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WINTER PLUMAGES:—ILLUSTRATED BY THE ROSE-
BREASTED GROSBEEK (*ZAMELODIA*
LUDOVICIANA).

BY WITMER STONE.

Plate IV.

ON THE accompanying plate Mr. Fuertes has represented the male of the well known Rose-breasted Grosbeak in the plumage of the first winter, a condition often known as the 'bird of the year,' and also the winter plumage of the fully adult bird of two years or more.

The differences are not very obvious at first sight but will be found to be greater upon more minute examination, though they are probably more striking in the specimens themselves than in a plate where the figures are necessarily reduced.

Corresponding differences are exhibited by young and old winter specimens of a number of our common birds, and the subject is one of considerable interest.

In April, 1896, the writer published a paper on the 'Molting of Birds,' in which the seasonal plumages were tabulated, and in the last number of 'The Auk' Dr. Dwight has published a scheme identical with the above except that he proposes the term 'Juvenal' for what was formerly known as the 'First Plumage'; and adds an earlier stage, the 'Natal Down' which was not considered in the former paper.



ROSE-BREADED GROSBEAK.

A. Hoen & Co. Lithographers, Baltimore

UPPER FIGURE, IMMATURE MALE. LOWER FIGURE, ADULT MALE IN FALL.

$\frac{3}{8}$ NATURAL SIZE.

In both the articles referred to, attention is called to the difference in the winter plumages of birds, due to age. Some species also exhibit corresponding differences in the spring or nuptial plumage, but this is not so common.

The most interesting point in connection with these winter plumages is the apparent scarcity of adult birds during the fall migration. This has frequently been noticed, especially by Mr. C. W. Beckham,¹ and has been generally considered to be due to the earlier migration of the old birds and the probability that they travel more rapidly or with fewer stops.

In the case of the Rose-breasted Grosbeak, I examined the fall specimens in the collections of the Academy of Natural Sciences of Philadelphia, the American Museum of Natural History, the U. S. National Museum, and the private collections of Mr. William Brewster and several others, and while birds in the 'First Winter' plumage were abundant I found only two² in the 'Adult Winter' plumage.

The scarcity of these adult specimens has caused a difference of opinion as to the character of the adult winter plumage of several species, and even to-day authorities are divided upon the question of the winter plumage of so familiar a species as the Black-bellied Plover (*Squatarola squatarola*), some claiming that the adults are nearly identical with the first year birds in winter, while others state that they are always more or less black beneath, as in spring.

Such black-bellied specimens are certainly taken in fall but they are rare and are regarded by the former of the above 'schools' as exceptional plumages!

The Rose-breasted Grosbeak exhibits about as great a variety of plumages as is to be found among our passerine birds. It seems to molt regularly twice a year, though the spring molt is usually confined to the body plumage.

The adult in winter as shown in the plate differs from the 'First Winter' plumage in the greater amount of black above and rose

¹ Auk, 1887, p. 79.

² Three others in this plumage were examined, taken in winter south of the United States.

beneath, and in the jet black instead of brown remiges and rectrices. After the spring molt both adult and first year birds appear in the familiar black, white and pink nuptial plumage, but, as in the early spring Bobolink, the tips of the feathers are often bordered with brown, which is lost through abrasion by the time the bird reaches its nesting ground. Even in the nuptial plumage the old and young birds can still be separated by the color of the flight feathers, which remain just as before the molt.¹

With this outline of the plumages of the Rose-breast, it is interesting to see what our standard works have to say on the subject. In not a single one is there anything to indicate that the adult male has a winter plumage in any way different from the well-known spring dress! In Ridgway's 'Manual' the adult winter plumage is apparently described as the 'First Winter' plumage, as it is stated that "the wings and tail are as in the adult male." In Coues 'Key' we are led to believe that the young male does not acquire the rose color beneath the wings until the first full plumage is acquired.

In the British Museum Catalogue,² however, we find the most remarkable statement. Dr. Sharpe evidently had winter birds of various ages before him and in the absence of molting specimens fell back upon the famous color change theory as a solution of the question.

The First Winter plumage is first described and then he adds: "The slight tinge of rose-colour on the breast of the young male greatly develops when the bird is in its winter-quarters, and the streaks on the breast and throat gradually disappear as the red colour spreads upwards, and the adult plumage appears to be gained by a change of feather and not by any moult. As the black spreads on the upper surface the streaks disappear, and at last the ochreous-brown colour, which is characteristic of the young bird, remains only in the shape of edgings to the mantle, back and scapulars," etc. He further states that he has seen no specimen which proves to his satisfaction that the old male has a

¹The first year bird, however, often molts his tail in spring along with the body feathers so that in the 'First Nuptial' plumage, the tail is often black while the wings are brown.

² Vol. VII, p. 60.

distinct winter plumage, and that in young birds at least, the wing quills are apparently molted in spring!

I need only say that the lower figure of our plate, which represents the adult winter plumage, and which is evidently the condition described by Dr. Sharpe as showing the expansion of the pink, was drawn from a bird secured in Illinois, Sept. 1871, far north of its winter quarters, while another in Mr. Brewster's collection, taken in Oxford Co., Maine, Aug. 20, is actually in the midst of the molt from the brown-winged pink and white 'First Nuptial' plumage to the adult winter plumage here figured.

This clearly illustrates the lack of accuracy with which seasonal plumages are described in our works of reference, and I may say that the Rose-breasted Grosbeak is not alone in this treatment.

The moral seems to be that in the present advanced condition of American ornithology, when we are splitting hairs in the matter of geographical subspecies, it is high time that each plumage that a bird assumes should be properly understood and described, and more attention given to one of the most interesting branches of ornithological science.



NOTES ON SOME OF THE RARER BIRDS OF WESTERN PENNSYLVANIA.

By S. N. RHOADS.

DATA for the following observations was secured during several excursions which I have made in the western half of Pennsylvania since June 1, 1894. In the main these notes were taken during field work in the interests of the Carnegie Museum of Pittsburgh from April to October, 1898. Some of the most valuable records are based on specimens in the Carnegie Museum taken by local collectors. I am also indebted to Mr. J. Link of Mt. Washington, Pittsburgh, for the privilege of an examination of rare specimens in his private collection. Mr. Seth Nelson of Round Island, Clinton Co., Mr. M. Larrabee of