points out that there is a white or whitish dimorphic form in two of the subspecies. Three excellent plates from photographs of skins show the differences between the various forms.—W. S.

Todd on New Formicariidae and Conopophagidae.[1]—Having completed his study of the series of Gnateaters and Antbirds in the collection of the Carnegie Museum Mr. Todd in this paper describes a large number of hitherto unnamed forms.

The Formicariidae alone in the collection brought together at Pittsburgh comprises 9098 skins, representing 221 species and 124 additional subspecies referred to 53 genera so that the author is admirably equipped to speak with authority upon the group.

Thirty-nine new forms are described and three new genera proposed—*Schistocichla* (p. 165) for *Percnostola leucostigma* von Pelz., *Myrmedestes* (p. 172) for *Turdus ferrugineus* Müller and *Myrmophylax* (p. 172) for *Formicarius atrothorax* Bodd. There is also a useful review of the genus *Myrmeciza* and its allies (*Sclateria, Schistocichla, Myrmelastes, Myrmeciza, Myrmoderus, Myrmedestes* and *Myrmophylax*) which constitutes an entirely new arrangement from that proposed in Dr. Hellmayr's recent monograph. Only two forms of Gnateaters are described, *Conopophaga aurita australis* (p. 150) Brazil, and *Corythopis torquata subtorquata* (p. 151) Bolivia.

Mr. Todd has performed a real service to ornithology by his careful studies of the Formicariidae and has straightened out many a puzzling problem. The two main obstacles to the study of the Antbirds seem to have been (1) an uncertainty as to which forms the names of the older writers pertained, which was largely settled by Dr. Hellmayr's studies of the types in the European museums, and (2) the attempts of later writers to refer many perfectly distinct forms to a comparatively small number of described species. With the painstaking work of Dr. Hellmayr and Mr. Todd we are now in a position to proceed intelligently with the study of this difficult family.—W. S.

Van Oordt on the Relation between Gonads and Plumage.[2]—Shorebirds which summer far south of their breeding grounds have always

[1] New Gnateaters and Antbirds from Tropical America, with a Revision of the Genus Myrmeciza and its Allies. By W. E. Clyde Todd. Proc. Biol. Soc. Washington, Vol. 40, pp. 149–173, December 2, 1927.

[2] Studies on the Gonads of Summering Birds. I and II. The Knot and the Turnstone. By G. J. Van Oordt. Tijdschrift der Ned. Dierkundige Vereeniging. Ser. 3, Deel 1, Afl. 1. 1928, pp. 25–30.

been a puzzle both to students of migration and of sequence of plumages (cf. review of Abel Chapman's 'The Borders and Beyond,' Auk 1925, p. 151).

Endless theory has been indulged in to account for the presence of these birds and their erratic plumage but Mr. Van Oordt has gone further and given us some definite facts which go far to clear up the matter.

A series of summering specimens of Knot and Turnstone from the mudflats and sandbanks of northern Holland, where many Limicolae remain all summer but do not breed, was collected and their genital organs studied. As the males largely predominated they alone were considered and it was found that in the majority of specimens spermatogenesis had not taken place and that the plumage of such birds was practically identical with that of winter, while in specimens which showed more or less of the nuptial plumage there had been a partial development of spermatocytes. The author's inference seems obvious that "the full summer plumage cannot develop unless spermatogenesis has started." He states that his attention had been called to the fact that "the development of the plumage of the birds investigated took place earlier than the time at which they were collected and it might have grown under the influence of gonads having a different histological structure." It seems to us that the point is that all individuals assumed the winter plumage at the end of the previous summer and those individuals in which spermatogenesis failed to take place did not molt, while those in which it was arrested after starting developed only a part of the prenuptial molt. In the same way it would seem obvious that the impulse for the northward migration also failed to develop and left these sexually inactive birds scattered along the way, as has been suggested and demonstrated by other authors. Why they should start to migrate at all is rather curious although this might be due to the flocking instinct which keeps them together through the winter or to a slight development of the migratory urge. Mr. Van Oordt has made a valuable contribution to a most interesting problem. —W. S.

Recent Papers on Quail Preservation.[1]—The Conservation Department of Maryland has issued an excellent pamphlet by E. Lee LeCompte on Winter Feeding and Propagation of the Bob White with reports on the success of winter feeding in various other states. The section devoted to propagation with photographs of the ranks of incubation boxes in which the eggs laid by the Bob Whites are set under Bantam hens, and the laying and brooding pens, explain this recent activity in keeping up the supply of game birds in an interesting way.

Dr. Joseph Grinnell has an important contribution to the problem of

[1] Winter Feeding of Bob-White Quail. Propagation of Bob-White Quail. Song and Insectivorous Birds. By E. Lee LeCompte State Game Warden of Maryland. pp. 1–14, 1–13, 1–8. 1928. A Critical Factor in the Existence of Southwestern Game Birds. By Joseph Grinnell. Science, May 27, 1927, pp. 528–529.