

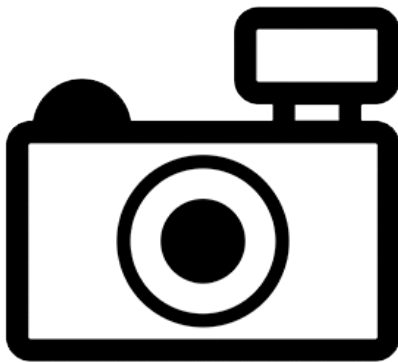
# ***Trichomycterus candidus* (a catfish, no common name)**

## **Ecological Risk Screening Summary**

U.S. Fish and Wildlife Service, August 2016

Revised, January 2017

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 (2016a):

“South America: Grande River basin in Minas Gerais, Brazil.”

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

This species has not been documented as introduced or established 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 for research or for public exhibition by facilities that meet biosecurity criteria [...] [The list of prohibited nonnative species includes] *Trichomycterus candidus*”

## Means of Introductions in the United States

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

## Remarks

From Froese and Pauly (2016a):

“Synonym  
*Eremophilus candidus*”

## 2 Biology and Ecology

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### Taxonomic Hierarchy and Taxonomic Standing

From ITIS (2016):

“Kingdom Animalia  
  Phylum Chordata  
    Subphylum Vertebrata  
      Superclass Osteichthyes  
        Class Actinopterygii  
          Subclass Neopterygii  
            Infraclass Teleostei  
              Superorder Ostariophysi  
                Order Siluriformes  
                  Family Trichomycteridae  
                    Subfamily Trichomycterinae  
                      Genus *Trichomycterus*  
                        Species *Trichomycterus candidus* (Miranda Ribeiro, 1949)”

“Taxonomic Status: valid”

### Size, Weight, and Age Range

From Froese and Pauly (2016a):

“Max length : 7.5 cm male/unsexed; [de Pínna and Wosiacki 2003]”

### Environment

From Froese and Pauly (2016a):

“Freshwater; benthopelagic.”

### Climate/Range

From Froese and Pauly (2016a):

“Tropical, preferred ?”

## Distribution Outside the United States

### Native

From Froese and Pauly (2016a):

“South America: Grande River basin in Minas Gerais, Brazil.”

### Introduced

This species has not been documented as introduced or established outside of its native range.

## Means of Introduction Outside the United States

This species has not been documented as introduced or established outside of its native range.

## Short Description

From Froese and Pauly (2016b):

“Family Trichomycteridae – Pencil or parasitic catfishes [...] Naked and elongate body. Usually 2 pairs of barbels on maxilla, lacking on chin. Adipose fin absent. Opercle often with spines. Pelvic fins have been lost in at least 3 lineages - *Eremophilus*, *Miuroglanis*, and Glanapteryginae.”

From DoNascimento et al. (2014):

“At least three species of *Trichomycterus* Valenciennes, 1832 also lack both pelvic fin and girdle: *T. candidus* (Miranda Ribeiro, 1949), formerly described in *Eremophilus* and later relocated in *Trichomycterus*, according to morphological evidence supporting its closer relationships to a clade of *Trichomycterus* species from southeastern Brazil (Barbosa & Costa, 2003); *T. catamarcensis* Fernández & Vari, 2000 from Argentinean Andes; and *T. tropeiro* Ferrer & Malabarba, 2011 from southern Brazil.”

## 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 (2016a):

“Harmless”

### 3 Impacts of Introductions

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This species has not been documented as introduced or established outside of its native range. The Florida Fish and Wildlife Conservation Commission (FFWCC 2017) has listed the parasitic catfish *T. candidus* as a prohibited species.

### 4 Global Distribution

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

### 5 Distribution Within the United States

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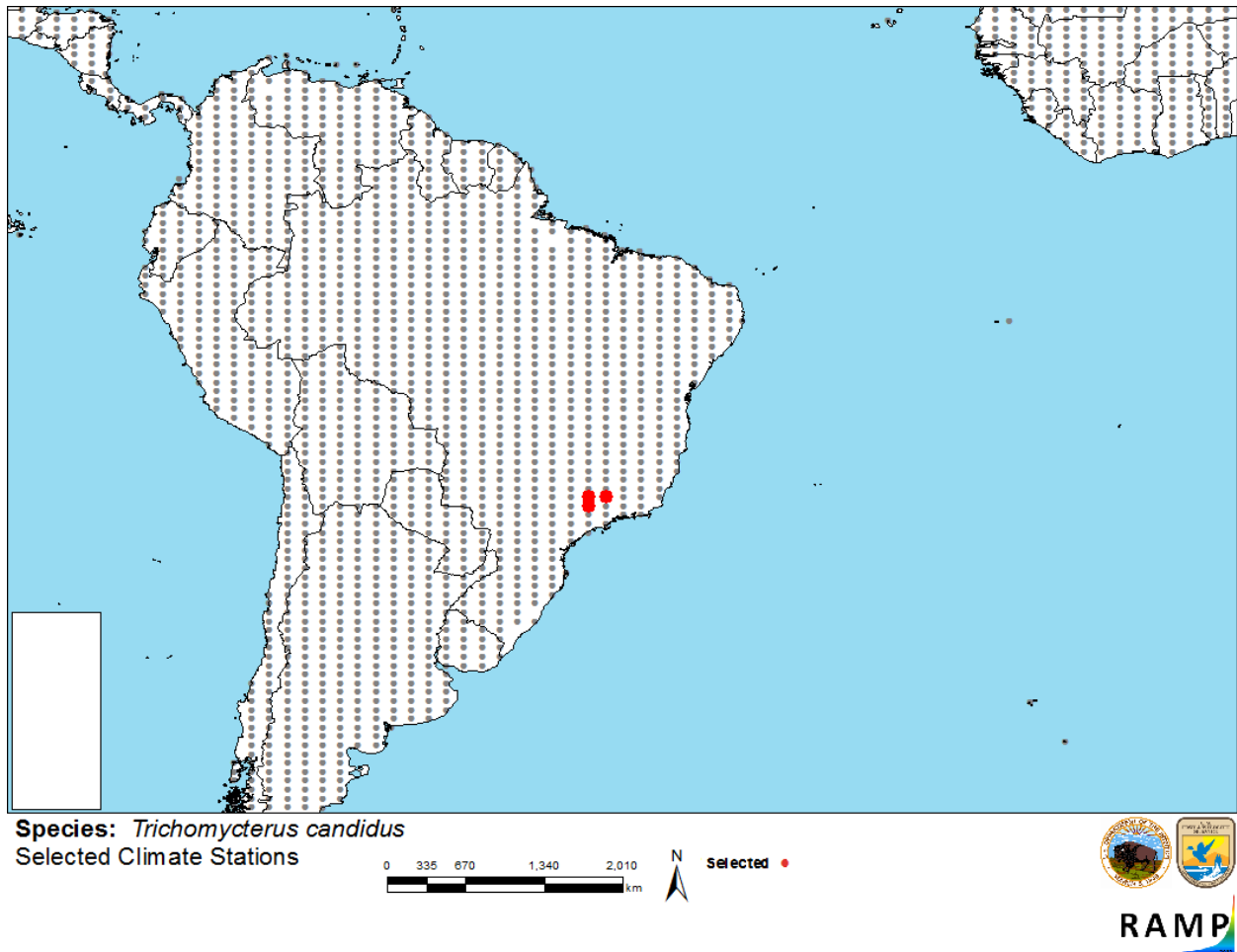
This species has not been documented as introduced or established in the U.S.

### 6 Climate Matching

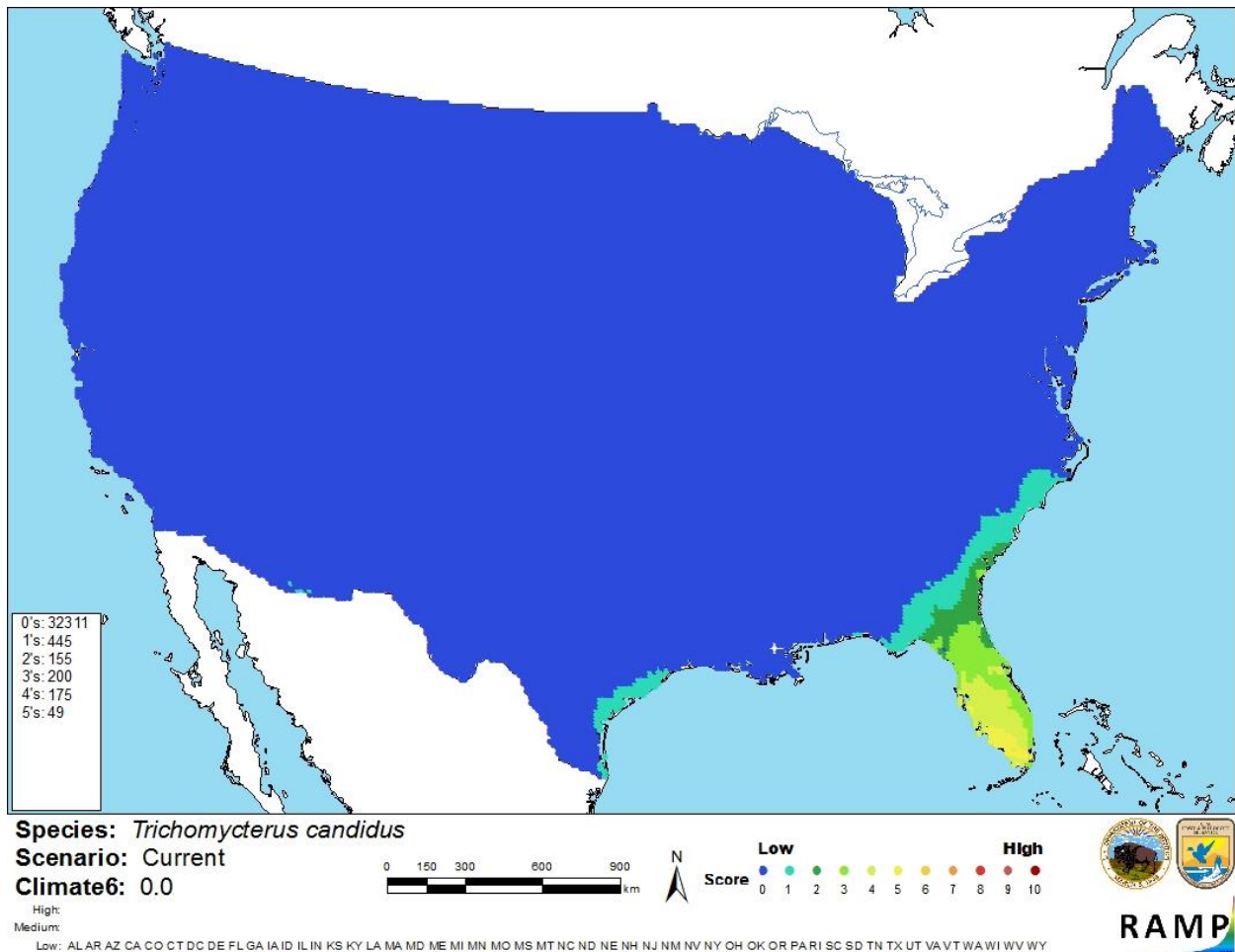
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#### Summary of Climate Matching Analysis

The climate match (Sanders et al. 2014; 16 climate variables; Euclidean Distance) was medium in southwestern Florida and low across the remainder of the contiguous United States. Climate 6 proportion indicated that the contiguous U.S. has a low climate match overall. A proportion less than or equal to 0.005 indicates a low climate match; the Climate 6 proportion of *Trichomycterus candidus* was 0.0.



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



**Figure 3.** Map of RAMP (Sanders et al. 2014) climate matches for *Trichomycterus candidus* 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
$\geq 0.103$	High

## 7 Certainty of Assessment

There is very limited information available on the biology, habitat preference, and physical attributes of *Trichomycterus candidus*. No introductions of the species have been documented, so no information is available on impacts of introduction. Certainty of this assessment is low.

## 8 Risk Assessment

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### Summary of Risk to the Contiguous United States

*T. candidus* is a small catfish native to the Grande River basin in Brazil. Little information is known about this species. It has a low climate match with the United States and no documented history of introduction, so potential impacts of introduction are unknown. The Florida Fish and Wildlife Conservation Commission has listed the parasitic catfish *T. candidus* as a prohibited species. Further information is needed to assess the risk posed by *T. candidus*. Overall risk assessment category for this species 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

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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.**

- DoNascimento, C., S. Prada-Pedrerros, and J. Guerrero-Kommritz. 2014. *Trichomycterus venulosus* (Steindachner, 1915), a junior synonym of *Eremophilus mutisii* Humboldt, 1805 (Siluriformes: Trichomycteridae) and not an extinct species. *Neotropical Ichthyology* 12(4):707-715.
- FFWCC (Florida Fish and Wildlife Conservation Commission). 2017. Prohibited species list. Florida Fish and Wildlife Conservation Commission, Gainesville, Florida. Available: <http://myfwc.com/wildlifehabitats/nonnatives/regulations/prohibited/#Trichomycterus>. (January 2017).
- Froese, R., and D. Pauly, editors. 2016a. *Trichomycterus candidus* (Miranda Ribeiro, 1949). FishBase. Available: <http://www.fishbase.org/summary/Trichomycterus-candidus.html>. (November 2016).
- Froese, R., and D. Pauly, editors. 2016b. Family Trichomycteridae - pencil or parasitic catfishes. FishBase. Available: <http://www.fishbase.org/summary/FamilySummary.php?ID=155>. (July 2016).
- GBIF (Global Biodiversity Information Facility). 2016. GBIF backbone taxonomy: *Trichomycterus candidus* (Mirando Ribeiro, 1949). Global Biodiversity Information Facility, Copenhagen. Available: <http://www.gbif.org/species/2343060>. (November 2016, January 2017).

ITIS (Integrated Taxonomic Information System). 2016. *Trichomycterus candidus* (Miranda Ribeiro, 1949). Integrated Taxonomic Information System, Reston, Virginia. Available: [http://www.itis.gov/servlet/SingleRpt/SingleRpt?search\\_topic=TSN&search\\_value=682107](http://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=682107). (August 2016).

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

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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.