which raises the wing. The furcula, *k*, *k*, *l*, is anchylosed with the crest of the sternum, at *h*, has its crura moderately stout and much diverging, and its upper extremity very broad and recurvate. The scapula, of which only the anterior process *t*, *l*, is seen, is small. A sternal apparatus like this indicates a steady and powerful flight, the wings being supported upon a very firm basis, and well separated. The great mass of the pectoral muscle being thrown forward, it acts more directly than in such birds as the Gallinæ and Ducks, in which it is placed farther backwards, and although its bulk is not so great as in them, it is more advantageously situated. The sternal apparatus of this Pelican is thus extremely similar to that of the Cormorant, and the American Anhinga, and is also constructed on the same plan as that of the Gannets, although in the latter its body is more elongated.

THE BROWN PELICAN.

† Pelecanus fuscus, *Linn.*

PLATE CCCCXXIII.—Male. PLATE CCCCXXIV.—Young.

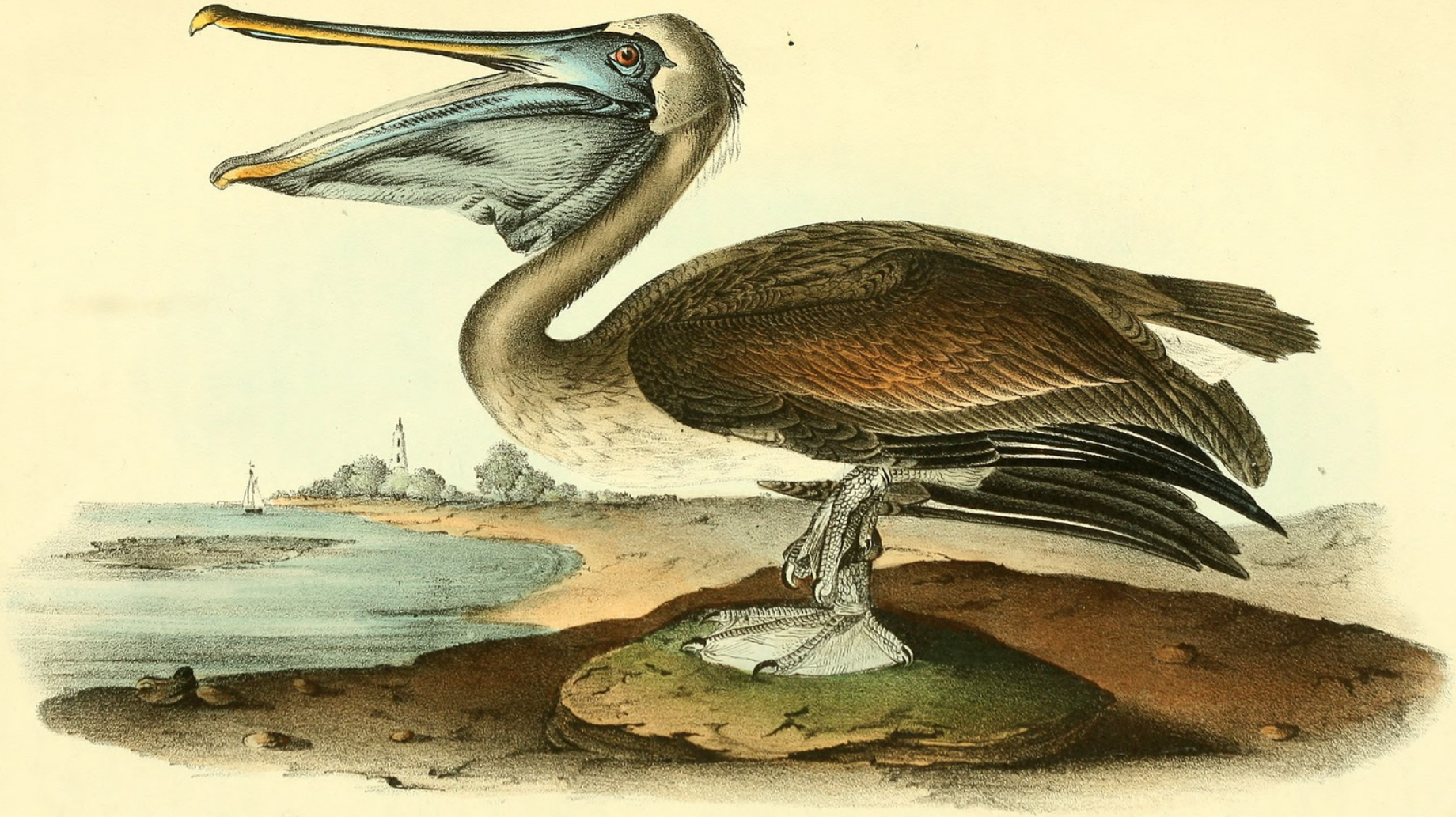
The Brown Pelican, which is one of the most interesting of our American birds, is a constant resident in the Floridas, where it resorts to the Keys and the salt-water inlets, but never enters fresh-water streams, as the White Pelican is wont to do. It is rarely seen farther eastward than Cape Hatteras, but is found to the south far beyond the limits of the United States. Within the recollection of persons still living, its numbers have been considerably reduced, so much indeed that in the inner Bay of Charleston, where twenty or thirty years ago it was quite abundant, very few individuals are now seen, and these chiefly during a continuance of tempestuous weather. There is a naked bar, a few miles distant from the main land, between Charleston and the mouth of the Santee, on which my friend John Bachman some years ago saw a great number of these birds, of which he procured several; but at the present day, few are known to breed farther east than the salt-water inlets running parallel to the coast of Florida, forty or fifty miles south of St. Augustine, where I for the first time met with this Pelican in considerable numbers.

Brown Pelican.

Adult Male

Drawn from Nature by J. J. Audubon F.R.S. F.L.S.

Lith. Printed & Col.d by J. T. Bowen, Philadelphia



Brown Pelican.

Young first Winter.

Drawn from Nature by J. J. Audubon, F.R.S. F.L.S.

Lith. Printed & Col.d by J. T. Bowen, Philad.a

My friend John Bulow, Esq. took me in his barge to visit the Halifax, which is a large inlet, and on which we soon reached an island where the Brown Pelicans had bred for a number of years, but where, to my great disappointment, none were then to be seen. The next morning, being ten or twelve miles farther down the stream, we entered another inlet, where I saw several dozens of these birds perched on the mangroves, and apparently sound asleep. I shot at them from a very short distance, and with my first barrel brought two to the water, but although many of them still remained looking at us, I could not send the contents of my second barrel to them, as the shot had unluckily been introduced into it before the powder. They all flew off one after another, and still worse, as the servants approached those which had fallen upon the water, they also flew away.

On arriving at the Keys of Florida, on board the Marion Revenue Cutter, I found the Pelicans pretty numerous. They became more abundant the farther south we proceeded, and I procured specimens at different places, but nowhere so many as at Key West. There you would see them flying within pistol-shot of the wharfs, the boys frequently trying to knock them down with stones, although I believe they rarely succeed in their efforts. The Marion lay at anchor several days at a short distance from this island, and close to another. Scarcely an hour of daylight passed without our having Pelicans around us, all engaged at their ordinary occupations, some fishing, some slumbering as it were on the bosom of the ocean, or on the branches of the mangroves. This place and all around for about forty miles, seemed to be favourite resorts of these birds; and as I had excellent opportunities of observing their habits, I consider myself qualified to present you with some account of them.

The flight of the Brown Pelican, though to appearance heavy, is remarkably well sustained, that bird being able not only to remain many hours at a time on wing, but also to mount to a great height in the air to perform its beautiful evolutions. Their ordinary manner of proceeding, either when single or in flocks, is by easy flappings and sailings alternating at distances of from twenty to thirty yards, when they glide along with great speed. They move in an undulated line, passing at one time high, at another low, over the water or land, for they do not deviate from their course on coming upon a key or a point of land. When the waves run high, you may see them "troughing," as the sailors say, or directing their course along the hollows. While on wing they draw in their head between their shoulders, stretch out their broad webbed feet to their whole extent, and proceed in perfect silence.

When the weather is calm, and a flood of light and heat is poured down upon nature by the genial sun, they are often, especially during the love

season, seen rising in broad circles, flock after flock, until they attain a height of perhaps a mile, when they gracefully glide on constantly expanded wings, and course round each other, for an hour or more at a time, after which, in curious zigzags, and with remarkable velocity, they descend towards their beloved element, and settle on the water, on large sand-bars or on mangroves. It is interesting beyond description to observe flocks of Brown Pelicans thus going through their aërial evolutions.

Now, reader, look at those birds standing on their strong legs, on that burning sand-bar. How dexterously do they wield that great bill of theirs, as they trim their plumage! Now along each broad quill it passes, drawing it out and displaying its elasticity; and now with necks stretched to their full length, and heads elevated, they direct its point in search of the insects that are concealed along their necks and breasts. Now they droop their wings for awhile, or stretch them alternately to their full extent; some slowly lie down on the sand, others remain standing, quietly draw their head over their broad shoulders, raise one of their feet, and placing their bill on their back, compose themselves to rest. There let them repose in peace. Had they alighted on the waters, you might have seen them, like a fleet at anchor, riding on the ever-rolling billows as unconcernedly as if on shore. Had they perched on yon mangroves, they would have laid themselves flat on the branches, or spread their wings to the sun or the breeze, as Vultures are wont to do.

But see, the tide is advancing; the billows chase each other towards the shores; the mullets joyful and keen leap along the surface, as they fill the bays with their multitudes. The slumbers of the Pelicans are over; the drowsy birds shake their heads, stretch open their mandibles and pouch by way of yawning, expand their ample wings, and simultaneously soar away. Look at them as they fly over the bay; listen to the sound of the splash they make as they drive their open bills, like a pock-net, into the sea, to scoop up their prey; mark how they follow that shoal of porpoises, and snatch up the frightened fishes that strive to escape from them. Down they go, again and again. What voracious creatures they are!

The Brown Pelicans are as well aware of the time of each return of the tide, as the most watchful pilots. Though but a short time before they have been sound asleep, yet without bell or other warning, they suddenly open their eyelids, and all leave their roosts, the instant when the waters, which have themselves reposed for awhile, resume their motion. The Pelicans possess a knowledge beyond this, and in a degree much surpassing that of man with reference to the same subject: they can judge with certainty of the changes of weather. Should you see them fishing all together, in retired bays, be assured, that a storm will burst forth that day; but if they pursue

their finny prey far out at sea, the weather will be fine, and you also may launch your bark and go to the fishing. Indeed, most sea-birds possess the same kind of knowledge, as I have assured myself by repeated observation, in a degree corresponding to their necessities; and the best of all prognosticators of the weather, are the Wild Goose, the Gannet, the Lestris, and the Pelican.

This species procures its food on wing, and in a manner quite different from that of the White Pelican. A flock will leave their resting place, proceed over the waters in search of fish, and when a shoal is perceived, separate at once, when each, from an elevation of from fifteen to twenty-five feet, plunges in an oblique and somewhat winding direction, spreading to the full stretch its lower mandible and pouch, as it reaches the water, and suddenly scoops up the object of its pursuit, immersing the head and neck, and sometimes the body, for an instant. It immediately swallows its prey, rises on wing, dashes on another fish, seizes and devours it, and thus continues, sometimes plunging eight or ten times in a few minutes, and always with unerring aim. When gorged, it rests on the water for awhile, but if it has a brood, or a mate sitting on her eggs, it flies off at once towards them, no matter how heavily laden it may be. The generally received idea that Pelicans keep fish or water in their pouch, to convey them to their young, is quite erroneous. The water which enters the pouch when it is immersed, is immediately forced out between the partially closed mandibles, and the fish, unless larger than those on which they usually feed, is instantly swallowed, to be afterwards disgorged for the benefit of the young, either partially macerated, or whole, according to the age and size of the latter. Of all this I have satisfied myself, when within less than twenty yards of the birds as they were fishing; and I never saw them fly without the pouch being closely contracted towards the lower mandible. Indeed, although I now much regret that I did not make the experiment when I had the means of doing so, I doubt very much if a Pelican could fly at all with its burden so much out of trim, as a sailor would say.

They at times follow the porpoise, when that animal is in pursuit of prey, and as the fishes rise from the deep water towards the surface, come in cunningly for their share, falling upon the frightened shoal, and seizing one or more, which they instantly gobble up. But one of the most curious traits of the Pelican is, that it acts unwittingly as a sort of purveyor to the Gulls just as the Porpoise acts towards itself. The Black-headed Gull of Wilson, which is abundant along the coast of the Floridas in spring and summer, watches the motions of the Pelicans. The latter having plunged after a shoal of small fishes, of which it has caught a number at a time, in letting off the water from amongst them, sometimes allows a few to escape; but the

Gull at that instant alights on the bill of the Pelican, or on its head, and seizes the fry at the moment they were perhaps congratulating themselves on their escape. This every body on board the Marion observed as well as myself, while that vessel was at anchor in the beautiful harbour of Key West. To me such sights were always highly interesting, and I doubt if in the course of my endeavours to amuse you, I ever felt greater pleasure than I do at this moment, when, with my journal at my side, and the Gulls and Pelicans in my mind's eye as distinctly as I could wish, I ponder on the faculties which Nature has bestowed on animals which we merely consider as possessed of instinct. How little do we yet know of the operations of the Divine Power! On the occasions just mentioned, the Pelicans did not manifest the least anger towards the Gulls.

On the ground this species is by no means so active, for it walks heavily, and when running, which it now and then does while in play, or during courtship, it looks extremely awkward, as it then stretches out its neck, partially extends its wings, and reels so that one might imagine it ready to fall at each step. If approached when wounded and on the water, it swims off with speed, and when overtaken, it suddenly turns about, opens its large bill, snaps it violently several times in succession, causing it to emit a smart noise in the manner of owls, strikes at you, and bites very severely. While I was at Mr. Bulow's, his Negro hunter waded after one whose wing had been broken. The Pelican could not be seized without danger, and I was surprised to see the hunter draw his butcher's knife, strike the long blade through the open pouch of the bird, hook it, as it were, by the lower mandible, and at one jerk swing it up into the air with extreme dexterity, after which he broke its neck and dragged it ashore.

The pouch measures from six to ten inches in depth, according to the age of the bird after the first moult. The superb male whose portrait is before you, and which was selected from among a great number, had it about the last mentioned size, and capable of holding a gallon of water, were the mandibles kept horizontal. This membrane is dried and used for keeping snuff, gunpowder and shot. When fresh it may be extended so as to become quite thin and transparent, like a bladder.

This Pelican seldom seizes fish that are longer than its bill, and the size of those on which it ordinarily feeds is much smaller. Indeed, several which I examined, had in the stomach upwards of a hundred fishes, which were only from two to three inches in length. That organ is long, slender, and rather fleshy. In some I found a great number of live blue-coloured worms, measuring two and a half inches in length, and about the thickness of a Crow-quill. The gut is about the size of a Swan's quill, and from ten to twelve feet in length, according to the age of the individual.

At all periods the Brown Pelican keeps in flocks, seldom amounting to more than fifty or sixty individuals of both sexes, and of different ages. At the approach of the pairing time, or about the middle of April, the old males and females separate from the rest, and remove to the inner keys or to large estuaries, well furnished with mangroves of goodly size. The young birds, which are more numerous, remain along the shores of the open sea, unless during heavy gales.

Now let us watch the full grown birds. Some skirmishes have taken place, and the stronger males, by dint of loud snappings of their bill, some hard tugs of the neck and head, and some heavy beats with their wings, have driven away the weaker, which content themselves with less prized belles. The females, although quiet and gentle on ordinary occasions, are more courageous than the males, who, however, are assiduous in their attentions, assist in forming the nest, feed their mates while sitting, and even share the labour of incubation with them. Now see the mated birds, like the citizens of a newly laid out town in some part of our western country, breaking the dry sticks from the trees, and conveying them in their bills to yon mangrove isle. You see they place all their mansions on the south-west side, as if to enjoy the benefit of all the heat of that sultry climate. Myriads of mosquitoes buzz around them, and alight on the naked parts of their body, but this seems to give them no concern. Stick after stick is laid, one crossing another, until a strong platform is constructed. Now roots and withered plants are brought, with which a basin is formed for the eggs. Not a nest, you observe, is placed very low; the birds prefer the tops of the mangroves, although they do not care how many nests are on one tree, or how near the trees are to each other. The eggs, of which there are never more than three, are rather elliptical, and average three inches and one-eighth in length, by two inches and one-eighth in their greatest breadth. The shell is thick and rather rough, of a pure white colour, with a few faint streaks of a rosy tint, and blotches of a very pale hue, from the centre towards the crown of the egg.

The young are at first covered with cream-coloured down, and have the bill and feet disproportionately large. They are fed with great care, and so abundantly, that the refuse of their food, putrid and disgusting, lies in great quantities round them; but neither young nor old regard this, however offensive it may be to you. As the former grow the latter bring larger fish to them. At first the food is dropped in a well macerated state into their extended throats; afterwards the fish is given to them entire; and finally the parent birds merely place it on the edge of the nest. The young increase in size at a surprising rate. When half fledged they seem a mere mass of fat, their partially indurated bill has acquired considerable length, their

wings droop by their sides, and they would be utterly unable to walk. The Vultures at this period often fall upon them and devour them in the absence of their parents. The Indians also carry them off in considerable numbers; and farther eastward, on the Halifax river, for instance, the Negroes kill all they can find, to make gumbo soup of them during winter. The Crows, less powerful, but quite as cunning, suck the eggs; and many a young one which has accidentally fallen from the nest, is sure to be picked up by some quadruped, or devoured by the Shark or Balacuda. When extensive depredations have thus been made, the birds abandon their breeding places, and do not return to them. The Pelicans in fact are, year after year, retiring from the vicinity of man, and although they afford but very unsavoury food at any period of their lives, will yet be hunted beyond the range of civilization, just as our best of all game, the Wild Turkey, is now, until to meet with them the student of nature will have to sail round Terra del Fuego, while he may be obliged to travel to the Rocky Mountains before he find the other bird. Should you approach a settlement of the Pelicans and fire a few shots at them, they all abandon the place, and leave their eggs or young entirely at your disposal.

At all seasons, the Negroes of the plantations on the eastern coast of the Floridas lie in wait for the Pelicans. There, observe that fellow, who, with rusty musket, containing a tremendous charge of heavy shot, is concealed among the palmettoes, on the brink of a kind of embankment formed by the shelly sand. Now comes a flock of Pelicans, forcing their way against the breeze, unaware of the danger into which they rush, for there, a few yards apart, several Negroes crouch in readiness to fire; and let me tell you, good shots they are. Now a blast forces the birds along the shore; off goes the first gun, and down comes a Pelican; shot succeeds shot; and now the Negroes run up to gather the spoil. They skin the birds like so many racoons, cut off the head, wings and feet; and should you come this way next year, you may find these remains bleached in the sun. Towards night, the sable hunters carry off their booty, marching along in Indian file, and filling the air with their extemporaneous songs. At home they perhaps salt, or perhaps smoke them; but in whatever way the Pelicans are prepared, they are esteemed good food by the sons of Africa.

The Brown Pelican is a strong and tough bird, although not so weighty as the white species. Its flesh is, in my opinion, always impure. It seems never satisfied with food, and it mutes so profusely, that not a spot of verdure can be seen on the originally glossy and deep-coloured mangroves on which it nestles; and I must say that, much as I admire it in some respects, I should be sorry to keep it near me as a pet.

During winter, when the mullet, a favourite fish with the Brown Pelican,

as it is with me, retires into deeper water, these birds advance farther to seaward, and may be seen over all parts of the Gulf of Mexico, and between the Florida Reefs and the opposite isles, especially during fine weather. They are very sensible to cold, and in this respect are tender birds. Now and then, at this season, they are seen on Lake Borgne and over Lake Pontchartrain, but never on the Mississippi beyond the rise of the tides, the space higher up being abandoned to the White Pelican. The keenness of their sight is probably equal to that of any Hawk, and their hearing is also very acute. They are extremely silent birds, but when excited they utter a loud and rough grunt, which is far from musical. Several persons in the Floridas assured me that the Brown Pelicans breed at all seasons of the year; but as I observed nothing to countenance such an idea, I would give it as my opinion that they raise only one brood in the season.

Their bodies are greatly inflated by large air-cells; their bones, though strong, are very light; and they are tough to kill.

Since I wrote my account of the habits of this very interesting bird, I have followed it westward as far as the inland bays of the Texas, where I found it almost as abundant as on the coast of the Floridas. In the former country however, I observed it breeding on the ground, and on the small naked islets of the large bays margining the Mexican Gulf. The nests were formed much in the same manner as when placed on trees, and the eggs were of the same number as stated. Having examined several specimens procured on the nest, in the act of incubation, I found that the plumage of the fully adult female is precisely like that of the male; and I am now convinced that birds of both sexes are several years in acquiring their full plumage, although the precise number of years is what I have not yet learned. Some additional observations respecting the habits of this species may now be stated.

During a severe gale, on the 7th of April, 1836, the wind coming from the north-west, I saw a flock of about thirty of these birds flying only a few feet above the water, and against the gale. Having proceeded a few yards, they plunged into the water, generally to leeward, and threw their bodies round as soon as their bills were immersed, giving a very curious appearance to the wings, which seemed as if locked. On seizing a fish they kept the bill beneath the surface for a short time in a perpendicular direction, and drew it up gradually, when the water was seen to flow out, after which they raised the bill to an horizontal position, and swallowed the fish. In this way the whole flock kept dashing and plunging pell-mell, like Gannets, over a space of about one hundred yards, fishing at times in the very surf, and where the water could not be more than a very few feet deep. Each of them must have caught upwards of a score of fishes. As soon as they were

satisfied, they flew in a line across the channel, and landed on low banks under the lee of the island, opposite our harbour. During all the time of their fishing they were attended by a number of Black-headed Gulls, *Larus Atricilla*, which followed all their movements, alighting on their heads, and feeding as I have already described. These Gulls followed their purveyors to the same low banks to spend the night.

Notwithstanding all that has been said to the contrary by some European writers, I feel perfectly satisfied that these Pelicans must make ample use of some oily matter contained in the uropygial gland, as their plumage is always dry in the midst of their continued plungings. On the 14th of the same month, my party happened to shoot a good number of Brown Pelicans, among which was one slightly wounded in the body. The sailors tied its bill with a piece of rope-yarn, and placed it in the stern of the boat; but while they were again charging their muskets, the bird recovered sufficiently to take to its wings, clear the boat, and fly off. In such a condition it must necessarily have perished of hunger.

PELECANUS FUSCUS, Bonap. Syn., p. 401.
BROWN PELICAN, Nutt. Man., vol. ii. p. 476.
BROWN PELICAN, *Pelecanus fuscus*, Aud. Orn. Biog., vol. iii. p. 376; vol. v. p. 212.

Adult, 52, 80.

Very abundant and constantly resident from Texas along the shores eastward to North Carolina. Breeds on trees and also on the ground; eggs three.

Adult Male.

Bill more than twice the length of the head, rather stout, straight, depressed towards the end. Upper mandible with the dorsal line straight as far as the unguis, the ridge broad and convex, separated from the side by a groove on each side, broader and more convex at the base, narrowed and flattened towards the unguis, which is curved, stout, convex above, sharp-edged, acute; sides of the bill perpendicular at the base, narrowed towards the middle, widened and approaching to horizontal towards the end; edges sharp, with a broad furrowed groove beneath for the reception of those of the lower mandible. Lower mandible with the angle extending to less than half an inch from the tip, and filled by a bare membrane, the sides nearly erect and convex, the edges sharp, the tip compressed, deflected, obtuse. The membrane of the lower mandible extends down the fore neck in the form of a wrinkled pouch.

Head of moderate size, oblong; neck long, stout; body rather slender. Feet short, stout, nearly central; tibia bare, its lower part covered all round with small scales; tarsus short, stout, compressed, covered all round with

hexagonal scales, of which the anterior are much larger; toes in the same plane, all connected by reticulated webs, the first shortest, the third and fourth nearly equal, reticulate at the base, scutellate along the rest of the upper surface, claws short, strong, curved, rather acute, that of hind toe with a sharp pectinate inner edge.

Feathers of the head and neck exceedingly small and slender, of the fore part of the head stiff, hair-like and glossy; of the upper middle part of the neck behind a little larger and soft, forming a slight longitudinal crest; of the sides and hind part of the neck soft and downy. The feathers of the upper parts in general are remarkably small, narrow, tapering to a point; of the lower part of the neck stiff and pointed, of the breast and sides somewhat larger than those above, and softer. Wings long, rounded; primaries much curved, with strong square shafts; the second longest, the third very little shorter, the first a little longer than the fifth, secondaries very numerous, rather small, rounded, the inner longer and more tapering. Tail short, slightly rounded, of twenty-two feathers.

Bill greyish-white, tinged with brown, and marked with irregular spots of pale carmine; upper mandible dusky towards the end, lower blackish from the middle to near the end. Bare space between the bill and the eye deep blue; eyelids pink; iris white. Feet black. The gular pouch is greenish-black, the ridges of its wrinkles lighter. The hair-like feathers on the fore part of the head light yellow, the rest of the head white; a stripe of the same margining the pouch to the middle of the neck, and extending a little beyond, a short space between these two lines anteriorly, and the whole of the posterior and lateral parts of the neck of a dark chestnut-brown, the small crest paler. The back and wings are dusky, each feather with the central part greyish-white; the latter colour prevails on the scapulars and larger wing-coverts. Primaries and their coverts brownish-black, secondaries greyish-brown, their outer edges greyish-white; tail light grey; the shafts of the quills and tail-feathers are white in their basal half, black towards the end. The lower parts are brownish-grey; the sides of the neck and body with narrow longitudinal white lines. On the fore neck, below the dark chestnut spot is a smaller pale yellow mark, behind which the feathers for a short space are blackish-brown.

Length to end of tail 52 inches, to end of wings 52, to end of claws $53\frac{1}{4}$; extent of wings 80; bill along the ridge $13\frac{1}{4}$, along the edge of lower mandible $14\frac{1}{4}$; depth of gular pouch 10, its extent along the neck 13; wing from flexure 24; tail 7; tarsus $2\frac{1}{2}$; middle toe $3\frac{11}{12}$, its claw $\frac{9}{12}$. Weight 6 lbs. $4\frac{1}{2}$ oz.

The Female, which is considerably larger, resembles the male in colour,

only that the neck is yellowish-white in its whole extent, without any brown, and its feathers are stiff and not downy as in the male. Weight 7 lbs. 12 oz.

Young.

Bill greyish-blue, its edges and unguis greyish-yellow; gular pouch dull greyish-blue. Iris brownish-yellow; bare space around the eye of a dusky bluish tint, the feathers margining it yellowish-white. The feathers of the head and neck are less downy than in the adult, and those on the sides of the latter less elongated or pointed. The head and neck are dark brown, as are the upper parts generally; the secondary and many of the smaller coverts margined with pale brown; the primaries and their coverts as well as the tail-coverts brownish-black, with white shafts. Feet and claws dull leaden colour.

In an adult female preserved in spirits the general peculiarities of the organization are the same as those described in the American White Pelican.

The Mangrove.

Rhizophora Mangle, *Linn.*, Syst. Nat., vol. ii. p. 325.

The species of *mangrove* represented in the plate is very abundant along the coast of Florida and on almost all the Keys, excepting the Tortugas. Those islands which are named Wet Keys are entirely formed of mangroves, which, raising their crooked and slender stems from a bed of mud, continue to increase until their roots and pendent branches afford shelter to the accumulating debris, when the earth is gradually raised above the surface of the water. No sooner has this taken place than the mangroves in the central part of the island begin to decay, and in the course of time there is only an outer fringe or fence of trees, while the interior becomes overgrown with grass and low bushes. Meantime the mangroves extend towards the sea, their hanging branches taking root wherever they come in contact with the bottom, and their seeds also springing up. I am at a loss for an object with which to compare these trees, in order to afford you an idea of them; yet if you will figure to yourself a tree reversed, and standing on its summit, you may obtain a tolerable notion of their figure and mode of growth. The stem, roots and branches are very tough and stubborn, and in some places the trees are so intertwined that a person might find it as easy to crawl over them as to make his way between them. They are evergreen, and their tops afford a place of resort to various species of birds at all seasons, while their roots and submersed branches give shelter to numberless testaceous mollusca and small fishes. The species represented is rarely observed on the coast of

Florida of a greater height than twenty-five or thirty feet, and its average height is not above fifteen feet. The *land mangrove*, of which I have seen only a few, the finest of which were on Key West, is a tall tree, much larger and better shaped than the other, with narrower leaves and shorter fruits.

Genus V.—SULA, *Briss.* GANNET.

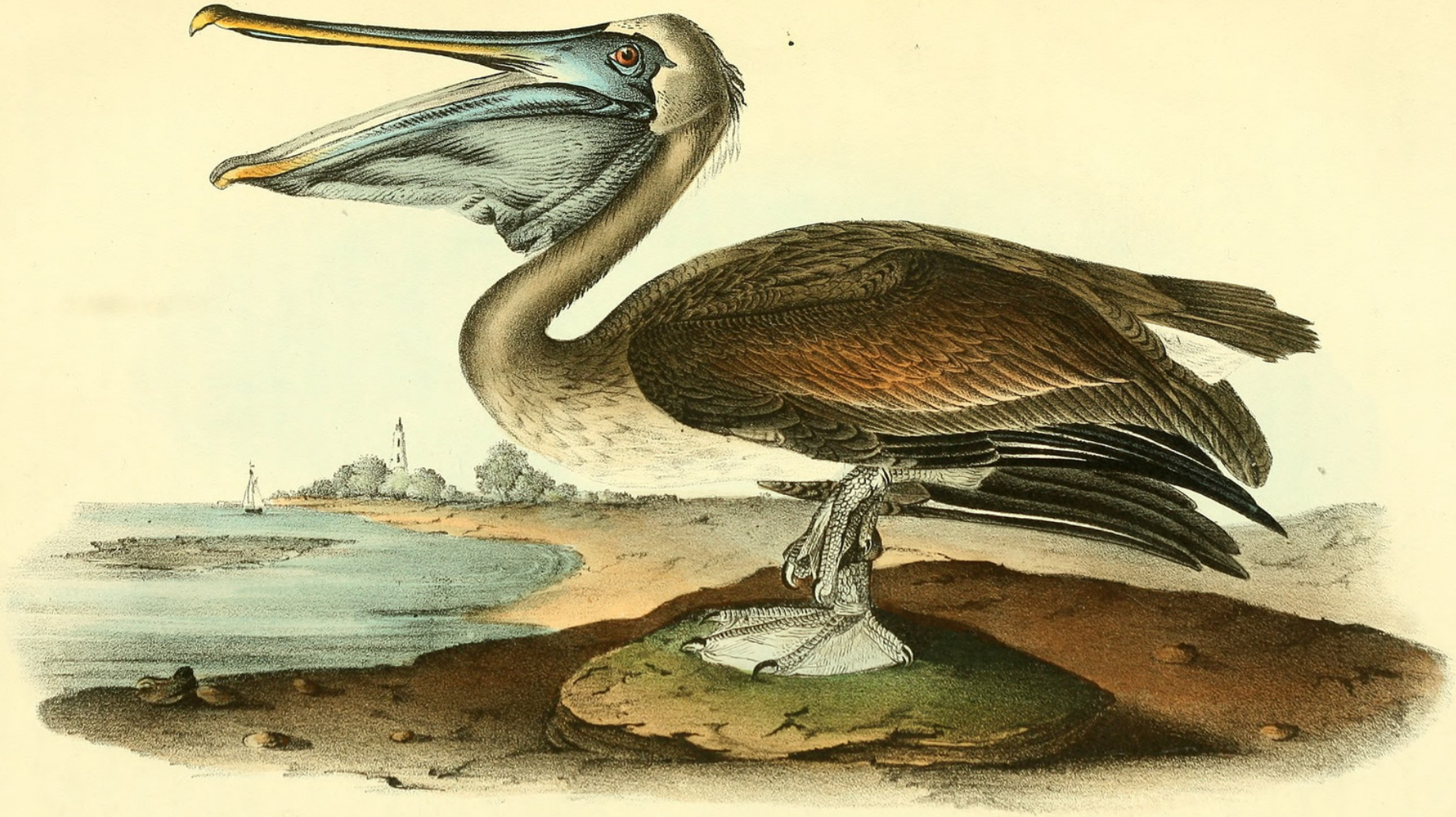
Bill longer than the head, opening beyond the eyes, straight, elongated, conical, moderately compressed; upper mandible with the dorsal line straight and declinate, at the end convex and a little decurved; the ridge very broad, convex, with a slight median carina, and separated on each side from the sides, which are perpendicular, slightly convex, and have an additional narrow-jointed piece below the eye; edges sharp, direct, irregularly serrate, with numerous slender cuts directed backwards, tip compressed, a little decurved, rather acute; lower mandible with the angle extremely long and narrow, the dorsal line straight, ascending, the sides erect, convex, the edges sharp and serrated, the tip compressed, acute. No external nostrils. Head large, neck of moderate length, and very thick; body of moderate bulk, rather elongated. Feet short, strong, placed rather far behind; tibiæ concealed; tarsus very short, rounded before, sharp behind, scaly, with three lines of small transversely oblong scutella, which run down the toes, the latter long and slender, all united by membranes having their margins straight; first toe rather small, directed inwards and forwards; middle toe longest, the outer almost equal. Claws of moderate size, slightly arched, that of the third toe pectinate. Plumage generally close, rather compact, on the head and neck blended. Wings very long, narrow, acute; first quill longest. Tail rather long, cuneate, of twelve or fourteen feathers. Gular sac small, with a small median portion bare; tongue extremely small, blunt; œsophagus extremely wide; proventricular glands forming a broad belt partially divided by intervals; stomach extremely small, its muscular coat thin, the inner soft; intestine of moderate length, slender; cœca very small; cloaca globular.

Brown Pelican.

Adult Male

Drawn from Nature by J. J. Audubon F.R.S. F.L.S.

Lith. Printed & Col.d by J. T. Bowen, Philadelphia



Brown Pelican.

Young first Winter.

Drawn from Nature by J. J. Audubon, F.R.S. F.L.S.

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