

MEDICAL

AND

PHYSICAL RESEARCHES:

OR

ORIGINAL MEMOIRS

IN

**MEDICINE, SURGERY, PHYSIOLOGY, GEOLOGY, ZOOLOGY, AND
COMPARATIVE ANATOMY.**

ILLUSTRATED WITH PLATES, CONTAINING 160 FIGURES.

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"The first professional knowledge should undoubtedly be the first object of the Physician's studies, general science should not be neglected, and is so far from being incompatible with that primary object, that it cannot fail to enlarge your views and give efficiency to your professional researches. So intimate is the connexion between every object of useful and scientific inquiry, that there is hardly one branch of knowledge which does not in some measure throw light and illustration upon others."—*Sir A. Cooper.—Lect. on Surgery.*

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Genera of North American REPTILIA, and a Synopsis of the Species.

THERE are few departments of natural science which, to American naturalists, have given rise to more investigation, than the history of the REPTILES of our widely-extended country. Within a very few years, most important facts have been elicited, and many new and interesting species have been added to a list, formerly extensive. The great obscurity and confusion peculiarly prevalent in the descriptions of authors who have written on this subject, though gradually dissipating, are by no means sufficiently cleared. To the student of *Herpetology*, whether general or local, a systematic arrangement of all the N. A. genera, with scientific descriptions of their species, cannot but be a desirable object.

Brongniart's division of the reptiles into four orders, viz: CHELONIA, SAURIA, OPHIDIA, and BATRACHIA, is universally acknowledged, and justly esteemed. As all systems are arbitrary, we shall take the liberty of deviating from the numerical arrangement of this author, and commence with that ORDER which best comports with our present convenience.

BATRACHIA.*

Characters of the ORDER.—Heart with a single auricle and ventricle; the latter destitute of fleshy columns, and discharging the blood by one opening: skin naked, usually lubricated by a mucous secretion: no external organs of generation in the male: fecundation external: the eggs

* From *βατραχος*—animals resembling frogs.

are deposited in the water: the young are hatched in that element, and at first possess branchiæ, which, in some genera, are persistent; in others, are absorbed when the lungs have acquired the proper degree of development: all destitute of true ribs, and possessing the faculty, more or less extensive, of changing their colours at will.

1st DIVISION.

Branchial fenestræ* persistent: skull composed of a solid piece.

1st GENUS. AMPHIUMA. Garden. Linn. Harlan.

Characters of the Genus.—Teeth in both jaws; legs, four, slender and jointless: toes before and behind, jointless, clawless.

The genus consists of two species.

AMPHIUMA means. Garden.

SYNONYMA. *Amphiuma means*, Garden. Smith's correspondence of Linnæus.

Amphiuma means, Harlan. Journal of Philad. A. N. Sc. Vol. 3—and Annals of the N. Y. Lyceum of Nat. Hist. Vol. 1. p. 269, pl. xxii.

Sireni simili, Linn. Smith's correspondence of Linnæus.

Chrysodonta larvæformis, Mitchell, Med. Recorder, No. 19. Vulgo, *Congo snake*.

Char.—*Colour*, dark brown; or slaty, with a bluish tinge on the sides, and the belly rather lighter: *head*, long, tapering, depressed: *mouth* extending half the length of the jaws: *teeth*, two rows above, and one below, with their points somewhat flattened and reflected: *legs*, small, distant, with rudiments only of bones concealed in the flesh, and with two clawless toes, the external the longest: *mi-*

* In common with several authors, we have hitherto used the term "Opercula," (coverings,) to express the idea intended by *branchial fenestræ*, (Gill openings.) The term "Spiracula," (breathing holes,) which is occasionally used as synonymous, is equally objectionable, as it conveys an erroneous idea.

nute rudiments of ribs attached to the transverse processes of the five or six dorsal vertebræ.

Habit.—Burrowing in the mud, in swamps, or in the vicinity of streams, where it searches its food, and hibernates; occasionally visiting the dry land.

Growing to the length of three feet.

Inhabits the southern Atlantic states, from South Carolina to Mexico. Specimens are common of late, in most of our museums. The species was for a long time neglected or unknown.*

AMPHIUMA tridactylum.

A. tridactylum. Cuv. Mem. lu à l'Acad. des Sc. le 13 Nov. 1826. Avec pl.

“The description of the *Amphiuma means* will apply in almost all respects to the species with three toes. Its general form is the same; its length is twenty times its diameter; the length of its head is nearly one-fourteenth of the body; the tail constitutes exactly one-fourth. In a word, in order to distinguish them it is necessary to confine our attention to the extremities; when we observe that the hands and feet are divided each into three toes perfectly distinct, which constitutes the only visible external character.”

A specimen in the Cab. of the Americ. Philos. Soc. from the Arkansaw, and in the Baltimore Museum, from the vicinity of Fort St. Philip, found several feet beneath the recent alluvial deposit, under a decayed trunk of a tree.

* June, 1829, received from Mr. F. Nesbit, of Alabama, thirty-four specimens of *A. MEANS*, from one-half foot, up to three feet in length.

Small fish and beetles were found in their stomachs. The size of the legs did not increase in proportion to the size of the animal. The largest measured six inches round the head.

2nd GENUS. MENOPOMA. Harlan.

Characters of the Genus.—Destitute of branchiæ at all periods of its existence: four strong legs: toes clawless: one or more rows of teeth in both jaws.

As yet only a single species of the genus is known.

MENOPOMA *alleghaniensis*.

SYNONYMA. *Salamandra alleghaniensis*, Michaux.

Salamandra gigantea, and *S. horrida*, Barton.

Protonopsis horrida, Barton.*

Salamandre des monts alleghaniens, Sonnini and Latreille.

Abranchus alleghaniensis, Harlan. Annals of Lyceum, Vol. 1, p. 233. pl. 17.

Menopoma alleghaniensis, Harlan. Annals of Lyc. N. Y. Vol. 1. p. 271.

Triton alleghaniensis, Daudin.

Molge gigantea, Merrim.

Vulgo, *Hell-bender*, *Mud-devil*, *Ground-puppy*, *Young alligator*,—and *Tweeg*, by the North American Indians.

Confounded with the *Proteus of the Lakes*, by Dr. Mitchell. Vide Silliman's Journal, Vol. IV. and VII. Also by Baron Cuvier, Animaux fossiles, 2d. edit. Vol. V. p. 417. Indicated as the young of the *Triton lateralis*, or "*Proteus of the Lakes*," by Say; vid. Journ. of A. N. S. Vol. 1.

Char.—*Lower jaw* furnished with a single row of teeth: *upper jaw* with two concentric rows: four strong legs: five toes behind, four before: the outer edge of the feet fimbriated: two outer toes of the hind feet palmated, clawless. Vid. Annals of the N. Y. Lyceum of Nat. Hist. Vol. 1. p. 222.

Inhabits the Ohio river and its tributaries.

2d DIVISION.

With persistent branchiæ: skull composed of separate pieces.

3d. GENUS. SIREN. Linn.

Characters of the Genus.—Body anguilliform; two anterior legs, toes small and clawless.

At present this genus consists of three species, the type of which is the

* A name proposed without a description, is not adopted by Zoologists.

SIRENA lacertina, Linn.

SYNONYMA. *Muræna siren*, Gm. Linn.

Muræna siren, Turt. Linn. and Stewart's Elements.

Mud iguana, Ellis. Amer. Philosoph. trans. Vol. VI. p. 189.

Siren lacertina, Barton.

S. lacertina, M. P. de Beauvois.—Fig. *passim*.

Char.—*Toes* four, clawless; long in the following order, commencing at the interior, 2, 1, 3, 4: *teeth*, two very minute rows surrounding the lower jaw: the anterior portion of the palate furnished with two oblong eminences arranged obliquely, as respects each other, and studded with minute teeth: a few teeth scattered over the middle of the anterior palate: *body* black above, dusky beneath, sometimes speckled: three branchial appendages, the lowermost the longest, all with lateral fringes: three gill-openings, or branchial fenestræ, the interior edges serrate, as in the gills of fishes: *tail* compressed, with narrow rayless fins, above and below.

Habit.—The Siren conceals itself in the mud, occasionally visiting both land and water.

Inhabits the southern states, from South Carolina to Florida: common in the vicinity of Camden, S. C. Specimens common in public and private collections.

SIREN striata, Le Conte.

SYNONYMA. *Siren striata*, Le Conte, Annals of the Lyceum, N. Y., Vol. I. pl. 4.
Pseudo-branchus, Gray. Vulgo, *guana*.

Char.—*Legs* feeble; three clawless toes: *branchiæ* three on each side, with a fleshy trilobate covering; the lobes entire and naked: *colour* dusky, with a broad brown stripe on each side: length nine inches: teeth?

Habit.—Frequents mud-swamps, but does not burrow in the ground.

Inhabits South Carolina.

SIREN intermedia, Le Conte.*

Char.—Colour resembling that of the *Lacertina*; branchiæ resembling those of the *Striata*. Length about one foot.

Inhabits the southern states—specimens in the cabinet of the Lyceum, and in the cabinet of the A. N. S.

4th GENUS. *MENOBRANCHUS*. Harlan.

Characters of the Genus.—Persistent branchiæ: four footed, toes clawless: jaws armed with teeth. The genus consists of two or three species, the type of which is found in the

MENOBRANCHUS lateralis.

SYNONYMA. *Salamandra alleghaniensis*, (young,) Say, Journ. A. N. S., Vol. I. *Triton lateralis*, Say, Long's Exped. to the Rocky Mountains, Vol. I. p. 5. *Proteus of the Lakes*, Mitchill, Silliman's Journal, Vol. VII. p. 63. *Menobranchnus lateralis*, Harlan, Annals of the Lyceum, Vol. I. pl. 16.

Char.—A black vitta from the nostrils passing through the eyes, and dilated on the sides, becoming obsolete on the tail. *Feet* four; four toes to each foot, clawless: *teeth*, two rows in the upper, one in the lower jaw; conic, obtuse and small: *body* brown, spotted with black: *tail* ancipital. Length from one to two feet.

Habit.—Aquatic, carnivorous, gluttonous.

Inhabits the Lakes and the Ohio, with its tributaries. Specimens in the cabinet of the A. N. S.

Variety, A.—“*Proteus of the Lakes*” of Professor Mitchill.

Char.—Destitute of the lateral line: colours lighter; blackish spots more numerous.

Cabinet of the A. N. S.

* Manuscript notes.

MENOBRANCHUS tetradactylus.

SYNONYMA. *Proteus tetradactylus*, Lacepède. Ann. du Mus. Vol. X. p. 230. figured.

Char.—*Teeth* two rows in each jaw ; a duplicature of skin forming a collar, partially surrounding the superior part of the neck, anterior to the branchiæ : four toes to each foot, clawless. Length 6-4 inches, French.

Observations.—We have lately examined some fine specimens of the *Mexican Axolotl*, or *Siren pisciformis* of Shaw, contained in the cabinet of the Lyceum. The animal being furnished with teeth, and the branchiæ having every appearance of being persistent, we have little hesitation in considering it a perfect animal, and not a larva. It will very naturally arrange itself as a species of the present genus, along side of the *Menobranchnus lateralis* : it has one toe more on the hind foot, which circumstance indicates the transition of this genus to the Salamandra.

In concluding our observations on this genus, we regret to remark that some authors have very unadvisedly, we think, confounded it with the genus *PROTEUS* of Laurenti.

In a recent number of the American Journal of Science and Arts,* we observe an error of this description : the author gravely quotes twenty “ particulars,” in which he thinks the two genera “ resemble each other,” when nearly one half the genera included in the whole order resemble each other in the same “ particulars ;” and which, taken collectively, will characterize no particular genus. In order to obviate the possibility of a similar error in future, we offer to the students of herpetology the following *generic* characters afforded by the type of the genus under consideration. They differ from each other widely in their general form and anatomical details, but more par-

* Vol. XI. No. 2. p. 227. Oct. 1816.

ticularly in osseous structure. The *Proteus* has thirty vertebræ, exclusive of the caudal, and seven false ribs on each side: the *Menobanchus* is furnished with nineteen vertebræ, and eighteen false ribs;* the *Proteus* has three toes before, and two behind: the *Menobanchus*, four toes to each foot: the pelvis of the former is attached to the 26th vertebra, the pelvis of the latter to the 19th. Lastly, the habits and geographical distribution of the two genera are altogether at variance. Differences, which, taken collectively, are more than sufficient to establish a generic distinction.

Compared with the other genera of this order, the *Proteus* of Laurenti, and the *Menobanchus*, will be found to be precisely those which are the most widely separated from each other; in most of its internal anatomical characters, the latter genus is much nearer related to the *Salamandra* than to the *Proteus*.

3d DIVISION.

Breathing with lungs only in an adult state; branchiæ and their fenestræ deciduous.

Tail persistent, teeth in both jaws.

5th GENUS. SALAMANDRA. Brongniart.

Lacerta Salamandra, Linn.

Characters of the Genus.—Body elongated, lacertine: tail long: feet four: toes, four before, five behind: ears concealed beneath the skin: no tympanum: jaws armed with numerous small teeth, and with two longitudinal palatine rows: tongue adhering at its sides, reflected at the

* "Les animaux de même genre ont ordinairement des nombres des côtes et de vertèbres à peu près semblable."—*Cuv. Anim. foss. V. 5. pt. 1. p. 81.*

extremity:* no sternum : numerous false-ribs : branchiæ in the larva state : membranaceous opercula covering the branchial fenestræ : breathing with vesicular lungs in the adult state, at which period the rudiments of the cartilaginous arches of the branchiæ remain attached to the os hyoides : anterior extremities developing before the posterior. The “modus copulandi” is peculiar to the genus; the sexes unite their bodies anteriorly, and separate them below, forming an angle more or less acute; the male ejects a quantity of white, thick liquor on the female organs of generation; these organs are much swollen in both sexes, during the season of their amours. The seminal liquor vivifying only those ova which are situated near the orifice of the vulva : the whole of the eggs not being vivified at the same time, they require frequent reiterations of the act : the union of the sexes continues for twenty or thirty days, and is repeated several times in an hour : the wonderful faculty of reproduction observed in this genus is generally known. For important and interesting particulars connected with the history of the Salamanders, vide “Histoire naturelle des Salamandres de France, by P. A. Latreille,” who has furnished us with the best figures of these animals. Laurenti reserving the name *Salamandra* to the *S. terrestris*, has described under the two generic names, *Triton* and *Proteus*, several aquatic Salamanders.

This genus is naturally divided into the terrestrial, or such as are furnished with tails more or less compressed, sometimes cylindrical, and seek their food on the land, and into the aquatic, or such as are furnished with compressed tails, and seek their food in the water. Like most animals of this order, the *Salamandræ* prey on living game only, which they seize leaping.

* Latreille erroneously states, as a natural character of the *Salamandra*, “Langue fixée dans toute sa longueur.” Vid. Lat. Hist. Nat. des Salamandres de France.

LAND SALAMANDERS.

Tail more or less compressed, sometimes cylindrical, tapering.

The type of which in American species, is the

SALAMANDRA subviolacea.

Lacerta punctata, Gmel.

SYNONYMA. *Lacerta venenosa*. Barton, Am. Phil. trans. fig. 1. Vol. VI.

S. subviolacea, Idem.

Lézard aquatique. C. S. Rafinesque.

Stelio? Catesby, Carol. pl. X, fig. 10. *Le ponctuée*, Lacepède.

La Salamandre à points blanc, Sonnini.

Char.—*Body* black above, rather lighter beneath, with two longitudinal rows of yellow or whitish spots on the back, which become single on the lower half of the tail: *throat* with a strong cuticular fold: *tail* compressed at the end, cylindrical at the base, and about the length of the body; a few spots on the legs.

Length about seven inches.

Inhabits Pennsylvania. Cab. of A. N. S.

NOTE.—This species differs from the *S. terrestris* of Europe, principally in the form of the tail, and form and arrangement of the blotches.

A variety of this species is found in South Carolina, differing principally in being of a larger size, and in the arrangement of the blotches.

SALAMANDRA tigrina.

S. tigrina, Green. Journ. Acad. Nat. Sc. Vol. VI. p. 116.

Char.—*Tail* rather longer than the body; tapering, compressed, and rounded at tip; *beneath* granulated, immaculate: *above* blackish, with numerous, large, irregular spots of pale ochre: *beneath* cinereous, irregularly marked

with patches of an ochraceous colour: *throat* pale ochre.
Length?

Inhabits New Jersey.

SALAMANDRA cylindracea.

S. cylindracea, Harlan. Journ. Acad. Nat. Sc. Vol. V. p. 156.

Char.—General colour blackish, clouded with confluent white blotches on the sides: *head* thick and oval: *tail* cylindrical, longer than the body: all the toes fissile: total length about five inches.

Inhabits South Carolina. Cab. of A. N. S.

May prove a variety of *S. glutinosa*.

SALAMANDRA fasciata.

S. fasciata, Green. Journ. Acad. Nat. Sc. Vol. 1. p. 350.

Char.—*Tail* about as long as the body, oval, tapering, and pointed: *back* brown marked with transverse, irregular blue bands, which extend over the upper part of the tail: *beneath* ash colour, or dark brown in the young animal.

Length five inches.

Inhabits New Jersey. A specimen was found hibernating beneath the moist leaves, in the woods: sometimes visits the water. Cab. of A. N. S.

SALAMANDRA sinciput albida.

S. sinciput albida, Green. Journ. Acad. Nat. Sc. Vol. 1. p. 352.

Char.—*Nose* white: *tail* shorter than the body, thick, tapering, and pointed: *above* dirty ferruginous: *beneath* yellowish.

Length three inches.

Inhabits New Jersey. Placed provisionally with the land salamanders, from the form of its tail.

SALAMANDRA erythronota.

S. erythronota, Raf. Green. Journ. Acad. Nat. Sc. Vol. 1. p. 356.

Char.—*Tail* rather shorter than the body, cylindrical, tapering, and pointed: *above* red, mixed with brown; the colours forming a stripe, from the snout to the end of the tail: *beneath* cinereous: *throat* whitish. The young have no brown mixed with the red.

Length four inches.

Inhabits New Jersey, Massachusetts, &c., under stones, &c., in high places.

SALAMANDRA cinerea.

S. cinerea, Green. Journ. Acad. Nat. Sc. Vol. 1. p. 356.

Char.—*Tail* longer than the body, cylindrical, tapering, and pointed: *back* dark brown, sprinkled with white dots: *beneath*, black and white, mixed: *throat* whitish. Toes very minute; four before, five behind.

Length four inches.

Inhabits New Jersey. Specimens in the cabinet of the Acad. from South Carolina. Perhaps a variety of *erythronota*.

SALAMANDRA variolata.

S. glutinosa, Green. Journ. Acad. Nat. Sc. Vol. I. p. 357.

S. variolata, Gilliams. J. A. N. S. Vol. I. p. 460.

Char.—*Tail* nearly twice the length of the body, slightly compressed near the end: *above* blackish, marked with white spots: *beneath* black.

Length six inches.

Inhabits New Jersey.

SALAMANDRA fusca.

S. fusca, Green. Journ. Acad. Nat. Sc. Vol. I. p. 357.

Char.—*Tail* the length of the body, tapering, slightly compressed: *above* uniformly yellowish-brown: *beneath* white, with a line on each side of black spots: *throat* spotted with black.

Length three inches.

Inhabits New Jersey.

WATER SALAMANDERS.

Tail always vertically compressed, sometimes fringed; passing most of their time in or near the water.

SALAMANDRA maculata.

S. maculata, Green. Journ. Acad. Nat. Sc. Vol. I. p. 350.

Char.—*Tail* about as long as the body, slightly compressed: *above* whitish, sprinkled with irregular, reddish-brown spots: *beneath* white.

Length, five inches.

Inhabits New Jersey, Massachusetts, &c. Cab. of the A. N. S.

SALAMANDRA subfusca.

S. subfusca, Green. Journ. Acad. Nat. Sc. Vol. I. p. 351.

Char.—*Tail* rather shorter than the body: *above* of an olive-brown, marked with dark spots: *beneath* yellowish, and spotted.

Length six inches.

Inhabits New Jersey. Perhaps a variety of *S. maculata*.

SALAMANDRA longicaudata.

S. longicauda, Green. Journ. Acad. Nat. Sc. Vol. I. p. 531.

Char.—*Tail* nearly twice the length of the body, com-

pressed and pointed : *above* yellowish-brown, spotted with black dots, assuming the form of transverse bands on the tail : *beneath* whitish.

Length six inches.

Inhabits the swamps of New Jersey. Specimens in the Cabinet of the Academy.

SALAMANDRA nigra.

S. nigra, Green. Journ. Acad. Nat. Sc. Vol. I. p. 352.

Char.—*Tail* the length of the body, oval and pointed : *above* blackish, sides sprinkled with white : *beneath* whitish.

Length four inches.

Inhabits Pennsylvania. Specimens in the cabinet of the Academy.

SALAMANDRA flavissima.

S. bis-lineata, Green. Journ. Acad. Nat. Sc. Vol. I. p. 325.

S. flavissima. H. Silliman's Journal, 1825.

Char.—*Tail* longer than the body, compressed : *above* cinereous, with two, sometimes three dark lines ; if three the middle one broadest near the head, and about the length of the body : *beneath* whitish or yellowish.

Length three inches.

Inhabits New Jersey, Pennsylvania, and New England.

SALAMANDRA rubriventris.

SYNONYMA. *S. rubriventris*, Green. Journ. Acad. Nat. Sc. Vol. I. p. 353.

Perhaps a variety of *S. maculata*.

Char.—*Tail* shorter than the body, compressed : *above* blackish, with brown spots : *sides* red : *beneath* red.

Length seven inches.

Inhabits New Jersey. Cab. of the A. N. S.

SALAMANDRA picta.

S. picta, Harlan. Journ. Acad. Nat. Sc. Vol. V. p. 136.

S. intermixta, Green. Maclurian Lyceum, No. 1.

Char.—*Above* blackish or slate colour: *beneath* yellowish, or light orange colour: *skin* beneath the neck, folded: *head* large: *tail* nearly the length of the body, compressed at the end.

Length four inches.

Inhabits Pennsylvania. Specimens in the Cab. of the Acad.

SALAMANDRA symmetrica.

SYNONYMA. *Stelio*, Say, Silliman's Journal, Vol. I. p. 264.

S. symmetrica, Harlan. Journ. Acad. Nat. Sc. Vol. V. p. 158.

Char.—*Above* dusky brown or fuscous: *beneath* orange-yellow: a row of deep orange-coloured spots on each side of the spine, symmetrically arranged: *tail* compressed, longer than the body.

Length three inches.

Inhabits South Carolina and New England—sometimes under the bark of dead trees. Specimens in the Cab. of Acad.

SALAMANDRA porphyritica.

S. porphyritica, Green. Maclurian Lyceum for January, 1827. p. 3. pl. 1.

Specific Characters.—"Cauda mediocri—corpore supra fusco, maculis albidis—subtus albedo."

Length, between five and six inches: *tail* the length of the body, tapering, much compressed, and slightly carinated on the lower half of its upper and lower edges.

Habitat.—Pennsylvania. Cab. of Lyceum.

SALAMANDRA Jeffersoniani.

S. Jeffersoniani, Green. Maclurian Lyceum, ut supra.

Specific Characters.—"Cauda mediocri—corpore supra fusco, maculis cœruleis—subtus fusco."

Blue spotted Salamander.—*Length*, seven inches: *tail* as long as the body, slightly compressed: *skin* a light brown colour, rather darker above than beneath, with azure-blue points scattered irregularly over the whole surface.

Habitat.—Pennsylvania. Cab. of Lyceum.

SALAMANDRA cirrigera.

S. cirrigera, Green. Journ. A. N. S. Phila. Vol. VI. p. 253.

Specific Characters.—"Cauda longiuscula corpore supra fusco—nigroque variato—lineis duabus distinctus—sincipite cirrigera—subtus albida."

Length three inches: *tail* rather longer than the body, slender and rounded: *snout* obtuse, with two short thick fleshy *cirri* projecting between the nostrils and the upper lip: *back* yellowish, speckled with white, a black line on each side edged with white: *beneath* whitish: female more robust, and destitute of *cirri*.

Habitat.—Louisiana, near New Orleans.

SALAMANDRA dorsalis.

S. dorsalis, Harlan. Journ. A. N. S. Phila. Vol. VI. p. 101.

Specific Characters.—*Above* fuscous: *beneath* yellowish white: *tail* longer than the body, strongly compressed, *anapital*: a whitish dorsal line extending from the occiput over the tail; a row of whitish-coloured oblong spots on each side of the dorsal line: *beneath* freckled with black dots.

Length three inches and eight-tenths; body, one inch and five-tenths; tail, one inch eight-tenths.

Inhabits South Carolina. Cab. A. N. S.



6th GENUS. RANA. Linnæus.

The Linnæan genus *Rana*, includes the modern genera, *Rana*, *Hyla*, *Bufo*, and *Pipa*.

All the modern genera possess the following characters in common: four legs, with four toes before, five behind; sometimes the rudiment of a sixth: head flat, snout rounded: throat very large: tongue attached at the borders of the jaw, and reflected at the extremity: teeth, palatine: jaws serrated: skeleton destitute of ribs and sternum: eyes furnished with a third lid: inspire by means of the muscles of the throat; expire by the agency of the abdominal muscles: no tail in the adult state. Larvæ or Tadpoles, furnished with large fleshy tails, and small corneous beaks: branchiæ beneath the skin, attached to four cartilaginous arches. Feeding principally on insects, which they search for on dry land.

July 1827.—A Tadpole, detained in a glass jar, underwent its metamorphosis, or obtained all its limbs, in five weeks from the commencement; about which period it appeared to breathe with both branchiæ, and approached the top of the water to use its nostrils, also using its feet more and tail less in proportion as the limbs were completed—towards the middle of the sixth week, affects the surface of the water, and breathes through its nostrils—tail appears to become lighter and thinner daily.

FROGS, PROPERLY SO CALLED.

GENUS. RANA. Of modern authors.

Characters of the Genus.—Body slender: hind feet very long, strong, and palmated: skin for the most part smooth: upper jaw serrated: palate armed with one or more transverse rows of teeth, or serrated eminences. The larvæ possess, mostly, but one branchial fenestra, and that always on the left side.

RANA pipiens.

SYNONYMA. *Bullfrog*, Bartram, Catesby, Brown, Kalm.

Rana maxima, Catesby, Nat. Hist. Carol. Vol. II. p. 72. pl.

Rana catesbiana, Shaw, Gen. Zool. Vol. II. part 1. p. 106. pl. 33.

Rana pipiens, Linn.

Char.—*Above* brown-cinereous: *beneath* whitish: *arms* and *legs* striped with black: *head* and fore part of the body more or less green.

Length of the body, from 6 to 10 inches; of the hind legs, from 8 to 12 inches.

Inhabits the middle states; common in the vicinity of Philadelphia. We have recently observed this species in Canada. Cab. of Acad.

RANA clamata. Clamitans. Bosc. Dict. d'Hist. Nat.

SYNONYMA. *Rana clamata*, Daud.

Le criard, Idem. Vulgo, *the bawling frog*.

Char.—*Above* dusky cinereous: *beneath* whitish: *snout* more or less green: *throat* yellow: *legs* white within, *obsoletely* banded without, or spotted with black.

Length of the body, about 3 inches; of the hind legs, 4 inches.

Inhabits the middle states; the most common of all our frogs. Cab. of Acad.

RANA ocellata?

SYNONYMA. *Rana maxima virginiana*, Seba.

Rana pentadactyla, Linn. Gmel.

Rana ocellata, Linn.

Argus frog, Shaw, Gen. Zool. Vol. III. pt. 1. p. 108. pl. 34.

Grunting frog, Bartram's Travels through North and South Carolina, &c. p. 276.

Rana grunniens? Daudin.

Char.—In form and size resembling the "*Pipiens*:" *above* brownish, or greenish, with irregular deeper coloured spots: *beneath* whitish, granulated under the belly

and thighs; round brownish spots, surrounded with a clear tint upon the flanks, buttocks and thighs.

Inhabits Florida and Mexico. We have never seen this species.

RANA melanota?

Rana melanota, Rafinesque. Vulgo, *Black-frog*.

Char.—*Back* olivaceous-black: a yellow streak on the sides of the head: *chin*, *throat*, and inside of the *legs* whitish, with black spots: *belly* white, immaculate.

Total length $2\frac{1}{2}$ inches.

Inhabits Lake Champlain and Lake George.*

RANA halecina.

SYNONYMA. *Rana pipiens*, Schneider, Schreber, Shaw.

Rana aquatica, Catesby, Carolina, p. 70. Vol. II.

Rana ocellata? Kalm, Trav. in North America, Vol. II.

Shad frog, Bartram, Trav. p. 278.

R. halecina, Daud.

Char.—*Above* light cinereous: *beneath* white: marked above with irregularly disposed blotches: *body* and *limbs* elongated.

Length of the body $3\frac{1}{2}$ inches; of the hind legs $5\frac{1}{2}$ inches.

Inhabits Pennsylvania, and the southern states. Cab. of Acad.

RANA utricularius.

Rana utricularius, Harlan. American Journal of Science and Arts, by B. Silliman, M. D. Vol. X. p. 60, 1825.

Char.—*Above* dark olivaceous-green: *beneath* white: *back* with sub-oval blackish spots: a vocal vesicle on each side of the neck: *legs* with a few blackish bands; tym-

* After lying for months in a dormant state, most frogs become of a dark colour; we have seen them, quite black on their first appearance, regain their colours on exposure to the light.

panum small, the cuticular fold on each side of the back, prominent.

Length of the body about 3 inches; of the hind legs more than 4 inches.

Inhabits Pennsylvania and New Jersey. Cab. of the Acad.

RANA scapularis.

Rana scapularis, Harlan. Silliman's Journal, ut supra.

Char.—Above dark olive-brown: *snout* green: *throat* yellow: *abdomen* white: a golden coloured line above the scapulæ.

Length of the body 3 inches; of the hind legs 4 inches.

Inhabits Pennsylvania. This may possibly prove to be the young of the *R. pipiens*.

RANA flaviviridis.

SYNONYMA. *Rana flaviviridis*, Harlan. Silliman's Journal, ut supra.

Rana fontinalis? Le Conte, Ann. of Lyceum, Vol. I. p. 282.

Yellow throated green frog.

Spring frog? Bartram, manuscript notes, penes me.

Char.—Above clear lively green: *beneath* white: *throat* yellow: *buttocks* mottled with black spots: *body* rather clumsy: *abdomen* large: *snout* rather obtuse.

Length of the body 3 inches; of the hind legs more than 4 inches: breadth of the head 1 inch.

Inhabits the middle states—also New England.

RANA sylvatica.

SYNONYMA. *Rana sylvatica*, Le Conte. Ann. of the Lyc. of New York, Vol. I. p. 232.

Rana pennsylvanica, Harlan. Silliman's Journal, ut supra. Vulgo, *Wood-frog*.

Char.—Above olive-brown, or drab coloured: *beneath* white: a black vitta, commencing on the side of the snout, passes backwards, dilating and involving the eye and tympanum: *posterior extremities* obsoletely fasciated.

Length rather smaller, and more slender than the *clamata*.

Inhabits the middle states and Massachusetts. Cab. of the Academy.

RANA palustris.

SYNONYMA. *Rana palustris*, Le Conte, Ann. of the Lyceum, Vol. I. p. 282.

Rana pardalis, Harlan. Silliman's Journal, ut supra.

Vulgo, *Leopard*, *Zebra*, or *Tiger-frog*.*

La G. *Pit-Pit*. Pl. 4. fig. 3. of Bonnetierre, Tab. Encyclopedique et Methodique, who confounds it with *R. halecina*.

Char.—*Above* dark-cinereous: *beneath* white, lighter on the flanks, snout and extremities: interior surface of the limbs yellowish: a row of dark green spots on each side of the spine, extending the whole length of the back: two longitudinal rows on the flanks: posterior extremities striped with broad, transverse, greenish lines or bands.

Length of the body three inches; of the hind legs four inches three-tenths.

Inhabits Pennsylvania. Cabinet of the Academy.

RANA pumila.

Rana pumila, Le Conte. Ann. of Lyceum, Vol. I. p. 282.

Char.—*Body* pale green: *back* with a decurved line on each side, bounded with dusky: *head* with a triangular spot between the eyes: legs barred with dusky.

Length?—

RANA gryllus.

SYNONYMA. *Rana gryllus*, Le Conte. Ann. of the Lyc. Vol. I. p. 282. *Savannah cricket*, Bartram's Travels, p. 278. Erroneously supposed by Daudin to be the young of the *Hyla lateralis*.

Char.—*Above* warty, colour various: a dark triangular spot on the top of the head between the eyes: a pale line

* A beautiful variety, with the back of a golden green colour, observed on the head of Lake Champlain. June, 1832.

extending from the apex of this spot to the vent: hind part of the thighs yellowish or white, with one or two lines of dusky or brown.

Length about one inch and a half.

Inhabits the southern and middle states: frequents the grass, and verges of ponds. Cab. of the Acad.

RANA dorsalis.

Rana dorsalis, Harlan. Journal and Cab. A. N. S. Vol. VI.

Char.—Above fuscous, smooth, with a broad, green or reddish, longitudinal vertebral band, bifurcating anteriorly, and extending over each eye: *snout* above, pale or whitish: *beneath* white, *throat* and inner part of the thighs freckled: *buttocks* white with two brownish transverse lines: a white line on the side of the neck, extending from the eye to the scapula.

Length of the body $\frac{3}{8}$ of an inch: of the legs $1\frac{1}{2}$ inches. This measurement being taken from the largest of seven specimens.

Inhabits Florida, Carolina, and New Jersey. May prove a variety of *R. gryllus*. Specimens in the Cabinet of the A. N. S. Figured at p. 72 of this volume.

RANA nigrita.

Rana nigrita, Le Conte. Annals of the Lyceum, ut supra.

Char.—Above black, speckled with white warts: middle of the back cinereous, with an interrupted stripe of black: *upper lip* with a white line: *beneath* granulated, whitish: *legs* barred with whitish: hind part of the thighs brown; hind legs very long.

Length?

RANA Holbrookii.

This new species, first figured and described by Dr. Holbrook, (vide his valuable work on North American

Reptilia,) possesses very peculiar characters, displaying, in its external configuration, a strange mixture of the toad and frog. It has the contracted form of the first, with small tympanum, and rudimentary supertympanal warts, without visible pores, and small warts disseminated over the back of the head: possessing palatine teeth, and serrated maxillæ, like the frogs, and like the *Rana cultripes* of Cuv., is remarkable in possessing a rudiment of the sixth finger, covered by a sharp horny plate, which must materially aid the animal in climbing steep and slippery ascents.

Habits are said to be peculiar; about the size of the Esculent frog.

Inhabits South Carolina. Cab. of A. N. S.

SUB-GENUS. ENGYSTOMA. *Fitzing.*

Char.—*Body* oval; *head* and *mouth* very small; *feet* slightly palmated; destitute of tympanum and parotids.

ENGYSTOMA Carolinensis.

SYNONYMA. *Breviceps*, Merr.

Engystoma Carolinensis, Holbrook.

One fourth the size of common esculent frog, olivaceous above, speckled with white beneath.

Found in South Carolina, first described by Dr. Holbrook, and figured by the same author.

Habit.—Seldom appearing above ground except after a hard rain. Specimens in the Cab. of A. N. S. *

7th Genus. HYLÆ. Roesel, Daudin, Cuvier.

Characters of the Genus.—Living chiefly on trees during the summer, and temperate weather; preying on insects; changing the colour of the skin, so as to resemble

* The species hitherto known, are natives of India, Africa, and South America.

the substances on which they rest; hybernating in the mud, and generating like the frog; hind toes semipalmate; with the extremity of each toe surrounded with a mucous tubercle: skin more or less granulated: colour changeable.

HYLA lateralis.

SYNONYMA. *Rana arborea*, varietas B. Linn. Gmel.

Hyla viridis, Laurenti, Catesby.

Calamita carolinensis, Pennant.

Calamita cinerea, Schneider.

La raine flanc-rayée, Daudin.

La calamite cendrée, Schneider.

Char.—*Body* smooth above, lively green: *beneath* whitish, or pale green, granulated: a straight, narrow line, of a yellow or silvery colour, bordering the superior lip, prolonged on the flanks, and posterior extremities: *iris* golden.

Length one and a half inches.

Inhabits the southern states and Surinam: frequents water plants, according to Le Conte. Cab. of the A. N. S.

HYLA femoralis.

SYNONYMA. *La raine. La raine femorale*, Daudin, Hist. Nat. des Reptiles par Latreille, planche enluminée.

Char—*Above* dark cinereous, marked with a few confluent spots of dusky, largest between the eyes: *beneath* whitish, granulated: *head* rather obtuse: *thighs*, exterior spotted with yellow: *legs* bordered with dusky.

Length one and a half, to one and three quarters of an inch. Colours various: a variety with the back chiefly occupied with a large irregular blotch: *legs* barred.

Inhabits the southern states. Cabinet of the A. N. S.

HYLA squirella.

SYNONYMA. *La raine squirelle*, Daudin.

Hyla ocellaris, var. Le Conte.

Char.—*Above* brown-cinereous: *beneath* whitish, granulated: a dusky, or various coloured band, extending

from the nostrils to the eyes, and a narrow white stripe extending from near the nostrils along the upper lip, reaching to near the fore-leg: *thighs* yellow on the exterior: *legs* barred.

Length more than one inch.

Coloured by Daudin, from a specimen in spirits.

“Var. A. *Above* cinereous, with a bar between the eyes: back with a few spots of dusky, sometimes confluent, sometimes uniting into a lateral line.

“Var. B. *Above* cinereous, irregularly spotted with darker: line between the eyes broken.

“Var. C. *Above* brown, immaculate: exterior of the thighs not yellow.” (Le Conte.)

Inhabits the southern states. According to Bosc, the young resemble the common frog of Europe. Cabinet of the A. N. S.

HYLA delitescens.

Hyla delitescens, Le Conte. Ann. of Lyc. Vol. I. p. 281.

Char.—*Above* cinereous, spotted with darker: *beneath* whitish, granulated: *head* rather obtuse: *lips* whitish: *chin* speckled with brown: exterior of the thighs, and inner surface of arms and legs, yellow.

Length about two inches.

Inhabits Georgia, under the bark of trees.

HYLA versicolor.

Hyla versicolor, Le Conte, ut supra.

Char.—*Above* verrucose, colour varying with the will of the animal from pale brown to cinereous and green: *back* more or less marked with an acute angled cross: *beneath* white, granulated: *head* small: hind part of the abdomen, and hind legs, beneath, yellow.

Length two inches.

Inhabits the northern and middle states; has more the resemblance of a toad than the other species. Cabinet of the A. N. S.*

8th GENUS. BUFO. Daudin, Cuvier, &c.

Characters of the Genus.—Body thick, contracted, and for the most part warty above, and granulated beneath: tongue short and thick: fore feet four-toed, fissile: hind feet five-toed, mostly palmated: destitute of teeth, but having the upper jaw grooved, the lower jaw closing within the channel of the upper: a gland behind each eye in most instances.

Bufo musicus.

SYNONYMA. *Rana musica*, Lin. Gmel.

Bufo clamosa, Schneider.

Le criard, Daub. Lacépède, Bosc, &c.

Land-toad, Catesby.

Land-frog, Bartram.

Char.—Above deep brown, verrucose, with irregularly disposed fuscous, or blackish spots, edged with white: *beneath* dirty white granulated: *sides* pale, spotted: *legs* barred: large oblong warts behind the eyes: a large blackish spot posterior to the tympanum: *head* above canaliculate: two tubercles on the heel of each foot: a longitudinal, vertebral, shallow groove.

Length of the body about three inches.

Inhabits the southern and middle states. Mostly leaps, seldom crawls; preying on living insects only. Cabinet of the A. N. S.

Bufo cognatus.

Bufo cognatus, Say. Long's Exp. to the Rocky Mountains, Vol. II. p. 190.

Char.—Body above dark brownish, verrucose; papillæ and their disks black: *beneath* whitish, granulated: *head*

* A specimen was dug up from the root of an apple tree in Bartram's botanic garden, in the winter of 1828, several feet beneath the surface.

with a short groove: *sides* and *legs* with irregular cinereous lines: *verrucae* behind the eyes moderate: a cinereous vitta extending along the vertebræ, with three oblique lateral lines.

Length about four inches.

Inhabits the plains of Missouri. A specimen in the Philadelphia Museum.

Var. A. The reddish-brown, or brick-coloured toad of Bartram; very large, weighing near one pound when full grown: legs and thighs marked with blotches and ringlets. Inhabits the southern states. The red toad of Pennsylvania is but little larger than the *B. musicus*.

ORDER. OPHIDIA,* or *Serpents*.

Characters of the Order.—Body long, more or less cylindrical, covered with scales or plates, sometimes annulated, tuberculated, or granulated: casting their exuviae for the most part twice annually: destitute of feet: tail sometimes long, at others short: jaws armed with short teeth; also, perforated fangs in the poisonous species; tongue long, extensible, and bifurcated, with few exceptions: top of the head covered with plates, or with scales; in some instances, with both plates and scales; in others, smooth:† heart with two auricles and two ventricles.‡

1st GENUS. OPHISAURUS. Daudin.

Characters of the Genus.—Body rather thick, oblong,

* From *Ophi*—Serpent.

† Any attempt to draw *specific* characters from a difference in the number of abdominal plates, or subcaudal scales, as first proposed by Lacépède, is altogether nugatory, an immense difference existing in this respect in the same species: nor has the enumeration of the teeth for a similar purpose, proposed by M. P. de Beauvois, proved more successful.

‡ Extract from manuscript notes on the dissection of the *Python Javanica*, March 23d, 1825.—“The heart has two auricles and two ventricles, forming a complete double heart, without any direct communication, (as represented by Cuv. ‘*Leçon. d’Anat. comp.*’) but the great systemic vessels communicate with each other, as in the alligator.”

cylindrical; on each side a longitudinal fold: tail long, cylindrical, tapering: smooth plates on the head: furnished with eye-lids: ears visible externally: tongue extensible, notched at the extremity: scales square, symmetrically arranged, so as to appear longitudinal or transverse: anus simple, transverse: minute sharp teeth to each jaw; destitute of poisonous fangs.

OPHISAURUS ventralis.

SYNONYMS. *Anguis ventralis*, Linn., Gmel., Schneider.

Chamasaura ventralis, Schneider, Gray, Phil. Trans.

Cecilia maculata, Catesby, Hist. Carol. pl. LIX.

Glass-snake, Bartram's Travels in North and South Carolina.

Le jaune et brun, Daubenton, Encyc. Meth. Idem, Lacépède.

L'Anguis jaune et brun, Latreille.

Anguis ventral; *anguis lamproie*, Bosc, Dict. d'Hist. Nat. édit. de Déterville.

Ophisaurus ventralis, Daudin. Hist. Nat. des Rept. pl. 88.

Char.—*Above* with fourteen longitudinal ranges of nearly square scales: *abdomen* with twelve longitudinal ranges of smooth scales, and forming about 120 transverse ranges, similar to rings: *beneath* the tail similar to the abdomen: *colour* above brownish, with the sides of the head and neck spotted with black: *abdomen* and back separated by a longitudinal fold or groove, which terminates at the anus. *Length* between two and three feet.

Inhabits the southern states and Arkansa. Cabinet of A. N. S.

2d GENUS. COLUBER. Linn.

Characters of the Genus.—Body long, cylindrical and tapering: head oblong, covered above with smooth polygonal plates: above covered with rhomboidal scales, imbricate, reticulated or carinated, or smooth: *abdomen* with transverse plates: *beneath* the tail with double plates: *anus* transverse, simple: *jaws* furnished with sharp teeth: *without* poisonous fangs. Some species oviparous, others ovo-viviparous.

COLUBER obsoletus.

C. obsoletus, Say. Long's Exp. to the Rocky Mountains, Vol. I. p. 140.

Char.—*Above* black : *beneath* whitish, with large subquadrate black spots, which are confluent and pale-bluish towards the tail : *throat* and *neck* pure white : *sides* between the scales with red marks.

Length about five feet ; tail about one fifth.

Abdominal plates, from 223 to 228 : caudal scales from 67 to 84.

Inhabits Missouri. A specimen in the Philadelphia Museum.

COLUBER constrictor.

SYNONYMA. *Coluber constrictor*, Linn. Gmel. Kalm ; Trav. in N. America, Vol. III. p. 136.

Black-snake, Catesby's Carolina, Vol. II. pl. XLVIII.

Le serpent lien, Daub. Enc. Method. Idem, Lacépède.

La couleuvre lien, Latreille, Daudin.

Coluber ovivorus, Linn. Syst. Nat.

La couleuvre ovivore, Latreille, Lacépède, Daudin.

Chicken snake, of Bartram. Vulgo, *Racer* or *Black-snake*.

Char.—*Above* blackish blue : *beneath* slate-colour : *throat* and *lips* white : *head* above covered with plates : scales of the back, rhomboidal or hexagonal, slightly carinated in some instances. Length from three to six feet ; tail about two sevenths.

Abdominal plates from 176 to 186 : caudal scales from 88 to 98.

Inhabits North America ; very common in the middle states : feeding on small animals ; climbing trees in search of birds nests : suffocating its prey in its folds, like the Boa Constrictor. Cab. of the A. N. S.*

* A new allied species has recently been discovered in the Alleghany mountains. Vid. Holbrook's Reptilia, now in press, Nov. 1835.

COLUBER testaceus.

C. testaceus, Say. Long's Exp. to the Rocky Mountains, Vol. II. p. 48.

Char.—*Above* pale sanguineous, or testaceous: *beneath* sanguineous, immaculate: scales large: size of the black-snake (*C. constrictor*.) Abdominal plates 198: caudal scales 80. Inhabits Missouri. A specimen in the Philadelphia Museum.

COLUBER ordinatus.

SYNONYMA. *Coluber ordinatus*, Linn. Gmel., and Gronovius.

Coluber carulescens, Boddaert.

Little green snake, Catesby, Carol. Vol. II. pl. LIII.

Blue spotted snake, Shaw.

L'ibibé, Daubenton, Lacépède, Latreille, Daudin.

C. bipunctuée, Latreille.

Garter snake, Say, Long's Exp. to the Rocky Mountains, Vol. I. p. 375. This popular name is applied indiscriminately to several very distinct species.

Char.—*Colour* bluish, marked with black and cloudy spots, with a row of black dots under the flanks, and a green line on the back. (According to Catesby, the colour is spotted green above.) *Head* covered with plates.

Total length two feet; tail four inches. Abdominal plates 138: caudal scales from 65 to 74.

Inhabits South Carolina, and as far north as Salem, Massachusetts. Varieties from New Jersey.

COLUBER parietalis.

C. parietalis, Say. Long's Expedition to the Rocky Mountains, Vol. I. p. 186.

Char.—*Above* blackish, with three yellow fillits, and about eighty red concealed spots: *beneath* bluish; a series of black dots on each side.

Total length one foot; tail four inches.

Abdominal plates 165: caudal scales 88.

Inhabits Missouri. Specimens in the Philadelphia Museum.

COLUBER filiformis.

SYNONYMA. *Coluber filiformis*, Linn. Gmel.

Anguis flagelliformis, Catesby, Carol. pl. LIV.

Natrix filiformis, Laurenti.

Le fil, Daub. Lacépède.

La couleuvre filiforme, Latreille. Vulgo, *Coach-whip snake*.

Char.—*Above* entirely brown, or obscure livid: *beneath* whitish, with a black vitta near each eye, prolonged on the side of the neck.

Length from four to six feet, very slender and tapering. Abdominal plates 165; caudal scales 158.

Inhabits Carolina.

COLUBER flagelliformis.

SYNONYMA. *Coluber mycterizans*, Linn. Gmel. and Gronovius.

Natrix colore magis virescente, Gmel. syst. Nat. p. 1119.

Anguis viridis, Catesby, Carol. Vol. 2. pl. LVII.

La fouet de cocher, Daudin. *Coach-whip snake* of the Anglo-Americans.

C. flagelliformis. Idem.*

Char.—*Above* entirely grass-green: *beneath* whitish, with a longitudinal pale line on each flank.

Length between two and three feet; tail one third. Abdominal plates 187; caudal scales 147.

Inhabits South Carolina, on trees.

COLUBER sipedon.

SYNONYMA. *Coluber sipedon*, Linn. Gmel.

Le sipele, Daub. Lacépède, Latreille. Vulgo, *Brown water-snake*

Char.—*Above* dusky brown: *beneath* whitish, or yellowish-brown, speckled with black.

Total length four feet four inches: tail fourteen inches. Abdominal plates one hundred and thirty-six; caudal scales fifty-four.

* *Dryanus mycterizans*—Merrem; Syst. Amph. p. 136, who attributes Abdom. Scut. 191—192. Sub. Caud. Sc. 167—173.

Inhabits middle states, also Massachusetts. Specimens in the Cabinet of the A. N. S.

This species, the most common in the vicinity of Philadelphia; first discovered by Kalm, and named by Linnæus, has never been correctly *described* by succeeding naturalists.

Description.—Body thick and long: tail short and abruptly tapering: head thick and short: scales oblong, hexagonal, notched at the lower end, strongly carinated: colour above, unvaried dirty brown, or of a dusky, dead-leaf appearance: sides reddish-brown: abdomen whitish or yellowish-brown, freckled with black, particularly beneath the tail; in some instances the flanks or sides obsoletely banded with black: posterior occipital plates large, oblong, and rounded posteriorly, arranged as follow: postocular eight, interocular three, antocular twelve, labial eighteen. Living chiefly in or near the water, feeding principally on live frogs; hybernating in the mud: sometimes attains to five feet in length. The young possesses some resemblance to the *C. eximius*, though the transverse bands are not confluent beneath, and the scales are carinated as in the adult animal.

COLUBER saurita.

SYNONYMA. *Coluber saurita*, Linn. Gmel.

Riband snake, Catesby, Carol. Vol. 2. pl. L.

Le Saurite, Daub. Lacépède, Latreille, Daudin.

Char.—Above deep brown, with three longitudinal stripes of a whitish or light green colour: beneath light green: head small, oblong, covered with plates: scales similar to those of the *C. sipedon*.

Length about two feet; tail one-third, long and tapering. Abdominal plates from 154 to 159; caudal scales from 117 to 122.

Inhabits southern and middle states. Specimens in the Cab of A. N. S.

COLUBER sirtalis.

SYNONYMA. *Coluber sirtalis*, Linn. Gmel.

Le sirtale, Daub., Lacépède, Latreille, Daud. Vulgo, *Garter-snake*, in Pennsylvania.

Char.—*Above* brown, marked with a longitudinal vertebral line, and one on each side, of a yellowish green colour: *back* spotted with black dots; scales oblong, strongly carinated, largest on the sides: *beneath* yellowish-green, lighter on the throat and lips: abdominal plates with two black spots; one at the union with the lateral scales, the other a little distant.

Total length two feet three inches; of the tail five and a half inches. Abdominal plates one hundred and fifty; caudal scales sixty.

Inhabits Pennsylvania. Specimens in the Cab. of A. N. S. Hitherto not accurately described.

COLUBER proximus.

C. proximus, Say. Long's Exp. to the Rocky Mountains, Vol. 1. p. 187.

Char.—*Above* black, trilineate; vertebral line ochraceous; lateral line yellowish; a double white spot on the parietal plates: *beneath* tinged with greenish blue.

Total length two feet; tail seven inches. Abdominal plates one hundred and seventy-eight: caudal scales eighty-six.

Inhabits Missouri. Specimens in the Philadelphia Museum.

“This species differs from the *Saurita* in the numerical proportion which its sub-caudal scales bear to its plates; from the *Ordinatus*,* by being destitute of the two series of black points beneath; it is a much more slender serpent than the *parietalis*, and the tail is proportionably longer.” (Say.)

* *COLUBER sirtalis*, Linn.

COLUBER flaviventris.

C. flaviventris, Say. Long's Exp. to the Rocky Mountains, Vol. 1. p. 185.

Char.—*Above* olivaceous: *beneath* yellow: *lower jaw* beneath white: scales destitute of carina.

Total length three feet eleven inches; tail eleven inches. Abdominal plates one hundred and seventy-six: caudal scales eighty-four.

Inhabits Missouri.

COLUBER striatulus.

SYNONYMA. *Coluber striatulus*, Linn. Gmel. Bosc.

Le strié, Daub., Lacépède.

Le couleuvre striatulée, Latreille, Daudin, &c.

Char.—*Above* of a clear brown colour, with rhomboidal, strongly carinated scales: *beneath* whitish-gray: *head* oval, covered with nine plates.

Length nine inches; tail two inches. Abdominal plates from one hundred and twenty-six to one hundred and thirty-two: caudal scales from twenty-five to forty-five.

Inhabits South Carolina; frequents woody places. Specimens in the Cab. of the A. N. S.

COLUBER punctatus.

SYNONYMA. *Coluber punctatus*, Linn. and Gmel.

Le ponctuée, Daub., Lacépède, Latreille, and Daudin.

Char.—*Above* plumbeous, finely pointed with gray: *beneath* reddish-yellow, with three longitudinal and parallel rows of plumbeous and sub-triangular points; beneath the tail immaculate: *head* rather oval, flattened, with a white spot or band disposed across the occiput.

Total length nine inches; tail two-ninths. Abdominal plates one hundred and thirty-six to one hundred and forty: caudal scales forty-three to forty-eight.

Inhabits South Carolina, under the bark of trees. A specimen in the Cab. of A. N. S.

COLUBER amænus.

C. amænus, Say. Journ. of the A. N. S. Vol. IV. p. 237.

Char.—*Above* brown or blackish, in different lights reflecting a hyacinthine blue: *beneath* bright red or roseaceous: *tail* short, with an abrupt solid conic tip: *scales* smooth pantagonal: *head* small and vermiform.

Length from four to ten inches; tail one-tenth of total length. Abdominal plates from one hundred and eighteen to one hundred and thirty-four: caudal scales thirty-two to thirty-eight.

Inhabits Pennsylvania; found beneath stones and logs: not very common. Specimens in the Cab. of A. N. S. *C. Amæmes* var. from New Jersey.

COLUBER rigidus.

C. rigidus, Say. Journal of the A. N. S. Vol. IV. p. 239.

Char.—*Above* dark fuscous or blackish: *beneath* yellow, with two black lines.

Total length twenty inches; of the tail four inches. abdominal plates one hundred and thirty-three: caudal scales fifty-one.

Inhabits the southern states. A specimen in the Cab. of A. N. S.

COLUBER septemvittatus.

C. septemvittatus, Say. Journ. of the A. N. S. Vol. IV. p. 240.

Char.—*Above* brownish, with three blackish lines: *beneath* yellow, with four blackish lines.

Total length nine inches nine-tenths; of the tail two and a half inches. Abdominal plates one hundred and forty-three: caudal scales seventy.

Inhabits Pennsylvania. Specimens in the Cab. of the
A. N. S. From Michigan Territory.

COLUBER porcatus.

Perhaps *sipedon*, Linn.

SYNONYMA. *Coluber porcatus*, Bosc. Manuscript notes.

La couleuvre à stries, Latreille.

Copper-belly snake, Catesby, Carolin. Vol. 2. pl. XLVI.

Coluber aquaticus? Shaw.

La couleuvre sillonnée, Daudin.

Char.—*Above* brown, sprinkled with darker; with obsolete reddish bands on the flanks: *beneath* whitish, spotted with red; each plate at its base marked with two sub-triangular spots: colours on the tail less distinct.

Total length two feet; tail seven and a half inches. Abdominal plates one hundred and twenty-eight: caudal scales sixty-eight.

Inhabits South Carolina. Cab. A. N. S.

COLUBER coccineus.

SYNONYMA. *Coluber coccineus*, Linn. Gmel.

Couleuvre écarlate, Latreille; Daudin. Hist. Nat. des Reptiles, pl. 83. Vulgo, *Scarlet-snake*.

Char.—*Above* of a lively blood-red colour, with twenty-one or twenty-two transverse yellowish bands, bordered with black; the first band being situated on the posterior part of the head: *beneath* whitish, immaculate.

Total length two feet; tail one-seventh. Abdominal plates from one hundred and sixty-one to one hundred and seventy-five: caudal scales thirty-five to forty-three.

Inhabits South Carolina; feeding on grasshoppers and other insects. Received a specimen from Mr. B. Say, New Jersey, September, 1827.

GENUS. HETERODON. Latreille, Cuv.

COLUBER *heterodon*.

SYNONYMA. *Couleuvre hétérodon*, Daudin; fig.

Heterodon platirhinos, Latreille.

Coluber simus, Linn. Gmel.

Le camus, Daub., Lacépède, Latreille.

Boa constrictrix? Linn. Vulgo, *Hog-nose snake*.

Char.—*Above* blackish, sometimes marked with oblique and bifid bands of a pale reddish-gray colour: *beneath* whitish, immaculate: *head* short and triangular: *nose* flattened, pointed, slightly reversed, and carinated above.

Total length from one to three feet. Abdominal plates from one hundred and nineteen to one hundred and fifty: caudal scales thirty-eight to forty.

Inhabits New Jersey; bold, but innoxious. A specimen in the Cab. of A. N. S. From Michigan.

COLUBER *thraso*. Harl.

Vulgo, *Blowing-viper*, or *Blustering Coluber*.

Char.—*Above* black; *beneath* bluish-white; *scales* mostly sub-imbricate, sub-carinated, first lateral row imbricate, and smooth; *head* small, body thick and chunky; head covered with plates; when at rest oval; *nose* flat, triangular, and reversed, keel-shaped above; *tail* small and tapering, terminating in a horny point; iris gray, pupil circular; length of body two feet, tail five inches.*

Abdominal plates one hundred and forty-five; sub-caudal scales forty.

Inhabits Pennsylvania.

Presenting a most venomous aspect; flattening the

* Numerous small black worms were observed adhering to the interior of the throat.

head and neck extensively, and hissing loudly when irritated ; innoxious.

Present specimen from Broad river emptying into the Delaware at its origin. Description from life.

COLUBER æstivus.

SYNONYMA. *Coluber æstivus*, Linn. Gmel.

Le verdâtre, Daub., Lacépède, Latreille.

La couleuvre verte d'été, Daudin.

Green-snake, Catesby, Carol. pl. 47, and Bartram, Trav. in North and South Carolina, Vol. II. p. 16.

Char.—*Above* brilliant green : *beneath* nearly white : *body* slightly compressed at the sides : *tail* long and pointed : *scales* very slightly carinated.

Length about two feet ; tail two-fifths of total length. Abdominal plates from one hundred and fifty-five to one hundred and fifty-nine : caudal scales from one hundred and twenty-eight to one hundred and forty-four.

Inhabits South Carolina. Specimens in the Cab. of A. N. S. This snake is found in New Jersey.

COLUBER fasciatus.

SYNONYMA. *Coluber fasciatus*, Linn. Gmel.

Le vampum, Daub., Lacépède, Latreille, Daudin.

Wampum snake, Catesby, Carol. pl. 58.

Char.—*Above* bluish-black, with more than thirty yellowish marks, alternately disposed on each flank, and a few transverse yellowish lines on the back, bifurcated on the flanks : *head* blackish, covered with plates : *inferior lip* yellowish.

Length four or five feet ; tail one-fifth. Abdominal plates from one hundred and twenty-eight to one hundred and thirty-eight : caudal scales sixty-six or sixty-seven.

Inhabits the southern states. Specimens in the Cab. of A. N. S.

COLUBER getulus.

SYNONYMA. *Coluber getulus*, Linn. Gmel.
La chaîne, Daub. Lacépède, Latreille, Daudin.
Chain snake, Catesby, Carol. Vol. II. pl. 52.

Char.—*Above* bluish-black, with thirty or more yellowish and transverse stripes; these lines uniting on the flank to a longitudinal or zig-zag line, which at each inferior angle unites to a white spot, prolonged on the abdomen: *beneath* yellowish-white, spotted with bluish-black: *lips* bordered with white: plates of the head black, spotted with white.

Length four or five feet; tail one-eighth. Abdominal plates from two hundred and ten to two hundred and fifteen: caudal scales forty-three to forty-six.

Inhabits South Carolina. Cab. of A. N. S.

COLUBER calligaster.

C. calligaster, Say.

Char.—*Above* fuscous, with three rows of black blotches; the vertebral row transversely oblong, and large; a longitudinal row of smaller black blotches on each side: *beneath* reddish-yellow: *tail* corneous at tip.

Length about four feet. Abdominal plates 213: caudal scales 52.

Inhabits Missouri. Specimens in the Philadelphia Museum; one of which has eight sub-caudal entire plates next the vent. The present description is taken from the prepared specimens in the Philadelphia Museum. Perhaps a variety of *C. eximius*, described below.

COLUBER melanoleucus.

SYNONYMA. *C. melanoleucus*, Daudin.
Le couleuvre noire et blanche, Idem.
Pine snake and *Bull snake*, Bartram's Trav. Vol. II. p. 18. Vulgo, *Horned snake*.

Char.—*Above* black and white; black colour prevail-

ing on the anterior half of the body: *beneath* yellowish-white, very sparsely spotted with black: *tail* corneous at tip: scales on the back sub-carinated.

Length from four to six feet. Abdominal plates 246: caudal scales 66.

Inhabits the southern states: common in the pine forests of New Jersey. Specimens in the Philadelphia Museum; one eight feet in length, from New Jersey; Cab. of the A. N. S.

Coluber melanoleucus. *Var.* Say. *Char.*—*Above* black and yellowish-white; the black arranged in large blotches, the white in transverse bands: *beneath* yellowish-white, with square blotches of black.

Length about five feet. Abdominal plates 253: caudal scales 80.

Inhabits Missouri. Described from a specimen in the Philadelphia Museum.

COLUBER eximius.

C. eximius, Dekay, (Manuscript Notes.) Vulgo, *House snake*, *Chicken snake*, or *Thunder and lightning snake*.

Char.—*Above* blackish, banded with white; the white bands bifurcating on the sides, and becoming confluent: *beneath* yellowish-white, spotted with quadrangular black spots: eyes small and red: head smaller than the diameter of the body: scales not carinated.

Length; grows to the length of the black snake, (*C. constrictor*), but is much thicker; the colours are very lively and beautiful. Abdominal plates 250; caudal scales 60.*

Inhabits Pennsylvania and New Jersey. Young reddish-brown above. Specimens in the Philadelphia Museum and Cab. of the A. N. S.

* In one living specimen there were thirty-three pairs of caudal scales.

COLUBER floridanus.

C. floridanus, (Nobis.) Vulgo, *Red Chicken snake* of Florida. Probably the *C. guttatus*, Lin.

Char.—*Above* red or cupreous, with obsolete, narrow, transverse fasciæ, bordered with black: *beneath* yellowish, or reddish-white.

Total length three feet four inches; tail five and one-half inches. Abdominal plates 225: caudal scales 47.

Inhabits East Florida and Carolina. Cab. of A. N. S.

COLUBER vernalis.

C. vernalis, Dkay, (Manuscript Notes.) Vulgo, *Green snake*.

Char.—*Above* of a universal deep green colour: *beneath* greenish-white: *scales* oblong, rhomboidal, not carinate: plates on the head, seven.

Total length one foot seven inches: tail six inches. Abdominal plates 127: caudal scales 57.

Inhabits Pennsylvania and New Jersey. A specimen in the Cab. of A. N. S.

COLUBER cauda-schistosus.

C. atrifuscus, First ed.

Char.—*Above* uniformly blackish-brown, with strongly carinated, oblong, rhomboidal scales: *beneath* whitish: plates plumbeous at base, and at their union with the lateral scales: beneath the tail plumbeous, spotted with yellowish: *head* covered with seven plates.

Length from two to four feet; tail one-fifth. Abdominal plates 130: caudal scales 50.

Inhabits the southern states; climbing trees in search of game. Described from a specimen in spirits. Cab. of A. N. S. May prove a variety of *C. sipedon*.

COLUBER *erythrogrammus*.

La couleuvre a rais rouges, Daudin, pl. 83. fig. 2.

Char.—Above dusky-black, with a longitudinal, vertebral, red line; and a similar lateral line on each side of the back: *flanks* yellow; base of each scale red: *abdominal plates* red, bordered with yellow, with black on the middle, and on each extremity of the plates.

Length five feet; tail one-sixth. Abdominal plates 162; caudal scales 49.

Inhabits the United States.

COLUBER *doliatus*.

SYNONYMA. *C. doliatus*, Linn. and Gmel.

L'annelée, Daub. Lacépède, Latreille.

La couleuvre cerolée, Daudin.

Char.—Whitish, with black rings; the rings disposed alternately beneath: more regular on the back: *head* sometimes blackish: *scales* smooth, rhomboidal.

Length seven inches: tail one inch five lines. Abdominal plates 164; scales 43.

Inhabits Carolina and New Jersey. Cab. of A. N. S.

COLUBER *maculatus*.

SYNONYMA. *C. maculatus*, or *La couleuvre tachetée*, Daudin.

La couleuvre tachetée, Lacépède, Latreille.

Corn snake, Catesby, Carol. v. 2. pl. LV.

Char.—Above whitish, with large reddish spots, bordered with blackish; a double row of these spots forming a zig-zag line: *beneath* whitish, sometimes spotted: *scales* carinated.

Length two feet. Abdominal plates 119. Caudal scales 70.

Inhabits Carolina and Louisiana.

COLUBER guttatus.

SYNONYMA. *C. guttatus*, Linn. and Gmel.

La mouchetée, Daudin, Lacépède.

La couleuvre a gouttelettes, Daudin.

Bead snake, Catesby, Carol. v. 2. pl. LX.

Char.—Colour livid, marked above with red and black spots; with small lines on the flanks; with alternately square, black spots beneath: scales on the back slightly carinated.

Length from two to four feet. Nearly of equal thickness throughout. Abdominal plates 223 or 230; caudal scales 60.

Inhabits S. Carolina. Principally found in potato patches.

COLUBER molossus.

SYNONYMA. *C. molossus*, or *La couleuvre molosse*, Daudin and Latreille.

C. guttatus, Merrem.

Char.—*Head* elongated, rather flattened, brick-red, with two rays more deep, bordered with brown: lips white, spotted with brown: *above* of a pale-brick colour, with blackish-red, sub-quadrangular spots, bordered with brown: sides with smaller spots disposed in fasciæ: *beneath* white, with square brown spots.

Total length twenty-three inches; tail three inches. Abdominal plates from 220 to 226; caudal scales 60 to 64.

Inhabits S. Carolina, under bark, in the forests.

COLUBER reticularis.

SYNONYMA. *C. reticularis*, or *C. reticulaire*, Daudin, Latreille.

Char.—Covered above with whitish scales, bordered with white; giving to the animal a reticulated appearance: dorsal scales smooth and losange form.

Length four feet; tail one-fifth. Abdominal plates 220; caudal scales 80.

Inhabits Louisiana.

3d GENUS. VIPERA. Daudin.

Characters of the Genus.—Differing from the genus *Coluber* in having poisonous fangs, and the head contracted in length, and broader posteriorly, covered sometimes with small plates; in others, with scales similar to the dorsal, and seldom with large plates, as in the *Coluber*.

VIPERA fulvia.

SYNONYMA. *Coluber fulvius*, Linn. and Gmel.
La noire et fauve, Daudin, Lacépède, and Latreille.
La couleur fulvie, Daudin.
Elaps, Schn. and Cuv. R. A.

Char.—Marked with twenty-two black rings, alternately with an equal number of yellow rings, spotted with brown: these last rings being white before and behind: head covered with large plates: scales sub-imbricate, not carinated.

Length about two feet; tail $\frac{1}{4}$. Abdominal plates 218; caudal scales 31.

Inhabits the southern states. It is by no means innocuous, as is asserted by Daudin, and may be fatally mistaken for the scarlet snake, (*Coluber coccineus*.)

VIPERA fulvia. Var.

SYNONYMA. *Coluber fulvius*, Linn. Var. (H.) Harlan. Journal of the Acad. Nat. Sc. Vol. V. p. 154.

Coluber coccineus, Say. Notes on Herpetology, Silliman's Journal, Vol. I.

Char.—Eighteen deep black rings, with as many scarlet or blood-red intervening ones, separated by narrow rings of whitish-yellow: scales subimbricated, not carinated.

Total length two feet; tail three inches. Abdominal plates 202; caudal scales 40.

Inhabits S. Carolina. A specimen in the Cab. of the A. N. S.

4th GENUS. CENCHRIS. Daudin.

Characters of the Genus.—Body rather thick, cylindrical: tail short, cylindrical: plates on the front of the head; scales on the back of the head; entire plates on the centre: double plates beneath the anterior portion of the tail, entire plates on the remainder: anus transverse, simple, and without spurs: jaws armed with sharp teeth; poisonous fangs in the upper jaw.

CENCHRIS *mokeson*.

SYNONYMA. *Cenchrus mokeson*, Daudin, pl. 70. Coloured apparently from a specimen in spirits. Vulgo, *mokeson*.

Char.—*Head* large, covered with plates before, with scales behind: scales slightly carinated: *neck* contracted: *above* brown, covered with transverse black spots; in some places confluent, occasionally transverse striæ: *beneath* dirty white, with smaller black spots.

Length one and one-half feet; tail one-fifth. Abdominal plates 157: sub-caudal plates 3: caudal scales 32. Inhabits S. Carolina.

CENCHRIS *mokeson*. Var.

Heterodon, of others.

Among a numerous collection of Reptiles, presented to the Academy, by their corresponding member, Dr. William Blanding, of Camden, S. Carolina, is a remarkable variety of this genus, if not a distinct species. It offers

the strongest resemblance to the *Crotalus miliaris* without its rattle.

Char.—*Above* fuscous, with large, black, distinct blotches: *beneath* whitish: *head* broad, and rather flat: *neck* contracted: *body* thick: *tail* short and cylindrical: *nose* flattened and reflected, as in the *Coluber heterodon*: *tail* strongly corneous.

Length about two feet. Abdominal plates 139: subcaudal plates 11: scales 20.

Inhabits S. Carolina. Cab. of the A. N. S. (Not before described.)

5th GENUS. SCYTALE. Daudin.
ECHIS. Merrem.
TRIGONOCEPHALUS. Oppel.
BOTHROPS. Spix.
TISIPHONE. Fitzinger.

Characters of the Genus.—Body robust, elongated, cylindrical: head thick, obtuse, swollen posteriorly, covered with plates anteriorly, with scales posteriorly: scales carinated, reticulated, and rhomboidal: beneath the abdomen and tail furnished with simple transverse plates: jaws furnished with sharp teeth; poisonous fangs in the superior.

SCYTALUS piscivorus.

SYNONYMA. *Scytale piscivorus*, Daudin.

Water viper, Catesby, Carol. pl. 43.

Le piscivore, Lacépède.

Le scytale piscivore, Latreille. Hist. Nat. des Reptiles, in-18, Tom. III. p. 163.

Char.—*Above* brown: *beneath* black, with irregular, transverse, yellow bands, or yellow and black, alternately: sides of the neck, black: *head* large; *neck* contracted: *tail* strongly corneous.

Length, five or six feet. Abdominal plates — ?
 Caudal plates — ?
 Inhabits South Carolina.

SCYTALUS niger.

* **SYNONYMA.** *Scytale noir*, Daudin.
Black snake, Catesby, Carol. pl. 44. Probably a variety of the *Heterodon*.

Char.—*Colour* dusky black, sometimes approaching to redness: *head* short and broad: *tail* short: *body* contracted.

Length about two feet. Plates and scales not enumerated.

SCYTALUS cupreus.

S. cupreus, Rafinesque. Silliman's Journal of Science. Vol. I. p. 84.
Cenchrus mockeson, Say. Journal of Science. Vol. I. p. 256.
 Vulgo, *copper-head*, *copper-belly*, *copper-adder*, *copper-viper*, *chunk-head*, *deaf-adder*, *Rattle-snake-mate*, &c.

Specific characters.—*Tail* one-eighth of total length, with 45 caudal plates entirely brown: 150 abdominal plates, the last very broad; *head* oval, coppered above, yellow beneath; *scales* carinated on the back, which is of a copper colour, with reddish-brown rings cross-shaped; belly variegated with brown.

Total length, three feet; body proportionably thicker than in the Colubers; head large, broad, oval, obtuse, very distinct from the neck, nearly two inches long, with large smooth scales above, and with rhomboidal smooth scales beneath; fangs yellowish-white; back covered with small rhomboidal, obtuse, keeled scales, those of the sides larger and smooth, not keeled; above of a brownish-copper, sides of a bright copper colour, broad bands of a reddish-brown, becoming bifurcated on the sides; a brown spot opposite the sinuses; scales of the sides minutely spotted with brown; abdominal plates of a pale copper colour, with two longitudinal rows of brown spots, each plate emarginate with white; tail short, cylindrical,

tapering, four inches long, brown, immaculate, terminated with an obtuse, horn-claw, of an oblong, compressed shape, and carinated beneath.

Inhabits New England, New York, New Jersey, and Pennsylvania. Cab. of A. N. S.

Having examined specimens, both living and dead, since our first edition, we are enabled to pronounce this a true species.

SCYTALUS tisiphone.

Coluber tisiphone, Shaw. Vipère brune de la Caroline, or *Brown water-mockeson* of Catesby.

Char.—Subcaudal plates simple; *head* furnished with plates as far back as the eyes; *tail* tipped with horn, brown, with cloudy spots of a deeper hue.

Inhabits Carolina.

6th GENUS. CROTALUS. Linn.

Characters of the Genus.—Body robust, elongated, cylindrical: tail short, cylindrical, terminated with a sonorous rattle, which is a corneous production of the epidermis; this rattle is cast annually, (consequently, no inference as to the age of the animal, can be drawn from the number of pieces which compose the rattles:) head thick and broad, covered before with small plates, behind with carinated scales: abdomen and beneath the tail covered with plates: jaws furnished with sharp teeth; upper jaw with long, curved, poisonous fangs, replaced, when broken, by smaller ones in the rear. A poison bag, occupying the whole length of the upper-jaw, beneath the skin, and opening into the fang at its base.

CROTALUS durissus.

SYNONYMA. *Crotalus durissus*, Linn., Gmel., Kalm, and Catesby, Carol. pl. 41.

Caudisona durissus, Laurenti.

Crotalophorus, Gronovius.

Crotalus atricaudatus, or *Le Crotale a queue noire*, Daudin, and Bosc: variety from young age?

Le Crotale durissus, of the French. Vulgo, *Banded Rattle-snake*.

The epithets "banded," and "diamond," have been used by some authors indiscriminately.

Char.—Above cinereous, tinged with yellowish or greenish, with transverse, irregular black bands, bordered with a clear tint; each band terminating on the flanks in a quadrate black spot; *tail* black; *beneath* yellowish-white freckled with black; *scales* rhomboidal, carinated; a row of smooth, round scales on each flank.

Length four or five feet. Abdominal plates, from 163 to 174; caudal plates, from 16 to 30.

Inhabits the northern and middle states; very common in Pennsylvania. 45° is its northern limit according to Kalm. Cab. of the A. N. S.

Observations.—In the month of June, 1826, there was exhibited in Philadelphia, a collection of "*Banded Rattle-snakes*," 150 in number. These animals were all taken in the counties of Wayne, Pike, and Susquehanna, in the state of Pennsylvania, and in Sullivan county, in the state of New York, during the months of April and May preceding. They had not been offered any food the present year, and yet appeared very lively.

The operation of casting their exuviae was frequently witnessed. The process, generally, lasted about fifteen minutes: after its completion, the colours of the skin appeared very brilliant. When at rest, the pupil of the eye is oblong vertically, but they possess the faculty of rendering the pupil oval, and even nearly circular.

It is a remarkable fact, that these reptiles were never known to injure each other, though crowded together in close boxes, and subjected to continual irritation from vi-

sitters, and the living animals on which they were subsequently fed ; as if aware of the fatal consequences of their venom, instinctive harmony prevailed amongst them.

The shades of colour offered to view by the animals in this collection were exceedingly various, from light cinereous to deep black, the bands occasionally interrupted, giving the back a spotted appearance, though the characteristic markings were more or less permanent. Several specimens displayed the following peculiar differential traits, if not specific characters.

Char.—*Above* blackish slate-colour, with the carina elevated and tipped with cinereous, giving to the back a longitudinally striated appearance: *back* marked with transverse black bands, rather obsolete: *beneath* yellowish, the plates being plumbeous at base, and yellow at the edges ; beneath the throat and lower jaw, impure white: *head* very black: *tail* black, striated longitudinally, without bands.

Length between three and five feet.*

CROTALUS horridus.

SYNONYMA. *Crotalus horridus*, Linn., Gmel., Boddaert, &c.

Caudisona terrifica, Laurenti.

Boiquira boicinininga, by the Brazilians.

Cascavel, by the Portuguese.

Teukhilacot zauhqui by the Mexicans.

Boiquira, Lacépède, Latreille, &c.

Vipera caudisona, and *Anguis crotalephorus*, Ray. Syn. Anim.

Boiquira ayug, Marcgrave, Hist. Nat. Brazil.

Crotalus rhombifer, and *Le crotale a lozanges*, Daudin and Latreille. Vulgo, *Diamond Rattle-snake*. The South American species is said to be distinct from the *horridus*.

Char.—*Above* cinereous, with four black lines on the side of the neck ; beneath the lines a row of black points

* A Rattle-snake lived in the Philadelphia Museum two years, without taking nourishment. A female Rattle-snake brought forth twelve young, early in September 1827—This was one of 150 specimens exhibited in Philadelphia by Elmworth and Murray. Another *Crotalus* put forth an immature fetus, and discharged several imperfect ova late in October, 1828.

longitudinally disposed : *back* with from twenty to thirty black rhomboidal figures, distinct, and having their centre and border of an impure white colour : *beneath* yellowish white, immaculate : *tail* black, terminating in a rattle, consisting of from one to twenty pieces : *body* above furnished with twenty-nine longitudinal rows of scales, more or less hexagonal ; the twenty-seven intermediate ones carinated.

Length from three to six feet ; tail about one-ninth. Abdominal plates from 167 to 170 : caudal plates from 20 to 30.

Inhabits the southern states and territories ; the Antilles, and intertropical parts of America. Cab. of A. N. S.

CROTALUS miliarius.

SYNONYMA. *Crotalus miliarius*, Linn. and Gmel.

Le millet, Daub. Enc. Meth. Lacépède, Latreille, Catesby, Carolina, pl. 42. Bartram's trav.

Le crotale millet, Daudin. Vulgo, *Ground Rattle-snake*, or *Little Rattle-snake* ; and by others, *Bastard Rattle-snake*.

Char.—*Above* reddish gray, cinereous, or fuscous, with a longitudinal series of black spots, rounded and bordered with white : *flanks* with two or more ranges of black spots : *beneath* white, freckled with similar black spots : *scales* on the top of the head suboval and carinated ; front of the head and snout covered with nine smooth plates, disposed in four rows.*

Length eighteen inches ; tail one-eighth. Abdominal plates 132 : caudal plates 32.

Inhabits the southern states : there are several varieties, differing in the colour and arrangement of the spots. Specimens in the Cab. of A. N. S.

* On this arrangement of *plates* is founded the genus *Crotalophorus* of Gray, and that of *Caudisona* of Fitzinger.

CROTALUS confluentis.

Crotalus confluentis, Say. Long's Exp. to the Rocky Mountains, Vol. II. p. 48.

Char.—*Above* brownish-cinereous, varied with greenish-yellow; a triple series of fuscous spots, edged with greenish white, transversely oblong-oval, anteriorly confluent: *tail* banded: *beneath* yellowish-white, immaculate.

Length —? about three feet. Abdominal plates 197: caudal plates 27.

Inhabits the western territories, near the base of the Rocky Mountains; frequenting the holes of the Prairie-dog, (*ARCTOMYS ludoviciana*.) Specimens in the Philadelphia Museum.

CROTALUS tergeminus.

Crotalus tergeminus, Say. Long's Expedition to the Rocky Mountains, Vol. I. p. 499.

Char.—*Above* cinereous brown, with a triple series of fuscous spots, transversely oblong oval, and obsoletely edged with whitish: sides spotted, with an alternating fuliginous series: a black vitta passes through the eye, and terminates on the neck: *beneath* spotted with black: *tail* above, fasciated with fuscous, terminating with six bifid plates.

Length two feet, two inches; tail two inches. Abdominal plates 152; caudal plates 20; scales at tip 6.

Inhabits the western territories; frequents the cells of the Prairie-dog. Specimens in the Philadelphia Museum.

ORDER. SAURIA.*

Characters of the ORDER.—Heart composed of two auricles, and, in some instances, of two ventricles: ribs

* From *saurus*, (Lizard.) This order includes the genera *Lacerta* and *Draco* of Linnaeus.

and sternum perfect: lungs vesicular: voice generally restricted to hissing: jaws armed with teeth: tongue, for the most part, slender and extensible: skin covered with scales or plates: generally furnished with four legs, each with five unguiculated toes: male furnished with an exsertile penis, sometimes simple, at others bifurcated; impregnation internal: oviparous; eggs covered with a shell more or less hard: mostly carnivorous.

1st GENUS. AMEIVA. Cuvier.

Lacerta ameiva, Gmel., Lacépède,
Les Sauvegardes, Cuvier.
Le Tupinambus, Daudin, &c.

Species of this genus exist in Asia, Africa, and America: the Baron Cuvier thus characterizes the genus. All the scales small, without carina: an obsolete range of pores beneath each thigh: teeth notched, (dentelées.) The same author divides the genus into two sections, viz. *Sauvegardes*, with the tail more or less compressed: scales of the abdomen longer than broad: living on the borders of streams. 2d, *Ameiva*, properly so called; which differs from the preceding, in having the tail cylindrical, and furnished like the abdomen, with transverse ranges of square scales, broader than long: all the scales of the throat small: head pyramidal: those included in the last division are inhabitants of America. Whilst South America furnishes us with numerous species, one only has hitherto been discovered as an inhabitant of the United States.

AMEIVA tessellata.

A. tessellata, Say. Long's Exp. to the Rocky Mountains, Vol. II. p. 50.

Char.—Above black, marked with nine or ten longitudinal lines, and eighteen or twenty transverse ones, dividing the whole surface in a tessellated manner, the lines

being brownish on the back, yellowish on the sides: scales of the back small, convex, and rounded: *beneath* bluish-white, throat and neck yellowish: *head* olivaceous, covered with plates: scales on the throat, somewhat larger than those on the back: anterior feet yellowish within, covered with minute scales, on the exterior and posterior sides, greenish-white, with confluent black spots and minute scales, the anterior side yellowish, with larger scales: *pores of the thighs* very distinct and prominent: *tail* elongated, brownish above, spotted with black near the base: *beneath* impure white, immaculate: the scales carinated,* and placed in transverse series.

Length one foot: tail eight and a half inches.

Inhabits the Arkansa territory.†

The last family of this order, according to the arrangement of M. Cuvier, is the "*Scincoidiens*," distinguishable by the shortness of their legs, the fixidity of the tongue, and by the regular imbricated scales.

2d GENUS. SCINCUS. Daudin.

Characters of the Genus.—Body more or less cylindrical, covered with uniform, shining scales, imbricated as in the Carp: tongue fleshy, scarcely extensible, and notched: jaws armed with closely approximated teeth, with two small palatine rows: the anus, penis, eye, and ear, resemble those of the Lizards.

There are numerous species of Scinks in the warm climates of both continents. Four species are at present known as inhabitants of the United States.‡ Not venomous.

* The carinated scales appear to be peculiar to this species of the genus *Ameiva*.

† Perhaps *Ameiva 6-lineata*, Catesb. 68? or Seps. of Cuv.

‡ The Baron Cuvier remarks with his usual learning: "The Greeks and the Romans gave the name of *Scincus* to the *terrestrial crocodile*, consequently to a *saurogerde*, (*Ameiva*), to which they attributed great virtues; but since the middle ages,

SCINCUS quinquelineatus.

SYNONYMA. *S. quinquelineatus*, Schneider, Hist. Amphib. fasc. secund. p. 201.

Lacerta quinquelineata, Linn. and Gmel.

Lacerta 5-lineata, var. Green. Journ. A. N. S. Vol. I. p. 348.

La Scinque à cinque raies, Daudin, Hist. Nat. des Rep. p. 272. pl. LV. fig. 1.

Le lézard strié, Daub. Lacépède.

Lacerta fasciata, Var. Linn. et Gmel.

Lacerta caudâ caeruleâ, Catesby, Nat. Hist. Carol. Vol. II. pl. 67.

Lacerta marianus minor caudâ caeruleâ, Petiver, Mus. Tom. I. pl. 1. fig. 1.

Le lézard à queue bleue, Daubenton, Encyc. Method. Idem. Lacépède, Latreille. Vulgo, *The five-lined lizard*.

Char.—Above blackish-brown, marked with five whitish longitudinal lines, the dorsal one bifurcating near the neck: beneath of a clear silver-blue: head covered with plates, brown, elongated, and flattened, with six longitudinal whitish lines, one above and beneath each eye, with two on the summit, joining before and behind: tail similar in colour to the body, the lines gradually effacing, are lost about the middle: all the limbs brown without, marked with a single white line posteriorly, within whitish: posterior extremities with the toes longer than the anterior.

Total length from seven to ten inches; tail nearly the length of the body.

Inhabits South Carolina, New Jersey, Virginia, and Missouri, beneath the bark of trees. Specimens in the Cab. of the A. N. S. When the tail of the Scink is broken and reproduced, it is of a blue colour.

SCINCUS americanus.

S. erythrocephalus, Gilliams. Journal of the A. N. S. Vol. I. p. 461. pl. XVIII. Vulgo, *Red-headed scorpion*.

S. americanus, Petiver, Gazophylacii Naturæ et Artis, 1711, tab. 69, fig. 13.

Char.—Above reddish-brown, tinged with cupreous: beneath whitish: head red above, whitish beneath, wider posteriorly than at the neck.

the *S. officinalis* is generally sold under this name, for similar purposes. The orientals, in particular, regard it as a powerful aphrodisiac." Cuv. Regne Anim. V. II. p. 53.

Total length eleven inches; tail rather longer than the body, or six and a half inches.

Inhabits the southern states. Cab. of the A. N. S.

SCINCUS bicolor.

S. bicolor, Harlan. Journal of the A. N. S. Vol. IV. p. 286. pl. XVIII. fig. 1. According to Say, this is a bleached specimen of *Scincus 5-lineata*.

Char.—*Above* dusky-brown, darkest on the head: *beneath* silver-white: two longitudinal whitish lines on each side of the body: *tail* cylindrical and tapering: two obsolete lines on the posterior part of the thighs.

Total length nine inches four-tenths; tail five inches four-tenths.

Inhabits the southern states. A specimen in the Philadelphia Museum.

SCINCUS lateralis.

SYNONYMA. *S. lateralis*, Say. Long's Exp. to the Rocky Mountains, Vol. II. p. 324.

Scincus unicolor, Harlan. Journal of the A. N. S. Vol. V. p. 156.

Char.—*Above* light-brown, with a lateral blackish line: *beneath* greenish-white: *head* with the rostrum rather short; a transverse row of scales behind the plates larger than the remaining cervical scales.

Total length four inches; tail two inches two-fifths.

Inhabits the southern states. Cab. of the A. N. S.

3rd GENUS. AGAMA. Daudin.

Characters of the Genus.—Body oblong, covered with carinated and reticulated scales: tongue short, thick, and slightly notched at the extremity: head large, callous, and generally spinous on the occiput, covered above with small rhomboidal scales.

Daudin ~~has~~ divided this genus into six sections, three of which will include all the species which inhabit the United States.

AGAMAS, properly so called.

Forming the second section of Daudin.

Body oblong, more or less slender; tail cylindrical. Erroneously represented by this author as destitute of femoral pores.

AGAMA undulata.

SYNONYMA. *Lacerta undulata*, Bosc.

Le stellion ondulé, Daudin, Hist. Nat. des Rept. par Latreille, Tom. II. p. 40.

L'agame ondulé, or *Agama undulata*, Daudin, Hist. Nat. des Rept. suite de Buffon.

Lacerta hyacinthina, Green, Journal of A. N. S. Vol. I. p. 349.

Lacerta fasciata, Idem.

Char.—*Above* cinereous, with irregular, transverse, brownish, bands or undulations: *beneath* bluish, with a large whitish cross: beneath the thighs, with porous grains.

Total length six inches four lines: tail three inches three lines.

Inhabits the middle, western, and southern states. Cab. of the A. N. S.

AGAMA umbra.

SYNONYMA. *Iguana umbra*, Linn. Gmel.

Iguana chalcidica, Laurenti.

Iguana tuberculata, Laurenti.

Le lézard ombre, Daud. Lacépède.

Iguane ombre, Latreille.

Agama umbra, Daudin.

Char.—*Above* of a burnt chestnut colour: *beneath* pale cinereous: *throat* yellowish: beneath the neck, a large spot of deep blackish violet, prolonged upon the occiput:

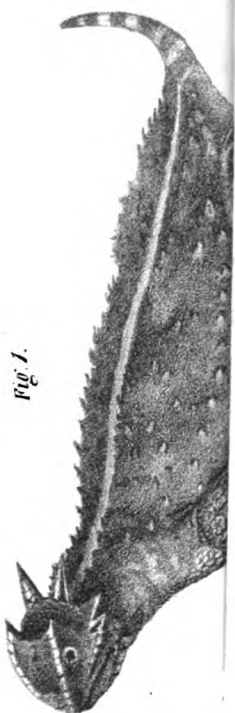


Fig. 1.

Fig. 1. *Apamea ornata*. Fig. 2. ... Central view of the same. Fig. 3. *Apamea douglasi*. Fig. 4. *Apamea collaris*.

Lehman & David Lith.

VILLE DE LYON
Biblioth. du Palais des Arts

body long, cylindrical : occiput callous, spiny : *back* longitudinally striated.

Total length one foot three inches ; tail nine inches six lines.

Inhabits Mexico, California, and the south-western territories. Cab. of A. N. S.

ORBICULAR LIZARDS.

3rd Section of Daudin, or TAPAYIA. (Tapayes.)

Having the skin covered with small scales, and with warty or spiny processes : the form is broad and contracted : body susceptible of inflation ; furnished with minute femoral pores.

AGAMA cornuta.

Agama cornuta, Harlan. Journal of the A. N. S. Vol. IV. p. 299. pl. XX. Vulgo, *Horned lizard*, *Horned toad*, &c.

Tapajazin, B. S. Barton. Med. & Phys. Journal, Vol. III.

Char.—*Above* variegated-fuscou : *beneath* whitish : *body* depressed oval, scabrous : *head* above quadrangular : *tail* depressed at base, slender and teretile at the extremity, shorter than the body.

Total length four inches ; tail one inch five-tenths—of greater proportional length in the female.

Inhabits the trans-Mississippi territories as far west as the plains of the Columbia river, and as far south as Mexico. Specimens in the Philadelphia Museum, and A. N. S. and A. P. S.

AGAMA douglassii.

A. douglassii, Bell. Trans. Lin. Soc. Lond. Vol. 16. pt. 1. 1829.

Char.—*Head* obtusely triangular, with a distinct ridge overhanging the orbits : *body* suborbicular and depressed : *tail* tumid at base, abruptly contracted, and teretile at the

extremity: superior portions of the body covered with small raised scales, interspersed with larger ones which are aculeated, and mostly quadrangular, forming ridges over the eyes and ears, across the occiput, and along the sides of the body: *beneath*, with small uniform smooth scales: the gular fold is of considerable size: *colour* above of a yellowish white mixed with piceous disposed in dots, with transverse dorsal series of piceous ocelli margined with white. A white longitudinal central line from the occiput to the end of the tail; *beneath*, white; femoral pores yellow, twenty on each side.

Inhabits the plains of the Oregon or Columbia river, feeding on insects and vegetables. Cab. A. N. S.*

LACERTINE AGAMAS. (Les Agames Lézardets.)

4th section of Daudin.

These, like the Lizards, have the head covered with plates, and a row of porous grains beneath the thighs; tail cylindrical.

AGAMA collaris.

Agama collaris, Say. Long's Exp. to the Rocky Mountains, Vol. II. p. 252.

Char.—*Above* with five or six dusky broad bands, alternating with narrow fulvous bands, which have each a series of yellow or cinereous spots: sides greenish-yellow: sides of the neck fulvous, varied with red, banded with black: *beneath* pale: thighs with a series of pores: *eyes* silvery, pupil black: *tail* long, cylindrical, and tapering: *scales* destitute of carina.

Total length nine inches two-fifths; tail five inches two-fifths.

* The *A. cornuta*, *A. douglassii*, *A. umbra*, *A. undulata*, &c. constitute Cuvier's sub-genus *TROPIDOLEPIS*.

Inhabits the Arkansa territory. Neosho river of Arkansa. Specimens in the Philadelphia Museum. (Vide plates opposite.)

4th GENUS. ANOLIS. Daudin.

Characters of the Genus.—Body elongated, covered with very small scales, disposed in irregular transverse rows, reticulated on the tail, which is long and cylindrical: tongue short and thick, very slightly notched at the extremity: head elongated, quadrangular, covered with numerous small scales: throat susceptible of inflation during the season of their amours, or when the animal is irritated: four legs, each with five long slender toes, the last phalanx broad, and furnished beneath with imbricated scales, forming transverse striæ, as in the Geckos: hooked nails projecting from the extremity of the last phalanx.

ANOLIS *strumosa*.

SYNONYMA. *Anolis bullaris*, Daudin, Hist. Nat. des Rept. suite de Buffon.

Le Roquet, Lacépède, Valmout, Dutertre, Ray.

Lacertus cinereus minor, or the *Least light brown, or gray lizard*, Sloane, Antille, Tom. II. pl. 273, fig. IV.

Lacerta bullaris, Linn. and Gmel. Syst. Nat. p. 1073, No. 32.

Lacerta strumosa, Linn. and Gmel. Syst. Nat. p. 1067, No. 33. And of Seba. II. XX. 4.

Lacerta viridis jamaicensis, Catesby, Carol. Vol. II. pl. LXVI.

Lacerta viridis carolinensis, Idem, pl. LXV.

Le lézard rouge-gorge, Daub. Lacépède.

L'Iguane rouge-gorge, Daud. Hist. Nat. des Rept. par Latreille.

Salamandra strumosa, Seba and Laurenti.

Le goitreux, Daud. Lacépède. Vulgo, *Chamelion* in the southern states.*

Char.—Above green, changing to brownish, or reddish; a black spot on each temple: beneath whitish-gray, spotted with pale fawn: tail cylindrical, destitute of carina; the throat becoming red when inflated.

* The West Indian and North American species have been confounded; it is now ascertained that the *Carolina anolis*, or *Iguane goitreux*, Brongn. and Catesby, is a distinct species. Vid. Cuv. R. A. last ed.

Total length five inches; tail three inches.

Inhabits Carolina, frequents trees, garden walls, &c. Cabinet of the A. N. S.

5th GENUS. LACERTA. Daudin, Cuvier, &c.

Characters of the Genus.—Body elongated, covered above with very small scales, transversely disposed: abdomen covered with six or ten rows of longitudinal, square, smooth plates: a scaly collar beneath the neck, (excepting the *Ameiva* lizards, which form the first section of Daudin.) Tongue long, extensible, and bifurcated: head oblong, quadrangular, sloping before, covered above with plates: tail long, cylindrical, and verticillated: four strong legs, with each five unguiculated toes: a row of porous grains beneath the thighs: jaws armed with teeth:* the cranium advancing over the temple and orbits, in form of a bony shield.

STRIPED LIZARDS.

Forming the third section of Daudin.

Having a transverse collar under the neck, formed of several large scales; colour bluish; striped above with longitudinal white lines.

LACERTA *sexlineata*.

SYNONYMA. *Lacerta sexlineata*, Linn. and Gmel.

Le lion, Daud. and Lacépède.

Le lézard à six rais, Latreille and Daudin. Figured by Catesby, Nat. Hist. Carol. Perhaps an *Ameiva*.

Char.—*Above* brown, deeper and nearly black upon the back and sides; slate-blue on the flanks: *beneath* pale yellowish-white: *back* striped with six longitudinal whitish lines, the neck with eight lines.

* According to Cuvier, the Lizards are characterized by "two palatine rows of teeth;" we have not been able to detect these teeth in the *Lacerta 8-lineata*.

Total length eight inches two lines ; tail five inches six lines.

Inhabits Carolina. Cabinet of the A. N. S.

DRACENOIDE LIZARDS.

The sixth section of Daudin.

With two folds under the neck : anterior half of the tail verticillate, posterior half reticulated. The section includes but one species.

LACERTA quinquelineata.

SYNONYMA. *L. 5-lineata*, Daudin.

Lacertus major, cinereus, maculatus? Sloane, Hist. Jam. p. 333, pl. CCLXXXIII fig. 3.

Char.—*Above* impure azure-blue, deeper on the body : *beneath* pale : *back* marked with five longitudinal black lines : *flanks* with whitish spots : *tail* verticillated anteriorly, reticulated posteriorly.

Total length six or eight inches ; tail about three-fifths.

Inhabits Carolina? and probably the Antilles. Cab. of the A. N. S.—The existence of this species in the U. S. is ambiguous ; perhaps there is no true *Lacerta* in this country.

6th GENUS. CROCODILUS. Brongniart.

Characters of the Genus.—Of large stature : back and abdomen covered with several rows of large plates, those above with an elevated crest : tongue thick, short, adhering to the lower jaw : skull flat and broad : tail strongly compressed, furnished above with a serrated crest, double anteriorly : legs robust ; five toes before, four behind, three internal only furnished with nails, all more or less united by a membrane. Heart with two auricles, and two

ventricles ; the large arteries uniting and forming distinct sacks immediately before the heart.*

CAIMANS. (Alligator.) Cuvier.

3d Section of Daudin and others.

Having the snout broad and obtuse : teeth unequal : the fourth lower tooth enters a hole, and not a groove, of the upper jaw, when the mouth is closed : feet semi-palmated.

CROCODYLUS *lucius*.

SYNONYMA. *Crocodylus lucius*, or *Le Caiman à museau de brochet*, Cuvier. Ann. du Mus. Vol. X. Regne Anim. Tom. II. p. 22. Anim. Foss. Vol. IV.

Crocodylus mississippiensis, Daudin.

Alligator, or *Crocodylus of Florida*, Bartram, Trav. Idem, Catesby, Carol. Pl. LXIII. figure inaccurate.

Idem, Hentz, "Some Observations on the anatomy and physiology of the North American ALLIGATOR," (*Crocodylus lucius*, Cuv.) Transactions of the Am. Phil. Soc. Philad. Vol. II. New Series, p. 216, Pl. II. 1820.

Char.—*Above* dark cinereous or blackish-brown, tinged with green : *beneath* whitish : *snout* broad and depressed : *neck* above with four carinated plates disposed in a square.

Length from ten to twenty feet ; tail nearly the length of the body.

Inhabits the southern states, in fresh water lakes and rivers. Not found north of Carolina on the Atlantic, nor north of Red river on the Mississippi. Cab. of the A. N. S.†

* For some account of the circulation in the Alligator, vid. present volume, "Description of two Sp. of Linnæan lacerta," &c.

† Found in the lower part of the Arkansa river, according to Mr. Nuttall.

7th GENUS. CHIROTES. Cuv.

Character of the Genus.—Scales verticillated; head obtuse. Furnished with two anterior feet.

CHIROTES lumbricoides.

SYNONYMA. *Le Bimane cannelé*, or *Bipède cannelé*, Lacépède.

Chamaesaurus propus, Schn.

Lacerta lumbricoides, Shaw.

Chirotes lumbricoides, Say. Long's Exp. to the Rocky Mountains, Vol. I. p. 484.

Char.—Two anterior feet, each with four toes, and a rudiment of a fifth: furnished with scapula, clavicle, and small sternum; the remaining portion of the skeleton resembling that of the amphisbena.

Length from eight to ten inches, and of the thickness of the little finger: of a flesh colour; covered with about one hundred and twenty semi-rings on the back, alternating with an equal number on the belly.

Inhabit Mexico, and south western provinces of the United States. Feed on insects, &c.

ORDER. CHELONIA.

TESTUDO. (Linn.)

Characters of the Order.—Heart composed of two auricles, and of a ventricle with two unequal chambers communicating together, wherein the systemic and pulmonary circulations meet, propelling mixed blood through the aorta. Body enclosed in a double shield, a superior, or back-plate, (carapace,) an inferior, or breast-plate, (plastron.) The former composed of eight flattened ribs united to each other, and to the dorsal vertebræ: the latter composed of the sternum, consisting of many pieces united by suture. The cervical and caudal vertebræ are alone moveable. Respiration performed by

means of the muscles of the throat, as in the *Batraceans*: jaws destitute of teeth, but furnished with a corneous beak; in some instances serrated: tongue short: œsophagus, in some instances beset with fleshy, conical protuberances, having a cardiac direction: stomach simple: bladder large: urine limpid: penis simple, exsertile, grooved the whole length of the inferior surface: eggs covered with a shell sometimes hard, at others soft.

This *Order*, including only the Linnæan genus *Testudo*, is very properly divided into several genera, included under three great families, viz: THE LAND, FRESH-WATER, and SEA, TORTOISES.

1st FAMILY. LAND TORTOISES.

1st *Division*—With the sternum simple, or without a valve; shell ventricose.

1st GENUS. TESTUDO. Brongniart.

Characters of the Genus.—Back plate ventricose: legs short and clumsy; toes short and thick, covered with skin which unites them nearly to the last phalanx, armed with strong nails, five behind, four before: sternum simple, generally projecting at the anterior extremity. Exemplified in the *Græca*, the *Indica*, the *Geometrica*, &c., together with the only species observed in the United States.

TESTUDO *polyphemus*.

SYNONYMA. *Testudo polyphemus*, Daudin.

Gopher, Bartram's Trav. Vol. I.

Testudo carolina? Linn. and Gmel.

T. polyphemus, Say. Jour. of the A. N. S. Vol. IV. p. 207.

T. tabulata, Shæpff, 56. t. 13.

Emys polyphemus, Schw.

T. depressa, Lesueur; Guérin, Icon. Rept. t. 4. fig. 4. Vulgo, *Mongoofa*.

Char.—Above depressed: sternum composed of twelve

plates, elongated anteriorly, surpassing the anterior margin of the back-plate in the female only: *tail* short: *nails* depressed, quadrate: *jaws* denticulated.

Length one foot six inches; breadth twelve inches.

Inhabits Georgia and the Floridas. Specimens in the Philadelphia Museum.

2nd Division—Sternum bi-valvular, giving full protection to the head and members of the animal, when withdrawn into the cavity. Cuvier subdivides the genus into such as have two lids, and such as have but one. We transfer these subdivisions to the family Emydidæ.

2nd GENUS. CISTUDA. Bloch. Fleming.

SYNONYMA. *Terrapene*, Merrem. Bell.

Testudo, Linn. and Gmel.

Les Tortues à boîte, Cuvier, Regne Animal.

Cistuda, Fleming. Philosophy of Zoology, Vol. II. p. 270. 1822.—Idem, Say, Journal of the A. N. S. Vol. IV. p. 205. 1824.

Sternotherus, Bell.

Characters of the Genus.—Sternum divided into two lids by a hinge-like articulation, united to the back-plate by a moveable articulation: shell ventricose, and the feet resembling those of the *Testudo*, (Brongn.)

CISTUDA *clausa*.

SYNONYMA. *Testudo clausa*, Gmel. Daudin, and others.

Terrapene clausa, Merrem.

Cistuda clausa, Say, ut supra, who attributes *Testuda carolina*, Linn., as a synonyme.

La tortue courte-queue, Daud. suite de Buffon, Tom. LXXX. p. 207.

La tortue à goutelettes, or *Testudo virgulata*, Daudin.

Testudo tessellata minor caroliniana, Edwards, Av. 205.

Cistuda carolina, (American box terrapin,) Gray, Synop. Rep.

Testudo incarcerationata striata, Bonat.

Test. virgulata, Daud.

Test. carinata, Lin.

Emys dubia, Schw.

Terrapene carolina, Bell.

T. guttata, Bell.

T. nebulosa, Bell.

Emys schneideri, Schw. Edw. t. 205, Cop. Shaw Zool. iii. t. 7, and Seligman vi. t. 100, and Bechst. Lacep. t. f.—Shæpff. t. 7.—Bloch, Bert. Naturf., t. l. f. 1, 2.—Grew, t. 3. f. 2.

Char.—*Shell* convex, oval: *sternum* consisting of twelve anchylosed plates, bivalvular, posterior valve the largest: *superior mandible* hooked, *inferior* elevated at tip and acute: *tail* short: vertebral plates slightly carinated; marginal plates occasionally differ in number in this species.

Colours and markings varying in different individuals; plates sometimes sculptured, at other times glabrous.

Length of shell five and a half inches, breadth four inches, height two or three inches.

Inhabits the southern and middle states. Cabinet of A. N. S.*

2d FAMILY. FRESH WATER TORTOISES.

EMYDIDÆ. Merrem.

Having the toes webbed, and furnished with long, sharp nails, five before, four behind: sternum composed of twelve plates, either continuously solid, or furnished with one or more imperfect hinges: shell generally rather depressed.

1st DIVISION—Sternum continuously solid.

3d GENUS. EMYS. Brongn.

Characters of the Genus.—Toes longer and more separate, and nails longer than in other tortoises; five before and four behind; the form of their feet, particularly the

* This species is long-lived; a specimen was lately found on the farm of George Hunter, in Newton, Delaware County, marked J. H. 1761.

October 27th, 1830.—Examined a living young *C. clausa*, with two distinct heads and necks—found in Chester county.

posterior, being strongly webbed, renders them aquatic, and enables them to swim with velocity: back shell more depressed than in the land tortoises.

EMYS picta.

SYNONYMA. *Testudo picta*, Linn. Gmel. Shæpff, Herm.

La tortue peinte, Daudin, Latreille.

Testudo cinerea, Shæpff.

Painted tortoise, Shaw, Zool. t. 10.

Emys picta, Schw. No. 22. *E. cineria*, Schw. No. 23.

Char.—Above dark brown, with the margins of the plates yellow: head and neck with longitudinal stripes of yellow: jaws denticulated.

Length five and a half inches, breadth four inches, height one and a half inches.

Inhabits the middle states; very common in the fresh water brooks of Pennsylvania. There are three or four varieties, including *T. cinerea* of Shæpff, which appears to have been described from a young specimen. Specimen in the Cabinet of A. N. S.

EMYS punctata.

SYNONYMA. *Testudo punctata*, Shæpff, Hist. testud. p. 25, pl. V. Bosc.

La tortue ponctuée, Daud. p. 159. pl. XXII. Idem, Latreille.

Testudo guttata, Shaw, Zool. 3. Pt. I. p. 47. pl. X.

Emys guttata, Schw.—*Test. anonyma*, Schw. Vulgo, *Spotted turtle*.

Char.—Shell blackish, with remote bright, yellow, round spots: superior jaw emarginated: inferior jaw acute.

Length of the shell four inches, breadth of shell two and a half inches, height one and a half inches.

Inhabits Pennsylvania, and all United States. Cabinet of the A. N. S.

There is a variety with the shell more depressed, and the spots more numerous; figured in Shæpff's work.

EMYS muhlenbergii.

SYNONYMA. *Testudo muhlenbergii*, Shæpff, Hist. Testud. who figures the back and breast-plates, from a specimen sent by Dr. Muhlenberg, from Pennsylvania.

Emys muhlenbergii, Schw. No. 30.

Chersine muhlenbergii, Merrem.

Emys biguttata, Say. Jour. of the A. N. S. Vol. IV. p. 205.

Char.—*Shell* oblong-oval, slightly contracted laterally in the middle : *occiput* with two large fulvous spots : *superior jaw* emarginate : *inferior jaw* acute : *tail* rather long.

Length? rather smaller than *E. punctata*.

Inhabits Pennsylvania. Cabinet of the A. N. S.

EMYS geographica.

SYNONYMA. *Testudo geographica*, Lesueur. Journal of the A. N. S. Vol. I. p. 86, pl. V.

Emys geographica, Say. Journal of the A. N. S. Vol. IV. p. 204.

E. Lesueurii, Gray. Syn. Rept. 1831.

Char.—*Vertebral plates* sub-carinated, the anterior urceolate ; anterior marginal plates slender : *shield* sub-oval, sides compressed : *sternum* nearly the length of the shield : *mandibles* sharp, simple : general colour, dusky, marked with pale sinuous stripes : *tail* banded with yellow.

Length of shell eight inches, width six inches, height three inches.

Inhabits Lake Erie ; noticed by Major Long's exploring party on the Ohio and its tributaries.

EMYS insculpta.

SYNONYMA. *Emys specioca*, Bell and Gray.

Emys scabra, Say. Journal of the A. N. S. Vol. IV. p. 210.

And according to some authors *Emys pulchella* of Shæpff.

Char.—*Colour* dark greenish-brown above, fulvous beneath : *plates* sculptured with concentric and radiating lines, giving the shell a granulated appearance : *sternum* with a large black spot on each plate : *superior jaw* emarginate at tip ; *inferior jaw* acute.

Length from three to nine inches.

Inhabits the northern and middle states. Cabinet of the A. N. S.

EMYS centrata.

SYNONYMA. *Testudo centrata*, Latreille. Idem, Daudin.

Testudo concentrica, Shaw, Zool. III. pt. I. p. 43, pl. IX. Vulgo, *Terrapin*.

E. centrata, Schw.

Testudo palustris, Gmel.

Char.—*Shell* sub-ovate: *vertebral plates* sub-carinated, excepting the last: *plates* with concentric lines, more or less deeply impressed: *skin* whitish, with numerous blackish spots: *jaws* simple.

Length seven inches, breadth five inches, height three inches.

A smaller variety exists, with the concentric lines nearly obsolete.

Inhabits the southern and middle states, in the vicinity of brackish water. Specimens in the Cab. of the A. N. S.

EMYS reticulata.

SYNONYMA. *Testudo reticulata*, Daudin, Bosc.

Testudo reticularia, Latreille.

La tortue reticulaire, Latreille, Daudin.

Emys reticulata, Say. Journ. A. N. S.

Testudo concinna, Le Conte. Ann. of Lyc. N. Y. Vol. III. p. 106.

Char.—*Shell* elongated oval, larger posteriorly, without carinæ; *plates* covered with small parallel striæ: *sternum* yellowish, rounded at both extremities: colour of the shell deep brown, reticulated with yellow lines: marginal plates at their sternal junction, with three black spots.

Length seven inches, greatest breadth four and a half inches, height near three inches.

Inhabits the southern states. Cab. of the A. N. S.

*EMYS rubriventris.**E. rubriventris*, Le Conte, Ann. Lyc. Nat. Hist.*E. serrata*, Say and Harlan. Journ. A. N. S.

Char.—*Shell* sub-orbicular; vertebral plates sub-carinated, lateral plates striated or rugous; six posterior marginal plates serrated; all the marginal plates beneath, with a black spot: *jaws* denticulated: *colour* blackish, marked with yellow: *sternum* reddish.

Length from ten to seventeen inches.

Inhabits the southern and middle states. Common in New Jersey, and in the vicinity of the Chesapeake. Cab. of A. N. S.

*EMYS decussata?**E. decussata*, Bell. Gray's Synop. p. 28.

“Testa oblonga pallide fusca obtuse carinata postice subdentata, subtus lutescente, maculis subocellatis scutillis axillaribus inguinalibus suturque marginalium impositis; scutellis rugulosis irregulariter radiatim sulcatis; animal virescens, genis gulaque obscure pallide lineatis.”

Inhabits southern states of N. A. We have never seen a specimen of this variety or species, and presume it must be rare.

*EMYS serrata.**Testudo serrata*, Daud.*T. scripta*, Shæpff.*Emys serrata*, Merrem, Say, &c.*Emys reticularia*, Bell.*Emys scripta?* Gray, Syn. p. 29.*Emys decussata?* Gray, Syn. p. 28.

Specific Characters.—“Testa oblonga longitudinaliter rugulosa olivaceo fusca—fasciis pallidis irregularibus transversis variegata, postice subdentata—scutellis vertebralibus obtuse. Carinatis, imo longe urceolato—reliquis longe hexagonalibus, marginalibus subtus maculis subocellatis ad suturas positis—sterno flavesciente plano, lineis nigro marginata ornato.”

Habitat.—Pretty generally distributed through the United States, if our observations be correct; which have not enabled us to distinguish satisfactorily this species from *E. reticularia*, *E. scripta*, and *E. decussata*, which we have quoted accordingly; and for similar reasons have added *E. rubriventris* of Le Conte.

EMYS floridana.

T. floridana, Le Conte, Ann. of the Lyc. N. Y. Vol. III. p. 100.

Specific Characters.—"Testa ovalis, ecarinata, longitudinaliter rugosa, fusco-nigra lineis irregularibus flavis notata, lateralibus plus minus radiantibus; scutellum intermedium marginale triangulare, integerrimum: maxilla inferior edentula."

Habitat.—St. Johns river, East Florida.

This species is by no means sufficiently distinguished from the *T. rubriventris*, of the same author; the specific characters quoted being attributable to age and sex, in many instances.

2d DIVISION.

Sternum with two ligamentous hinges, the middle lobe fixed, generally composed of eleven pieces.

Genus. KINOSTERNON, of Spix, Bell, &c.

EMYS pennsylvanica.

SYNONYMA. *Testudo pennsylvanica*, Linn., Gmel., Shæpff., Bosc. Idem, Shaw, Zool. Vol. III. p. 60, pl. XIV. Encyc. Method. pl. V. fig. 1. Daudin, suite de Buffon, p. 182, pl. XXIV.

La tortue rougeatre, Daudin, ut supra.

Terrapene pennsylvanica, Merrem.

Cistuda pennsylvanica, Say. Journal of the A. N. S. Vol. IV. p. 206.

Emys pennsylvanica, Harl. Idem, Schn.

Kinosternon pennsylvanica, Gray, Synop.

Terrapene boecii, Merrem.

Sternotherus boecii, Bell.

Char.—*Shell* oval, rather convex: *sternum* deeply

emarginate, posterior angles rounded: *superior mandible* hooked at tip: *inferior mandible* elevated and acute: *tail* unguiculated.

Length of the shell three or four inches; breadth two or three inches; height one or two inches.

Inhabits the southern and middle states. Cabinet of A. N. S.

A variety with the sternum proportionably broader, and the femoral plates elongated posteriorly; observed by Major Long's exploring party, in the vicinity of the Missouri.

3d DIVISION.

Sternum univalve, with a single ligamentous hinge, uniting the anterior lobe to the middle and posterior, which are immoveable.

Genus. STERNOTHÆRUS. Bell.*

Emys odorata.

SYNONYMA. *Testudo odorata*, Daudin, suite de Buffon, Vol. LXXX. p. 189.

La tortue odorante, Daudin, Latreille, Hist. Nat. des Reptiles, Tom. I. p. 122.

Cistuda odorata, Say. Journal of the A. N. S. Philad. Vol. IV. p. 216.

Emys odorata, Harl. and Schw.

Sternotherus odoratus, Bell.

Kinosternon odoratum, Gray, Synop.

La tortue à battans soudés, Daudin, or *Testudo glutinata*, Idem. Vulgo, *Stink-pot*, or *Musk-tortoise*.

Char.—*Shell* oval, convex: *sternum* emarginate behind; posterior angles acute, a single plate anteriorly, very small; the whole breast plate narrower than in the *pennsylvanica*, with a single valve anteriorly: *head* flattened, pointed, of a brownish colour, with two yellow lines on each side: *chin* with some yellow tubercles in form of processes.

* London Zoological Journal, No. VII. p. 299.

Length four or five inches; breadth two or three inches; rather higher than the preceding.

Inhabits the southern and middle states, giving the preference to muddy ditches. Cab. of the A. N. S.

4th GENUS. CHELYDRA. Schw.
 CHELONURA. Fleming.
 EMYS. Section B. Oppel.
 SAUROCHELYS. Latreille.
 RAPARA. Gray.
 TESTUDO. Lin.

Characters of the Genus.—Tail about the length of the shield: back-plate carinated with spinous processes posteriorly: extremities incapable of being withdrawn into the shield.

CHELYDRA serpentina.

SYNONYMA. *Testudo serpentina*, Linn. Gmel. Shæpff.

La tortue serpentine, Daud. Lacépède.

Testudo serrata, Pennant, Supple. Arct. Zool.

Chelonura serpentina, Harl. Genera N. A. Reptilia, Ed. 1st. Say, Journal of Acad. Nat. Sc. Philad. Vol. IV. p. 217. Vulgo, *Snapping-turtle*, or *Logger-head*, of the middle states; *Alligator-tortoise*, of the southern states, *Coutta*, by the slaves.

Char.—*Shell* sub-ovate, depressed, posterior plates spinous: superior mandible hooked, acute: *tail* very long, compressed and serrated.

Length, sometimes four feet, to four and a half feet, of the shell about two feet; weighing about twenty pounds.

Inhabits the southern and middle states; preferring ditches and muddy pools. Cab. of the A. N. S.*

* Tuesday, Feb. 11, 1835.

Mr. Petival, civil Engineer, laid before the Academy of Natural Science of Philadelphia, for the inspection of the members, drawings representing three views of a new species of *Chelonura*, from a tributary stream of the Mississippi, which enters that river above Memphis, in West Tennessee. The skull of the animal was also displayed. This species is characterized as new by its enormous size, by the greater number of border plates, number of carina on the back plate and tail, by the great and peculiar curvature of the jaw, by the sutures of the cranium, markings, &c. on the plastron.

5th GENUS. TRIONYX. Geoffroy.

Fam. TRIONYCHIDÆ. Gray.

Characters of the Genus.—Destitute of scales; shield and sternum being covered with a soft skin, or cartilage: an osseous disk in the shield, from which project laterally several ribs, shorter than the cartilaginous border: feet palmated, three inner toes furnished with claws: a corneous beak covered with fleshy lips: nose prolonged into a fleshy trunk: vent situated near the extremity of the tail.

TRIONYX *ferox*.

SYNONYMA. *Testudo ferox*, Pennant, Linn. Gmel. Shæpff.

La tortue molle, Lacépède, Latreille.

La tortue de Pennant, Daudin.

Trionyx ferox, Merrem. Say. Journal of the A. N. S. Vol. IV. p. 218.

The soft-shell tortoise, Bartram, Trav. Vol. I. p. 11.

Trionyx spiniferus, Lesueur. Mem. du Mus. d'Hist. Nat. 1827. *Trion. georgicus*. Geoff. *Trion. carinatus*. Geoff. Ann. du Mus. t. IV. *Trion. brongniartii*, Schw.

Char.—*Sternum* with two callosities; small smooth tubercles on the anterior and posterior part of the covering of the back: *tail* slightly projecting beyond the cartilaginous border, in the female; much longer and thicker in the male: *head* and *neck* very nearly the length of the body.

Length of the body about twenty inches, breadth about fourteen and a half inches; head and neck about thirteen and a half inches in length when protruded; weighing between twenty and thirty pounds.

Inhabits the Mississippi, the Ohio, the northern lakes with their tributary streams; also many of the rivers of

Total length of animal four feet eight inches, circumference of the head one foot ten and a half inches, length of the head eight inches.

Dr. Troost had previously, during the summer of 1834, notified me of his discovery of this species, which he names *Chelonura Temminckii* and the present drawings and specimen are now on their way to the Jardin des Plantes, for publication. More than one specimen has been observed.

the southern states; not observed to exist further south than South Carolina on the sea board.

Specimens, male and female, preserved in spirits in the Cabinet of the A. N. S.

TRIONYX muticus.

Trionyx muticus, Lesueur, Mem. Mus. XV. 1827.
Armless Trionyx.

“Testa elliptica levissima, antice cum collo continua, dorso centro depresso, sterno 4 calloso, callis 2 posterioribus conjunctis.”

Length eight and a half, breadth seven and a half inches, sometimes larger.

Inhabits Ohio river and tributaries.

TRIONYX Harlani.

Trionyx Harlani, Bell, Monog. Test. pl.

Char.—*Body* more ventricose, soft portions of the shell less extensive than in the other species. In general appearance approaching more to the genus *Emys*.

Inhabits East Florida. Mus. of Bell, Lond.

The *Trionyx Bartrami*, vid. Bartram's Travels in Florida, who describes it as from St. Johns river, has never been observed by any naturalist, and is most probably founded in error.

The preceding synopsis includes all the remarks, which our observations enable us to offer, in the two first great families of the *Order CHELONIA*. Concerning the third and last family, the Sea Tortoises, (*Chelonia*, of Brongniart,) we have enjoyed no opportunity of investigation, which would enable us to add to the facts already before the public. The ingenious Dr. Fleming, with considerable erudition, and a nomenclature always classical, has re-

cently attempted a revision of this order.* According to this author, the sea tortoises are divided into two groups, consisting of three genera, thus characterized :

First Group.—Breast-plate interrupted by intervening cartilaginous spaces : extremities incapable of being withdrawn into the shield : fore legs remarkably produced, with the toes united, to serve as a fin : living in the sea.

1. CHELONIA. Back-plate covered with corneous scales. *Testudo mydas*. L.

2. CORIUDO. Back-plate destitute of scales. *Testudo coriacea*. L.

Second Group.—Lips fleshy, with a produced snout : toes webbed.

3. CHELYS. (Dumeril.) Back-plate scaly : a protuberance on the hind feet, occupying the place of a web, but destitute of a claw : toes armed with claws : mouth destitute of a corneous beak. *Testudo fimbria*, Gmel.†

We close our observations on this subject, for the present, in offering a *catalogue* or methodical table, of the Reptilia inhabiting the UNITED STATES ; together with a few additions and corrections.

* Vid. "The Philosophy of Zoology ; or a general view of the Structure, Functions, and Classification of Animals. By John Fleming, D. D. F. R. S. E., Minister of Flisk, Fifeshire." In two Vols. 8vo. 1824.—Vol. II. p. 268.

† For the species of Sea Tortoises which frequent the coasts of the United States, vide the methodical table at the termination of this essay. For an interesting history of the habits of the Sea Tortoises of the United States, vide Audubon's Ornithological Biography, Vol. II. p. 370.

CATALOGUE

OF

THE NORTH AMERICAN REPTILIA.

1st ORDER. BATRACHIA.**1st GENUS.****AMPHIUMA.**

means.

tridactylum.—2.

2d GENUS.**MENOPOMA.**

alleghaniensis.—1.

3d GENUS.**SIREN.**

lacertina.

striata.

intermedia.—3.

4th GENUS.**MENOBRANCHUS.**

lateralis.—1.

5th GENUS.**SALAMANDRA.**

subviolacea.

tigrina.

cylindracea.

fasciata.

sinciput-albida.

erythronota.

cinerea.

variolata.

fusca.

maculata.

subfusca.

longicaudata.

21

SALAMANDRA.

nigra.

flavissima.

rubra.

picta.

symmetrica.

porphyritica.

jeffersoniani.

cirrigeri.

dorsalis.—21.

6th GENUS.**RANA.**

pipiens.

clamata.

ocellata.

melanota.

halecina.

utricularius.

scapularis.

flaviviridis.

sylvatica.

palustris.

pumila.

gryllus.

dorsalis.

nigrita.—14.

7th GENUS.**HYLA.**

lateralis.

femorialis.

squirella.

HYLA.

delitescens.
versicolor.—5.

8th GENUS.**BUFO.**

musicus.
cognatus.
fuscus.—3.

2d ORDER. OPHIDIA.**1st GENUS.****OPHISAURUS.**

ventralis.—1.

2d GENUS.**COLUBER.**

obsoletus.
constrictor.
testaceus.
ordinatus.
parietalis.
filiformis.
flagelliformis.
sipedon.
saurita.
sirtalis.
proximus.
flaviventris.
striatulus.
punctatus.
amænus.
rigidus.
septemvittatus.
porcatus.
coccineus.
heterodon.
æstivus.
fasciatus.
getulus.
calligaster.

COLUBER.

melanoleucus.
eximius.
vernalis.
cauda-schistosus.
erythrogrammus.
doliatus.
maculatus.
guttatus.
molossus.
reticularis.—34.

3d GENUS.**VIPERA.**

fulvia.—1.

4th GENUS.**CENCHRIS.**

mokeson.—1.

5th GENUS.**SCYTALE.**

piscivorus.
niger.
cupreus.
tisiphone.—4.

6th GENUS.**CROTALUS.**

durissus.
horridus.
miliarius.
confluentis.
tergeminus.—5.

3d ORDER. SAURIA.**1st GENUS.****AMEIVA.**

tesselata.—1.

2d GENUS.**SCINCUS.**

quinquelineatus.

SCINCUS.

americanus.
bicolor.
lateralis.—4.

3d GENUS.

AGAMA.

undulata.
umbra.
cornuta.
douglassii.
collaris.—5.

4th GENUS.

ANOLIS.

strumosa.—1.

5th GENUS.

LACERTA.

sexlineata?
quinclineata?—2.

6th GENUS.

CROCODILUS.

lucius.—1.

7th GENUS.

CHIROTES.

lumbricoides.—1.

4th ORDER. CHELONIA.

1st GENUS.

TESTUDO.

polyphemus.—1.

2d GENUS.

CISTUDA.

clausa.—1.

3d GENUS.

EMYS.

picta.
punctata.
muhlenbergii.
geographica.
insculpta.
centrata.
reticulata.
rubriventris.
serrata.
floridana.
pennsylvanica.
odorata.—12.

4th GENUS.

CHELYDRA.

serpentina.—1.

5th GENUS.

TRIONYX.

muticus.
ferox.
harlani.—3.

SEA TORTOISES.

CHELONIA. (Brong.)

6th GENUS.

CHELONIA.*

mydas.
caretta.
couana.—3.

7th GENUS.

CORIUDO.†

coriacea.‡—1.

* *Chelonia*, Fleming.

† *Coriudo*, Fleming.

‡ *C. coriacea*, as frequenting the coasts of Carolina, on the authority of Lawson. "Hist. of Carolina." Specimens in the New York and Boston Museums, from the neighbouring coast.