being 5 twelfths, at the distance of 1 inch 4 twelfths; the proventriculus, *b c*, 4 twelfths in breadth, its glands forming a belt 6 twelfths in breadth. The stomach, *c d e*, is rather large, roundish, compressed, 9 twelfths in length, 10 twelfths in breadth; the lateral muscles 5 twelfths in thickness; the epithelium remarkably dense, thick, with two broad granulated ridges on each side, forming grinding surfaces. The intestine, *e f g h*, is rather short, and wider than in the other species; its length $9\frac{1}{2}$ inches, its width at the upper part 4 twelfths, diminishing to 2 twelfths. Cæca 1 inch 4 twelfths long, cylindrical, 1 twelfth in width; their distance from the extremity $1\frac{1}{4}$ inches. Trachea $2\frac{1}{4}$ inches long, flattened, from 2 twelfths to 1 twelfth in breadth; its rings about 90, cartilaginous. Bronchial half rings about 15. Lateral and sterno-tracheal muscles strong; a single pair of inferior laryngeal muscles. Adult male.

AMERICAN RING PLOVER.

† *CHARADRIUS SEMIPALMATUS*, Bonap.

PLATE CCCXX.—MALE AND YOUNG.

I have had great pleasure in observing the migrations of this species, particularly in early spring, when great numbers enter the southern portions of the United States, on their way northward, where it is now well known to

American King Pigeon.

1. Adult Male. 2. Young in August.

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

Table Printed & Col'd by J. T. Bowen Phil.

breed. At that period, whatever attempts you may make to prevent their progress, they always endeavour to advance eastward; whereas in early autumn, they will rove in any direction, as if perfectly aware that the task imposed upon them by Nature having been accomplished, they may enjoy their leisure. Those which pass the winter within the limits of the Union, are mostly found along the shores of South Carolina, Georgia, the Floridas, and as far south as the mouths of the Mississippi; there being no doubt that many remain on the coasts of the Gulf of Mexico, as I have found some there early in spring, before observing those which I knew by their manners to be recently arrived. In the course of my late visit to Texas, I found them on Galveston Bay, where I observed some arriving from the westward.

During their polar migration, they proceed rather swiftly, for although they appear to touch at every place likely to afford them food and repose, they seldom tarry long. Thus, many individuals, which may have been in Texas early in April, not unfrequently reach Labrador by the middle of May; although some are a month later in reaching the ultimate point of their journey, which, according to Dr. RICHARDSON, sometimes extends as far as the Arctic Regions.

While with us in spring, they confine themselves to the sandy beaches of our sea-coasts, whether on the mainland or on islands; but when they arrive at their breeding stations, they abandon their maritime life, and resort to mountainous mossy lands, as is also the custom with several other species. On my way to Labrador, I saw some of them in almost every place at which we landed; and when I reached Nastasguan Bay, they were breeding in all the spots that were adapted for that purpose. Their manners formed an agreeable subject of observation to all the members of my party. As soon as one of us was noticed by a Ring Plover, it would at once stand still and become silent. If we did the same, it continued, and seldom failed to wear out our patience. If we advanced, it would lower itself and squat on the moss or bare rock until approached, when it would suddenly rise on its feet, droop its wings, depress its head, and run with great speed to a considerable distance, uttering all the while a low rolling and querulous cry, very pleasing to the ear. On being surprised when in charge of their young, they would open their wings to the full extent, and beat the ground with their extremities, as if unable to rise. If pursued, they allowed us to come within a few feet, then took flight, and attempted to decoy us away from their young, which lay so close that we very seldom discovered them, but which, on being traced, ran swiftly off, uttering a plaintive *peep* often repeated, that never failed to bring their parents to their aid. At Labrador, the Ring Plover begins to breed in the beginning of June. On the 2nd of July, I procured several young birds apparently about a week old; they ran

briskly to avoid us, and concealed themselves so closely by squatting, that it was very difficult to discover them even when only a few feet distant.

This species, like the Piping Plover, *Charadrius melodus*, forms no nest; and whilst the latter scoops a place in the sand for its eggs, the Ring Plover forms a similar cavity in the moss, in a place sheltered from the north winds, and exposed to the full rays of the sun, usually near the margins of small ponds formed by the melting of the snow, and surrounded by short grass. Some of these pools are found on the tops of the highest rocks of that country. The eggs, like those of all the family, are four, and placed with the small ends together. They are broad at the larger end, rather sharp at the other, measure $1\frac{1}{4}$ inches in length, $7\frac{1}{8}$ inches in their greatest breadth, are of a dull yellowish colour, irregularly blotched and spotted all over with dark brown of different tints. The young are at first of a yellowish-grey colour, prettily marked with darker spots on the shoulders and rump. As soon as their parents dismissed them, they were observed searching for food among the drying cod-fish, and along the beaches.

By the 12th of August, all the individuals which had bred in Labrador and Newfoundland, had taken their departure, migrating southward in company with the Phalaropes and Schintz's Sandpipers. Many of these birds proceed by our great lakes and rivers, they being sometimes seen in September along the shores of the Ohio and Mississippi. At this period they are now and then observed on ploughed lands, where they appear to procure different species of seeds and insects. Along the whole extent of our Atlantic shores they are numerous at this season, and great numbers are killed, the flesh of the young birds especially being juicy and tender.

The flight of this species is swift and sustained. They are fond of associating with other birds of similar habits, and are generally unsuspicious, so that they are easily approached. When on wing, their notes are sharp, sonorous, and frequently repeated. The young members of my party were often much amused by witnessing our pointer chasing the old birds, whilst the latter, as if perfectly aware of the superiority in speed, would seem to coax him on, and never failed to exhaust him by flying along the declivities of the rocks up to their summits, and afterwards plunging downwards to the base, thus forming great circuits over a limited range. Their food consists of small crustacea, mollusca, and the eggs of various marine animals. The old males are very pugnacious in the breeding season, and engage in obstinate conflicts, drooping their wings, and trailing their tail fully spread out in the manner of some species of Grouse on similar occasions.

AMERICAN RING PLOVER, *Charadrius semipalmatus*, Swains. and Rich. F. Bor. Amer. vol. ii. p. 367.

SEMIPALMATED RINGED PLOVER, Nutt. Man., vol. ii. p. 21.

AMERICAN RINGED PLOVER, *Charadrius semipalmatus*, Aud. Orn. Biog., vol. iv. p. 256; vol. v. p. 579.

Male, $7\frac{1}{4}$, 14.

From Texas to the Arctic Regions, after passing through the interior, as well as along the Atlantic shores. Breeds in Labrador and the Fur Countries. Many spend the winter in the Floridas.

Adult Male.

Bill shorter than the head, straight, somewhat cylindrical. Upper mandible with the dorsal line straight for half its length, then bulging a little and curving to the tip, which is rather acute, the sides sloping at the base, convex towards the end, where the edges are sharp and direct. Nasal groove extended along more than half of the mandible; nostrils basal, linear, in the lower part of the membrane, open, and pervious. Lower mandible with the angle short, narrow, but rounded, the sides at the base sloping outwards and flat, the dorsal line ascending and slightly convex, the edges sharp and involute towards the tip.

Head of moderate size, oblong, rather compressed, the forehead rounded. Eyes large. Neck rather short. Body ovate, compact. Wings long. Feet slender, of moderate length; tibia bare a considerable way above the joint; tarsus of moderate length, rather compressed, covered all round with sub-hexagonal scales; toes slender; the hind toe wanting; third or middle toe much longer than the outer, which exceeds the inner; all with numerous scutella; the outer connected with the middle toe by a web, which extends to the second joint of the former and runs along the edge of the latter, forming a broad margin, the outer toe also connected with the middle toe by a short membrane which does not extend more than half-way to the second joint. Claws small, slightly arched, compressed, rather blunt, that of the middle toe having the inner edge dilated.

Plumage soft and blended; the feathers rounded, those of the back somewhat distinct. Wings long and pointed; primary quills tapering, the first longest, the second a little shorter, the rest rapidly graduated; outer secondaries incurved and obliquely emarginate; the inner tapering and elongated, one of them reaching to half an inch from the tip of the longest primary. Tail of moderate length, considerably rounded, of twelve feathers.

Bill black, its basal half rich orange. Iris deep hazel. Feet pale flesh-colour, claws black. Forehead, loreal space, and a band passing below the eye and including the auriculars, black; the rest of the head above and the nape, light greyish-brown, tinged with dull olive. A broad band between

the eyes, continuous with a streak over them, a small band on the lower eyelid, and a ring on the middle of the neck, enlarged in front so as to cover the throat, pure white. A broad ring of black on the lower part of the neck, broader in front. All the lower parts and the sides of the rump white. The upper parts of the same greyish-brown as the head, the scapulars and elongated inner secondaries more decidedly glossed with olive. Alula, primary coverts, and primary quills dusky, the coverts tipped with white, the outer primaries, with a portion of the shaft, white, the inner with an elongated patch of white on the outer web in addition, and the proximal part of the inner web of the same colour. Secondary quills with a narrow terminal margin of white, which is much enlarged on (or in some specimens covers) the two next to the elongated ones, which are externally margined with brownish-white. Tail pale greyish-brown, brownish-black towards the end, the tip white, enlarging on the outer, and including the whole of the lateral feather, and the outer web of the next.

Length to end of tail $7\frac{1}{4}$ inches, to end of wings 8, to end of claws 7; extent of wings 14; bill along the ridge $\frac{1}{2}$, along the edge of lower mandible $\frac{7}{12}$; wing from flexure 5, tail $2\frac{1}{2}$; tarsus $1\frac{1}{2}$, middle toe and claw $\frac{10}{12}$. Weight $1\frac{1}{2}$ oz.

The female is a little larger than the male, but similar, although the black markings are tinged with brown.

Young in September.

Bill dusky, at the base yellowish. Feet pale yellowish-green, claws dusky. Upper parts lighter than in the adult, the feathers margined with pale yellowish-grey; no black band on the forehead, or on the neck, but a patch of dusky on the side of the neck and breast; the band from the bill to behind the eye greyish-brown.

This species exhibits a very intimate affinity to *Charadrius Hiaticula* of Europe, which is precisely similar in form, proportions, and colouring, but considerably larger, and having the feet orange-coloured, with the webs much less extended.

Width of mouth 2 twelfths. Tongue 4 twelfths long, very concave above, rounded at the point. Œsophagus 2 inches 8 twelfths long, 3 twelfths in breadth. Proventriculus $3\frac{1}{2}$ twelfths broad, its glandular belt 6 twelfths. Stomach oblong, 9 twelfths by 7 twelfths; its muscles large; the epithelium with numerous rugæ. Intestine 14 inches long, 2 twelfths in breadth. Cæca 1 inch from the extremity, $1\frac{1}{2}$ inches long, $1\frac{1}{2}$ twelfths in width. Trachea 2 inches long, $1\frac{1}{2}$ twelfths in breadth; its rings about 70, very feeble. Bronchial half rings about 15. The muscles as in the last species.

In the genus *Charadrius*, the œsophagus is thus narrow or of moderate width, without crop or remarkable dilatation. The proventriculus is large,

bulbiform, with very numerous small cylindrical glands disposed in a broad belt. The stomach is roundish or broadly elliptical, moderately compressed; its lateral muscles large, as are the tendons; the lower muscle prominent and thin; the upper of considerable size; the epithelium dense, and longitudinally rugous. The intestine is rather long, and of moderate width; the rectum considerably dilated; the cœca long, very slender, cylindrical, contracted at the base, with the tip blunt. The lobes of the liver are very unequal, the right being largest; there is no gall-bladder. The trachea is rather wide, flattened; its rings very numerous, narrow, cartilaginous, the lower ring large; two dimidiate rings. Bronchi rather wide, of from 15 to 20 half rings. Lateral muscles moderate, sending a slip to the last dimidiate ring.

THE PIPING PLOVER.

+*CHARADRIUS MELODUS*, *Ord.*

PLATE CCCXXI.—MALE AND FEMALE.

During the spring and summer months, this pretty little Plover is found on the sandy beaches of our extensive coasts, from the southern point of the Floridas to the confines of Maine. As you proceed towards Labrador, you find it in every suitable place, as far as the Magdeleine Islands, on the sands of which I saw many that were paired and had eggs on the 11th of June, 1833. It breeds on all parts of the eastern coast of the United States, wherever the locality is adapted to its habits. On the 3d of May, this bird was found with eggs on the Keys of the Floridas; about a month later, you may meet with it in the States of Maryland, New Jersey, and New York. Those which leave the south at the approach of spring, return to it about October; and during the whole winter you may find them on the sandy beaches, from South Carolina to the western coast of the Floridas. The species, therefore, may be considered as resident with us.

While migrating eastward, the Piping Plovers proceed in pairs; and should one of these on its way find a convenient place for breeding, and remain there, several others are often induced to take up their abode in the neighbourhood. In autumn, they go in flocks of twenty or thirty individuals,

American King Pigeon.

1. Adult Male. 2. Young in August.

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

Table Printed & Col'd by J. T. Bowen Phil.

Audubon, John James. 1842. "American Ring Plover, *Charadrius semipalmatus*, Bonap. [Pl. 320]." *The birds of America : from drawings made in the United States and their territories* 5, 218–223.

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