

proves. A careful inspection of the original shows the larger end of the egg, which barely projects from the external sac, which holds it firmly between the thighs of the bird, a King Penguin. The bird reclines in its position in the sailor's arms, while his finger holds the egg securely, to prevent the bird dropping it. The soles of the Penguin's feet, if one may so speak, are turned up toward the camera, and are clearly defined against the breast. Mr. Blake's drawing shows all this and more.

The Penguins, as shown in the photograph, stand dismally in pessimistic attitudes, scornful and disgusted at the intrusion, highly disapproving and indignant over the outrage with the camera. They seem to be wondering over the strange times on which they have fallen.

Upon Captain Fuller's return, nearly eighteen months after his departure, he brought me a most interesting mass of material, including a fine series of the eggs of *Chionis minor*, with skins of this singular bird, which is neither Pigeon nor Gull, yet partakes of the nature of each. He also secured eggs of the Southern Skua (*Buphagus skua antarcticus*), Wandering Albatross (*Diomedea exulans*), and others, all of which I retain in my cabinet.

If the accompanying drawing should be held to have settled this question, I shall hope to be allowed to convey the information to Captain Fuller, who is at present pursuing his isolated, arduous life among the seals, and to whom the credit should belong. I myself am entirely convinced from the development of my plate, that the case is proved beyond any question.



PLUMAGES OF THE YOUNG HOODED WARBLER.

BY WILLIAM PALMER.

SEVERAL young male Hooded Warblers (*Sylvania mitrata*) collected by myself in Hanover County, Virginia, in July, 1892, differed so much from published descriptions that I called attention to them in a paper read at the Washington meeting of the A. O. U. of that year. Hoping to secure a better series,

publication was delayed, so that I have now before me a series of twenty-six specimens, illustrating the young of the year after leaving the nest, and all collected in Hanover and King William Counties, Virginia, besides a large series of adults from the same and other localities.

I quote below various statements that I have found in the literature of the species, having italicized the parts which differ from the facts as illustrated in my specimens.

Professor Baird, in the Pacific R. R. Report (Vol. IX, p. 292), says: "An immature *male* differs from that described above by having the black of the head restricted to a margin of the yellow on the top and sides, and a faint indication of the same on the throat."

In the Hist. N. Am. Birds (p. 314) he also says: "A young *male* in second year (2245, Carlisle, Penn., May) is similar to the female, but the hood is sharply defined anteriorly, though only bordered with black, the olive-green reaching forward almost to the yellow; there are very slight indications of black on the throat. Apparently the male of this species does not attain the full plumage until the third year."

Dr. J. M. Wheaton (Report on the Birds of Ohio, 1882, p. 279) describes a young *male* taken at Columbus, Ohio, August 25, 1874, as follows: "Above, yellow-olive, concealed yellow from bill to eyes; feathers of crown and occiput with dark plumbeous bases and centers, some of the feathers of sides of crown with scarcely concealed black tips, line from bill over and around eye bright lemon yellow, separated from the uniform yellow of throat, breast, and abdomen, by dusky lores and olive-yellow auriculars; under tail coverts very light yellow. Tail spots as in the adult. Bill very pale, dusky shaded."

This description agrees in some respects with Professor Baird's specimen mentioned above, obtained by him at Carlisle, Pa., May 7, 1845, and labeled as a male by the collector. I have no hesitation whatever in calling Dr. Wheaton's bird a young female of the year, and Professor Baird's specimen a female at least two years old: the error of sexing having been caused by the fact that the supra-renal capsules were mistaken for testes. Unfortunately this error is only too easily possible when birds are left for some time before skinning or when injured internally.

Dr. Merriam, in his 'Review of the Birds of Connecticut' (Trans. Conn. Academy, Vol. IV, 1877, p. 26), speaks of this species as follows: "From the limited amount of material I have been able to examine, and from the notes given me by Mr. Sage and Mr. Bicknell, I am inclined to believe that the female bird, *like the male, is several years — at least three — in attaining its full plumage; . . .*"

Dr. E. A. Mearns (Bull. Nutt. Orn. Club, Vol. III, p. 72) quotes the above from Dr. Merriam and adds: "With a large series of specimens before me, I can fully indorse Mr. Merriam's views. The females of the second summer *are entirely without any black upon the head*, and I have frequently found them sitting upon their eggs in this condition. Males of the same age show very evident *traces of black.*"

Mr. Ridgway says (Manual, 1887, p. 527): "Young in first autumn: *similar to adult female, without black on head.*"

He also, in the 'Birds of Illinois' (p. 175) quotes Dr. Merriam and Dr. Mearns as above, and on page 173 says: "Young: *no black whatever about the head.*"

Dr. Coues (Key, 1892, p. 313) describes the young as follows: "♀, adult, and young ♂, with the *black restricted or interrupted, if not wholly wanting, as it is in the earlier stages, when the parts concerned are simply colored to correspond with the upper and under surfaces of the bird.* Hood said to be not perfected until the *third year*, and to be finally acquired, in the fulness of its extent if not in the purity of the black, by the female."

The only approximately correct statement that I have been able to find is that of Messrs. Samuel F. Rathbun and Frank S. Wright (Bull. Nutt. Orn. Club, Vol. IV, p. 117) as follows: "We secured female birds with the black gradating from a single spot to a full tracing of the hood. We also found young males of the year with the black as *dense and glossy* and the yellow as rich, as in the best adults; yet the little 'spike-tails' scarcely exceeded half an inch in length, and their peculiar plumage marked them as young."

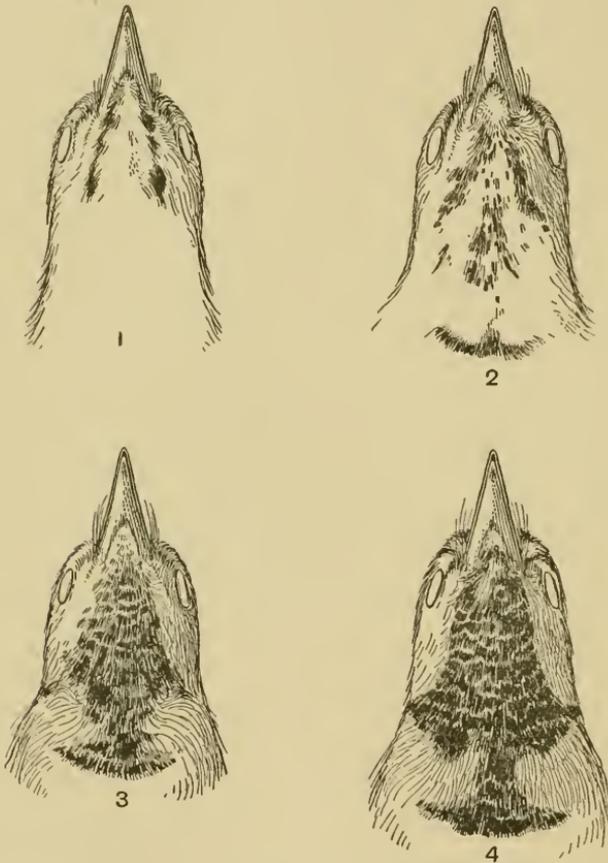
It seems most improbable that such a difference should exist between the specimens mentioned above and those described below, which were all collected by me in Virginia.

Young birds of both sexes are identical in coloration when they leave the nest, the body feathers being a pale slate color with more or less brownish drab tips, appearing darker where the feathers are thickest; such as across the chest, on the sides of the head over the eyes, in the center of the back and on the wings. The tips of the back feathers are decidedly reddish. Feathers of the underparts below the breast nearly white, tipped with yellowish. Ear-coverts slightly yellowish; edges of wing-coverts distinct and pale reddish. Rictal bristles very short. Tail-feathers in the female 1.13 inches, in the male 1.38 inches. Inner webs of three outer tail-feathers blotched with white. Upon lifting the breast feathers the yellow pin feathers of the new plumage are easily seen. No. 133223, male juv., and No. 133224, U. S. N. M. Coll., female juv., Studley, Hanover County, Virginia, June 25, 1894. Both of the above were from the same nest, the parents also being secured, the black on the female being confined to a spot on each side of the crown; evidently a bird of the previous year.

The first true body feathers to appear in both sexes are a line of yellow on each side of the breast, as seen in so many young birds, and at the same time a few appear as pin feathers within the area enclosed by the two branches of the lower mandible. A series of fifteen males and eleven females show well the various stages from the nestling to the fully fledged young.

No. 133225, male juv., June 25, 1894, Studley, Hanover County, Virginia, U. S. N. M. Coll., has considerable green on the back below the neck; the yellow of the abdomen is decided and exists as two stripes, separated by a broader division of the nestling plumage. A slight line of yellow appears extending backwards from the posterior corner of the eye. The area between the eye and bill is also yellow, the wiry tips of the feathers being black; rictal feathers longer but not yet fully grown. The yellow of the lores meets under the eyes a faint line of yellow extending from the edge of the feathering on the lower mandible to past the eye and almost encircling the ear-coverts. The first black appears in the form of two lines under the throat as shown in Fig. 1. Pin feathers are numerous on a line in the center of the crown, the posterior end of which shows the tips of new black feathers. Wing-coverts unchanged. Tail 1.88 inches long.

No. 133226, same sex and date as above, represents a step further, the under parts being yellow except for the center and abdomen. The increased area of the black of the throat is shown in Fig. 2, the black crescent on the breast being joined posteriorly to a crescent of yellow, both being separated from the yellow side stripes by the remaining nestling feathers. More



FIGS. 1-4. YOUNG HOODED WARBLER.

green feathers have appeared on the back and shoulders, the first plumage having mostly disappeared on those parts. The black hood has further developed and presents the general appearance of the cap as seen in an adult male Wilson's Black-

cap, though still showing some pin feathers, the anterior edge being more or less irregular in outline. When first collected the black feathers on the posterior portion of the crown patch of this specimen showed beautifully the continuous development of the feathers; several of the new black feathers being tipped with the pale nestling feathers, which also bore on their tips the long smoky-black down. These black feathers of the crown and throat are very dull in color, and are minutely tipped with yellow on the throat and with green on the crown. The tips of a few black feathers show behind the ears, between the hood and throat patches, but do not meet either. The stiff yellow feathers between the eye and bill are decidedly tipped with black, appearing much darker than in the same area in adult birds, this being due to the crowding of the new feathers. Yellow feathers have developed on the forehead but are obscured by the nestling plumage; the most advanced show black tips. Yellow feathers have also appeared nearly encircling the eye, while the posterior end of the supra-auricular region is also yellowish and meets the yellow feathers around the ear-coverts, thus giving the sides of the face an almost yellow appearance. The lower back is completely covered with the green feathers of the new plumage on which the tips of the nestling feathers remaining on the neck show quite reddish. Tail 2.19 inches long. The nestling wing-coverts have dropped out and new ones have not yet appeared.

No. 133227, male juv., same date as above, is still further advanced: the entire back except the neck is covered with the new plumage; the yellow of the underparts occupies a larger area and is almost connected across the chest with the breast patch, the yellow of the underparts thus appearing somewhat as an inverted U. The hood is better developed, the feathers being nearly half grown, smoky-black in color, each bordered with a narrow edge of green, the colored margin being distinctly discernible. The throat patch, as shown in Fig. 3, has increased in size and is connected with the hood by a partially developed line of black surrounding the auriculars. Yellow feathers have encircled the eye, the entire face has strengthened in color and now presents the same pattern as in the adult male, except that the center and anterior portion of the auriculars are still in the

nestling phase. The sides of the neck and the region between the hood and auriculars are still covered by the short persistent feathers of the nestling plumage. Tail 2.31 inches long, thus equaling the adult. Yellow under tail-coverts just beginning to appear.

No. 133228, male juv., June 29, 1894, Aylett's, King William County, Virginia, is still older, the throat patch is larger, as shown in Fig. 4, and a better defined black line connects it with the hood. Pale lemon-yellow under tail-coverts have now appeared, but the nestling phase still shows almost entirely around the neck, on the abdomen, down the center of the breast, on the central part of the ear-coverts, and along the sides of the hood.

My series of young females does not exactly correspond in age to the various stages of young males as above.

No. 133229, female juv., is a sister of No. 133227, but of course differs in the absence of black: the throat and breast are entirely of a pale lemon-yellow interrupted on the sides of the head, behind the eyes, by the remains of the nestling plumage. Top of head a duller green than the back, with the rump brighter than either; the sides of the breast are still divided in the center by the persistent remains of the nestling plumage, which also shows entirely around the neck, except on the throat. There is a break in the new feathers on each side of the breast, so that the yellow of the underparts appears in three nearly confluent patches — one on the throat and chin, and one on each side of the under body; yellowish under tail-coverts well developed.

It now remains to describe the full plumage of the young of both sexes, which so far as I am aware has never been done. A comparison with many specimens of adult birds show that the pattern of coloration of the young male in the first autumn is almost identical with that of the adult male, while in the young female it is identical with those specimens of adult females showing the least amount of black on the head; a mere spot, present in all specimens that I have examined.

Young male, fully fledged, No. 127313, U. S. N. M. Coll., Studley, Hanover County, Virginia, July 6, 1892. Entire plumage of same pattern as adult males; but black less intense, the ends of the feathers being

minutely tipped on the throat and chest with yellow, on the sides and crown with green; yellow of head minutely tipped with blackish, especially on the lores, where the black nearly obscures the yellow. Entire underparts pale lemon-yellow, greenish on sides; wings and tail as in adults, but lower wing-coverts slightly tipped with yellowish. Back and sides show less intense olive-green than the middle and lower back; three outer tail-feathers blotched on inner webs with white, that of the third being smaller and restricted to the end. Feet and tarsi paler than in adults, as is also the bill, especially the lower mandible, which has only a little black beneath near the tip.

Young female, fully fledged, No. 133230, U. S. N. M. Coll., Studley, Hanover County, Virginia, July, 1894. Entire plumage similar in pattern to those spring and summer females showing a least amount of black on head. Yellow of sides of face obscured by the greenish tips of the feathers, being especially darker on the ear-coverts. Green of head continuous in the center to the bill, completely obscuring the yellow bases of the forehead feathers. Lores lemon-yellow but densely tipped with black, appearing much darker than in adults. Yellow around eyes well defined and continuing backwards as a broad stripe over center of auriculars. Underparts uniform palish lemon-yellow; sides greenish; throat paler with a greenish darkening just below showing very faintly the outlines of a breast patch. A little above and behind the eyes are several nearly concealed black feathers with green tips. Bill and feet as in the young male; tail similar but with the inner blotch nearly surrounded with dark color.

A description of a bird is necessarily confined to its plumage conditions at the time of its being collected; hence I have attempted above to give some idea of the rapid change that this species undergoes from the nestling to an apparently full fledged bird.¹ Additional specimens kindly collected for me during July and August, by my young friend, Master P. Henry Aylett, of King William County, together with others collected by myself in Hanover and King William Counties, Virginia, during the latter part of August of this year, indicate that a further, but much slower change has taken place. Upon lifting the feathers of the last two specimens described above, a few pin feathers will be found which might casually be considered as the last feathers to complete the change from the nestling. A comparison of these and others of similar date with older young birds

¹ It was impossible to get the exact time. None in the nestling plumage were seen after June 25, or like Figs. 1 and 2 after June 30. None like Figs. 3 and 4 were seen after July 4, and no fully changed birds were seen before the same date.

collected during the latter part of July and in August in the same localities, shows how the change has been effected; the yellow and green parts have become much richer in color, while the black feathers are more abundant, with stronger and more regularly marked yellow and green tips. It is almost impossible to notice the change of color on comparing individual feathers, but taken collectively there is a decided change from the paler almost whitish yellow of the younger birds to an intensity of color nearly approaching orange in the last collected specimens. That the change is slow is shown by the presence of pin feathers even in the last specimens collected on the 26th of August, so that the later dated specimens all show a greater abundance of richer, deeper colored feathers all over the body as contrasted with the June and early July young birds. The moulting of the first flight feathers and the growth of new ones as indicated by the "spike-tails," mentioned by Messrs. Rathbun and Wright, as quoted above, has not taken place in any of my specimens.¹ If they really moult then the change must take place after the moult on the body is fully completed. No appreciable difference is found on comparing a number of these late young males, but in the females of corresponding ages there would seem to be some slight difference in the size and exact location of the black spots on the head. On the last female described above, the spots are decided, while on others they are much less so, hardly two being alike. On one they consist of a mere dusky darkening near the tips of a few feathers, while on two specimens I have been unable to find any, though, as the region of the spots is the last to complete the new plumage and pin feathers are still visible, it is possible that they have not yet appeared.

It would thus seem, in the light of my experience and specimens, that the changes in this species from the nestling to the adult plumage takes place in these counties of Tidewater Virginia, approximately between the 20th of June and the 6th of July, and that a further and more gradual change, requiring about six weeks, brings them to the same general plumage as

¹ I am now strongly inclined to the opinion that their birds were not young at all, but adults acquiring the fall plumage.

the adult, except for the colored tips to the black feathers. I am inclined to think, however, that eight, or at the most ten, days are sufficient for the change, instead of three years, as implied or stated in the quotations given above.

Immaturity in this species is therefore recognizable, especially by the presence of differently colored tips to the head feathers, which are more or less persistent until the birds moult again in July of the following year; there being, I have good reason to believe, but one moult a year in this species.

NOTES AND SONG-FLIGHT OF THE WOODCOCK (*PHILOHELA MINOR*).

BY WILLIAM BREWSTER.

IN 1891, Mr. Walter Faxon and I spent two evenings and one morning studying the notes and song-flight of the Woodcock, and the present article consists merely of a transcript of the memoranda made on these occasions,—viz., the evenings of April 7 and 13, and the morning of April 8, the locality being Lexington, Massachusetts.

Lexington, Mass., April 7, 1891.—Mr. Faxon found a Woodcock singing on the evenings of the 5th and 6th and the morning of the 7th on the top of a high hill near the village. I went there with him this evening, arriving at 6.25, when the bird was already peeping. There were seven song-flights and eight peeping spells in the next thirty-five minutes, the last peeping being unusually protracted and the bird, at its close, rising and flying off low down without singing, at precisely seven o'clock. At this time it was still rather light or, at least, not nearly so dark as the night afterwards became. The weather was cold with a strong northwest wind, the sky overcast. The *paaps* were uttered consecutively 31, 21, 37, 29, and 28 times, no counts being made during the first and last calling periods. The song proper (timed once only) lasted exactly ten seconds.