a little compressed, $\frac{1}{2}$ inch long, $4\frac{1}{2}$ twelfths broad, its lateral muscles moderately developed, its tendons large, the epithelium tough, longitudinally rugous, and of a reddish-brown colour. It contains particles of quartz and small seeds. The intestine, of which the diameter is generally 1 twelfth, measures 10 inches in length; and the cœca, which come off at the distance of $\frac{3}{4}$ of an inch from the extremity, are 1 inch long, and three-fourths of a twelfth in their greatest diameter.

The trachea, which is 1 inch 10 twelfths long, passes to the right side of the neck, along with the œsophagus, as in all birds destitute of crop, is considerably flattened, and varies in diameter from $1\frac{1}{4}$ twelfths to $\frac{3}{4}$ twelfth. The rings are about 98; the bronchial half rings about 15. The lateral muscles are strong, and terminate in the sterno-tracheal, at the distance of a twelfth and a half from the inferior larynx, which is destitute of any other muscle than a slender continuation of the contractor, which goes to the first bronchial ring.

LITTLE SANDPIPER.

+TRINGA PUSILLA, *Wils.*

PLATE CCCXXXVII.—MALE AND FEMALE.

Before proceeding to detail my observations on the habits of this humble but extremely interesting bird, I deem it necessary to inform you that I disclaim as species belonging to the United States, or even to any part of North America, the following, which however are given in the Synopsis of the Prince of MUSIGNANO, and in the work of my generous friend THOMAS NUTTALL, viz., *Tringa platyrhincha* of TEMMINCK, *T. Temminckii* of LEISLER, *T. minuta* of LEISLER, *T. minuta* of TEMMINCK, and *T. pusilla* of BECHSTEIN. This opinion of mine I divulged to the Prince of MUSIGNANO in London, and he has on this account omitted these species in his recently published list. The extreme confusion that exists with respect to these species, and many others of the same tribe, is in my opinion caused solely by the anxiety of authors to discover or invent new species, often founding distinctions on slight differences in the length of bills, tarsi, or

Little Sandpiper.
1. Male. Summer plumage. 2. Female.

Drawn from Nature by J. L. Audubon. A. R. S. M. S.

Engraved by J. T. Bowen. Phil.

toes. Now, reader, if in such large species as the *Grus Americana*, for example, the young has been palmed on the world of science as a distinct species for nearly a century past, without any other kind of reason or proof than that obtained from mere dried skins, can we be surprised, that in birds so small as the present, opportunities should have occurred of committing errors. My opinion, which I do not present to you without due consideration, is, that we have in the United States only the diminutive species badly figured by WILSON, and almost as carelessly described by that wonderful man. To enter upon a long discussion as to the identity of the present bird with any of the small *Tringas* enumerated by European authors, would be to me quite as irksome as it would prove unprofitable to you, for there scarcely exists a single description of these birds sufficiently accurate to enable one to decide with certainty. All are as nearly as possible of the same size and colour, excepting in those deviations dependent upon age, and the different state of plumage. But in the most intimately allied species there are always marked differences in habits, and especially in the sound of the voice.

That this species is naturally disposed to seek alpine sections of the country for the purpose of reproduction, I obtained abundant proof whilst in Labrador, where I found it plentiful, and breeding on the moss-clad crests of the highest rocks, within short distances of the sea. There are means through which the experienced student of Nature may discover the hidden treasures of birds of this family, which to others would prove useless, and which I shall here point out. At all periods, excepting those at which they have nests containing eggs, or young so small and delicate as to require all the care of their parents, the flight of the present species usually resembles that of the Common Snipe, *Scolopax Wilsonii*; but when startled from the nest, or from any place in its immediate vicinity, it rises on wing, and moves off low over the ground with deeply incurved wings, and with a whirring motion of these organs, which, if as rapid as that of a Partridge, would appear quite similar; but, on such occasions, our bird moves slowly before you, and instead of uttering the note of independence, as it were, which it emits at other times while freely and fearlessly travelling, it gives out sounds weakened as if by grief or anxiety, for the purpose of inducing you to follow it. If on the ground, it acts in a similar manner, moves off slowly, and limping as if crippled, and this at times quite as much as if you had really come upon it while on its nest, or surprised it with its young. On all such occasions, reader, you ought to mark well the spot from which the bird has started, and, to assure yourself that your eye may not be deceived, throw your cap or hat at your feet to serve as a beacon, should

necessity afterwards call for it, to guide you around the place until you have discovered the nest which you are desirous of seeing.

Through these means, on the 20th of July, 1833, I after some search found the nest and eggs of this species. The birds flew, to use the words of my Journal, like Partridges, and not like Tringas. I marked them well, for both the female and the male flew from near the nest, and having left my fisher's hat where I then stood, I walked carefully over the moss hither and thither, until at last I came upon the spot. My pleasure would have been greatly augmented had any of my young companions been near; but the sailors who had rowed me to the foot of the rocks exhibited little more delight than they would have done on finding that their grog had been stopped. For my part, I felt as happy as when, on the same coast, I for the first time saw the nest and eggs of the Black-crowned Warbler. Four beautiful eggs, larger than I had expected to see produced by birds of so small a size, lay fairly beneath my eye as I knelt over them for several minutes in perfect ecstasy. The nest had been formed first, apparently, by the patting of the little creature's feet on the crisp moss, and in the slight hollow thus produced were laid a few blades of slender dry grass, bent in a circular manner, the internal diameter of the nest being two inches and a half, and its depth an inch and a quarter. The eggs, which were in shape just like those of the Spotted Sandpiper, *Totanus macularius*, measured seven and a half eighths of an inch in length, and three-fourths of an inch in breadth. Their ground colour was a rich cream-yellow tint, blotched and dotted with very dark umber, the markings larger and more numerous toward the broad end. They were placed with their pointed ends together, and were quite fresh. The nest lay under the lee of a small rock, exposed to all the heat the sun can afford in that country. No sooner had the little creatures felt assured that I had discovered their treasure, than they manifested a great increase of sorrow, flew from the top of one crag to another in quick succession, and emitted notes resembling the syllables *peep*, *peet*, which were by no means agreeable to my feelings, for I was truly sorry to rob them of their eggs, although impelled to do so by the love of science, which affords a convenient excuse for even worse acts.

This pair, however, would seem to have been late in depositing their eggs, for on the 4th of August my party and myself saw young birds almost as large as their parents, and agreeing in almost every point with the descriptions given of *Tringa Temminckii*. Many small flocks of these birds, consisting of old and young, were already departing from Labrador, and were seen on all our excursions. On the 11th of August, we also found adult and young in great numbers. But not a single newly hatched individual of this

species could I procure, while the young of the Ring Plover were very abundant.

I was surprised, whilst rambling along the shores of the Raritan river, between New Jersey and New York, to find a great number of Little Sandpipers, on the 29th of July, 1832, leading me to believe that they had probably bred on the elevated portions of Staten Island, although on the other hand, they might have been barren birds. I have been equally astonished to see large flocks of this species on the sand-bars along the shores of the Ohio, below the great Rapids, about the middle of August. According to Dr. RICHARDSON, it "breeds within the Arctic Circle, arriving as soon as the snow melts. It was observed on the 21st of May, on the swampy borders of small lakes in latitude 66°. The crops of those we killed were filled with a soft blackish earth, and some white worms." From the above quotation, I would be almost inclined to believe that, like some others of our birds, which are said to be found in northern Europe, this might be one.

The habits of the Little Sandpiper have been described with great care and accuracy by my friend THOMAS NUTTALL. His account is indeed so perfect that I shall here lay it before you in preference to one by myself. "The Peeps, as they have been called, are seen in the salt marshes around Boston, as early as the 8th of July; indeed, so seldom are they absent from us in the summer season, that they might be taken for denizens of the state, or the neighbouring countries. When they arrive, now and then accompanied by the semi-palmated species, the air is sometimes, as it were, clouded with their flocks. Companies led from place to place in quest of food, are seen whirling suddenly in circles, with a desultory flight, at a distance resembling a swarm of hiving bees, seeking out some object on which to settle. At this time, deceiving them by an imitation of their sharp and querulous whistle, the fowler approaches, and adds destruction to the confusion of their timorous and restless flight. Flocking together for common security, the fall of their companions, and their plaintive cry, excite so much sympathy among the harmless Peeps, that, forgetting their own safety, or not well perceiving the cause of the fatality which the gun spreads among them, they fall sometimes in such a state of confusion, as to be routed with but little effort, until the greedy sportsman is glutted with his timorous and infatuated game. When much disturbed, they, however, separate into small and wandering parties, and are now seen gleaning their fare of larvæ, worms, minute shell-fish, and insects, in the salt marshes, or on the muddy and sedgy shores of tide rivers and ponds. At such times they may be very nearly approached, betraying rather a heedless familiarity than a timorous mistrust of their most wily enemy; and even when rudely startled, they will often return to the same place in the next instant, to pursue their

lowly occupation of scraping in the mud, whence, probably, originated the contemptible appellation of *Humility*, by which they and some other small birds of similar habits have been distinguished. For the discovery of their food, their flexible and sensitive awl-like bills are thrust into the mire, marshy soil, or wet sand, in the manner of the Snipe and Woodcock, and in this way they discover and route from their hiding retreat, the larvæ and soft worms which form a principal part of their fare. At other times, they also give chase to insects, and pursue their calling with amusing alacrity. When at length startled, or about to join the company they have left, a sharp and monotonous whistle, like the word *peet*, or *peep*, is uttered, and they instantly take to wing, and course along with the company they had left. On seeing the larger marsh-birds feeding, as the Yellow-shanks and others, a whirling flock of the Peeps will descend among them, being generally allowed to feed in quiet; and at the approach of the sportsman, these little timorous rovers are ready to give the alarm. At first, a slender *peep* is heard, which is then followed by two or three others, and presently *peep*, *pip*, *pip' p' p*, murmurs in a lisping whistle through the quailing ranks, as they rise on the wing, and inevitably entice with them their larger but less watchful associates. Towards evening in fine weather, the marshes almost re-echo with the shrill but rather murmuring or lisping, subdued, and querulous call of *peet*, and then a repetition of *pé-dee*, *pé-dée*, *dée-dée*, which seems to be the collecting cry of the old birds calling together their brood, for, when assembled, the note changes into a confused murmur of *peet*, *peet*, attended by a short and suppressed whistle."

During my never-to-be-forgotten residence at Henderson, on the banks of the fair Ohio, I was in the habit of frequently seeing large flocks of these birds on the sandy shores of that river, during the autumnal months, and finding after awhile that they could easily be driven into a partridge net, I laid one accordingly on several occasions, when, by using gentle means, I induced many dozens of these tiny, fat, and delicious birds to enter and become prisoners. I clipped the wings of many of them, and turned them loose in my garden, for the purpose of studying their habits in this sort of half-confined state; but they were all soon destroyed by those most destructive pests, the Norway rats, which at that time infested all my premises.

I found these birds quite abundant on the whole coast of Florida, during winter, and I have no doubt that many remain with us all the year; indeed, it would not at all surprise me to hear that some of them actually breed in parts of the alpine districts of our Middle States. I have also found them equally numerous along the whole coast of the Gulf of Mexico, during my recent visit to Texas, when, late in April, some of them were still travelling

from farther south-west, and proceeding eastward. In South Carolina, they are frequent in spring and autumn, along the borders of the rice fields, and inland fresh-water ponds.

Since writing the above, Mr. TOWNSEND has furnished me with a list of some of the birds seen by him on the Rocky Mountains and the Columbia river, in which this species is mentioned as being found along the shores of that celebrated stream of the far west.

LITTLE SANDPIPER, *Tringa pusilla*, Wils. Amer. Orn., vol. v. p. 32.

TRINGA PUSILLA, Bonap. Syn. p. 319.

WILSON'S SANDPIPER, *Tringa Wilsonii*, Nutt. Man., vol. ii. p. 120.

LITTLE SANDPIPER, *Tringa pusilla*, Aud. Orn. Biog., vol. iv. p. 180.

Male, $5\frac{5}{8}$, $11\frac{3}{8}$.

Distributed along the whole coast from Texas eastward, and throughout all intermediate districts to the Columbia river. Breeds in Labrador and the Fur Countries. Found even along the lakes and ponds in the woods. Very abundant. Migratory.

Adult Male in summer plumage.

Bill shorter than the head, slender, straight, compressed, tapering from the base to near the point, which is slightly swelled, but with the tip rather acute. Upper mandible with the dorsal line straight, the ridge narrow and convex, a little broader and flattened towards the end, the sides sloping, with the nasal groove extending to near the tip. Lower mandible with the angle very long and narrow, the dorsal line straight, toward the end slightly declinate, the sides sloping a little outwards, with a groove extending to near the tip.

Head of moderate size, oblong, compressed. Neck rather short. Body compact, ovate. Feet of moderate length and slender; tibia bare a fourth of its length; tarsus of moderate length, compressed, scutellate before and behind, so as to leave scarcely any intermediate space; hind toe extremely small; anterior toes rather long, slender, free, slightly margined, and with numerous scutella above. Claws small, slightly arched, much compressed, that of the third toe larger, with the inner edge a little dilated.

Plumage soft, blended on the neck and lower parts, somewhat compact on the upper. Wings long, pointed; primaries tapering, obtuse, the first longest, the second very little shorter, the third rather more than one-eighth of an inch shorter than the second, the rest rapidly decreasing; outer secondaries incurved, obliquely rounded, inner straight, tapering, one of them reaching to two-twelfths of an inch of the end of the first quill. Tail of moderate length, doubly emarginate, that is with the middle feathers

considerably longer than the lateral, which are a little longer than the intermediate.

Bill greenish-dusky; feet pale dull yellowish-green; claws black; iris hazel. The feathers on the upper part of the head, and back, including the scapulars, smaller wing-coverts, and inner secondaries, black, broadly margined with light brownish-red; some of the scapulars margined externally with white, and the larger glossed with green. Alula, primary coverts, primary quills, and outer secondaries, greyish-black, all more or less narrowly tipped with greyish-white; secondary coverts largely tipped with the same; the primaries externally edged with the same toward the base, as are the outer secondaries in a fainter degree, the inner webs of some of the latter greyish-white towards the base. Rump and upper tail-coverts black. The two middle tail-feathers black, with pale brownish-red margins, the next feather on each side greyish-brown, margined with greyish-white, the outer four pale brownish-grey, very narrowly margined externally, more broadly round their points and along the inner edges with greyish-white; lateral tail-coverts with the outer web white. From the forehead over the eye to the occiput, a band of dull greyish-white, faintly streaked with dusky; loreal band brownish-dusky, that colour extending to the ear-coverts; the rest of the cheeks dull greyish-white, faintly streaked with dusky; the throat greyish-white; the sides and fore part of the neck of the same colour, faintly streaked with dusky; the rest of the lower parts, including the axillar and lateral rump feathers, pure white; the lower surface of the wing pale brownish-grey, the coverts margined and tipped with greyish-white; the shafts of the primaries white.

Length to end of tail $5\frac{5}{8}$ inches, to end of wings $5\frac{1}{8}$, to end of claws $5\frac{3}{4}$; extent of wings $11\frac{3}{8}$; from tip of bill to carpal joint 2; wing from flexure $3\frac{8}{12}$; tail $1\frac{8}{12}$; bill along the ridge $\frac{8\frac{1}{2}}{12}$; tarsus $\frac{8\frac{3}{4}}{12}$; hind toe and claw $\frac{2\frac{1}{2}}{12}$, middle toe and claw $\frac{10\frac{1}{2}}{12}$; outer toe and claw $\frac{8}{12}$; inner $\frac{1}{12}$ shorter.

Adult Female.

The female is somewhat larger than the male, but similarly coloured.

In autumn, previous to the moult, the upper parts are of a darker colour, on account of the wearing of the red margins of the feathers.

On the roof of the mouth is a series of papillæ, and the tongue is 7 twelfths long, extremely slender, and tapering to a fine point. The œsophagus is 2 inches and 11 twelfths long, 1 twelfth in diameter; the proventriculus enlarged to $2\frac{1}{2}$ twelfths, its length 5 twelfths. The stomach is a powerful gizzard, $\frac{1}{2}$ inch long, $4\frac{1}{2}$ twelfths broad; its lateral muscles large, as are the tendons. Its contents were coleopterous and other insects. The epithelium longitudinally rugous, and of a brownish-red colour. The intestine of

moderate length, measuring $9\frac{1}{2}$ inches, its average diameter $1\frac{1}{2}$ twelfths. The cœca $1\frac{1}{2}$ inches long, their greatest diameter $\frac{3}{4}$ of a twelfth.

The trachea is $1\frac{8}{12}$ inches long, flattened, unossified, $1\frac{1}{2}$ twelfths in diameter at the top, diminishing to 1 twelfth; the number of rings about 105. Bronchial half-rings 15.

SANDERLING SANDPIPER.

+ TRINGA ARENARIA, *Bonap.*

PLATE CCCXXXVIII.—MALE AND FEMALE.

Although the Sanderling extends its rambles along our Atlantic shores, from the eastern extremities of Maine to the southernmost Keys of the Floridas, it is only an autumnal and winter visiter. It arrives in the more Eastern Districts about the 1st of August, on the sea-shores of New York and New Jersey rarely before the 10th of August, and seldom reaches the extensive sand-banks of East Florida previous to the month of November. Along the whole of this extended coast, it is more or less abundant, sometimes appearing in bands composed of a few individuals, and at times in large flocks, but generally mingling with other species of small shore-birds. Thus I have seen Turnstones and Knots mixed with the Sanderlings, but in such cases they are perhaps wanderers, which have not succeeded in meeting with companions of their own species, that associate with the birds of which I here speak.

The Sanderling obtains its food principally by probing the moist sands of the sea-shores with its bill held in an oblique position. At every step it inserts this instrument with surprising quickness, to a greater or less depth, according to the softness of the sand, sometimes introducing it a quarter of an inch, sometimes to the base. The holes thus made may be seen on the borders of beaches, when the tide is fast receding, in rows of twenty, thirty, or more; in certain spots less numerous; for it appears that when a place proves unproductive of the food for which they are searching, they very soon take to their wings and remove to another, now and then in so hurried a manner that one might suppose they had been suddenly frightened. The contents of the stomach of those which I shot while thus occupied, were

Little Sandpiper.
1. Male. Summer plumage. 2. Female.

Drawn from Nature by J. L. Audubon. A. R. S. M. S.

Engraved by J. T. Bowen. Phil.

Audubon, John James. 1842. "Little Sandpiper, *Tringa pusilla*. Wils. [Pl. 337]."
The birds of America : from drawings made in the United States and their territories 5, 280–287. <https://doi.org/10.5962/p.319450>.

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