

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

Ecological Risk Screening Summary

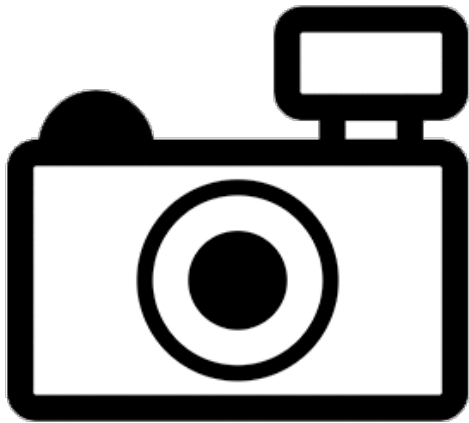
U.S. Fish & Wildlife Service, December 2016

Revised, June 2018

Web Version, 9/1/2021

Organism Type: Fish

Overall Risk Assessment Category: Uncertain



No Photo Available

1 Native Range and Status in the United States

Native Range

Froese and Pauly (2016):

“South America: coastal basins between Mangaratiba and Itaguaí in Rio de Janeiro, southeastern Brazil.”

Status in the United States

This species has not been reported in trade or in the wild 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 all species in the family Trichomycteridae as prohibited species. Prohibited nonnative species (FFWCC 2021), “are considered to be dangerous to Florida’s native species and habitats or could pose threats to the health and welfare of the people of Florida.”

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 potschi* (Barbosa and Costa 2003) 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 potschi* (Barbosa and Costa, 2003)

Size, Weight, and Age Range

From Froese and Pauly (2016):

“Max length : 8.1 cm SL male/unsexed; [Barbosa and Costa 2003]”

Environment

From Froese and Pauly (2016):

“Freshwater; demersal.”

Climate

From Froese and Pauly (2016):

“Tropical, [...]”

Distribution Outside the United States

Native

From Froese and Pauly (2016):

“South America: coastal basins between Mangaratiba and Itaguaí in Rio de Janeiro, southeastern Brazil.”

Introduced

No known introductions outside of the native range.

Means of Introduction Outside the United States

No known introductions outside of the native range.

Short Description

From Froese and Pauly (2016):

“Dorsal soft rays (total): 11-12; Anal soft rays: 9 - 10; Vertebrae: 37 - 39. Posterior tip of posterior ceratohyal slender, its depth 2.3-6.5% of longitudinal length of the hyoid bar; ventroposterior process of posterior ceratohyal absent or vestigial (1.7%, or less when present, of longitudinal length of the hyoid bar); opercular patch of odontodes slender, its depth 44.0-73.7% of base length of opercular dorsal projection; first pectoral-fin ray 28.8-37.0% of pectoral-fin length); 7 pectoral fin rays; 8 branchiostegal rays; 14-15 pleural ribs; infraorbital sensory pores i1 and i3 present; supraorbital sensory pores s6 nearer to each other than to eye; dorsal-fin origin in vertical through centrum of 20th or 21st vertebra; anal-fin origin in vertical through centrum of 23rd or 24th vertebra; pelvic fins anteriorly placed; prepelvic length 53.9-57.8% SL; orbital diameter 6.7-7.5% of head length; head length 20.0-21.8% SL; interorbital width 28.1-30.8% of head length; caudal peduncle depth 13.8-15.3% SL; body width 9.7-12.3% SL; body depth 15.1-16.4% SL; dorsal-fin base 10.6-11.4% SL; anal-fin base 8.6-10.2% SL; and pectoral-fin length 9.9-12.5% SL; [Barbosa and Costa 2003]”

Biology

From Froese and Pauly (2016):

“Inhabits clear water, shallow stream (about 0.6 m deep), with sandy bottom. Some specimens were encountered entirely buried in the bottom. [Barbosa and Costa 2003]”

Human Uses

No information on human uses of *Trichomycterus potschi* was found.

Diseases

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

Threat to Humans

Froese and Pauly (2016):

“Harmless”

3 Impacts of Introductions

This species has not been reported outside of its native range; therefore, no impacts of introductions have been documented.

Trichomycterus potschi is regulated in multiple states.

4 History of Invasiveness

This species has not been reported outside of its native range; therefore, the history of invasiveness is classified as No Known Nonnative Population.

5 Global Distribution



Figure 1. A map showing the general distribution of *Trichomycterus potschi*. The red pin indicates the location of the river drainage that constitutes the native range of *T. potschi* (Froese and Pauly 2016). Map from Google Maps (2016).

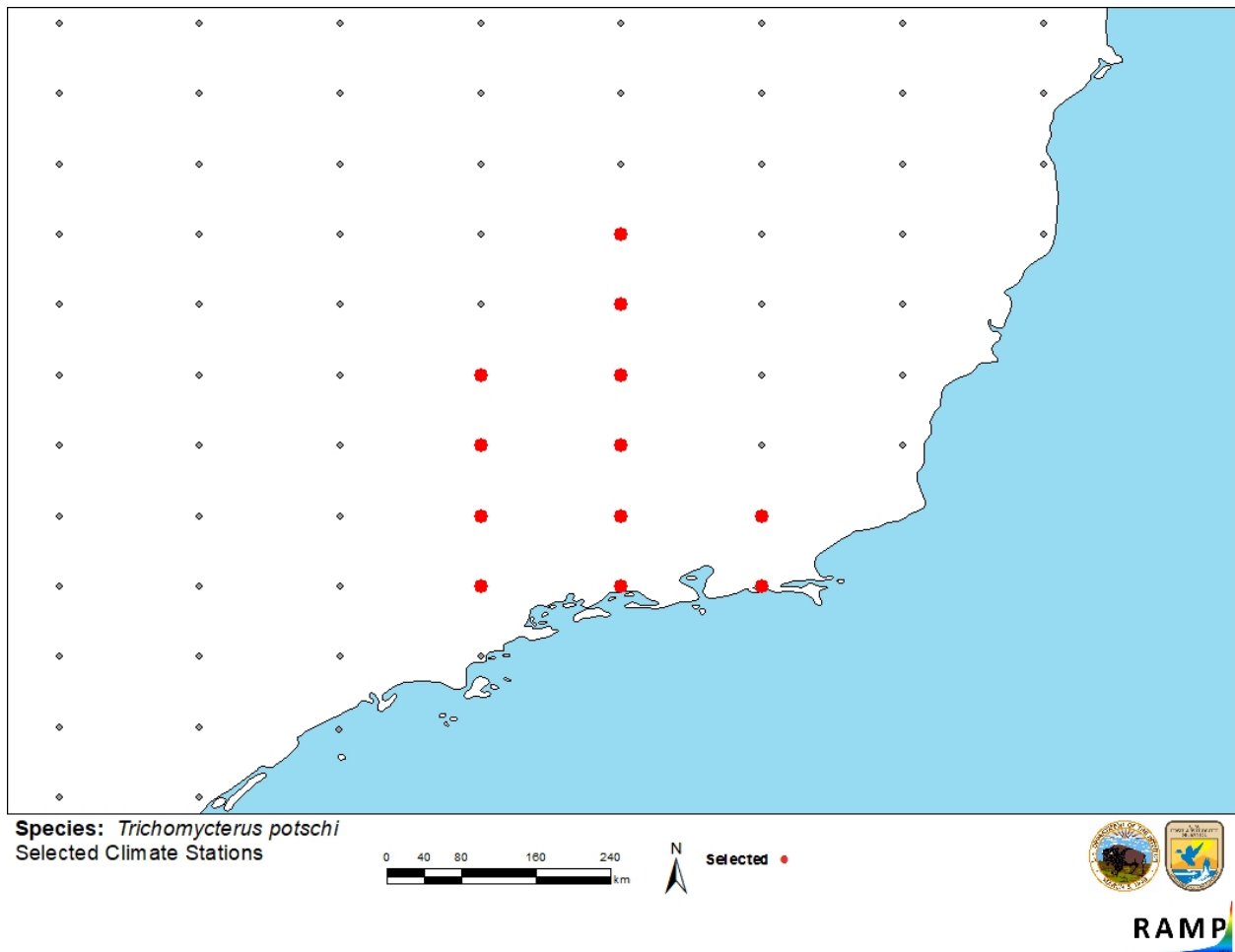
6 Distribution Within the United States

This species has not been reported in the United States.

7 Climate Matching

Summary of Climate Matching Analysis

The majority of the contiguous United States had a low climate match for *Trichomycterus potschi*. The Gulf Coast of Texas and much of northern Florida had a medium match, while southern Florida had a high match. The Climate 6 score (Sanders et al. 2018; 16 climate variables; Euclidean Distance) for the contiguous United States was 0.007, medium (scores between 0.005 and 0.103, exclusive, are classified as medium). Florida had a high individual climate score. All other States had low individual climate scores. No georeferenced points were available for the climate match, so source locations were chosen to represent the description of the species' range.



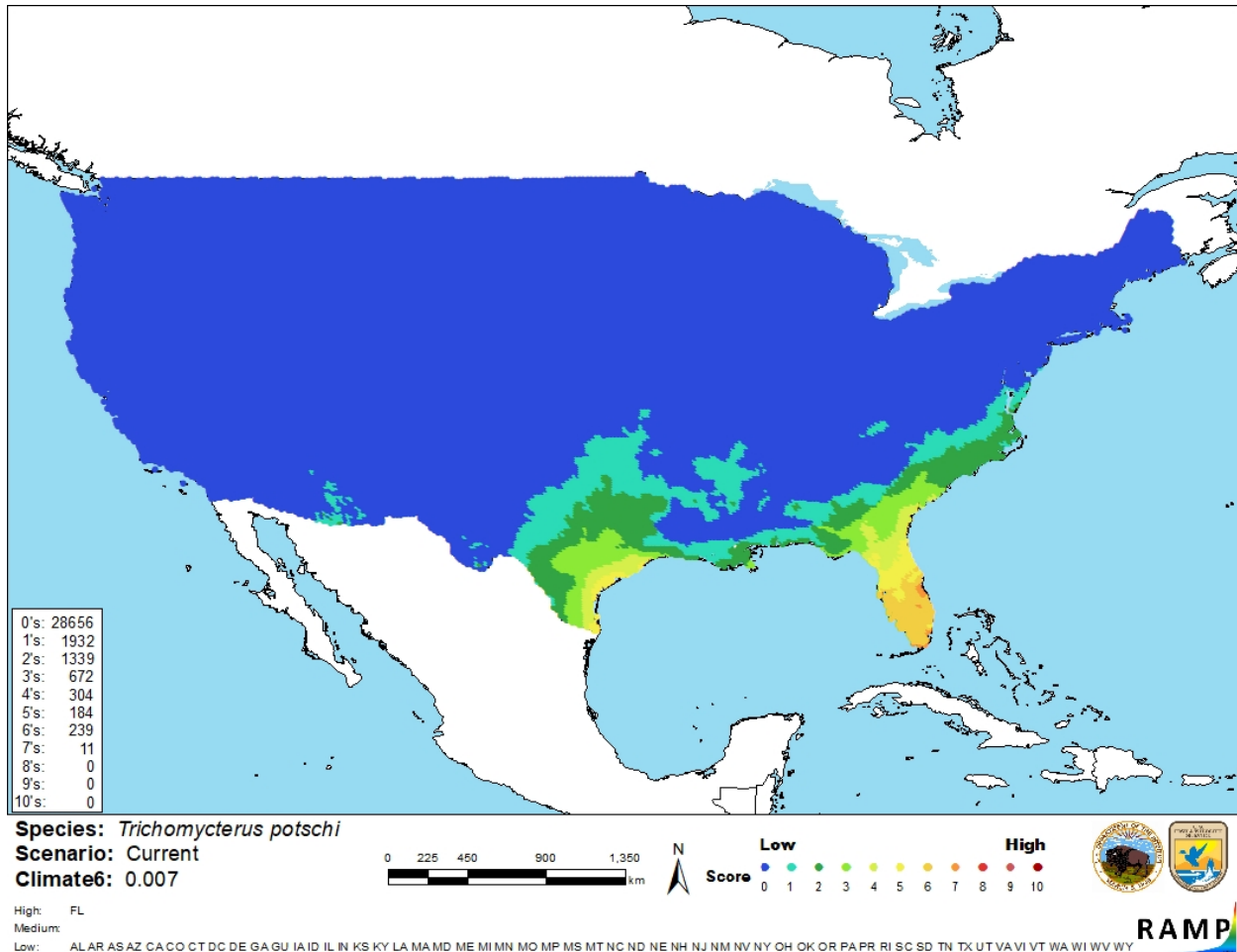


Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *Trichomycterus potschi* in the contiguous United States based on source locations reported by Froese and Pauly (2016). Counts of climate match scores are tabulated on the left. 0/Blue = Lowest match, 10/Red = Highest match.

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
$0.005 \leq X \leq 0.103$	Medium
≥ 0.103	High

8 Certainty of Assessment

There was very little information available on the species *Trichomycterus potschi*. *T. potschi* is not known to have been introduced outside of its native range, so no information was available on invasiveness. No georeferenced observations of the species were available to use in selecting

source points for the climate match. With such little information available, the certainty of this assessment is low.

9 Risk Assessment

Summary of Risk to the Contiguous United States

Trichomycterus potschi is a species of catfish that has been subject to very limited study. Its known distribution is the coastal basins between Mangaratiba and Itaguaí in southern Brazil. There is little information on the biology of *T. potschi*. *Trichomycterus potschi* is regulated in multiple states. The history of invasiveness is classified as No Known Nonnative Population. There have been no reports of the species outside of its native range. The climate match to the contiguous United States is medium. However, much of the United States had a low match, except the Gulf Coast of Texas and Florida, which had a medium to high match. No georeferenced points were available for the climate match, so it was based on the described range. 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): Medium**
- **Certainty of Assessment (Sec. 7): 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.

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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).

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. 2021. Prohibited nonnative species list. Tallahassee: Florida Fish and Wildlife Conservation Commission. Available: <https://myfwc.com/wildlifehabitats/nonnatives/prohibited-species-list/> (August 2021).

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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.
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- 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.

Barbosa MA, Costa WJEM. 2003. *Trichomycterus potschi* (Siluriformes: Loricarioidei): a new trichomycterid catfish from coastal streams of southeastern Brazil. Ichthyological Explorations of Freshwaters 14:281–287.