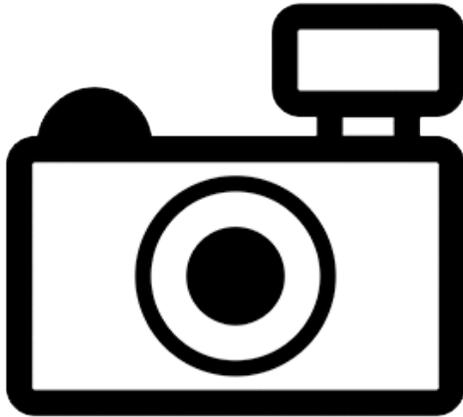


***Trichomycterus stellatus* (a catfish, no common name)**

Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, March 2017
Revised, February 2018
Web Version, 2/27/2020



No Photo Available

1 Native Range and Status in the United States

Native Range

From Villa-Navarro (2016):

“This species is endemic to the Magdalena-Cauca River basin in Colombia, where it is known from the Guamal, Guadual and Cristalina Creeks in the Cordillera Oriental (Maldonado-Ocampo et al. 2005, 2008). Its type locality is Quebrada Sarjento, Santander Department (Eigenmann 1918).”

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 stellatus 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 stellatus*

From Eschmeyer et al. (2016):

“Current status: Valid as *Trichomycterus stellatus* (Eigenmann 1918). Trichomycteridae: Trichomycterinae.”

Size, Weight, and Age Range

From Froese and Pauly (2017):

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

Environment

From Froese and Pauly (2017):

“Freshwater; benthopelagic; pH range: 6.0 - 7.5; dH range: ? - 20.”

From Villa-Navarro (2016):

“It has been found in permanent rivers and creeks, with rocky and sandy bottom.”

Climate/Range

From Froese and Pauly (2017):

“Tropical; 22°C - 24°C [Baensch and Riehl 1991; assumed to represent recommended aquarium water temperatures]”

Distribution Outside the United States

Native

From Villa-Navarro (2016):

“This species is endemic to the Magdalena-Cauca River basin in Colombia, where it is known from the Guamal, Guadual and Cristalina Creeks in the Cordillera Oriental (Maldonado-Ocampo et al. 2005, 2008). Its type locality is Quebrada Sarjento, Santander Department (Eigenmann 1918).”

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 Eigenmann (1918):

“Head 5.5-6; D. 10.5; A. 7.5; P. 7; eye in middle of the head, or very slightly in front of the middle; interocular three times in the head; teeth broad incisors, in two series.”

“Nasal barbels extending to the tip of the opercular spines or a little further, maxillary barbels usually beyond base of last pectoral rays; pectoral narrow, the filament longer than the head; origin of ventrals equidistant from base of middle caudal rays and some part of the opercular spines, the tips of the ventrals reaching vent; origin of anal under anterior half of dorsal, the distance between the base of the last anal ray and the base of the middle caudal rays 4.5-5 in the length; caudal rounded, 5 to 6.5 in the length; origin of dorsal about equidistant from tip of caudal and opercle, its distance from the base of the middle caudal rays about two times in its distance from the snout.”

“A narrow, dark lateral stripe, a variable number of dark spots, smaller than the eye, above the band and below it on the tail.”

“The specimens from Cristalina have the lateral band very broad, the maxillary barbels reaching to the middle of the pectoral.”

Biology

No information reported for this species.

Human Uses

From Villa-Navarro (2016):

“The species is not utilized.”

Diseases

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

Threat to Humans

From Froese and Pauly (2017):

“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. stellatus* 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



Figure 1. Known global distribution of *Trichomycterus stellatus*, reported from Colombia. Map from GBIF Secretariat (2017).

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

The climate match (Sanders et al. 2014; 16 climate variables; Euclidean distance) was medium in northwestern Washington, to the east of Puget Sound. The rest of the contiguous United States had a low climate match. The Climate 6 score indicated an overall low climate match for the contiguous United States. (Scores between 0.000 and 0.005, inclusive, are classified as low.) The Climate 6 score for *T. stellatus* was 0.00. All States had low individual Climate 6 scores.

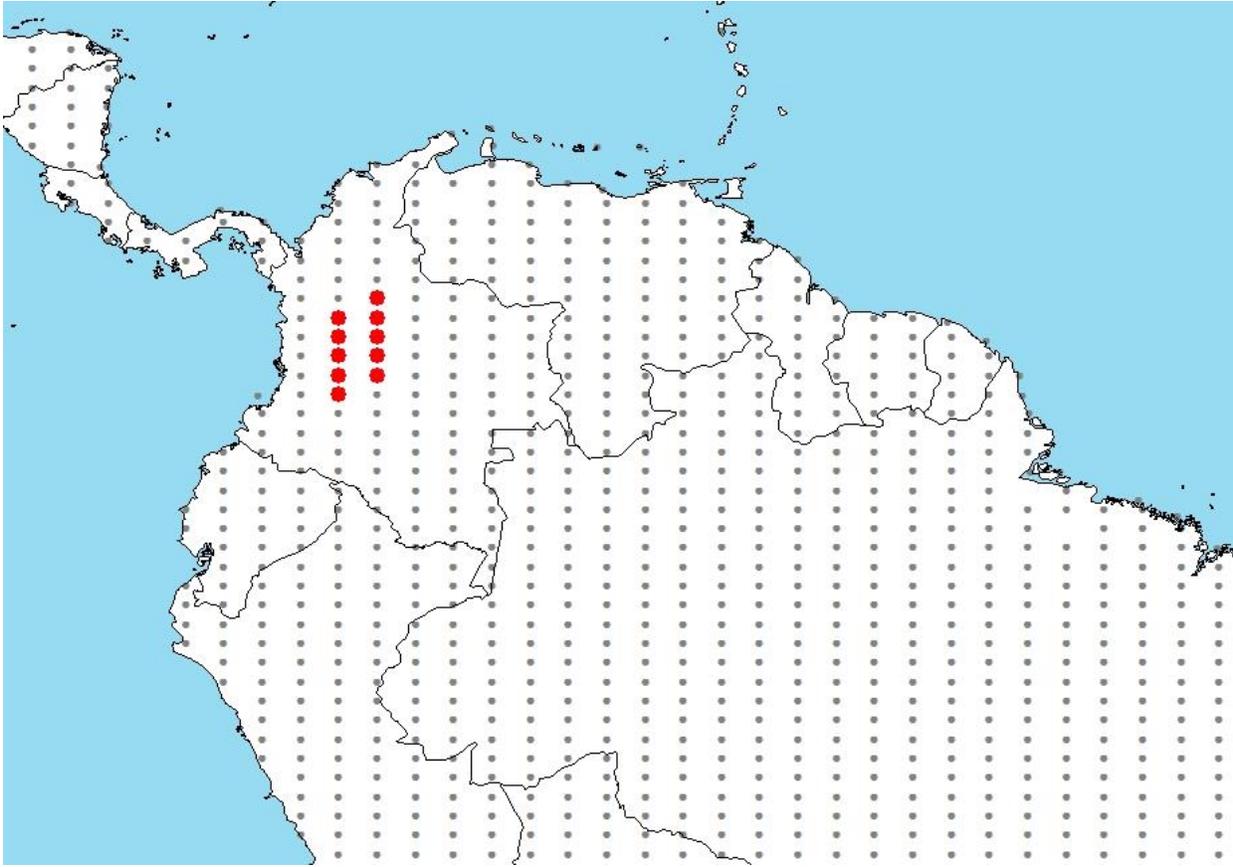


Figure 2. RAMP (Sanders et al. 2014) source map showing weather stations in northern South America selected as source locations (red; Colombia) and non-source locations (gray) for *Trichomycterus stellatus* climate matching. Source locations from GBIF Secretariat (2017).

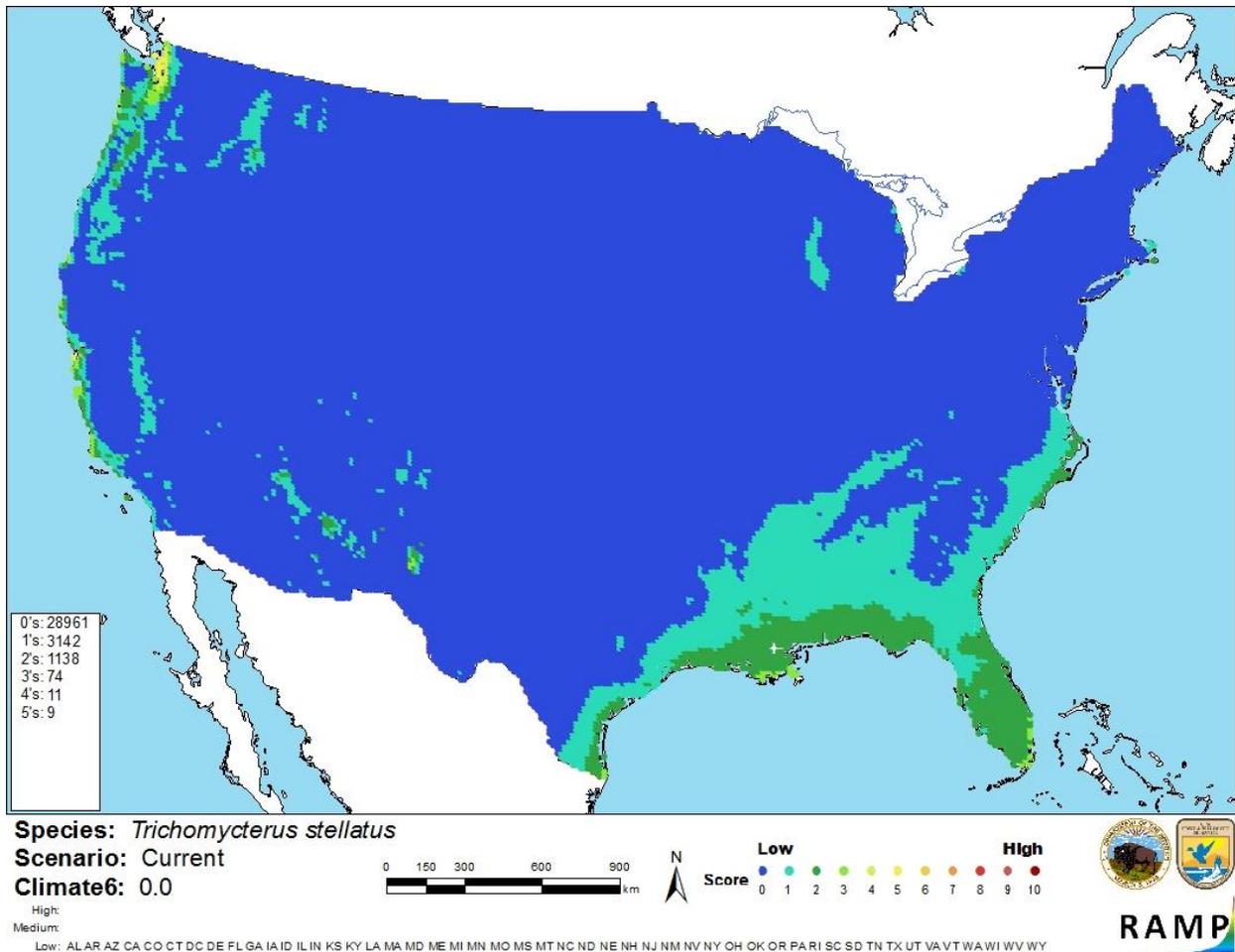


Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *Trichomycterus stellatus* in the contiguous United States based on source locations reported by GBIF Secretariat (2017). 0=Lowest match, 10=Highest match. Counts of climate match scores are tabulated on the left.

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 of *Trichomycterus stellatus* is not widely available. This species has not been documented outside of its native range. Therefore, data on the impacts of introductions are lacking; absence of this data makes the certainty of this assessment low.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Trichomycterus stellatus is a small catfish endemic to streams in the Magdalena-Cauca River basin in Colombia. Information on the biology of *Trichomycterus stellatus* is not widely available. Several U.S. States prohibit or restrict the possession, transport, or trade of this species along with other members of the family Trichomycteridae. This species has not been reported as introduced outside of its native range, so history of invasiveness is uncertain. Certainty of this assessment is low due to lack of information on impacts of introduction. The climate match for *T. stellatus* is low overall for the contiguous United States, with only a small area of medium match in northwestern Washington. The overall risk posed by this species 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.

Eigenmann, C. H. 1918. The Pygidiidae, a family of South American catfishes. *Memoirs of the Carnegie Museum* 7(5):259-398.

Eschmeyer, W. N., R. Fricke, and R. van der Laan, editors. 2017. *Catalog of fishes: genera, species, references*. Available: <http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp>. (March 2017).

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. 2017. *Trichomycterus stellatus* (Eigenmann 1918). FishBase. Available: <http://www.fishbase.org/summary/Trichomycterus-stellatus.html>. (March 2017).

- ITIS (Integrated Taxonomic Information System). 2017. *Trichomycterus stellatus* (Eigenmann 1918). Available: https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=682264#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). 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).
- Villa-Navarro, F. 2016. *Trichomycterus stellatus*. The IUCN Red List of Threatened Species 2016. Available: <http://www.iucnredlist.org/details/49830572/0>. (March 2017).

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.

- Baensch, H. A., and R. Riehl. 1991. Aquarien Atlas, volume 3. Mergus, Verlag für Natur-und Heimtierkunde, Melle, Germany.
- Maldonado-Ocampo, J. A., A. Ortega-Lara, J. S. U. Oviedo, G. G. Vergara, F.A. Volla-Navarro, L. V. Gamboa, S. Prada-Pedreras, and C. A. Rodriguez. 2005. Peces de los Andes de Colombia. Guía de campo. Instituto de Investigacion de Recursos Biologicos Alexander von Humboldt, Bogota, Colombia.

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.

Villa-Navarro et al. 2005 [Source material did not give full citation for this reference.]