Trichomycterus ramosus (a catfish, no common name)
Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, December 2016
Revised, February 2018
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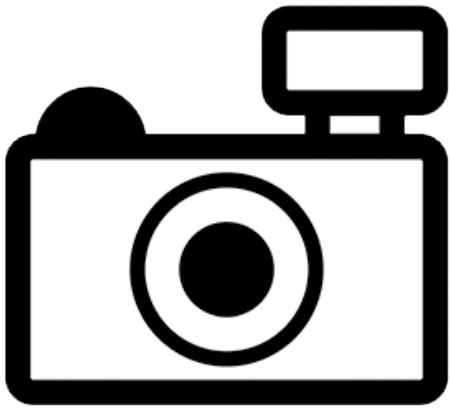

1 Native Range and Status in the United States

Native Range

From Fernández (2000):

"Trichomycterus ramosus […] inhabits a preandean stream at Laguna Blanca, Departmento Belén, Province of Catamarca, 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 ramosus 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 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 ramosus*

From Eschmeyer et al. (2016):

"**Current status:** Valid as *Trichomycterus ramosus* Fernández 2000. Trichomycteridae: Trichomycterinae."

Size, Weight, and Age Range

From Froese and Pauly (2016):

"Max length : 6.7 cm SL male/unsexed; [Fernández 2000]"

Environment

From Froese and Pauly (2016):

"Freshwater; benthopelagic."

From Fernandez (2000):

"*Trichomycterus ramosus* was collected in a preandean stream of clear water, with shallow, sandy bottom, and with vegetation along margins […]"

Climate/Range
From Froese and Pauly (2016):

"Tropical, preferred ?"

From Fernandez (2000):

"*Trichomycterus ramosus* was collected […] at an elevation of approximately 3680 m asl [above sea level]."

Distribution Outside the United States
Native
From Fernández (2000):

"Trichomycterus ramosus […] inhabits a preandean stream at Laguna Blanca, Departmento Belén, Province of Catamarca, Argentina."

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
According to Froese and Pauly (2016), the body shape of *T. ramosus* is elongated, the cross section is circular, its dorsal head profile is clearly convex, and its eyes are more or less normal.

From Froese and Pauly (2016):

"Vertebrae: 38 - 39. Body dark brown, covered with minute papillae. Some or all barbels distally branched one or more times, retaining a constant width along its length. Oval premaxilla shorter than maxilla. Teeth arranged in 2 rows. Pectoral fin rounded. Dorsal fin with 3-4 procurrent and 6-7 principal rays. Anal fin with 3 procurrent and 8-9 principal rays. Caudal fin truncate with 9-12 dorsal procurrent, 13 principal and 10-11 ventral procurrent rays [Fernández 2000]."

Biology
From Froese and Pauly (2016):

"Specimens [of *T. ramosus*] were hiding in the sand. Stomach contents include mainly chironomid larvae (Diptera) and amphipod remains and sand [Fernández 2000]."

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
There are no reported introductions of this species.

The importation, possession, or trade of the catfish *T. ramosus* 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. Known global distribution of *Trichomycterus ramosus* as described by Fernández (2000). Map from Google Earth.

5 Distribution Within the United States

Trichomycterus ramosus has not been reported from the United States.

6 Climate Matching

Summary of Climate Matching Analysis

The climate match (Sanders et al. 2018; 16 climate variables; Euclidean Distance) was very low across much of the contiguous United States. Higher, but still low, matches occurred in scattered

locations in the Interior West and along the California coast from approximately San Francisco to Los Angeles. The Climate 6 score for *T. ramosus* was 0.000, indicating a low overall climate match overall. (Scores of 0.005 and below are classified as low.)

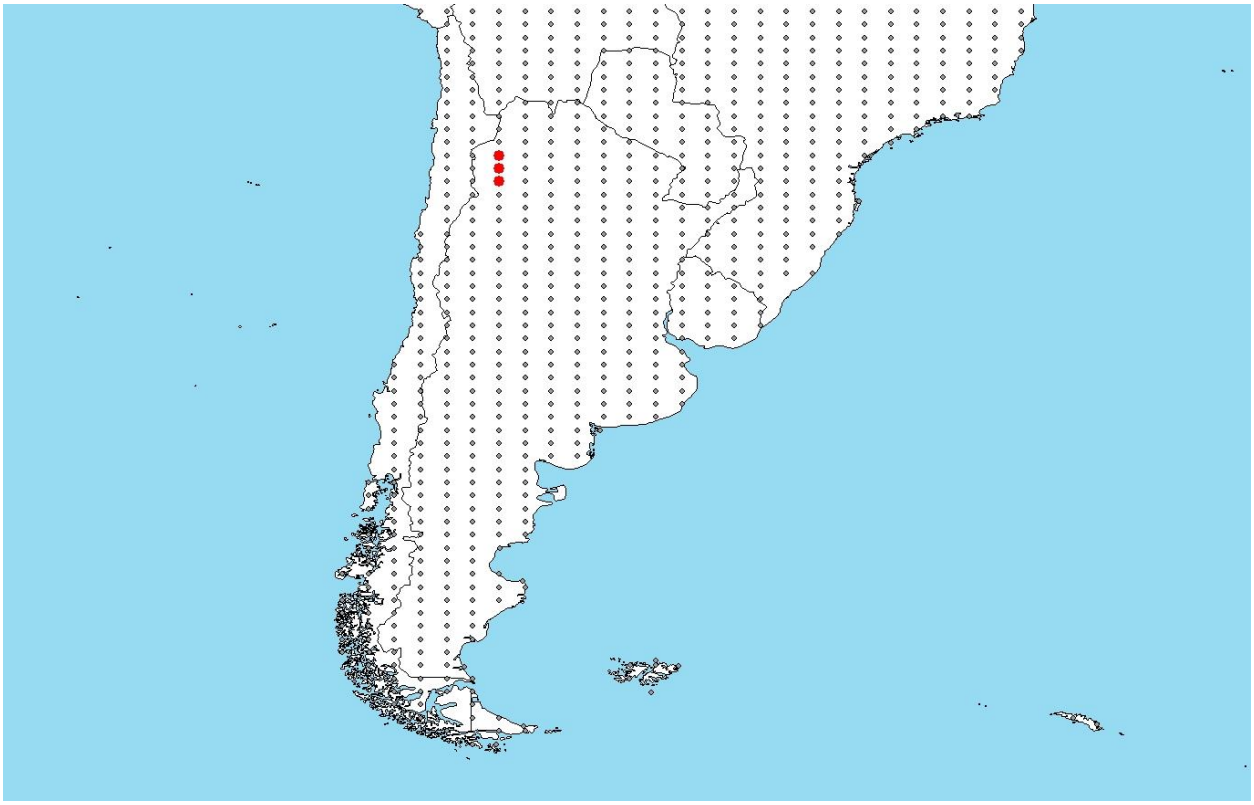

Figure 2. RAMP (Sanders et al. 2018) source maps showing weather stations selected as source locations (red; Argentina) and non-source locations (gray) for *Trichomycterus ramosus* climate matching. Selected source locations were estimated based on the verbal description of the range provided by Fernández (2000).

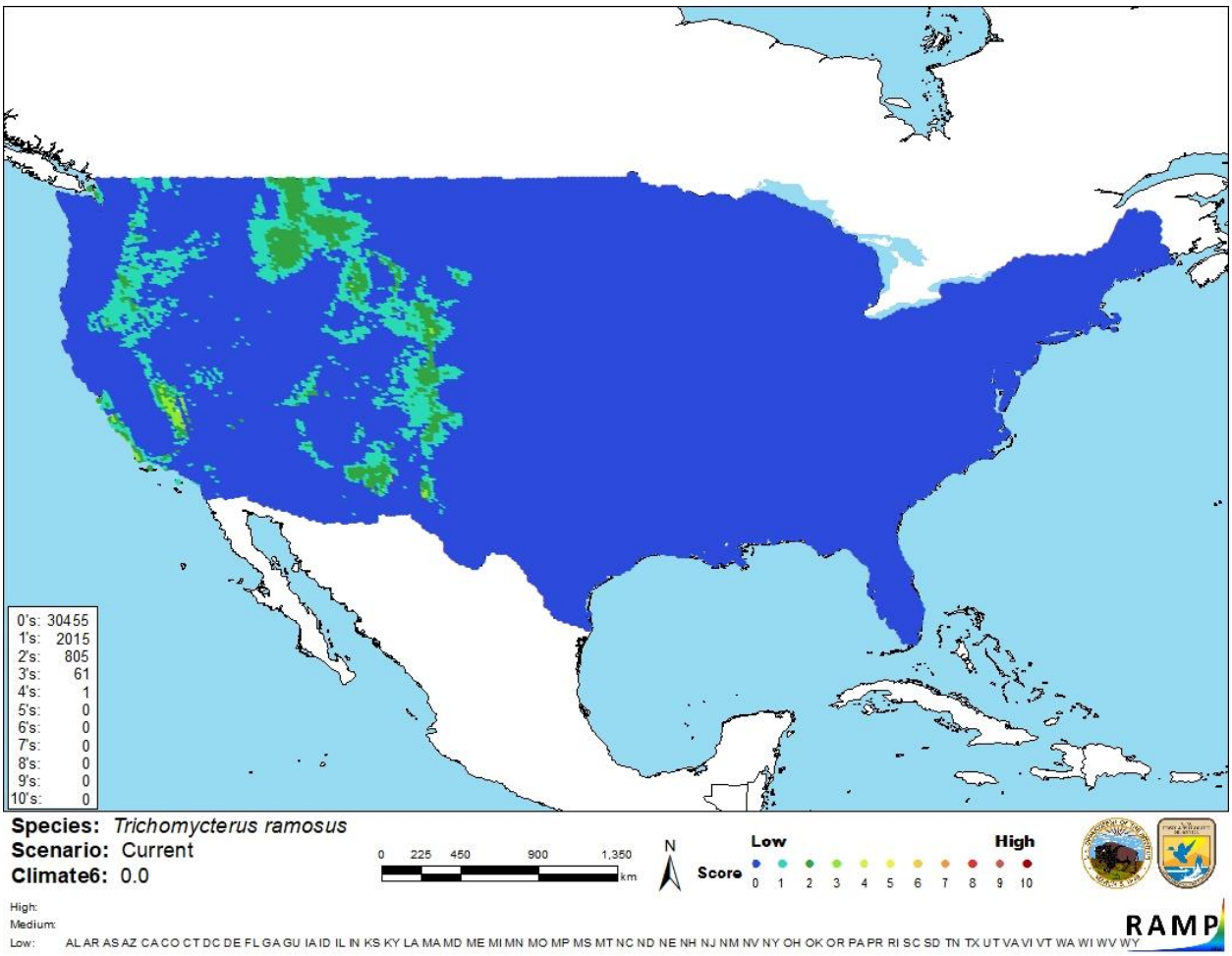

Figure 3. Map of RAMP (Sanders et al. 2018) climate matches for *Trichomycterus ramosus* in the contiguous United States based on source locations estimated based on the verbal description of the range provided by Fernández (2000). 0=Lowest match, 10=Highest match. Counts of climate match scores are 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≤X≤0.005	Low
0.005<X<0.103	Medium
≥0.103	High

7 Certainty of Assessment

Information on the biology of this species is limited. Other than preserved specimens maintained at a variety of scientific and educational institutions, there is no evidence that this species was ever transported beyond its native range. Data on the impacts of introductions are lacking; absence of this research makes the certainty of this assessment low.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Trichomycterus ramosus is a species of freshwater parasitic catfish native to a high-elevation watershed in Catamarca Province, northwestern Argentina. Several U.S. States prohibit or restrict the possession, transport, or trade of this species along with other members of the family Trichomycteridae. There are no documented introductions of *T. ramosus* outside of its native range. History of invasiveness is uncertain and certainty of this assessment is low. Overall climate match with the contiguous United States is low, without any localized areas of medium or high match. 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

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