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

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

Organism Type: Fish
Overall Risk Assessment Category: Uncertain

No Photo Available

1 Native Range and Status in the United States

Native Range
From Froese and Pauly (2017):

“South America: Preto River, Paraíba do Sul River basin in Brazil.”

Status in the United States
Trichomycterus mirissumba 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 (Pygiididae)-Parasitic Catfishes.: All species”

The Florida Fish and Wildlife Conservation Commission has listed the parasitic catfish *T. mirissumba* 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 be held 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 *Pygidiium* 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**

*Trichomycterus mirissumba* has not been reported in the United States.

**Remarks**

No additional remarks.

**2 Biology and Ecology**

**Taxonomic Hierarchy and Taxonomic Standing**

From Eschmeyer et al. (2018):

“**Current status:** Valid as *Trichomycterus mirissumba* Costa 1992.”

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 mirissumba* Costa, 1992

**Size, Weight, and Age Range**  
From Froese and Pauly (2017):  

“Max length : 6.0 cm male/unsexed; [de Pínna and Wosiacki 2003]”

**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: Preto River, Paraíba do Sul River basin in Brazil.”

Introduced  
*Trichomycterus mirissumba* has not been reported as introduced outside of its native range.

**Means of Introduction Outside the United States**  
*Trichomycterus mirissumba* has not been reported as introduced outside of its native range.

**Short Description**  
A short description of *Trichomycterus mirissumba* was not available.
Biography
Information on the biology of *Trichomycterus mirissumba* was not available.

Human Use
Information on the human uses of *Trichomycterus mirissumba* was not available.

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

From Henriques-Oliveira and Nessimian (2009):

“Individuals of *T. mirissumba* Costa, 1992 (Trichomycteridae) and *P. rudolphi* (Ribeiro, 1911) (Loricariidae) were observed carrying larvae of *Ichthyocladius lilianae* Mendes, Andersen & Saether, 2004 (Orthocladiinae) […], in the Preto river located at 1600 m a.s.l, in Visconde de Mauá (municipality of Resende, RJ). Larvae of *I. lilianae* were found on *T. mirissumba* inside a small gelatinous case composed by silk and small particles of organic matter attached on the odontoid plate of the fish opercula. Frequently, more than one larva were found living in the same specimen of *T. mirissumba*.”

Threat to Humans
From Froese and Pauly (2017):

“Harmless”

3 Impacts of Introductions
*Trichomycterus mirissumba* has not been reported as introduced outside of its native range.

*T. mirissumba* is regulated in multiple States.

4 History of Invasiveness
No records of introduction were found for *Trichomycterus mirissumba*. There was also no information on this species in trade. Therefore, the history of invasiveness is classified as No Known Nonnative Population.
6 Distribution Within the United States

*Trichomycterus mirissumba* has not been reported in the United States.

7 Climate Matching

**Summary of Climate Matching Analysis**

The climate match for *Trichomycterus mirissumba* was low for most of the contiguous United States. Southern Florida and a small area of coastal Georgia had a medium match. There were no areas of medium match. The overall Climate 6 score (Sanders et al. 2018; 16 climate variables; Euclidean distance) for the contiguous United States was 0.004, low (scores between 0.000 and 0.005, inclusive, considered low). Florida had a high individual Climate 6 score. All other States had low individual climate scores.
Figure 3. Map of RAMP (Sanders et al. 2018) climate matches for *Trichomycterus mirissumba* 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:

<table>
<thead>
<tr>
<th>Climate 6: (Count of target points with climate scores 6-10)/ (Count of all target points)</th>
<th>Overall Climate Match Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.000≤X≤0.005</td>
<td>Low</td>
</tr>
<tr>
<td>0.005&lt;X&lt;0.103</td>
<td>Medium</td>
</tr>
<tr>
<td>≥0.103</td>
<td>High</td>
</tr>
</tbody>
</table>

8 Certainty of Assessment

There was very limited information available on the species *Trichomycterus mirissumba*. It 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 mirissumba* is a South American, trichomycterid catfish found in the Preto River of the Paraíba do Sul River basin in Brazil. *T. mirissumba* is regulated in multiple States. There have been no reports of introductions of this fish outside of its native range, so the history of invasiveness is classified as No Known Nonnative Population. In addition, biological information about *Trichomycterus mirissumba* was limited, therefore; the certainty of this assessment is Low. The overall climate match for this species was Low. Peninsular Florida had a medium match. The overall risk for this species is Uncertain.

Assessment Elements

- History of Invasiveness (Sec. 4): No Known Nonnative Population
- Overall Climate Match (Sec. 7): Low
- 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.


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.


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.
