

***Trichomycterus igobi* (a catfish, no common name)**

Ecological Risk Screening Summary

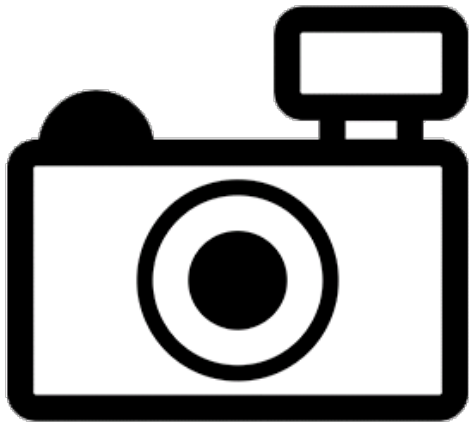
U.S. Fish & Wildlife Service, January 2017

Revised, May 2018

Web Version, 4/27/2021

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: Lower rio Jordão of the rio Iguaçu, rio Paraná drainage in Brazil.”

Status in the United States

This species has not been reported in the United States. No records of *Trichomycterus igobi* 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 igobi* 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 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 *Pygidium* 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 igobi* (Wosiacki and de Pinna, 2008) is the current valid name for this species and is also the original name for this species.

From Bailly (2017):

“Biota Animalia (Kingdom) > Chordata (Phylum) > Vertebrata (Subphylum) > Gnathostomata (Superclass) > [...] Actinopterygii (Class) > Siluriformes (Order) > Trichomycteridae (Family) > Trichomycterinae (Subfamily) > *Trichomycterus* (Genus) > *Trichomycterus igobi* (Species)”

Size, Weight, and Age Range

From Froese and Pauly (2018):

“Max length : 9.0 cm SL male/unsexed; [Wosiacki and de Pinna 2008]”

Environment

From Froese and Pauly (2018):

“Freshwater; demersal.”

Climate

From Froese and Pauly (2018):

“Tropical”

Distribution Outside the United States

Native

From Froese and Pauly (2018):

“South America: Lower rio Jordão of the rio Iguaçu, rio Paraná drainage 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 Froese and Pauly (2018):

“Dorsal soft rays (total): 7-8; Anal soft rays: 6 - 7; Vertebrae: 37. Differs from its congeners by having large head 23.8-26.8% SL, which is proportionally the largest head in any Trichomycteridae. Additional diagnostic characters that distinguished this species from most or all of its congeners are the following: almost entirely cartilaginous second hypobranchial (with only vestigial ossification; mesially expanded palatine ossification; narrow and falciform cleithrum; absence of a proximal posterior concavity on the third ceratobranchial. Can be further distinguished from all congeners, except *Trichomycterus stawiarski* and *T. sp. C*, by having rigid spine-like morphology of individual procurent rays of the caudal fin, extension of the dorsal caudal-fin procurent rays series (extending for ten neural spine tips), and presence of ten or eleven branchiostegal rays. Dorsal fin situated on a concavity on dorsal profile of trunk, short caudal peduncle (15.4-19.7% SL) and first anal-fin ray base posterior to the vertical through the base of the last dorsal-fin ray are other useful characters for identification shared with various other species of *Trichomycterus* [Wosiacki and de Pinna 2008]”

From Wosiacki and de Pinna (2008):

“Color in preservative. Body pigmentation arranged in at least two different layers of integument. Deep layer composed of relatively large irregular dark spots of variable size and shape, larger and more concentrated on dorsum of trunk, gradually becoming more scattered and smaller on sides, entering dorsal surface of head only posteriorly and completely absent on ventral surface of trunk and head. A more superficially-located pattern of fine spots overlays large marking with relatively uniform freckle, densest on dorsum. Smaller superficial markings extend onto entire dorsal and lateral surfaces of head, as fine spots smaller than those on body, and form main component of dark pigmentation at that region. Sides of head slightly less heavily pigmented than dorsal region. Opercular patch of odontodes with pigmentation continuous with that on remainder of head. Odontode-bearing area of interopercle almost devoid of dark pigment, in contrast to area of head immediately dorsal to it. Upper lip with small spots similar to those on rest of head. Lower lip with small dark fields close to its anterior margin. Dorsal fin with irregular dark markings along its basal portion and anterior edge, with additional spots along rays on rest of fin, in some specimens aligned so as to form a poorly-defined stripe across the distal third of fin. Anal fin with dark pigmentation similar to that of dorsal fin, but generally fainter. Caudal fin covered with small irregular spots, often aligned to form one or more rough vertical lines across fin. Dorsal surface of pectoral fin with small dark markings similar to those on rest of flanks, fading distally to transparent margin. Pelvic fins mostly white, with only few dark chromatophores at base. Nasal barbels with irregular dark fields along entire length, on both surfaces. Maxillary and rictal barbels with dark markings mostly on dorsal surface.”

Biology

From Froese and Pauly (2018):

“Feeds on larvae of Diptera (Simuliidae), Ephemeroptera and Trichoptera, indicating benthic feeding habits [Wosiacki and de Pinna 2008]”

From Wosiacki and de Pinna (2008):

“Specimens of *Trichomycterus igobi* were collected in the same general locality as *T. sp. C* in the rio Jordão, and presumably occupy the same kind of fast water, rocky-substrate environment reported for that species (cf. Wosiacki & de Pinna, in press). The details of its microhabitat, however, are as yet unknown.”

Human Uses

No information available.

Diseases

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

Threat to Humans

From Froese and Pauly (2018):

“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 igobi is regulated in multiple States.

4 History of Invasiveness

This species has not been reported as introduced outside of its native range, so impacts of introductions are no known nonnative population.

5 Global Distribution



Figure 1. Known global distribution of *Trichomycterus igobi* in southern 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 6 score (Sanders et al. 2018; 16 climate variables; Euclidean distance) for the contiguous United States for *Trichomycterus igobi* was 0.010, indicating a medium match (scores between 0.005 and 0.103, exclusive, are considered medium). Medium climate match scores occurred on the southeastern coast of the United States. The remainder of the contiguous United States had a low climate match. Florida had a high individual Climate 6 score. Georgia and South Carolina had medium individual scores. All other States had low individual scores.

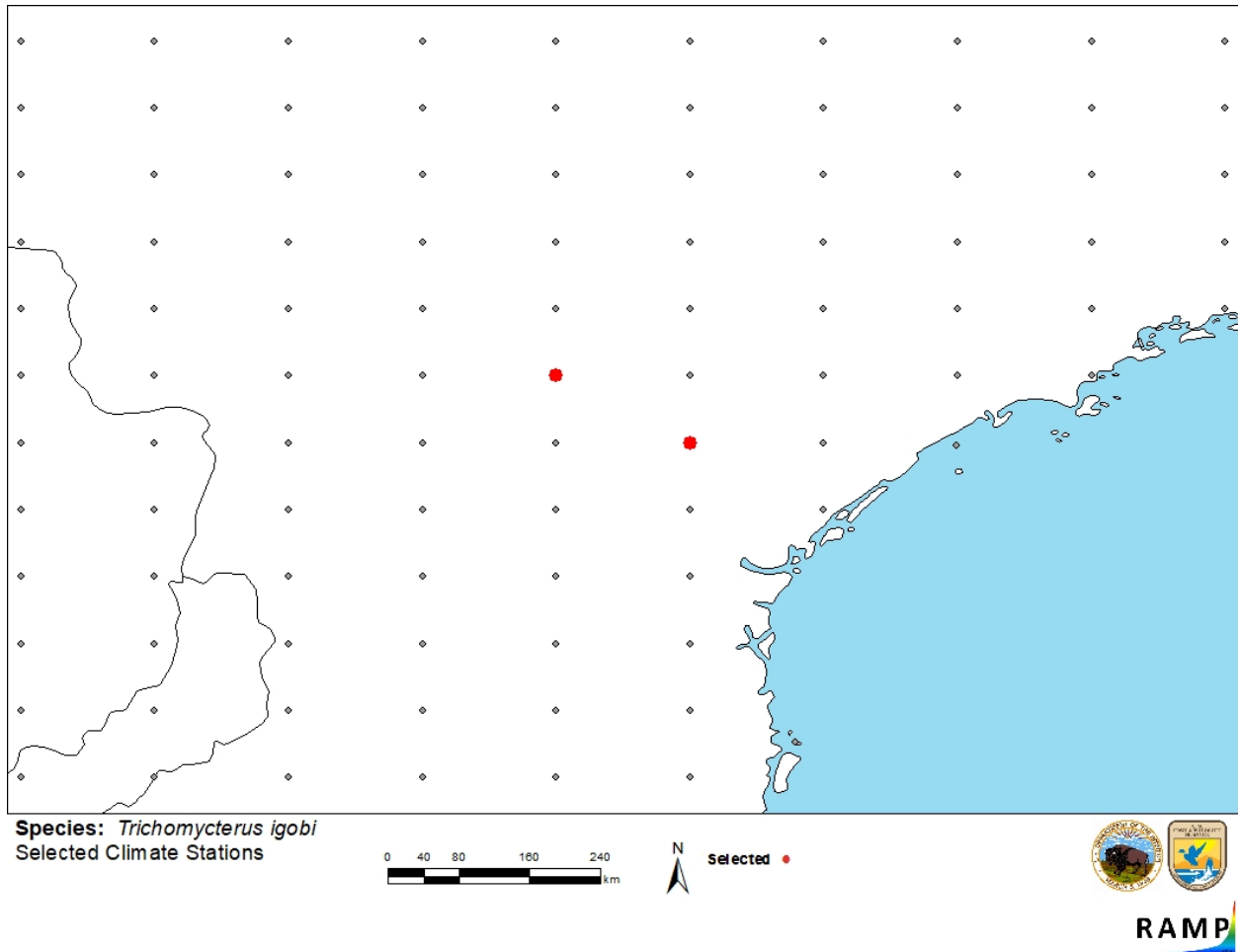


Figure 2. RAMP (Sanders et al. 2018) source map showing weather stations in southern Brazil selected as source locations (red) and non-source locations (gray) for *Trichomycterus igobi* climate matching. Source locations from GBIF Secretariat (2017). Selected source locations are within 100 km of one or more species occurrences and do not necessarily represent the locations of occurrences themselves.

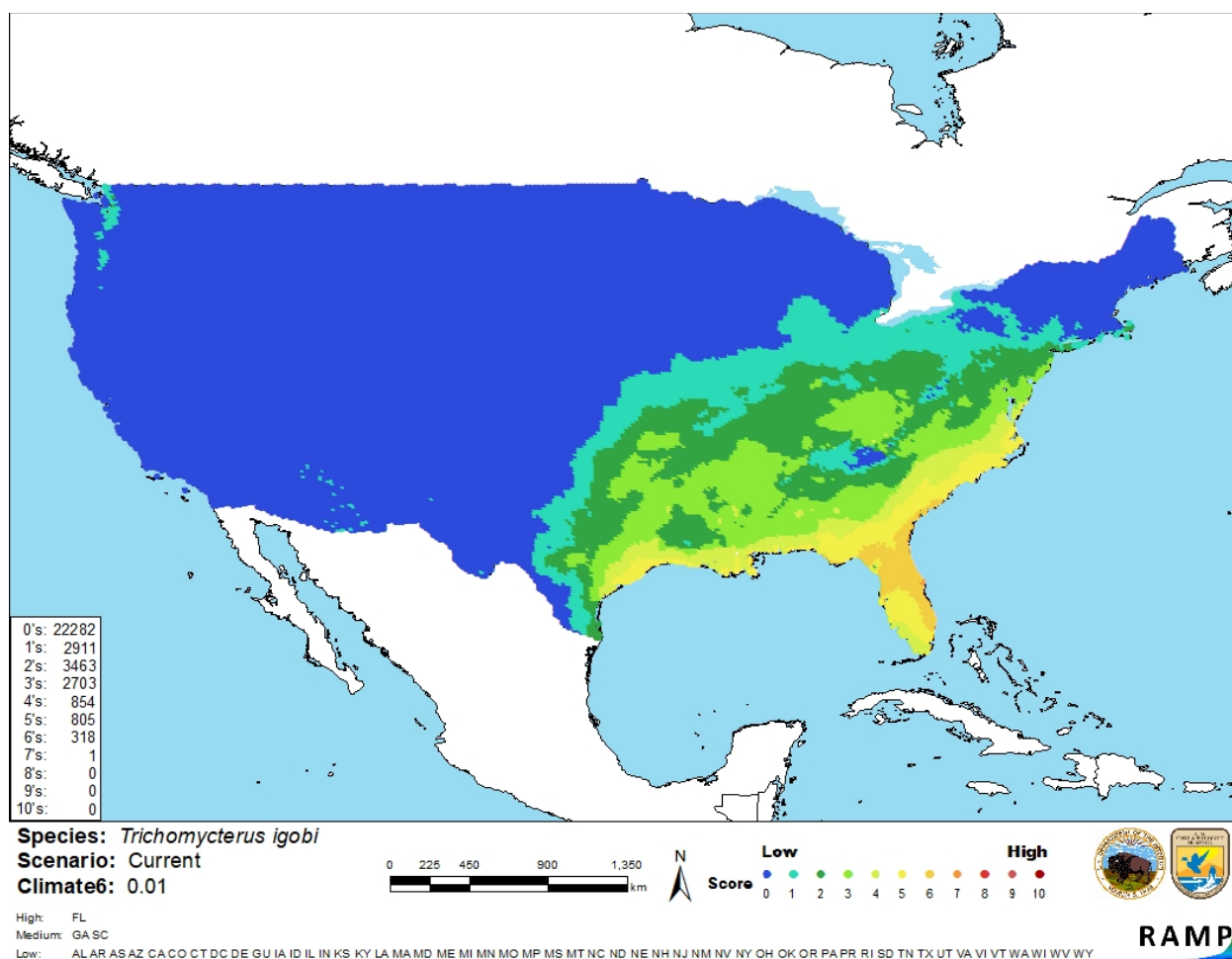


Figure 3. Map of RAMP (Sanders et al. 2018) climate matches for *Trichomycterus igobi* in the contiguous United States based on source locations reported by GBIF Secretariat (2017). Counts of climate match scores are tabulated on the left. 0/Blue = Lowest match, 10/Red = Highest match.

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
$0.000 \leq X \leq 0.005$	Low
$0.005 < X < 0.103$	Medium
≥ 0.103	High

8 Certainty of Assessment

There was limited information available on the species *Trichomycterus igobi*. 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 igobi is a South American catfish found in the Lower Rio Jordão of the Rio Iguaçu, Rio Paraná drainage in Brazil. *T. igobi* inhabits a fast water, rocky-substrate environment and exhibits benthic feeding habits. This species is regulated in multiple States. The history of invasiveness is No Known Nonnative Population. There have been no reports of this fish outside of its native range. The certainty of assessment is low due to lack of information. The overall risk for this species is uncertain.

Assessment Elements

- **History of Invasiveness (Sec. 3): No known nonnative population**
- **Climate Match (Sec. 6): Medium**
- **Certainty of Assessment (Sec. 7): Low**
- **Remarks/Important additional information:** *Trichomycterus igobi* 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.

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

Fricke R, Eschmeyer WN, 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> (October 2018).

[FFWCC] Florida Fish and Wildlife Conservation Commission. 2018. Prohibited species list. Tallahassee: Florida Fish and Wildlife Conservation Commission. Available: <http://myfwc.com/wildlifehabitats/nonnatives/regulations/prohibited/#nogo> (January 2017).

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- GBIF Secretariat. 2017. GBIF backbone taxonomy: *Trichomycterus igobi* (Wosiacki & de Pinna, 2008). Copenhagen: Global Biodiversity Information Facility. Available: <http://www.gbif.org/Species/2342989> (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.
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- 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.
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- Wosiacki WB, de Pinna M. 2008. *Trichomycterus igobi*, a new catfish species from the rio Iguaçu drainage: the largest head in Trichomycteridae (Siluriformes: Trichomycteridae). Neotropical Ichthyology 6:17–23.

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.

No references in this section.