

COMMON OR ARCTIC PUFFIN.

MORMON ARCTICUS, *Linn.*

PLATE CCCCLIV.—MALE AND FEMALE.

The Sea Parrot, as this bird is usually called on the eastern coasts of the United States, as well as by the fishermen of Newfoundland and Labrador, sometimes proceeds as far south as the entrance of the river Savannah in Georgia, where I saw a good number in the winter of 1831-32. It is by no means, however, common with this species to extend its southward migrations so far, and I suspect it does so only in very severe weather. It is never plentiful off Long Island, but becomes more abundant the farther you proceed eastward, until you reach the entrance to the Bay of Fundy, where it is quite common, and on the islands of which many breed, although not one perhaps now for a hundred that bred there twenty years ago. Those which proceed farther north leave the United States about the middle of April, and move along the coast, none ever crossing over the land to any extent. On my voyage to Labrador I observed Puffins every day; but although we reached that country in the early part of June, none had then begun to breed. As we approached the shores of that inhospitable land, we every now and then saw them around the vessel, now floating on the swelling wave, now disappearing under the bow, diving with the swiftness of thought, and sometimes rising on wing and flying swiftly, but low, over the sea. The nearer we approached the coast the more abundant did we find the Puffins, and sometimes they were so numerous as actually to cover the water to the extent of half an acre or more. At first we paid little attention to them, but as soon as I became aware that they had begun to breed, I commenced an investigation, of which I now proceed to lay before you the result.

The first breeding place which I and my party visited was a small island, a few acres in extent, and pleasant to the eye, on account of the thick growth of green grass with which it was covered. The shores were exceedingly rugged, the sea ran high, and it required all the good management of our captain to effect a safe landing, which, however, was at length accomplished at a propitious moment, when, borne on the summit of a great wave, we reached the first rocks, leaped out in an instant, and held our boat, while



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Male, Female

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

Lith. Printed & Col'd by J. T. Bowen, Philad'a



the angry waters rolled back and left it on the land. After securing the boat, we reached with a few steps the green sward, and directly before us found abundance of Puffins. Some already alarmed flew past us with the speed of an arrow, others stood erect at the entrance of their burrows, while some more timid withdrew within their holes as we advanced towards them. In the course of half an hour we obtained a good number. The poor things seemed not at all aware of the effect of guns, for they would fly straight towards us as often as in any other direction; but after awhile they became more knowing, and avoided us with more care. We procured some eggs, and as no young ones were yet to be found, we went off satisfied. The soil was so light, and so easily dug, that many of the burrows extended to the depth of five or six feet, although not more than a few inches below the surface, and some of the poor birds underwent a temporary imprisonment in consequence of the ground giving way under our weight. The whole island was perforated like a rabbit-warren, and every hole had its entrance placed due south, a circumstance which allowed the birds to emerge in our sight almost all at once, presenting a spectacle highly gratifying to us all. Our visit to this island took place on the 28th of June, 1833.

On the 12th of August, our Captain, my friends GEORGE SHATTUCK and WILLIAM INGALLS, with four sailors, and another boat in company, went on a visit to "Perroket Island," distant about two miles from the harbour of Bras d'Or. The place is known to all the cod-fishers, and is celebrated for the number of Puffins that annually breed there. As we rowed towards it, although we found the water literally covered with thousands of these birds, the number that flew over and around the green island seemed much greater, insomuch that one might have imagined half the Puffins in the world had assembled there. This far-famed isle is of considerable extent, its shores are guarded by numberless blocks of rock, and within a few yards of it the water is several fathoms in depth. The ground rises in the form of an amphitheatre to the height of about seventy feet, the greatest length being from north to south, and its southern extremity fronting the Strait of Belle-isle. For every burrow in the island previously visited by us there seemed to be a hundred here, on every crag or stone stood a Puffin, at the entrance of each hole another, and yet the sea was covered and the air filled by them. I had two double-barrelled guns and two sailors to assist me; and I shot for one hour by my watch, always firing at a single bird on wing. How many Puffins I killed in that time I take the liberty of leaving you to guess.

The burrows were all inhabited by young birds, of different ages and sizes, and clouds of Puffins flew over our heads, each individual holding a "lint" by the head. This fish, which measures four or five inches in length,

and is of a very slender form, with a beautiful silvery hue, existed in vast shoals in the deep water around the island. The speed with which the birds flew made the fish incline by the side of their neck. While flying the Puffins emitted a loud croaking noise, but they never dropped the fish, and many of them, when brought down by a shot, still held their prey fast. I observed with concern the extraordinary affection manifested by these birds towards each other; for whenever one fell dead or wounded on the water, its mate or a stranger immediately alighted by its side, swam around it, pushed it with its bill as if to urge it to fly or dive, and seldom would leave it until an oar was raised to knock it on the head, when at last, aware of the danger, it would plunge below in an instant. Those which fell wounded immediately ran with speed to some hole, and dived into it, on which no further effort was made to secure them. Those which happened to be caught alive in the hand bit most severely, and scratched with their claws at such a rate that we were glad to let them escape. The burrows here communicated in various ways with each other, so that the whole island was perforated as if by a multitude of subterranean labyrinths, over which one could not run without the risk of falling at almost every step. The voices of the young sounded beneath our feet like voices from the grave, and the stench was extremely disagreeable, so that as soon as our boats were filled with birds we were glad to get away.

During the whole of our visit, the birds never left the place, but constantly attended to their avocations. Here one would rise from beneath our feet, there, within a few yards of us, another would alight with a fish, and dive into its burrow, or feed the young that stood waiting at the entrance. The young birds were far from being friendly towards each other, and those which we carried with us kept continually fighting so long as we kept them alive. They used their yet extremely small and slender bills with great courage and pertinacity, and their cries resembled the wailings of young whelps. The smaller individuals were fed by the parents by regurgitation, or received little pieces of fish which were placed in their mouths; the larger picked up the fish that were dropped before them; but almost all of them seemed to crawl to the entrance of the holes for the purpose of being fed. In all the burrows that communicated with others, a round place was scooped out on one side of the avenue, in the form of an oven; while in those which were single, this oven-like place was found at the end, and was larger than the corridor. All the passages were flattish above, and rounded beneath, as well as on the sides. In many instances we found two birds sitting each on its egg in the same hole.

The Puffin never lays more than one egg, unless the first may have been destroyed or taken away; nor does it raise more than a single young one in

the season. The time of incubation is probably from twenty-five to twenty-eight days, although I have not been able to ascertain the precise period. Both birds work in digging the hole, using their bills and feet; they also sit alternately on their egg, although the female engages more industriously in this occupation, while the male labours harder at the burrow. The egg is pure white when first deposited, but soon becomes soiled by the earth, as no nest is formed for its reception. It generally measures two and a half inches by one and three-fourths, but varies in size according to the age of the bird, as well as in shape, some being considerably more rounded at the smaller end than others. When boiled, the white is of a livid-blue colour. The captain and myself were the only persons of our party who tried to eat some. The eggs are certainly very bad, and are never collected by "The Eggers." The flesh of the birds is very dark, tough, and so fishy as to be eatable only in cases of great want. Two Italians who had come to Labrador to purchase cod-fish, and were short of provisions, fed upon Puffins daily, to the great amusement of our party. The fishermen at times, when bait is scarce along the coast, destroy a great number of these birds, which they skin like rabbits, and then cut the flesh into slices.

The flight of the Puffin is firm, generally direct, now and then pretty well sustained. It is able to rise at once from the water or the land, although at times it runs on both before taking to wing. This depends much on necessity, for if pushed it flies at once from the ground, or plunges under the surface of the water. There they swim, with the wings partially opened, at a small depth, passing along in the manner of Divers; and by this means they catch their prey; but at other times they dive to the bottom, many fathoms deep, for shell-fish and other objects.

During the love season, the males chase each other in the air, on the water, or beneath its surface, with so much quickness, as to resemble the ricochets of a cannon-ball. Having kept several for about a week, I threw them overboard in the harbour where we were at anchor, and where the water was beautifully clear. On leaving my gloved hand, they plunged through the air, entered the water, and swam off, assisting themselves by their wings to the distance of from fifty to a hundred yards. On coming up, they washed their plumage for a long time, and then dived in search of food. While on board, they ran about from the dark towards the light, keeping themselves erect, and moving with great briskness, until at times close to my feet, when they would watch my motions like Hawks, and if I happened to look towards them, would instantly make for some hiding-place. They fed freely and were agreeable pets, only that they emitted an unpleasant grunting noise, and ran about incessantly during the night, when each footstep could be counted. When on rocky shores, or islands with

large stones, I observed that the Puffins often flew from one crag or stone to another, alighting with ease, and then standing erect.

The young, while yet covered with down, are black, with a white patch on the belly. Their bills do not acquire much of the form which they ultimately have for several weeks; nor do they assume their perfect shape for years. I have examined many hundred individuals, among which I have found great differences in the size and form of the bill. In fact, the existence of this diversity has induced many persons to think that we have several species of Puffin on our coasts; but, after having examined many specimens in Europe, I am decidedly of opinion that this species is the same that occurs in both continents, and that we have only one more at all common on our eastern coasts. The sexes differ in no perceptible degree, only that the males are somewhat larger. When two years old they may be considered of their full size, although the bill continues to grow and acquires furrows, until it becomes as you see it in the plate.

MORMON ARCTICUS, Bonap. Syn., p. 430.

PUFFIN OR COULTERNEE, Nutt. Man., vol. ii. p. 542.

PUFFIN, *Mormon arcticus*, Aud. Orn. Biog., vol. iii. p. 105.

Male, $11\frac{3}{4}$, 23.

Ranges southward along the coast in winter, at times as far as Georgia. Less rare from Long Island eastward, and becomes plentiful in the Bay of Fundy. Breeds in vast numbers in burrows, on the islands off Labrador.

Adult Male in summer.

Bill about the length of the head, nearly as high as long, exceedingly compressed, at the base as high as the head, obliquely furrowed on the sides. Upper mandible with a horny rim along the basal margin, its dorsal line curved from the base, the ridge very narrow but rounded, the sides rapidly sloped, and marked with three curved oblique grooves, the edges obtuse, their outline nearly straight, the tip deflected, very narrow but obtuse. Between the basal rim and the first groove is a triangular flat space analogous to the nasal groove, in the lower part of which, close to the edge of the bill, is the linear direct nostril. Lower mandible with the angle very narrow, and so placed that the base of the bill is inflected beyond the perpendicular, the dorsal line a little convex at first, towards the end straight, the ridge narrow, broader about the middle, the sides nearly flat, grooved and ridged as in the upper, the edges strong, the tip very narrow. The gap extends downwards a little beyond the base of the bill, and is furnished with a soft corrugated extensible membrane.

Head large, oblong, anteriorly compressed. Eye rather small, with bare

orbits; over the upper eyelid an oblong, nearly erect, horny body, along the lower a more elongated one of the same nature. Neck short and thick. Body full and rounded. Wings short. Feet short, rather stout; tibia bare for a short way above the joint. Tarsus very short, little compressed, anteriorly with a series of small scutella, the rest with reticular angular scales. Hind toe wanting. Toes of moderate length, rather slender, scutellate above, connected by reticulated entire membranes which project a little, the third and fourth toes about equal, the second considerably shorter, with a narrow marginal web. Claws strong, of moderate length, compressed, slightly arched; that of the inner toe much curved and acute.

Plumage close, blended, soft, very short on the head. Wings curved, short, narrow, acute. Primary quills narrow, incurved, first longest, second a little shorter, the rest rapidly graduated. Secondaries very short, small and rounded. Tail very short, slightly rounded, of sixteen narrow rounded feathers.

Bill with the basal rim and first ridge of upper mandible dull yellow, the intervening space greyish-blue, basal margin of lower bright red, first ridge and intervening space as in the upper, the rest bright red (carmine tinged with vermilion); membrane at the base of the gap gamboge-yellow, inside of mouth and tongue yellow. Edge of eyelids vermilion, horny appendages of eyelids greyish-blue. Iris light blue. Feet vermilion, claws black. Throat and sides of the head white, that colour extending over the eye, and passing in a narrow line behind the occiput. Upper part of the head blackish-grey, tinged with olive, paler anteriorly. The middle of the neck all round, and all the upper parts of the body, deep black, with blue reflections, the quills tinged with brown. The whole under surface white, except the upper part of the sides, which are dusky.

Length to end of tail $11\frac{3}{4}$ inches, to end of claws $13\frac{1}{2}$, extent of wings 23; bill along the back 2, along the edge of upper mandible $1\frac{1}{4}$; depth of bill at base $1\frac{5}{8}$, its greatest diameter $\frac{5}{8}$; tarsus 1, middle toe $1\frac{1}{2}$, its claw $\frac{1}{2}$. Weight $\frac{3}{4}$ lb.

Female.

The female is precisely similar to the male, but of somewhat smaller size.



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Male, Female

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

Lith. Printed & Col'd by J. T. Bowen, Philad'a



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