



Alligator - Mississippiensis.

From Life on Stone by J.H. Richard

F.S. Duval, Lith. Phil^a

ALLIGATOR.—*Cuvier.*

GENUS ALLIGATOR.—CHARACTERS. The fourth tooth of the lower jaw on each side largest, and received in a socket of the upper; posterior extremities rounded, without crests or dentations; toes never more than semi-palmated.

ALLIGATOR MISSISSIPPIENSIS. *Daudin.**Plate VI*

CHARACTERS. Nostrils separated from each other by a bony partition; forehead divided by a short, prominent, longitudinal carina; four large tubercles on the neck, arranged in rows on each side of the vertebral line.

SYNONYMES. Alligator, *Catesby*, Carolina, &c., vol. ii. p. 63, pl. lxiii.

Alligator, *Bartram*, Travels in Florida, &c., p. 126.

Crocodile de la Louisiane, *Lacoudrenière*, Journ. de Phys., tom. xx. p. 333.

Crocodylus Mississippiensis, *Daudin*, Hist. Nat. des Rept., tom. ii. p. 412.

Crocodylus lucius, *Cuvier*, Ann. Mus., tom. x. p. 28, pl. i. fig. 8, pl. ii. fig. 4.

Alligator lucius, *Merrem*, Versuch eines Syst. der Amphib., p. 34.

Crocodylus Cuvieri, *Leach*, Zool. Miscel., vol. i. p. 102.

Alligator lucius, *Fitzinger*, Neue Class. der Rept., p. 46.

Alligator Mississippiensis, *Gray*, Synops. Rept., p. 62.

Crocodylus lucius, *Harlan*, Med. and Phys. Res., p. 146.

Alligator lucius, *Dumeril et Bibron*, Hist. Nat. des Rept., tom. iii. p. 75.

Alligator, *Vulgo*.

DESCRIPTION. The head is elongated, sub-oval, rounded in front, truncated behind, with its sides nearly parallel, only approaching each other about the eighth or ninth superior tooth, and finally meet at "the snout, in a parabolic curve," which makes it resemble the head of a pike, (*Esox*.) The superior surface of the snout is elevated for the nostrils, and the forehead is subdivided by a short, sharp carina into two lateral halves; this ridge is peculiar to the Alligator. The internal and superior border of the orbit is raised into a sharp, prominent ridge, divided anteriorly in two short branches, one of which follows the original direction, and the other is turned towards the lateral margin of the jaw; between these two branches begins a furrow, more or less deep, which is continued nearly one half the length of the muzzle. The occipital region is broad, smooth, quadrilateral, and slightly pointed at its two posterior angles.

The opening of the nostrils are superior near the snout, and directed forwards and upwards; and from the earliest moment, as was observed by Cuvier, are separated from each other by a bony plate, which happens in no other of the Crocodile family. The eyes are large and prominent, the pupil elliptical, black, and the iris pale lemon colour, reticulated with dark brown. There are three eyelids, of which the superior is covered with two large plates and several smaller ones.

The external meatus of the ear is placed on the same line with the orbit, directly behind and near it, and is furnished with two movable lips, one above, the other below, by which it can be closed when the animal is under water and opened when he is on land.

The jaws are slightly curved or festooned at their borders, and armed with forty teeth above and below; of which the fourth inferior pair is largest of all, and received in sockets of the upper jaw when the mouth is closed.

The neck is contracted and covered above with plates, smooth or tuberculated,

four of which are remarkable, each with a strong carina or tubercle, oval at the base and compressed laterally above. These four tubercles are so placed on each side the mesial line, as to make two crests or ridges, with a broad gutter between them. Behind these plates are two others of similar form, but slightly elevated; and on the outer side of these latter again, is a small carinated tubercle over each shoulder. The throat is covered with small and smooth plates.

The body is elongated, rounded above, full at the flanks and flat below. Superiorly it is protected by quadrilateral, strongly tuberculo-carinated plates, disposed in longitudinal and transverse series, forming ridges along the back. Of these longitudinal ridges there are eight, the four internal extending the whole length of the body; the two external on each side are shorter, and the outer is shortest of all. Below these tubercles the flanks are covered with smaller plates, smooth, rhomboidal or oval, and arranged in nine or ten longitudinal rows.

The thorax and abdomen are protected by broad, smooth, quadrilateral plates, large on the belly, less extensive between the anterior extremities, and very small between the posterior. These plates are arranged in longitudinal and transverse series; ten of the former and about thirty of the latter.

The tail is large, long, compressed and thick below, and surmounted above with a double, strongly serrated crest on its anterior, and by a single crest on its posterior half. The vent is a longitudinal fissure, surrounded by many small, smooth plates.

The anterior extremities are large, strong, and covered above by broad, smooth, rhomboidal or quadrilateral plates; and below by plates still smaller, though of similar form.

There are five fingers, the second and third, and the third and fourth, slightly palmate; the three internal only are furnished with nails. The posterior extre-

mities are nearly twice the size of the anterior; they are rounded and covered in the same manner, but with larger plates. The tarsus is flattened and sustains four toes, the three external semi-palmate, and the three internal armed with nails.

COLOUR. The whole superior surface of the Alligator is dusky in the old animal, but in the young it is banded with dirty yellowish-white, most remarkable on the tail. The throat is yellowish-white; the plates of the abdomen are straw colour on their posterior half and dusky on their anterior, lightest in the young animal. The tail is coloured below like the belly, but still more dusky.

DIMENSIONS. Length of head, 14 inches; length of body, 3 feet 1 inch; length of tail, 5 feet; total length, 9 feet 5 inches. The Alligator, however, frequently reaches dimensions much greater; I have seen one in Carolina $13\frac{1}{2}$ feet long. Bartram says in Florida they exceed the length of 23 feet, a size almost incredible.

HABITS. Alligators abound in the low, stagnant ponds and deep morasses of the southern states, where hundreds of them can be seen at a time, either on the flat marshy banks of creeks and rivers, or on sandy or muddy shores left dry by the ebb of the tide. Here they remain motionless for hours, apparently asleep, and are often mistaken for logs of dead and decaying wood, as well as from their colour as from their perfect immobility; but when disturbed by the approach of enemies, they suddenly retreat to the water. At other times they may be observed floating on the surface of the water and only directed by its current; suddenly they skim along with the greatest velocity, either in search of food or of their mate.

Such Alligators as dwell in ponds and streams out of the influence of tide-water, wander much further from the banks, and are not unfrequently seen a mile or more from water; this happens, however, most commonly when they migrate for some reason or other from one pool to another.

The Alligator in his native state is exceedingly voracious, and feeds on any animal substance that may fall in his way; though he seems mostly attracted by fish, and by other animals in motion, as minks, musk-rats, dogs, &c., so as to render it almost impossible for them to cross even small streams without danger, at certain seasons of the year. These the Alligator seizes, drags under water, suffocates, and conveys to his lair, to be devoured at leisure.

Having no prehensile organs but the mouth and strong teeth with which they seize their prey, drag and retain it under water, and breathing as they do, only atmospheric air, and with lungs, it follows that they might as soon be suffocated, when thus submerged, as their struggling prey. A curious arrangement of the soft palate prevents this; it hangs down to meet a broad cartilaginous plate that projects upwards from the lingual bone, so as to close completely the fauces, (in which the trachea is placed,) when the mouth is widely opened, and effectually prevents the introduction of water to the lungs, which would cause the death of the animal.

Alligators are said to lie in wait for their prey on the banks of creeks and rivers, and when it approaches, they sweep it into the water with their tail; and it is certain that the animal uses the tail in defence, striking with it the enemy, and turning the head to the same side, at the same instant, so as to represent nearly a circle; further than this it cannot be carried, in consequence of the extreme length of the transverse processes of the cervical vertebræ.

The Alligator takes the hook readily enough, when baited with flesh, but it requires strong tackle, such as is used in shark-fishing, to secure them, so great is the strength of an adult animal. When taken, they emit a disagreeable odour of musk, which proceeds from glands placed under the lower jaw. These glands are sometimes preserved and used as a substitute for musk in perfumery.

Besides the natural food of the animal, there is at all times found in the stomach of the Alligator, various extraneous substances, as stones, pieces of

wood, fragments of glass, broken bottles, &c., and these latter have their angles rounded, probably by trituration with other hard substances. Many persons suppose these foreign matters are destined to keep the stomach distended, during the long fast the animal undergoes in winter: others think they aid digestion, as particles of gravel operate in the gizzards of birds. It is not easy to say what may be the precise use of these foreign substances found in the stomach of the Alligator, but there can be little doubt of their subserviency to the function of digestion, when it is remembered that they are universally present in the adult, and most commonly also in the young animal.*

The Alligator is much more timid than is commonly supposed, at least when on land; even Catesby says "it seldom attacks men and cattle, yet it is a great devourer of hogs." There is, I believe, no well authenticated instance with us in Carolina, of their having preyed on man; yet Lacoudrenière (*Journal de Physique*) says it often happens in Louisiana, and that they greatly prefer the flesh of the black to the white!! Alligators will, however, defend themselves boldly when on land and at certain seasons of the year; nor can they be made to retreat from their position, as I have more than once observed, yet on these occasions I have never known them the aggressors. Bartram gives a different account; he says, they are very ferocious, and that he "was nearly devoured" by one; his description should however be received with some caution; and yet, perhaps, the encroachments of man upon their dwelling-places, since Bartram wrote, may have rendered them more timid and distrustful.

The Alligator moves but slowly and with difficulty on land, in consequence of the shortness of the extremities compared with the great length of the body. He raises himself on his legs, advances for a short distance, dragging along the thick, heavy tail; now he falls upon the belly, apparently to rest for a time, before he proceeds on his journey. In water, however, he moves from place to place with great velocity, being propelled by his broad, strong, fin-like tail: besides, the

* Vid. description of the stomach in the anatomical part of this work.

peculiar structure of the heart—the large lungs—the nostrils closed with valves, make him eminently aquatic, and enables him to remain for a long time beneath the surface without injury. “Some of the organs of sense even are constructed to receive impressions under water as well as on land: thus the ear is covered with two movable lips, which are closed in one instance and separated in the other, as the impression is to be made by elastic or liquid fluids.”

The female Alligator mounts small sandy hillocks, or she constructs small mounds, with mud and vegetable substances, in which she deposits her eggs; these are hatched by the heat of the sun in about thirty days. As soon as the young are disengaged from the shell, they seek the water “and shift for themselves,” the parents taking no further care of them, though they may remain for some weeks in the same locality. Bosc says he once captured several young Alligators and preserved them for a time, and that their only food was insects, and to them they were not attracted unless they were in motion: I have never seen Alligators take any food whatever in confinement.

In the spring of the year and early summer months, and during the time of incubation, and especially on cloudy days or in the evening, Alligators make a great noise; their croak is not unlike that of the bull-frog, but louder and less prolonged; Bartram compares it to distant thunder!

On the approach of winter, these animals seek out holes in the earth, where they remain torpid until spring, or until the warmth of the weather excites them again to life and activity. In this state of hibernation, many are dug out of their retreats by the slaves, who esteem the tail as an article of food, and which, indeed, is tolerable.

GEOGRAPHICAL DISTRIBUTION. The Alligator is first observed on the Atlantic border of the United States at the mouth of the Neus river, in North Carolina; those that are occasionally seen farther north, must be considered as stragglers rather than permanent residents. From this point they abound near the mouths

of all the creeks and rivers that empty into the Atlantic ocean, or into the Gulf of Mexico, as far as New Orleans, ascending up the Mississippi as high as the entrance of Red river, six hundred miles. Cuvier, in his "Mémoire" on the Crocodiles, says, "Cette espece (Lucius) va assez loin au Nord; elle remonte le Mississippi jusque à la rivière rouge."

Dumeril and Bibron give the Alligator a still wider range; they say it apparently inhabits all parts of North America—"Qu'elle semble habiter dans toute son étendue,"—a striking proof of the inaccuracy of foreign herpetologists in arranging the geographical limits of our reptiles. In fact, the Alligator is never found north of lat. 35° on the Atlantic shore, and does not even reach the same parallel on the Mississippi, but stops at $33^{\circ} 50'$, the entrance of Red river—and what is this to the whole extent of North America? It may safely be affirmed, that nine-tenths of the territory of the United States east of the Rocky mountains, is uninhabited by this reptile.

GENERAL REMARKS. Catesby first described this animal, and gave a tolerable figure of it, under the name Alligator, in his "History of Carolina," &c. Linnæus next reviewed it in the twelfth edition of the "Systema Naturæ," but he seems to have regarded it but as a variety of the Nilotic crocodile, in which opinion he was followed by many naturalists of that time. In fact, the elder herpetologists "are in some degree excusable for their ignorance of the different species of Crocodiles, for the specific characters applied to them were variable, and often little accordant with nature."

It is to Cuvier that we owe nearly all that is worth knowing on this subject; it was he who first observed the differences of the Crocodiles of the old and new world. In a "Mémoire" read before the Institute of France, and afterwards published in Weidmann (Archiv. Zoot., b. ii. p. 161, Brunswick, 1801), he recognised the peculiarly shaped head of the Alligator—"flat, and resembling that of the pike"—and seems to have regarded it as distinct from the South American animal;

yet he observes that further observations of several individuals will be necessary to determine if it be really a distinct species.

Daudin next published an account of our animal in his *Natural History of Reptiles*, (1802,) under the name *Crocodylus Mississippiensis*, the description being taken from a "specimen killed on the borders of the Mississippi," and furnished him by Michaux the botanist. Cuvier having completed (1807) his most interesting observations on this family of animals, now described the Alligator as a new species, in the "*Annales du Muséum*," under the name "*Alligator lucius*," from the shape of the head resembling that of the common pike of Europe, (*Esox lucius*.)

This specific name, although perfectly appropriate, so far as regards the form of the head, cannot be retained, as that of *Mississippiensis*, imposed by Daudin, has the undoubted right of priority. Dr. Leach, an excellent English naturalist, afterwards reproduced this animal in his *Zoological Miscellany* as a new species, and dedicated it to Cuvier (*Crocodylus Cuvieri*), which specific name is liable to the same objection as that imposed by Cuvier himself; it is subsequent to that given by Daudin.

There exists some doubt as to the etymology of the term Alligator, by which the animal is now universally known; some have supposed it derived from the word "Legateer" or "Allegater," a name by which the young Crocodile is distinguished in some parts of India. Cuvier says it is much more probable that it is a corruption of the Portuguese "Lagarto," derived from the Latin "Lacerta," as Hawkins writes it "Alagartos;" and Sloan, in his *History of Jamaica*, spells it "Allagator."

FAMILY. IGUANIDA. *Dumeril et Bibron.*

CHARACTERS.

1. The body is covered above with horny plates or scales, which are without knobs or tubercles; most commonly, however, there is either a dorsal or caudal crest. The abdomen is covered with small plates.
2. The head is destitute of large plates.
3. The eyes are furnished with two movable lids.
4. The teeth are placed sometimes in a common socket or groove; at others, they are not set in the bone, but only united firmly to its free border.
5. The tongue is thick, fleshy, flattened, and covered with papillæ; is destitute of a sheath at its root, and is only movable at its tip.
6. The fingers and toes are free, distinct, of unequal length, and are all furnished with nails.

The family Squanida, according to Dumeril and Bibron, includes about forty-six genera, arranged in two sub-families or sections.

- I. Teeth mostly conical, and received in a cylindrical groove of the jaws.

II. Teeth solidly united to the most prominent part of the jaws, which offer no groove.

Four genera only of this family are found within the limits of the United States, viz: *Anolius*, *Tropidolepis*, *Crotaphytus* and *Phrynosoma*. The three first include each one species, and the latter four.

ANOLIUS.—*Cuvier. Dumeril et Bibron.*

GENUS ANOLIUS.—CHARACTERS. Head elongated, flattened and covered above with polygonal plates of unequal size, maxillary teeth variable in number and form; the anterior simple, rounded, pointed and recurved; posterior compressed, and tridentate at their summit; palatine teeth very small, or wanting altogether. Tongue thick, slightly notched at its apex; throat furnished with a dewlap or fold of skin, distensible at will. Body elongated, sub-cylindrical, more or less flattened, covered above with small scales of variable form, carinated or smooth, imbricated in some, juxta-posed in others; abdomen covered with imbricated scales, smooth or carinated; extremities well developed; third and fourth finger of same length; fourth toe longest; skin of four external fingers and toes developed beneath to form an oval disk, covered with large imbricated scales on their inferior surface; this dilatation most remarkable under the three middle fingers and toes. Tail cylindrical and very long.

Only one species of Anolius has hitherto been observed in the United States.

REMARKS. The most remarkable structure in the genus Anolius, is the great development of the anterior and inferior part of the ante-penultimate phalanges of the fingers and toes into an oblong oval disk, by means of which the animal can sustain himself, or even run with facility on perpendicular surfaces. Home supposes that a vacuum is produced in these disks, under the fingers and toes, at the will of the animal, and that he is thus kept in place by atmospheric pressure, like some insects, (*Cymbex lutea*.)

The genus *Anolius* exhibits another curious arrangement in its loose skin under the throat, generally folded, but capable of great distention at will, when it forms a dewlap of brilliant colours.

Most naturalists have supposed that this dilatation was produced by inflation, or the passage of air into the sac or fold, and hence has this been given generally as one of the generic characters.

Mr. Bell, a celebrated herpetologist of London, was the first, I believe, who observed the real cause of this distention of the skin at times under the throat, and demonstrated that it was not by inflation or filling the fold of skin with air, as there is no communication with the dewlap and the trachea, fauces or mouth, by which air could enter. The fold of skin is drawn down by a peculiar arrangement of the lingual bone, and a singular elastic cartilage fixed to it and attached to the skin. These parts are moved by delicate muscles, so that when the cartilage is drawn down, the skin of course is distended, and follows it in "the same way that the silk is stretched over the whalebone of an umbrella."*

In fact, the skin, when distended in life by the animal, does not resemble the inflated vocal sacs of the toad or frog, which are round, but looks like a fold of the skin, pinched and drawn down, the two portions being in contact, like a true dewlap.†

* Zool. Jour., vol. ii. p. 11.

† Vide anatomical portion of this work.



Holbrook, John Edwards. 1842. "Alligator mississippiensis – Daudin." *North American herpetology; or, A description of the reptiles inhabiting the United States* 2, 53–66. <https://doi.org/10.5962/p.326778>.

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