

THE MOULTS AND SEQUENCE OF PLUMAGES OF THE BRITISH WADERS.

BY

ANNIE C. JACKSON, HON. MEM. B O.U.

PART VIII.

FIRST WINTER. — *Male and female.* — The juvenile body-feathers (not all the scapulars), the tail-feathers, innermost secondaries and coverts and some median and lesser coverts are moulted from September to January, but apparently not the rest of the wings. After this moult the birds are apparently indistinguishable from the adults.

WOOD-SANDPIPER (*T. glareola*).

ADULTS. — Complete moult commencing in July with the body-feathers, while specimens moulting the remiges occur from September to March. From January to May there is a partial moult involving the body-feathers, in some the tail-feathers, innermost secondaries and coverts and usually most of the median and some lesser coverts. Several February and March specimens in full moult into breeding plumage had also one or other of the outer primaries in quill. The winter and summer plumages are distinct. The sexes are alike in plumage but the wings of the females average slightly longer.

N.B. — One May specimen (not moulting) had retained some winter feathers on the mantle and scapulars.

JUVENILE. — *Male and female.* — Like the adult in winter plumage, but the feathers of the upper-parts including the innermost secondaries and coverts warmer sepia or black-brown, edged and broadly notched warm buff, in some the scapulars and innermost secondaries and coverts have notches of darker sepia as well (in the adult the feathers of crown, nape and upper mantle are sooty-brown or sepia narrowly edged white, those of the mantle and scapulars and innermost secondaries and coverts sooty-brown or sepia tipped and notched white, the scapulars and sometimes some feathers of the mantle with a subterminal black or black-brown bar and notched the same, black and white notches, more or less alternating on scapulars and innermost secondaries); lower throat and upper breast with more pronounced streaks than in the adult; tail-feathers as in the adult, but the central pair tipped buff; wing as in the adult, but the median and lower lesser coverts warmer sepia than in the adult tipped and notched warm or light buff instead of white (in the adult some of the median coverts have notches and incomplete barrings of black-brown); innermost median coverts sepia notched warm or light buff at the sides of the feather, but without buff tips (in the adult these coverts are faintly notched and tipped white).

N.B. — Before the post-juvenile moult commences the upper-parts, owing to the abrasion of the notches, become more or less uniform.

FIRST WINTER. — *Male and female.* — The juvenile body-feathers, sometimes the tail-feathers, sometimes the central pair only and sometimes not the tail at all, innermost secondaries and coverts, and some median and lesser coverts are moulted from September to January, but not the rest of the wings. After this moult the birds are like the adults and only to be distinguished when the buff notches to the innermost median coverts are not too worn and faded.

FIRST SUMMER.—Moult as in the adult and only to be distinguished when the innermost median coverts are not too abraded.

GREEN SANDPIPER (*T. ochropus*).

ADULTS.—Complete moult from August to December. From December to May there is a partial moult, involving the body-feathers (not always all the scapulars), usually the tail-feathers, some innermost secondaries and coverts, and usually some median and lesser coverts, but apparently not the rest of the wings. The winter and summer plumages are distinct. The sexes are alike in plumage, but the wings of the females average longer.

JUVENILE.—*Male and female*.—Very like the adult in winter plumage but the feathers of the upper-parts darker olive-brown; the mantle, scapulars and innermost secondaries and coverts without the hair-brown tips of the adult and notched warm or pinkish-buff, the notches more numerous than in the adult, which has scapulars (and in some many feathers of mantle) notched black-brown; sides of neck, lower throat and upper breast more closely and boldly streaked olive-brown than in the adult (in which the streaks are hair-brown); tail-feathers as in the adult but the central pair more or less washed buff; median and lower lesser coverts darker olive-brown with more numerous warm or pinkish-buff notches and without the hair-brown edges as in the adult, but more or less notched black-brown or sepia as in the adult.

N.B.—Abrasion makes the upper-parts more or less uniform before the post-juvenile moult commences.

FIRST WINTER.—*Male and female*.—The juvenile body-feathers, tail-feathers, some innermost secondaries and coverts, and some median and lesser coverts are moulted from August to December, but not the rest of the wings. After this moult the birds are usually not to be distinguished with certainty from the adult, though in some the warm buff notches to some of the juvenile median coverts (especially the innermost) may be recognized, but usually these buff notches have become abraded before the completion of the post-juvenile moult.

FIRST SUMMER.—Only to be distinguished from the adult summer when the warm or pinkish-buff notches are not too abraded.

SOLITARY SANDPIPER (*T. s. solitaria*).

ADULTS.—Complete moult from August to January. From February to May there is a partial moult involving the body-feathers (apparently not always all the scapulars nor all the feathers of the back and rump), sometimes one or two central pairs of tail-feathers, in some all the tail-feathers, some innermost secondaries and coverts, and usually some median and lesser coverts, but not the rest of the wings. The winter and summer plumages are distinct. The sexes are alike in plumage, but the wings of the females average longer.

N.B.—Several January specimens examined had the 2nd, 3rd or 4th primaries in quill; one March 23rd was in full body-moult into summer plumage and had the 2nd primary of each wing in quill.

JUVENILE.—*Male and female*.—Very much like the juvenile Green Sandpiper in coloration but easily distinguished by its smaller size, olive-brown, instead of white, upper tail-coverts, lateral upper tail-coverts more or less barred black-brown and white, while the upper-parts are notched paler buff or white; the upper breast is white, narrowly streaked or shaded hair-brown, not boldly streaked olive-brown as in the juvenile Green Sandpiper, central pair of tail-feathers uniform olive-brown tipped and notched along the outer edge white and

black-brown (instead of sepia, barred white as in the Green Sandpiper); wing as in the juvenile Green Sandpiper, but the innermost secondaries and coverts and median coverts notched light buff or white instead of warm or pinkish-buff.

FIRST WINTER.—*Male and female.*—The body-feathers, some innermost secondaries and coverts, and apparently some median and lesser coverts are moulted in autumn and winter, but apparently not usually the rest of the wings and not the tail-feathers, at all events in the series examined. After this moult the birds are like the adults and are only to be distinguished by the buff notches at the sides and tips of the innermost median coverts when not too abraded (in the adult the innermost median and lesser coverts are narrowly tipped and notched white).

FIRST SUMMER.—(Not examined.)

YELLOWSHANK (*T. flavipes*).

ADULTS.—Complete moult from July to February. From February to April there is a partial moult involving most of the body-feathers, usually all the tail-feathers, some innermost secondaries and coverts, usually a good many median coverts and in some a few lesser coverts, but not the rest of the wings. The winter and summer plumages are distinct. The sexes are alike in plumage.

N.B.—Several specimens with the outer primaries in quill occurred in January and February and one or two in March; the February and March specimens were also acquiring summer feathers.

JUVENILE.—*Male and female.*—Resembles the adult in winter plumage, but the feathers of the crown are sepia, narrowly edged light buff or white, and the mantle and scapulars sepia, the feathers notched on the edge and at the tip light or pinkish-buff, the scapulars notched black-brown along the border (in the adult these parts are ash-brown, the feathers with sepia shaft-streaks and lighter edges and faintly edged greyish-white, the scapulars mostly with notches of black-brown, in some faint notches of white); back and rump ash-brown as in the adult, but the feathers in some notched and edged light buff (in some white), not tipped white as in the adult; upper breast white, more narrowly and closely streaked sepia or ash-brown than in the adult; remaining under-parts as in the adult; tail-feathers more pointed at tip than in the adult and more closely barred ash-brown and sepia, in some the barrings are incomplete and the feathers are more or less ash-brown, notched black-brown or white; innermost secondaries and coverts as scapulars, but the black-brown notches larger (in the adult the innermost secondaries and coverts are ash-brown with sepia shafts and narrowly edged white, boldly notched along the outer border with black-brown); greater coverts as in the adult, but sepia instead of ash-brown edged, and slightly notched, light buff, instead of white; median coverts sepia, tipped and notched light buff, and more or less notched and with subterminal shadings of black-brown towards the tip; lesser coverts sepia narrowly edged light buff or white (in the adult the median coverts are ash-brown with sepia shafts and faintly tipped white with lesser coverts dark ash-brown narrowly bordered white).

FIRST WINTER.—*Male and female.*—The juvenile body-feathers (not all the scapulars), in some the central pair of tail-feathers, innermost secondaries and coverts, but not the median and lesser coverts in the few specimens examined, are moulted from August to January, but not the rest of the wings. After this moult the birds resemble the adults

and are only distinguished by the worn juvenile tail-feathers and the worn and faded sepia greater and median coverts, the latter having a characteristic spear-like shape owing to the abrasion of the buff notches; the innermost median coverts notched buff or white at the sides of the tip of the feather instead of broadly tipped white as in the adult.

FIRST SUMMER.—(Not examined.)

N.B.—One ♂ March 9th Texas, a bird of the previous year, moulting the primaries and acquiring fresh winter feathers on the mantle and scapulars, the old feathers being apparently worn winter ones. One June in worn winter plumage, the 5th primary of each wing in quill and getting new winter feathers on the body, appears to be a bird of the previous year by the wing-coverts.

GREATER YELLOWSHANK (*T. melanoleuca*).

ADULTS.—Complete moult from August to January. From February to May there is a partial moult involving most of the body-feathers, usually all the tail-feathers, usually all the innermost secondaries and coverts, most of the median coverts as a rule and some lesser coverts, but not the rest of the wings. The winter and summer plumages are distinct. The sexes are alike in plumage, but the wings of the females average slightly longer.

JUVENILE.—*Male and female.*—Similar in plumage to the juvenile Yellowshank but the upper-parts darker, the feathers black-brown rather than sepia, the mantle and scapulars with larger notches of pinkish or light buff; the sides of neck, lower throat and upper breast more broadly streaked and the streaks darker sepia or black-brown; the flanks more broadly barred and freckled with black-brown or sepia instead of barred ash-brown or sepia; innermost secondaries and coverts as the scapulars; the rest of the wing as in the juvenile Yellowshank. The Greater Yellowshank in all plumages is distinguished from the Yellowshank by its considerably larger size.

FIRST WINTER.—*Male and female.*—The juvenile body-feathers (not all the scapulars), the central, or two central, pairs of tail-feathers, usually all, or most of the innermost secondaries and coverts, some median and lesser coverts are moulted from September to January or February, but not the rest of the wings. After this moult the birds are like the adults but are distinguished by the worn juvenile tail-feathers and worn and faded sepia greater, median and lesser coverts, the median and lesser coverts being of a characteristic spear-like shape owing to the abrasion of the light buff notches and by the white or buff notches at the sides of the innermost median coverts, which are not deeply tipped white as in the adult (in the adult in winter the greater coverts are ash-brown, tipped white with a subterminal shading of black-brown and notched white and black-brown, the notches being usually most pronounced on the inner coverts, median coverts ash-brown with sepia shafts and faintly tipped white, some notched black-brown and white along their borders; lesser coverts dark ash-brown narrowly edged white).

FIRST SUMMER.—Apparently the first summer bird acquires only a little of the breeding plumage or moults entirely into winter plumage. The first summer birds are distinguished from the adult by the very worn juvenile wing-coverts as in first winter birds.

COMMON REDSHANK (*T. totanus*).

ADULTS.—Complete moult from July to January. From January to May there is a partial moult involving the body-feathers (not all

the scapulars), in some all the tail-feathers, some innermost secondaries and coverts, in some most of median and a few lesser coverts but not the rest of the wings. The winter and summer plumages are distinct. The sexes are alike in plumage, but the wings of the females average slightly longer.

N.B.—In some individuals the summer plumage is never completely acquired, many worn winter feathers being retained.

Two or three January specimens examined had the 2nd or 3rd primaries in quill.

JUVENILE.—*Male and female.*—Resemble the adult in winter plumage but the upper-parts are sepia, the feathers edged and notched at sides, and some tipped, light or cinnamon-buff, the scapulars notched at sides black-brown and light or cinnamon-buff (in the adult the upper-parts are dark ash-brown and the mantle and scapulars in some are tinged olive-brown and the feathers with light greyish-olive or faint white tips); upper tail-coverts as in the adult but some faintly washed buff; sides of neck, lower throat and breast light buff or white with pronounced streaks of sepia; feathers at sides of breast ashy-brown or sepia with light buff tips and irregular subterminal markings of sepia (in the adult the sides of neck are more or less uniform ash-brown, the feathers mostly narrowly streaked sepia; the lower throat and breast light ashy-brown or white, the feathers mostly with narrow median streaks of sepia; the feathers of the sides of the breast more or less uniform ash-brown with faint white tips and sepia shaft-streaks); tail-feathers as in the adult, but narrower and more pointed at the tip and more or less washed buff; innermost secondaries and coverts as scapulars, but the black-brown notches in some are more pronounced and form an incomplete bar or coalesce to form a border (in the adult the innermost secondaries and coverts are like the scapulars in some with obsolete bars and spots of sepia along the edge of the feathers); median coverts sepia, notched and edged light or cinnamon-buff and mostly with a subterminal shading and notching of black-brown (in the adult the median coverts are ash-brown narrowly tipped white with sepia shafts, the lower series with obsolete bars of black-brown at sides of the feathers); the lesser coverts sepia, the inner ones tipped white, instead of ash-brown faintly edged white as in the adult.

FIRST WINTER.—*Male and female.*—The juvenile body-feathers (not all the scapulars), in some the central or two central pairs of tail-feathers, sometimes all the tail-feathers, some innermost secondaries and coverts, most of the median and some lesser coverts are moulted from August to January, but not the rest of the wings. After this moult the birds are like the adults and only to be distinguished by the retained juvenile wing-coverts.

N.B.—In some individuals all or most of the median and lesser coverts are moulted, in others the juvenile innermost secondaries and coverts, median and lesser coverts are all retained.

FIRST SUMMER.—Apparently as the adult, but does not acquire so much summer plumage and is distinguished by the retained juvenile wing-coverts. Very few first summer birds were examined: two spring specimens were in full body-moult and the moult is apparently much as in the adult.

SPOTTED REDSHANK (*T. erythropus*).

ADULTS.—Complete moult from August to January. From March to May there is a partial moult involving the body-feathers (not all the scapulars), usually all the tail-feathers but sometimes the central

pair only, most of the innermost secondaries and coverts, some median and lesser coverts, but not the rest of the wings. In some individuals some winter feathers are retained on the upper- and under-parts and in some no lesser coverts, very few median coverts and no innermost secondaries are moulted, in others apparently the tail is not moulted. The winter and summer plumages are distinct. The sexes are alike in plumage, but the wings and bills of the females average longer.

JUVENILE.—*Male and female.*—Resembling the adult in winter plumage, but the feathers of the crown sepia faintly notched white at the sides, nape, the same but lighter; feathers of the mantle, scapulars and innermost secondaries sepia or black-brown, notched and tipped white (in the adult the upper-parts are ash-brown, the feathers of the nape, mantle, scapulars and innermost secondaries faintly tipped white, scapulars mostly notched black-brown or sepia and white); upper tail-coverts more closely barred black-brown or sepia than in the adult; cheeks, sides of neck and lower throat white streaked and spotted sepia; remaining under-parts white, the feathers with irregular horse-shoe or V-shaped markings and wavy bars of pale sepia (in the adult the cheeks are white, spotted dusky brown, the sides of the neck bordering throat, lower throat and upper breast white, more or less spotted or marked dusky brown, the feathers washed palest ashy-brown towards the tip; sides of breast more or less pale ashy-brown, the feathers tipped white; belly, vent and flanks white, the latter washed pale ashy-brown and irregularly barred or marked ash-brown or sepia; under tail-coverts white, a few with irregular markings and barrings of black-brown); tail-feathers narrower and more pointed at the tip than in the adult and sepia narrowly barred white, in some the bars obsolete, central tail-feathers in some pale sepia with incomplete bars of dark sepia and notched white (in the adult the tail-feathers are ash-brown narrowly edged and tipped white, with obsolete bars or notches of black-brown, outer tail-feathers more or less ash-brown, narrowly barred, notched or mottled white); median coverts sepia, notched and edged at sides light buff or white, in some of the coverts the white notches meeting at tip (in the adult the median coverts are ash-brown broadly tipped white with a subterminal sepia barring and more or less irregularly notched sepia and white, the innermost median and lesser coverts broadly fringed white); lesser coverts sepia tipped white as in the adult, but some of the lower ones notched white at sides.

FIRST WINTER.—*Male and female.*—The juvenile body-feathers (not all the scapulars), in some apparently the central pair of tail-feathers only, in others two or three central pairs, usually all the innermost secondaries and coverts and some median and lesser coverts are moulted from August to February, but not the rest of the wings. After this moult the birds resemble the adults and are only distinguished by the retained juvenile median coverts, especially by the much narrower white tip (in some absent) to the innermost median coverts and the worn sepia greater coverts and worn juvenile tail-feathers.

FIRST SUMMER.—As adult, only to be distinguished by the worn juvenile wing-coverts and tail-feathers when the latter are not all moulted. Moult as in the adult.

GREENSHANK (*T. nebularia*).

ADULTS.—Complete moult from June to January. From January to May there is a partial moult involving the body-feathers, tail-feathers, some innermost secondaries and coverts, some median and

lesser coverts, but not the rest of the wings. In some individuals the tail-feathers do not appear to be moulted in spring, in others the median and lesser coverts are not moulted, while some old winter feathers are sometimes retained on the mantle and scapulars. The winter and summer plumages are distinct. The sexes are alike in plumage but the wings and bills of the females average longer.

JUVENILE.—*Male and female.*—Like the adult in winter plumage, but has the feathers of the forehead, crown and nape sepia narrowly edged white or light buff at sides (in the adult the crown and nape are streaked sepia or ash-brown, the feathers broadly edged white at sides); mantle and scapulars sepia, the feathers edged and tipped at sides and some irregularly marked light or warm buff, lower scapulars and innermost secondaries ash-brown edged light buff with sepia shafts and notches on borders (in the adult the mantle, scapulars and innermost secondaries are ash-brown, the feathers with sepia shafts and edged and tipped white and more or less bordered, shaded or notched sepia round the edge of the feather, in some the feathers are mottled, freckled or irregularly marked white); upper breast and sides of breast white, the feathers mostly with faint terminal dusky lines and with triangular-shaped sepia spots or streaks most pronounced at the sides of breast (in the adult the centre of the upper breast is white, and the sides white, the feathers with sepia shaft-streaks and irregular barrings and mottlings of ash-brown); flanks white as in the adult, but slightly marked dusky; tail-feathers more pointed at tip than in the adult (in which the tips are more or less rounded), central pair of tail-feathers white, irregularly barred sepia and most of the feathers with subterminal V-shaped sepia marks and more or less edged light or warm buff (in the adult the central pair of tail-feathers are white with broad bars or frecklings, mottlings and shadings of ash-brown, in some, pale drab-grey with irregular wavy transverse bars and frecklings of ash-brown while the buff edges are absent); median coverts sepia edged light or warm buff, the innermost with incomplete and narrow light buff or white tips; lesser coverts dark sepia, some faintly edged light buff (in the adult the median and lesser coverts are sepia with black-brown shafts, without the buff edges, and with narrow white edges most pronounced on the innermost median coverts and absent from the distal lesser coverts which are dark sepia).

FIRST WINTER.—*Male and female.*—The juvenile body-feathers (not all the scapulars) in some two or three central pairs of tail-feathers, occasionally the central pair only and sometimes all the tail-feathers, some innermost secondaries and coverts and some median and lesser coverts are moulted from August to March, but not the rest of the wings. After this moult the birds are like the adults, and are only to be distinguished by the retained juvenile tail-feathers and worn and faded juvenile wing-coverts, especially the innermost median coverts which are less abraded.

FIRST SUMMER.—(Not examined.)

MARSH-SANDPIPER (*T. stagnatilis*).

ADULTS.—Complete moult from August to December. From January to May there is a partial moult involving the body-feathers (not all the scapulars), usually all the tail-feathers and all the innermost secondaries and coverts, usually a good many median coverts and sometimes some lesser coverts, but not the rest of the wings. In some specimens the tail-feathers do not appear to be moulted, in others some winter body-feathers are retained. The winter and summer

plumages are distinct. The sexes are alike, but the bills and wings of the females average longer.

N.B.—One specimen, Etawah, 25/11/65, was commencing to get summer feathers on the mantle.

JUVENILE.—(Not examined.)

FIRST WINTER.—*Male and female.*—The juvenile body-feathers (not all the scapulars), tail-feathers, apparently in some the central pair only, some median and a few lesser coverts are moulted from autumn to February, but not the rest of the wings. The first winter bird resembles the adult but is distinguished by the worn and faded sepia greater and median coverts, the latter when not too abraded having light buff or white edges, all but meeting at the tip of the feathers in the innermost median coverts (in the adult the greater and median coverts are ash-brown narrowly tipped white).

FIRST SUMMER.—Apparently as adult summer and only to be distinguished when the buff or creamy-white edges to the innermost median coverts are not too abraded. Moults evidently as in adult.

N.B.—One specimen 2nd March, with 2nd primary in quill and inner primaries worn, was in full moult into first summer plumage.

GREY-RUMPED SANDPIPER (*T. i. brevipes*).

ADULTS.—Complete moult from July to December. From February to May there is a partial moult involving the body-feathers (not all the scapulars), the tail-feathers, some innermost secondaries and coverts and some median and lesser coverts, but not the rest of the wings. The winter and summer plumages are distinct. The sexes are alike in plumage, but the wings of the females average longer.

N.B.—One ♂, Negros, February 27th, had the 2nd primary in quill and was in full body-moult into summer plumage.

JUVENILE.—*Male and female.*—Like the adult in winter, but the feathers of the mouse-grey upper-parts notched light buff or white at the sides, some feathers of mantle and scapulars with alternate notches of darker mouse-grey and light buff or white (in the adult the buff and white notches are absent and the feathers mostly have dark ash-grey fringes); upper tail-coverts tipped and irregularly barred light buff or white (in the adult the feathers of the back, rump and upper tail-coverts have ashy-white tips, the upper tail-coverts mostly with a subterminal darker mouse-grey border); upper breast clouded with pale mouse-grey as in the adult but the feathers usually indistinctly spotted and freckled dusky and faintly tipped light buff; sides of breast, and sides of belly, more or less uniform mouse-grey as in the adult, but the feathers notched at sides and faintly tipped light buff or white and irregularly barred the same; tail-feathers tipped light buff or white, the central ones with incomplete bars or notches and the outer ones with irregular markings or notchings of the same (in the adult the tail-feathers are uniform mouse-grey faintly bordered white); innermost secondaries and coverts as scapulars but notched white and darker mouse-grey on outer web only (in the adult they are mouse-grey faintly edged white); median coverts mouse-grey notched light buff or white and darker mouse-grey at sides and with white or light buff tips often incomplete (instead of uniform mouse-grey edged lighter mouse-grey as in the adult); lesser coverts as in the adult but lower ones usually faintly edged light buff or white.

FIRST WINTER.—*Male and female.*—The juvenile body-feathers (not all the scapulars or in some all the tail-coverts), central, or two central, pairs of tail-feathers (in some not the tail at all), some inner-

most secondaries and coverts and some median and lesser coverts are moulted from September to January, but not the rest of the wings. After this moult the birds are like the adults, and are only to be distinguished by the juvenile tail-feathers (when not moulted) and the retained juvenile wing-coverts.

FIRST SUMMER.—Like the adult, and only to be distinguished when the juvenile wing-coverts are not too much abraded. Moult as in the adult.

N.B.—Some individuals, however, do not acquire breeding plumage, *e.g.* ♀, Sermatta Island, June 19th, in worn winter plumage with only one or two summer feathers on the breast and in moult into winter plumage; ♂, same place and date, with no summer feathers and in full moult into winter plumage, 2nd and 3rd primaries in quill. Other instances might be quoted.

GENUS *Phalaropus*.

GREY PHALAROPE (*Ph. fulicarius*).

ADULTS.—Complete moult from July to December. From March to May there is a partial moult involving the body-feathers (not all the scapulars), tail-feathers, innermost secondaries and their coverts, apparently some median and lesser coverts, but not the rest of the wings. Very few spring birds in moult were examined and no wing-coverts were actually found in quill, but from their very fresh appearance in some specimens it is inferred they are sometimes moulted. The winter and summer plumages are distinct. The sexes are alike in winter plumage but distinct in summer plumage, the female being the more brilliant of the two; the male has the feathers of the crown not uniform dark sepia or brown-black as in the female, but bordered at the sides with pinkish-cinnamon giving a streaked appearance; the feathers of the mantle and scapulars in the male are more deeply bordered and tipped pinkish-buff and pinkish-cinnamon and with correspondingly smaller black-brown centres; lores dusky intermixed with white and auburn-tipped feathers; chin dusky black more or less intermixed with white; in the female the lores and chin are sooty-black, the feathers with white bases; in the male the white patch round the eye is much smaller than in the female and the chestnut-brown under-parts are more or less intermixed with white feathers, otherwise the under-parts are as in the female. The bill and wing of the female average longer than in the male.

N.B.—One ♂, May 22nd, Provincetown, Mass., had the 2nd primary of each wing in quill and was in full body-moult into summer plumage.

JUVENILE.—*Male and female.*—The upper-parts resemble the adult male in summer plumage but the under-parts are more like the adult in winter; the forehead is light buff; crown sooty-black, the feathers edged at sides pinkish-or cinnamon-buff, feathers of the centre of the nape with sooty-black, or dusky, tips, and ash-brown or ash-white bases and notched at sides pinkish or cinnamon-buff; sides of nape vinaceous-buff; mantle and scapulars black with a deep blue gloss, the feathers notched at sides and scapulars edged at sides warm or cinnamon-buff (instead of brown-black, feathers bordered and tipped pinkish-buff and pinkish cinnamon as in the adult male); central upper tail-coverts mouse-grey, edged at sides warm or cinnamon-buff (instead of pinkish-buff with broad central streaks of black-brown as in the adult); lores, cheeks, chin and throat white more or less washed pale vinaceous-buff deepening on foreneck (in the adult in winter there is

a small blackish-grey patch in front of the eye widening out behind eye, the rest of cheeks, chin and throat being white); sides of breast and flanks washed vinaceous-buff, the feathers with faint terminal dusky markings and central streaks of dusky; remaining under-parts white (in the adult the sides of breast are bluish-grey, the feathers tipped white, flanks white, some with the outer-webs more or less pale grey, and under tail-coverts white, some with central markings of pale grey, remaining under-parts white); tail-feathers narrower and more pointed at tip than in the adult and hair-brown or mouse-grey, the central ones black-brown, all usually with narrow borders of cinnamon-buff or white (in the adult in summer the central tail-feathers are sepia edged pinkish-buff, the remainder pale sepia or mouse-grey, in some with irregular marks of pinkish-buff or orange-cinnamon towards the tip); innermost secondaries and coverts as scapulars (in the adult in summer these feathers are sepia or black-brown, outer-webs with pinkish-cinnamon or pinkish-buff borders, and in winter deep mouse-grey, narrowly bordered white); greater coverts hair-brown (not mouse-grey as in adult) broadly tipped white; median coverts hair-brown or black-brown edged pinkish or cinnamon-buff or white; lesser coverts hair-brown faintly edged greyish-white (in the adult the median and lesser coverts are deep mouse-grey with a bluish-grey bloom with darker shafts and the median coverts narrowly edged white).

FIRST WINTER.—The juvenile body-feathers (not all the scapulars and in some not the back, rump or upper tail-coverts) are moulted in autumn, but apparently not the wings or tail-feathers. The birds are now like the adult, but are distinguished by the juvenile tail-feathers, innermost secondaries and coverts and wing-coverts.

FIRST SUMMER.—Like the adult in summer and only to be distinguished when the juvenile wing-coverts, especially the innermost median, are not too abraded. Moults as in the adult.

(To be continued.)