

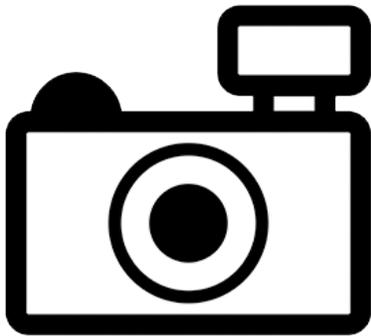
# ***Trichomycterus alterus* (a catfish, no common name)**

## **Ecological Risk Screening Summary**

U.S. Fish and Wildlife Service, December 2016

Revised, April 2017

Web Version, 4/26/2018



No Photo Available

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

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### **Native Range**

From Froese and Pauly (2017):

“South America: Humahuaca (Jujuy), Los Sauces River, Valle Guanchin (La Rioja) in Argentina.”

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

This species has not been reported in the United States. No trade in this species has 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 alterus*”

## Means of Introductions in the United States

This species has not been reported in the United States.

## Remarks

From GBIF (2016):

“BASIONYM

*Pygidium alterum* Marini, Nichols & La Monte, 1933”

## 2 Biology and Ecology

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### 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 Ostariophysii

Order Siluriformes

Family Trichomycteridae

Subfamily Trichomycterinae

Genus *Trichomycterus*

Species *Trichomycterus alterus* (Marini, Nichols and La Monte, 1933)”

“Taxonomic Standing: valid”

### Size, Weight, and Age Range

From Froese and Pauly (2017):

“Max length : 9.3 cm NG male/unsexed; [de Pinna and Wosiacki 2003]”

### Environment

From Froese and Pauly (2017):

“Freshwater; benthopelagic.”

## **Climate/Range**

From Froese and Pauly (2017):

“Subtropical, preferred ?”

## **Distribution Outside the United States**

Native

From Froese and Pauly (2017):

“South America: Humahuaca (Jujuy), Los Sauces River, Valle Guanchin (La Rioja) 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 (2002):

“The combination of the possession of an oval premaxilla, the presence of pelvic fins and the associated pelvic girdle, 6 to 9 branched dorsal fin rays, 11 to 14 ribs, a compressed caudal peduncle, the rounded, unpigmented region on the body anteroventral to the origin of the dorsal fin, the lack of a prominent pattern of dark pigmentation on the fins, the lack of a very thick, rugose layer of fatty tissue on the body and head, the presence of a portion of the laterosensory canal system within the sphenotic, the lack of an extensive perforation of the skin surface by ampullary organs, the lack of a dorsally directed spine on the scapulo-coracoid process, and the maximum body size of 60 mm SL in *T. alterus* differentiates that species from all other known members of the subfamily Trichomycterinae with the exception of *T. boylei*, which also has an oval premaxillae and the lack of a spine on the scapulo-coracoid process. *Trichomycterus alterus* differs from *T. boylei* in the number of precaudal vertebrae (3 to 5 vs 7 or 8, respectively), the number of principal caudal fin rays (12 vs 13, respectively), the form of the first pectoral fin ray (a distinct filament, vs developed slightly beyond fin margin, but not in form of distinct filament, respectively), the form of the maxillary barbel (distinctly expanded at the base into a bulblike region, vs not expanded basally, respectively), and the form of the teeth on the outer row of the premaxilla (straight sided incisiform, vs spatulated and distinctly distally expanded, respectively).”

## **Biology**

From Fernández and Vari (2002):

“*Trichomycterus alterus* was collected in mountainous rivers and streams that were generally 0.5-4.0 m wide and 0.2-1.0 m deep, with clear waters running over sandy and rock-pebble

substrates, at elevations of approximately 500-2500 m. The stomachs of two cleared-and-stained specimens of *T. alterus* contained dipteran larvae (Chironomidae and Ceratopogonidae), coleopterans (Elmidae), and ostracod crustaceans. The diet of autochthonous benthic macroinvertebrates in *T. alterus* is common to *T. belensis* and many congeners (Casatti and Castro, 1998; Ferriz, 1998; Fernández and Vari, 2000).”

## Human Uses

No information available.

## Diseases

No information available.

## Threat to Humans

From Froese and Pauly (2017):

“Harmless”

## 3 Impacts of Introductions

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This species has not been reported in the United States. The Florida Fish and Wildlife Conservation Commission has listed the parasitic catfish *T. alterus* as a prohibited species.

## 4 Global Distribution

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**Figure 1.** Known global established locations of *T. alterus* in Argentina. Map from Discover Life (2017).

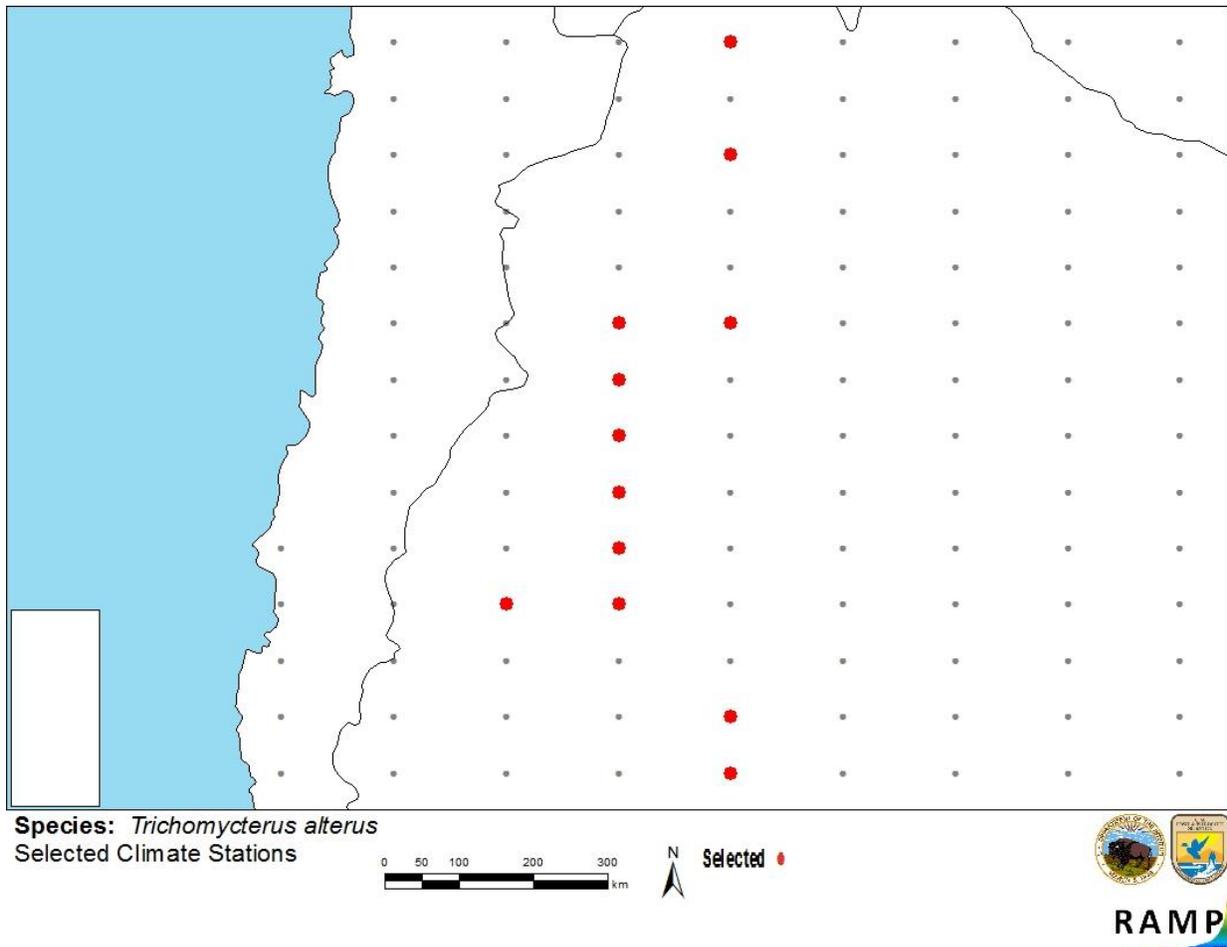
## 5 Distribution Within the United States

This species has not been reported in the United States.

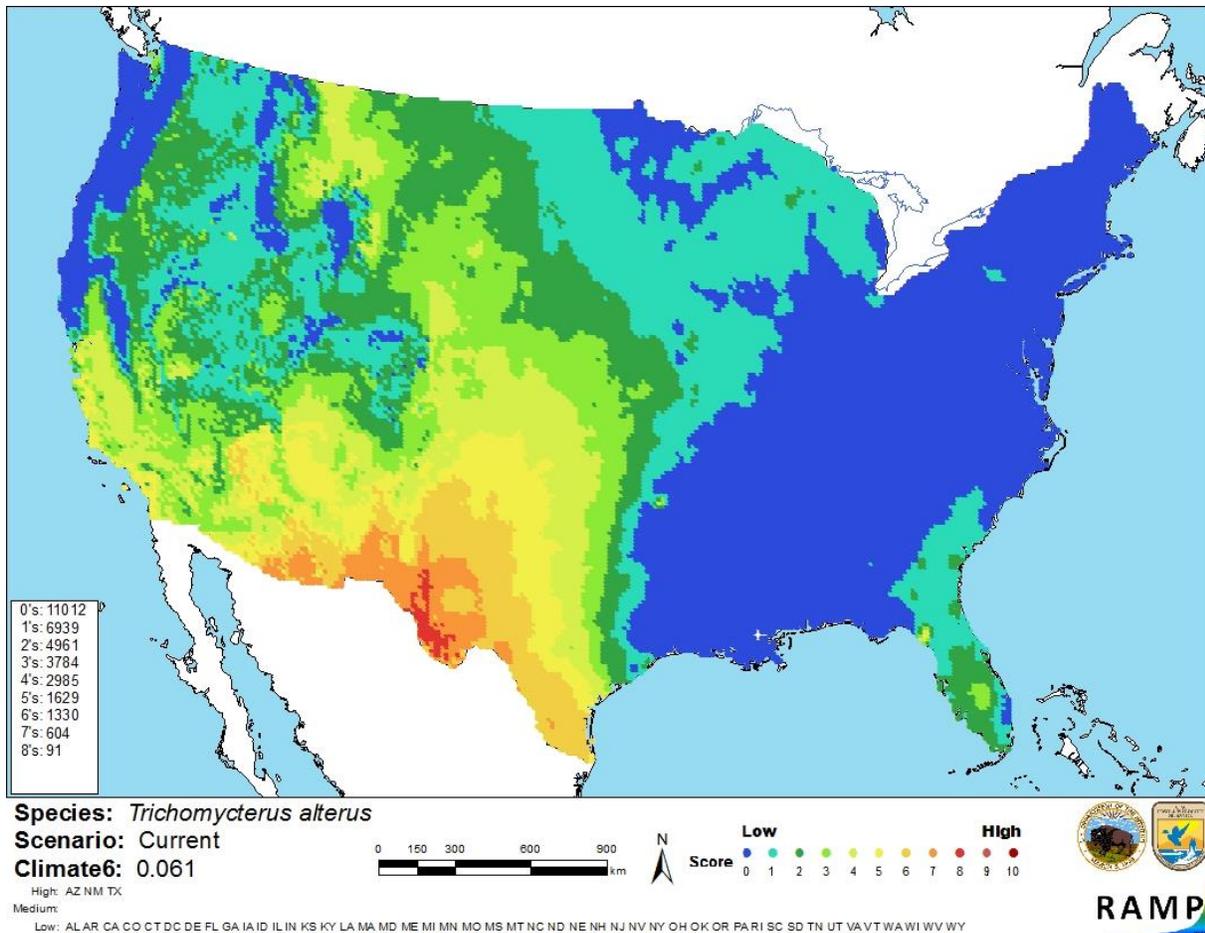
## 6 Climate Matching

### Summary of Climate Matching Analysis

The climate match (Sanders et al. 2014; 16 climate variables; Euclidean Distance) was high in parts of western Texas, New Mexico and Arizona, and medium in the remaining areas of the southwestern U.S. from central Texas to California and in isolated locations in Florida and Montana. All other areas of the contiguous U.S. showed low climate match. Climate 6 proportion indicated that the contiguous U.S. is a medium match overall. Proportions between 0.005 and 0.103 indicate a medium match; the Climate 6 proportion for *T. alterus* was 0.061.



**Figure 2.** RAMP (Sanders et al. 2014) source map showing weather stations selected as source locations (red) and non-source locations (gray) for *T. alterus* climate matching in northwestern Argentina. Source locations from GBIF (2016) and Fernandez and Bize (2017).



**Figure 3.** Map of RAMP (Sanders et al. 2014) climate matches for *T. alterus* in the contiguous United States based on source locations reported by GBIF (2016) and Fernandez and Bize (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<br>(Sum of Climate Scores 6-10) / (Sum of total Climate Scores) | Climate Match<br>Category |
|--|---------------------------|
| $0.000 \leq X \leq 0.005$  | Low                       |
| $0.005 < X < 0.103$  | Medium                    |
| $\geq 0.103$   | High                      |

## 7 Certainty of Assessment

Little is known about the biology and ecology of *T. alternus*. No introductions of this species have been reported, so impacts of introduction remain unknown. The certainty of this assessment is low because of the lack of information available.

## 8 Risk Assessment

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### Summary of Risk to the Contiguous United States

*Trichomycterus alterus* is an insectivorous trichomycterid catfish native to Argentina. *T. alterus* has a medium climate match to the contiguous United States. 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 postulate the potential impacts of introduction of *T. alterus* to the U.S. The Florida Fish and Wildlife Conservation Commission has listed the parasitic catfish *T. alterus* as a prohibited species. The overall risk posed by 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

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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.**

- Discover Life. 2016. Map of *Trichomycterus alterus*. Discover Life. Available: <http://www.discoverlife.org/mp/20m?kind=Trichomycterus+alterus>. (December 2016).
- Fernandez, L., and J. A. Bize. 2017. *Trichomycterus alterus* (Marini, Nichols & La Monte, 1933) and *T. corduvensis* Weyenberg 1877 (Siluriformes: Trichomycteridae): new records from the High Andean Plateau. *Check List* 13(2):2068.
- Fernández, L., and R. P. Vari. 2002. New species of *Trichomycterus* from the Andes of Argentina with a redescription of *Trichomycterus alterus* (Siluriformes: Trichomycteridae). *Copeia* 2002(3):739-747.
- 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. 2017. *Trichomycterus alterus* (Marini, Nichols & La Monte, 1933). FishBase. Available: <http://fishbase.org/summary/Trichomycterus-alterus.html>. (April 2017).
- GBIF (Global Biodiversity Information Facility). 2016. GBIF backbone taxonomy: *Trichomycterus alterus* (Marini, Nichols & La Monte, 1933). Global Biodiversity Information Facility, Copenhagen. Available: <http://www.gbif.org/species/2343116>. (April 2017).

ITIS (Integrated Taxonomic Information System). 2017. *Trichomycterus alterus* (Marini, Nichols and La Monte, 1933). Integrated Taxonomic Information System, Reston, Virginia. Available: [https://www.itis.gov/servlet/SingleRpt/SingleRpt?search\\_topic=TSN&search\\_value=682174#null](https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=682174#null). (April 2017).

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.**

Casatti, L., and R. M. C. Castro. 1998. The fish fauna from a small forest stream of the upper Paraná River basin, southeastern Brazil. *Ichthyological Exploration of Freshwaters* 7:337-352.

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.

Fernández, L., and R. P. Vari. 2000. A new species of *Trichomycterus* (Teleostei: Siluriformes: Trichomycteridae) lacking a pelvic girdle from the Andes of Argentina. *Copeia* 2000:990-996.

Ferriz, R. A. 1998. Alimentación de *Trichomycterus coduvense* Weyenbergh, 1879 (Teleostei: Trichomycteridae) en dos ríos serranos de San Luis, Argentina. *Revista del Museo Argentino de Ciencias Naturales "Bernardino Rivadavia"* series 8, 5:43-49.