

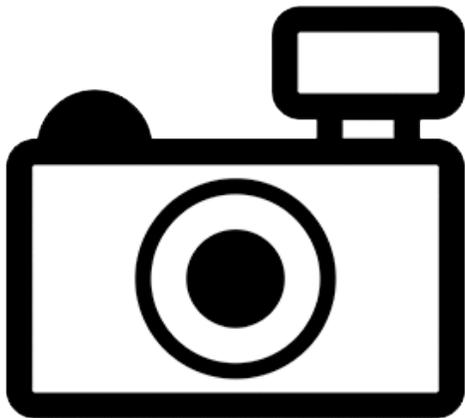
***Trichomycterus transandianus* (a catfish, no common name)**

Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, January 2017

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: Rio Combeima, central Colombia.”

From Villa-Navarro (2016):

“This species is endemic to Colombia, where is known from the Magdalena River system (Castellanos-Morales and Galvis 2012). Its type locality is the Combeima River in Cañón del Gallo, in the mountains of central Colombia, at an elevation of 1,800 m (Steindachner 1915).”

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 transandianus 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.

Remarks

From Villa-Navarro (2016):

“*Trichomycterus transandianus* is listed as Vulnerable because it has a restricted range (extent of occurrence (EOO) = 9,950 km²) and it only occurs in a few creeks (three to six locations) in an area that is affected by a continuing decline in habitat quality due to the pollution from agrochemicals used in coffee plantations.”

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

From GBIF Secretariat (2016):

“KINGDOM Animalia

PHYLUM Chordata

CLASS Actinopterygii

ORDER Siluriformes

FAMILY Trichomycteridae

GENUS *Trichomycterus*

SPECIES *Trichomycterus transandianus*”

From Eschmeyer et al. (2017):

“**Current status:** Valid as *Trichomycterus transandianus* (Steindachner 1915).

Trichomycteridae: Trichomycterinae.”

Size, Weight, and Age Range

From Froese and Pauly (2016):

“Max length: 6.1 cm male/unsexed [de Pínna and Wosiacki 2003]”

From Villa-Navarro (2016):

“Its maximum length is 22.7 mm and maximum weight 9.2 grams.”

Environment

From Froese and Pauly (2016):

“Freshwater; benthopelagic.”

From Villa-Navarro (2016):

“It occurs at altitudes between 470 and 1,800 m asl.”

“It has been reported from creeks with sandy and rocky bottoms, with riparian vegetation, abrupt borders, and with moderate flow.”

Climate/Range

From Froese and Pauly (2016):

“Tropical [...]”

Distribution Outside the United States

Native

From Froese and Pauly (2016):

“South America: Rio Combeima, central Colombia.”

From Villa-Navarro (2016):

“This species is endemic to Colombia, where is known from the Magdalena River system (Castellanos-Morales and Galvis 2012). Its type locality is the Combeima River in Cañón del Gallo, in the mountains of central Colombia, at an elevation of 1,800 m (Steindachner 1915). It occurs at altitudes between 470 and 1,800 m asl.”

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

No information available.

Biology

No information available.

Human Uses

From Villa-Navarro (2016):

“Use and Trade: The species is not utilized.”

Diseases

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

Threat to Humans

Froese and Pauly (2016):

“Harmless.”

3 Impacts of Introductions

No introductions of this species have been reported.

The importation, possession, or trade of the catfish *T. transandianus* 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 transandianus*, reported from Colombia. Map from GBIF Secretariat (2019). This map shows a greater extent of occurrence than that suggested by Villa-Navarro (2016; see Remarks), but there is no indication that the occurrences reported by GBIF Secretariat (2019) are errors.

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. 2018; 16 climate variables; Euclidean Distance) was low throughout the contiguous United States with the highest (yet still low) matches in the Southeast and Pacific Northwest. The Climate 6 score indicated that the contiguous United States has a low overall climate match. (Scores between 0.000 and 0.005, inclusive, are classified as low.) The Climate 6 score for *Trichomycterus transandianus* was 0.000. All States had individually low climate scores.

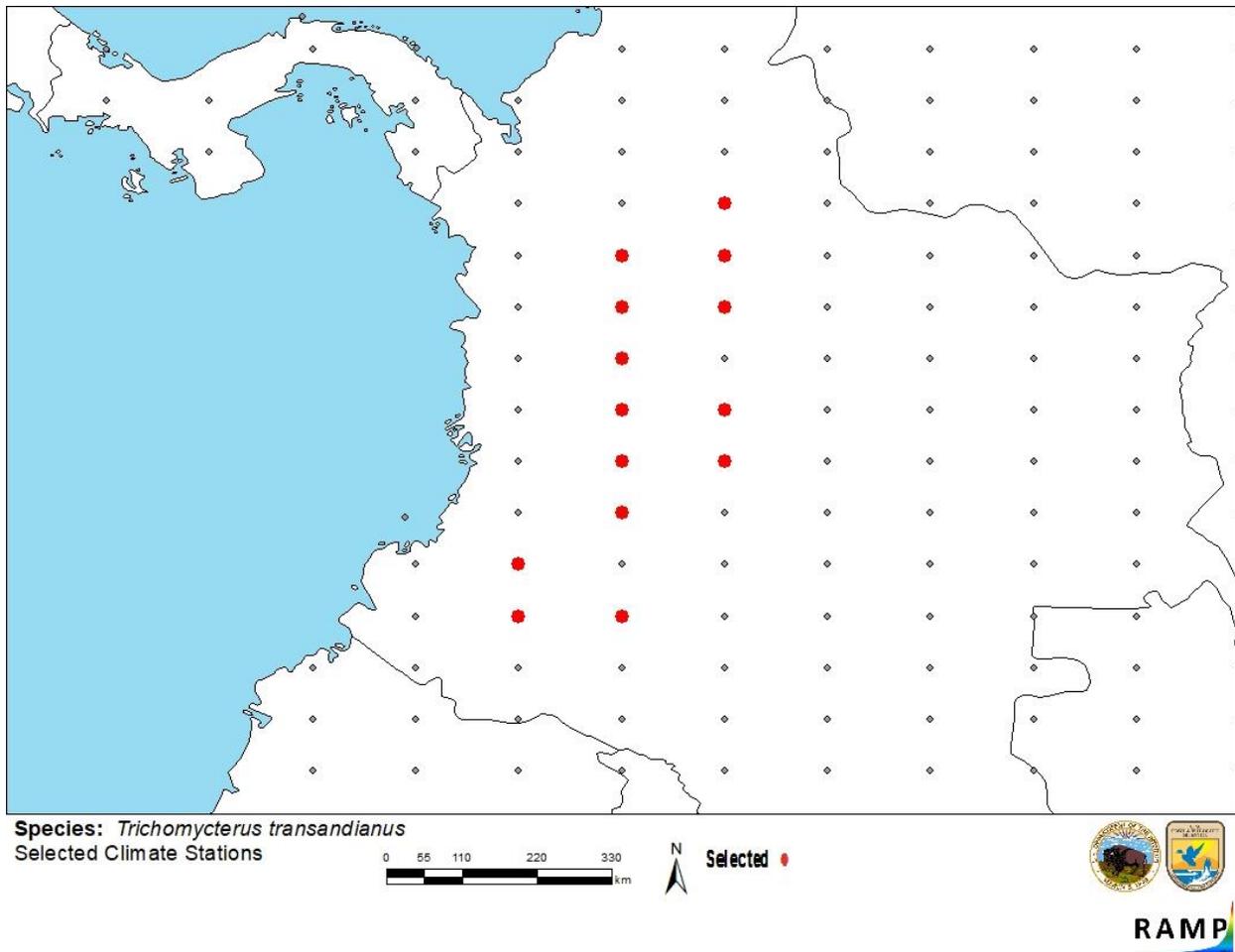


Figure 2. RAMP (Sanders et al. 2018) source map showing weather stations selected as source locations (red; Colombia) and non-source locations (gray) for *Trichomycterus transandianus* climate matching. Source locations from GBIF Secretariat (2019).

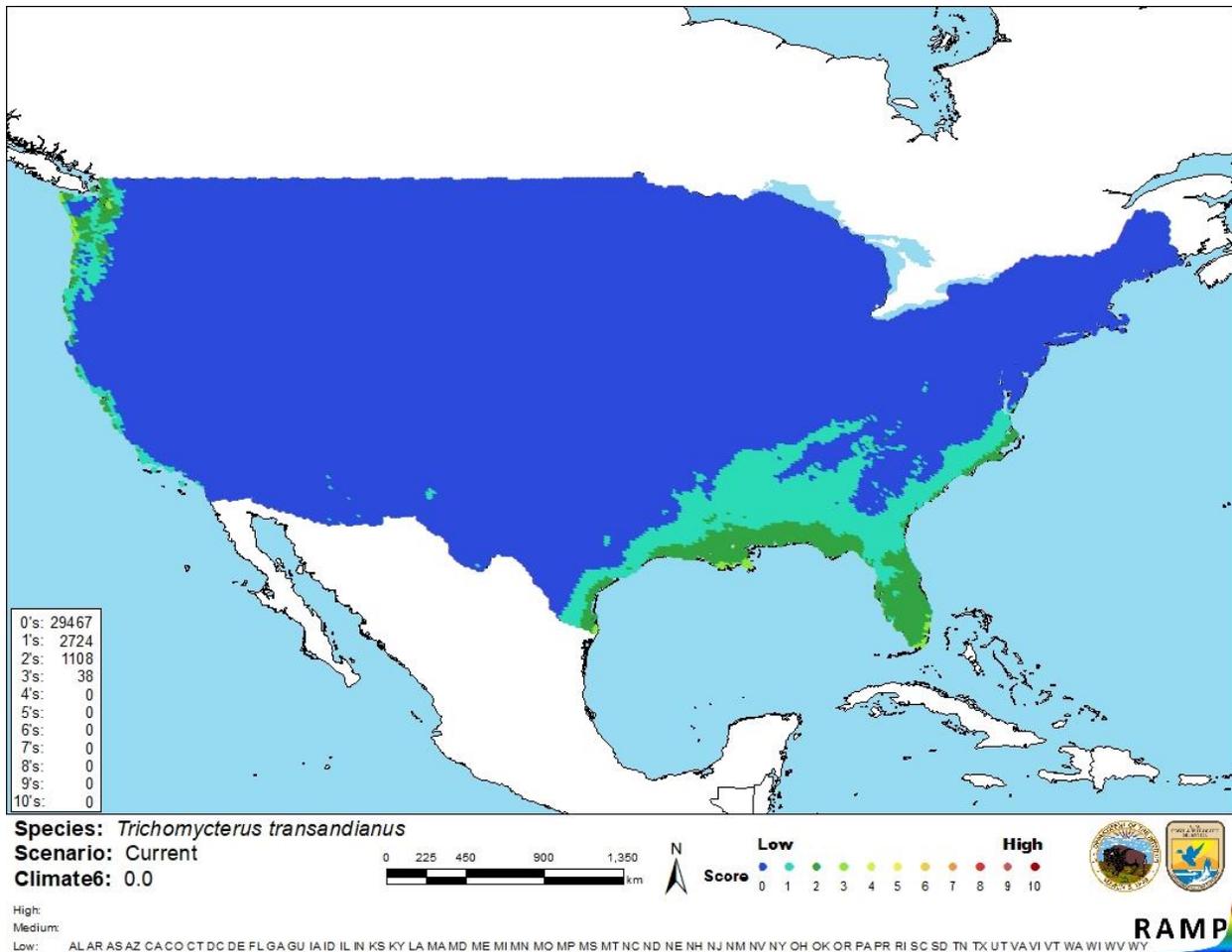


Figure 3. Map of RAMP (Sanders et al. 2018) climate matches for *Trichomycterus transandianus* in the contiguous United States based on source locations reported by GBIF Secretariat (2019). 0= Lowest match, 10= Highest match. Counts of climate match scores are tabulated on the left.

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 transandianus* is not widely available. No introductions of this species have been reported. Therefore, data on the impacts of introductions are lacking. Further information is needed to fully understand the risk and potential negative impacts of this species outside of its native range. Absence of this information makes the certainty of this assessment low.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Trichomycterus transandianus is a catfish endemic to the Magdalena River basin in Colombia. It is listed as “Vulnerable” on the IUCN Red List. Several U.S. States prohibit or restrict the possession, transport, or trade of this species along with other members of the family Trichomycteridae. There has been no documentation of introductions outside of its native range. History of invasiveness is uncertain. *T. transandianus* has a low climate match throughout the contiguous United States. Certainty of this assessment low due to lack of information. 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.

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> (January 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. 2016. *Trichomycterus transandianus* (Steindachner 1915). FishBase. Available: <http://www.fishbase.org/summary/Trichomycterus-transandianus.html>. (January 2017).

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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).

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Villa-Navarro, F. 2016. *Trichomycterus transandianus*. The IUCN Red List of Threatened Species 2016: e. T64792700A64890655. Available: <http://www.iucnredlist.org/details/64792700/0>. (January 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.

Castellanos-Morales, C. A., and F. Galvis. 2012. Species from the *Trichomycterus* (Siluriformes: Trichomycteridae) genus in Colombia. Scientific Bulletin. Museum Center. Museum of Natural History 16(1):194-206.

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.

Steindachner, F. 1915. Beiträge zur Kenntniss der Flußfische Südamerikas. Denkschriften der Kaiserlichen Akademie der Wissenschaften in Wien, Mathematisch-Naturwissenschaftliche Klasse 93:15-106.