

double purpose. It does not give these stragglers undue prominence and it permits a much fuller treatment of the native species. Probably no book on British birds which is at all comparable with this in size, contains such extended accounts of their life histories.

In writing these biographies Mr. Hudson aims to give us the characteristic habits of the species rather than a too finely spun sketch, which, however well it depicted his own experience, might be quite at variance with the results obtained by other observers. "Birds are not automata, but intelligent beings," and resemble each other in habits only up to a certain point. It is to this point that Mr. Hudson's biographies bring us. We wish, however, he had included a paragraph on distribution, a matter to which he gives little attention locally, while the fact that the birds he writes of are found outside of Great Britain is rarely stated.

The value of this book is greatly enhanced by its illustrations. These are not only of rare beauty but they are evidently drawn by artists who are familiar with their subjects in life. Furthermore, they possess the latterly unique merit of being drawn expressly for the work in which they appear.

Mr. Beddard's prefatory chapter of thirty-eight pages on 'Anatomy and Classification' treats briefly, but in a manner likely to interest beginners, of the more characteristic avian organs. He concludes with a classification of the orders of birds, in which, among living forms, he begins with the Ratitæ and ends with Psittaci! Not that he has "a deep-seated and mysterious reason" for placing the "Parrots at the end of the Aves Carinatae," but simply through "sheer inability to place them anywhere in particular." This is evidently not an application of the decidedly original principle expressed on the preceding page, to the effect that, "the more perfect our scheme of classification, the greater our ignorance of the group classified."—F. M. C.

Bendire on the Cowbirds.¹—The parasitic habits of the Cowbirds render them a peculiarly interesting group, consisting of about twelve species, commonly referred to the two genera *Molothrus* (8 species) and *Callothrus* (4 species). They are of course all confined to the two American continents, ranging from southern Canada to Paraguay. The species of *Callothrus* are essentially tropical, ranging from Mexico through Central America to northern South America, one only, *C. robustus*, barely reaching southern Texas; while *Molothrus* is represented from the colder temperate parts of North America southward across the tropics to temperate South America. Very little is known of the habits of many of the species, only our own *Molothrus ater*, and the *M. bonariensis*, *M.*

¹The Cowbirds. By Major Charles Bendire, Honorary Curator of the Oölogical Collections, U. S. National Museum. Reprinted from the Report of the U. S. National Museum for 1893 (1895), pp. 587-624, pll. 1-3.

rufocollaris, and *M. badius* of southern South America, having been as yet carefully studied in the field. Major Bendire here presents us with an excellent summary of our present knowledge of the subject, consisting of his articles on the North American species, prepared for Part II of his 'Life Histories of North American Birds' (issued as 'advance sheets'), and Mr. W. H. Hudson's articles on the Cowbirds of the Argentine Republic, from Sclater and Hudson's 'Argentine Ornithology.' We thus have in the present paper very detailed accounts of the habits and distribution of five species and one subspecies out of the twelve recognized members of this parasitic group.—J. A. A. .

Lucas on the Weapons and Wings of Birds.¹—As Mr. Lucas says, "a more accurate, if not a better, title for this article would perhaps be 'Some Weapons of Birds'"; and we venture to add that perhaps the title 'The Wings of Birds as Weapons' would be even more descriptive, since the paper relates almost wholly to the use of wings as weapons, and to the spurs and tuberosities with which they are armed. Some birds without spurred wings, as the Pigeons and Swans, are good boxers, but some of the Pigeons are not entirely unarmed, being provided with a horny boss or tubercle at the wrist, which adds effectiveness to their blows. The armature of the Spur-winged Geese, the Spur-winged Plovers, Jacanas, and Screamers is described and figured. Spur-winged birds, although apparently so well equipped for warfare, are, however, so far as known, among the most peaceable and inoffensive of birds; at least such seems to be the case with the formidably armed Screamers, and with the Jacanas and Plovers. Curiously in the latter, the size of the spurs on the wings is correlated with the development of the wattles at the base of the bill: species with large wattles having large spurs, and conversely.

Mr. Lucas has also something to say about the claws on birds' wings, and their significance as "reminiscences of well-clawed ancestors," citing in this connection the clawed fingers of the *Archæopteryx*. Mr. Lucas also devotes a page or two to the Hoactzin (*Opisthocomus cristatus*), figuring the young birds from spirit specimens in the U. S. National Museum, to show the use made of the wing-claws in climbing. In commenting on this antiquated type of bird life Mr. Lucas observes: "Not the least of the many interesting features of the Hoactzin is the rapid change which takes place in the fore limb during the growth of the bird by which the hand of the nestling with its well-developed, well-clawed fingers, becomes the clawless wing of the old bird with its abortive outer finger."—J. A. A.

¹ The Weapons and Wings of Birds. By Frederic A. Lucas, Curator of the Department of Comparative Anatomy, U. S. National Museum. Reprinted from the Report of the U. S. National Museum for 1893 (1895), pp. 653-663, pl. 1 and 8 cuts in text.



Bendire, Charles. 1896. "Bendire on the Cowbirds." *The Auk* 13, 71–72.
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