

NOTES ON ARDEA WUERDEMANNI BAIRD.

By ROBERT RIDGWAY.

Having been enabled to examine eight additional examples of this little-known bird, I desire to offer the following remarks concerning them:—

Three of the specimens in question are the property of the National Museum, having been purchased from Mr. R. C. Stuart, of Tampa, Fla. Four were kindly loaned for examination by Mr. Charles B. Cory, of Boston, and one was furnished for the same purpose by Mr. Stuart. All were obtained by Mr. Stuart in December, 1886, on the keys near Cape Sable.

With a single exception (to be particularly noted further on), they all closely resemble the type specimen obtained about thirty years ago near Cape Sable by Mr. G. Würdemann, differing only in unimportant details of coloration, as follows:

(a) No. 110210, Nat. Mus., adult male. Dusky streaks on forehead much less distinct and less numerous, and black streaks on fore-neck also smaller and sparser; lower parts immaculate white, except on breast, which is broadly streaked, as in the type; thighs paler cinnamon-rusty; bluish gray of upper parts and ecru-drab of neck also decidedly paler*

(b) No. 110211, Nat. Mus., adult female. Very much like the preceding, but neck still paler and much tinged with rusty in middle portion, and forehead and fore-neck more broadly and conspicuously streaked, almost exactly as in the type; shoulder-tufts or "epaulets" much more broadly striped with white, and with the black portions partly replaced on some feathers by rusty; middle line of belly striped with black, as in type; longer lower tail-coverts marked near tip with a pair of oblong spots or broad streaks (one on each web) of dusky slate.

(c) No. 8010, coll. C. B. Cory, adult female. Forehead immaculate white, and crown with only a few indistinct streaks, but sides of occiput marked with a few blackish broad streaks or dashes; lower parts almost immaculate white, there being only a few narrow streaks of dark slaty brown on the breast.

(d) No. 8011, coll. C. B. C., adult male. Exactly like the type, except that on each side of the occiput there is a patch of blackish (somewhat broken by white streaks), about 1.50 inches in length by .50 wide at broadest part.

* The type differs from all other specimens examined in decidedly darker color of the neck, and darker, dingier color of back, wings, etc. The specimen is very old, however, and it is very likely that these peculiarities in coloration are more or less due to the suffusion of grease from the skin.

(e) No. 8009, C. B. C., adult male. Similar to type, but forehead more thickly streaked with blackish, the latter forming almost a patch covering median portion of forehead; sides of crown and occiput speckled or touched with dusky brownish; thighs paler cinnamon, and cinnamon on edge of wing also paler.

(f) No. 8012, C. B. C., adult male. Head and under surface of body as in type; thighs much paler cinnamon, almost cinnamon-buff on inner side.

(g) Specimen belonging to R. C. Stuart, Tampa, Fla. In coloration similar to specimen *a*, but neck paler, with color grading more gradually into white anteriorly, the black streaks down fore-neck rather larger; thighs colored as in specimen *b*. The two longer under tail-coverts with an oblong blotch or spot of black near tip; the lower parts are almost entirely white, there being a few very faint narrow streaks of grayish on belly and broader streaks or stripes of brownish gray (not black) on breast. There is a slight tinge of light rusty on neck, but much less distinct than in specimen *b*.

(h) No. 110667, Nat. Mus., adult male. This is clearly intermediate between *A. wuerdemanni* and *A. wardi* and may possibly be a hybrid between the two. The forehead and middle of crown, also long occipital feathers, are immaculate white; the longest occipital plume, however, is black, except for about 2 inches of its terminal portion; the sides of the crown and occiput are black, forming a nearly uniform space about $2\frac{1}{2}$ inches long by half an inch wide at widest part; the epaulets are black, many of the feathers, however, streaked medially with white or with much of the basal portion white. The lower parts are chiefly immaculate white, as in specimen *c*, but the sides are chiefly black.

It would thus appear that leaving out the specimen last described, which may be a hybrid, the characters of *A. wuerdemanni* are not only very pronounced but also fairly constant. They may be briefly stated as follows:

(1) Head entirely white, excepting (usually) dusky or blackish streaks on forehead or median portion of the crown, but even these sometimes absent.

(2) Shoulder-tufts or epaulets broadly striped with white, and with black portions of the feathers sometimes partially replaced by rusty.

(3) Lower parts chiefly white, sometimes only the breast being streaked with dusky.

(4) Lowermost middle (and sometimes greater) wing-coverts marked with a median streak of white (this sometimes occupying a considerable portion of the outer web).

(5) Outer pair of tail-feathers with a well-defined wedge-shaped mark occupying basal half (approximately) of outer web.

Placing a large series of *A. herodias*, *A. wardi*, and *A. wuerdemanni* in a row, in the order named, it is seen at a glance that the first two

agree in the darker, more plumbeous, shade of the gray, that of the last named being of a much lighter or more ashy shade; *herodias* and *wardi* agree also in the pattern of coloration of the head (which has the whole forehead and center of crown immaculate pure white, the occiput and sides of crown to considerably in front of the eye deep black); in having the epaulets or shoulder-knots entirely black (or, rarely, narrowly streaked with white), and in having the lower wing-coverts uniform gray; in having the breast, belly, and anal region black, striped with white, chiefly along the median line. *A. wuerdemanni*, on the other hand, has the head white, usually more or less streaked on the forehead with black or dusky, and sometimes, though very rarely, with more or less of a blackish patch or space on sides of crown, beneath edge of the crest, all the feathers of which are white; the shoulder-knots are broadly striped with white, and tinged more or less with rusty; the lowermost wing-coverts (near edge of wing) have more or less of their outer webs white and are often tinged with rusty; the breast, belly, and anal region are white, the last entirely so and the other two streaked or narrowly striped with black or brownish gray, even these markings being sometimes wanting. I have never seen in specimens of *herodias* or *wardi* any tinge or admixture of rusty on the sides of the neck, which is frequently seen in *wuerdemanni*, nor is the white wedge-shaped space on basal portion of outer web of outer tail-feather nearly so extensive, if, indeed, it be at all developed.

What relationship *Ardea wuerdemanni* bears to *A. occidentalis* and *A. wardi* the material examined does little toward elucidating. It would seem to be a permanent form, however, and, if not a color-phase of *A. occidentalis*, is probably a distinct species. It has been met with by Mr. C. J. Maynard, who, in his "Birds of Eastern North America"* (pp. 407, 408), mentions it as follows:

"The Florida Herons have long been a puzzle to ornithologists, but that such a species exists is now proved beyond a doubt, though they are far from being common, and are, I believe, restricted to the Florida Keys, or, at best, are mere stragglers on the mainland; but I do not think that a well-authenticated specimen has ever been taken there, those which are considered this species being merely Great Blue Herons, with dark streaks on the forehead for at least two instances of this kind have come under my notice. Some writers on the subject are inclined to dispose of the Florida Herons by considering them merely a plumage of the Great White, but I greatly fear that such conclusions rest too much upon purely theoretical grounds. It is true that it has been alleged that birds of both species have been found in one nest,

* The Birds | of | Eastern North America; | with original descriptions | of all the species which occur | East of the Mississippi River, | between the | Arctic Circle and the Gulf of Mexico, | with full notes upon their habits, etc., | by | C. J. Maynard; | containing | Thirty-two plates drawn on stone by the Author. | Revised edition. | Newtonville, Mass.: | C. J. Maynard & Co. | 1881. | [Quarto; title-page, pp. iii-iv, 1-532, 3 colored steel plates, 29 colored lithographic plates.]

and without doubt this is a fact; yet it proves nothing, unless, indeed, the nestlings were too small to go about much, for any one who is familiar with Florida heronries knows that the young birds leave the nest almost as soon as fledged, and walk over the branches, and if suddenly surprised will squat in the nearest nest. I was once upon an island, during the last week in April, which was covered with a dense growth of high mangroves and buttonwood, on which Great Blue Herons, Florida and Great White were breeding; but I did not find the young mixed at all, simply because they were too small to move about, but this might not have been the case two weeks later. The flight of this fine Heron resembles that of the Great Blue, being regular with each flapping of the wings, greatly prolonged. They breed on the Keys and, I think, always prefer high trees."

Mr. Maynard apparently collected several specimens, since he gives average and extreme measurements, as quoted below; but what became of them I do not know. He also found nests and eggs, which he describes as follows:

"Nests placed on trees and composed of sticks, somewhat loosely arranged. Eggs, two or three in number, varying from elliptical to oval in form, pale bluish green in color, unspotted. Dimensions from 1.80 by 2.60 to 1.85 by 2.90."

He gives measurements as follows:

"Average measurements of specimens from Florida: Length, 49.50; stretch, 74.50; wing, 20.50; tail, 7.75; bill, 6.59; tarsus, 8.25. Longest specimen, 50.00; greatest extent of wing, 75.00; longest wing, 21.00; tail, 8.00; bill, 7.00; tarsus, 8.25. Shortest specimen, 48.00; smallest extent of wing, 74.00; shortest wing, 20.00; tail, 7.50; bill, 5.95; tarsus, 7.95."

In the same work (page 409) he says that *A. occidentalis* was found by him on the Florida Keys in great abundance, one small key being "completely covered with their nests." Yet "they were all snowy white, not a colored specimen of any species being among them; nor were there any among the young left behind, for I carefully examined every nest, as they were all built low."

Measurements of the specimens examined, including the type, are as follows:

Museum No.	Collection.	Sex and age.	Locality.	Date.	Wing.	Tail.	Culmen.	Depth of bill at base.	Tarsus.	Middle toe.
8690*	Nat. Mus.	♂ ad.	"South Florida"	21.00	8.00	6.45	1.25	8.00	4.80
110210	do	♂ ad.	Near Cape Sable	Dec. —, 1886	19.00	7.00	6.05	1.20	7.70	4.50
110211	do	♀ ad.	do	Dec. —, 1886	19.00	7.20	6.40	1.30	8.00	4.80
8009	C. B. C.	♂ ad.	do	Dec. —, 1886	19.00	7.15	6.00	1.20	7.35	4.60
8010	do	♀ ad.	do	Dec. —, 1886	18.75	6.25	5.80	1.22	7.40	4.30
8011	do	♂ ad.	do	Dec. —, 1886	20.00	7.50	6.55	1.28	8.75	5.20
8012	do	♀ ad.	do	Dec. —, 1886	19.00	7.50	5.75	1.20	7.30	4.20
	R. C. S.	ad.	do	Dec. —, 1886	20.00	7.30	6.70	1.28	8.40	4.95
			Average	19.47	7.24	6.60	1.24	7.77	4.79

* Type.