

with an oblique papillate flap on each side; the lower mandible deeply concave. The tongue is of moderate length, measuring $1\frac{3}{4}$ inches, emarginate at the base, trigonal, flat above, tapering to a point. The œsophagus, which is 12 inches long, gradually diminishes in diameter from $1\frac{1}{2}$ inches to 1 inch. The proventriculus is $1\frac{1}{2}$ inches long, its glandules cylindrical, forming a complete belt, the largest 3 twelfths long. The stomach is roundish, 2 inches in diameter, compressed; its muscular coat thin, and composed of large fasciculi; its tendinous spaces nearly 1 inch in diameter; its inner coat even, soft, and destitute of epithelium. There is a small roundish pyloric lobe, 4 twelfths in diameter; the aperture of the pylorus is extremely small, having a diameter of only half a twelfth. The intestine is long and very slender, 6 feet 3 inches in length, its diameter at the upper part 3 twelfths, diminishing to $2\frac{1}{4}$ twelfths, for about a foot from the extremity enlarged to 5 eighths; the rectum $6\frac{1}{4}$ inches long; the cœcum 5 twelfths long, $1\frac{1}{2}$ twelfths in diameter at the base, tapering to 1 twelfth, the extremity rounded. The stomach contained fragments of crustacea.

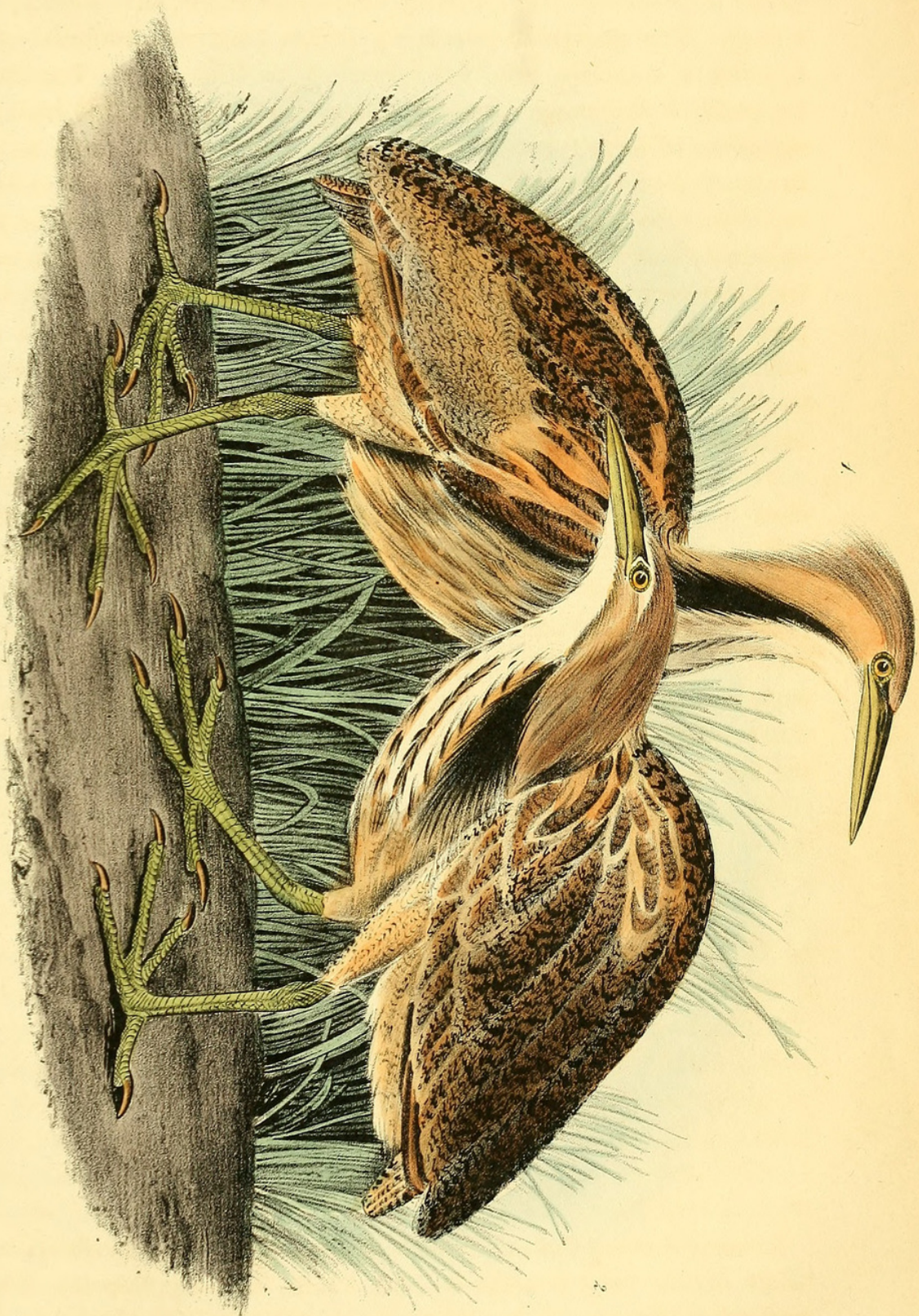
The trachea is $8\frac{1}{2}$ inches long, cylindrical; the rings 154, and ossified; its diameter at the top $5\frac{1}{2}$ twelfths, diminishing in the space of an inch and a half to 3 twelfths, and so continuing nearly to the end, when it contracts to $2\frac{1}{2}$ twelfths. The last rings are much extended, and divided into two portions, the last transverse half ring arched, and 5 twelfths in length. The bronchi are in consequence very wide at the top, gradually taper, and are composed of about 25 half rings. The contractor muscles are very feeble; the sterno-tracheal slender; a pair of inferior laryngeal muscles inserted into the first bronchial ring.

AMERICAN BITTERN.

†ARDEA LENTIGINOSA, *Swains.*

PLATE CCCLXV.—MALE AND FEMALE.

It never was my fortune to have a good opportunity of observing all the habits of this very remarkable bird, which, in many respects, differs from most other Herons. It is a winter resident in the Peninsula of the Floridas, as well as many of the keys or islets which border its shores. But the



W. H.

American Bittern

1. Male & Female

greater number of individuals which pass over the United States, on their way northward, in March, come from places beyond our southern limits. During my residence in Kentucky, I never saw nor heard of the occurrence of one of them; and although I have killed and assisted in killing a considerable number at various times of the year, I never heard their booming or love-notes; or, if I have, I did not feel assured that the sounds which reached my ears were those of the American Bittern. This may probably appear strange, considering the many years I have spent in searching our swamps, marshes, and woods. Yet true it is that in all my rambles I had not the good fortune to come upon one of these birds sitting on its eggs, either among the grass or rushes, or on the branches of low bushes, where, I have been informed, it builds.

In Lower Louisiana it is called the "Garde Soleil," because they say it will stand on one foot for hours, with its eyes, or one of them at least, fixed on the orb of day, and frequently spread out its wings, in the manner of Cormorants and Vultures, to enjoy the heat, or perhaps the gentle breeze. There it is seldom obtained in spring, but is a regular autumnal visitant, appearing early in October, and frequenting the marshes both of fresh and salt water, where many remain until the beginning of May. It is then common in the markets of New Orleans, where it is bought by the poorer classes to make gombo soup. In almost every other part of the United States it is commonly called the "Indian Pullet," or "Indian Hen."

Although in a particular place, apparently favourable, some dozens of these birds may be found to-day, yet, perhaps, on visiting it to-morrow, you will not find one remaining; and districts resorted to one season or year, will be found deserted by them the next. That they migrate by night I have always felt assured, but that they are altogether nocturnal is rather uncertain, for in more than half a dozen instances I have surprised them in the act of procuring food in the middle of the day when the sun was shining brightly. That they are extremely timid I well know, for on several occasions, when I have suddenly come upon them, they have stood still from mere terror, until I have knocked them down with an oar or a stick. Yet, when wounded, and their courage is raised, they shew great willingness to defend themselves, and if in the presence of a dog, they never fail to spread out to their full extent the feathers of the neck, leaving its hind part bare, ruffle those of their body, extend their wings, and strike violently at their enemy. When seized they scratch furiously, and endeavour to bite, so that, unless great care be taken, they may inflict severe wounds.

I never saw one of them fly farther than thirty or forty yards at a time; and on such occasions, their movements were so sluggish as to give opportunities of easily shooting them; for they generally rise within a few yards

of you, and fly off very slowly in a direct course. Their cries at such times greatly resemble those of the Night and Yellow-crowned Herons.

My friends Dr. BACHMAN and Mr. NUTTALL, have both heard the love-notes of this bird. The former says, in a letter to me, "their hoarse croakings, as if their throats were filled with water, were heard on every side;" and the latter states that "instead of the *búmp* or *böömp* of the true Bittern, their call is something like the uncouth syllables of *'pump-äü-gàh*, but uttered in the same low, bellowing tone."

Dr. BACHMAN procured, on the 29th of April, 1833, about forty miles from Charleston, individuals, in the ovaries of which he found eggs so large as to induce him to believe that they would have been laid in the course of a single week. Some others which were procured by him and myself within nine miles of Charleston, on the 29th of March, had the eggs extremely small.

While at Passamaquody Bay, at the eastern extremity of the United States, I was assured that this species bred in the vicinity; but I saw none there, or in any of the numerous places examined on my way to Labrador and Newfoundland. In neither of these countries did I meet with a single person who was acquainted with it.

In few other species of maritime or marsh birds have I seen so much difference of size and weight, even in the same sex. Of about twenty specimens in my possession, scarcely two correspond in the length of the bills, legs, or wings. The plate before you was engraved from a drawing made by my son JOHN WOODHOUSE.

AMERICAN BITTERN, *Ardea minor*, Wils. Amer. Orn., vol. vii. p. 35.

ARDEA MINOR, Bonap. Syn., p. 307.

AMERICAN BITTERN, *Ardea lentiginosa*, Swains. and Rich. F. Bor. Amer., vol. ii. p. 374.

AMERICAN BITTERN, Nutt. Man., vol. ii. p. 60.

AMERICAN BITTERN, *Ardea minor*, Aud. Orn. Biog., vol. iv. p. 296.

Male, 27, 45. Female, $26\frac{1}{2}$, $42\frac{1}{2}$.

Winter resident in the Floridas. Migrates over most part of the United States. Not seen in Kentucky. Abundant in Texas. Migratory.

Adult Male.

Bill longer than the head, moderately stout, straight, compressed, tapering to the point. Upper mandible with its dorsal line straight, towards the end slightly convex and declinate, the ridge broad and rather rounded at the base, gradually narrowed to the middle, then a little enlarged, and again narrowed to the point, the sides bulging, towards the margin erect, the edges sharp, towards the end obscurely serrated, the tip narrow, with a distinct notch or sinus on each side. Nasal groove oblong, with a long depressed line in front;

nostrils sub-basal, linear, longitudinal. Lower mandible with the angle very long and extremely narrow, the dorsal line ascending and slightly convex, the sides flattened and sloping outwards, the edges sharp, direct, obscurely serrulate, the tip extremely slender.

Head small, oblong, much compressed. Neck long. Body slender, much compressed. Legs longish, stout; tibia bare for about an inch, reticulated all round, the scales on the hind part larger; tarsus roundish, with numerous large scutella before, reticulated behind with angular scales; toes very long, slender, marginate, the fourth and third connected by a short web, not reaching the second joint of the former; first toe large, second longer than fourth, all covered with numerous large scutella above; claws long, slender, tapering, slightly arched, that of hind toe much larger and more arched.

Eyelids, and a large space before the eye, bare. Plumage loose, soft, and blended; hind part of neck in its whole length, and a large space on the fore part of the breast, without feathers, but covered, those on the neck being directed obliquely backwards. Wings rather short, broad, convex; primaries broad, rounded, the first pointed, shorter than the third, which is slightly exceeded by the second, the rest slowly graduated; secondaries very broad, rounded, the inner elongated so as slightly to exceed the primaries when the wing is closed. Tail very short, rounded, of *ten* feathers.

Bill dull yellowish-green, the ridge of the upper mandible brownish-black, of a lighter tint toward the base. Bare space before the eye brown; eyelids greenish-yellow; iris reddish-yellow. Feet dull yellowish-green; claws wood-brown. Upper part of the head brownish-grey; a streak of pale buff over the eye to behind the ear; a dusky streak from the posterior angle of the eye; the cheek and an oblique band to the middle of the neck light brownish-yellow; beneath which is a dusky brown line from the base of the lower mandible, continuous with a gradually enlarged band of black, which runs along the side of the neck; the upper parts yellowish-brown, patched, mottled, freckled, and barred with dark brown; alula, primary coverts, and most of the quills, deep bluish-grey, approaching to black; the tips of all these feathers light reddish-brown, dotted with bluish-grey. The fore part of the neck white above, yellowish-white beneath, the throat with a middle longitudinal line of yellowish-brown spots; on the rest of the neck each feather with a light brown central mark edged with darker, the rest of the lower parts dull yellowish-white, most of the feathers marked like those on the neck.

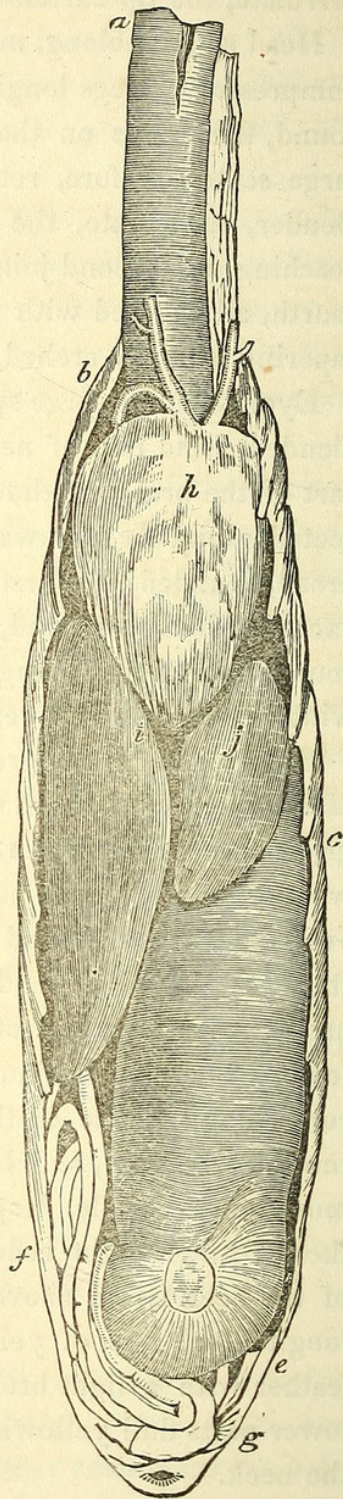
Length to end of tail 27 inches, to end of wings $26\frac{1}{2}$, to carpal joint 17, to end of claws $32\frac{3}{4}$; extent of wings 45; wing from flexure $13\frac{1}{4}$; tail $4\frac{3}{8}$; bill along the ridge $3\frac{3}{8}$, along the edge of lower mandible $4\frac{1}{2}$; breadth of mouth 1; depth of bill at base $\frac{3}{4}$; bare part of tibia 1; tarsus $3\frac{5}{8}$; hind toe $1\frac{1}{4}$,

its claw $1\frac{1}{2}$; middle toe $3\frac{3}{8}$; its claw 1; outer toe $2\frac{5}{8}$, its claw $\frac{7}{8}$; inner toe $2\frac{1}{4}$, its claw $\frac{7}{8}$. Weight 1 lb. 7 oz.

The dimensions of a young male shot in autumn were as follows:

To end of tail 24 inches, to end of wings 24, to end of claws 29; extent of wings 26; wing from flexure $10\frac{1}{2}$. Weight 1 lb. $1\frac{1}{2}$ oz.

In dissecting this bird, the extreme compression of the body strikes one with surprise, its greatest breadth being scarcely an inch and a half, although it is capable of being much dilated. The great length and thickness of the neck are also remarkable; but these circumstances are not peculiar to the present species, being equally observed in many other Herons. On the roof of the mouth are three longitudinal ridges; the aperture of the posterior nares is linear, with an oblique flap on each side; the lower mandible is deeply concave, its crura elastic and expansile; the tongue $2\frac{1}{2}$ inches long, sagittate at the base with a single very slender papilla on each side, trigonal, tapering, flattened above; the width of the mouth is 10 twelfths; but the pharynx is much wider. The œsophagus, *a b c*, which is fifteen inches long, is very wide, having at its upper part, when inflated, a diameter of 2 inches, but gradually contracting to $\frac{1}{2}$ inch at its entrance into the thorax, and again expanding to 1 inch. Its walls are extremely thin, and when contracted, its mucous coat forms strongly marked longitudinal plaits. The proventriculus is very wide, its glands oblong and arranged in a belt 10 twelfths in breadth. The stomach, *e*, is of moderate size, membranous, that is with its muscular coat very thin, and not forming lateral muscles; its tendinous spaces large and round, its inner coat smooth and soft; its greatest diameter 1 inch. There is a small roundish pyloric lobe, as in other Herons. Both lobes of the liver lie on the right side of the proventriculus; one, *i*, being 1 inch 10 twelfths, the other, *j*, 1 inch 2 twelfths long; the gall-bladder large, 11 twelfths long. The intestine is long and very slender, measuring 4 feet 7 inches, with a diameter of only 2 twelfths at its upper part, and $1\frac{1}{2}$ twelfths at the lower,



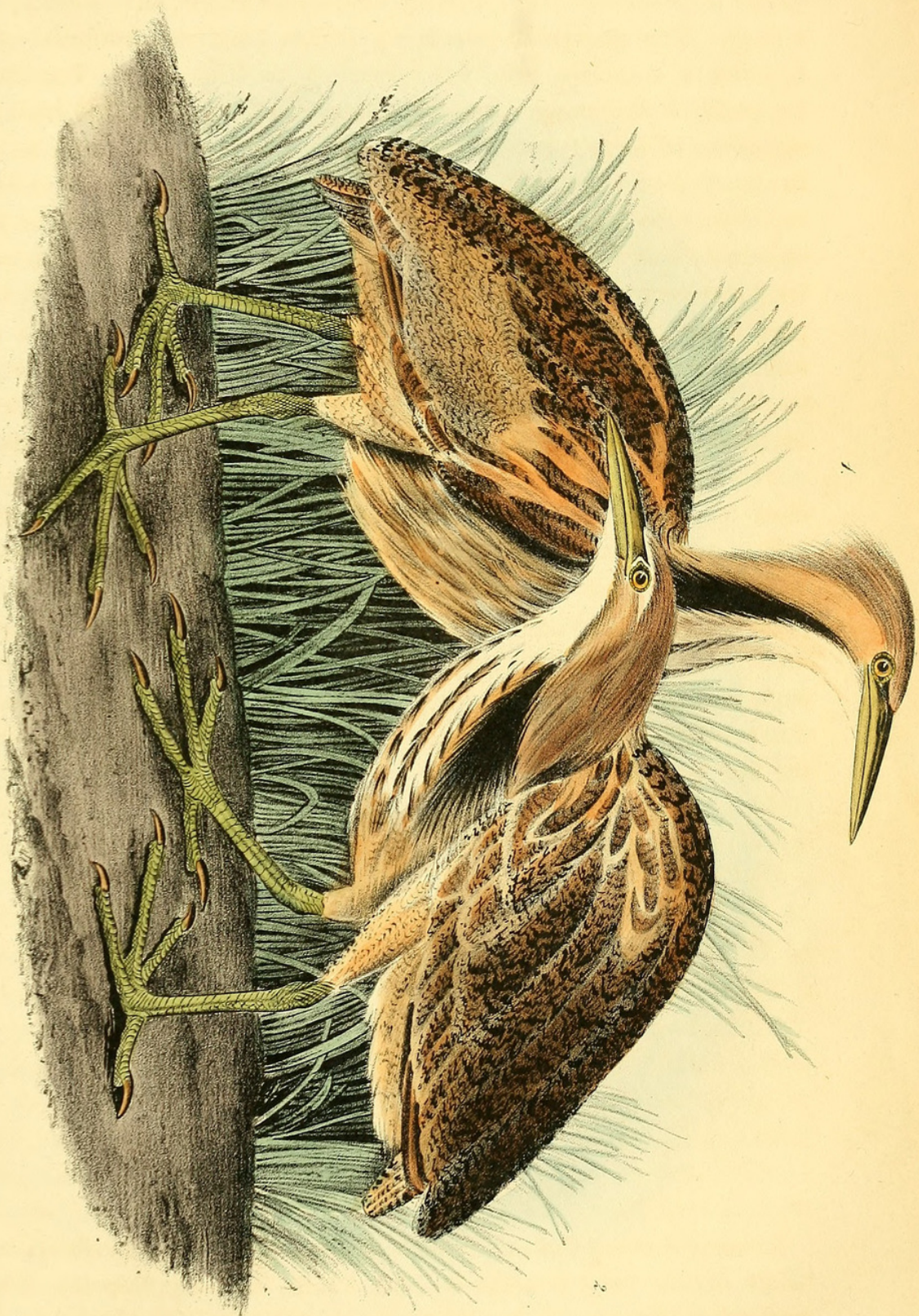
when inflated; the rectum 4 inches long and 4 twelfths in diameter, its anterior extremity rounded, and having a minute papilliform termination, only 1 twelfth long.

The trachea, which is $12\frac{1}{2}$ inches long, differs from that of ordinary Herons in being much compressed, especially at its upper and lower extremities; the middle part being less so. It is also proportionally wider, and its rings are narrower. At the top its diameter is 5 twelfths, at the middle $4\frac{1}{2}$ twelfths, towards the lower part $4\frac{3}{4}$ twelfths, at the end $4\frac{1}{4}$ twelfths. The rings are osseous, in number 180; the five lower divided in front and behind, and much arched, the last measuring half an inch in a direct line between its extremities. The bronchi are in consequence very broad at their commencement, but gradually taper, and are composed of about 18 half rings. The contractor muscles are inconspicuous, the sterno-tracheal slender; and there is a single pair of inferior laryngeal, going to the first bronchial ring. The aperture of the glottis is 8 twelfths long, without any papillæ, but with a deep groove behind, and two thin-edged flaps.

In the digestive organs of this bird, there is nothing remarkably different from that of other Herons. The stomach contained remains of fishes and large coleopterous insects. The examination of the trachea, bronchi, and lungs, would not lead us to suppose that its cry is of the curious character represented, although it certainly would induce us to believe it different from that of ordinary Herons, which have the trachea narrower, round, and with broader and more bony rings.

Although in external appearance and habits it exhibits some affinity to the Rails, its digestive organs have no resemblance to theirs.

An egg presented by Dr. BREWER of Boston, measures two inches in length by one inch and a half, and is of a broadly oval shape, rather pointed at the smaller end, and of a uniform dull olivaceous tint.



W. H.

American Bittern

1. Male & Female



Audubon, John James. 1843. "American Bittern, *Ardea lentiginosa*, Swains. [Pl. 365]." *The birds of America : from drawings made in the United States and their territories* 6, 94–99. <https://doi.org/10.5962/p.319479>.

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