

***Trichomycterus castroi* (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: Iguazu River basin in Brazil.”

Status in the United States

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

Means of Introductions in the United States

This species has not been reported as introduced 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 castroi* de Pinna, 1992”

“Taxonomic Status: valid”

Size, Weight, and Age Range

From Froese and Pauly (2016):

“Max length : 14.8 cm male/unsexed; [de Pinna and Wosiacki 2003]”

Environment

From Froese and Pauly (2016):

“Freshwater; benthopelagic.”

Climate/Range

From Froese and Pauly (2016):

“Subtropical, preferred ?”

Distribution Outside the United States

Native

From Froese and Pauly (2016):

“South America: Iguazu River basin in Brazil.”

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 Wosiacki (2004):

“A transverse band at the caudal fin has been recorded only in *S. operculatum*, *T. castroi*, and *T. trefauti*. The presence of a vertical caudal-fin band in *T. castroi* and *S. operculatum* was discussed by de Pinna ([1992]) who interpreted these as autapomorphies for these species. The spot at the caudal-fin base of *Trichomycterus trefauti* has a different topology from the band of *T. castroi* that is at the distal margin of the caudal fin.”

Biology

From Abilhoa et al. (2008):

“The species composition, diet, feeding tactics, and spatial occupation of fishes in a headwater stream which flows within a remaining fragment of Araucaria Forest were studied. [...] In riffle areas, only *Trichomycterus castroi* Pinna, 1992 and *Trichomycterus davisii* Haseman, 1911 were found, while *Astyanax* aff. *scabripinnis* (sensu Eigenmann, 1921), *Astyanax totae* Haluch & Abilhoa, 2005, *T. castroi*, *T. davisii*, *Phalloceros caudimaculatus* (Hensel, 1868) and *Jenynsia eigenmanni* Haseman, 1911 were all found in pools.”

Human Uses

No information available.

Diseases

No information available. No known OIE-reportable diseases or pathogens.

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. castroi* as a prohibited species.

4 Global Distribution



Figure 1. Known global established locations of *T. castroi* in southern Brazil. Map from GBIF (2016).

5 Distribution Within the United States

There have been no known occurrences of *T. castroi* in the United States.

6 Climate Matching

The climate match (Sanders et al. 2014; 16 climate variables; Euclidean distance) was medium from Florida north of the Bahamas along the Atlantic coast to New Jersey, and from northern Florida west along the Gulf Coast into Texas. Southwestern Florida and all areas outside the coastal Southeast and Mid-Atlantic exhibited low climate match. Climate 6 proportion indicated that the contiguous U.S. has a low climate match. Proportions equal to or less than 0.005 are categorized as low match; the Climate 6 proportion for *T. castroi* was 0.000.

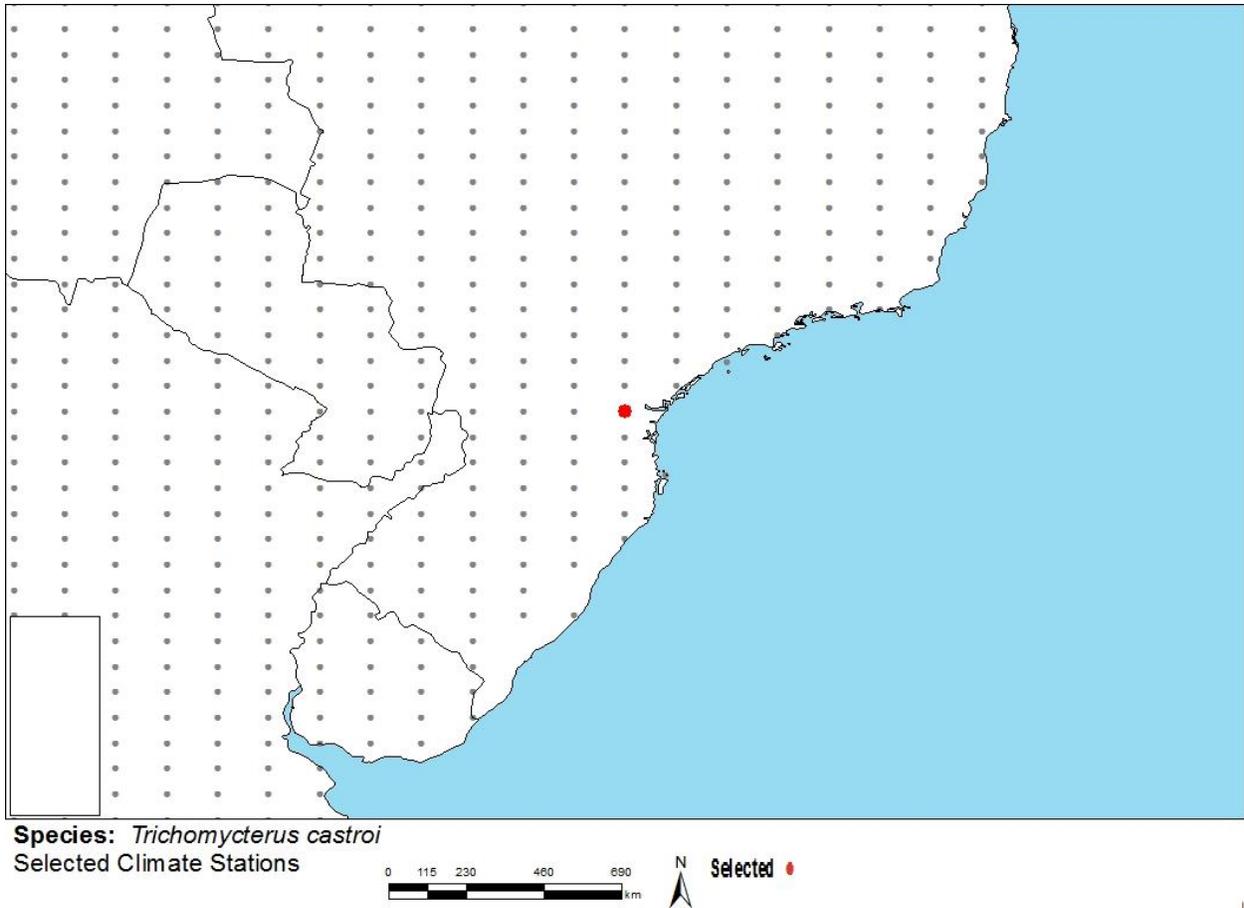


Figure 2. RAMP (Sanders et al. 2014) source map showing weather stations selected as source locations (red) and non-source locations (gray) for *T. castroi* climate matching in the Iguazu River basin in Brazil. Source locations from GBIF (2016).

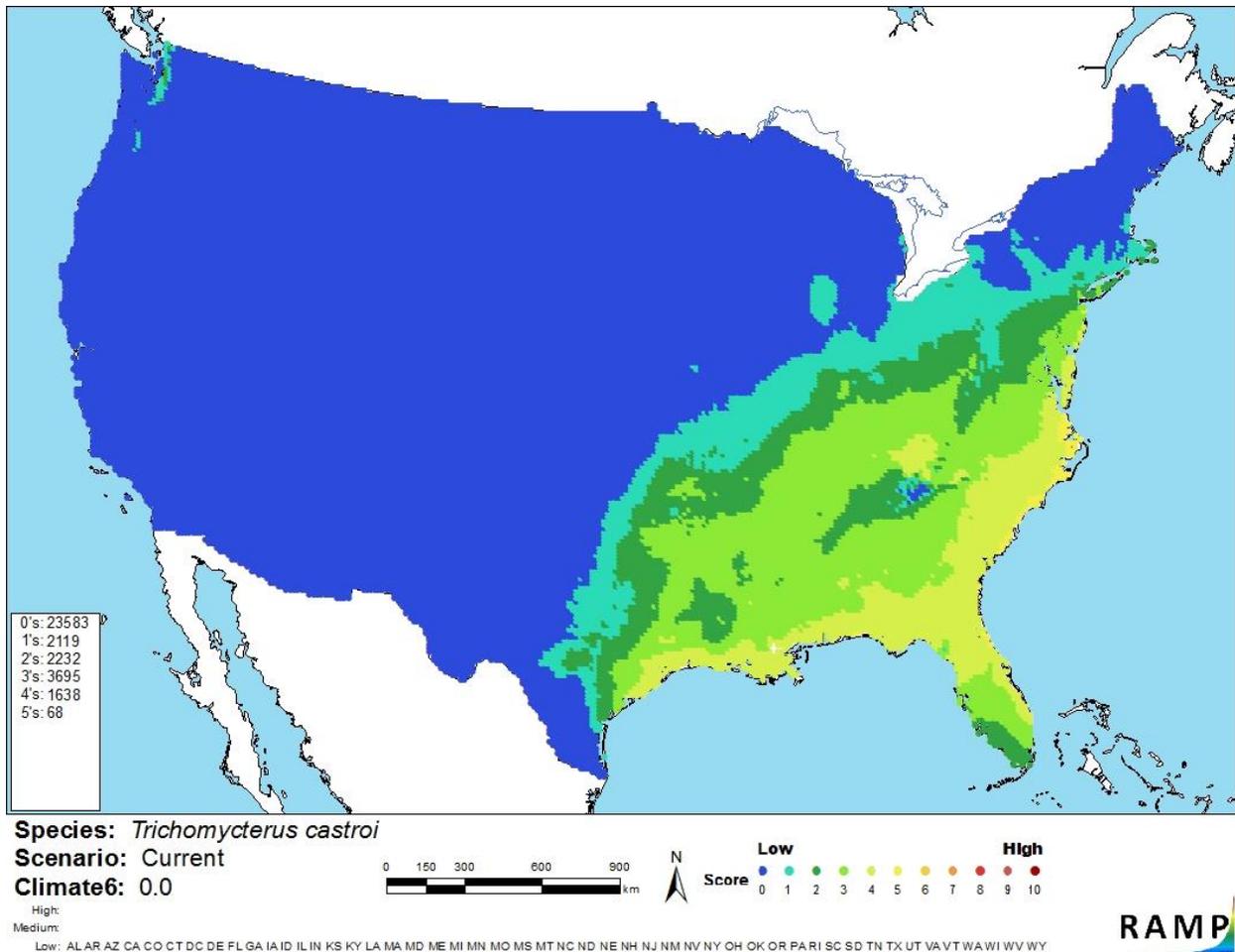


Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *T. castroi* in the contiguous United States based on source locations reported by GBIF (2016). 0=Lowest match, 10=Highest match. Counts of climate match scores are tabulated on the left.

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

Little information is available on the biology, ecology, or distribution of *T. castroi*. *T. castroi* has never been introduced outside its native range, so any impacts of introduction are unknown. The certainty of this assessment is low.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Trichomycterus castroi is a trichomycterid catfish native to the Iguaçú River basin in Brazil. 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. castroi* to the U.S. The Florida Fish and Wildlife Conservation Commission has listed the parasitic catfish *T. castroi* as a prohibited species. Climate match to the contiguous U.S. is low overall, but substantial areas of the coastal Southeast U.S. from New Jersey to Texas show medium climate match. The overall risk posed by *T. castroi* 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.

- Abilhoa, V., L. F. Duboc, and D. P. de Azevedo Filho. 2008. A comunidade de peixes de um riacho de Floresta com Araucária, alto rio Iguaçú, sul do Brasil. [The fish community in an Araucaria Forest stream, upper Iguaçú River basin, southern Brazil.] *Revista Brasileira de Zoologia* 25(2):238-246. (In Portuguese with English abstract.)
- 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 castroi* de Pinna, 1992. FishBase. Available: <http://www.fishbase.org/summary/57783>. (December 2016).
- GBIF (Global Biodiversity Information Facility). 2016. GBIF backbone taxonomy: *Trichomycterus castroi* de Pinna, 1992. Global Biodiversity Information Facility, Copenhagen. Available: <http://www.gbif.org/species/2343104>. (December 2016).
- Integrated Taxonomic Information System (ITIS). 2016. *Trichomycterus castroi* de Pinna, 1992. Integrated Taxonomic Information System, Reston, Virginia. Available: https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=682188#null. (December 2016).

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

Wosiacki, W. B. 2004. New species of the catfish genus *Trichomycterus* (Siluriformes, Trichomycteridae) from the headwaters of the rio São Francisco basin, Brazil. *Zootaxa* 592:1-12.

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 Pinna, M. C. C. 1992. *Trichomycterus castroi*, a new species of trichomycterid catfish from the Rio Iguaçú of southeastern Brazil (Teleostei: Siluriformes). *Ichthyological Exploration of Freshwaters* 3:89-95.

de Pinna, 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.