the head with blue reflections, the back and wings tinged with brown. The tufts over the nostrils are dull yellow; the anterior part of the head pale yellow, spotted with white; a band of white, with small dusky lines, passes from the angle of the mouth to the occiput; the back is transversely banded with white; the quills are brownish-black, spotted and tipped with white, the four longest primaries with seven spots on the outer, and five on the inner web, on most of the secondaries five on each web. The four middle tail-feathers are black, the next black, largely tipped with white, the rest white, but except the outer small feathers, with a black band at the base. The lower parts are white, excepting the sides, and lower wing-coverts, which are banded with black.

Length to end of tail 9 inches; bill along the ridge 1, along the edge of lower mandible $1\frac{3}{12}$; wing from flexure $4\frac{5}{12}$; tail $3\frac{1}{2}$; tarsus $\frac{9\frac{1}{2}}{12}$; second toe $\frac{4}{12}$, its claw $\frac{4\frac{1}{2}}{12}$; third toe $\frac{7}{12}$, its claw $\frac{6}{12}$; fourth toe $\frac{7\frac{1}{2}}{12}$, its claw $\frac{6}{12}$.

Adult Female.

The female, which is somewhat smaller, differs from the male in wanting the yellow patch on the head, the whole of that part being black, with small white spots.

RED-BELLIED WOODPECKER.

+PICUS CAROLINUS, *Linn.*

PLATE CCLXX.—MALE AND FEMALE.

Much of what I have said respecting the habits of several of our Spotted Woodpeckers applies to the present species, which differs, however, in the greater extent of its migration in the spring and summer months, when the greater number of those which return from the south to our Middle and Eastern Districts proceed considerably farther northward than the Hairy Woodpecker, although not so far as the Canadian. In winter I have found the Red-bellied Woodpecker the most abundant of all in the pine barrens of the Floridas, and especially on the plantations bordering the St. John's river, where on any day it would have been easy to procure half a hundred. Indeed, on this account, and from its well-known notes, the officers and men

Red-bellied Woodpecker.

1. Male. 2. Female.

of the United States' schooner *Spark*, as well as my assistants, always spoke of it by the name of *chaw-chaw*. Perhaps it partly obtained this name from the numbers of it cooked by the crew in the same manner as the dish known to sailors by the same name. It is, however, less common in the United States than the Hairy Woodpecker; but its range is as extensive, for I have found it from the Texas to the extremities of the British provinces of Nova Scotia, and as far inland as I have travelled. It appears, however, that it does not inhabit the Fur Countries, as no mention is made of it by Dr. RICHARDSON, in the *Fauna Boreali-Americana*. It is generally more confined to the interior of the forests, especially during the time of its breeding, than the Hairy Woodpecker, although in winter I have found it quite as easily approached. In autumn it frequently occurs in the corn-fields, where it takes its share of the grain, in common with the Hairy, the Downy, and other Woodpeckers. It is a lively and active bird, fond of rolling its tappings against the decayed top-branches of trees, often launching forth after passing insects, and feeding during winter on all such berries as it can procure. Its flight is strong and better sustained than that of the Yellow-bellied or Hairy Woodpeckers, and, like the Golden-winged species, it not unfrequently alights across the smaller branches of the trees, a habit which, I assure you, is oftener exhibited than has been supposed, by all our species of this interesting tribe of birds.

I never found its nest in Louisiana or South Carolina; but it is not uncommon to meet with it in Kentucky; and from Maryland to Nova Scotia these birds breed in all convenient places, usually more in the woods than out of them, although I have found their nests in orchards in Pennsylvania, generally not far from the junction of a branch with the trunk. The hole is bored in the ordinary manner. The eggs are seldom more than four in number; they measure one inch and half an eighth in length, three-fourths of an inch in breadth, are of an elliptical form, smooth, pure white, and translucent. In so far as I have been able to discover, this species produces only one brood in a season. The young remain in or about the nest until able to fly well.

The difference which this species exhibits in the sound of its notes has always been a matter of interest to me; they fall upon the ear as if the bird were suffering from a severe catarrh, and yet may be heard at times at the distance of a hundred yards. They resemble the syllable *chow* or *chaw*, quickly repeated during its movements, sometimes singly, but more usually doubled.

It feeds on all sorts of insects and larvæ which it can procure, and at certain periods its flesh is strongly impregnated with the odour of its food. When procured in any part of the woods that have been burnt, the feathers

of its lower parts are almost black, from the carbonaceous matter adhering to them; and generally in winter, at least in the Floridas, I have found its plumage more soiled than in summer. I have represented a male and a female, in their perfect spring plumage.

RED-BELLIED WOODPECKER, *Picus carolinus*, Wils. Amer. Orn., vol. i. p. 113.

PICUS CAROLINUS, Bonap. Syn., p. 45.

RED-BELLIED WOODPECKER, Nutt. Man., vol. i. p. 572.

RED-BELLIED WOODPECKER, *Picus carolinus*, Aud. Orn. Biog., vol. v. p. 169.

Male, $7\frac{3}{4}$, $15\frac{3}{4}$. Female, 8, $14\frac{1}{2}$.

Breeds from Kentucky in the West, and from Maryland to Nova Scotia and Canada. Abundant in winter in all the Southern States, from Carolina to Texas, and especially in the Floridas.

Adult Male.

Bill about the length of the head, nearly straight, being very slightly decurved or arched, strong, angular, compressed toward the tip, which is truncate and cuneate. Upper mandible with the dorsal line somewhat arched, the ridge very narrow, the sides sloping but convex, the lateral angle slight, near the ridge, the edges sharp, direct, overlapping. Lower mandible with the angle short and rather narrow, the crural outline concave, the dorsal line ascending and straight, the sides ascending and convex, the edges sharp and inflected, the tip narrow. Nostrils oblong, basal, concealed by the feathers, and placed about half-way between the ridge and the edge.

Head of moderate size, ovate; neck rather short; body full. Feet very short; tarsus very short, feathered anteriorly one-third down, in the rest of its extent covered with a few large scutella, compressed, with a series of small scutella internally behind; toes four; first toe small, fourth a little shorter than third, second and third united at the base; all scutellate above; claws large, much curved, compressed, laterally grooved, very acute.

Plumage full, soft, and blended. A tuft of reversed stiffish feathers on each side of the base of the upper mandible, concealing the nostrils; the feathers in the angle of the lower mandible also stiffish. Wings rather long; the first quill very small, being only an inch and four-twelfths long, six and a half twelfths shorter than the third, which is two-twelfths shorter than the fourth, the latter the longest, the fifth almost equal; secondaries rounded, and slightly emarginate. Tail of moderate length, cuneate, of twelve feathers, of which the lateral, which are rounded and entire, are only an inch and a twelfth long, the next also unworn, are ten and a half twelfths shorter than the middle, which with those on each side have the tip slit, the shaft terminating abruptly.

Bill bluish-grey, dusky toward the end. Iris bright red. Feet dusky

bluish-grey, claws dark brown. The upper part of the head and the hind neck are of a shining bright carmine; the back and scapulars transversely barred with black and white; the rump and tail-coverts with the white predominating; the smaller coverts, secondary coverts, and secondary quills, are also brownish-black, barred with white; the primary coverts unspotted; the primary quills patched or spotted with white at the base; the inner with several spots on their inner web, and all narrowly margined externally and tipped with white. The middle tail-feathers are black, with an oblique band of white occupying part of the outer web, and the greater portion of the inner, which is barred or spotted with black; the next three on each side are black, slightly tipped with white; the next also black, with seven external and three internal white indentations; the outer feathers black, tipped with white, but sometimes barred. The sides of the head and the lower parts are pale grey, the former and the chin yellowish and tinged with red, of which latter there is a shade over the breast, and a brighter tint on the abdomen; the axillar feathers dusky, barred with white, the lower tail-coverts yellowish-white, with a central dusky streak or zigzag mark.

Length to end of tail $9\frac{1}{4}$ inches, to end of wings $7\frac{3}{4}$, to end of claws $8\frac{1}{8}$; extent of wings $15\frac{3}{4}$; bill along the ridge $1\frac{1}{12}$, along the edge of lower mandible $1\frac{4}{12}$; wing from flexure $5\frac{1}{4}$; tail $3\frac{7}{12}$; tarsus $\frac{9\frac{1}{2}}{12}$; first toe $\frac{4}{12}$, its claw $\frac{3\frac{1}{2}}{12}$; second toe $\frac{6\frac{1}{2}}{12}$, its claw $\frac{5}{12}$; third toe $\frac{9}{12}$, its claw $\frac{6}{12}$; fourth toe $\frac{8}{12}$, its claw $\frac{5\frac{1}{2}}{12}$. Weight $2\frac{1}{2}$ oz.

Adult Female.

The female is somewhat inferior to the male in size, and differs in colour only in having the upper part of the head ash-grey, the feathers at the base of the upper mandible of a dull reddish-orange, the lower parts less tinged with red.

Length to end of tail 8 inches, to end of wings $7\frac{1}{4}$, to end of claws 8; extent of wings $14\frac{1}{2}$. Weight $2\frac{1}{2}$ oz.

In a specimen preserved in spirits, the roof of the mouth is nearly flat, with a median prominent line; the posterior aperture of the nares linear, 9 twelfths long, and margined with papillæ. The tongue is 2 inches long, nearly cylindrical for $1\frac{1}{2}$ inches, its terminal part tapering, slender, covered with a horny sheath, on each of the edges of which are 12 recurved acute bristles. The horns of the hyoid bone curve over the occiput, meet in the median line of the head, and reach as far forward as the vicinity of the right nostril, being, as usual, accompanied in their whole length by a muscle attached to the lower jaw. The œsophagus is $3\frac{1}{4}$ inches long, its average diameter 5 twelfths. The stomach is muscular, roundish, 10 twelfths long, and of the same breadth, its tendons circular and $\frac{1}{4}$ inch in diameter. Its contents are remains of insects and a large quantity of maize. The epi-

thelium is tough, longitudinally rugous, and of a reddish-brown colour. The intestine is $11\frac{3}{4}$ inches long, its average diameter $3\frac{1}{2}$ twelfths. The rectum, which is 4 twelfths in width, gradually enlarges to the cloaca, which is of an oblong form, with a diameter of half an inch. No cœca.

The trachea is $2\frac{1}{2}$ inches long, nearly of uniform diameter, only varying from $1\frac{1}{2}$ twelfths to 1 twelfth, a little flattened, its rings about 60. The bronchi are slender, of moderate length, with about 15 half rings. The lateral muscles, which are moderately strong, terminate on the last ring of the trachea, from which also come off the sterno-tracheal muscles; there are no inferior laryngeal.

THE RED-HEADED WOODPECKER.

+PICUS ERYTHROCEPHALUS, *Linn.*

PLATE CCLXXI.—MALE, FEMALE, AND YOUNG.

You have now, kind reader, under consideration a species of Woodpecker, the general habits of which are so well known in our United States, that, were I assured of your having traversed the woods of America, I should feel disposed to say little about them.

The *Red-heads* (by which name this species is usually designated) may be considered as residents of the United States, inasmuch as many of them remain in the Southern Districts during the whole winter, and breed there in summer. The greater number, however, pass to countries farther south. Their migration takes place under night, is commenced in the middle of September, and continues for a month or six weeks. They then fly very high above the trees, far apart, like a disbanded army, propelling themselves by reiterated flaps of the wings, at the end of each successive curve which they describe in their flight. The note which they emit at this time is different from the usual one, sharp and easily heard from the ground, although the birds may be out of sight. This note is continued, as if it were necessary for keeping the straggling party in good humour. At dawn of day, the whole alight on the tops of the dead trees about the plantations, and remain in search of food until the approach of sunset, when they again, one after another, mount the air, and continue their journey.

Red-bellied Woodpecker.

1. Male. 2. Female.

Audubon, John James. 1842. "Red-Bellied Woodpecker, *Picus carolinus*, Linn. [Pl. 270]." *The birds of America : from drawings made in the United States and their territories* 4, 270–274. <https://doi.org/10.5962/p.319385>.

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