

Buenos Aires Tetra (*Hyphessobrycon anisitsi*)

Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, July 2017

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https://commons.wikimedia.org/wiki/File:Hyphessobrycon_anisitsi.jpg. (June 2017).

1 Native Range and Status in the United States

Native Range

From Eschmeyer et al. (2017):

“Paraná and Uruguay River basins: Argentina, Brazil, Bolivia, Paraguay and Uruguay.”

Status in the United States

This species has not been reported as introduced or established in the U.S. This species is in trade in the U.S.

From PetSmart (2017):

“Buenos Aires Tetra \$3.49”

Means of Introductions in the United States

This species has not been reported as introduced or established in the U.S.

Remarks

From ITIS (2017):

“Synonym(s): *Hemigrammus caudovittatus* Ahl, 1923”

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

From ITIS (2017):

“Kingdom Animalia
Subkingdom Bilateria
Infrakingdom Deuterostomia
Phylum Chordata
Subphylum Vertebrata
Infraphylum Gnathostomata
Superclass Actinopterygii
Class Teleostei
Superorder Ostariophysi
Order Characiformes
Family Characidae
Genus *Hyphessobrycon*
Species *Hyphessobrycon anisitsi* (Eigenmann in Eigenmann and Ogle, 1907)”

From Eschmeyer et al. (2017):

“Current status: Valid as *Hyphessobrycon anisitsi* (Eigenmann 1907). Characidae: Pristellinae.”

Size, Weight, and Age Range

From Froese and Pauly (2017):

“Max length : 6.0 cm SL male/unsexed; [Britski et al. 2007]”

From Brough et al. (2015):

“They have a lifespan of about 5 to 6 years.”

Environment

From Froese and Pauly (2017):

“Freshwater; benthopelagic.”

From Brough (2015):

“Range ph [sic]: 6.0-8.0
Hardness Range: 2 - 30 dGH”

Climate/Range

From Froese and Pauly (2017):

“Subtropical, preferred ?”

Distribution Outside the United States

Native

From Eschmeyer et al. (2017):

“Paraná and Uruguay River basins: Argentina, Brazil, Bolivia, Paraguay and Uruguay.”

Introduced

Froese and Pauly (2017) report that *Hyphessobrycon anisitsi* was introduced to the Philippines in 1974; it is unknown whether the species is established there.

Xiong et al. (2015), citing Li et al. (2007), report that *Hyphessobrycon anisitsi* is present in China. However, they also report that its status is uncertain.

Means of Introduction Outside the United States

From Froese and Pauly (2017):

“ornamental”

From Xiong et al. (2015):

“Aquarium”

Short Description

From Brough et al. (2015):

“Its silvery color picks up flashy neon highlights. The top and bottom of the tail fin is generally red, as are the pelvic and anal fins. The dorsal fin also has a hint of red. Its most distinguishing characteristic is the caudal peduncle, which features a bold, black 'cross' shape.”

“The males have brighter, red fins, sometimes tending towards yellow. The female is fuller-bodied with a more rounded stomach.”

Biology

From Froese and Pauly (2017):

“Occurs in ponds [Cordivola de Yuan and Pignalberi de Hassan 1985]. Feeds on worms, crustaceans, insects and plants. Oviparous [Breder and Rosen 1966]. In captivity, spawning occurs among plants and eggs hatch usually in 20 to 24 hours.”

From Kupren et al. (2008):

“It is relatively fecund for its size. During one spawning act the female lays even more than 2000 of eggs (Kujawa 2000).”

Human Uses

From Froese and Pauly (2017):

“Aquarium: highly commercial”

From Kupren et al. (2008):

“[...] in high demand among aquarium keepers worldwide. Their high popularity results from both attractive coloring and ease of breeding [sic]. [...] The species was imported to Europe during early 1920’s.”

Diseases

No OIE-reportable diseases have been documented for this species.

From Froese and Pauly (2017):

“Fin-rot Disease (late stage), Bacterial diseases
White spot Disease, Parasitic infestations (protozoa, worms, etc.)
Fin Rot (early stage), Bacterial diseases
Bacterial Infections (general), Bacterial diseases”

Threat to Humans

From Froese and Pauly (2017):

“Harmless”

3 Impacts of Introductions

No information available.

4 Global Distribution



Figure 1. Known global distribution of *Hyphessobrycon anisitsi* in central South America. Map from GBIF (2016). A point in Alabama was excluded from the extent of this map and from the climate matching analysis due to it being a record of an aquarium specimen. Three points in the Amazon River basin were also excluded because *H. anisitsi* is not known to be established in the basin and the points had known coordinate issues.

5 Distribution Within the United States

This species has not been reported as introduced or established in the U.S.

6 Climate Matching

Summary of Climate Matching Analysis

The climate match (Sanders et al. 2014; 16 climate variables; Euclidean distance) was high in peninsular Florida, medium across the eastern U.S. as far west as Texas and as far north as Lake Erie, and low elsewhere. Climate 6 score indicated a medium climate match overall for the contiguous U.S. Scores between 0.005 and 0.103 are classified as medium match; the Climate 6 score for *H. anisitsi* was 0.073.

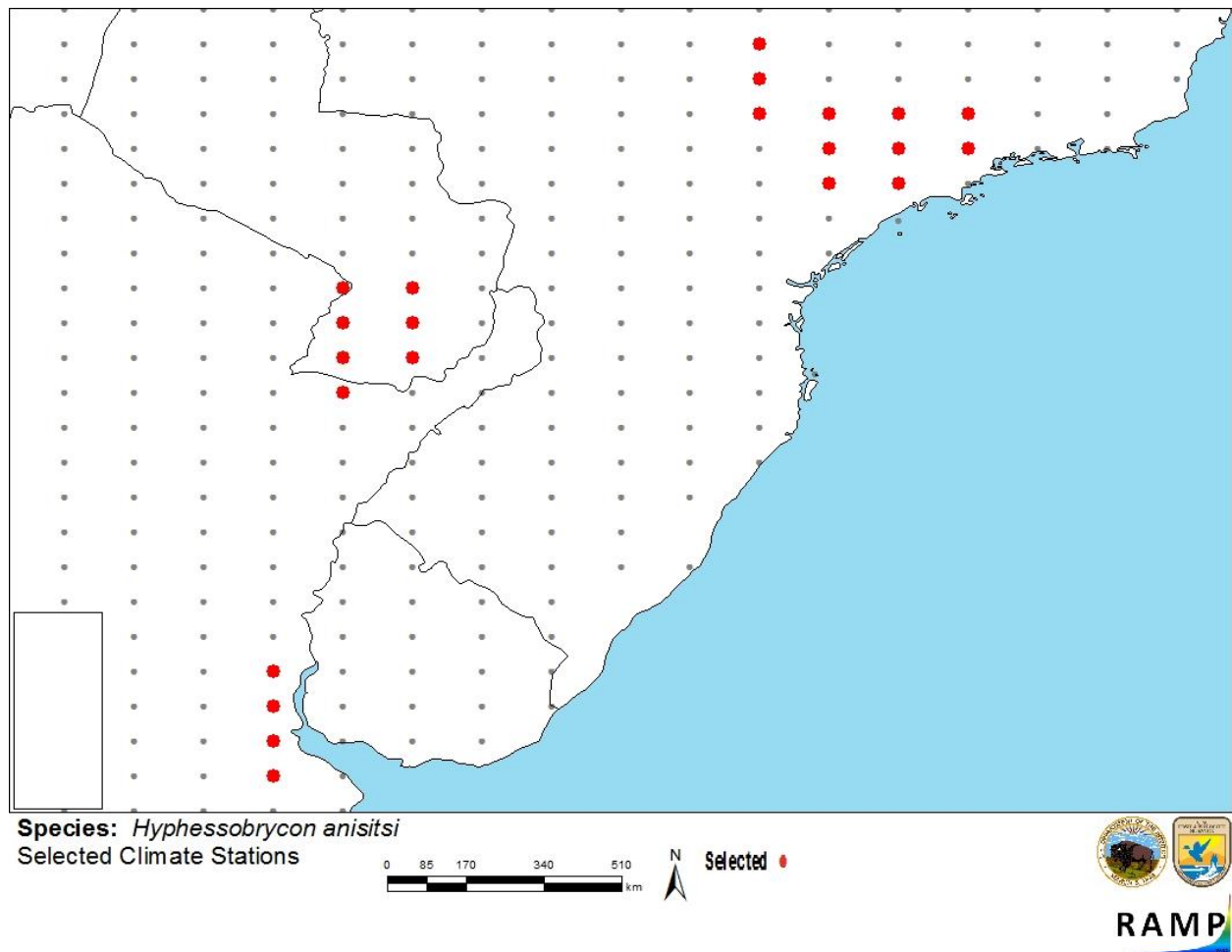


Figure 2. RAMP (Sanders et al. 2014) source map showing weather stations selected in southern Brazil, Paraguay, Uruguay, and northern Argentina as source locations (red) and non-source locations (gray) for *Hyphessobrycon anisitsi* climate matching. Source locations from GBIF (2016).

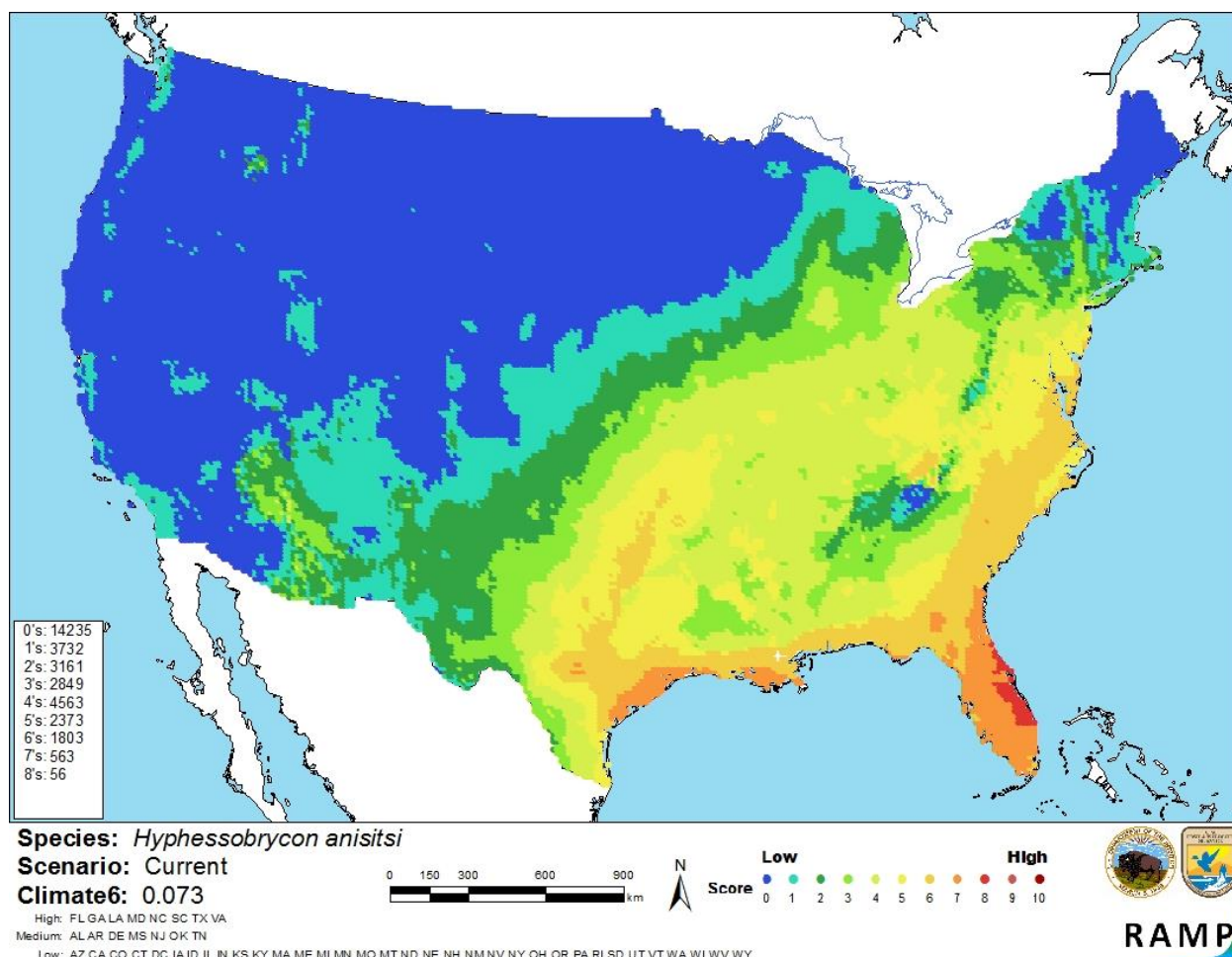


Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *Hyphessobrycon anisitsi* in the contiguous United States based on source locations reported by GBIF (2016). 0=Lowest match, 10=Highest match.

The “High”, “Medium”, and “Low” climate match categories are based on the following table:

Climate 6: Proportion of (Sum of Climate Scores 6-10) / (Sum of total Climate Scores)	Climate Match Category
$0.000 \leq X \leq 0.005$	Low
$0.005 < X < 0.103$	Medium
≥ 0.103	High

7 Certainty of Assessment

There is some information available on the biology of *Hyphessobrycon anisitsi* due to its availability in the aquarium trade. Despite this, there is little peer-reviewed scientific information available on this species. It has never been documented outside of its native range, so the impacts of introduction for this species are unknown. Certainty of this assessment is low.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Hyphessobrycon anisitsi is a freshwater tetra species native to South America. It is a commonly available aquarium fish in trade in the United States. Despite this, there have been no documented introductions of this species in the U.S. Introductions have occurred in China and the Philippines, but the status of both introductions remains uncertain. This species has a medium climate match with the U.S., with the area of highest match located in the southeastern U.S. Further information is needed to adequately assess the risk this species poses. Certainty of this assessment is low and overall risk assessment category is uncertain.

Assessment Elements

- **History of Invasiveness (Sec. 3): None Documented**
- **Climate Match (Sec. 6): Medium**
- **Certainty of Assessment (Sec. 7): Low**
- **Overall Risk Assessment Category: Uncertain**

9 References

Note: The following references were accessed for this ERSS. References cited within quoted text but not accessed are included below in Section 10.

- Brough, C., D. Brough, and J. Roche. 2015. Buenos Aires tetra, *Hyphessobrycon anisitsi*, Characin fish guide. Animal-World. Available: http://animal-world.com/encyclo/fresh/characins/b_aires.php. (July 2017).
- Eschmeyer, W. N., R. Fricke, and R. van der Laan, editors. 2017. Catalog of fishes: genera, species, references. Available: <http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp>. (June 2017).
- Froese, R., and D. Pauly, editors. 2017. *Hyphessobrycon anisitsi* (Eigenmann, 1907). FishBase. Available: <http://www.fishbase.org/summary/51004>. (June 2017).
- GBIF (Global Biodiversity Information Facility). 2016. GBIF backbone taxonomy: *Hyphessobrycon anisitsi* (Eigenmann, 1907). Global Biodiversity Information Facility, Copenhagen. Available: <http://www.gbif.org/species/2354671>. (June 2017, August 2017).
- ITIS (Integrated Taxonomic Information System). 2017. *Hyphessobrycon anisitsi* (Eigenmann in Eigenmann and Ogle, 1907). Integrated Taxonomic Information System, Reston, Virginia. Available: https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=639867#null. (June 2017).

- Kupren, K., D. Kucharczyk, M. Prusińska, S. Krejszeff, K. Targońska, and A. Mamcarz. 2008. The influence of stocking density on survival and growth of Buenos Aires tetra (*Hemigrammus caudovittatus*) larvae reared under controlled conditions. *Polish Journal of Natural Sciences* 23(4):881-887.
- PetSmart. 2017. Buenos Aires tetra. Available: <http://www.petsmart.com/live-pet/live-fish/buenos-aires-tetra-4032908.html>. (June 2017).
- Sanders, S., C. Castiglione, and M. H. Hoff. 2014. Risk Assessment Mapping Program: RAMP. U.S. Fish and Wildlife Service.
- Xiong, W., X. Sui, S. H. Liang, and Y. Chen. 2015. Non-native freshwater fish species in China. *Reviews in Fish Biology and Fisheries* 25:651-687.

10 References Quoted But Not Accessed

Note: The following references are cited within quoted text within this ERSS, but were not accessed for its preparation. They are included here to provide the reader with more information.

- Breder, C. M., and D. E. Rosen. 1966. Modes of reproduction in fishes. T. F. H. Publications, Neptune City, New Jersey.
- Britski, H. A., K. Z. de Silimon, and B. S. Lopes. 2007. Peixes do Pantanal: manual de identificação, 2nd edition. Embrapa Informação Tecnológica, Brasília, Brazil.
- Cordiviola de Yuan, E., and C. Pignalberi de Hassan. 1985. Fish population in the Paraná River: lentic environments of Diamante and San Pedro areas (Argentine Republic). *Hydrobiologia* 127:213-218.
- Kujawa, R. 2000. Zwinnik ogonopreği. *Nasze Akwarium* 10:34-35.
- Li, J. L., Z. G. Dong, Y. S. Li, and C. H. Wang. 2007. Alien aquatic plants and animals in China. Shanghai Scientific and Technical Publishers, Shanghai, China.