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A NOTE ON THE SYNONYMY OF THE CICHLID FISH
OF CUBA AND BARBADOES, *CICHLASOMA*
TETRACANTHUS

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Cichlasoma tetracanthus (Cuvier and Valenciennes)

- Centrarchus tetracanthus* Cuvier and Valenciennes *Hist. Nat. Poiss.*, VII, 1831, 460; Guichenot, in Ramon de la Sagra, *Hist. Cuba, Poiss.* (1843), p. 31.
- Acara tetracanthus* Steindachner, *Denkschr., Wiss. Akad. Wien*, XXIII, 1864, 60.
- Heros tetracanthus* Jordan and Evermann, *Bull. U.S. Nat. Mus.*, Vol. XLVII, Part 2, 1897, p. 1539.
- Heros tetracanthus tetracanthus* Eigenmann, *Bull. U.S. Fish Comm.*, XXII, 1902 (1903), 230, Figs. 12, 13.
- Cichlosoma tetracanthus* Regan, *Ann. Mag. Nat. Hist.* (7), XVI (1905), 325.
- Chromis fusco-maculatus* Guichenot, in Ramon de la Sagra, *Hist. Cuba, Poiss.* (1843), p. 78, Pl. 2, Fig. 3.
- Acara fusco-maculata* Günther, *Cat. Fish. Brit. Mus.*, IV, 1862, 282.
- Heros fuscomaculatus* Pellegrin, *Mém. Soc. Zool. France*, XVI, 1903 (1904), 227.
- Acara adspersa* Günther, *Cat. Fish. Brit. Mus.*, IV, 1862, 282.
- Heros adspersus* Pellegrin, *Mem. Soc. Zool. France*, XVI, 1903 (1904), 227.
- Cichlosoma adspersum* Regan, *Ann. Mag. Nat. Hist.* (7), XVI (1905), 324.

Heros tetracanthus torralbasi Eigenmann, *Bull. U.S. Fish Comm.*, 1902 (1903), p. 230, Fig. 11.

Heros tetracanthus griseus Eigenmann, *op. cit.*, p. 233, Fig. 14.

Heros tetracanthus latus Eigenmann, *op. cit.*, p. 234, Fig. 15.

Heros tetracanthus cinctus Eigenmann, *op. cit.*, p. 234, Fig. 16.

Heros nigricans Eigenmann, *op. cit.*, p. 235, Fig. 17.

Apparently more variable than most cichlids, the species inhabiting Cuba and Barbadoes has passed through a rather varied nomenclatural history. But before entering into a discussion of the several names which have been applied to this fish, we should consider the outstanding features of the variability of the species. To quote Eigenmann (p. 230), who has made the most extensive study of this form:

Only a single species has been recorded from Cuba, and nothing has been said either concerning its distribution or its variation. No one, except possibly Poey, has before this compared numbers of specimens from different places or even from the same place. Such a comparison is therefore very desirable, and the material collected far surpasses all other collections made before. We have altogether 236 specimens from various localities. An examination of all of these proves either the presence of several instead of a single species in the island or a remarkable variation with localities. A definition of the variations has proved very elusive. The numbers of fin rays¹ and scales are uniform, so that the differences exist in the proportions and the color. But the coloration also has a certain underlying uniformity. There is a spot near the middle of the side, another at the base of the caudal, and an obscure third above the gill-opening. There are numerous small spots on the fins and on scales of the sides, especially below and on the opercles, and sometimes on the cheeks. There is also a longitudinal streak from the eye through the lateral spot to the caudal spot, and a definite number of crossbars, both streak and bars most conspicuous in the young and in light-colored adult individuals. This uniformity of underlying structure makes defining of species or varieties a difficult proceeding. The polymorphism is further complicated by instances like the following: The specimens from San Antonio are readily referable to a certain form found at Calabazar, although they differ from Calabazar specimens in quite readily distinguishable features; but one of them

¹ Regan noted two specimens in which an unusually high number of spines was present in malformed (injured?) anal fins.

differs notably from all other specimens collected at San Antonio, and would unhesitatingly be considered a species distinct from the other specimens from the same locality. But at Palacios the same form branching from the Calabazar form approaches the characters of the single specimen from San Antonio.

In other words, the variations have at most an imperfect geographical significance. The variations in form possibly are sexual, for some large individuals are slender, while others are robust; the variations in color are perhaps in part correlated with sex, and imperfectly with age. Most of the variations, however, seem to be of an individual, rather than racial, sexual, or age, character.

Cichlasoma tetracanthus was described by Valenciennes in 1831, under the name of *Centrarchus tetracanthus*. Although Guichenot listed this name in 1853, he also described the species from Cuba, in the same work as *Chromis fusco-maculata*—a name later adopted by Günther and by Pellegrin. These two names were apparently based on similar examples of this variable cichlid, belonging to the type called *Heros tetracanthus tetracanthus* by Eigenmann. Eigenmann based five additional names upon Cuban cichlids, all of which Regan has synonymized, without remarks, with *tetracanthus*. These five nominal forms may be treated separately.

Heros tetracanthus torralbasi, as well as the type B and C of typical *tetracanthus*, seem to be based on individual modifications of the same fundamental color pattern. Both types occur together, and in specimens of either type the characteristic markings of the other show more or less distinctly.

Heros tetracanthus griseus is based upon one of the specimens from San Antonio with a comparatively large eye and gray, faintly marked coloration; the size of the eye falls well within the limits of variation ascribed to the species by Regan, and the coloration appears to be nearly matched by individuals of *tetracanthus* from other localities.

Heros tetracanthus latus, based upon a specimen from San Juan, appears to be characterized chiefly by the deep, compressed body (depth 2 in length to caudal); but Eigenmann records the depth in typical *tetracanthus* as varying from 2 to 2.7.

Heros tetracanthus cinctus and *H. nigricans* are based on dark adult individuals which show very distinctly the dark bars more commonly restricted to the young; both were taken with other individuals referred by Eigenmann to typical *tetracanthus*. As this author stated, the type and only known example of *nigricans* "is the most prominent of the aberrant forms"; in addition to the peculiarities of form and color, in which it is approached by other "subspecies," it lacks the pores in the posterior straight portion of the lateral line; the number of pores in this portion of the lateral line in other specimens varies widely, however (7 to 13), and only one specimen among eighteen taken at Pinar del Rio lacked these pores.

Unless further evidence of their distinctness is forthcoming, therefore, more than one form of cichlid can scarcely be recognized in Cuba.

Another nominal species may apparently be referred to the synonymy of *Cichlasoma tetracanthus*. This is *Acara adspersa* Günther, from Barbadoes, known only from a single specimen, re-described by Regan. The supposedly distinctive features of this form, as described by Regan, seem to be, however, all due to age variation (the type of *adspersum*, 218 mm. long; Regan's Cuban examples of *tetracanthus*, 64 to 154 mm. long). In the larger Cuban specimens described by Eigenmann, the snout (when 2.5 in head, the eye 5) is quite as long as the postorbital length of the head (suborbital not described by Eigenmann in large specimens, but doubtless wider than in those of medium size); the soft dorsal is produced "to near middle of caudal" (p. 233); the caudal peduncle may be quite as long as deep (cf. fig. 12). The supposed difference in the depth of the caudal peduncle was

the only character used by Regan to distinguish the two forms in his synopsis of the species.²

The material of *Cichlasoma tetracanthus* examined by the writer consists of a set of Eigenmann's series from San Cristobal, San Antonio, Pinar del Rio, Calabazar, and Los Palacios, all in Cuba; also two from a small lake at Santiago de las Vegas and three from Calabazar, Cuba, collected by Mr. T. L. Hankinson.

² *Ann. Mag. Nat. Hist.* (7), XVI, 1905, 66.

