linear-oblong, rather large, near the ridge, in an oblong depression covered with the soft membrane of the bill. Head rather large, compressed, convex above; neck of moderate length, rather thick; body full, depressed. Feet very short, strong, placed rather far behind; tarsus very short, compressed, anteriorly with narrow scutella continuous with those of the middle toe, and having another series commencing half-way down and continuous with those of the outer toe; hind toe small, with an inner expanded margin; middle toe nearly double the length of the tarsus, outer a little shorter, all scutellate. Claws small, compressed, that of the first toe very small and curved. Plumage dense, firm, blended. Wings shortish, narrow, pointed, first and second quills longest; inner secondaries elongated and tapering. Tail very short, rounded or cuneate, of fourteen or more feathers. Œsophagus rather wide, considerably dilated at the lower part of the neck; stomach an extremely muscular, roundish gizzard; intestine long and wide; cœca long. Trachea of the males with a transverse, bony, unsymmetrical dilatation at the inferior larynx.

CANVASS-BACK DUCK.

†*FULIGULA VALISNERIANA*, *Wils.*

PLATE CCCXCV.—MALE AND FEMALE.

The range of this celebrated Duck may be considered as limited on the one hand by the mouths of the Mississippi, and on the other by the Hudson or North river. Beyond the latter it is rarely seen at any season on our eastern coasts; and this circumstance, conjoined with its being now and then observed on the upper waters of our Western Districts, and its breeding in great numbers on the borders of Bear river, which flows into the salt lake of Timpanajoz in Upper California, as well as in the marshes and along the banks of streams in many parts of the Rocky Mountains, induces me to believe that the individuals of this species, instead of proceeding along the shores, pass overland towards their breeding grounds, however far northward they may be situated. According to Dr. RICHARDSON, it breeds in all parts of the Fur Countries, from the 50th parallel to their most northern limits.

While in our Atlantic Districts, it is found in much greater numbers on the Chesapeake and the streams that flow into it, than any where else. Indeed it is not more than twenty years since its regular appearance and sojourn on the waters of the Southern States has been observed or at least acknowledged. Although at New Orleans, where it goes by the name of *Canard Cheval*, it has been known to the oldest duck-shooters now alive, from their earliest recollection, it is not more than about fifteen years since it began to rise, from a very low price to two dollars the pair, at which it sold during my visit in March 1837.

This enhancement of its value I look upon as having arisen from the preference given to it by the epicures of our Middle Districts, who have strangely lauded it as superior to every other Duck in the world. This alleged pre-eminence has indeed become so deeply impressed on the minds of many of our Southerners, that they have on various occasions procured the transportation of numbers of Canvass-backs from Baltimore to Charleston in South Carolina, and even to Savannah in Georgia, although this species is by no means uncommon within a few miles of the latter city, as well as on the Great Santee river. I well remember that on my pointing out to a friend, now alas dead, several dozens of these birds in the market of Savannah, he would scarcely believe that I was not mistaken, and assured me that they were looked upon as being poor, dry, and very fishy, in short not half so good as Mallards, or Blue-winged Teals. With this I cordially agreed, for there, at that season, they are not better than represented.

I found this species in considerable numbers on and about the numerous inlets and rivers of East Florida; but did not see a single individual on the Gulf of St. Lawrence, along the coast of Labrador, or on that of Newfoundland.

It arrives in the neighbourhood of New Orleans from the 20th of October to the end of December, coming in flocks of eight or twelve, probably the members of a single family, and, unlike many other species, keeping in small groups during winter. At the approach of spring, however, they flock together, and about the first of April depart in large bodies. During their stay, they are wont to alight on wet prairies and muddy ponds in all open places, feeding on the seeds of various plants, of which may be particularized the wild oat and the water-lily.

According to ALEXANDER WILSON, who first described this species, their arrival in autumn in the Middle Districts takes place about the 15th of October; but more recent writers say, that "unless the weather to the north has been severe, the Canvass-back rarely appears till the middle of November." With this I fully agree, being convinced that their journeys to and from their breeding places are performed across the country. Were this

perfectly ascertained, it would prove that this species, unlike most other Ducks, instead of removing farther southward in autumn and winter, takes what may be called a lateral march toward our Eastern Districts, in which it remains until the weather has become too cold for its constitution, when it is forced a second time to migrate, and betake itself to warmer parts of the country, where it continues during the rest of the winter.

The flight of this species, although resembling that of our larger Sea-ducks in having the appearance of being rather laboured, is strong, rapid, at times very elevated, and well sustained. It swims deeply, especially when under apprehension of danger, and this probably the better to enable it to escape by diving, at which it is almost as expert as our sea or diving Ducks. But although its speed on the water is considerable, it moves rather heavily on land. Its food varies, according to the season and locality. The plant named *Valisneria*, on which it is said to feed when on the head waters of the Chesapeake, is not found equally abundant in other parts, and even there is at times so reduced in quantity, that this Duck and several other species which are equally fond of it, are obliged to have recourse to fishes, tadpoles, water-lizards, leeches, snails, and mollusca, as well as such seeds as they can meet with; all which have been in greater or less quantity found in their stomach.

Nothing is known of its manners during the breeding season; and we are equally ignorant of the changes of plumage which, like other species, it may undergo at that period.

As I have not had very good opportunities of making myself acquainted with the modes in which the Canvass-backs are obtained for the markets, I here present an account of duck-shooting on the waters of the Chesapeake, published some years ago in the "Cabinet of Natural History," and of which a copy has been transmitted to me by its author, Dr. J. J. SHARPLESS, of Philadelphia, to whom, for this and other marks of attention, I offer my best thanks.

"The Chesapeake Bay, with its tributary streams, has, from its discovery, been known as the greatest resort of water-fowl in the United States. This has depended on the profusion of their food, which is accessible on the immense flats or shoals that are found near the mouth of the Susquehanna, along the entire length of North-East and Elk rivers, and on the shores of the bay and connecting streams, as far south as York and James rivers.

"The quantity of fowl of late years has been decidedly less than in times gone by; and I have met with persons who have assured me that the number has decreased one-half in the last fifteen years. This change has arisen, most probably, from the vast increase in their destruction, from the greater number of persons who now make a business or pleasure of this sport, as

well as the constant disturbance they meet with on many of their feeding grounds, which induces them to distribute themselves more widely, and forsake their usual haunts.

“As early as the first and second weeks in October, the smaller Ducks, as the Buffel-head, *Anas Albeola*; South-southerly, *A. glacialis*; and the Ruddy or Heavy-tailed Duck, *A. rubida*, begin to shew themselves in the upper part of the bay; and by the last of the month, the Black-head, *A. Marila*; Widgeon or Bald-pate, *A. Americana*; Red-head, *A. Ferina*; and the Goose, *A. Canadensis*, appear, and rapidly distribute themselves down the bay. The Canvass-back, *A. Valisneria*, and the Swan, *Cygnus Americanus*, rarely, unless the weather to the north has been severe, appear in quantities till the middle of November. All these fowl, when first arrived, are thin and tasteless, from their privation during their migration, and perhaps preparatory arrangements, and require some days at least of undisturbed repose to give them that peculiar flavour for which some of them are so celebrated. During the low tides succeeding their arrival, the birds sit on the flats far from the shores, and rarely rise to the wing unless disturbed; but when the spring-tides render the water too deep for feeding, they commence their career, and pass down the bay in the morning, and return in the evening. Most of these fowl feed on the same grass, which grows abundantly on the shallows in the bay and adjacent waters, and has been called duck-grass, *Valisneria Americana*. It grows from six to eighteen inches in length, and is readily pulled up by the root. Persons who have closely observed these Ducks while feeding, say that the Canvass-back and Black-head dive and pull the grass from the ground, and feed on the roots, and that the Red-head and Bald-pate then consume the leaves. Indeed, although the Bald-pate is a much smaller bird than the Canvass-back, it has been seen to rob the latter, immediately on its return from under the water, of all its spoil.

“All these larger Ducks are found together when feeding, but separate when on the wing. That they feed on the same grass, is evident from the similarity of flavour; and those most accustomed to the article have a difficulty in deciding on the kind of Duck from the taste. Indeed, the Bald-pate is generally preferred by residents.

“By the middle of December, particularly if the weather has been a little severe, the fowl of every kind have become so fat, that I have seen Canvass-backs burst open in the breast in falling on the water; and spending less time in feeding, they pass up and down the bay from river to river, in their morning and evening flights, giving, at certain localities, great opportunities for destruction. They pursue, even in their short passages, very much the order of their migratory movements, flying in a line, or baseless triangle;

and when the wind blows on the *points* which may lie on their course, the sportsman has great chances of success. These points or courses of the Ducks are materially affected by the winds, for they avoid, if possible, an approach to the shore; but when a strong breeze sets them on these projections of the land, they are compelled to pass within shot, and often over the land itself.

“In the Susquehanna and Elk rivers, there are few of these points for shooting, and there success depends on approaching them while on their feeding grounds. After leaving the eastern point at the mouth of the Susquehanna and Turkey Point, the western side of the Elk river, which are both moderately good for flying-shooting, the first place of much celebrity is the *Narrows*, between Spesutic Island and the western shore. These narrows are about three miles in length, and from three to five hundred yards in breadth. By the middle of November, the Canvass-backs in particular, begin to feed in this passage, and the entrance and outlet, as well as many intermediate spots, become very successful stations. A few miles further down the western shore is Taylor’s Island, which is situated at the mouth of the Rumney, and Abbey Island at the mouth of Bush river, which are both celebrated for Ducks, as well as Swans and Geese. These are the most northerly points where large fowl are met with, and projecting out between deep coves, where immense numbers of these birds feed, they possess great advantages. The south point of Bush river, or Legoe’s Point, and Robbin’s and Rickett’s Points near Gunpowder river, are fruitful localities. Immediately at the mouth of this river is situated Carroll’s Island, which has long been known as a great shooting ground, and is in the rentage of a company at a high rate. Maxwell’s Point, as well as some others up this and other rivers, and even further down the bay, are good places, but less celebrated than those I have mentioned. Most of these points are let out as shooting grounds to companies and individuals, and they are esteemed so valuable that intruders are severely treated.

“It has been ascertained that disturbing the fowl on the feeding flats is followed in most cases by their forsaking those haunts, and seeking others; hence, in the rivers leading to the bay near flying points, they are never annoyed by boat-shooting, either by night or day, and although the discharge of guns from the shore may arouse them for a time, they soon return; whereas a boat or sail in chase a few times, will make them forsake a favourite spot for days.

“From the great number of Ducks that are seen in all directions, one would suppose that there could be no doubt of success at any one of the points in the course of flight; but whilst they have such correct vision as to distance, and wide range of space, unless attending circumstances are favour-

able, a sportsman may be days without a promising shot. From the western side of the bay, and it is there the best grounds are found, the southerly winds are the most favourable; and, if a high tide is attended by a smart frost and mild south wind, or even calm morning, the number of birds set in motion becomes inconceivable, and they approach the points so closely, that even a moderately good shot can procure from fifty to one hundred Ducks a-day. This has often occurred, and I have seen eight fat Canvass-backs killed at one discharge into a flock, from a small gun.

“To a stranger visiting these waters, the innumerable Ducks feeding in beds of thousands, or filling the air with their careering, with the great numbers of beautiful White Swans resting near the shores, like banks of driven snow, might induce him to suppose that the facilities for their destruction were equal to their profusion, and that with so large an object in view, a sportsman could scarcely miss his aim. But, when he considers the great thickness of their covering, the velocity of their flight, the rapidity and duration of their diving, and the great influence that circumstances of wind and weather have on the chances of success, it becomes a matter of wonder how so many are destroyed.

“The usual mode of taking these birds has been, till recently, by shooting them from the points during their flight, or from the land or boats, on their feeding grounds, or by *toling*, as it is strangely termed, an operation by which the Ducks are sometimes induced to approach within a few feet of the shore, from a distance often of several hundred yards. A spot is usually selected where the birds have not been much disturbed, and where they feed at three or four hundred yards from, and can approach to within forty or fifty yards of the shore, as they will never come nearer than they can swim freely. The higher the tides, and the calmer the day, the better, for they feed closer to the shores and see more distinctly. Most persons on these waters have a race of small white or liver-coloured dogs, which they familiarly call the *toler* breed, but which appear to be the ordinary poodle. These dogs are extremely playful, and are taught to run up and down the shore, in sight of the Ducks, either by the motion of the hand, or by throwing chips from side to side. They soon become perfectly acquainted with their business, and as they discover the Ducks approaching them, make their jumps less high till they almost crawl on the ground, to prevent the birds discovering what the object of their curiosity may be. This disposition to examine rarities has been taken advantage of by using a red or black handkerchief by day, and a white one by night in *toling*, or even by gently plashing the water on the shore. The nearest Ducks soon notice the strange appearance, raise their heads, gaze intently for a moment, and then push for the shore, followed by the rest. On many occasions, I have seen thousands

of them swimming in a solid mass direct to the object; and by removing the dog farther into the grass, they have been brought within fifteen feet of the bank. When they have approached to about thirty or forty yards, their curiosity is generally satisfied, and after swimming up and down for a few seconds, they retrograde to their former station. The moment to shoot is while they present their sides, and forty or fifty Ducks have often been killed by a small gun. The Black-heads toll the most readily, then the Red-heads, next the Canvass-backs, and the Bald-pates rarely. This also is the ratio of their approach to the points in flying, although, if the Canvass-back has determined on his direction, few circumstances will change his course. The total absence of cover or precaution against exposure to sight, or even a large fire, will not turn these birds aside on such occasions. In flying-shooting, the Bald-pates are a great nuisance, for they are so shy that they not only avoid the points themselves, but by their whistling and confusion of flight at such times, alarm others.

“Simple as it may appear to shoot with success into a solid mass of Ducks sitting on the water at forty or fifty yards distance, yet when you recollect that you are placed nearly level with the surface, the object opposed to you, even though composed of hundreds of individuals, may be in appearance but a few feet in width. To give, therefore, the best promise of success, old duckers recommend that the *nearest* Duck should be in perfect relief above the sight, whatever the size of the column, to avoid the common result of over-shooting. The correctness of this principle I saw illustrated in an instance in which I had toled to within a space of from forty to seventy yards off the shore, a bed of certainly hundreds of Ducks. Twenty yards beyond the outside birds of the dense mass, were five Black-heads, one of which was alone killed out of the whole number, by a deliberate aim into the *middle* of the large flock from a rest, by a heavy well-proved duck-gun.

“Before I leave the subject of *sitting-shooting*, I will mention an occurrence that took place in Bush river, a few years since. A man whose house was situated near the bank, on rising early one morning, observed that the river had frozen, except an open space of ten or twelve feet in diameter, about eighty yards from the shore, nearly opposite his house. The spot was full of Ducks, and with a heavy gun he fired into it. Many were killed, and those that flew soon returned, and were again and again shot at, till, fearful that he was injuring those already his own, he ceased the massacre, and brought on shore ninety-two Ducks, most of which were Canvass-backs.

“To prevent the dogs, whilst toling, from running in, they are not allowed to go into the water to bring out the Ducks, but another breed of large dogs of the Newfoundland and water-spaniel mixture are employed. These animals, whilst toling is in progression, or at a point, take apparently as much

interest in success as the sportsman himself. During a flight, their eyes are incessantly occupied in watching the direction from whence the birds come; and I have frequently seen them indicate by their manner, the approach of a flock so distant that the human eye would have overlooked it. As the Ducks come on, the dog lies down, but still closely observing them, and the moment the discharge occurs, jumps up to see the effect. If a Duck falls dead, they plunge to bring it; but many of them wait to see *how* he falls, and whither he swims, and they seem to be as aware as the gunner, of the improbability of capture, and will not make the attempt, knowing from experience that a bird merely winged will generally save himself by swimming and diving. These dogs usually bring one Duck at a time out of the water; but a real Newfoundland, who was with me and my company this autumn, was seen on several occasions to swim twenty yards further, and take a second in the mouth to carry on shore. The indefatigability and ambition of these animals are remarkable, and a gentleman informed me he had known his dog bring, in the space of one hour, twenty Canvass-backs and three Swans from the water, when the weather was so severe that the animal was covered with icicles, and to prevent his freezing he took his great-coat to envelope him. Some dogs will dive a considerable distance after a Duck, but a crippled Canvass-back or Black-head, will swim so far under the water, that they can rarely be caught by the dog; and it often has been observed, that the moment one of these Ducks, if merely winged, reaches the surface, he passes under, and however calm, cannot be seen again. To give an idea of the extreme rapidity with which a Duck can dive, I will relate an occurrence which was noticed by myself, and a similar one was observed by another of the party the same day. A male South-southerly was shot at in the water by a percussion-gun, and after escaping the shot by diving, commenced his flight. When about forty yards from the boat, he had acquired an elevation of a foot or more from the surface. A second percussion-gun was discharged, and he dived from the wing at the flash, and though the spot of entrance was covered by the shot, soon rose unharmed and flew.

“Canvass-backs, when wounded on the streams near the bay, instantly direct their course for it, and there nestle among the grass on the shores till cured, or destroyed by Eagles, Hawks, Gulls, Foxes, or other vermin, that are constantly on the search. If a dead Canvass-back be not soon secured, it becomes a prey to the Gulls, which rarely touch any other kind. I have seen severe contests take place between crippled Canvass-backs and Gulls; and although a pounce or two generally prevents further resistance, sometimes they are driven off. If the bird is remarkably savoury, the Gull makes such a noise, that others are soon collected, when possession is determined by courage or strength.

“Another mode of taking Ducks consists in placing gilling-nets under water on the feeding-grounds, and when they dive for food, their head and wings become entangled in the meshes, and they are drowned. This plan, though successful at first, soon drives the bird from these places; and in some cases, a few applications have entirely prevented their return for some weeks. Paddling upon them in the night or day produces the same effect, and although practised to some extent on Bush river is highly disapproved of by persons shooting from points. For the last three years a man has been occupied on this stream with a gun of great size, fixed on a swivel in a boat, and the destruction of game on their feeding-flats has been immense; but so unpopular is the plan, that many schemes have been privately proposed of destroying his boat and gun, and he has been fired at with balls so often that his expeditions are at present confined to the night. Sailing with a stiff breeze upon the Geese and Swans, or throwing rifle-balls from the shore into their beds, is sometimes successful.

“Moonlight shooting has not been a general practice, but as these birds are in motion during light nights, they could readily be brought within range by “honking” them when flying. This sound is very perfectly imitated at Egg Harbour; and I have seen Geese drawn at a right angle from their course by this note. They can indeed be made to hover over the spot, and if a captive bird was employed, the success would become certain.

“Notwithstanding the apparent facilities that are offered of success, the amusement of duck-shooting is probably one of the most exposing to cold and wet, and those who undertake its enjoyment without a courage “screwed to the sticking-point,” will soon discover that “to one good a thousand ills oppose.” It is indeed no parlour sport, for after creeping through mud and mire, often for hundreds of yards, to be at last disappointed, and stand exposed on points to the “pelting rain or more than freezing cold,” for hours, without even the promise of a shot, would try the patience of even FRANKLIN’s “glorious nibbler.” It is, however, replete with excitement and charm, and to one who can enter on the pleasure, with a system formed for polar cold, and a spirit to endure “the weary toil of many a stormy day,” it will yield a harvest of health and delight, that the “roamer of the woods” can rarely enjoy.”

Although this far-famed bird was named by its discoverer after the plant *Valisneria Americana*, on which it partially feeds when on fresh-water, its subsistence is by no means dependent upon that species, which indeed is not extensively distributed, but is chiefly derived from the grass-wrack or Eel-grass, *Zostera marina*, which is very abundant on the shallows and flats along the whole sea-coast. Its flesh seems to me not generally much

superior to that of the Pochard or Red-head, which often mingles in the same flocks; and both species are very frequently promiscuously sold in the markets as Canvass-backs.

In the Plate are represented two Males and a Female. In the back ground is a view of Baltimore, which I have had great pleasure in introducing, on account of the hospitality which I have there experienced, and the generosity of its inhabitants, who, on the occasion of a quantity of my plates having been destroyed by the mob during an outburst of political feeling, indemnified me for the loss.

CANVASS-BACKED DUCK, *Anas valisneria*, Wils. Amer. Orn., vol. viii. p. 103.

FULIGULA VALISNERIA, Bonap. Syn., p. 392.

FULIGULA VALISNERIA, *Canvass-back Duck*, Swains. and Rich. F. Bor. Amer., vol. ii. p. 450.

CANVASS-BACKED DUCK, Nutt. Man., vol. ii. p. 430.

CANVASS-BACK DUCK, *Fuligula valisneriana*, Aud. Orn. Biog., vol. iv. p. 1.

Male, 22, 33. Female, $20\frac{1}{4}$, $30\frac{3}{4}$.

Abundant during winter from the mouth of the Delaware to New Orleans, in all the estuaries. Columbia river. Breeds on the Rocky Mountains and northward.

Adult Male.

Bill as long as the head, deeper than broad at the base, the margins parallel, slightly dilated towards the end, which is rounded, the frontal angles rather narrow and pointed. Upper mandible with the dorsal line at first straight and declinate, then slightly concave, direct for a short space near the tip, where it is incurved, the ridge broad and concave at the base, narrowed at the middle, enlarged and convex at the end, the sides nearly erect and concave at the base, becoming anteriorly more and more declinate and convex, the edges curved upwards, with about 50 lamellæ, the unguis small and oblong. Nostrils sub-medial, linear-oblong, rather large, pervious, near the ridge, in an oblong depression covered with soft membrane. Lower mandible flattened, being but slightly convex, with the angle very long and rather narrow, the dorsal line very short and straight, the erect edges with about 55 inferior and 105 superior lamellæ, the unguis obovato-elliptical.

Head rather large, compressed, convex above. Eyes small. Neck of moderate length, rather thick. Body full, depressed. Wings small. Feet very short, strong, placed rather far behind; tarsus very short, compressed, anteriorly with narrow scutella continuous with those of the middle toe, and having another series commencing half-way down and continuous with those of the outer toe, the rest reticulated with angular scales. Hind toe small, with an inner expanded margin or web; middle toe nearly double the length

of the tarsus, outer a little shorter. Claws small, compressed, that of the first toe very small and curved, of the third toe larger and more expanded than the rest.

Plumage dense, soft, blended. Feathers of the upper part of the head small and rather compact, of the rest of the head and neck small, blended, and glossy. Wings shortish, narrow, pointed; primary quills strong, tapering, the first longest, the second almost as long, the rest rapidly diminishing; secondary quills broad and rounded, the inner elongated and tapering. Tail very short, much rounded, or wedge-shaped, of fourteen feathers.

Bill black, with a tinge of green. Iris bright carmine. Upper part of the head, and a space along the base of the bill, dusky; a small transverse band of white on what is called the chin; the rest of the head, and the neck all round, for more than half its length, of a rich brownish-red. A broad belt of brownish-black occupies the lower part of the neck, and the fore part of the body, of which the posterior part is of the same colour, more extended on the back than under the tail. Back and scapulars white or greyish-white, very minutely traversed by undulating black lines; wing-coverts similar but darker. Alular feathers greyish-brown. Primary quills brownish-black, tinged with grey towards the base; the shaft brown. Secondaries ash-grey, whitish, and undulated with dark grey towards the end; five of them also having a narrow stripe of black along their outer margin. Tail brownish-grey, towards the end ash-grey. The lower parts white, the sides and abdomen marked with fine undulating grey lines, of which there are faint traces on most of the other feathers. The feet are greyish-blue, tinged with yellow.

Length to end of tail 22 inches, to end of wings 20, to end of claws 25; extent of wings 33; wing, from flexure, $9\frac{3}{4}$; tail $2\frac{1}{2}$; bill along the back, measured from the tip of the frontal process to the end of the unguis, 3; lower mandible along the edge $2\frac{7}{12}$; tarsus $1\frac{3}{4}$; first toe $\frac{6}{12}$, its claw $\frac{3}{12}$; middle toe $2\frac{1}{12}$, its claw $\frac{5}{12}$; outer toe scarcely shorter; inner $\frac{7}{12}$ shorter. Weight $3\frac{3}{4}$ lbs.

Adult Female.

The female has the bill coloured as in the male; the iris reddish-brown; the feet lead-gray; the upper parts greyish-brown; the top of the head darker, its anterior part light reddish; the chin whitish; the neck greyish-brown, as are the sides and abdomen; the breast white; wing-coverts brownish-grey; primary quills greyish-brown, dusky at the end; secondary quills ash-grey, five of the inner with an external black margin, the innermost greyish-brown, like the back, and with some of the scapulars faintly undulated with darker. Tail greyish-brown, paler at the end; axillars and smaller under wing-coverts white, as in the male.

Length to end of tail, $20\frac{1}{4}$ inches, to end of wings $18\frac{1}{2}$, to end of claws, $23\frac{1}{4}$; extent of wings, $30\frac{3}{4}$; wing from flexure, $9\frac{1}{4}$. Weight $2\frac{3}{4}$ lbs.

This species is very closely allied to the Pochard, or Red-headed Duck, *Fuligula Ferina*, but is much larger, and differs in having the bill proportionally higher at the base, and less dilated towards the end. The colours are also generally similar, but present differences. The upper parts of the Canvass-back are much whiter than those of the Pochard; the head of the former is dusky above, of the latter uniform with the neck; and the white spot on the chin is wanting in the Pochard.

The Digestive and Respiratory Organs of a male shot near Baltimore present the following characters.

The upper mandible is broadly and deeply concave. The tongue, which is thick and fleshy, as in other Ducks, is $2\frac{2}{12}$ inches long, its sides parallel, slightly sloping, and furnished with two series of bristly filaments; its base with numerous straight conical papillæ directed backwards, its upper surface marked with a broad median groove, the lower flat, its extremity formed by a thin semi-circular appendage, a quarter of an inch in length. The œsophagus passes along the right side of the neck, for six inches has a diameter of $\frac{5}{12}$, then dilates to $\frac{9}{12}$, so as to form a slight crop, again contracts as it enters the thorax, and in terminating forms the proventriculus, which is $1\frac{3}{4}$ inches in length, with oblong glandules, generally a twelfth of an inch in length. The stomach is a very large and powerful gizzard, of a broadly elliptical form, with extremely thick lateral muscles, the left being $\frac{11}{12}$ in thickness, the right $\frac{10}{12}$, the tendons large and strong. The transverse diameter of the gizzard is $2\frac{11}{12}$ inches, the longitudinal, from the cardiac orifice to the bulge of the inferior muscle, $2\frac{1}{12}$. Its cuticular lining is of very dense texture, and rugous; the grinding plates opposite the lateral muscles about half a twelfth thick, and slightly rugous. The intestine, which is 5 feet 9 inches in length, first forms in the usual manner the duodenal fold, at the distance of 5 inches from the pylorus, encloses the pancreas, receives the biliary ducts, and passing under the right lobe of the liver, proceeds backward beneath the kidneys, is convoluted in several large folds, and finally from above the stomach, passes in a direct course to the anus. Its coats are thick, its inner surface villous, and its diameter is considerable, being in the first part of the duodenum $\frac{9}{12}$, then for two feet from $\frac{5}{12}$ to $\frac{4}{12}$, enlarged again to $\frac{6}{12}$, and so continuing to the rectum, which is 6 inches long, $\frac{1}{2}$ inch in diameter, and ends in an enlargement or cloaca, about an inch in diameter. The cœca, which commence at the distance of 6 inches from the anus, are 8 inches long, slender, $\frac{2}{12}$ in diameter for 3 inches, afterwards about $\frac{3}{12}$, with the extremity obtuse. The œsophagus and stomach contained young shoots of *Zostera marina*, and in the latter were numerous particles of quartz.

The trachea, when moderately extended, measures 10 inches in length, and is furnished with strong lateral or contractor muscles, a pair of cleido-tracheal, and a pair of more slender sterno-tracheal. Its diameter at the upper part is $4\frac{1}{2}$ twelfths, it gradually contracts to $3\frac{1}{2}$ twelfths, enlarges to $4\frac{1}{2}$ twelfths, and at the distance of $7\frac{1}{4}$ inches from the upper extremity, forms a dilatation about an inch in length, and $\frac{7}{12}$ in its greatest diameter, but composed of distinct rings, then contracts to $\frac{3}{12}$, and ends in a bony and membranous expansion, forming on the left side an irregular thin disk, convex towards the right, and flattened towards the left, where it is membranous. The expansions of the trachea are thus similar to those of the Red-breasted Merganser, but of less extent; the rings are of equal breadth on both sides, but alternately overlap each other, one side being partially concealed by the corresponding sides of those above and below it, while the other stands exposed. The lower larynx is formed of ten united rings, together with the bony and membranous expansion described. The tracheal rings, rather broad and osseous, are 118; the half-rings of the bronchi about 16.

RED-HEADED DUCK.

+FULIGULA FERINA, *Linn.*

PLATE CCCXCVI.—MALE AND FEMALE.

At New Orleans, this bird is commonly known by the name of "Dos Gris." It arrives there in great flocks, about the first of November, and departs late in April, or in the beginning of May. On the lakes Borgne, St. John, and Ponchartrain, it is very abundant, keeping in large flocks, separate from the other species. In that part of the country its food consists of small fishes, in pursuit of which it is seen constantly diving. It is caught in different sorts of nets, and easily kept in confinement, feeding greedily on Indian corn, whether entire or crushed by the millstone. In 1816, many thousands of these Ducks as well as others of different species, were caught in nets by a Frenchman, who usually sent them alive to market in cages from the narrows of the Lakes, especially from those called "La

22.

Canvas-back Duck

1. Male 2. Female

VIEW OF BALTIMORE, MARYLAND

Engraved & Colored by J. T. Bowen, Phila.

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