

wing from flexure 17; tail 6; the feet extend beyond the tail  $3\frac{1}{2}$  inches. Weight 4 lbs. 1 oz.

Adult Female.

The female, which is much smaller, has the same colours, the black parts being tinged with brown, and the tints generally duller.

Length  $23\frac{1}{2}$  inches, extent of wings 4 feet 4 inches; the feet extend beyond the tail  $2\frac{1}{2}$  inches. Weight 2 lbs. 9 oz.

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## BRENT GOOSE.

†ANSER BERNICLA, *Linn.*

PLATE CCCLXXIX.—MALE AND FEMALE.

The extent of the migrations of this species remains as yet unknown. Its progress along our Atlantic shores in October, November, and December, is varied, and in a great measure uncertain, it being apparently induced to tarry or to proceed by the changes which may happen in the temperature. It in fact appears to remain along the coast until forced away by the intensity of the cold, when it resumes its flight, and removes to countries beyond the southern limits of the United States.

The Brent Goose may be considered as a salt-water bird, for it never ascends our rivers beyond the influence of the tides, nor is found on inland lakes or ponds, unless it be wounded, and happen to alight accidentally in such places. To this natural predilection for salt-water may be attributed its habit of flying round the projections of capes and headlands: it very seldom passing directly over a neck of land, unless suddenly surprised and alarmed by the gunner.

This species has never been seen by my friend Dr. BACHMAN in South Carolina. I never observed any on the lakes or shores about the mouths of the Mississippi, nor any where in the course of my route to Texas. While I was in that country, I did not find any person who could give me sufficient reasons for believing that it ever tarries there. Where it may go in winter is therefore to me unknown.

The flesh of this bird I consider as excellent food. The young in autumn,



or about the time of their first appearance on our eastern coast, Massachusetts for example, are tender, juicy, and fat; and are as well known to the epicures of Boston as the more celebrated Canvass-back is to those of Baltimore.

Its flight resembles that of our other Geese, being in ordinary circumstances rather slow and sedate. As to its cry, although I have often seen hundreds of individuals at a time, I have not been able to tune my ears so as to liken its cacklings to the sounds produced by "a pack of hounds in full cry," as alleged by WILSON. The Brent Goose is a shy bird, not easily approached; it swims well, and when wounded can dive with great expertness, as I have more than once witnessed. Its food consists of marine plants, which I have often found in its gizzard, along with coarse gravel and fragments of shells, which latter were so thick as to lead me to think that the bird had not broken them for the purpose of getting at the animal. In walking it moves with lighter and quicker steps than even the Bernacle Goose, *Anser leucopsis*. It is very easily tamed, and when thus subjugated eats any kind of grain, and crops the grass well with its head slightly inclined to one side. It has been known to produce young in captivity.

Of its manner of breeding I am ignorant; and all that has been stated on the subject is, that it breeds in great numbers in northern latitudes, for example, on the coasts and islands of Hudson's Bay and the Arctic Sea, and that it lays white eggs.

I have represented a pair which were shot in spring, when their migratory movements are more regular than in autumn.

"A few years ago," Mr. THOMAS MACCULLOCH writes to me, "a Brent Goose, slightly wounded in the tip of the wing, was brought us, but it rejected sea-grass and every thing else which was offered it, and died in a few days after it came into our possession. Shortly after we procured another, which had been disabled in the same manner. Like the first it rejected every thing but water, and would certainly soon have shared the fate of its predecessor, had not my mother thrown a handful of unshelled barley into the tub of water, in which it was accustomed to swim. The grain was immediately devoured by the bird, with as much avidity as if it had been its usual fare; and during the time it remained with us, it would taste no other food. It having recovered the use of its wing, we usually placed it at night, for greater security, in a room near the one in which the man-servant slept. This arrangement, however, did not prove agreeable to all the parties concerned. Though the Brent was perfectly silent, yet the disposition for early rising which it evinced by pattering about the floor sorely disturbed the Irishman's predilection for a lengthened nap. To relieve himself from the annoyance, early one morning, when he thought there was no danger of detection, he let the bird free. It, however, no



sooner found itself loose than it began to exult most loudly in its liberty, and my mother, who was awakened by the singular and unusual noise, rose and lifted the blind, just as it took wing for the water, where doubtless it soon rejoined its former companions. The time it was in our possession was too short to admit of many observations being made on its habits. We remarked, however, that it was by no means deficient in courage. When approached, it would lower its head, writhe its glossy serpent-like neck, and, with open mouth, protruded tongue, and eyes flashing with rage, prepare to defend itself, emitting at the same time a strong hissing sound. This was the only noise which it made while in our possession, and until the morning of its departure it was never heard to use the hoarse call of the species."

BRANT, *Anas Bernicla*, Wils. Amer. Orn., vol. viii. p. 131.

ANSER BERNICLA, Bonap. Syn., p. 378.

ANSER BERNICLA, *Brent Goose*, Swains. and Rich. F. Bor. Amer., vol. ii. p. 469.

BRANT OR BRENT GOOSE, Nutt. Man., vol. ii. p. 358.

BRENT GOOSE, *Anser Bernicla*, Aud. Orn. Biog., vol. v. pp. 24, 610.

Male,  $24\frac{1}{2}$ , 48. Female, 23,  $44\frac{1}{2}$ .

Abundant along the coast of the Atlantic, from Maine to Maryland, during winter. Never seen far inland. Breeds from Labrador northward. Columbia river.

Adult Male.

Bill much shorter than the head, higher than broad at the base, somewhat conical, slightly depressed toward the end, narrowed and rounded at the tip. Upper mandible with the dorsal line sloping, the ridge a little flattened at the base, convex toward the end, the sides sloping, the edges soft, the oblique marginal lamellæ short, transverse, about 25 on each side, the unguis round, convex, striato-denticulate on the inner edge. Nasal groove elliptical, commencing at the base, and extending to beyond the middle of the bill; nostrils lateral, medial, longitudinal, narrow-elliptical, open, pervious. Lower mandible straight, depressed, with the angle very long, rather wide, somewhat rounded, the sides sloping outwards, the edges soft, with about forty lamellæ.

Head small, oblong, compressed. Neck rather long and slender. Body full, slightly depressed. Feet short, stout, placed a little behind the centre of the body; legs bare a little above the tibio-tarsal joint. Tarsus short, compressed, covered all round with angular reticulated scales, which are smaller behind. Hind toe extremely small, with a very narrow membrane; third toe longest, fourth a little shorter, but longer than the second; all the toes reticulated above at the base, but with narrow transverse scutella towards the end; the three anterior connected by a reticulated membrane;



the outer with a thick margin, the inner with the margin extended into a two-lobed web. Claws small, arched, rather depressed, especially that of the middle toe, which has the inner margin expanded.

Plumage close, rather short, compact above, blended on the head, neck, and lower parts of the body. The feathers of the head and neck small and oblong, of the back very broad and abruptly rounded, of the breast and belly broadly rounded. Wings, when closed, extending a little beyond the end of the tail; primaries very strong, decurved, the first longest, the second almost equal; secondaries long, broad, rounded. Tail very short, rounded, of sixteen feathers.

Bill and feet black. Iris hazel. Head and neck all round black, glossed with blue. A small streak under the eye, and a spot on the chin, white; on each side of the neck a patch of the same formed by a number of the feathers which have a white band near the end. The general colour of the upper parts is brownish-grey, the feathers terminally margined with light greyish-brown; the quills, and primary coverts greyish-black, the primaries darker; the upper tail-coverts white, the tail greyish-black. The fore part of the breast is light brownish-grey, the feathers terminally margined with greyish-white; the grey tint gradually fades into white, which is the colour of the abdomen, sides of the rump and lower tail-coverts; the sides of the body grey, the feathers broadly tipped with white; axillar feathers and lower wing-coverts grey.

Length to end of tail  $24\frac{1}{2}$  inches, to end of claws  $25\frac{1}{2}$ ; extent of wings 48; bill along the ridge  $1\frac{4}{12}$ , along the edge of lower mandible  $1\frac{4}{12}$ ; wing from flexure 13; tail  $4\frac{1}{2}$ ; tarsus  $1\frac{1}{4}$ ; hind toe  $\frac{3\frac{1}{2}}{12}$ , its claw  $\frac{3\frac{1}{2}}{12}$ ; middle toe  $1\frac{8}{12}$ , its claw  $\frac{4\frac{1}{2}}{12}$ . Weight  $3\frac{1}{4}$  lbs.

#### Adult Female.

The female, which is somewhat smaller, is similar to the male.

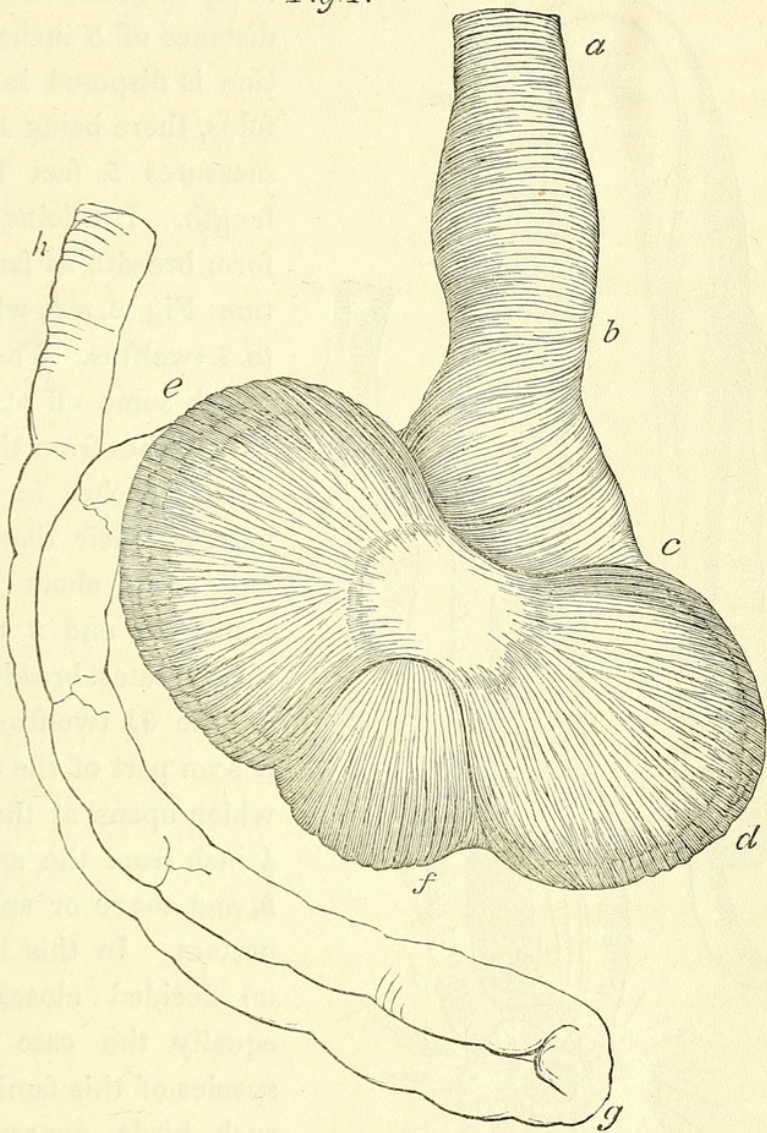
Length to end of tail 23 inches, to end of wings 24, to end of claws  $23\frac{3}{4}$ ; extent of wings  $44\frac{1}{2}$ . Weight  $2\frac{1}{4}$  lbs.

An adult female procured by Dr. THOMAS M. BREWER of Boston.

The roof of the mouth is concave, with a median row of short papillæ, two lateral series of flattened laminæ, and some irregularly scattered intermediate prominences, the lower mandible more concave. The tongue is fleshy, with the base papillate, the sides parallel and furnished with recurved papillæ, the tip rounded and thin, the entire length 1 inch 5 twelfths. The œsophagus, *a*, which is 13 inches long, is exceedingly slender, its diameter when contracted not being greater than that of the windpipe, or about 4 twelfths, but it is capable of being dilated to 6 twelfths; its inner coat thrown into prominent longitudinal rugæ. The proventriculus, *a b*, is enlarged to the breadth of 11 twelfths, its glandules simple, cylindrical,



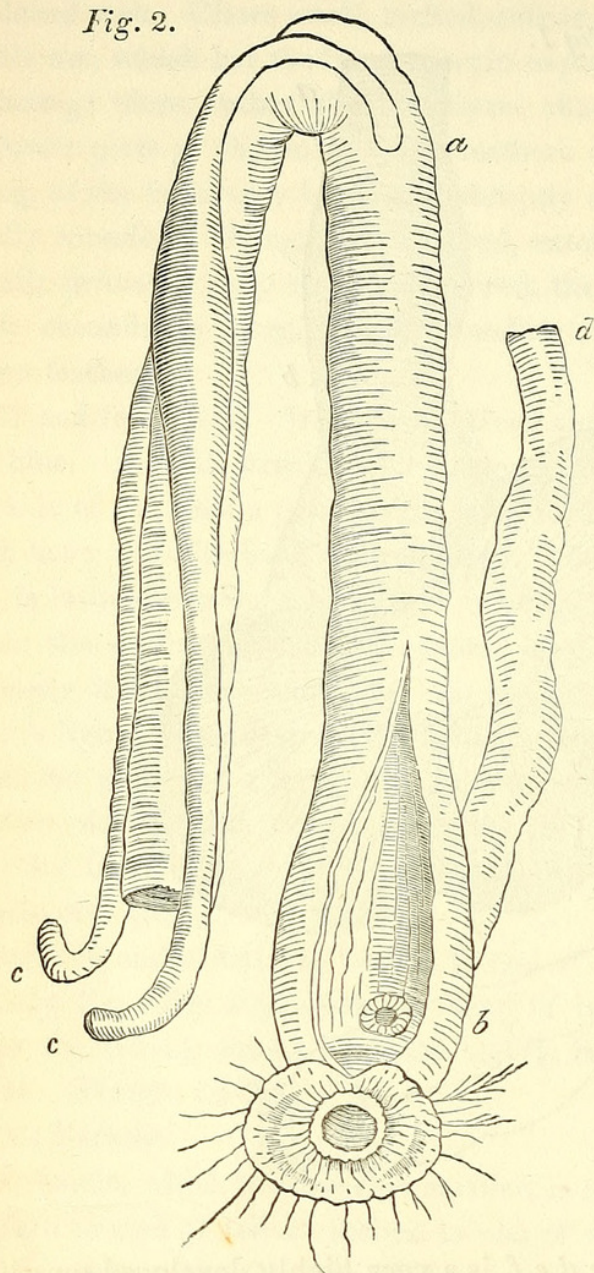
Fig 1.



2 twelfths long. The stomach, *c d e f*, is a very highly developed muscular gizzard, placed obliquely, and of an elliptical form, its length being 1 inch 9 twelfths, its breadth 2 inches 11 twelfths. This great breadth is caused, as in other birds of this family, by the vast size of the lateral muscles, of which the left, *d*, has a thickness at the middle of 1 inch  $4\frac{1}{2}$  twelfths, the right, *e*, of 1 inch 3 twelfths, thus leaving but a very small space between the two grinding surfaces, which are placed obliquely. The lower muscle, *f*, is narrow and of moderate thickness. The epithelium is soft, unless on the two grinding plates, which are of an elliptical form, a little concave, smooth in the middle, longitudinally grooved toward the margins. The proventricular belt of glandules is 1 inch 3 twelfths in breadth. The stomach contained a large quantity of pure quartz sand. The pylorus is destitute of valve. The



Fig. 2.



duodenum *e g h*, has a diameter of  $4\frac{1}{2}$  twelfths, and curves at the distance of 5 inches; the intestine is disposed in longitudinal folds, there being 16 turns, and measures 5 feet 11 inches in length. It retains a pretty uniform breadth as far as the rectum, Fig. 2, *a b*, which enlarges to 7 twelfths. The cæca, *a c c*, which come off at the distance of 5 inches from the extremity, are  $5\frac{1}{4}$  inches in length, very narrow, their diameter at the base being about 1 twelfth, towards the end 2 twelfths, and their greatest breadth toward the middle  $3\frac{1}{2}$  twelfths. In Fig. 2 is seen part of the oviduct, *d b*, which opens at the distance of  $\frac{1}{2}$  inch from the anus, opposite *b*, and above or anterior to the ureters. In this bird there is no decided cloaca, which is equally the case with other species of this family, and with such birds generally as pass their fæces in a compact cylindrical form. In this respect,

Swans, Geese, and Ducks are analogous to Pheasants, Grouse, and Partridges; they being in fact aquatic Gallinaceæ.

The trachea is 11 inches long, its diameter at the upper part  $4\frac{1}{2}$  twelfths. It is a little flattened above, less so in the middle, and somewhat compressed at the lower extremity, where its diameter is 3 twelfths. There are 150 free osseous rings, and 15 additional united rings at the lower part. The inferior larynx is destitute of muscles. The space between the last ring of the trachea and the first bronchial ring is large, being  $4\frac{1}{2}$  twelfths in length. The bronchi are very short, rather wide, with about 10 incomplete rings, the extremities of which nearly meet. The lateral muscles are strong, and there is a pair of cleido-tracheal, and a pair of sterno-tracheal muscles, the former



coming off at the distance of  $2\frac{1}{2}$  inches, the latter at that of 1 inch 2 twelfths, from the inferior larynx. The cleido-tracheal muscle is a direct continuation of part of the contractor, but the sterno-tracheal is independent of them, and attached to two rings of the trachea. The contractor muscle terminates in the solid tube, at the distance of 9 twelfths from the inferior larynx.

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## THE WHITE-FRONTED GOOSE.

†ANSER ALBIFRONS, *Bechst.*

PLATE CCCLXXX.—MALE AND FEMALE.

Neither WILSON nor NUTTALL seem to have been aware of the regularity with which this species migrates through the United States. When I shewed a drawing of it to the first of these authors, he pronounced it to be a young Snow Goose, although I described to him its peculiar notes. During the whole of my residence in Kentucky, a winter never passed without my seeing a good number of them; and at that season they are frequently offered for sale in the markets of New Orleans. An English gentleman, who was on his way to the settlement of Birkbeck in the prairies west of the Ohio, and who spent a few weeks with me at Henderson, was desirous of having a tasting of some of our game. His desire was fully gratified, and the first that was placed before him was a White-fronted Goose. I had killed seven of these birds the evening before, in a pond across the Ohio, which was regularly supplied with flocks from the beginning of October to the end of March. He pronounced it "delicious," and I have no reason to dissent from his opinion. From the numbers seen high on the Arkansas river, I presume that many winter beyond the southern limits of the United States. They are exceedingly rare, however, along our Atlantic coast. In Kentucky they generally arrive before the Canada Goose, betaking themselves to the grassy ponds; and of the different species which visit that country they are by far the least shy. The flocks seldom exceed from thirty to fifty individuals. Their general appearance is that exhibited in the plate, and which I consider as their winter plumage, feeling pretty confident that in summer the lower part of the body becomes pure black.





W.H.  
*Brant Goose*  
1, Male 2, Female.





Audubon, John James. 1843. "Brent Goose, *Anser bernicla*, Linn. [Pl. 379]." *The birds of America : from drawings made in the United States and their territories* 6, 203–209. <https://doi.org/10.5962/p.319493>.

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