

PROCEEDINGS  
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A COLLECTION OF FISHES FROM THE ISTHMUS OF  
TEHUANTEPEC.

BY SETH EUGENE MEEK.

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The small collection of fishes on which this paper is based was made by E. Heller and C. M. Barber for the Field Columbian Museum in December, 1904, and January, 1905, at Achotal, in the State of Vera Cruz, and San Geronimo and Niltepec in the State of Oaxaca. Most interesting are the cichlids, of which there are besides one new species several specimens of *Cichlasoma mojarra* Meek and *Cichlasoma evermanni* Meek. The former species was previously known only from one small specimen from San Geronimo. The collection also records the northern known limit of *Cichlasoma trimaculatum* Günther.

**Rhamdia oaxacae** Meek.

Achotal.

**Carpiodes meridionalis** (Günther).

Achotal.

**Tetragonopterus aeneus** Günther.

Achotal and San Geronimo.

**Dorosoma anale** Meek.

Achotal.

**Signalosa mexicana** (Günther).

Achotal.

**Gambusia fasciata** Meek.

San Geronimo.

**Belonesox belizanus** Kner.

San Geronimo.

**Anableps dovii** Gill.

San Geronimo.

**Heterandria pleurosilus** (Günther).

San Geronimo.

**Heterandria lutzi** Meek.

Achotal.

**Poecilia sphenops** Cuvier & Valenciennes.

Achotal and San Geronimo.

**Xiphophorus helleri** Heckel.

Achotal.

**Cichlasoma salvini** (Günther).

Achotal.

**Cichlasoma mojarra** Meek.

Nilttepec.

This species was based on a small specimen from San Geronimo, Oaxaca. In the collection are eight specimens which vary in length from 140 mm. to 300 mm. This species differs from *C. salvini* (Günther), which it most resembles, in having a steeper profile, subequal jaws, a less pointed snout, and a less compressed and more robust body. The color markings of the two species are very different. In *C. salvini* there is a broad, lateral band which is sometimes broken into blotches. In *C. mojarra* there is no trace of a lateral band, and the vertical bars are very indistinct. There is a dark blotch above the origin of the lateral line, one on the middle of the side just below the lateral line, and one on the upper half of the base of the caudal fin. These blotches are very prominent and constant. The center of each scale on the adults is lighter, these forming more or less prominent stripes along the rows of scales.

After carefully comparing a number of specimens of *C. salvini* with *C. mojarra* I am unable to agree with Mr. Regan\* that the two species are the same.

**Cichlasoma evermanni** Meek.

Nilttepec.

In the collection are five specimens of this species ranging in length from 147 mm. to 200 mm. In all of these the teeth are small, conical and pointed. There is no frenum, but the free portion of the lip is not quite so free at the symphysis as laterally. Apparently from the descriptions only Mr. Reagan † identifies this species with *Cichlasoma heterodontum* (Vail and Pell). This last named species is described as having a very irregular dentition, sufficiently so to suggest its specific name. While it is true that the teeth of older individuals of some species become more or less worn, it is not necessarily true of all in the genus. In this particular instance the specimen described by Vaillant and Pellegrin does not appear to be an old individual, being smaller than the average size of the ten specimens of *C. evermanni* before me. *C. heterodontum* is described as having a frenum.

\* Ann. and Mag. Nat. Hist. p. 334, 1905.

† l. c. p. 241.

While this character in some species varies with age, in this species, judging from the material examined by me, it is constant, the lower lip being nearly as free as in *C. salvini*.

I will mention here that a re-examination of the material at my command has convinced me of the identity of *Cichlasoma melanurum* (Günther) and *Cichlasoma gadowi* Regan.\* My opinion here is based on my study of a considerable amount of material both in the field and in the laboratory. In all large groups of animals some species are quite variable and others are not. In order to properly define the more variable forms field work is quite necessary.

***Cichlasoma trimaculatum* (Günther).**

Seven individuals were taken at Achotal. The three lateral spots and the very irregular dentition are well shown in these specimens.

***Cichlasoma fenestratum* (Günther).**

Achotal.

I follow Mr. Reagan in the use of this name instead of *C. parma*.

***Cichlasoma zonatum* sp. nov.**

*Type* from Niltepec, Oaxaca. Field Columbian Museum. No. 3776.

Total length, 175 mm. Head, 3; depth, 2.11; scales, 7-33-12; D. XVIII, 6; A. VI-8. Body deep, back elevated, profile very convex; mouth small; jaws equal; snout blunt; teeth rather small, pointed, those in front in each jaw slightly the larger; lips thin, lower with well developed frenum; maxillary short, reaching vertical from midway between nostril and eye, its length 4 in head; preorbital 4, postorbital 2.67; distance from inferior margin of the orbit to the horizontal passing through mouth 4.8 in head; diameter of eye 4.36 in head; gill rakers short, 3-7; pectoral fin 4 in length of body; ventrals pointed, short, their tips not reaching first anal spine; spinous dorsal low, the sixth spine 2.81 in head, the last 2.51; soft dorsal and anal rays reaching slightly past base of caudal fin; least depth of caudal peduncle 2.28 in head. Color dark olivaceous, without evident black bars; a broad black band from opercle to caudal, a few small dark spots above and below this band.

This species belongs in the same group with *C. nebulifer* (Günther) and *C. eigenmanni* Meek. It is a much deeper fish than either of these, has a lower spinous dorsal, fewer dorsal rays, and different coloration.

***Thorichthys aureus* (Günther).**

Mr. Regan has, no doubt, correctly established the identity of *T. aureus* (Günther) and *T. helleri* (Stein.).

\* l. c. 231.