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NOTES ON THE BREEDING OF BACHMAN'S WAR-BLER, *HELMINTHOPHILA BACHMANII* (AUD.), NEAR CHARLESTON, SOUTH CAROLINA, WITH A DESCRIPTION OF THE FIRST PLUMAGE OF THE SPECIES.

BY WILLIAM BREWSTER.

I AM indebted to Mr. Arthur T. Wayne for the privilege of announcing an interesting and important discovery that he has just made, viz., that Bachman's Warbler breeds, at least locally and sparingly, in the coast region of South Carolina. Mr. Wayne's experience may be best given in his own words. Under date of May 14, 1905, he writes as follows: "I have at last found a breeding ground of Bachman's Warbler. Yesterday I took two young in first plumage which the parents were feeding....I saw two pairs of old birds and heard another adult male singing. These Warblers during the breeding season are very hard to detect. They are extremely active, rarely remaining still for more than a few seconds at a time, and are found in flow bottom lands where there is plenty of water They must breed only about ten days later than the Yellow-throated Warbler, for the young taken on the 13th could fly with ease."

In a second letter dated May 22, 1905, Mr. Wayne adds: "The locality in which I found the small colony of Bachman's Warblers is distant about fourteen miles from where I live [Mount Pleasant, South Carolina]. The country is very swampy and was originally a rice field, but is now covered with a dense forest of deciduous trees with innumerable patches of low bushes and blackberry brambles. Flanking this forest is an enormous back water (reservoir), from•the bottom of which have grown millions of buttonwood bushes. Bachman's Warbler appears to be very partial to these buttonwood bushes which grow in the water. I shot a male on May 14 of last year that kept constantly over the water among the buttonwood bushes. The song period appears to be of very short duration. I visited the place again last Saturday [May 20] and heard but one male singing."

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The two young birds taken on the 13th represent both sexes. The male which is now before me may be described as follows:----Top and sides of head and fore part of back faded hair brown with a trace of ashy on the middle of crown ; -remainder of upper parts dull olive green ; wings and tail (which are fully grown) as in the first winter plumage excepting that the greater and middle wing-coverts are rather more broadly tipped with light brown, forming two well-marked wing-bars; chin and throat brownish white tinged with vellow; sides of jugulum smoke gray, its center vellowish; sides of breast gamboge vellow shading into olive on the flanks; middle of breast, with most of abdomen, vellowish white; under tail-coverts ashy white. All the feathers on the under parts which are strongly yellow or olive, and those on the upper parts which are decidedly ashy or greenish, appear to • belong to the autumnal plumage or, as it is now called, the first winter plumage, but all the other feathers on the head and body are evidently those of the first plumage.

On comparing this interesting specimen with young in corresponding plumage of *H. chrysoptera*, *H. pinus* and *H. celata lutescens*, I find that it is very unlike any of them; in respect to the general coloring of the upper parts, however, it bears some resemblance to the Nashville Warbler (*H. rubricapilla*) in first plumage.

I have not seen the young female Bachman's Warbler above referred to, but Mr. Wayne writes me that "it differs from the male only in these respects: The yellow on the sides of the breast is very much paler and more restricted and the back is not greenish, but brownish. The white on the tail-feathers is merely indicated on the margins of the inner webs of the tail-feathers."

Both of the young Bachman's Warblers just described were from the same brood and hence of the same age. The young male was being fed by the male parent of the family and the young female by the female parent. Mr. Wayne saw only "these two young" but his "nephew, who was with" him at the time, "is satisfied that he saw at least one or two more." They could all "fly with the greatest ease and their movements were extremely rapid."

It will be remembered that Bachman's Warbler was originally discovered by the ornithologist whose name it bears "a few miles

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from Charleston, in South Carolina, in July, 1833," 1 when "an old female that had to all appearance just reared a brood of young"² was taken. "Shortly after, several were seen in the same neighborhood."¹ The season at which these birds were met with was not, of course, sufficiently early to make it at all certain that they were still on or even very near their breeding grounds, for many of our Warblers reach the Dry Tortugas on their southward migration before the middle of July. Mr. Wayne's observations are therefore of much importance as definitely establishing, for the first time, the fact that Bachman's Warbler actually breeds in the low coast region of South Carolina. It would be interesting to know if the species has been a regular summer resident of this region ever since 1833. If so it must be confined to only a very few localities, at least in the neighborhood of Charleston. Were the case otherwise the bird would almost certainly have been . found, long before this, by Mr. Wayne, for he is one of the most acute, persistent and thorough of the many excellent field ornithologists whose names have come into prominence in this country within the past quarter of a century, and there are few woods or swamps anywhere near Charleston which he is not accustomed to visit at all seasons.

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¹ J. J. Audubon, Birds of America, II, 1841, 93. ² John Bachman, *Ibid*.