

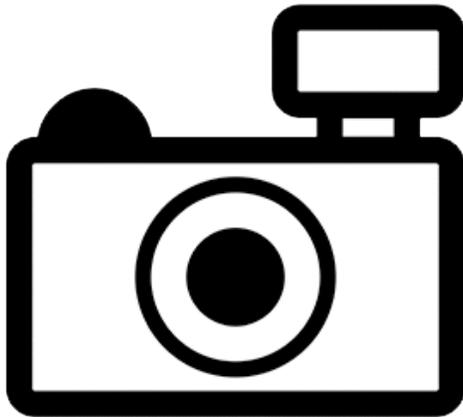
***Trichomycterus tenuis* (a catfish, no common name)**

Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, December 2016

Revised, February 2018

Web Version, 2/28/2020



No Photo Available

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2016):

“South America: Córdoba Sierra in Argentina.”

From Eschmeyer et al. (2016):

“Small lake in Sierra de Cordoba, near Villa Cruz del Eje, Santa Fe, Argentina.”

Status in the United States

This species has not been reported as introduced or established in the United States. There is no indication that this species is in trade in the United States.

From Arizona Secretary of State (2006):

“Fish listed below are restricted live wildlife [in Arizona] as defined in R12-4-401. [...] South American parasitic catfish, all species of the family Trichomycteridae and Cetopsidae [...]”

From Dill and Cordone (1997):

“[...] At the present time, 22 families of bony and cartilaginous fishes are listed [as prohibited in California], e.g. all parasitic catfishes (family Trichomycteridae) [...]”

From FFWCC (2019):

“Nonnative Conditional species (formerly referred to as restricted species) and Prohibited species 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. These species are not allowed to be personally possessed, but can be imported and possessed by permit for research or public exhibition; Conditional species may also be possessed by permit for commercial sales. Facilities where Conditional or Prohibited species are held must meet certain biosecurity criteria to prevent escape.”

Trichomycterus tenuis is listed as a Prohibited species in Florida.

From Louisiana House of Representatives Database (2010):

“No person, firm, or corporation shall at any time possess, sell, or cause to be transported into this state [Louisiana] 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: [...] all members of the families [...] *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.
[The list includes all species of] Family Trichomycteridae”

From Legislative Council Bureau (2018):

“Except as otherwise provided in this section and NAC [Nevada Administrative Code] 504.486, the importation, transportation or possession of the following species of live wildlife or hybrids thereof, including viable embryos or gametes, is prohibited [in Nevada]: [...] All species in the families Cetopsidae and Trichomycteridae”

From Utah DNR (2012):

“All species of fish listed in Subsections (2) through (30) are classified [in Utah] 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 as introduced or established in the United States.

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

From ITIS (2016):

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 tenuis*

From Eschmeyer et al. (2016):

“Current status: Valid as *Trichomycterus tenuis* Weyenbergh 1877. Trichomycteridae: Trichomycterinae.”

Size, Weight, and Age Range

From Froese and Pauly (2016):

“Max length : 11.7 cm male/unsexed; [de Pínna and Wosiacki 2003]”

Environment

From Froese and Pauly (2016):

“Freshwater; benthopelagic.”

Climate/Range

From Froese and Pauly (2016):

“Subtropical”

Distribution Outside the United States

Native

From Froese and Pauly (2016):

“South America: Córdoba Sierra in Argentina.”

Introduced

This species has not been reported as introduced or established outside of its native range.

Means of Introduction Outside the United States

This species has not been reported as introduced or established outside of its native range.

Short Description

From Evermann and Kendall (1906):

“Color: Dusky gray, with dull yellow belly, and yellowish fins; base of caudal dusky.”

Biology

No information reported for this species.

Human Uses

No information reported for this species.

Diseases

No OIE-reportable diseases (OIE 2020) have been documented for this species.

Threat to Humans

From Froese and Pauly (2016):

“Harmless”

3 Impacts of Introductions

This species has not been reported as introduced or established outside of its native range.

The importation, possession, or trade of the catfish *T. tenuis* is prohibited or restricted in the following states: Arizona (Arizona Secretary of State 2006), California (Dill and Cordone 1997),

Florida (FFWCC 2019), Louisiana (Louisiana House of Representatives Database 2010), Mississippi (Mississippi Secretary of State 2019), Nevada (Legislative Council Bureau 2018), and Utah (Utah DNR 2012).

4 Global Distribution

No georeferenced occurrences are available for this species (GBIF Secretariat 2019).



Figure 1. Location of Villa Cruz del Eje in the Sierra de Cordoba, Argentina. Eschmeyer et al. (2016) reports this city as a landmark for the lake in which *Trichomycterus tenuis* is found. Map from Google Earth.

5 Distribution Within the United States

This species has not been reported as introduced or established in the United States.

6 Climate Matching

Summary of Climate Matching Analysis

Note: There were no georeferenced occurrences available for this species. Source locations were estimated based on the described range in Eschmeyer et al. (2016). The climate match is an approximation.

The climate match (Sanders et al. 2014; 16 climate variables; Euclidean Distance) was high along the U.S.-Mexico border from southern Arizona to western Texas, medium in other areas of the Southwest and along parts of the California coastline, and low elsewhere in the contiguous United States. The Climate 6 score indicated that the contiguous United States has a medium overall climate match. (Scores between 0.005 and 0.103 are classified as medium.) The Climate 6 score of *Trichomycterus tenuis* is 0.020. The individual State climate scores were high in Texas and New Mexico, medium in Arizona, and low in the remaining States.

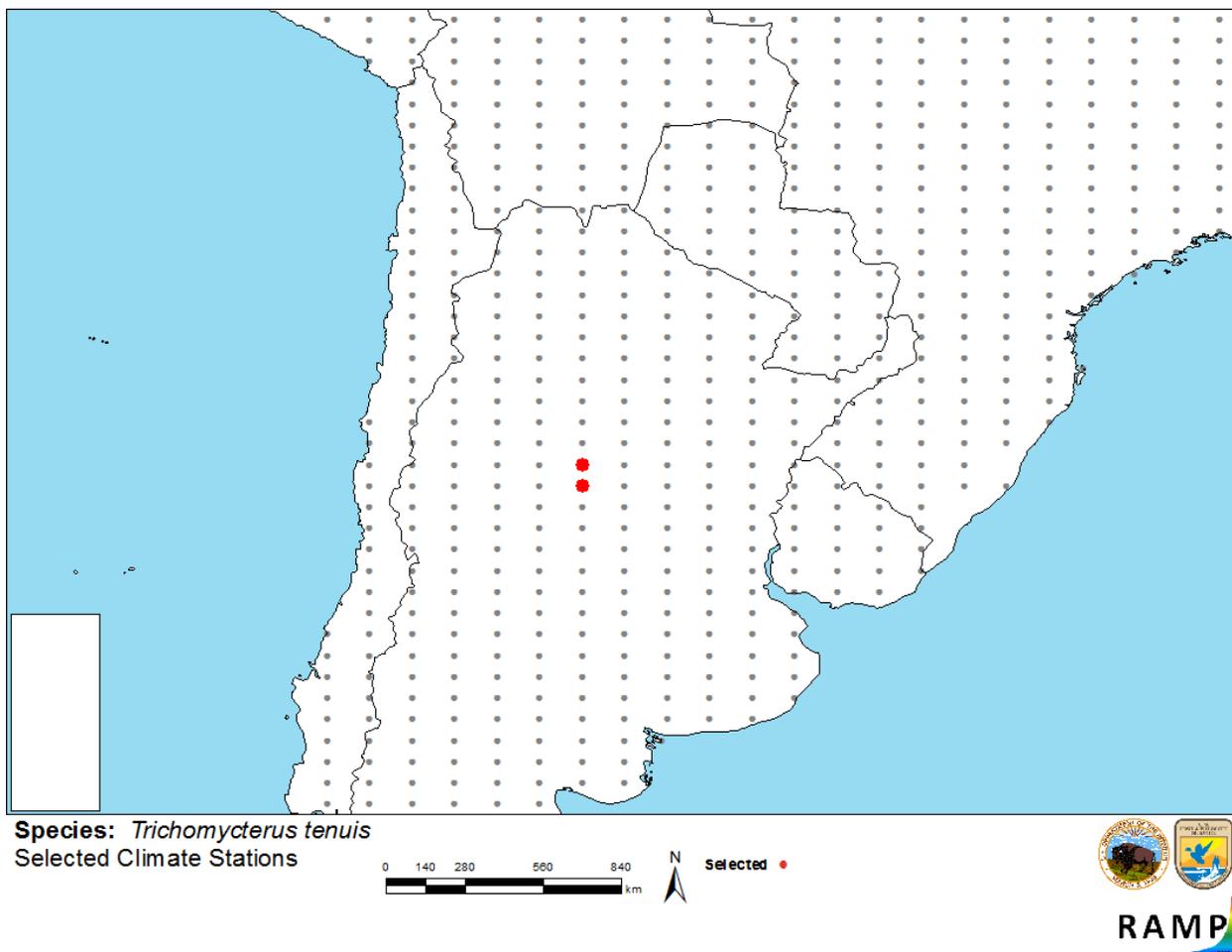


Figure 2. RAMP (Sanders et al. 2014) source map showing weather stations selected as source locations (red; north-central Argentina) and non-source locations (gray) for *Trichomycterus tenuis* climate matching. Source locations estimated from verbal description in Eschmeyer et al. (2016).

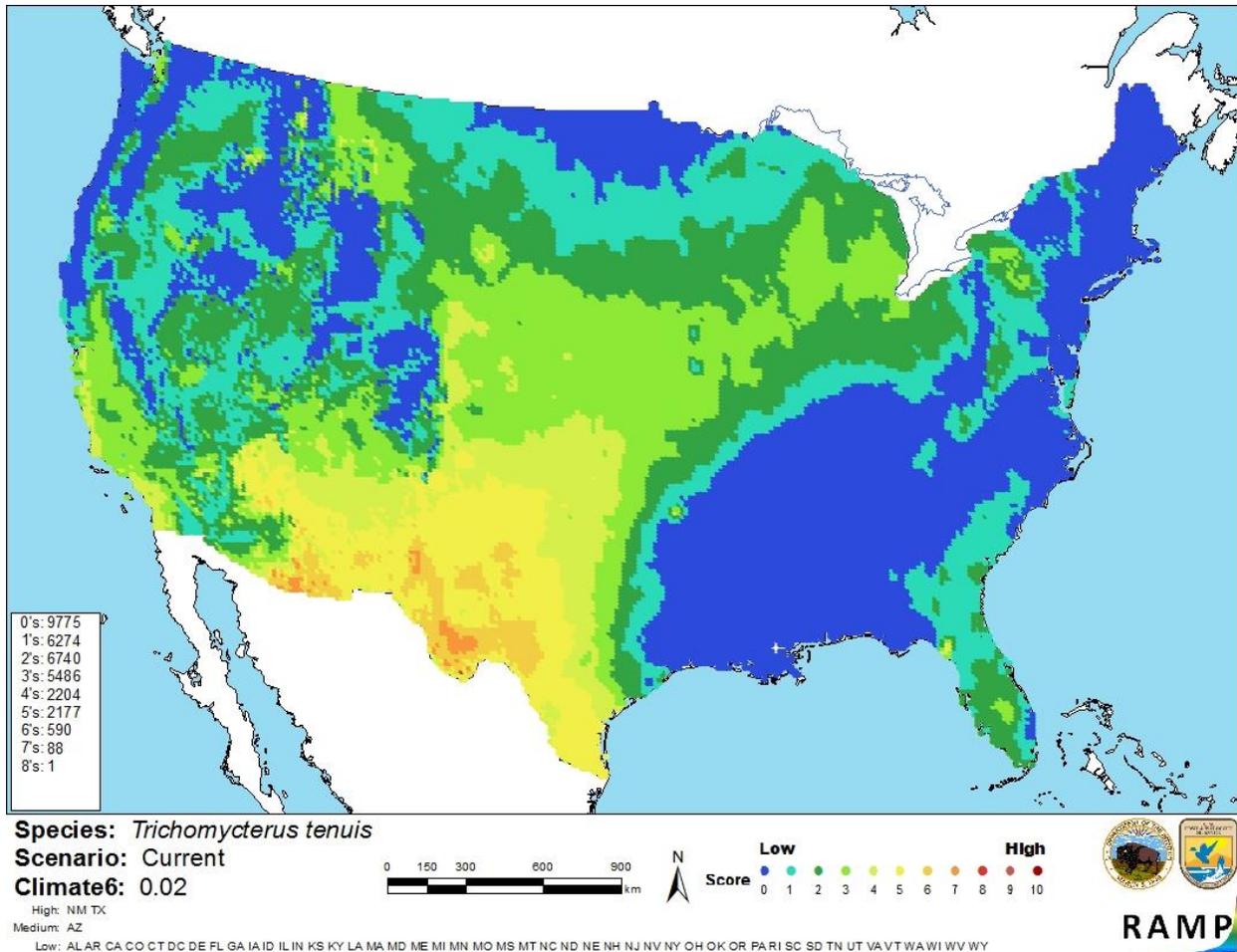


Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *Trichomycterus tenuis* in the contiguous United States based on source locations reported by Eschmeyer et al. (2016). 0= Lowest match, 10= Highest match. Counts of climate match scores are tabulated on the left.

The “High”, “Medium”, and “Low” climate match categories are based on the following table:

Climate 6: Proportion of (Sum of Climate Scores 6-10) / (Sum of total Climate Scores)	Climate Match Category
$0.000 \leq X \leq 0.005$	Low
$0.005 < X < 0.103$	Medium
≥ 0.103	High

7 Certainty of Assessment

Information on the biology and distribution of *T. tenuis* is not widely available. No introductions of this species outside of its native range have been documented. Therefore, data on the impacts of introduction are lacking. Absence of both this information and georeferenced locations makes the certainty of this assessment low.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Trichomycterus tenuis is a small catfish native to the Sierra de Cordoba in north-central Argentina. Little information is available about this species and georeferenced locations were not available for the climate match, so the certainty of this assessment is low. This species has not been documented outside of its native range, so history of invasiveness is uncertain. Several U.S. States prohibit or restrict the possession, transport, or trade of this species along with other members of the family Trichomycteridae. *T. tenuis* has a medium overall climate match with the contiguous United States; much of the United States had a low match, while Texas, New Mexico, and Arizona had a medium to high match. Overall risk posed by this species is uncertain.

Assessment Elements

- **History of Invasiveness (Sec. 3): Uncertain**
- **Climate Match (Sec. 6): Medium**
- **Certainty of Assessment (Sec. 7): Low**
- **Overall Risk Assessment Category: Uncertain**

9 References

Note: The following references were accessed for this ERSS. References cited within quoted text but not accessed are included below in Section 10.

Arizona Secretary of State. 2006. Restricted live wildlife. Arizona Administrative Code, R12-4-406.

Dill, W. A., and A. J. Cordone. 1997. History and status of introduced fishes in California, 1871-1996. California Department of Fish and Game. Fish Bulletin 178.

Eschmeyer, W. N., R. Fricke, and R. van der Laan, editors. 2016. Catalog of fishes: genera, species, references. Available: <http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp>. (December 2016).

Evermann, B. W., and W. C. Kendall. 1906. Notes on a collection of fishes from Argentina, South America, with descriptions of three new species. Proceedings of the United States National Museum 31:67-108.

FFWCC (Florida Fish and Wildlife Conservation Commission). 2019. Florida's nonnative fish and wildlife. Florida Fish and Wildlife Conservation Commission, Tallahassee, Florida. Available: <https://myfwc.com/wildlifehabitats/nonnatives/>. (November 2019).

Froese, R., and D. Pauly, editors. 2016. *Trichomycterus tenuis* (Weyenbergh 1877).

- FishBase. Available: <http://www.fishbase.org/summary/Trichomycterus-tenuis.html>. (December 2016).
- GBIF Secretariat. 2019. GBIF backbone taxonomy: *Trichomycterus tenuis* Weyenbergh, 1877. Global Biodiversity Information Facility, Copenhagen. Available: <https://www.gbif.org/species/2343037>. (February 2020).
- ITIS (Integrated Taxonomic Information System). 2016. *Trichomycterus tenuis* (Weyenbergh 1877). Integrated Taxonomic Information System, Reston, Virginia. Available: https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=682271#null. (December 2016).
- Legislative Council Bureau. 2018. Restrictions on importation, transportation and possession of certain species. Nevada Administrative Code, Section 503.110.
- Louisiana House of Representatives Database. 2010. 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. Regulatory and Enforcement Division, Office of the Mississippi Secretary of State, Jackson, Mississippi.
- OIE (World Organisation for Animal Health). 2020. OIE-listed diseases, infections and infestations in force in 2020. World Organisation for Animal Health, Paris. Available: <http://www.oie.int/animal-health-in-the-world/oie-listed-diseases-2019/>. (February 2020).
- Sanders, S., C. Castiglione, and M. Hoff. 2014. Risk Assessment Mapping Program: RAMP. U.S. Fish and Wildlife Service.
- Utah DNR. 2012. R657-3 – collection, importation, transportation, and possession of animals. Utah Division of Natural Resources, Salt Lake City, Utah. Available: <https://wildlife.utah.gov/hunting-in-utah/guidebooks/46-rules/rules-regulations/940-r657-3--collection-importation-transportation-and-possession-of-animals.html>. (May 2018).

10 References Quoted But Not Accessed

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.

- de Pínna, M. C. C., and W. Wosiacki. 2003. Trichomycteridae (pencil or parasitic catfishes). Pages 270-290 in R. E. Reis, S. O. Kullander and C. J. Ferraris, Jr., editors. Checklist of the freshwater fishes of South and Central America. EDIPUCRS, Porto Alegre, Brazil.