

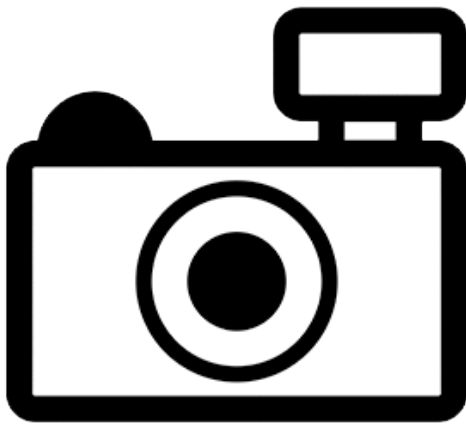
***Trichomycterus vittatus* (a catfish, no common name)**

Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, March 2017

Revised, April 2018

Web Version, 10/29/2019



No Photo Available

1 Native Range and Status in the United States

Native Range

From Eschmeyer et al. (2018):

“Peru, Ecuador and Bolivia.”

Status in the United States

This species has not been reported as introduced in the United States. There is no evidence that this species is in trade in the United States, based on a search of the literature and online aquarium retailers.

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 (2017):

“Prohibited nonnative species 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.

[The list of prohibited nonnative species includes:]

Parasitic catfishes [...]

Trichomycterus vittatus”

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 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 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* Valenciennes, 1832
Species *Trichomycterus vittatus* Regan, 1903”

From Eschmeyer et al. (2017):

“Current status: Valid as *Trichomycterus vittatus* Regan 1903. Trichomycteridae: Trichomycterinae.”

Size, Weight, and Age Range

From Froese and Pauly (2018):

“Max length : 7.8 cm male/unsexed [de Pínna and Wosiacki 2003].”

Environment

From Froese and Pauly (2018):

“Freshwater; benthopelagic.”

Climate/Range

From Froese and Pauly (2018):

“Tropical”

Distribution Outside the United States

Native

From Eschmeyer et al. (2018):

“Peru, Ecuador and Bolivia.”

Introduced

This species has not been reported outside of its native range.

Means of Introduction Outside the United States

This species has not been reported outside of its native range.

Short Description

From Regan (1903):

“Length of head $6 \frac{1}{4}$ times in the total length. Head as broad as long. Diameter of eye $2 \frac{1}{3}$ times in the interocular width, which is $3 \frac{1}{2}$ times in the length of head. Snout slightly shorter than the postorbital part of head. Barbels equal to $\frac{4}{5}$ the length of head. Dorsal with 6 branched rays, originating in advance of the anal opening, the distance from its point of origin to the caudal $1 \frac{1}{2}$ times in the distance from the former to the tip of snout. Anal with 4 branched rays, originating slightly behind the vertical from the last dorsal ray, the distance from the base of its last ray to the caudal $4 \frac{1}{2}$ times in the total length. Longest branched ray of pectoral $\frac{3}{4}$ the length of the simple outer ray, which is as long as the head. Ventrals extending $\frac{3}{5}$ of the distance from their base to the origin of anal. Caudal truncate. Head and body with dark spots; a dark longitudinal stripe along the middle of the side. Total length 78 mm.”

Biology

No information available.

Human Uses

No information available.

Diseases

No information available. No OIE-reportable diseases (OIE 2019) have been documented for this species.

Threat to Humans

From Froese and Pauly (2018):

“Harmless”

3 Impacts of Introductions

This species has not been reported outside of its native range, so no information is available on impacts of introductions.

The importation, possession, or trade of the parasitic catfish *T. vittatus* is prohibited or restricted in the following states: Arizona (Arizona Secretary of State 2006), California (Dill and Cordone 1997), Florida (FFWCC 2016), 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



Figure 1. Known global distribution of *Trichomycterus vittatus*, reported from Peru and Bolivia. Map from GBIF Secretariat (2018). No georeferenced occurrences were available for the species range in Ecuador.

5 Distribution Within the United States

This species has not been reported in the United States.

6 Climate Matching

Summary of Climate Matching Analysis

The climate match (Sanders et al. 2014; 16 climate variables; Euclidean Distance) was low throughout most of the contiguous United States, with patches of medium match in southern Texas, southwestern Arizona and southwest California. The Climate 6 score indicated that the

contiguous United States has a low climate match. The climate score of *Trichomycterus vittatus* is 0.0. (Scores between 0.000 and 0.005, inclusive, are classified as low.) All states had individually low climate scores.

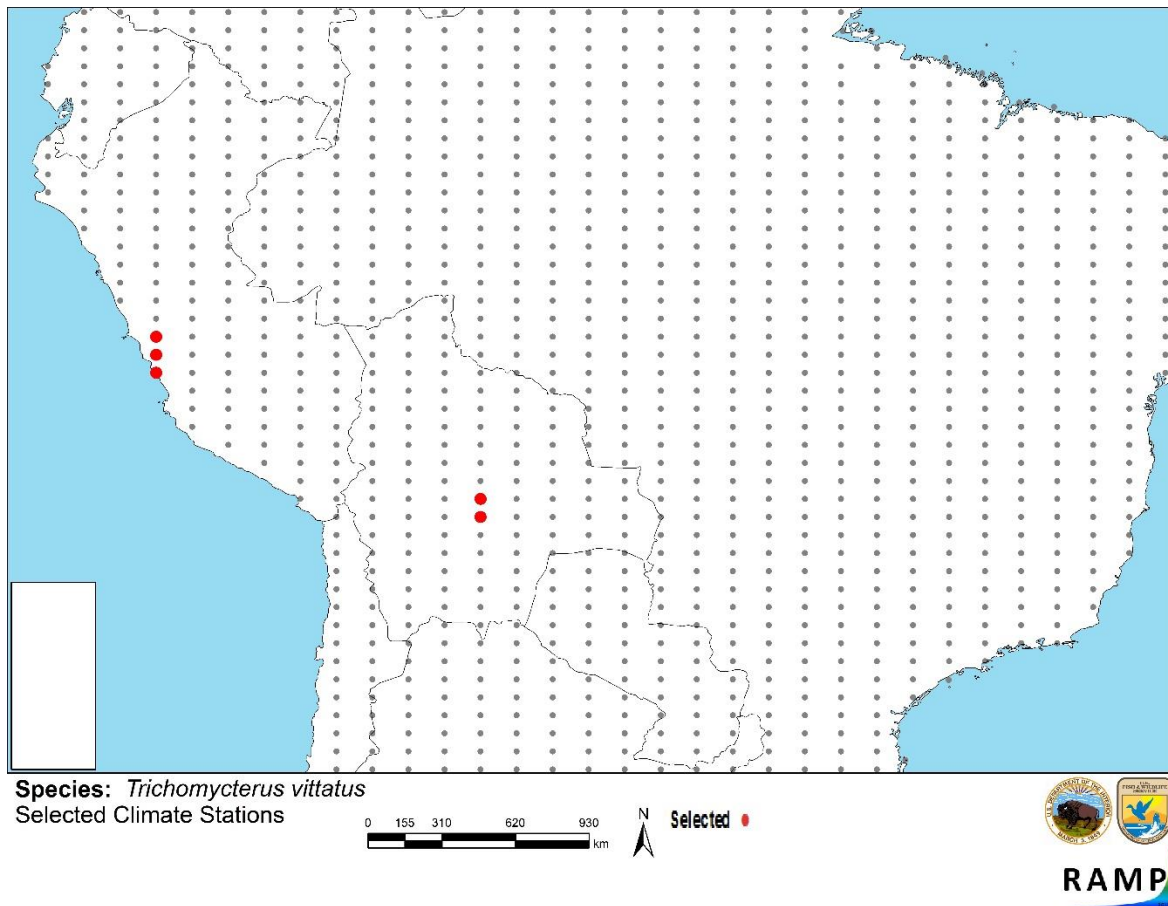


Figure 2. RAMP (Sanders et al. 2014) source map showing weather stations selected as source locations (red; Peru, Bolivia) and non-source locations (gray) for *Trichomycterus vittatus* climate matching. Source locations from GBIF Secretariat (2018).

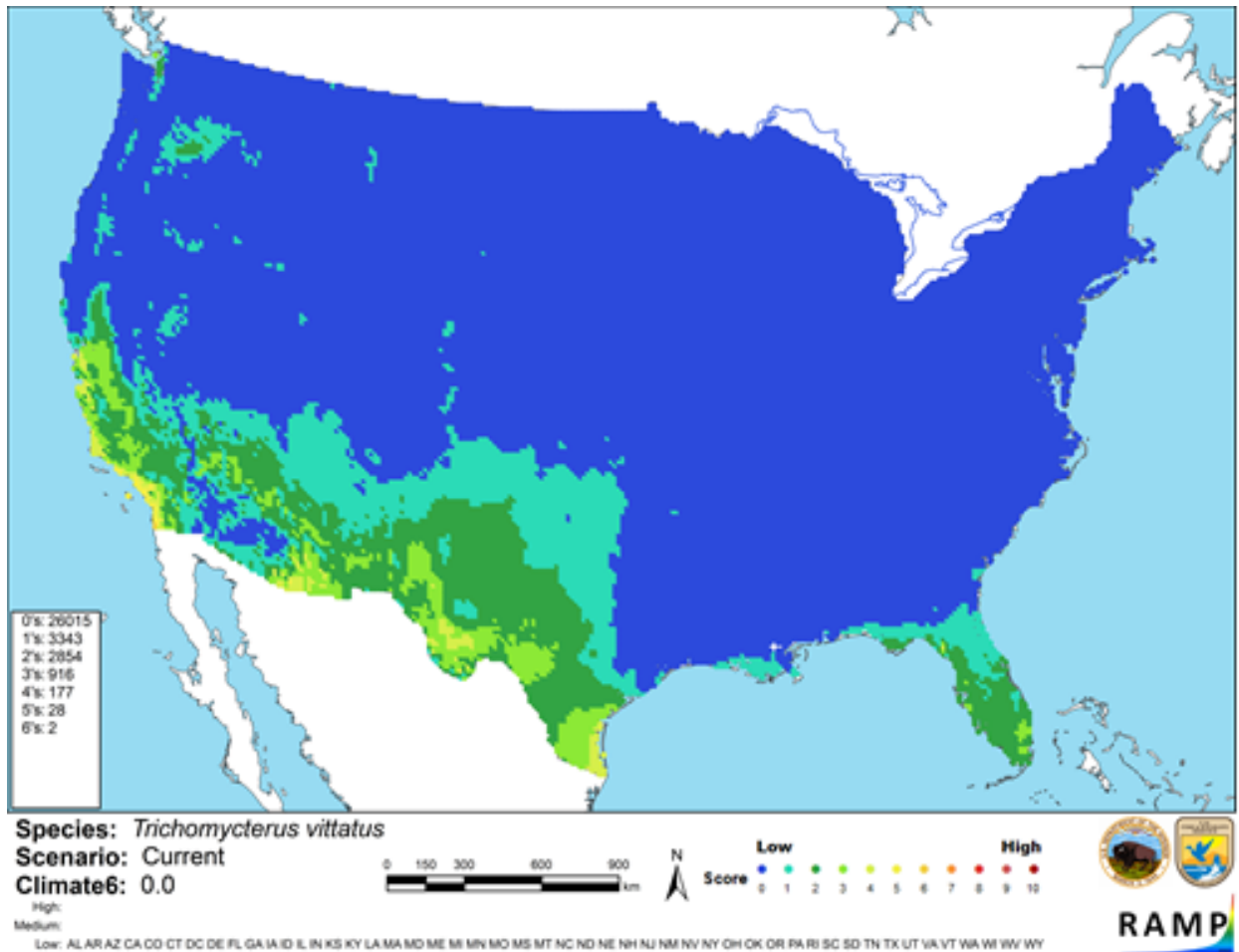


Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *Trichomycterus vittatus* in the contiguous United States based on source locations reported by GBIF Secretariat (2018). 0=Lowest match, 10=Highest match.

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

There is little information available on *Trichomycterus vittatus*. There is no available information on the biology of this species. No introductions of this species outside of its native range have been documented. Certainty of this assessment is low due to a lack of information.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Trichomycterus vittatus is a small catfish native to Peru, Ecuador and Bolivia. Little scientific information about this species is currently available. More research on the biology, ecology, and distribution of *T. vittatus* is needed to better understand the species and inform potential impacts. This species has not been introduced outside its native range, so history of invasiveness is uncertain. *T. vittatus* has a low climate match within the contiguous United States. Certainty of assessment is low because more information is needed to adequately assess the risk this species poses. Overall risk of *Trichomycterus vittatus* is uncertain.

Assessment Elements

- **History of Invasiveness (Sec. 3): Uncertain**
- **Climate Match (Sec. 6): Low**
- **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. 2018. Catalog of fishes: genera, species, references. Available: <http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp>. (April 2018).

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

Froese, R., and D. Pauly, editors. 2018. *Trichomycterus vittatus* (Regan, 1903). Fishbase. Available: <http://www.fishbase.org/summary/Trichomycterus-vittatus.html>. (April 2018).

ITIS (Integrated Taxonomic Information System). 2016. *Trichomycterus vittatus* (Regan, 1903). Integrated Taxonomic Information System, Reston, Virginia. Available: https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=682280#null. (March 2017).

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). 2019. OIE listed diseases, infections and infestations in force in 2019. Available: <http://www.oie.int/animal-health-in-the-world/oie-listed-diseases-2019/>. (August 2019).

Regan, C. T. 1903. Descriptions of new South-American fishes in the collection of the British Museum. *Annals and Magazine of Natural History* 7(12):621-630.

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, Brasil.