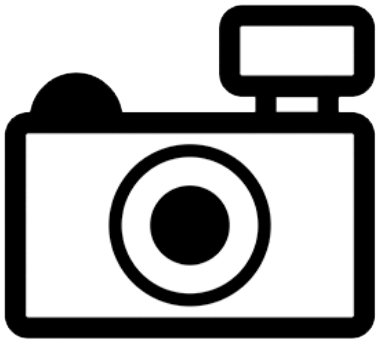
Trichomycterus roigi (a catfish, no common name)

Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, December 2016
Revised, April 2017
Web Version, 5/4/2018



No Photo Available

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2016):

"South America: Pastos Chicos River basin in Argentina."

Status in the United States

This species has not been reported as introduced or established in the U.S.

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. Very limited exceptions may be made by permit from the Executive Director […] [The list of prohibited nonnative species includes] *Trichomycterus roigi*"

Means of Introductions in the United States

This species has not been reported as introduced or established in the U.S.

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 roigi* Arratia and Menu-Marque, 1984"

From Eschmeyer et al. (2016):

"Current status: Valid as *Trichomycterus roigi* Arratia & Menu-Marque 1984. Trichomycteridae: Trichomycterinae."

Size, Weight, and Age Range

From Froese and Pauly (2016):

"Max length : 11.0 cm TL male/unsexed; [de Pínna and Wosiacki 2003]"

Environment

From Menni et al. (2005):

"We found this species […] in a clear water stream with low temperature, without vegetation. This environment is similar to the type locality of the species in the rhithron area of the Pastos Chicos River, an endorrheic basin with torrential floods associated with intense summer rains (Arratia & Menu Marque, 1984). […] *T. roigi* inhabits below small irregular stones (Menni et al., 1984)."

Climate/Range
From Menni et al. (2005):

"*Trichomycterus roigi*, known from several localities in western and northwestern Salta and western and southwestern Jujuy, is a high altitude fish, living from about 1000 m a.s.l [3,280 feet] in the Grande River to 4300 a.s.l. [14,100 feet] in water below 24C (Arratia et al., 1983; Fernández, [1996])."

Distribution Outside the United States
Native
From Froese and Pauly (2016):

"South America: Pastos Chicos River basin 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 Arratia and Menu Marque (1984):

"First pectoral ray without filament. Posterior pelvic fin tip not reaching anal-fin origin. Anus covered by pelvic fins. Caudal fin truncated. Short lateral line (2 pores), partially enclosed by one ossicle. Skin of head and body with scarce, small conic or rounded papillae. No lateral crest on supraoccipital. Premaxilla large and rectangular in shape; maxilla smaller than premaxilla (about 75% of premaxillary length); 3 or 4 rows of long conic premaxillary teeth; half length of both sockets of premaxillary teeth, and teeth not covered by skin."

"The body is elongate with dorsal margin nearly straight and not bent behind occiput […]"

"Approximately trapezoidal head […] relatively depressed. Subterminal mouth with fleshy lips having numerous translucent papillae. Barbels […] of cartilage surrounded by skin. […] Small eyes […] dorsolaterally placed."

"Dorsal margin of relatively short dorsal fin rounded […]. Posterior anal-fin rays extending posteriorly beyond posterior margin of dorsal fin […]"

"Coloration: Dorsum of head brownish with several small black or brown spots. Many spots of different size and shape on dorsum and flanks, spots mainly ordered in rows […] Ventral region yellowish or pale brown."

Biology
From Menni et al. (2005):

"In Yavi *T. roigi* occurs in relatively rich populations […]"

From Arratia and Menu Marque (1984):

"Fishes occurred together with tadpoles, genus *Telmatobius* […]"

Human Uses
No information available.

Diseases
No information available. No OIE-reportable diseases 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 Florida Fish and Wildlife Conservation Commission has listed the parasitic catfish *Trichomycterus roigi* as a prohibited species (FFWCC 2017).

4 Global Distribution

Figure 1. Known global established locations of *Trichomycterus roigi* in Argentina. Map from GBIF (2016).

5 Distribution Within the United States

This species has not been reported as introduced or established in the U.S.

6 Climate Matching

Summary of Climate Matching Analysis

The climate match (Sanders et al. 2014; 16 climate variables; Euclidean Distance) was low across the entire U.S. Climate 6 proportion indicated that the contiguous U.S. has a low climate match. Proportions less than 0.005 indicate a low climate match; the Climate 6 proportion of *Trichomycterus roigi* is 0.0.

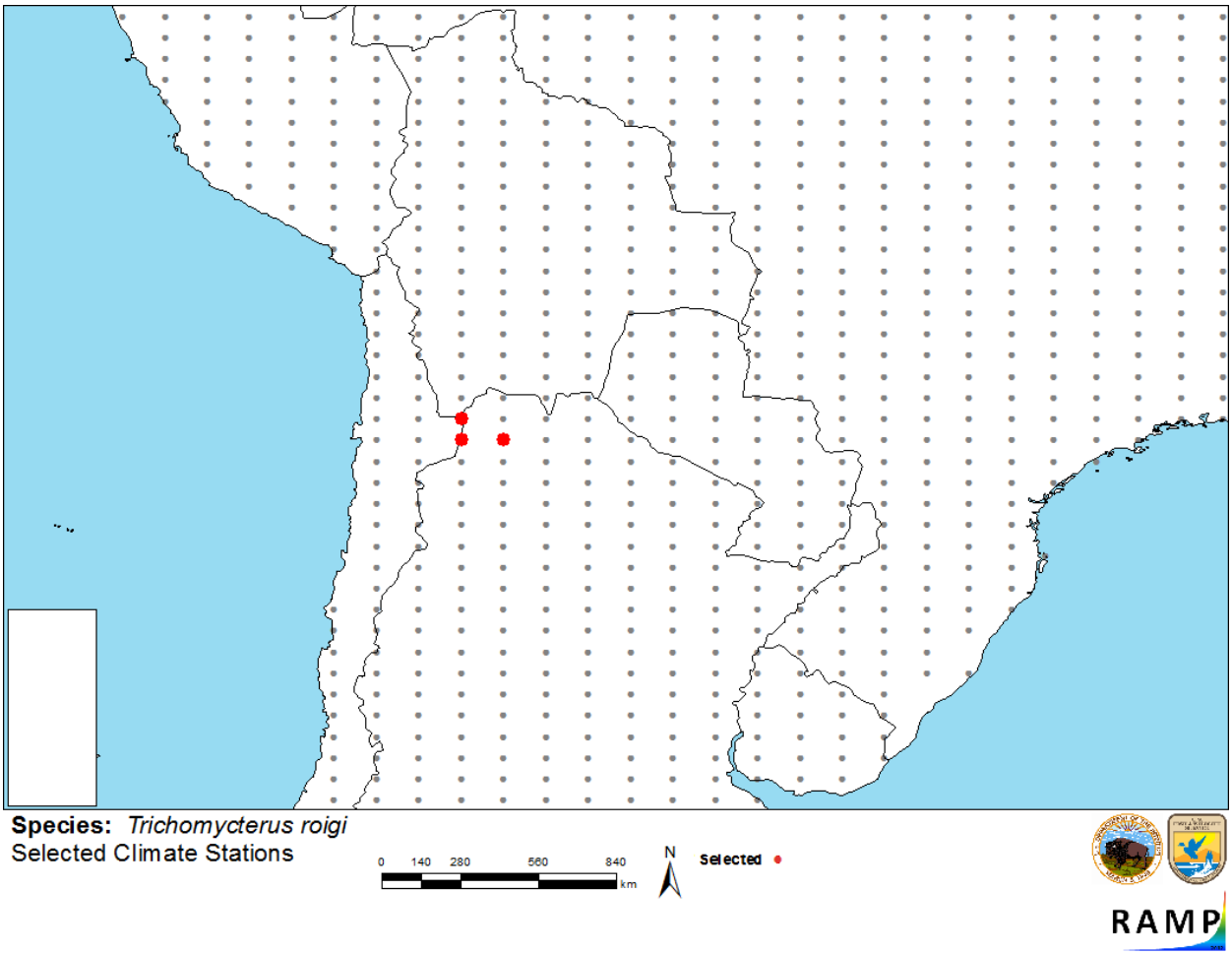


Figure 2. RAMP (Sanders et al. 2014) source map showing weather stations in South America selected as source locations (red; northern Argentina) and non-source locations (gray) for *Trichomycterus roigi* climate matching. Source locations from GBIF (2016).

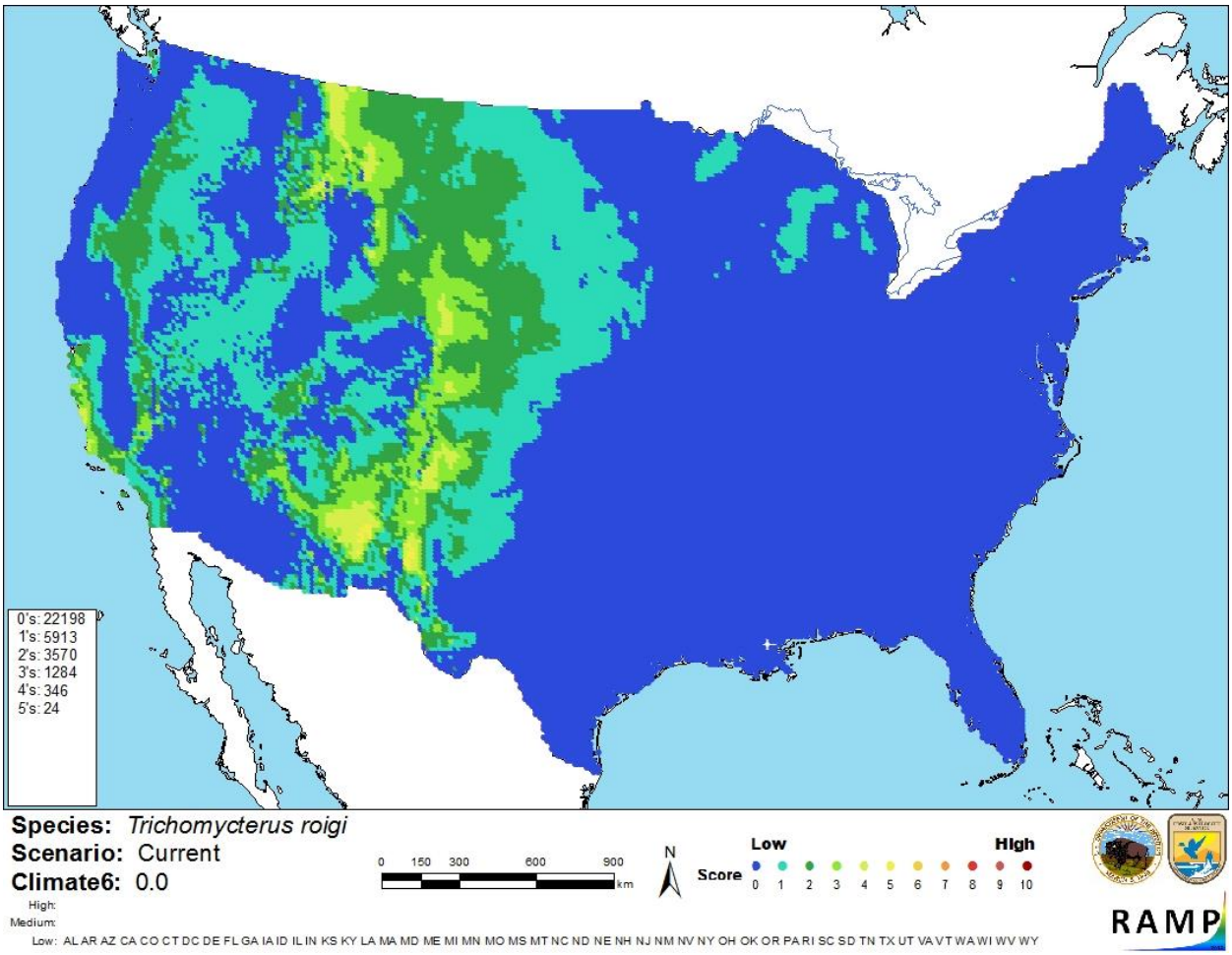


Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *Trichomycterus roigi* in the contiguous United States based on source locations reported by GBIF (2016). 0= Lowest match, 10=Highest match. Counts of climate match scores are tabulated on the left.

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

There is limited information available on *T. roigi*. There is no documented history of introductions for this species, so negative impacts from introductions and spread of this species have not been documented in scientific literature. Certainty of this assessment is low because of the lack of information.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Trichomycterus roigi is a catfish native to the Pastos Chicos River basin in Argentina. It has a low climate match with the U.S. There is some information available on the biology of this species, but it has no documented history of introduction, so potential impacts of introduction to the U.S. remain unknown. The Florida Fish and Wildlife Conservation Commission has listed the parasitic catfish *T. roigi* as a prohibited species. Overall risk assessment category 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.

Arratia, G., and S. Menu Marque. 1984. New catfishes of the genus *Trichomycterus* from the High Andes of South America (Pisces, Siluriformes) with remarks on distribution and ecology. Zoologische Jahrbücher, Systematik 111:493-520.

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).

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/. (April 2017).

Froese, R., and D. Pauly, editors. 2016. *Trichomycterus roigi* Arratia & Menu-Marque, 1984. FishBase. Available: http://www.fishbase.se/summary/Trichomycterus-roigi.html. (December 2016).

GBIF (Global Biodiversity Information Facility). 2016. *Trichomycterus roigi* Arratia and Menu-Marque, 1984. Global Biodiversity Information Facility, Copenhagen. Available: http://www.gbif.org/species/2343066. (December 2016, April 2017).

ITIS (Integrated Taxonomic Information System). 2016. *Trichomycterus roigi* Arratia and Menu-Marque, 1984. Integrated Taxonomic Information System, Reston, Virginia. Available:

https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=682257#null. (December 2016).

Menni, R. C., A. M. Miquelarena, and A. V. Volpedo. 2005. Fishes and environment in northwestern Argentina: from lowland to Puna. Hydrobiologia 544(1):33-49.

Sanders, S., C. Castiglione, and M. Hoff. 2014. Risk Assessment Mapping Program: RAMP. U.S. Fish and Wildlife Service.

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.

Arratia, G., and S. Menu Marque. 1984. New catfishes of the genus *Trichomycterus* from the High Andes of South America (Pisces, Siluriformes) with remarks on distribution and ecology. Zoologische Jahrbuecher, Systematik 111:493-520.

Arratia, G., M. B. Peñafort, and S. Menu Marque. 1983. Peces de la región Sureste de los Andes y sus probables relaciones biogeográficas actuales. Deserta 7:48-107.

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.

Fernández, L. A. 1996. Nuevas localidades para *Trichomycterus roigi* (Pisces: Siluriformes) en las provincias de Salta y Jujuy (Argentina). Neotropica 42:121-122.

Menni, R. C., H. L. López, J. R. Casciotta, and A. M. Miquelarena. 1984. Ictiología de areas serranas de Córdoba y San Luis (Argentina). Biología Acuática 5:1-63.