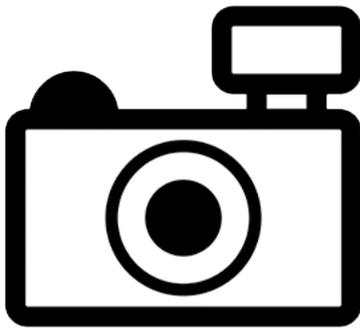


# ***Trichomycterus borellii* (a catfish, no common name)**

## **Ecological Risk Screening Summary**

U.S. Fish and Wildlife Service, December 2016  
Revised, April 2017 and April 2018  
Web Version, 4/27/2018



No Photo Available

## **1 Native Range and Status in the United States**

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### **Native Range**

From Froese and Pauly (2016):

“South America: Salta, Catamarca and Mendoza, Argentina. Also from Aguiarenda [Gran Chaco Province], Bolivia.”

### **Status in the United States**

This species has not been reported in the U.S. 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 borellii*”

## Means of Introductions in the United States

This species has not been reported in the U.S.

## 2 Biology and Ecology

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### 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 borellii* Boulenger, 1897”

“Taxonomic Status: valid”

### Size, Weight, and Age Range

From Froese and Pauly (2016):

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

### Environment

From Froese and Pauly (2016):

“Freshwater; benthopelagic.”

### Climate/Range

From Froese and Pauly (2016):

“Tropical, preferred ?”

## **Distribution Outside the United States**

### **Native**

From Froese and Pauly (2016):

“South America: Salta, Catamarca and Mendoza, Argentina. Also from Aguairenda [Gran Chaco Province], Bolivia.”

### **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 Miranda (2007):

“The possession of spatulate incisiform premaxillary teeth [...] is proposed as a derived condition share by [...] *Trichomycterus borellii* Boulenger [...]”

“Small and conic papillae are present in most species of *Trichomycterus* [e.g. [...] *T. borellii* [...]]”

## **Biology**

No information available.

## **Human Uses**

No information available.

## **Diseases**

No information available.

## **Threat to Humans**

From Froese and Pauly (2016):

“Harmless”

## **3 Impacts of Introductions**

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

## 4 Global Distribution

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**Figure 1.** Provinces of Argentina. *T. borellii* can be found in Salta, Catamarca, and Mendoza provinces in the north and west (Froese and Pauly 2016). Map: Golbez. Licensed under Creative Commons BY 2.5. Available: <https://commons.wikimedia.org/w/index.php?curid=488258>. (April 2017).



**Figure 2.** Location of Gran Chaco Province in Bolivia, within which *T. borellii* has been reported. Map: Daan. Public domain. Available: <https://commons.wikimedia.org/w/index.php?curid=1425327>. (April 2018).

## 5 Distribution within the United States

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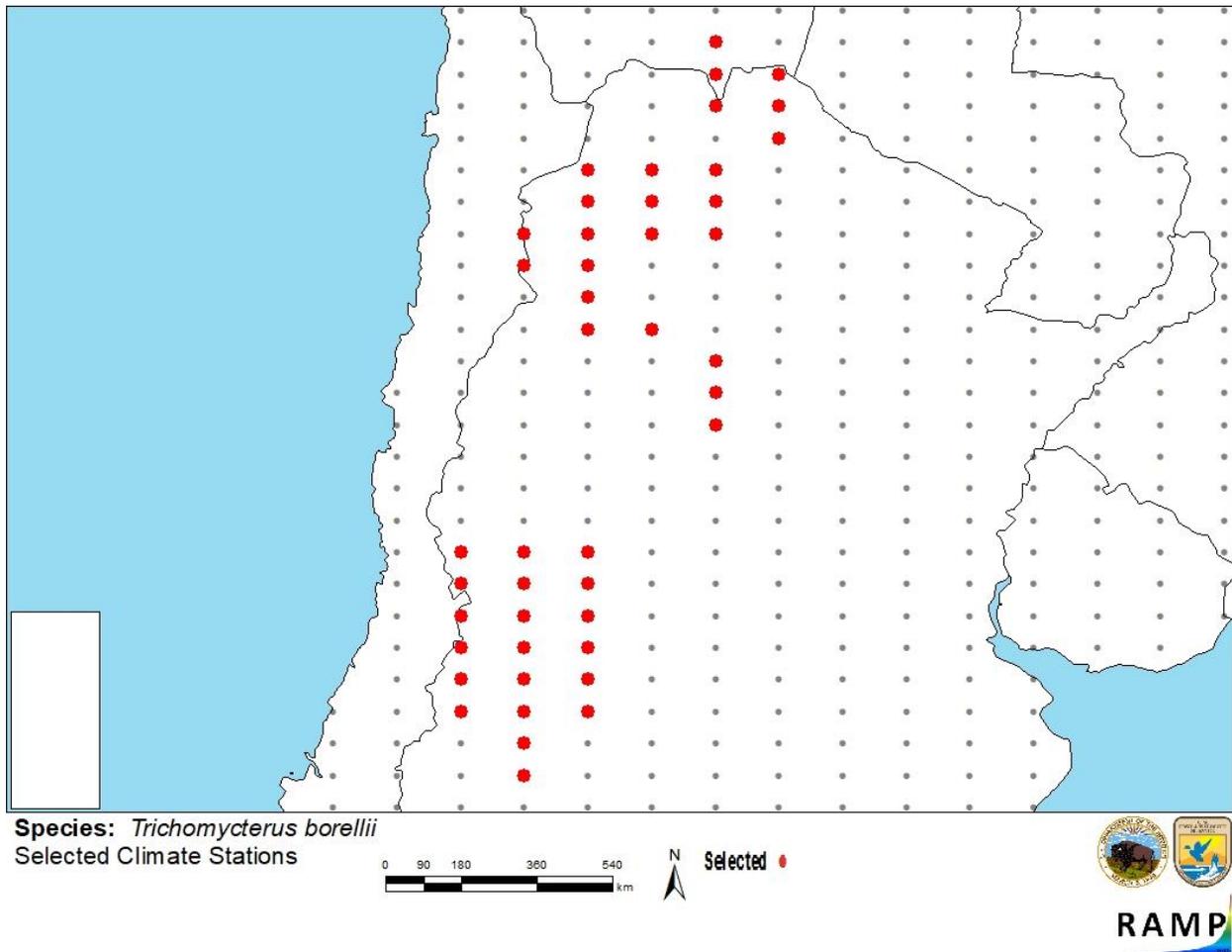
This species has not been reported in the U.S.

## 6 Climate Matching

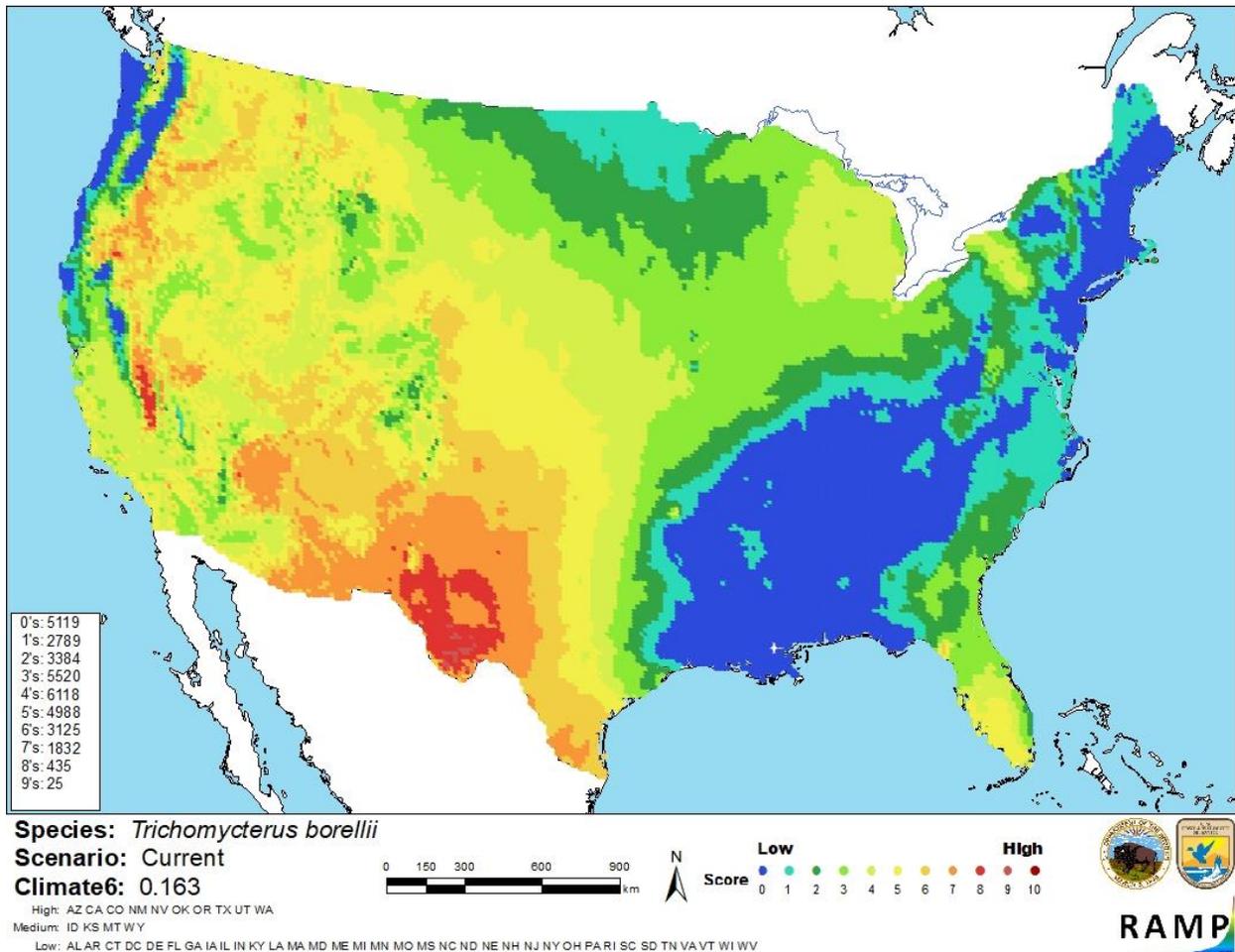
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### Summary of Climate Matching Analysis

The climate match (Sanders et al. 2014; 16 climate variables; Euclidean Distance) was high in the southwest from western Texas through parts of New Mexico, Arizona and Nevada and along the Cascade and Sierra Nevada Ranges. The climate match was medium across much of the remainder of the West plus southwest Florida and Great Lakes Michigan and Huron. The climate match was low across much of the East and the coastal Pacific Northwest. Climate 6 proportion indicates a high climate match to the contiguous U.S. Proportions of 0.103 and greater are classified as high match; the Climate 6 proportion for *T. borellii* was 0.163. However, this climate matching analysis may overestimate the actual climate match to the contiguous U.S. because source locations for the match covered all of the provinces in which the species has been recorded rather than specific point locations, which were not available.



**Figure 3.** RAMP (Sanders et al. 2014) source map showing weather stations in central South America selected as source locations (red; northern Argentina and southern Bolivia) and non-source locations (gray) for *T. borellii* climate matching. Source locations are based on the described range of *T. borellii* from Froese and Pauly (2016).



**Figure 4.** Map of RAMP (Sanders et al. 2014) climate matches for *T. borellii* in the contiguous United States based on distribution reported by Froese and Pauly (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
$\geq 0.103$	High

## 7 Certainty of Assessment

The biology, ecology, and distribution of *T. borellii* are not well studied or documented. It has never been reported outside its native range, so impacts of introduction remain unknown. The certainty of this assessment is low.

## 8 Risk Assessment

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### Summary of Risk to the Contiguous United States

*Trichomycterus borellii* is a trichomycterid catfish native to northern and western Argentina and one location in Bolivia. It 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. borellii* to the U.S. The Florida Fish and Wildlife Conservation Commission has listed the parasitic catfish *T. borellii* as a prohibited species. Climate match to the contiguous U.S. was high, although possibly overestimated, with areas of highest match occurring in the western Texas and along the Sierra Nevada Range in California. The overall risk posed by *T. borellii* is uncertain.

### Assessment Elements

- **History of Invasiveness (Sec. 3): Uncertain**
- **Climate Match (Sec. 6): High**
- **Certainty of Assessment (Sec. 7): Low**
- **Overall Risk Assessment Category: Uncertain**

## 9 References

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**Note: The following references were accessed for this ERSS. References cited within quoted text but not accessed are included below in Section 10.**

- Fernández, L., and G. Miranda. 2007. A catfish of the genus *Trichomycterus* from a thermal stream in southern South America (Teleostei, Siluriformes, Trichomycteridae), with comments on relationships within the genus. *Journal of Fish Biology* 71: 1303–1316.
- 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 borellii* Boulenger, 1897. FishBase. Available: <http://www.fishbase.se/summary/48671>. (December 2016).
- GBIF (Global Biodiversity Information Facility). 2016. GBIF backbone taxonomy: *Trichomycterus borellii* Boulenger, 1897. Global Biodiversity Information Facility, Copenhagen. Available: <http://www.gbif.org/species/2343159>. (December 2016).
- ITIS (Integrated Taxonomic Information System). 2016. *Trichomycterus borellii* Boulenger, 1897. Integrated Taxonomic Information System, Reston, Virginia. Available: [https://www.itis.gov/servlet/SingleRpt/SingleRpt?search\\_topic=TSN&search\\_value=682183#null](https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=682183#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

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**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.