

***HYPHESSOBRYCON ITAPARICENSIS* (CHARACIFORMES:  
CHARACIDAE): A NEW TETRAGONOPTERINE FISH  
FROM A COASTAL ISLAND OF NORTHEASTERN BRAZIL**

by

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**ABSTRACT.** *Hyphessobrycon itaparicensis* sp. n. is described from a small stream in ilha de Itaparica, Bahia, northeastern Brazil. It differs from all congeners by a combination of morphological features and a unique colour pattern. It seems to be closely related to some species of eastern Brazil coastal plains possessing a double humeral spot.

**RÉSUMÉ.** *Hyphessobrycon itaparicensis* une nouvelle espèce de Tetragonopterinae d'une île côtière du Brésil du nord-est.

*Hyphessobrycon itaparicensis* n. sp. est décrit d'un petit cours d'eau de l'île de Itaparica, Bahia, Brésil du nord-est. Il diffère de tous ses congénères par une combinaison de caractères morphologiques et par un type de coloration unique. *Hyphessobrycon itaparicensis* semble être très proche de quelques espèces des plaines côtières du Brésil du nord-est et possédant une double tache humérale.

**Key words.** Characidae - *Hyphessobrycon itaparicensis* - Northeastern Brazil - New species.

The genus *Hyphessobrycon* Durbin, 1908 comprises a speciose, widespread, and poorly defined assemblage of small tetragonopterine characids (Eigenmann, 1917). However, records for the coastal river basins of northeastern Brazil between northern Bahia and Piauí states are rare in the literature. These include *H. nutus* Fowler, *H. theringi* Fowler, and *H. giabinhas* Fowler, all from northern Estado do Ceará (Fowler, 1941), and *H. parvellus* Ellis from the coastal river basins of northern Estado da Bahia (Ellis, 1911), which seem to be endemic to that region. The present paper deals with the description of a new species from the ilha de Itaparica, Bahia.

**MATERIAL AND METHODS**

Methods for counts of fin rays, scales, vertebrae and gill rakers follow Fink and Weitzman (1974). Measurements are made according to Fink and Weitzman (1974), except for: body depth, vertical measurement immediately anterior to dorsal-fin origin; body width, transversal measurement immediately in front of dorsal-fin base; head depth, vertical measurement through the posterior edge of opercular bone; and head width, the largest transverse length crossing the head. Tooth and dental cusp counts are made from the medial to the distal portion of jaw bones. Cleared and counterstained specimens were prepared according to Taylor and Van Dyke (1985).

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Fig. 1. *Hyphessobrycon itaparicensis*, MZUSP57539, 38.4 mm SL, holotype.

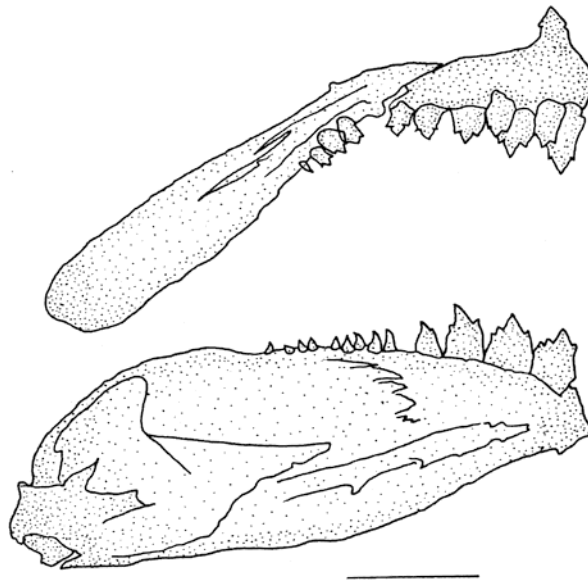


Fig. 2. Dentition of *Hyphessobrycon itaparicensis*. Scale bar 0.5 mm.

***HYPHESSOBRYCON ITAPARICENSIS* SP. N.**

(Figs 1, 2)

*Holotype.* MZUSP 57539, 38.4 mm SL; Brazil: Estado da Bahia, small stream in ilha de Itaparica; W. Costa, A. Sarraf, R. D'Arrigo and C. Sampaio; 12 July 1994.

*Paratypes.* MZUSP 57540, 6 ex., 20.4-25.8 mm SL; UFRJ 4843, 9 ex., 25.3-33.2 mm SL; UFRJ 4844, 8 ex. (all cleared and stained for bone and cartilage), 25.3-32.0 mm SL; UMMZ 238767, 20 ex., 13.4-25.6 mm SL; MNHN 2001-1230, 20 ex., 16.6-24.6 mm SL; USNM 365811, 20 ex., 19.2-24.4 mm SL; all collected with the holotype.

### Diagnosis

Distinguished from all other species of the genus by the combination of the following features: body depth 35.4-40.7% SL, longitudinal series scales 30-31, anal-fin rays 27-30, maxillary teeth 3-5, dentary teeth 12-15, anteriormost dentary teeth pentacuspitate, two humeral spots, and a midlateral, horizontal dark brownish crimson stripe on the posterior half of body side.

### Description

Morphometric data are given in table 1. Greatest depth at dorsal fin origin. Dorsal head profile straight. Dorsal profile of body slightly convex from nape to posterior dorsal-fin base, approximately straight to adipose fin origin, and gently concave from this point to dorsal procurrent caudal fin rays. Ventral profile from the anterior tip of lower jaw to anal-fin origin convex, anal-fin base straight, and ventral caudal peduncle profile approximately straight. Snout blunt, mouth terminal.

Dorsal fin origin inserted slightly anterior to a vertical through middle of body. Tip of pectoral fin reaching a vertical through pelvic-fin origin. Tip of pelvic fin reaching the base of the first three anal fin rays. Distal margin of anal fin concave. Origin of anal fin under posterior dorsal fin base, in a vertical through the base of 8th or 9th ray. Caudal fin forked, dorsal and ventral lobes equal in size. Dorsal fin rays i, 10; anal fin rays 27-30 (iii, -iv, 21-24, ii); principal caudal fin rays i, 17, i; procurrent caudal fin rays 7-8; pectoral fin rays i, 10-11; pelvic fin rays i-6. Adipose fin present. No hooks on fins.

Scales in longitudinal series 30-31, first six perforated; scales in transversal series 7 above lateral line, 5 below lateral line. Scales in predorsal series about 9-10.

Two teeth rows in premaxilla, outer row 2-3 tricuspidate teeth; inner row 5 tricuspidate teeth. Maxilla with 3-5 conical teeth, first 1-2 often tricuspidate. Dentary with one row of 12-15 teeth, first three or four with 5 cusps, other ones smaller and conical. Gill rakers 17. Branchiostegal rays 4. Supraneurals 5. Vertebrae 10-12 precaudal + 19 caudal.

*Colour in alcohol.* Overall coloration light yellowish gray. Dark chromatophores homogeneously scattered on body sides, becoming gradually more concentrated below the lateral line under the dorsal fin origin till the caudal fin base. Belly and anal fin base less pigmented. Dark chromatophores concentrated along dorsal midline, dorsal portion of the head and jaws, becoming more sparse on sides of head and chin. Small dark chromatophores scattered over all fins.

*Colour in life.* Side of body pale yellowish gray, becoming brownish yellow on dorsum and light green to pale golden on venter. Two faint gray, vertically elongated and short humeral spots, most visible in preserved specimens. A midlateral, horizontal dark brownish crimson stripe between a vertical just anterior to dorsal fin origin and caudal fin base. Side of head and iris pale golden. Fins light yellow.

### Etymology

From the name of the island, Itaparica. An adjective.

### Habitat notes

The new species was collected in a narrow (about 4 m wide) and shallow (about 1 m deep) stream, with clear waters, close to (below) a small waterfall, but near the sea (about 200 m), although without tidal influence. It was the only fish found.

Table 1. Morphometric data of *Hyphessobrycon itaparicensis*. Measurements 1-12 are expressed as % of standard length (SL) and 13-18 as % of head length (HL). \*Unleaded and counterstained specimens.

	Holotype		Paratypes									
	MZUSP 57539	UFRJ 4843	UFRJ* 4844	UFRJ 4843	UFRJ 4843	UFRJ* 4844	UFRJ 4843	UFRJ 4843	UFRJ 4843	UFRJ 4843	UFRJ 4843	UFRJ 4843
Standard length (mm)	38.35	33.20	31.95	31.20	30.05	28.30	26.90	26.80	26.70	26.20	25.90	25.25
1. Body depth	39.8	37.8	36.6	35.4	40.7	41.5	40.7	40.1	35.7	36.8	40.5	38.0
2. Body width	13.2	10.5	10.6	10.4	11.9	12.0	12.6	13.4	12.7	12.0	13.1	13.0
3. Predorsal length	55.9	53.7	54.1	52.4	55.2	53.0	56.8	53.7	53.9	54.9	56.3	54.2
4. Prepelvic length	49.5	48.3	48.9	49.8	50.4	51.2	52.7	52.2	48.3	50.7	51.7	50.2
5. Caudal peduncle length	40.1	40.3	35.5	37.8	38.1	40.9	37.9	38.6	40.0	41.2	38.0	38.0
6. Caudal peduncle depth	12.1	12.6	11.7	12.0	13.4	13.0	13.3	12.3	12.7	12.2	11.9	12.6
7. Pectoral - fin length	21.6	21.8	20.5	21.1	21.9	21.5	21.1	20.3	21.3	20.4	22.3	21.3
8. Pelvic - fin length	16.5	18.2	19.4	19.8	17.6	17.6	17.8	17.1	16.8	19.8	19.3	18.2
9. Dorsal - fin length	27.9	26.5	27.0	31.0	27.4	29.8	24.5	27.2	29.9	26.7	28.7	28.5
10. Dorsal - fin base length	12.9	14.4	14.0	13.7	13.6	14.3	12.0	13.0	13.4	12.5	14.0	13.4
11. Anal - fin base length	30.8	33.8	32.5	33.9	32.1	30.0	28.9	30.9	27.3	31.2	30.5	31.0
12. Head length	25.1	28.0	26.6	27.0	25.7	26.6	25.6	26.6	25.6	26.1	25.4	25.7
13. Head width	61.1	53.7	51.1	47.3	54.8	52.3	55.0	53.8	52.5	51.8	60.6	55.3
14. Head depth	101.5	97.8	96.4	95.2	105.8	104.6	97.8	95.1	96.3	97.0	97.7	96.9
15. Snout length	26.9	25.2	23.5	24.2	25.1	26.4	24.6	24.4	26.2	24.0	24.2	23.0
16. Upper jaw length	45.5	41.9	41.1	49.7	45.1	49.6	47.1	48.2	48.1	45.2	51.5	47.6
17. Eye diameter	35.2	33.3	37.6	41.4	38.7	37.0	42.0	39.8	39.4	38.6	39.3	39.2
18. Interorbital width	45.5	38.7	41.1	40.8	44.5	43.0	44.9	45.4	45.2	45.2	45.4	43.0

## DISCUSSION

The scarcity of available morphological data, especially osteological, on most taxa presently included in *Hyphessobrycon* makes difficult to erect hypotheses on relationships. Current discussions on putative monophyletic assemblages are based on limited set of characters, usually colour pattern and fin shape (*e.g.*, Costa and Géry, 1994; Weitzman and Palmer, 1997). Therefore, relationships of *Hyphessobrycon itaparicensis* are unclear, but it is possibly closely related to *H. flammeus* Myers and *H. guianensis* Hoedeman, two small species endemic to the coastal areas of southeastern Brazil, also with a double humeral spot and a faint median horizontal reddish brown stripe on the posterior portion of body. These two species may be distinguished from *H. itaparicensis* by their smaller size (usually not reaching 25 mm SL), prominent anteroventral profile, and red anal fin.

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