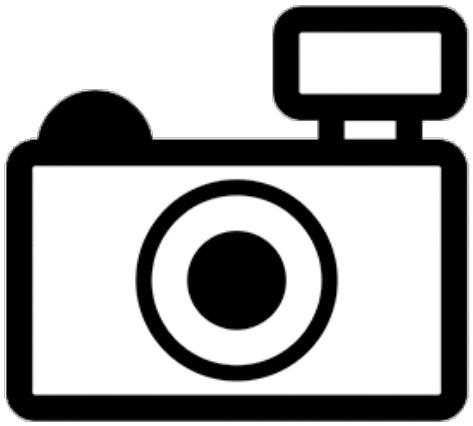
Trichomycterus naipi (a catfish, no common name)
Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, January 2017
Revised, June 2018
Web Version, 10/13/2021

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: Iguaçu Basin in Brazil."

Status in the United States
This species has not been reported in the wild or in trade in the United States.

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 naipi* as a prohibited species. Prohibited nonnative species (FFWCC 2017), "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 naipi* Wosiacki and Garavello 2004 is the current valid name for this species; it is also the original name for this species.

From ITIS (2018):

Kingdom Animalia
  Subkingdom Bilateria
    Infrakingdom Deuterostomia
      Phylum Chordata
        Subphylum Vertebrata
          Infraphylum Gnathostomata

Superclass Actinopterygii
Class Teleostei
Superorder Ostariophysi
Order Siluriformes
Family Trichomycteridae
Subfamily Trichomycterinae
Genus *Trichomycterus*
Species *Trichomycterus naipi* (Wosiacki and Garavello, 2004)

Size, Weight, and Age Range

From Froese and Pauly (2017):

"Max length : 12.1 cm SL male/unsexed; [Wosiacki and Garavello 2004]"

Environment

From Froese and Pauly (2017):

"Freshwater; benthopelagic."

Climate

From Froese and Pauly (2017):

"Tropical"

Distribution Outside the United States

Native

From Froese and Pauly (2017):

"South America: Iguaçu Basin in Brazil."

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 Wosiacki and Garavello (2004):

"*Trichomycterus naipi* is distinguished from all other members of the family by the combination of head length, nasal barbels length, 3 dark stripes on body, 6 pectoral fin rays, and first pectoral-fin ray not prolonged as a filament."

Biology
No information on the biology of *Trichomycterus naipi* was found.

Human Uses
No information on human uses of *Trichomycterus naipi* was found.

Diseases
No information on parasites or pathogens of *Trichomycterus naipi* was found. **No records of OIE-reportable diseases (OIE 2021) were found for *T. naipi*.**

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.

4 History of Invasiveness
This species has not been reported as introduced outside of its native range, so the history of invasiveness is classified as No Known Nonnative Population.

5 Global Distribution

Figure 1. Known global distribution of *Trichomycterus naipi*. Location is in Brazil. Map from GBIF Secretariat (2018).

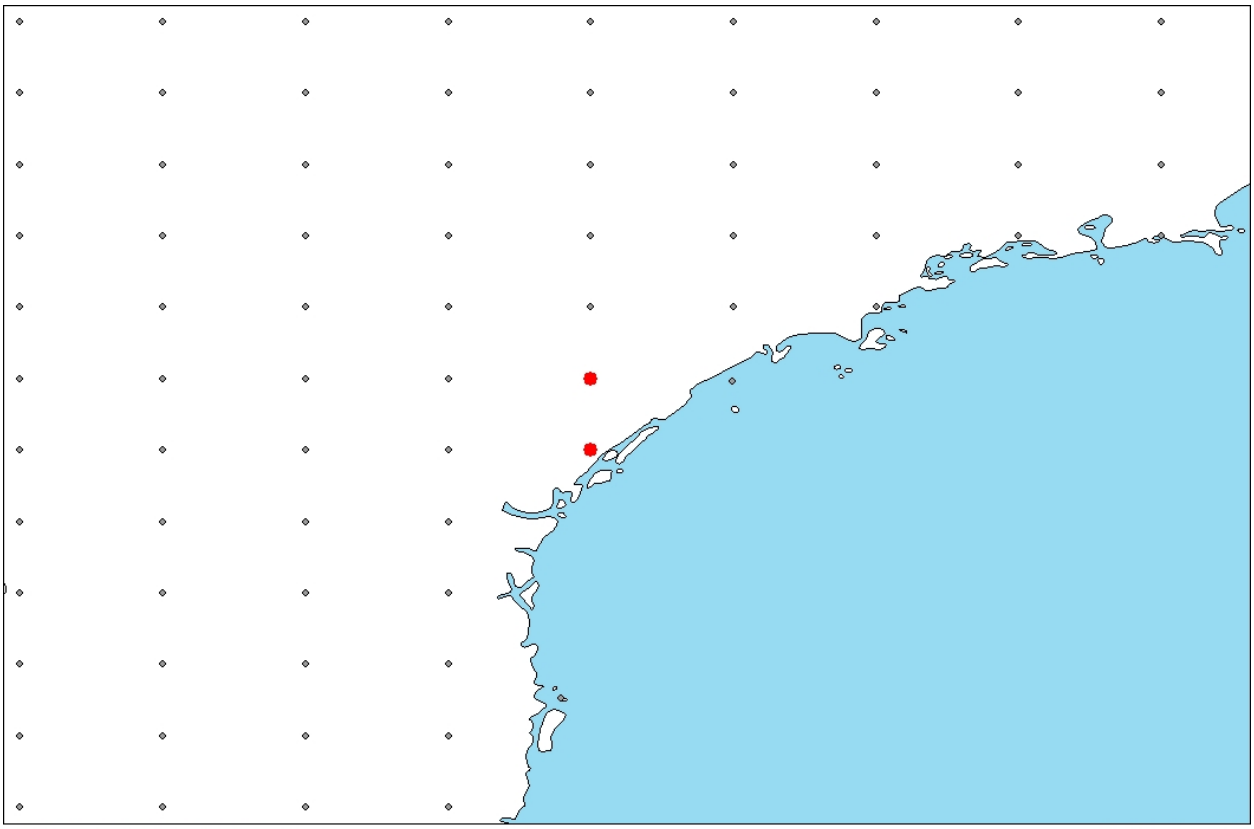
6 Distribution Within the United States

This species has not been reported within the United States.

7 Climate Matching

Summary of Climate Matching Analysis

The climate match for *Trichomycterus naipi* was medium in along the Gulf and Southern Atlantic coasts, as well as most of peninsular Florida. Small areas of peninsular Florida had a high match. The remainder of the contiguous United States had a low climate match. The overall Climate 6 score (Sanders et al. 2018; 16 climate variables; Euclidean Distance) for the contiguous United States was 0.012, medium (scores between 0.005 and 0.103, exclusive, are considered medium). Florida had a high individual Climate 6 score. All other States had low individual scores.



Species: *Trichomycterus naipi*
Selected Climate Stations

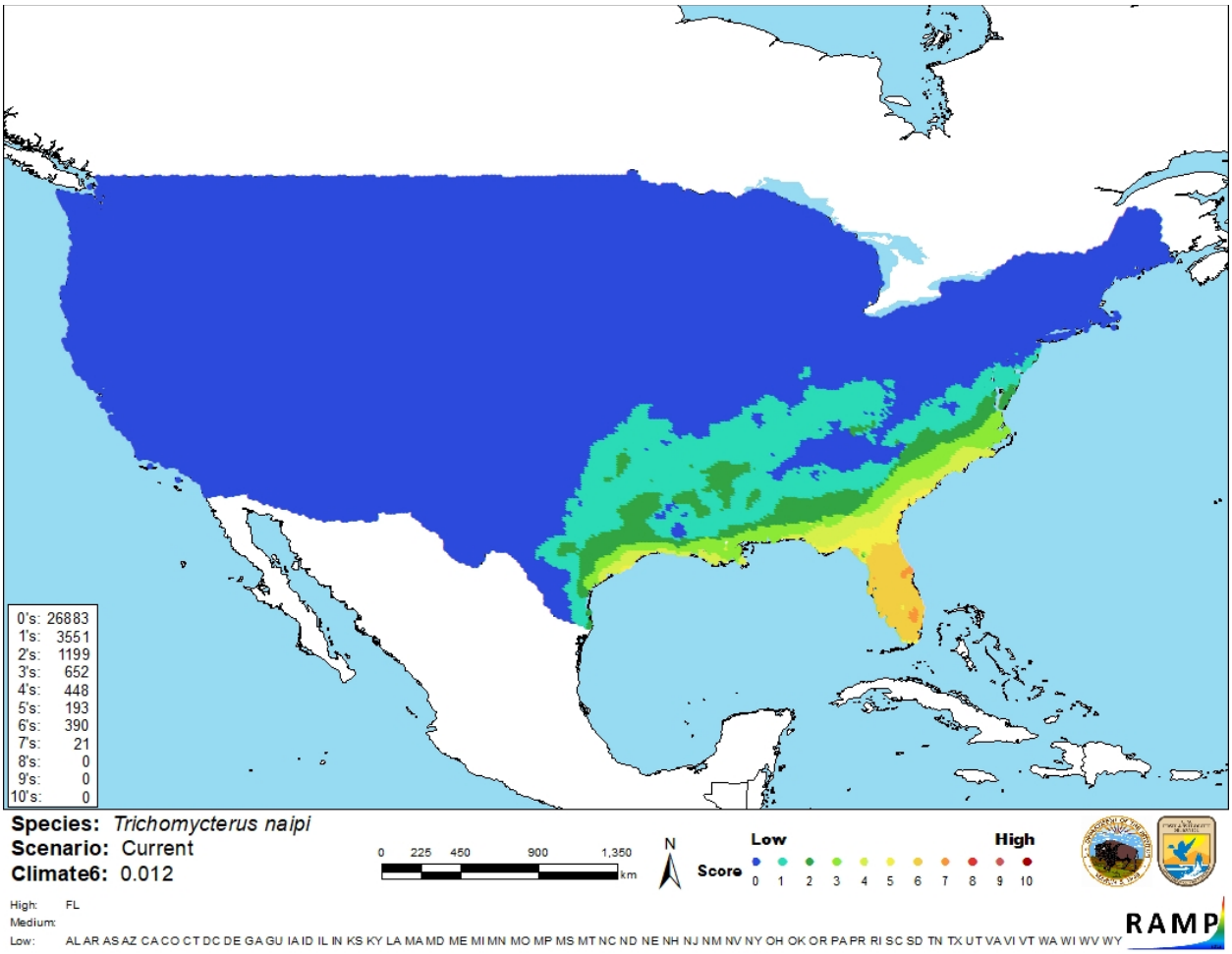


Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *Trichomycterus naipi* in the contiguous United States based on source locations reported by GBIF Secretariat (2018). Counts of climate match scores are tabulated on the left. 0/Blue = Lowest match, 10/Red = Highest match.

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 naipi*. 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 naipi is a South American, trichomycterid catfish found in the Iguaçu Basin in southern Brazil. No indication of this species in trade or other human uses were found. *T. naipi* is regulated in multiple States. The history of invasiveness is classified as No Known Nonnative Population. There have been no reports of this fish outside of its native range. The overall climate match was Medium. Most of the contiguous United States had a low climate match locally with the Gulf and Southern Atlantic Coasts having a medium match. Small areas of high match were found in Florida. The certainty of assessment is Low due to a general lack of information. The overall risk assessment category is Uncertain.

Assessment Elements

- **History of Invasiveness (Sec. 4): No known nonnative populations**
- **Overall Climate Match (Sec. 7): Medium**
- **Certainty of Assessment (Sec. 8): Low**
- **Remarks/Important additional information: No additional remarks**
- **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 (June 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. 2017. *Trichomycterus naipi* Wosiacki & Garavello, 2004) FishBase. Available: https://www.fishbase.de/summary/Trichomycterus-naipi.html (January 2017).

GBIF Secretariat. 2018. GBIF backbone taxonomy: *Trichomycterus naipi* Wosiacki & Garavello, 2004. Copenhagen: Global Biodiversity Information Facility. Available: http://www.gbif.org/species/2343048 (June 2018).

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. 2018. *Trichomycterus naipi* Wosiacki & Garavello, 2004. Reston, Virginia: Integrated Taxonomic Information System. Available: https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=682238 (June 2018).

Louisiana State Legislature. 2019. Exotic fish; importation, sale, and possession of certain exotic species prohibited; permit required; penalty. Louisiana Revised Statutes, Title 56, Section 319.

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

[OIE] World Organisation for Animal Health. 2021. Animal diseases. Available: https://www.oie.int/en/what-we-do/animal-health-and-welfare/animal-diseases/ (Septemer 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. 2018. Risk Assessment Mapping Program: RAMP. Version 3.1. U.S. Fish and Wildlife Service.

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.

Wosiacki WB, Garavello JC. 2004. Five new species of *Trichomycterus* from the rio Iguaçu (rio Paraná Basin), southern Brazil (Siluriformes: Trichomycteridae). Ichthyological Exploration of Freshwaters 15:1–16.

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.

No additional references.