

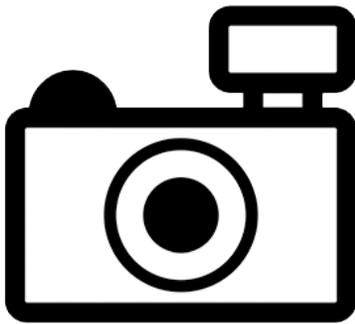
Trichomycterus boylei (a catfish, no common name)

Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, December 2016

Revised, April 2017

Web Version, 4/27/2018



No Photo Available

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2016):

“South America: Grande River basin in Argentina.”

Status in the United States

This species has not been reported in the United States. There is no indication that this species is in trade 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 boylei*”

Means of Introductions in the United States

This species has not been reported in the United States.

Remarks

From GBIF (2016):

“BASIONYM

Pygidium boylei Nichols, 1956”

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 Ostariophysii

Order Siluriformes

Family Trichomycteridae

Subfamily Trichomycterinae

Genus *Trichomycterus*

Species *Trichomycterus boylei* (Nichols, 1956)”

“Taxonomic Status: valid”

Size, Weight, and Age Range

From Froese and Pauly (2016):

“Max length : 13.3 cm TL male/unsexed; [de Pínna and Wosiacki 2003]”

Environment

From Froese and Pauly (2016):

“Freshwater; benthopelagic.”

From Menni et al. (2005):

“Small seasonal courses in the Quebrada de Humahuaca, usually inhabited only by trichomycterids, lack CO_3^{2-} and have CO_3H^- values lower than Itiyuro basin localities. *Trichomycterus* cf. *boylei* lives only at this group of stations.”

Climate/Range

From Froese and Pauly (2016):

“Tropical, preferred ?”

From Menni et al. (2005):

“*Trichomycterus* cf. *boylei* was found in localities along the Grande River from over 2000 to 3693 m a.s.l.”

Distribution Outside the United States

Native

From Froese and Pauly (2016):

“South America: Grande River basin 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 Arratia and Menu Marque (1984):

“Opercle with a fleshy posterior flap. Pectoral filament absent. Posterior end of pelvic fin close to anal-fin origin. Anus placed at level of posterior margin of pelvic fin or just posterior to it. Emarginate or shallowly forked caudal fin. Short lateral line (2 pores, occasionally 3 or 4) partially enclosed by one ossicle. Head and anterior part of trunk (dorsum and flanks) covered with numerous large rounded papillae, and some conic ones. No lateral crest on supraoccipital. Maxilla longer than premaxilla (about 163% of premaxillary length). Incisiform teeth on premaxilla in 4 to 7 rows (some scarce conic teeth in innermost rows). Sockets of premaxillary teeth and parts of teeth covered by skin. Opercle and interopercle with numerous incisiform teeth. Caudal skeleton with open neutral arch 1; hypural 3 + 4 + 5 fused.”

Biology

From Menni et al. (2005):

“*Trichomycterus* cf. *boylei* and *T. roigi* were nearly as abundant as the [...] dominant species.”

Human Uses

No information available.

Diseases

No information available.

Threat to Humans

From Froese and Pauly (2016):

“Harmless”

3 Impacts of Introductions

No introductions of this species have been reported. The Florida Fish and Wildlife Conservation Commission (2017) has listed the parasitic catfish *T. boylei* as a prohibited species.

4 Global Distribution



Figure 1. Known global established locations of *T. boylei* in northern Argentina. Map from GBIF (2016).

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 match (Sanders et al. 2014; 16 climate variables; Euclidean Distance) was medium in scattered locations in the Interior West and coastal California, and low elsewhere. Climate 6 proportion indicated that the contiguous United States has a low climate match. Climate 6 proportions of 0.005 and less are classified as low match; the Climate 6 proportion for *T. boylei* was 0.000.

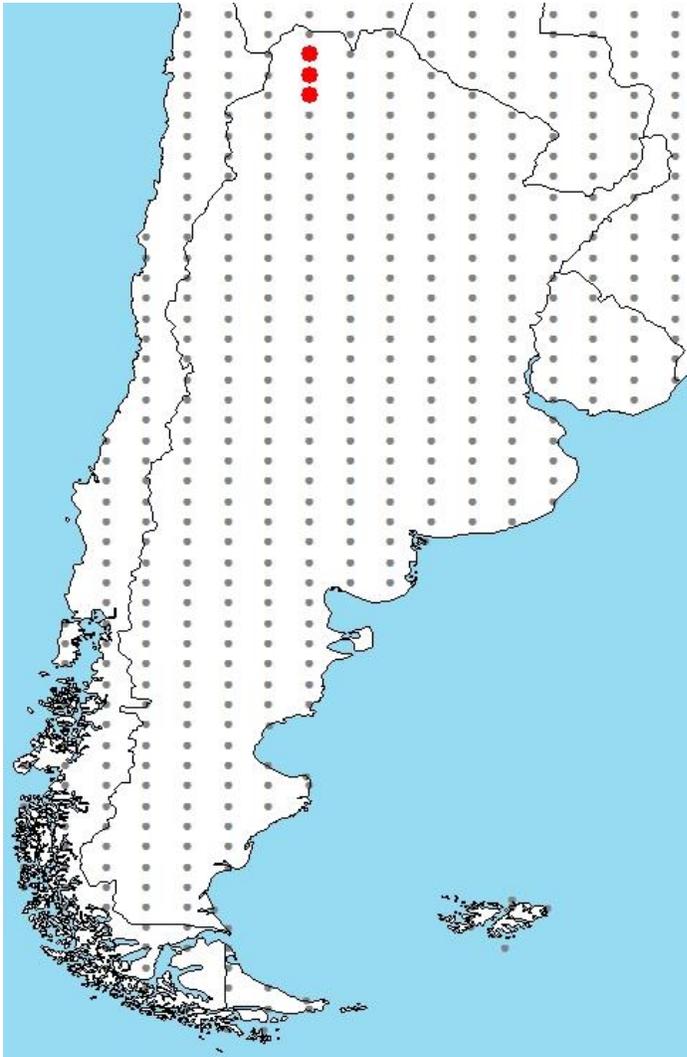


Figure 2. RAMP (Sanders et al. 2014) source map showing weather stations in Argentina selected as source locations (red) and non-source locations (gray) for *T. boylei* climate matching. Source locations from GBIF (2016).

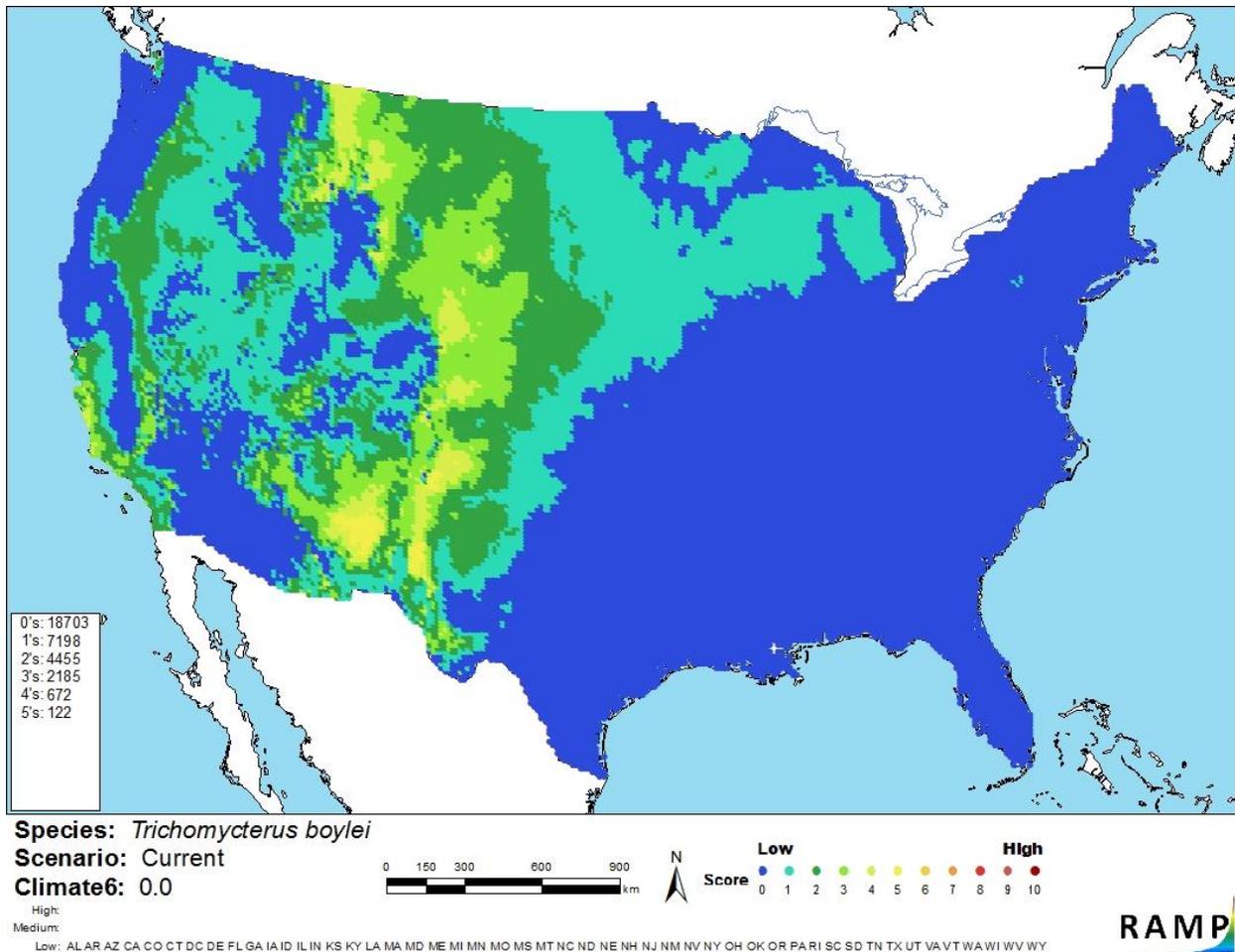


Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *T. boylei* in the contiguous United States based on source locations reported by GBIF (2016). 0=Lowest match, 10=Highest match. Counts of climate match scores are tabulated on the left.

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

The ecology and biology of *T. boylei* are not well documented. The species has never been reported outside its native range, so impacts of introduction are unknown. The certainty of this assessment is low.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Trichomycterus boylei is a trichomycterid catfish native to higher-elevation waters in the Rio Grande basin in Argentina. The species has not been introduced outside of its native range. Without being able to observe introductions in other parts of the world, it is impossible to know the potential impacts of introduction of *T. boylei* to the U.S. The Florida Fish and Wildlife Conservation Commission has listed the parasitic catfish *T. boylei* as a prohibited species. Climate match to the contiguous U.S. is low. The overall risk posed by *T. boylei* 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. Abteilung für Systematik, Ökologie und Geographie* 111(4):493-520.

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/>. (January 2017).

Froese, R., and D. Pauly, editors. 2016. *Trichomycterus boylei* (Nichols, 1956). FishBase. Available: <http://www.fishbase.se/summary/48672>. (December 2016).

GBIF (Global Biodiversity Information Facility). 2016. GBIF backbone taxonomy: *Trichomycterus boylei* (Nichols, 1956). Global Biodiversity Information Facility, Copenhagen. Available: <http://www.gbif.org/species/2343137>. (December 2016).

ITIS (Integrated Taxonomic Information System). 2016. *Trichomycterus boylei* (Nichols, 1956). Integrated Taxonomic Information System, Reston, Virginia. Available: https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=682184#null. (December 2016).

Sanders, S., C. Castiglione, and M. H. 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.

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.