FAMILY II. PHANEROBRANCHOIDEA.

CHARACTERS.

Gills permanent; spiracles or branchial orifices concealed by branchial tufts.

SIREN.—Linnaeus.

Genus Siren.—Characters. Head short; mouth small; tongue arrow-shaped; palatine teeth minute, numerous on the outer margin of the bone; gills persistent during life; branchial tufts three; spiracles three; body eel-shaped; anterior extremities, but neither pelvis nor posterior extremities.

SIREN LACERTINA.—Linnaeus.

Plate XXXIV.

Characters. Head short; frontal region elevated; snout depressed; branchial tufts three; spiracles three; body anguilliform; tail long, compressed, with a rayless fin above and below; anterior extremities only with four short, small fingers each; colour above dusky, approaching to black, with numerous white or yellowish-white spots; abdomen purplish.

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Siren lacertina, Schneider, Hist. Amphib., fas. i. p. 88.
Siren lacertina, Merrem, Versuch eines Syst. der Amphib., p. 188.
Mud Eel or Siren, Vulgo.

DESCRIPTION. The head is rather small for the size of the animal, sub-oval, with the forehead elevated, and the snout flattened and truncated. The mouth is small, and covered with tolerably thick lips; the tongue is arrow-shaped, broadest and adherent posteriorly, free only at its anterior and lateral margin. There are no teeth in the upper jaw, but a broad group of numerous minute teeth begins at the anterior margin of the palate bones and extends along their outer border.

The nostrils are small, latero-anterior, and open outwards. The eyes are superior, very small, black, and covered with a cuticular prolongation. The neck is contracted, with three spiracles or branchial openings, elliptical, vertical, the central one largest; these are covered by three branchial tufts, of which the anterior is smallest and the posterior largest.

The body is eel-shaped, though robust; the tail is long, compressed, ancipital, with a rayless fin both above and below.

The anterior extremities alone exist, and these are but slightly developed, so as to be of little service, if any, in progression, and yet they are in constant motion as the animal moves from place to place on land, and are folded back when it swims in water. There are four short fingers to each extremity, the tips of which are rather pointed, slightly curved, and terminate in semicorneous tips.

COLOUR. The whole superior surface is dusky, sometimes almost black, and is
generally, though not always, studded with small white or milky-white dots. The under surface is purple, with a tinge of violet.

Dimensions. Length of head, 1 inch; length of body, 12 inches; length of tail, 6 inches: total length, 19 inches. They frequently reach dimensions much greater. I have often seen them 2 feet long; and Dr. Philip Tydiman, of Charleston, informs me that many years since he procured one nearly 3 feet in length for the celebrated Blumenbach of Gottingen.

Habits. The Siren lacertina lives chiefly in mud, and is abundant in our rice-fields, and are often thrown out in great numbers, at certain seasons, when the ditches are cleaned; being regarded, however, as venomous by the slaves, they are instantly killed or dreadfully mangled, and left to serve as food for racoons or for turkey-buzzards ever on the watch.

Sometimes they leave the soft mud, in which they commonly burrow, and take to the water, in which they swim with great swiftness. My colleague, Professor Moultrie, assures me that occasionally they are taken by persons angling for the common perch of Carolina, (Pomotis Vulgaris,) with a bait of earthworms.

Sometimes they leave the water entirely, like eels, and are found on dry land; but whether in search of food, or to rid themselves of parasitic animals, cannot at this moment be determined.

Geographical Distribution. The range of the Siren lacertina begins as far north as latitude 35°, whence it reaches through South Carolina and Georgia to East Florida; but I have no evidence of their existence in any of the rivers or streams that empty into the Gulf of Mexico. Mr. Conrad the conchologist, in fact ascertained, that the dividing ridge of high land between the waters of the Appalachicola and Altamaha rivers, was an important limit in the geographical distribution of fresh-water shells; and it will doubtless be found the same as regards other animals exclusively aquatic.
**General Remarks.** The Siren lacertina was first observed in South Carolina by Dr. Garden, who sent it with the following remarks to Linnaeus: “this extraordinary two-legged animal lives in dams and ponds of fresh-water all over the province (South Carolina). I have them of all sizes, from 4 inches to 3 feet in length, and they always appeared to me the same animal in every thing but magnitude.”

Linnaeus, struck with the singular appearance and organization of this curious reptile, wrote to Dr. Garden, that “nothing had ever so much exercised his thoughts, nor was there any thing he so much wished to know as the real nature of an animal so extraordinary.” Unable to refer it to any family of reptiles, he instituted for it a new order and genus; Ordo III., Amphibia meantes; Genus, Siren; which were published in the seventh volume of the Amoenitates Academicæ, for the year 1765.

At first Linnaeus seems to have thought it possible that the Siren might be the larva of some large and unknown Salamander,* and not an animal in its perfect or ultimate state; and he further says, “if it is a larva the Doctor (Garden) will doubtless find specimens with four legs.” This opinion was adopted by the most celebrated naturalists until within a few years; thus Lacépède says that he “never for a single moment doubted that this animal was a larva and ought not to form a new genus.” Even Cuvier himself was at first inclined to this opinion, though he subsequently abandoned it.

The publication of the correspondence of Garden with Linnaeus on this subject in 1821, settled the question at last; for in 1770 he writes, “I have taken every opportunity of examining whether the Siren undergoes any metamorphosis or not; and though I have observed them in various stages, from its smallest to its largest size, I have never perceived any variation in form or other respects;” and in

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1771 he further remarks—"I have now clearly ascertained that the Siren is oviparous, and that it never undergoes any metamorphosis." These observations have been confirmed by several American naturalists, as Leconte, Dr. W. Hume, and Dr. E. Ravenel of Charleston.

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