

New records and distribution extension of *Hyphessobrycon itaparicensis* Lima & Costa, 2001 (Characiformes: Characidae) in coastal drainages of Sergipe State, northeastern Brazil

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ABSTRACT: The present study reports the first record of the small characid fish *Hyphessobrycon itaparicensis* Lima and Costa, 2001 in two coastal drainages of Sergipe State, Brazil. This species was collected in three sampling sites from Piauí and Sergipe river basins, both in the hydrographic ecoregion of Northeastern Mata Atlântica. Aspects of habitat, diet composition, phenotypic variation, molecular identification and distribution of *H. itaparicensis* are herein discussed.

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Hyphessobrycon Durbin, 1908 is a species-rich characid genus comprising about 130 valid species, which occurs from Mexico to Argentina (Carvalho and Langeani 2013; Eschmeyer 2013). Currently, *Hyphessobrycon* is classified as Characidae *incertae sedis* genus due to its non-monophyletic nature (Lima *et al.* 2003; Carvalho and Bertaco 2006; Mirande 2010; Oliveira *et al.* 2011).

Ten species of *Hyphessobrycon* were already described from northeastern Brazil (Zanata and Camelier 2010). This includes *H. latus* Fowler, 1941, *H. iheringi* Fowler, 1941, and *H. piabinhas* Fowler, 1941, all from Fortaleza, Ceará State (Fowler, 1941) and *H. micropterus* (Eigenmann, 1915) from São Francisco river basin, Bahia State. The remaining species are endemic (*H. brumado* Zanata & Carmeliet, 2010 from the upper Contas river basin, *H. negodagua* Lima & Gerhard, 2001 from upper Paraguaçu river basin, and *H. vinaceus* Bertaco, Malabarba & Dergan, 2007 from Pardo river basin) or also occur in the coastal basins of Bahia State (*H. bifasciatus* Ellis, 1911, *H. itaparicensis* Lima & Costa, 2001, and *H. parvellus* Ellis, 1911) (Lima *et al.* 2003; Buckup *et al.* 2007; Zanata and Camelier 2010).

Hyphessobrycon itaparicensis is a poorly known species, with restrict occurrence on some small coastal basins (Baetantã, da Dona, Traíra, Patipe, Vermelho, Macacuá, and Sorojó drainages) on South of Itaparica island, until near Camamu municipality in the Bahia State, Northeastern Brazil (Burger *et al.* 2011). Burger *et al.* (2011) stated that this species also occurs in coastal basins from northern states, but its precise distribution range was not mentioned. This note extends the distribution of *H. itaparicensis* to Sergipe State, representing its northernmost known record, including notes on sexual dimorphism and diet.

The fishes were collected using trawl nets (5 mm mesh)

during the day (SISBIO permit #20104-1). After capture, the specimens were euthanized with menthol, fixed in 10% formalin and stored in 70% ethanol. Some specimens were also fixed and stored in ethanol 95% for molecular analysis. Voucher specimens are deposited in the Universidade Federal de Sergipe (CIUFS) and Universidade Federal do Rio Grande do Norte (UFRN) fish collections (Appendix 1). Thirteen specimens of *H. itaparicensis* were dissected for sex determination and gut content analysis.

A molecular phylogeny analysis was performed to reinforce the morphological identification of the specimens from Sergipe and Piauí river basins. DNA was extracted with DNAeasy™ Tissue Kit (Qiagen) from six and four specimens of *H. itaparicensis* from Piauí and Sergipe river basin, respectively, and from four individuals of *H. parvellus* from Sergipe river basin. The mitochondrial cytochrome oxidase I (COI) was amplified and sequenced using the primers FISH-BCH2 and FISH-BCL (Tornabene *et al.* 2010). The PCRs were performed using an initial cycle at 95°C for 5 min, followed by 35 cycles at 94°C for 30 s, 50°C for 35 s, 72°C for 70 s, a final extension step at 72°C for 7 min, and then 20°C for 2 min. PCR products were purified using the QIAquick PCR Purification Kit (Qiagen). All sequencing reactions were performed using the big dye v3.1 (Applied Biosystems) and screened in ABI PRISM® 3500 Genetic Analyzer (Applied Biosystems). Consensus sequences were aligned using Geneious 6.1 (www.geneious.com), including 10 sequences of *Hyphessobrycon* spp. and two of *Hemigrammus marginatus* Ellis, 1911 from GenBank (Appendix 1). These last species were used as outgroup. A maximum likelihood analysis was performed using Mega 5.1 (Tamura *et al.* 2011) under the HKY+Γ substitution model, defined by Akaike information

criterion using the Modeltest 3.7 (Posada and Crandall 1998), and 1000 bootstrap replicates to verify the support for each node. Additionally, levels of genetic divergence (K2P distance) among *H. itaparicensis* from Sergipe State drainages were also calculated in Mega 5.1.

The new records of *H. itaparicensis* (Figure 1) were registered at tributaries of lower portion of Piauí and Sergipe river basins, Sergipe State, Northeastern Brazil (Figure 2). These streams are small and shallow with acidic blackwaters (pH 5.3–5.7). The streams grounds are mostly composed by mud and leaves in calm water; sand and gravel in lotic stretches (Figure 3). Both sampling sites are within the Atlantic Forest, a highly threatened Brazilian biome (Tabarelli et al. 2005). In the Piauí river basin *H. itaparicensis* is syntopic to the native species *Astyanax* sp., *Astyanax lacustris* (Lütken, 1875), *Hoplerythrinus unitaeniatus* (Agassiz, 1829), *Hoplias malabaricus* (Bloch, 1794) and *Cichlasoma sanctifranciscense* Kullander, 1983. In Sergipe river basin *H. itaparicensis* is syntopic to the native species *Callichthys callichthys* (Linnaeus, 1758). The congener species *Hyphessobrycon parvellus* was only registered at tributaries of the middle course of Sergipe river basin.

Individuals of *H. itaparicensis* were identified by presenting body depth from 35.4–40.7% of standard length (SL), 30–31 scales on longitudinal series, 27–30 anal-fin rays, 12–15 dentary teeth, two faint humeral spots, and a mid-lateral horizontal dark brownish stripe on the posterior half of body (Lima and Costa 2001).

While *H. itaparicensis* from the Sergipe river basin showed typical colour pattern in life, with body and fins predominately yellowish and maximum body size (43.0 mm SL), in Piauí river only small specimens were caught in some sampling surveys (14 and 16 March 2012). The largest specimen were 24.8 mm SL and presented a more intense coloration in live specimens, with body predominately metallic copper and red to orange fins, with inconspicuous humeral spots, and a conspicuous narrow longitudinal stripe on the lateral of the body from the vertical through the dorsal fin origin to the caudal peduncle. However, most of the meristic and morphometric data were in concordance suggesting that *Hyphessobrycon* specimens from both localities belongs to the same species. The only difference among *H. itaparicensis* from the type locality (Itaparica islands in Bahia State) and those from Sergipe State drainages are related to an increased number of maxillary teeth (3–5 vs. 6), but examinations including coastal intermediary populations showed a gradual variation from South to North (Angela Zanata, pers. comm.).

According to the molecular analysis, *Hyphessobrycon* from Piauí and Sergipe river basins comprises a monophyletic group with high bootstrap support. COI sequences (635 bp) presented only three polymorphic positions in which represents less than 0.5% in variation. According to the Barcode proposals COI variations less than 1% are consistently related to within-species variations in most cases of the Neotropical freshwater fishes (Pereira et al. 2013). Therefore, the present data are consistent with the occurrence of *H. itaparicensis* along both drainages. All four specimens from Sergipe

river basin presented the same haplotype, also shared with one individual from the Piauí river basin. *Hyphessobrycon itaparicensis* from Piauí river basin also present two exclusive haplotypes, which suggests that the population could be genetically structured. Thus, the small molecular K2P distance (zero to 0.005)



FIGURE 1. *Hyphessobrycon itaparicensis*: (a) specimen collected at tributary of Fundo river, Piauí river basin (UFRN 207, 24.3 mm SL); (b) specimen collected at tributary of Poxim river, Sergipe river basin (CIUFS 458, 43.0 mm SL).

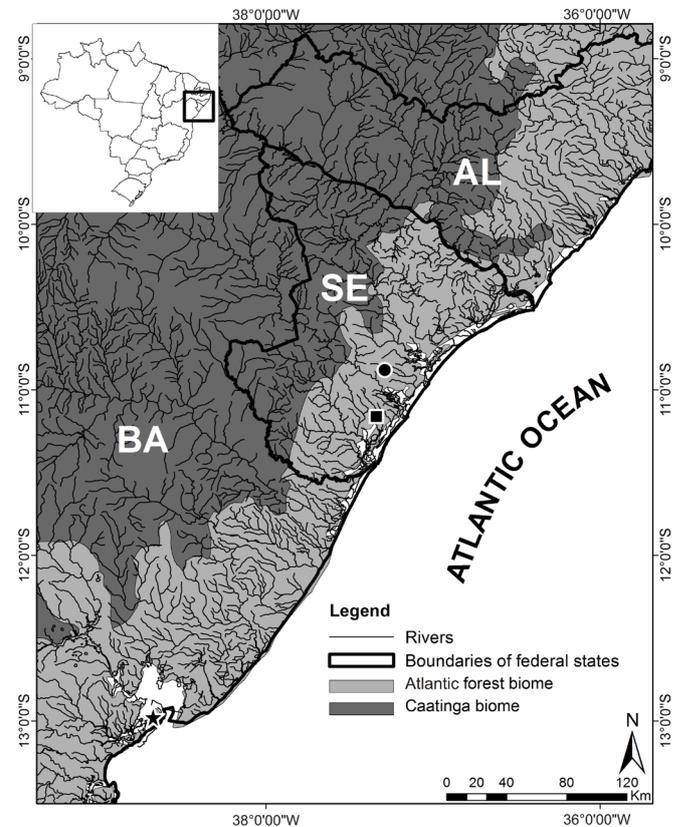


FIGURE 2. Map of new records of *Hyphessobrycon itaparicensis* in coastal drainages of Sergipe State, Brazil. Star represents the type locality of *H. itaparicensis* in Itaparica island, Bahia State; square represents the new record in Piauí river basin; circle represents two new records in Sergipe river basin.

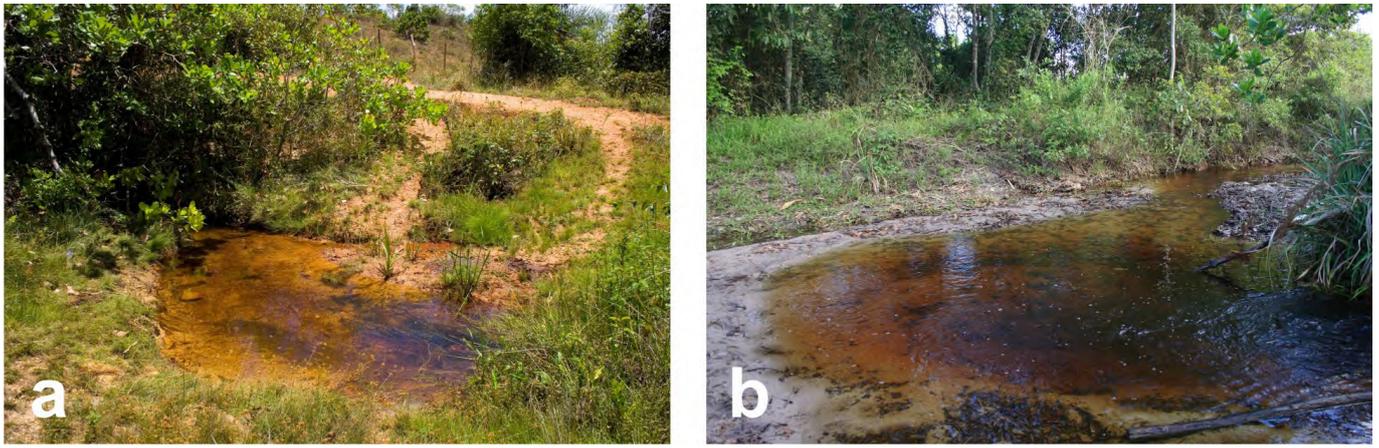


FIGURE 3. Localities of *Hyphessobrycon itapaticensis* in (a) tributary of Fundo river, Piauí river basin and (b) tributary of Poxim river, Sergipe river basin.

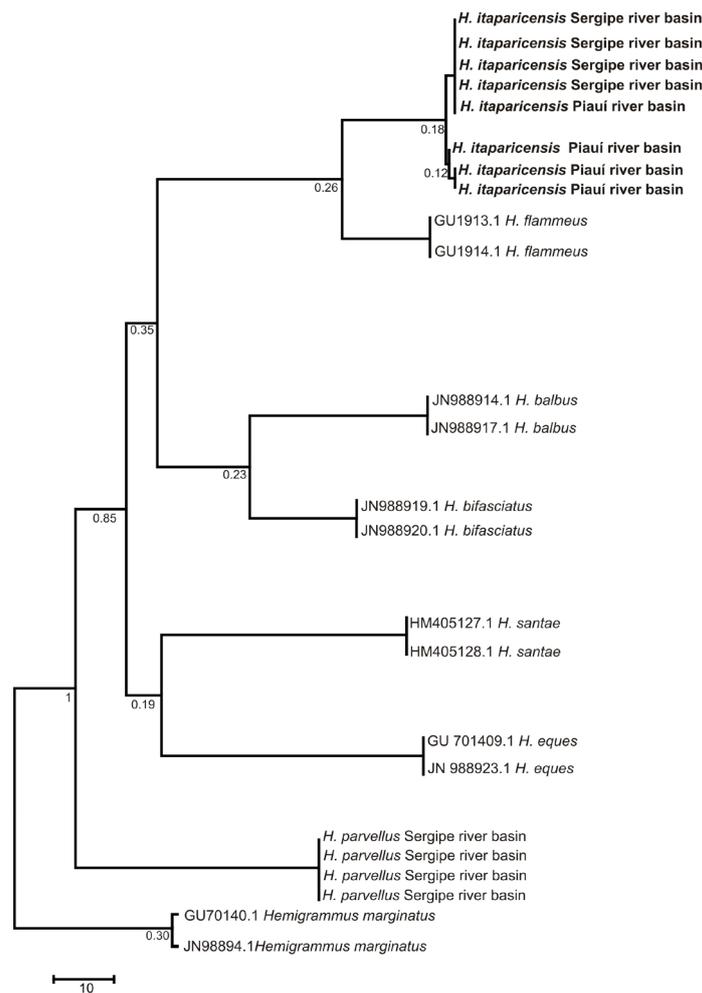


FIGURE 4. Maximum likelihood tree of *Hyphessobrycon* species based on sequences of the mitochondrial cytochrome oxidase I deposited in Genbank and from Sergipe coastal basins. Numbers on the branches indicate the bootstrap robustness of each node.

and absence of reciprocal monophyly among basins corroborates the morphological identification and conspecific status of the *H. itapaticensis* from both drainages in Sergipe State (Figure 4).

Males of *Hyphessobrycon itapaticensis* are distinct from females by the presence of bony hooks on fins, length of pelvic fin, and shape of anal-fin distal profile (Figure 5). Reproductively mature males (19.4–24.0 mm SL) present concave hooks at pelvic and anal fins, which are absent in females (20.9–22.0 mm SL). The pelvic fin bears 4–7 hooks at the posterior half of first and second branched rays. The anal fin bears paired hooks (2–6) at the posterior half of

the last unbranched ray and from the first to fifth branched rays, decreasing in number posteriorly. Hooks were also observed in other species of *Hyphessobrycon*: *H. bifasciatus* (Ellis 1911), *H. scutulatus* Lucena, 2003 (Lucena 2003), *H. hamatus* Bertaco & Malabarba, 2007, *H. socolofi* (Weitzman, 1977), *H. erythro stigma* (Fowler, 1943) (Bertaco and Malabarba 2005), *H. vinaceus* (Bertaco *et al.* 2007), *H. sebastiani* García-Alzate, Román-Valencia & Taphorn, 2010 (García-Alzate *et al.* 2010), varying in number, size, shape and fins which occur. The literature points hooks as structures to assist the contact male-female in courtship and reproductive act (Willey and Collette 1970).

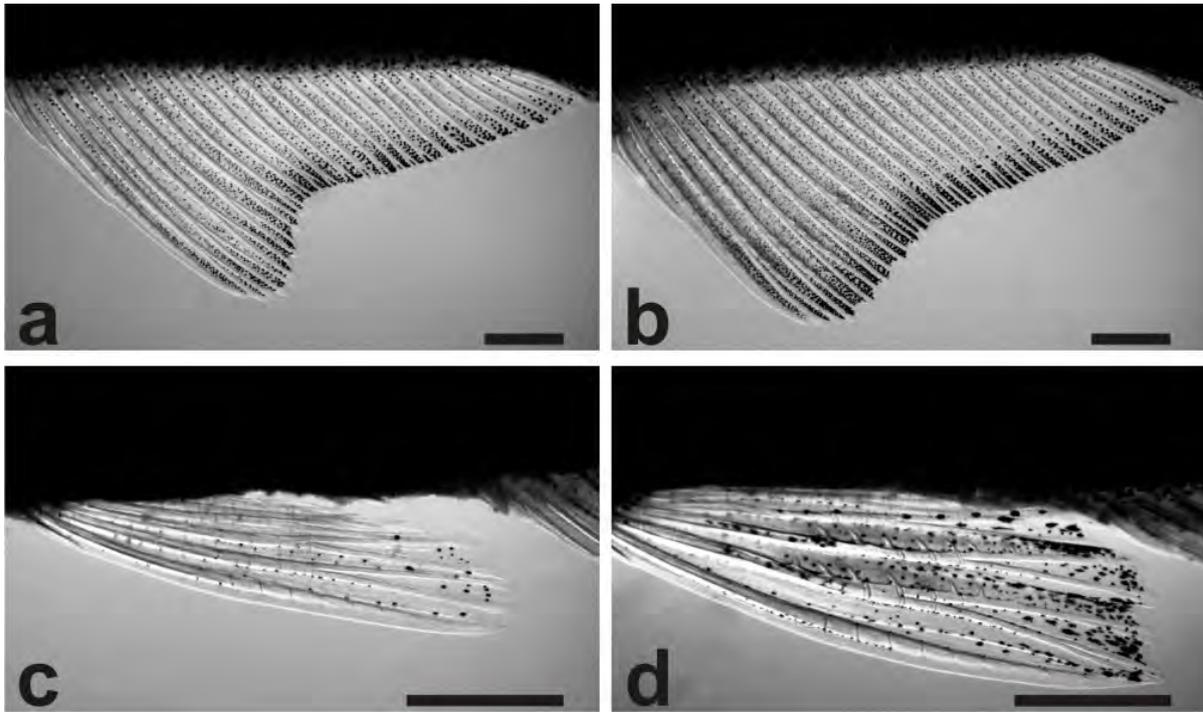


FIGURE 5. Sexual dimorphism in *Hyphessobrycon itaparicensis* from Piauí river basin: female anal fin (a), male anal fin with hooks (b), female pelvic fin (c) e male pelvic fin with hooks (d). Scale bar = 1 mm.

Other dimorphic traits in *H. itaparicensis* are related to the length of pelvic fin and shape of anal-fin distal profile. On males the end of the pelvic fin surpasses the anal-fin origin, and the anal-fin distal profile is almost straight (vs. pelvic fin not reaching anal-fin origin and anal-fin profile with concave curvature from fifth to tenth branched ray on females) (Figure 5). The presence of a straight anal-fin margin on mature males was also observed in *H. vinaceus* (Bertaco *et al.* 2007), *H. bifasciatus*, *H. heliacus* Moreira, Landim & Costa, 2002, *H. loweae* Costa & Géry, 1994, and *H. peugeoti* Ingenito, Lima & Buckup, 2013 (Ingenito *et al.* 2013). These variations in size and shape of fins may be associated to ornaments that can represent important role in reproductive processes (Nikolsky 1963).

Hyphessobrycon itaparicensis occurs in groups of 10–15 individuals in calm water and close to subsurface vegetation where they forage. Gut contents analysis ($n=13$) showed Arthropoda fragments (Hemiptera, Coleoptera, Diptera, Hymenoptera and Acari) and algae (Desmidiaceae). The presence of these food items seems common in *Hyphessobrycon* species due the alimentary strategies of pick up allochthonous items in surface and pasture in substratum (Barreto and Aranha 2006).

Apparently, *H. itaparicensis* was restricted to small streams with dark acidic water in the Atlantic Forest, with distribution range restricted to the coastal plain drainages from Bahia State (Burger *et al.* 2011). Nonetheless, the current distribution of *H. itaparicensis* is a remarkable evidence given it is inserted into the single freshwater ecoregion named Northeastern Mata Atlantica (Abell *et al.* 2008), which encompasses the coastal basins North of Paraíba do Sul river basin and South of the São Francisco river mouth.

These streams in Sergipe State are adjacent to two Conservation Units, Litoral Sul de Sergipe Environmental Protection Area (LSEPA) and Serra de Itabaiana National

Park (SINP), but the area of occurrence of *H. itaparicensis* are subjected to the several anthropic impacts such as removal of native vegetation for planting of pasture and crops, elimination of wetlands, carciniculture, sand extraction and unplanned state development.

The differences in colour patterns found in *H. itaparicensis* from Piauí river basin could be related to the acid blackwaters of stream tributary of Fundo river. Other congeners also inhabit blackwater streams: *H. griemi* Hoedeman, 1954 and *H. flammeus* Myers, 1924 (Menezes *et al.* 2007). The latter is a small species (25.0 mm SL maximum size) found in the same biotope in the Atlantic Forest coastal basins of southeastern Brazil. This species figures in the Brazilian red list of threatened species as endangered due to destruction of streams by the disorderly occupation of lowland areas (Lima and Moreira 2008), the same kind of threats that *H. itaparicensis* is undergoing.

The presence of *H. itaparicensis* in other nearby coastal drainages is not dismissed, due to existence of other tributaries with similar environmental characteristics of the registered sites. Additional surveys in the coastal drainages are necessary to define the distribution of this species and a phylogeographic study is encouraged to determine the processes involved in its geographic distribution.

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LITERATURE CITED

Abell, R., M.L. Thieme, C. Revenga, M. Bryer, M. Kottelat, N. Bogutskaya, B. Coad, N. Mandrak, S.L. Balderas, W. Bussing, M.L.J. Stiassny, P. Skelton, G.R. Allen, P. Unmack, A. Naseka, R. Ng, N. Sindorf, J. Robertson, E.

- Armijo, J.Y. Higgins, T.J. Heibel, E. Wikramanayake, D. Olson, H.L. López, R.E. Reis, J.G. Lundberg, M.H.S. Pérez and P. Petry. 2008. Freshwater ecoregions of the world: A new map of biogeographic units for freshwater biodiversity conservation. *Bioscience* 58: 403–414 (doi: 10.1641/B580507).
- Barreto, A.P. and J.M.R. Aranha. 2006. Alimentação de quatro espécies de Characiformes de um riacho de Floresta Atlântica, Guaraqueçaba, Paraná, Brasil. *Revista Brasileira de Zoologia* 23(3): 779–788 (doi:10.1590/S0101-81752006000300023).
- Bertaco, V.A. and L.R. Malabarba. 2005. A new species of *Hyphessobrycon* (Teleostei: Characidae) from the upper Rio Tocantins drainage, with bony hooks on fins. *Neotropical Ichthyology* 3(1): 83–88 (doi: 10.1590/S1679-62252005000100004).
- Bertaco, V.A., L.R. Malabarba and J.A. Dergam. 2007. New *Hyphessobrycon* from the upper Rio Pardo drainage in eastern Brazil (Teleostei: Characiformes: Characidae). *Neotropical Ichthyology* 5(3): 245–249 (doi: 10.1590/S1679-62252007000300002).
- Buckup, P.A., N.A. Menezes and M.S. Ghazzi. 2007. *Catálogo das Espécies de Peixes de Água Doce do Brasil*. Série Livros, vol. 23, Rio de Janeiro: Museu Nacional. 195 pp.
- Burger, R., A.M. Zanata and P. Camelier. 2011. Estudo taxonômico da ictiofauna de água doce da bacia do Recôncavo Sul, Bahia, Brasil. *Biota Neotropica* 11(4): 273–290 (doi: 10.1590/S1676-06032011000400024).
- Carvalho, T.P., and V.A. Bertaco. 2006. Two new species of *Hyphessobrycon* (Teleostei: Characidae) from upper rio Tapajós basin on Chapada dos Parecis, Central Brazil. *Neotropical Ichthyology* 4(3): 301–308 (doi:10.1590/S1679-62252006000300001).
- Carvalho, F.R. and F. Langeani. 2013. *Hyphessobrycon uaiso*: A new characid fish from the rio Grande, upper rio Paraná basin, Minas Gerais State (Ostariophysi: Characidae), with a brief comment about some types of *Hyphessobrycon*. *Neotropical Ichthyology* 11(3): 525–536 (doi: 10.1590/S1679-62252013000300006).
- Ellis, M.D. 1911. On the species of *Hasemanina*, *Hyphessobrycon*, and *Hemigrammus* collected by J. D. Haseman for the Carnegie Museum. *Annals of the Carnegie Museum* 8: 148–163.
- Eschemeyer, W.N. 2013. *Catalog of Fishes: Genera, Species, References*. Accessible at <http://research.calacademy.org/research/ichthyology/catalog/fishcatmain.asp>. Captured on 06 December 2013.
- García-Alzate, C.A., Román-Valencia C. and D.C. Taphorn. 2010. A new species of *Hyphessobrycon* (Teleostei: Characiformes: Characidae) from the San Juan River drainage, Pacific versant of Colombia. *Zootaxa* 2349: 55–64.
- Ingenito, L.F.S., F.C.T. Lima and P.A. Buckup. 2013. A new species of *Hyphessobrycon* Durbin (Characiformes: Characidae) from the Rio Juruena basin, Central Brazil, with notes on *H. loweae* Costa & Géry. *Neotropical Ichthyology* 11(1): 33–44 (doi: 10.1590/S1679-62252013000100004).
- Lima, F.C.T., L.R. Malabarba, P.A. Buckup, J.F.P. Silva, R.P. Vari, A. Harold, R. Benine, O. Oyakawa, C.S. Pavanelli, N.A. Menezes, C.A.S. Lucena, M.C.S.L. Malabarba, Z.M.S. Lucena, R.E. Reis, F. Langeani, L. Casatti, V.A. Bertaco, C. Moreira and P.H.F. Lucinda. 2003. Genera *Incertae sedis* in Characidae; pp. 106–169, in: R.E. Reis, S.O. Kullander and C.J. Ferraris-Jr. (org.). *Check List of the Freshwater Fishes of South and Central America*. Porto Alegre: Edipucrs.
- Lima, F.C.T. and C. Moreira. 2008. *Hyphessobrycon flammeus* Myers, 1924; pp. 72–73, in: A.B.M. Machado, G.M. Drummond and A.P. Paglia. *Livro Vermelho da Fauna Brasileira Ameaçada de Extinção*. Volume 2. Brasília: MMA.
- Lima, S.M.Q. and W.J.E.M. Costa. 2001. *Hyphessobrycon itaparicensis* (Characiformes: Characidae): A new tetragonopterine fish from a coastal island of northeastern Brazil. *Cybio* 25(3): 233–237.
- Lucena, C.A.S. 2003. New characid fish, *Hyphessobrycon scutulatus*, from the rio Teles Pires drainage, upper rio Tapajós system (Ostariophysi: Characiformes: Characidae). *Neotropical Ichthyology* 1(2): 93–96 (doi: 10.1590/S1679-62252003000200003).
- Menezes, N.A., S.H. Weitzman, O.T. Oyakawa, F.C.T. Lima, R.M.C. Castro and M.J. Weitzman. 2007. *Peixes de água doce da Mata Atlântica. Lista preliminar das espécies e comentários sobre conservação de peixes de água doce neotropicais*. São Paulo: MZUSP. 408 p.
- Mirande, J.M. 2010. Phylogeny of the family Characidae (Teleostei: Characiformes): From characters to taxonomy. *Neotropical Ichthyology* 8(3): 385–568 (doi: 10.1590/S1679-62252010000300001).
- Nikolsky, G.V. 1963. *The Ecology of Fishes*. London: Academic Press. 352 p.
- Oliveira, C., G.S. Avelino, K.T. Abe, T.C. Mariguela, R.C. Benine, G. Ortí, R.P. Vari and R.M.C. Castro. 2011. Phylogenetic relationships within the speciose family Characidae (Teleostei: Ostariophysi: Characiformes) based on multilocus analysis and extensive ingroup sampling. *BMC Evolutionary Biology* 11: 275 (doi:10.1186/1471-2148-11-275).
- Pereira, L.H.G., Hanner, R., Foresti, F. and Oliveira, C. 2013. Can DNA barcoding accurately discriminate megadiverse Neotropical freshwater fish fauna? *BMC Genetics*, 14:20 (doi: 10.1186/1471-2156-14-20).
- Posada, D. and K.A. Crandall. 1998. MODELTEST: Testing the model of DNA substitution. *Bioinformatics* 14: 817–818 (doi:10.1093/bioinformatics/14.9.817).
- Tabarelli, M., L.P. Pinto, J.M.C. Silva, M.M. Hirota and L.C. Bedê. 2005. Desafios e oportunidades para a conservação da biodiversidade na Mata Atlântica brasileira. *Megadiversidade* 1(1): 132–138 (http://www.conservacao.org/publicacoes/files/18_Tabarelli_et_al.pdf).
- Wiley, M.L. and B.B. Collette. 1970. Breeding tubercles and contact organs in fishes, their occurrence, structure, and significance. *Bulletin of the American Museum of Natural History* 143(3): 145–216.
- Tamura, K., D. Peterson, N. Peterson, G. Stecher, M. Nei and S. Kumar. 2011. MEGA5: Molecular evolutionary genetics analysis using Maximum likelihood, evolutionary distance and maximum parsimony methods. *Molecular Biology and Evolution* 28: 2731–2739 (doi: 10.1093/molbev/msr121).
- Tornabene, L., C.C. Baldwin, L.A. Weigt and F. Pezold. 2010. Exploring the diversity of western Atlantic *Bathygobius* (Teleostei: Gobiidae) using mitochondrial cytochrome c oxidase-I, with descriptions of two new species. *Aqua, International Journal of Ichthyology* 16:141–170.
- Zanata, A.M. and P. Camelier. 2010. *Hyphessobrycon* brumado: A new characid fish (Ostariophysi: Characiformes) from the upper Rio de Contas drainage, Chapada Diamantina, Bahia, Brazil. *Neotropical Ichthyology* 8(4): 771–777 (doi:10.1590/S1679-62252010000400006).

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APPENDIX 1. Material examined. *Hyphessobrycon itaparicensis*. Sergipe State, Piauí river basin: CIUFS 688, 95, Estância Municipality, tributary of Fundo river, 11°12'26.4" S, 37°21'46.5" W, 14/III/2012. Col. M.F.G. Brito, D.M.V. Hide & A.F.F. Chagas; UFRN 206, 46 (5 c&s, cleared and stained); UFRN 208 (KJ708468), 5, ethanol 95%, same data; CIUFS 689, 36, same locality and collectors, 16/III/2012; UFRN 207, 1; UFRN 209 (KJ708469-KJ708471), 5, ethanol 95%, same data. Sergipe river basin: CIUFS 445, 2, Areia Branca Municipality, unnamed tributary of Poxim river, 10°49'06.9" S, 37°21'23.0" W, 12/V/2011. Col. M.F.G. Brito, S.S. Cavalcante, T.S. Dias, I.T. Santos, K.L.A. Souza & M.S.A. Pereira; CIUFS 446, 12; CIUFS 458, 1; CIUFS 486, 13 (11 c&s), same data; UFRN 1061 (KJ708476-KJ708479), 10, ethanol 95%, Caroba village, Areia Branca Municipality, unnamed tributary of Poxim river, 10°49'13" S, 37°20'48.6" W, 14/II/2013. Col. M.F.G. Brito, D.A.S. Assis, M.S.A. Pereira, C.S. Vieira, J.S.V. Luduvic & J.F.L. Santos. *Hyphessobrycon parvellus*. All from Sergipe State, Brazil. Sergipe river basin: UFRN 1060 (KJ708472-KJ708475), 7, ethanol 95%, Nossa Senhora das Dores Municipality, Jacoca river, 10°33'23.7" S, 37°14'33.4" W, 17/VII/2011. Col. M.F.G. Brito, A.K. Takako, C.A. Santos & C.A.S.C. Vieira.