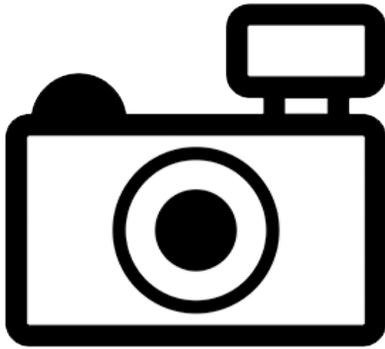


***Trichomycterus riojanus* (a catfish, no common name)**

Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, March 2017
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 (2017):

“South America: La Rioja Range in Argentina.”

Status in the United States

This species has not been reported in the United States.

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 riojanus*”

Means of Introductions in the United States

This species has not been reported in the United States.

Remarks

From Fernández and Vari (2009):

“Berg's (1897) description of *Trichomycterus riojanus* was based solely on the holotype which originated in an "arroyo of the Cordillera in [Provincia de] La Rioja" (our translation; information in brackets ours). The original description of *T. riojanus* is uninformative as to a number of morphological features of import for the discrimination of species within the genus. Furthermore, the holotype (MACN 5175) is in very poor condition, having dried to a significant degree at some point. This situation makes it impossible to confirm the data on some of the features provided in the original description of *T. riojanus* [...].”

From GBIF (2016):

“BASIONYM
Pygidium riojanum Berg, 1897”

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

From ITIS (2017):

“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 riojanus* (Berg, 1897)”

From Eschmeyer et al. (2017):

“Current status: Valid as *Trichomycterus riojanus* (Berg 1897). Trichomycteridae:
Trichomycterinae.”

Size, Weight, and Age Range

From Froese and Pauly (2017):

“Max length : 8.5 cm male/unsexed; [de Pínna and Wosiacki 2003]”

Environment

From Froese and Pauly (2017):

“Freshwater; demersal.”

Climate/Range

From Froese and Pauly (2017):

“Subtropical, preferred ?”

Distribution Outside the United States

Native

From Froese and Pauly (2017):

“South America: La Rioja Range in Argentina.”

Introduced

No introductions of this species have been reported.

Means of Introduction Outside the United States

No introductions of this species have been reported.

Short Description

From Fernández and Vari (2009):

“Nonetheless, the two nominal species [*T. riojanus* and *T. hualco*] distinctly differ in the degree of development of the first ray of the pectoral fin (extending beyond the margin of the fin as a short distal filament in *T. riojanus* versus terminating at the margin of the fin in *T. hualco*), the coloration pattern on the dorsal and dorsolateral surfaces of head and trunk (unspotted versus with marmoration formed by patches of small dark chromatophores, respectively), the number of dorsal-fin rays (two unbranched plus seven branched versus six to eight unbranched plus eight or nine branched, respectively), the number of unbranched anal-fin rays (one versus five or six, respectively), the depth of the caudal peduncle (6.1% SL versus 8.4-11.3% SL, respectively), the distance from the snout to the insertion of the pelvic fin (74.6% SL versus 57.4-61.9% SL, respectively), and the distance from the snout to the origin of the anal fin (78.9% SL versus 70.4-75.0% SL, respectively).”

From Eigenmann (1918):

“Head 8.5 in the length with the caudal; D. 9 (2+7); A 7 (1+6); eye 1.5 in the snout, 1.5 in interorbital, 2.5 in posterior part of the head; nasal barbel scarcely extending beyond the eye; maxillary barbel scarcely the end of opercle; gill-membrane with scarcely a free margin; interopercular spines in two or three series, medium in size; teeth small, in irregular series, anterior ones larger; their tips broader; fins small; first pectoral ray prolonged; anal under last third of dorsal; caudal truncate.”

Biology

No information available.

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 (2017):

“Harmless”

3 Impacts of Introductions

No introductions of this species have been reported.

The Florida Fish and Wildlife Conservation Commission has listed the parasitic catfish *Trichomycterus riojanus* as a prohibited species (FFWCC 2017).

4 Global Distribution



Figure 1. Map of La Rioja province of Argentina, where *T. riojanus* is endemic. Map by Dbenbenn. Licensed under CC BY-SA 3.0. Available: <https://commons.wikimedia.org/w/index.php?curid=32815>. (April 2017).

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 6 score (Sanders et al. 2014; 16 climate variables; Euclidean distance) for the contiguous U.S. was 0.064, which is classified as a medium climate match based on the definition of medium climate match as scores between 0.005 and 0.103. The area of highest climate match for *Trichomycterus riojanus* was in the southwestern U.S. Much of the western U.S. has a medium or low climate match, and the eastern U.S. has a very low climate match.

Note: The climate match analysis likely overestimated the amount of climate match between locations where *T. riojanus* is currently established and the contiguous United States. Because spatially explicit data on occurrences of this species were lacking, the climate match used all areas of the province in which the species is endemic as source locations, when *T. riojanus* likely has a more limited distribution than the entire province.

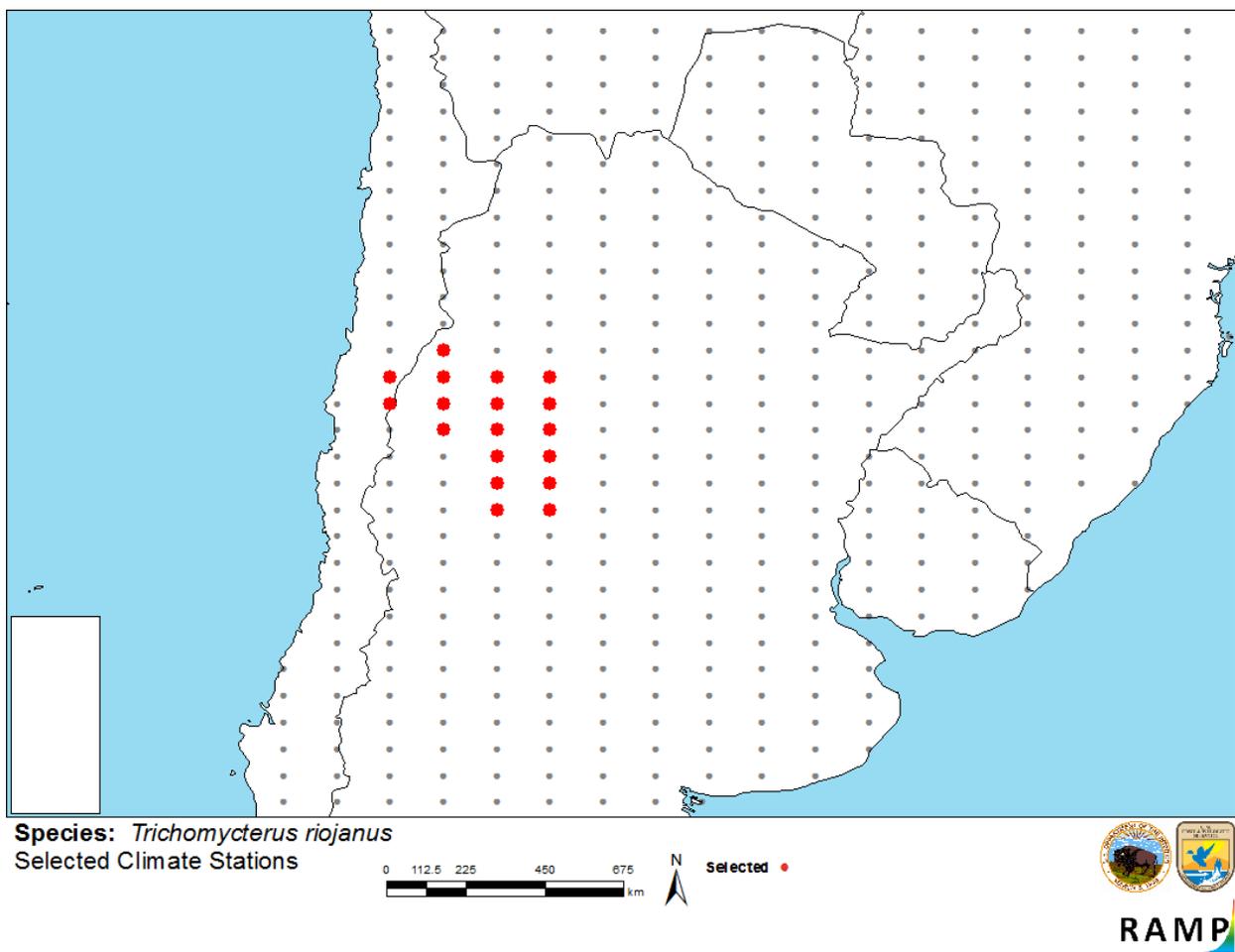


Figure 2. RAMP (Sanders et al. 2014) source map showing weather stations selected as source locations (red) and non-source locations (gray) for *Trichomycterus riojanus* climate matching. Source locations define the province of Argentina to which the species is endemic (Froese and Pauly 2017).

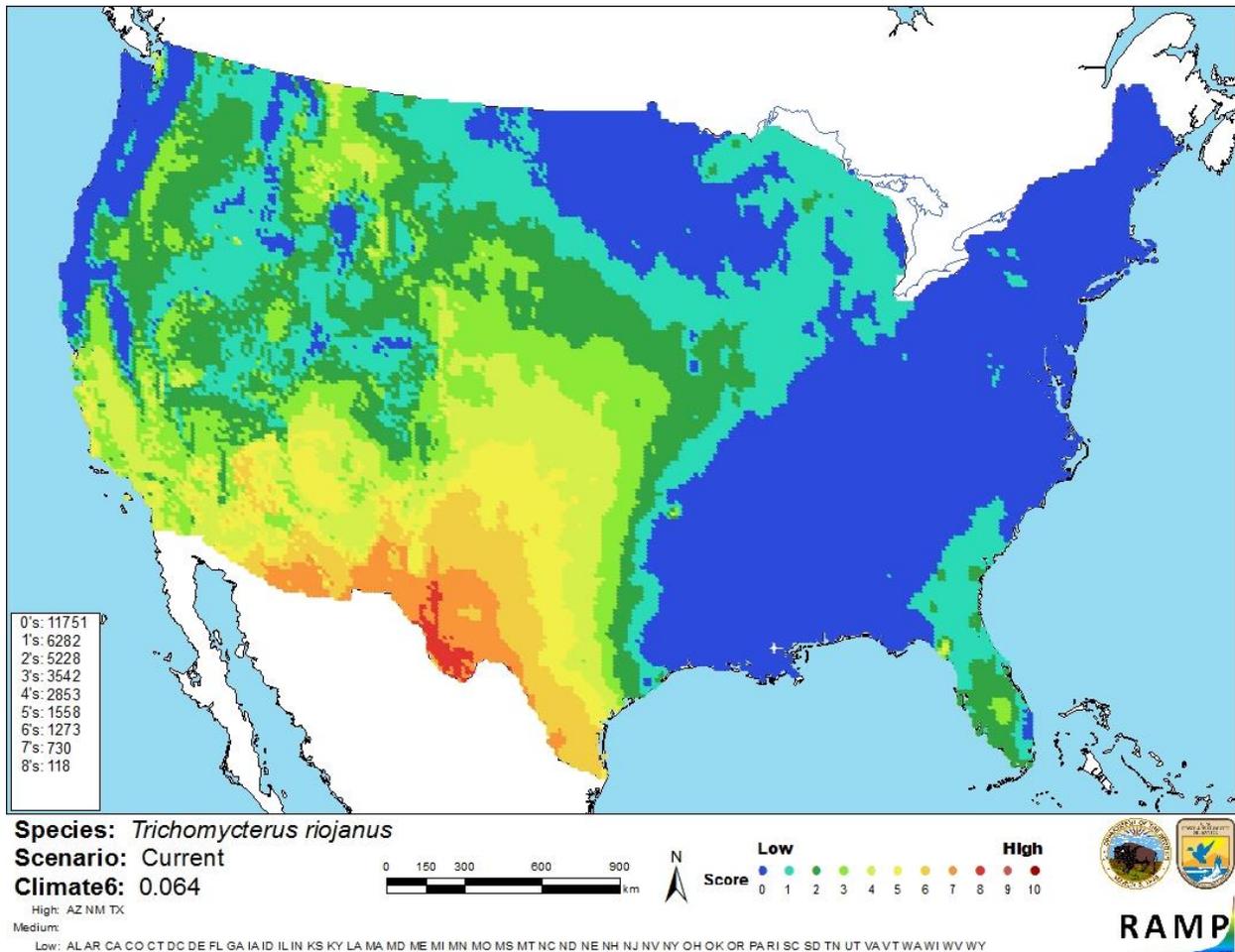


Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *Trichomycterus riojanus* in the contiguous United States based on source locations defining the province of Argentina to which the species is endemic (Froese and Pauly 2017). 0=Lowest match, 10=Highest match. Counts of climate match scores 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

There is little information available on *Trichomycterus riojanus*. The holotype of this species has deteriorated to the point that even making a positive morphological identification of this species is problematic, and there is no information available on its biology or habitat requirements. This

species has no documented introductions outside of its native range. Certainty of assessment is low.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Trichomycterus riojanus is a small catfish native to the La Rioja province of Argentina. This species has no documented history of invasiveness. *T. riojanus* has a medium climate match with the U.S., with the area of highest match located in the southwestern U.S. However, distributional data on the species are lacking and the climate match may be an overestimate. The Florida Fish and Wildlife Conservation Commission has listed the parasitic catfish *T. riojanus* as a prohibited species. Overall risk assessment category for this species is uncertain.

Assessment Elements

- **History of Invasiveness (Sec. 3): Uncertain**
- **Climate Match (Sec. 6): Medium**
- **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.

- 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. 2016. *Catalog of fishes: genera, species, references*. Available: <http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp>. (March 2017).
- Fernández, L., and R. Vari. 2009. New species of *Trichomycterus* from the Andean Cordillera of Argentina (Siluriformes: Trichomycteridae). *Copeia* 1:195-202.
- 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. 2017. *Trichomycterus riojanus* (Berg, 1897). FishBase. Available: <http://www.fishbase.org/summary/Trichomycterus-riojanus.html>. (March 2017).

GBIF (Global Biodiversity Information Facility). 2016. GBIF backbone taxonomy: *Trichomycterus riojanus* (Berg, 1897). Global Biodiversity Information Facility, Copenhagen. Available: <http://www.gbif.org/species/2343101>. (April 2017).

ITIS (Integrated Taxonomic Information System). 2017. *Trichomycterus riojanus* (Berg, 1897). Integrated Taxonomic Information System, Reston, Virginia. Available: https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=682255#null. (March 2017).

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.

Berg, C. 1897. Contribución al conocimiento de los peces sudamericanos especialmente de La República Argentina. *Anales del Museo Nacional de Buenos Aires* 5:263-302.

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.