



Hemiodus parnaguae Eigenmann & Henn. Type. No. 5701, C. M., 57 mm. Lagoa de Parnagua.

VII. DESCRIPTION OF THREE NEW SPECIES OF CHARACID FISHES.¹

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(PLATE XVII.)

1. *Hemiodus parnaguæ*, sp. nov. (Plate XVII.)

5701, C. M., **type**, 57 mm.; 5762 *a-b*, C. M., 48-62 mm.; 13541, I. U. M., 64 mm., **paratypes**. Lagoa de Parnagua, Jan. 17, 1908. Haseman.

Related to *Hemiodus longiceps* Kner and *H. microlepis* Kner.

Head 3.5-3.6; depth 3.5-4; D. 10-11; A. 11-12; scales 20-80 to 83-12. Eye equal to, or slightly greater than, snout, 3.5 in head, 1 in interorbital.

Slender, compressed; dorsal and ventral profiles equally arched; snout pointed; mouth sub-terminal. A single series of about twenty multicuspid teeth in the upper jaw.

Origin of dorsal equidistant from tip of snout and tip of adipose, the height of its second ray, which is longest, equal to the head plus one-third of the eye. Anal emarginate, its origin twice as distant from a point between the eye and the edge of the opercle, as from the base of the caudal. Adipose elongate, slightly less in length than the eye. Caudal deeply forked, lobes longer than head; pectorals lanceolate, not reaching ventrals, the latter barely reaching the vent.

Lateral line slightly decurved in front, thence horizontal, very slightly below the mid-line of the body. Scales minute, cycloid, in well defined rows, with few striæ; lower abdominal rows but slightly increasing in size. A large axillary scale; fins naked.

A silvery lateral streak; opercle shining silvery; an oval black spot nearly the size of the eye, midway between the end of the dorsal and the origin of the anal. The upper half of the lower caudal lobe is black and the lower half is speckled with scattered chromatophores. Outer half of anal black; other fins colorless.

A single mutilated specimen from the same locality (5703 C. M.) apparently this species, has the following characters: length to broken

¹ Contributions from the Zoological Laboratory of Indiana University, No. 145.

end of caudal peduncle 113 mm.; head 4.5; depth 3.8; D. 11; scales 20-82-12; teeth 34.

2. *Leporinus ecuadorensis* sp. nov.

13116 *a*, I. U. M. **Type**, 325 mm. Rio Barranca Alta near Naranjito, Ecuador, Arthur Henn.

5428 *a-b*, C. M.; 13116, I. U. M. Six **paratypes**. Largest 187 mm. Rio Baranca Alta, Naranjito. Henn.

5426 *a-i*, C. M.; 13113, I. U. M. Nineteen, 128-264 mm. Vines. Henn.

5427 *a-b*, C. M.; 13114, I. U. M. Several. Guayaquil. Henn.

13115, I. U. M., several. Colimes. Henn.

This species differs from typical specimens of *L. friderici* from British Guiana, chiefly (1) in having the dorsal set farther back, *i. e.*, equidistant from snout and a point midway between the adipose and caudal; (2) the anal set somewhat farther forward and very seldom reaching the caudal; and (3) the presence of three persistent lateral spots. *L. muyscorum* has the dorsal as in *L. friderici*, but the sharp caudal and the anal placed as in this species. *L. muyscorum* and the present form should probably be regarded as subspecies of *L. friderici*.

Head 3.8-4.2 $\left(\frac{3.8}{2}, \frac{3.9}{1}, \frac{4}{20}, \frac{4.1}{1}, \frac{4.2}{1} \right)$ denominator representing the number of individuals having the given character; depth 3.3-3.8 $\left(\frac{3.3}{4}, \frac{3.4}{4}, \frac{3.5}{12}, \frac{3.6}{4}, \frac{3.8}{2} \right)$; D. 12-13 $\left(\frac{12}{25}, \frac{13}{1} \right)$; A. 10, in twenty six specimens; scales 5-39 to 41-4 or 5 $\left(\frac{39}{1}, \frac{40}{20}, \frac{41}{5} \right)$; eye 1.5-2 in the snout, 4.5-5.5 in head, 2-3 in interorbital; four teeth in each side of each jaw.

Origin of dorsal equidistant from the tip of the snout and a point beyond the adipose or generally midway between the adipose and the base of the upper caudal fulcrum. The height of the third or longest dorsal ray is equal to the head less one-half of the opercle. Caudal sharp, deeply forked, not obliquely truncate or lobate, as in *L. friderici*, the upper lobe about half an orbital diameter longer than the lower. Anal but slightly emarginate, the distance from its origin to the base of the caudal equal to the head, or the head plus an orbital diameter. The height of the third or longest ray equals the head minus the snout; only very rarely reaching the lower caudal fulcrum as is commonly

the case in *L. friderici*. Pectorals reaching nearly three-fourths of the distance to the ventrals, the latter more than half way to the anus.

Each scale of the sides and back has a dark area at the base. Dorsal area steel-blue or bluish-green, ventral region and belly yellowish. Young specimens have alternating bluish blotches and transverse pinkish bars on the back. Sides with a series of three heavy black spots or blotches, the first below the dorsal, or midway in the length without caudal, the third at the end of the caudal peduncle, and the center one ending before the vertical from the adipose. These are present in all specimens, and occupy each about four scales in the lateral line and the series beneath it. Dorsal, pectorals, and caudal dusky, without definite bands of color; ventrals and anal blackish, with a broad, white, outer margin.

3. *Astyanax magdalenæ* sp. nov.

5822 a, C. M., **type**, 53 mm. Girardot. Eigenmann.

13611, I. U. M., **paratype**, 61 mm. Apulo. Gonzales.

Closely related to *A. stilbe* (Cope) differing in the greater depth, the shorter anal, and the lack of a median series of preventral scales.

Head 3.5-3.8; depth 2.33; D. 11; A. 33-34; scales 8-36 or 37-7 (to ventrals), snout 1.3 in eye, 4-4.5 in head; eye 3-3.3 in head and equal to interorbital.

Dorsal and ventral profiles equally and strongly arched; predorsal area without a median series of scales, those of the two sides overlapping, an occasional median scale near the origin of the dorsal; preventral area keeled, scales of the two sides apposed in the mid-line.

Interorbital convex, smooth; occipital process elongate, sharp, about one-fourth of the distance from its base to the dorsal, bordered by three large scales. Frontal fontanel bluntly triangular, as wide as the parietal and about two-thirds as long as the parietal without the occipital groove. Second and third suborbitals leaving a narrow naked margin behind and below. Maxillary as long as the eye, shorter than the mandible, which is equal to the snout and half the length of the eye.

Premaxillary with four broadly tricuspid teeth in the outer row and five brown-tipped four- to five-pointed teeth in the inner row. Maxillary with a single minute tooth in the upper angle. Mandible with five sharp three- to four-pointed teeth.

Origin of dorsal about equidistant from the snout and the base of the caudal, or slightly nearer the snout, its anterior rays 3.4 in the length; caudal sharp, lobes equal and as long as the head; anal not emarginate, short, its longest ray equalling length of ventrals or the head without snout and half the eye. Origin of anal slightly in advance of vertical from last dorsal ray.

Scales regularly imbricate, below the lateral line from above the ventrals posteriorly they are deflected or decurrent to the anal. Anal sheath, a single row of oblong scales decreasing in size progressively towards the last rays; a short axillary scale. Lateral line gently decurved throughout its length.

Silvery; a lateral streak of bright silver from operculum to caudal; a single round black humeral spot; a horizontally oval spot at the end of the caudal peduncle.



Eigenmann, Carl H. and Henn, Arthur Wilbur. 1916. "Description of three new species of Characid fishes." *Annals of the Carnegie Museum* 10(1-2), 87–90.
<https://doi.org/10.5962/p.78059>.

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