first quill longest; secondaries short, broad, rounded, the inner elongated, lanceolate, and decurved, as are the scapulars. Tail rather short, pointed, of fourteen feathers.

Bill dull greyish-blue, as are the feet, the claws yellowish-grey. The upper part of the head and a broad band surrounding the neck are white; the throat; some feathers around the eye are black; a light green patch in the loreal space, and a transverse patch of the same on the nape, margined behind and laterally with black. A broad band on the neck and the whole of the back is velvet-black, with green reflections; the smaller wing-coverts white; the secondary coverts bluish-black, terminating in a broad white band; the elongated secondaries and scapulars with the inner web white, the outer black, with blue reflections; the primaries and coverts brownish-black, the tail black, as are the lower tail-coverts and abdomen; the rest of the lower parts deep reddish-buff, fading toward the shoulders and neck into pure white; there is a bluish-black spot on each side of the lower part of the neck anterior to the wing.

Length to end of tail 16 inches; bill along the ridge $\frac{9}{12}$; wing from flexure $8\frac{3}{8}$; tail 4; tarsus $1\frac{3}{16}$; inner toe and claw $1\frac{1}{2}$; middle toe and claw $2\frac{1}{8}$; outer toe and claw $2\frac{1}{4}$; breadth of unguis of upper mandible $\frac{3}{8}$; breadth of bill at base $\frac{5}{8}$.

BUFFEL-HEADED DUCK.

†FULIGULA ALBEOLA, *Linn.*

PLATE CCCCVIII.—MALE AND FEMALE.

There are no portions of the Union on the waters of which this beautiful miniature of the Golden-eye Duck is not to be found, either during the autumnal months or in winter; and, therefore, to point out any particular district as more or less favoured by its transient visits would be useless. The miller's dam is ornamented by its presence; the secluded creeks of the Middle States are equally favoured by it as the stagnant bayous and lakes of Lower Louisiana; in the Carolinas and on the Ohio, it is not less frequent; it being known in these different districts by the names of Spirit Duck,

Butter-box, Marrionette, Dipper, and Die-dipper. It generally returns from the far north, where it is said to breed, about the beginning of September, and many reach the neighbourhood of New Orleans by the middle of October, at which period I have also observed them in the Floridas. Their departure from these different portions of our country varies from the beginning of March to the end of May. On the 11th of that month in 1833, I shot some of them near Eastport in Maine. None of them have, I believe, been found breeding within the limits of the Union. During the period of their movements towards the north, I found them exceedingly abundant on the waters of the Bay of Fundy, the males in flocks, and in full dress, preceding the females about a fortnight, as is the case with many other birds.

The Marrionette—and I think the name a pretty one—is a very hardy bird, for it remains at times during extremely cold weather on the Ohio, when it is thickly covered with floating ice, among which it is seen diving almost constantly in search of food. When the river is frozen over, they seek the head waters of the rapid streams, in the turbulent eddies of which they find abundance of food. Possessed of a feeling of security arising from the rapidity with which they can dive, they often allow you to go quite near them, though they will then watch every motion, and at the snap of your gun, or on its being discharged, disappear with the swiftness of thought, and perhaps as quickly rise again, within a few yards, as if to ascertain the cause of their alarm. I have sometimes been much amused to see the apparent glee with which these little Dippers would thus dive at the repeated snappings of a miserable flint lock, patiently tried by some vagrant boys, who, becoming fatigued with the ill luck of their piece, would lay it aside, and throw stones at the birds, which would appear quite pleased.

Their flight is as rapid as that of our Hooded Merganser, for they pass through the air by regularly repeated beats of their wings, with surprising speed; and yet this is the best time for the experienced sportsman to shoot them, as they usually fly low. Their note is a mere croak, much resembling that of the Golden-eye, but feebler. At the approach of spring, the males often swell their throats and expand the feathers of the head, whilst they utter these sounds, and whilst moving with great pomposity over the waters. Often too, they charge against each other, as if about to engage in combat, but I have never seen them actually fighting.

When these birds return to us from the north, the number of the young so very much exceeds that of the old, that to find males in full plumage is much more uncommon than toward the time of their departure, when I have thought the males as numerous as the females. Although at times they are very fat, their flesh is fishy and disagreeable. Many of them, however, are offered for sale in our markets. I have often found some of them on

inland ponds, which they seemed loth to leave, for, although repeatedly shot at, they would return. Their food is much varied according to situation. On the sea-coast, or in estuaries, they dive after shrimps, small fry, and bivalve shells; and in fresh water, they feed on small crayfish, leeches, and snails, and even grasses.

Not having found any of these birds in Labrador or Newfoundland, I am unable to say anything as to their nests. Dr. RICHARDSON states, that they frequent the rivers and fresh-water lakes throughout the Fur Countries in great numbers, but does not mention having observed them breeding. As in almost all other species of this family, the young of both sexes in autumn resemble the adult female. Mr. TOWNSEND has found this species on the streams of the Rocky Mountains, and it has been observed as far westward as Monterey in New California.

BUFFEL-HEADED DUCK, *Anas albeola*, Wils. Amer. Orn., vol. viii. p. 51.

FULIGULA ALBEOLA, Bonap. Syn., p. 394.

CLANGULA ALBEOLA, *Spirit Duck*, Swains. and Rich. F. Bor. Amer., vol. ii. p. 458.

SPIRIT DUCK, Nutt. Man., vol. ii. p. 445.

BUFFEL-HEADED DUCK, *Fuligula albeola*, Aud. Orn. Biog., vol. iv. p. 217.

Male, $14\frac{1}{2}$, 23. Female, 13, $22\frac{1}{4}$.

Distributed throughout the country and along the Atlantic shores during autumn, winter, and spring. Texas, Upper California, Columbia river. Breeds very far north.

Adult Male.

Bill much shorter than the head, comparatively narrow, deeper than broad at the base, gradually depressed towards the end, which is rounded. Upper mandible with the dorsal line straight and sloping to the middle, then nearly straight, at the end decurved; the ridge broad and flat at the base, narrowed between the nostrils, convex towards the end, the sides convex, the edges soft, with about thirty-five lamellæ, the unguis oblong. Nostrils sub-medial, linear, pervious, nearer the ridge than the margin. Lower mandible flat, ascending, curved at the base, the angle long, rather narrow, the dorsal line very slightly convex, the edges with about forty lamellæ, the unguis broadly elliptical.

Head rather large, compressed. Eyes of moderate size. Neck short and thick. Body compact, depressed. Feet very short, placed far back, tarsus very short, compressed, having anteriorly in its whole length a series of small scutella, and above the outer toe a few broad scales, the rest covered with reticular angular scales. Hind toe very small, with a free membrane beneath; anterior toes longer than the tarsus, connected by reticulated membranes, having a sinus on their free margins, the inner with a narrow lobed

marginal membrane, the outer with a thickened edge, the third and fourth about equal and longest, all covered above with numerous narrow scutella. Claws small, slightly arched, obtuse, that of first toe very small, of third largest, and with an inner thin edge.

Plumage dense, soft and blended. Feathers on the fore part of the head very small and rounded, on the upper and hind parts linear and elongated, as they also are on the lateral and hind parts of the upper neck, so that when raised, they give the head an extremely tumid appearance, which is the more marked that the feathers of the neck immediately beneath are short. Wings very small, decurved, pointed; the outer primaries pointed, the first longest, the rest rapidly graduated; the secondaries incurved, obliquely rounded, the inner much elongated and acuminate. Tail short, graduated, of sixteen feathers.

Bill light greyish-blue. Iris hazel. Feet very pale flesh-colour, claws brownish-black. Fore part of the head of a deep rich green, upper part rich bluish-purple, of which colour also are the elongated feathers on the fore part and sides of the neck, the hind part of the latter deep green; a broad band of pure white from one cheek to the other over the occiput. The coloured parts of the head and neck are splendid and changeable. The rest of the neck, the lower parts, the outer scapulars, and a large patch on the wing, including the greater part of the smaller coverts and some of the secondary coverts and quills, pure white, the scapulars narrowly margined with black, as are the inner lateral feathers. Axillary feathers brownish-black, some of them white on the margins and towards the end; lower wing-coverts brownish-black, the smaller tipped with white. The back, inner scapulars, and inner secondary quills, velvet-black. The feathers on the anterior edge of the wing are black, narrowly edged with white; alula, primary coverts, and primary quills, deep black. The feathers on the rump gradually fade into greyish-white, and those of the tail are brownish-grey, with the edges paler, and the shafts dusky.

Length to end of tail $14\frac{1}{2}$ inches, to end of wings $13\frac{3}{4}$, to end of claws $15\frac{3}{4}$; extent of wings 23; wing from flexure $6\frac{3}{4}$; tail $3\frac{1}{4}$; bill along the ridge $1\frac{2}{12}$, along the edge of lower mandible $1\frac{5\frac{1}{2}}{12}$; tarsus $1\frac{3}{12}$, hind toe and claw $\frac{8}{12}$; outer toe $2\frac{1}{12}$, its claw $\frac{2\frac{1}{2}}{12}$; middle toe 2, its claw $\frac{3\frac{1}{2}}{12}$; inner toe and claw $1\frac{9}{12}$. Weight 1 lb.

Adult Female.

The female is much smaller. The plumage of the head is not elongated as in the male, but there is a ridge of longish feathers down the occiput and nape. Bill darker than that of the male; feet greyish-blue, with the webs dusky. Head, upper part of neck, hind neck, back and wings, greyish-brown; a short transverse white band from beneath the eye, and a slight

speck of the same on the lower eyelid. Six of the secondary quills white on the outer web. Lower parts white, shaded into light greyish-brown on the sides; tail dull greyish-brown.

Length to end of tail 13 inches, to end of claws $13\frac{1}{2}$, to end of wings $11\frac{1}{2}$; extent of wings $22\frac{1}{4}$. Weight 8 oz.

Individuals of both sexes differ much in size, and in the tints of their plumage.

In an adult male, the tongue is 1 inch and 2 twelfths long, fleshy, and of the same general form as in the other Ducks already described. The œsophagus is $6\frac{3}{4}$ inches long, passes along the right side, has a diameter at the top of $4\frac{1}{2}$ twelfths, enlarges about the middle to 9 twelfths, and contracts to $\frac{1}{2}$ inch as it enters the thorax. The proventriculus is 1 inch long, 8 twelfths in its greatest diameter, its glandules, which are of moderate size, forming a complete belt, as in all other Ducks. The stomach is a muscular gizzard of a roundish form, 1 inch 5 twelfths long, 1 inch 4 twelfths in breadth; its lateral muscles 5 twelfths in thickness; its epithelium tough, hard, and slightly rugous. The intestine is 3 feet 11 inches long; its average diameter 3 twelfths, its walls thick, and its inner surface villous. The rectum is 3 inches long; the cœca $2\frac{1}{4}$ inches in length, their diameter at the commencement 1 twelfth, towards the end 2 twelfths.

The trachea is 5 inches long, much flattened, its rings unossified, its diameter at the top $2\frac{3}{4}$ twelfths, towards the lower part 3 twelfths, having scarcely any appearance of dilatation at the part which is so excessively enlarged in the Golden-eyed Duck, which in form and habits is yet very closely allied. The lateral muscles are strong, and there are cleido-tracheal and sterno-tracheal muscles, as in other Ducks.

Buffle-headed Duck
1. Male 2. Female.

Audubon, John James. 1843. "Buffel-Headed Duck, Fuligula albeola, Linn. [Pl. 408]." *The birds of America : from drawings made in the United States and their territories* 6, 369–373. <https://doi.org/10.5962/p.319521>.

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