

Trichomycterus paquequerense (a catfish, no common name)

Ecological Risk Screening Summary

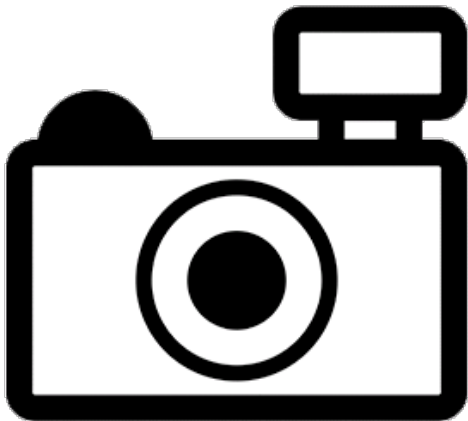
U.S. Fish & Wildlife Service, January 2017

Revised, June 2018

Web Version, 11/1/2021

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: Paquequer River, Paraíba do Sul River 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 paquequerense* 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 *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 paquequerense* (Miranda Ribeiro 1943) is the current valid name for this species. *Trichomycterus paquequerense* was originally described as *Pygidium paquequerense* Miranda Ribeiro 1943.

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 paquequerense* (Miranda Ribeiro, 1943)

Size, Weight, and Age Range

From Froese and Pauly (2017):

“Max length : 6.8 cm SL male/unsexed; [Trique and Vono, 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: Paquequer River, Paraíba do Sul River basin in Brazil.”

Introduced

No known introductions outside of native range.

Means of Introduction Outside the United States

No known introductions outside of native range.

Short Description

No information available.

Biology

No information available.

Human Uses

No information available.

Diseases

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

Threat to Humans

From Froese and Pauly (2017):

“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 paquequerense is regulated in multiple States, see section 1.

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. Known global distribution of *Trichomycterus paquequerense*. Location is in southeastern Brazil. Map from GBIF Secretariat (2018).

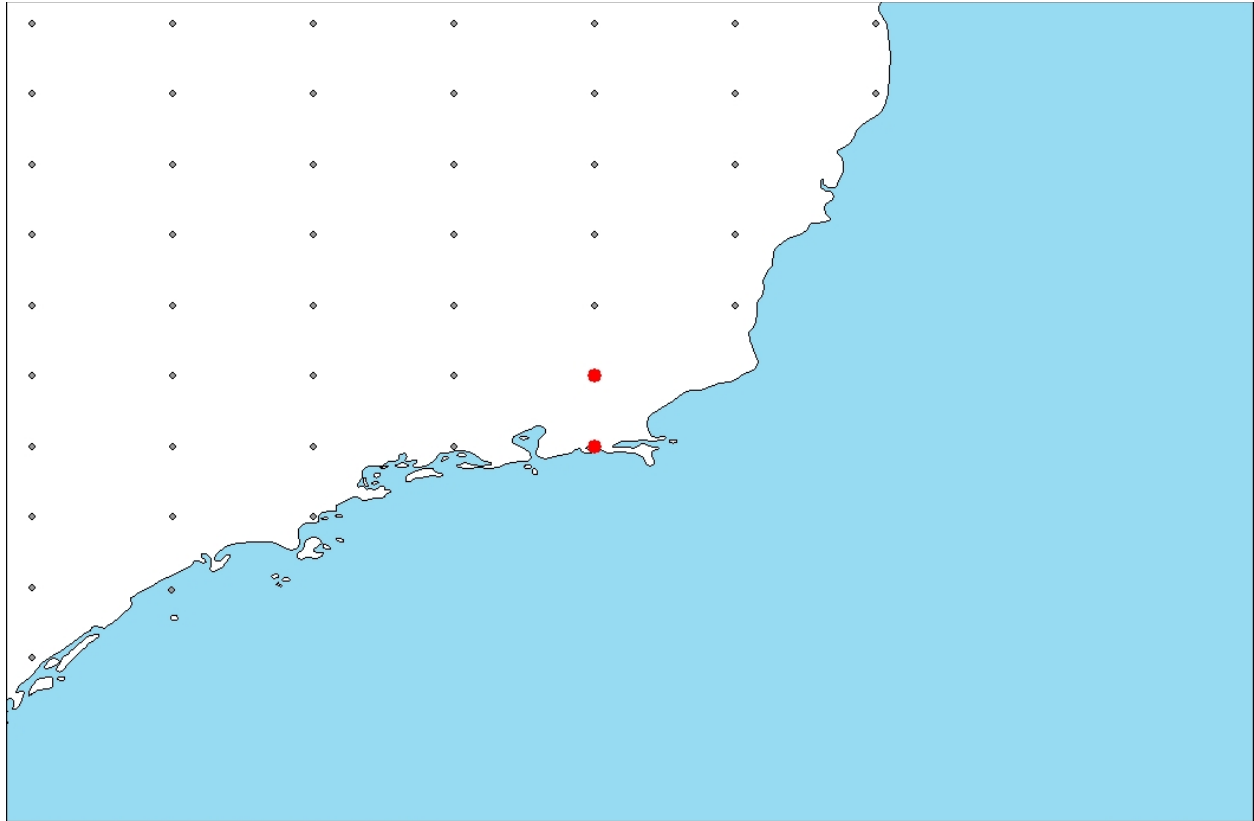
6 Distribution Within the United States

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 match. Coastal Texas and peninsular Florida had medium match. There were small areas of high match in Florida. The overall Climate 6 score (Sanders et al. 2018; 16 climate variables; Euclidean Distance) for the contiguous United States was 0.005, low. (Score between 0.000 and 0.005, inclusive, are classified as low.) All States had low individual Climate 6 scores except for Florida, which had a high individual score.



Species: *Trichomycterus paquequerense*
Selected Climate Stations



Selected ●



RAMP

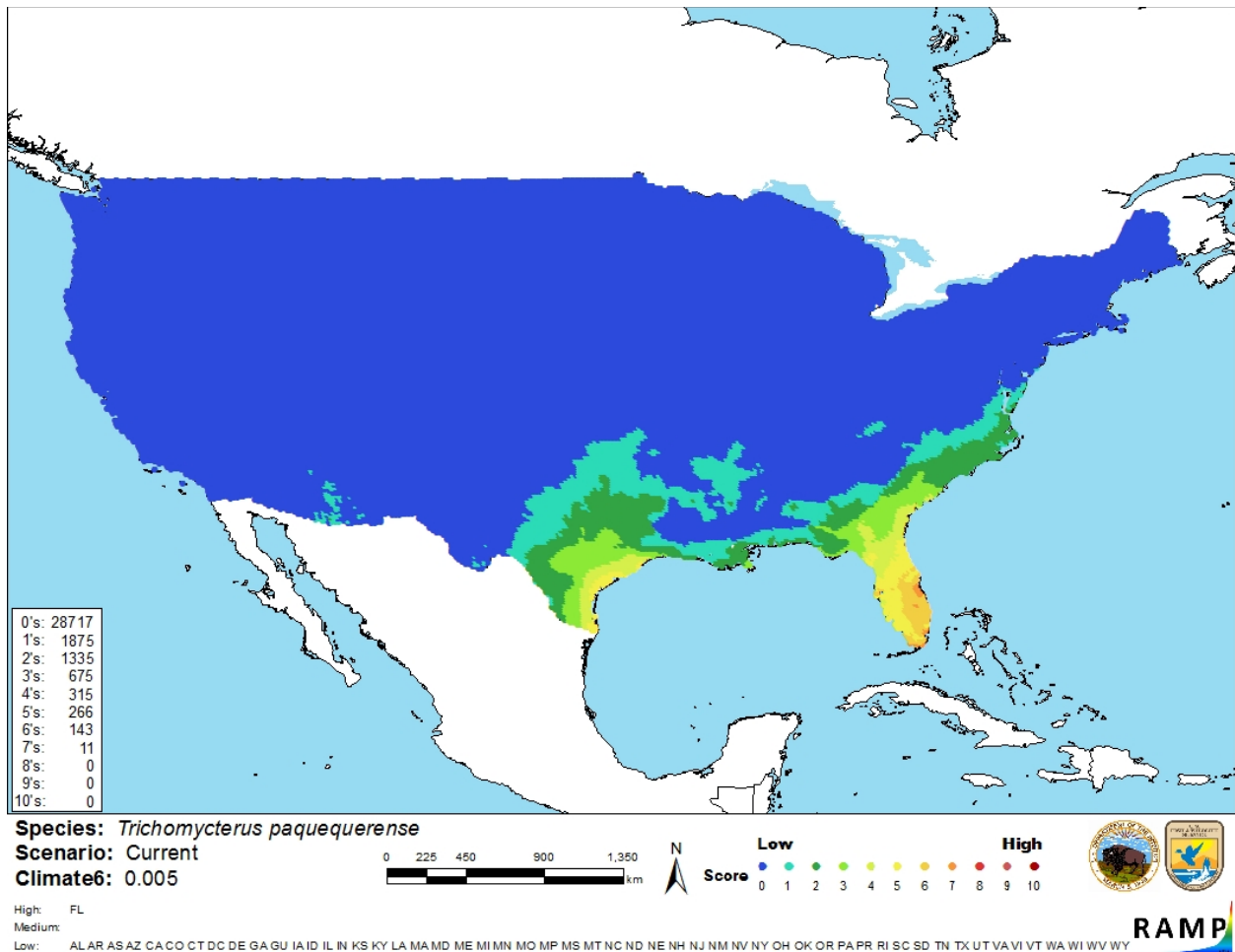


Figure 3. Map of RAMP (Sanders et al. 2018) climate matches for *Trichomycterus paquequerense* in the contiguous United States based on source locations reported by GBIF Secretariat (2018). Counts of climate match scores are tabulated on the left. 0/Blue = Lowest match, 10/Red = Highest match.

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

8 Certainty of Assessment

There was very little information available on the species *Trichomycterus paquequerense*. *T. paquequerense* is not known to have been introduced outside of its native range, so no history of invasiveness exists. With such little information available, the certainty of this assessment is low.

9 Risk Assessment

Summary of Risk to the Contiguous United States

Trichomycterus paquequerense is a species of trichomycterid catfish native to southeastern Brazil. There is little information on the biology of the fish. There is no indication that this species is in trade, but it is regulated in multiple States. There have been no reports of the species outside of its native range. Therefore, the history of invasiveness is classified as No Known Nonnative Population. The overall climate match to the contiguous United States is Low, with areas of medium match in Texas and medium and high match in Florida. The certainty of assessment is Low due to a general lack of information. 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.

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 paquequerense* (Miranda Ribeiro, 1943). FishBase. Available: <http://www.fishbase.org/summary/Trichomycterus-paquequerense.html> (January 2017).

- GBIF Secretariat. 2018. GBIF backbone taxonomy: *Trichomycterus paquequerense* (Miranda Ribeiro, 1943). Copenhagen: Global Biodiversity Information Facility. Available: <http://www.gbif.org/species/2343057> (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 paquequerense* (Miranda Ribeiro, 1943). Reston, Virginia: Integrated Taxonomic Information System. Available: https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=682244#null (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/> (September 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.

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.

Miranda Ribeiro P de. 1943. Dois novos Pigidídeos Brasileiros (Pisces-Pygidiidae). Boletim do Museu Nacional do Rio de Janeiro, Nova Série, Zoologie 9:1–3.

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 15:161–17.