TURNSTONE.

†STREPSILAS INTERPRES, *Linn.*

PLATE CCCXXIII.—ADULT IN SUMMER AND WINTER.

This bird, which, in its full vernal dress, is one of the most beautiful of its family, is found along the southern coasts of the United States during winter, from North Carolina to the mouth of the Sabine river, in considerable numbers, although perhaps as many travel at that season into Texas and Mexico, where I observed it on its journey eastward, from the beginning of April to the end of May, 1837. I procured many specimens in the course of my rambles along the shores of the Florida Keys, and in the neighbourhood of St. Augustine, and have met with it in May and June, as well as in September and October, in almost every part of our maritime shores, from Maine to Maryland. On the coast of Labrador I looked for it in vain, although Dr. RICHARDSON mentions their arrival at their breeding quarters on the shores of Hudson's Bay and the Arctic Sea up to the seventy-fifth parallel.

In spring the Turnstone is rarely met with in flocks exceeding five or six individuals, but often associates with other species, such as the Knot, the Red-backed Sandpiper, and the *Tringa subarquata*. Towards the end of autumn, however, they collect into large flocks, and so continue during the winter. I have never seen it on the margins of rivers or lakes, but always on the shores of the sea, although it prefers those of the extensive inlets so numerous on our coasts. At times it rambles to considerable distances from the beach, for I have found it on rocky islands thirty miles from the mainland; and on two occasions, whilst crossing the Atlantic, I saw several flocks near the Great Banks flying swiftly, and rather close to the water around the ships, after which they shot off toward the south-west, and in a few minutes were out of sight. It seems to be a hardy bird, for some of them remain in our Eastern Districts until severe frost prevails. Having seen some, in the beginning of June, and in superb plumage, on the high grounds of the Island of Grand Mannan, in the Bay of Fundy, I supposed that they bred there, although none of my party succeeded in discovering their nests. Indeed the young, as I have been informed, are obtained there, and along the coast of Maine, in the latter part of July.

I have found this bird much more shy when in company with other species than when in flocks by itself, when it appears to suspect no danger from man. Many instances of this seeming inattention have occurred to me, among others the following:—When I was on the island of Galveston in Texas, my friend EDWARD HARRIS, my son, and some others of our party, had shot four deer, which the sailors had brought to our little camp near the shore. Feeling myself rather fatigued, I did not return to the bushes with the rest, who went in search of more venison for our numerous crew, but proposed, with the assistance of one of the sailors, to skin the deer. After each animal was stripped of its hide, and deprived of its head and feet, which were thrown away, the sailor and I took it to the water and washed it. To my surprise, I observed four Turnstones directly in our way to the water. They merely ran to a little distance out of our course, and on our returning, came back immediately to the same place; this they did four different times, and, after we were done, they remained busily engaged in searching for food. None of them were more than fifteen or twenty yards distant, and I was delighted to see the ingenuity with which they turned over the oyster-shells, clods of mud, and other small bodies left exposed by the retiring tide. Whenever the object was not too large, the bird bent its legs to half their length, placed its bill beneath it, and with a sudden quick jerk of the head pushed it off, when it quickly picked up the food which was thus exposed to view, and walked deliberately to the next shell to perform the same operation. In several instances, when the clusters of oyster-shells or clods of mud were too heavy to be removed in the ordinary way, they would use not only the bill and head, but also the breast, pushing the object with all their strength, and reminding me of the labour which I have undergone in turning over a large turtle. Among the sea-weeds that had been cast on the shore, they used only the bill, tossing the garbage from side to side, with a dexterity extremely pleasant to behold. In this manner, I saw these four Turnstones examine almost every part of the shore along a space of from thirty to forty yards; after which I drove them away, that our hunters might not kill them on their return.

On another occasion, when in company with Mr. HARRIS, on the same island I witnessed a similar proceeding, several Turnstones being engaged in searching for food in precisely the same manner. At other times, and especially when in the neighbourhood of St. Augustine, in East Florida, I used to amuse myself with watching these birds on the racoon-oyster banks, using my glass for the purpose. I observed that they would search for such oysters as had been killed by the heat of the sun, and pick out their flesh precisely in the manner of our Common Oyster-catcher, *Hæmatopus palliatus*, while they would strike at such small bivalves as had thin shells, and

break them, as I afterwards ascertained by walking to the spot. While on the Florida coast, near Cape Sable, I shot one in the month of May, that had its stomach filled with those beautiful shells, which, on account of their resemblance to grains of rice, are commonly named rice-shells.

While this species remains in the United States, although its residence is protracted to many months, very few individuals are met with in as complete plumage as the one represented in my plate with the wings fully extended; for out of a vast number of specimens procured from the beginning of March to the end of May, or from August to May, I have scarcely found two to correspond precisely in their markings. For this reason, no doubt exists in my mind that this species, as well as the Knot and several others, loses its rich summer plumage soon after the breeding season, when the oldest become scarcely distinguishable from the young. In the spring months, however, I have observed that they gradually improve in beauty, and acquire full-coloured feathers in patches on the upper and lower surfaces of the body, in the same manner as the Knot, the Red-breasted Snipe, the Godwits, and several other species. According to Mr. HEWITSON, the eggs are four in number, rather suddenly pointed towards the smaller end, generally an inch and four and a half eighths in length, an inch and one and a half eighths in their greatest breadth, their ground-colour pale yellowish-green, marked with irregular patches and streaks of brownish-red, and a few lines of black.

My drawing of the Turnstones represented in the plate was made at Philadelphia, in the end of May 1824; and the beautiful specimen exhibited in the act of flying, I procured near Camden, while in the agreeable company of my talented friend LESUEUR, who, alas! is now no more.

I have not observed any remarkable difference in the plumage of the sexes at any season of the year. The males I have generally found to be somewhat larger than the females, which, as is well known, is not the case in the *Tringa* family.

My worthy friend, Dr. BACHMAN, once had a bird of this species alive. It had recovered from a slight wound in the wing, when he presented it to a lady, a friend of his and mine, who fed it on boiled rice, and bread soaked in milk, of both of which it was very fond. It continued in a state of captivity upwards of a year, but was at last killed by accident. It had become perfectly gentle, would eat from the hand of its kind mistress, frequently bathed in a basin placed near it for the purpose, and never attempted to escape, although left quite at liberty to do so.

TURNSTONE, *Tringa Interpres*, Wils. Amer. Orn., vol. vii. p. 32.

STREPSILAS INTERPRES, Bonap. Syn., p. 299.

STREPSILAS INTERPRES, *Turnstone*, Swains. and Rich. F. Bor. Amer., vol. ii. p. 371.

TURNSTONE OF SEA DOTTEREL, Nutt. Man., vol. ii. p. 30.

TURNSTONE, *Streptilas Interpres*, Aud. Orn. Biog., vol. iv. p. 31.

Male, 9, $18\frac{3}{4}$.

Not uncommon along the shores of the Southern States during winter, though the greater number remove much farther south. Breeds in high northern latitudes, Hudson's Bay, and shores of Arctic Seas. Never in the interior.

Adult Male in summer.

Bill a little shorter than the head, rather stout, compressed, tapering, straightish, being recurvate in a slight degree. Upper mandible with the dorsal line very slightly concave, the nasal groove extending to the middle, the sides beyond it sloping, the tip depressed and blunted. Nostrils sub-basal, linear-oblong, pervious. Lower mandible with the angle short, the dorsal line ascending and slightly convex, the sides convex, the edges sharp, the tip depressed and blunted.

Head small, ovate; eyes of moderate size. Neck of ordinary length. Body rather full. Feet of moderate length, stout; tibia bare at the lower part, and covered with reticulated scales; tarsus roundish, with numerous broad anterior scutella; toes four, the first very small, and placed higher than the rest; the anterior toes free to the base, distinctly margined on both edges, the inner toe a little shorter than the outer, the third or middle toe considerably longer; claws rather small, arcuate, compressed, blunted.

Plumage full, soft, rather dense, and glossy; feathers on the hind neck blended, and rather narrow, on the other parts ovate. Wings long, pointed, of moderate breadth; primaries with strong shafts, rather broad, narrowed towards the end, the first longest, the rest rapidly decreasing; outer secondaries incurved, obliquely rounded; inner elongated, one of them extending to half an inch of the tip of the longest primary, when the wing is closed. Tail rather short, slightly rounded, of twelve moderately broad, rounded feathers.

Bill black. Iris hazel. Feet deep orange-red, claws black. Plumage variegated with white, black, brown, and red. Upper parts of the head and nape streaked with black and reddish-white; a broad band of white crosses the forehead, passes over the eyes, and down the sides of the neck, the hind part of which is reddish-white, faintly mottled with dusky; a frontal band of black curves downwards before the eye, enclosing a white patch on the lore, and meeting another black band glossed with blue, which proceeds down the neck, from the base of the lower mandible, enlarging behind the ear, covering the whole anterior part of the neck, and passing along the shoulder over the scapulars; the throat, hind part of the back, the outer

scapulars, upper tail-coverts, and the under parts of the body and wings, white. Anterior smaller wing-coverts dusky, the rest bright chestnut or brownish-orange, as are the outer webs of the inner tertiaries; alula, primary coverts, outer secondary coverts and quills blackish-brown, their inner webs becoming white towards the base; a broad band of white extends across the wing, including the bases of the primary quills, excepting the outer four, and the ends of the secondary coverts; the shafts of the primaries white. Tail white, with a broad blackish-brown bar towards the end, broader in the middle, the tips white. A dusky band crosses the rump.

Length to end of tail 9 inches, to end of wings $8\frac{3}{8}$, to end of claws 10; extent of wings $18\frac{3}{8}$; along the ridge $9\frac{1}{12}$, along the edge of lower mandible $\frac{11}{12}$; wing from flexure $6\frac{1}{12}$; tail $2\frac{4}{12}$; tarsus $\frac{11}{12}$; hind toe $\frac{2\frac{1}{2}}{12}$, its claw $\frac{2}{12}$; middle toe $\frac{10}{12}$, its claw $\frac{3\frac{1}{2}}{12}$. Average weight of three specimens $3\frac{2}{3}$ oz.

Male in winter.

In winter, the throat, lower parts, middle of the back, upper tail-coverts, and band across the wing, are white, as in summer; the tail and quills are also similarly coloured, but the inner secondaries are destitute of red, of which there are no traces on the upper parts, they being of a dark greyish-brown colour, the feathers tipped or margined with paler; the outer edges of the outer scapulars, and some of the smaller wing-coverts, white; on the sides and fore part of the neck the feathers blackish, with white shafts.

Individuals vary much according to age and sex, as well in size as in colour, scarcely two in summer plumage being found exactly similar.

In a male bird, the tongue is $\frac{6\frac{1}{2}}{12}$ of an inch in length, sagittate and papillate at the base, concave above, narrow, and tapering to the point. The œsophagus is $4\frac{1}{4}$ inches long, inclines to the right, is rather narrow, and uniform, its diameter $\frac{4\frac{1}{2}}{12}$. Proventriculus oblong, $\frac{8}{12}$ in length, $\frac{5}{12}$ in breadth, its glandules cylindrical. Stomach oblong, $\frac{11}{12}$ in length, its cuticular lining very tough and hard, with broad longitudinal rugæ, its lateral muscles moderately large. Intestine $17\frac{1}{2}$ inches long, slender, varying in diameter from $\frac{2\frac{1}{2}}{12}$ to $\frac{1\frac{1}{2}}{12}$; rectum $1\frac{1}{2}$; cœca $1\frac{8}{12}$, $\frac{11}{12}$ in diameter at the commencement, $\frac{2}{12}$ toward the end; cloaca globular.

The trachea is $3\frac{1}{4}$ inches long, $2\frac{1}{12}$ in breadth, contracts to $\frac{1}{12}$; its lateral muscles very thin; sterno-tracheal slender, a pair of tracheali-bronchial muscles. The rings are very thin and unossified, 104 in number. Bronchi of moderate length, with about 15 half rings.

In a female, the œsophagus is $4\frac{1}{4}$ inches long, the intestine 18. In both individuals the stomach contained fragments of shells, and claws of very small crabs, which were also found in the intestine, although there more comminuted.

Turnstone. 1. Summer Plumage. 2. Winter.

C. P.

Drawn from Nature by J. J. Audubon, F.R.S.E.L.S.

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