

C. Body scaly.

Mouth toothless; gill-membranes joined to the isthmus; no adipose fin . . . 3. CYPRINIDÆ.

Jaws with teeth; mouth bordered laterally by the maxillaries; gill-membranes free from the isthmus; 3 to 5 branchiostegals; an adipose fin often present; lateral line usually present and running along the middle of the side; pectoral fins placed low 4. CHARACINIDÆ.

II. No ventral fins; no dorsal; a long anal; body more or less eel-shaped . . . 5. GYMNOTIDÆ.

Fam. 1. LORICARIIDÆ.

The Loricariidæ are fresh-water fishes of South America, ranging from Panama to Monte Video. There are about 200 species, of which seven are known from Panama. These may be recognized by the series of bony plates which protect the body, the restricted gill-openings, and the inferior mouth with expanded sucker-like lips. The dorsal fin is anterior in position, the anal fin is short, and the uppermost and lowest rays of the caudal and the first ray of each of the other fins are simple and often spinous.

Synopsis of the Genera represented in Central America.

I. Caudal peduncle compressed or cylindrical.

A. Snout granular to its margin.

Operculum and interoperculum little, and not independently, movable . . . 1. PLECOSTOMUS.

Interoperculum freely movable, spinate 2. ANCISTRUS.

B. Snout with a naked margin.

Snout without tentacles 3. CHÆTOSTOMUS.

Snout with tentacles 4. XENOCARA.

II. Caudal peduncle strongly depressed.

Teeth not setiform; snout not much produced; an orbital notch . . . 5. LORICARIA.

Teeth numerous, setiform; snout produced; no orbital notch . . . 6. OXYLORICARIA.

1. PLECOSTOMUS, Gronow.

Plecostomus, Regan, Trans. Zool. Soc. xvii. 1904, p. 202.

Body more or less elongate, protected on each side by 5 longitudinal series of bony scutes; upper surface of snout covered with granular plates to its margin; operculum and interoperculum little, and not independently, movable. Teeth slender, bifid, in a single series. Adipose fin usually present and supported by a movable spine.

About thirty-five species from Tropical America.

1. *Plecostomus guacari*, Lacep.

Loricaria plecostomus, Linn. Syst. Nat. i. p. 508 (1766).

Plecostomus guacari, Regan, Trans. Zool. Soc. xvii. 1904, p. 205.

Dorsal I 7. Anal I 4. 25 or 26 scutes in a longitudinal series, the anterior and superior scutes keeled.