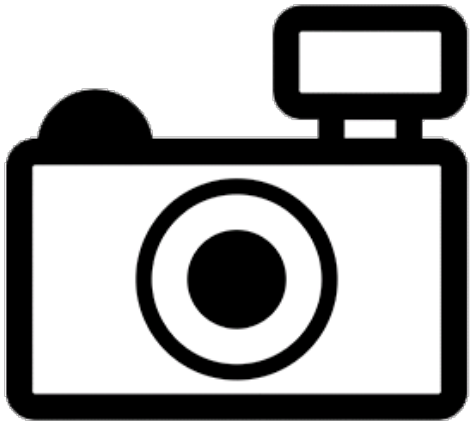
Trichomycterus itacambirussu (a catfish, no common name)

Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, January 2017
Revised, May 2018
Web Version, 4/28/2021

Organism Type: Fish
Overall Risk Assessment Category: Uncertain



1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2017):

"South America: Rio Jequitinhonha basin in Brazil. [Triques and Vono 2004]"

Status in the United States

This species has not been reported in the United States. No records of *Trichomycterus itacambirussu* in trade in the United States were found.

From Arizona Office of the Secretary of State (2013):

"I. Fish listed below are considered restricted wildlife: […]

9. All species of the family Cetopsidae and Trichomycteridae. Common name: South American catfish."

From California Department of Fish and Wildlife (2019):

"It shall be unlawful to import, transport, or possess live animals restricted in subsection (c) below except under permit issued by the department. […] Family Trichomycteridae (Pygidiidae)-Parasitic Catfishes.: All species"

The Florida Fish and Wildlife Conservation Commission has listed *Trichomycterus itacambirussu* as a prohibited species. Prohibited nonnative species (FFWCC 2016), "are considered to be dangerous to the ecology and/or the health and welfare of the people of Florida. These species are not allowed to be personally possessed or used for commercial activities.

From Georgia DNR (2020):

"The exotic species listed below, except where otherwise noted, may not beheld as pets in Georgia. This list is not all inclusive. […]
Parasitic catfishes; all species"

From Louisiana State Legislature (2019):

"No person, firm, or corporation shall at any time possess, sell, or cause to be transported into this state by any other person, firm, or corporation, without first obtaining the written permission of the secretary of the Department of Wildlife and Fisheries, any of the following species of fish: freshwater electric eel (Electrophorus sp.); rudd (Scardinius erythrophthalmus); all members of the families Synbranchidae (Asian swamp eels); Channidae (snakeheads); Clariidae (walking catfishes); Trichomycteridae (pencil catfishes); […]"

From Mississippi Secretary of State (2019):

"All species of the following animals and plants have been determined to be detrimental to the State's native resources and further sales or distribution are prohibited in Mississippi. No person shall import, sell, possess, transport, release or cause to be released into the waters of the state any of the following aquatic species or hybrids thereof. However, species listed as prohibited may be allowed under a permitting process where environmental impact has been assessed. […]
Pencil or parasitic catfishes Family Trichomycteridae **** [indicating all species within the family are included in the regulation]"

From State of Nevada (2018):

"Except as otherwise provided in this section and NAC 504.486, the importation, transportation or possession of the following species of live wildlife or hybrids thereof, including viable embryos or gametes, is prohibited: […]
South American Parasitic Catfish.....All species in the families Cetopsidae and Trichomycteridae"

From Oklahoma Secretary of State (2019):

"Until such time as is necessary for the Department of Wildlife Conservation to obtain adequate information for the determination of other harmful or potentially harmful exotic species, the importation into the State and/or the possession of the following exotic fish or their eggs is prohibited: […]
Parasitic South American Catfish group (Candiru), genera & species of the Trichomycteridae family. Vandellia spp., Tridens spp., and Pyqidium spp."

From Texas Parks and Wildlife (2020):

"The organisms listed here are legally classified as exotic, harmful, or potentially harmful. No person may possess or place them into water of this state except as authorized by the department. Permits are required for any individual to possess, sell, import, export, transport or propagate listed species for zoological or research purposes; for aquaculture(allowed only for Blue, Nile, or Mozambique tilapia, Triploid Grass Carp, or Pacific White Shrimp); or for aquatic weed control (for example, Triploid Grass Carp in private ponds). […]
South American Parasitic Candiru Catfishes, Family Trichomycteridae All species"

From Utah Office of Administrative Rules (2019):

"All species of fish listed in Subsections (2) through (30) are classified as prohibited for collection, importation and possession, […] Parasitic catfish (candiru, carnero) family Trichomycteridae (All species)."

Means of Introductions in the United States
This species has not been reported in the United States.

Remarks
No additional remarks.

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing
According to Eschmeyer et al. (2018), *Trichomycterus itacambirussu* (Triques and Vono, 2004) is the current valid name for this species.

From ITIS (2017):

Kingdom Animalia
  Subkingdom Bilateria
    Infrakingdom Deuterostomia
      Phylum Chordata
        Subphylum Vertebrata

Infraphylum Gnathostomata
Superclass Osteichthyes
Class Actinopterygii
Subclass Neopterygii
Infraclass Teleostei
Superorder Ostariophysi
Order Siluriformes
Family Trichomycteridae
Subfamily Trichomycterinae
Genus *Trichomycterus*
Species *Trichomycterus itacambirussu* (Triques and Vono, 2004)

Size, Weight, and Age Range

From Froese and Pauly (2017):

"Max length : 7.3 cm SL male/unsexed; [Triques and Vono 2004]"

Environment

From Froese and Pauly (2017):

"Freshwater; benthopelagic. [Triques and Vono 2004]"

Climate

From Froese and Pauly (2017):

"Tropical, preferred ? [Triques and Vono 2004]"

Distribution Outside the United States

Native

From Froese and Pauly (2017):

"South America: Rio Jequitinhonha basin in Brazil. [Triques and Vono 2004]"

Introduced

This species has not been reported as introduced outside of its native range.

Means of Introduction Outside the United States

This species has not been reported as introduced outside of its native range.

Short Description
From Froese and Pauly (2017):

"Dorsal spines (total): 0; Dorsal soft rays (total): 9; Anal spines: 0; Anal soft rays: 7. Small specimens with dorso-lateral, lateral and ventro-lateral regular or irregular series of roundish dark brown spots on the body, usually decreasing in size backward from about the middle of body length; small dots present among the series of spots; large specimens with relatively smaller spots, not arranged into series, and small dots between them (up to 8 dots and spots counted vertically on body. [Triques and Vono 2004]"

From Sarmento-Soares et al. (2007):

"Trichomycterus itacambirussu has roundish dark brown spots over the body not arranged into series (Triques & Vono, 2004). The opercular odontode plate is partially dark. The body is robust. The pelvics are separated. Pectoral fin rays vary between seven to eight branched rays. The dorsal fin ray counts correspond to the same number observed for *T. bahianus*, although this last species is distinctive regarding pectoral fin ray counts, seven branched (vs. eight branched in *T. itacambirussu*)."

Biology
No information available.

Human Uses
No information available.

Diseases
No information available. **No records of OIE-reportable diseases (OIE 2021) were found for *Trichomycterus itacambirussu*.**

Threat to Humans
From Froese and Pauly (2017):

"Harmless"

3 Impacts of Introductions
This species has not been reported as introduced outside of its native range, so impacts of introductions are unknown.

Trichomycterus itacambirussu is regulated in multiple States.

4 History of Invasiveness
This species has not been reported as introduced outside of its native range, so the history of invasiveness is unknown.

5 Global Distribution

Figure 1. Known global established locations of *Trichomycterus itacambirussu* in Brazil. Map from GBIF Secretariat (2017).

6 Distribution Within the United States

This species has not been reported within the United States.

7 Climate Matching

Summary of Climate Matching Analysis

The climate match for *Trichomycterus itacambirussu* was mostly low. There were areas of medium match in southwestern Florida and the southern tip of Texas. There were no areas of high match. The Climate 6 score (Sanders et al. 2014; 16 climate variables; Euclidean Distance) for the contiguous United States was 0.000, low (scores of 0.005 or below are considered low). All States had low individual Climate 6 scores.

Figure 2. RAMP (Sanders et al. 2014) source map showing weather stations in Brazil selected as source locations (red) and non-source locations (gray) for *Trichomycterus itacambirussu* climate matching. Source locations from GBIF Secretariat (2017). Selected source locations are within 100 km of one or more species occurrences and do not necessarily represent the locations of occurrences themselves.

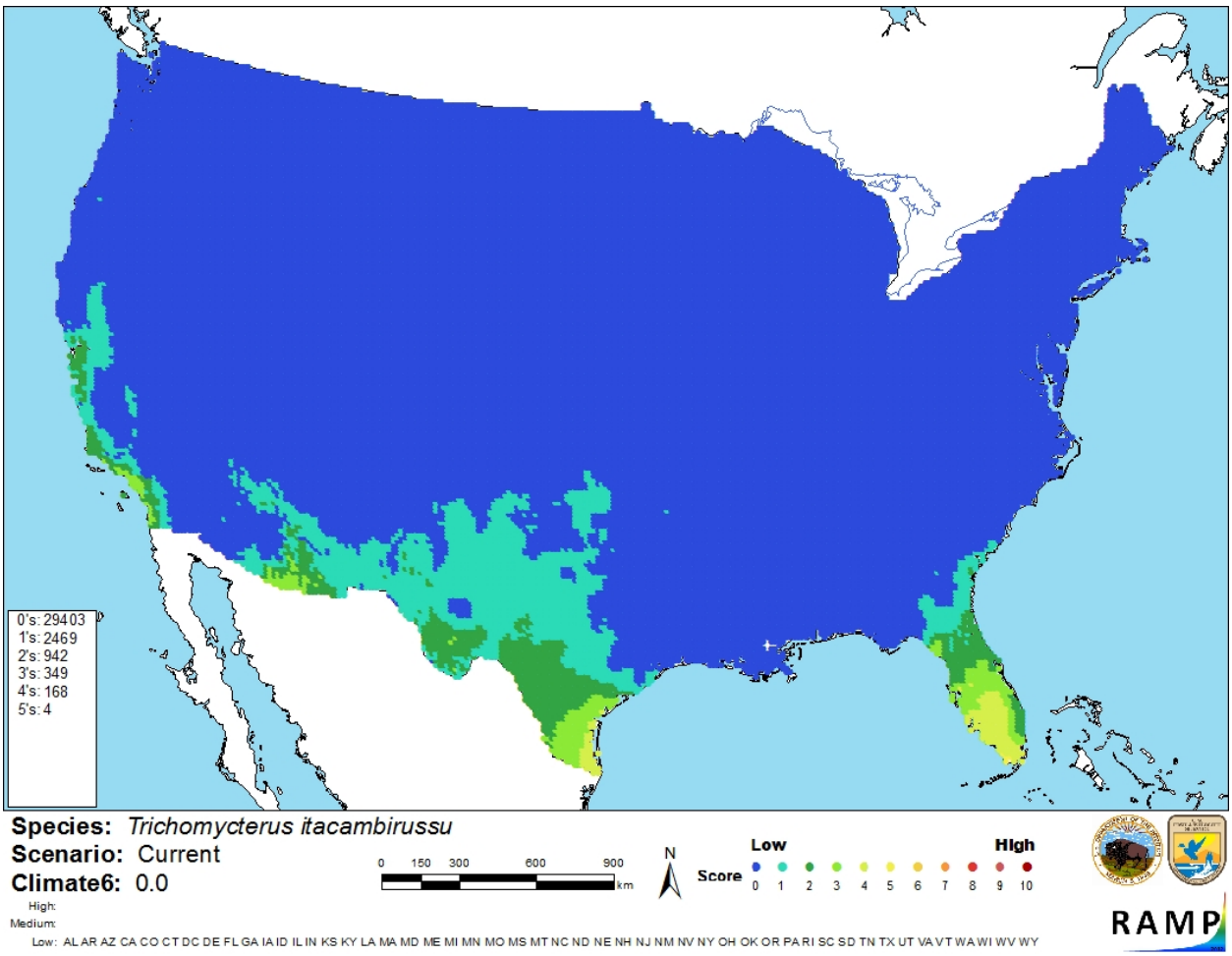


Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *Trichomycterus itacambirussu* in the contiguous United States based on source locations reported by GBIF Secretariat (2017). Counts of climate match scores are tabulated on the left. 0/Blue = Lowest match, 10/Red = Highest match.

The High, Medium, and Low Climate match Categories are based on the following table:

Climate 6: (Count of target points with climate scores 6-10)/ (Count of all target points)	Overall Climate Match Category
0.000≤X≤0.005	Low
0.005<X<0.103	Medium
≥0.103	High

8 Certainty of Assessment

There was limited information available on the species *Trichomycterus itacambirussu*. This species has not been reported outside of its native range so impacts of introduction are unknown. With such little information known on this species, the certainty of this assessment is low.

9 Risk Assessment

Summary of Risk to the Contiguous United States

Trichomycterus itacambirussu is a South American catfish found in the Rio Jequitinhonha basin in Brazil. *T. itacambirussu* is regulated in multiple States. There have been no reports of this fish outside of its native range. Therefore, the history of invasiveness is No Known Nonnative Population. The overall climate match was low. There were areas of medium match in southern Florida and Texas. Due to a general lack of information the certainty of assessment is low. The overall risk for this species is uncertain.

Assessment Elements

- **History of Invasiveness (Sec. 3): No Known Nonnative Population**
- **Climate Match (Sec. 6): Low**
- **Certainty of Assessment (Sec. 7): Low**
- **Remarks/Important additional information:** *Trichomycterus itacambirussu* is regulated in multiple States.
- **Overall Risk Assessment Category: Uncertain**

10 Literature Cited

Note: The following references were accessed for this ERSS. References cited within quoted text but not accessed are included below in Section 11.

Arizona Office of the Secretary of State. 2013. Live wildlife. Arizona Administrative Code, Game and Fish Commission, Title 12, Chapter 4, Article 4.

California Department of Fish and Wildlife. 2019. Restricted species laws and regulations manual. Available: https://wildlife.ca.gov/Conservation/Invasives/Regulations (November 2020).

Eschmeyer WN, Fricke R, van der Laan R, editors. 2018. Catalog of fishes: genera, species, references. California Academy of Science. Available: http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp (May 2018).

[FFWCC] Florida Fish and Wildlife Conservation Commission. 2017. Prohibited species list. Tallahassee: Florida Fish and Wildlife Conservation Commission. Available: http://myfwc.com/wildlifehabitats/nonnatives/regulations/prohibited/#nogo (January 2017).

Froese R, Pauly D, editors. 2017. *Trichomycterus itacambirussu* (Triques & Vono, 2004). FishBase. Available: http://www.fishbase.org/summary/Trichomycterus-itacambirussu.html (January 2017).

GBIF Secretariat. 2017. GBIF backbone taxonomy: *Trichomycterus itacambirussu* (Triques and Vono 2004). Copenhagen: Global Biodiversity Information Facility. Available: http://www.gbif.org/species/2343067 (January 2017).

Georgia [DNR] Department of Natural Resources. 2020. Wild animals/exotics. Social Circle: Georgia Department of Natural Resources Law Enforcement Division. Available: http://gadnrle.org/exotics (November 2020).

[ITIS] Integrated Taxonomic Information System. 2016. *Trichomycterus itacambirussu* (Triques & Vono, 2004). Reston, Virginia: Integrated Taxonomic Information System. Available: https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=682217#null (January 2017).

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Mississippi Secretary of State. 2019. Guidelines for aquaculture activities. Mississippi Administrative Code, Title 2, Part 1, Subpart 4, Chapter 11. Jackson: Regulatory and Enforcement Division, Office of the Mississippi Secretary of State.

[OIE] World Organisation for Animal Health. 2021. OIE-listed diseases, infections and infestations in force in 2021. Available: http://www.oie.int/animal-health-in-the-world/oie-listed-diseases-2021/ (April 2021).

Oklahoma Secretary of State. 2019. List of restricted exotic species. Oklahoma Administrative Code, Title 800, Chapter 20-1-2.

Sanders S, Castiglione C, Hoff M. 2014. Risk Assessment Mapping Program: RAMP. Version 2.81. U.S. Fish and Wildlife Service.

Sarmento-Soares LM, Cnpq SPDR, Gomes RA, Fern FPR, Pinheiro OM, Aranda AT, Teixeira RL. 2007. Evaluation of fish fauna in less explored aquatic systems of Southern Bahia. BioBahia Project, Part II.

State of Nevada. 2018. Restrictions on importation, transportation and possession of certain species. Nevada Administrative Code, Chapter 503, Section 110.

Texas Parks and Wildlife. 2020. Invasive, prohibited and exotic species. Austin: Texas Parks and Wildlife. Available: https://tpwd.texas.gov/huntwild/wild/species/exotic/prohibited_aquatic.phtml (November 2020).

Utah Office of Administrative Rules. 2019. Classification and specific rules for fish. Utah Administrative Code, Rule R657-3-23.

11 Literature Cited in Quoted Material

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.

Triques ML, Vono V. 2004. Three new species of *Trichomycterus* (Teleostei: Siluriformes: Trichomycteridae) from the Rio Jequitinhonha basin, Minas Gerais, Brazil. Ichthyological Explorations of Freshwaters 15:161–172.