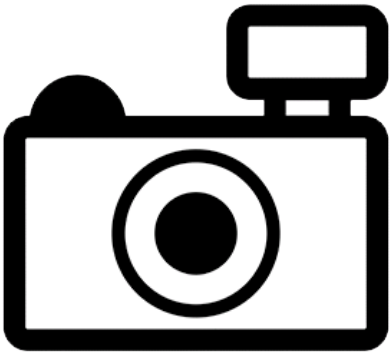
Trichomycterus romeroi (a catfish, no common name)
Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, December 2016
Revised, May 2017
Web Version, 5/4/2018



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1 Native Range, and Status in the United States

Native Range

From Villa-Navarro (2016):

"This species is only known from the Magdalena river system in Colombia (Castellanos-Morales and Galvis 2012). Its type locality is Honda, Tolima Department (Fowler 1941)."

Status in the United States

This species has not been reported as introduced or established 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 romeroi*"

Means of Introductions in the United States

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

Remarks

From Villa-Navarro (2016):

"It is only known from the holotype and four paratypes, despite intense efforts to find it around its type locality."

From GBIF (2016):

"BASIONYM
Pygidium romeroi Fowler, 1941"

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 romeroi* (Fowler, 1941)"

From Eschmeyer et al. (2016):

"Current status: Valid as *Trichomycterus romeroi* (Fowler 1941). Trichomycteridae: Trichomycterinae."

Size, Weight, and Age Range

From Froese and Pauly (2016):

“Max length : 6.6 cm NG male/unsexed; [de Pínna and Wosiacki 2003]”

Environment

From Froese and Pauly (2016):

“Freshwater; benthopelagic”

From Villa-Navarro (2016):

“The description of the type locality is not specific enough to determine the habitat requirements of this species. It has been searched for in rivers and creeks with sandy grounds around the type locality, to no avail.”

Climate/Range

From Froese and Pauly (2016):

“Tropical, preferred ?”

Distribution Outside the United States

Native

From Villa-Navarro (2016):

“This species is only known from the Magdalena river system in Colombia (Castellanos-Morales and Galvis 2012). Its type locality is Honda, Tolima Department (Fowler 1941).”

Introduced

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

Means of Introduction Outside the United States

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

Short Description

From Fowler (1941):

“Depth 6 to 7; head 4⅔ to 5, width 1 to 1 1/10. Snout 2⅕ to 2⅘ in head; eye 6 to 9, 1¾ to 3¾ in snout, 1⅗ to 2⅔ in interorbital, high and entering upper profile of head; mouth cleft broadly transverse, width 2 1/10 to 2¼ in head, lower jaw shorter than upper; lips smooth or only feebly papillate; row of small, uniform, close-set, subconic teeth in each jaw; nasal barbel 1 to 1⅛ in head, upper maxillary barbell 4⅖ to $4^{3}/_{7}$ in length of fish without caudal, lower maxillary barbell 1⅖ in head; interorbital 3½ to 3⅗, low, level; opercle with cluster of small spines and interopercle with greatly larger area of spines, which are larger, more numerous and in several series. Gill opening extends forward opposite middle of eye.”

“Skin smooth. No lateral line.”

"D. III, 6, I or III, 5, I, first branched ray 1½ in head, fin origin midway between hind edge of gill opening and hind tip of caudal fin or little nearer former; A. III, 4, I, first branched ray 1¼ to 1⅗ in head; least depth of caudal peduncle 1⅗ to 1⅞; caudal 1 1/10 and 1⅛, convex behind; pectoral rays I, 6, first ray flexible and ends in filament which is 1 to 1 + ⅛ times head; ventral rays I, 5, fin 1¾ to 2 in head, fin origin midway between front of eye and caudal base or little nearer latter."

"Color in alcohol light brown, under surfaces whitish. Each barbel pale and with brownish line. Iris pale. Dark suffused lateral band from eye to caudal base and reflected out on caudal fin medially, on body with many variable blackish spots or blotches throughout its course. Above many other variable blackish blotches, smaller, paler and more numerous about caudal base. Dorsal with brownish cloudings and some dark spots basally. Fins otherwise transparent."

Biology
No information available.

Human Uses
From Villa-Navarro (2016):

"The species is not utilized."

Diseases
No information available. No OIE-reportable diseases have been documented for this species.

Threat to Humans
From Froese and Pauly (2016):

"Harmless"

3 Impacts of Introductions
This species has not been reported as introduced or established outside of its native range.

The Florida Fish and Wildlife Conservation Commission has listed the parasitic catfish *Trichomycterus romeroi* as a prohibited species (FFWCC 2017).

4 Global Distribution

Figure 1. Map of the Magdalena River Basin in Colombia, which is the known distribution of *T. romeroi* (Villa-Navarro 2016). The type locality of *T. romeroi* is the town of Honda, Tolima Department, Colombia (Villa-Navarro 2016), indicated on the map by the red circle. Original map by Alexrk2; modified; used under CC BY-SA from Wikimedia Commons. Available: https://commons.wikimedia.org/w/index.php?curid=9438385. (December 2016, May 2017).

5 Distribution Within the United States

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

6 Climate Matching

Summary of Climate Matching Analysis

The climate match (Sanders et al. 2014; 16 climate variables; Euclidean Distance) was low throughout the entire U.S. except for a small area of medium match in northwestern Washington. Climate 6 proportion indicated that the contiguous U.S. has a low climate match overall. Climate 6 proportion indicates low climate match when equal to or less than 0.005; the Climate 6 proportion of *Trichomycterus romeroi* was 0.000.

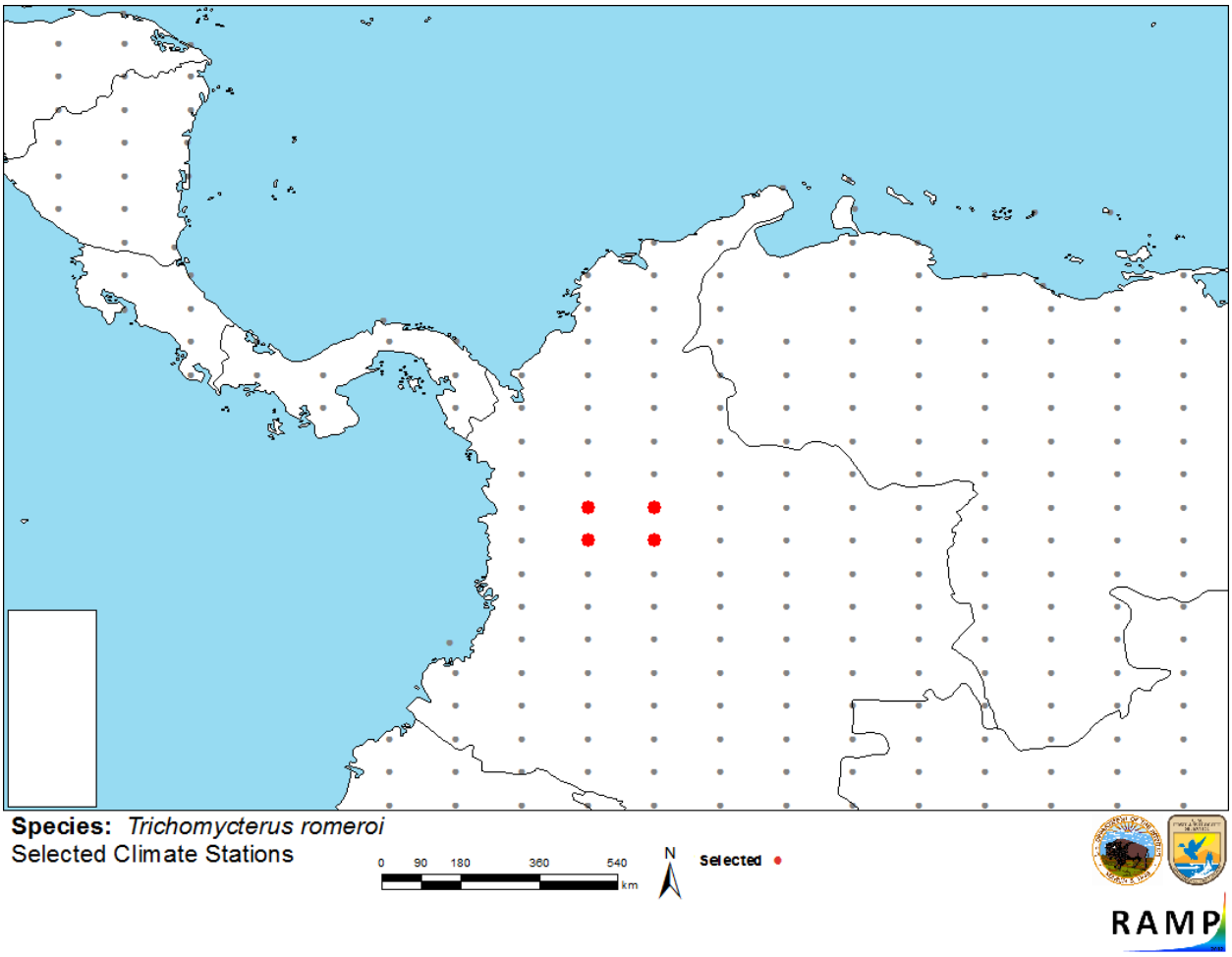

Figure 2. RAMP (Sanders et al. 2014) source map showing weather stations in northwestern South America selected as source locations (red; in Colombia) and non-source locations (gray) for *Trichomycterus romeroi* climate matching. Source locations were chosen based on the reported location of the holotype (Villa-Navarro 2016).

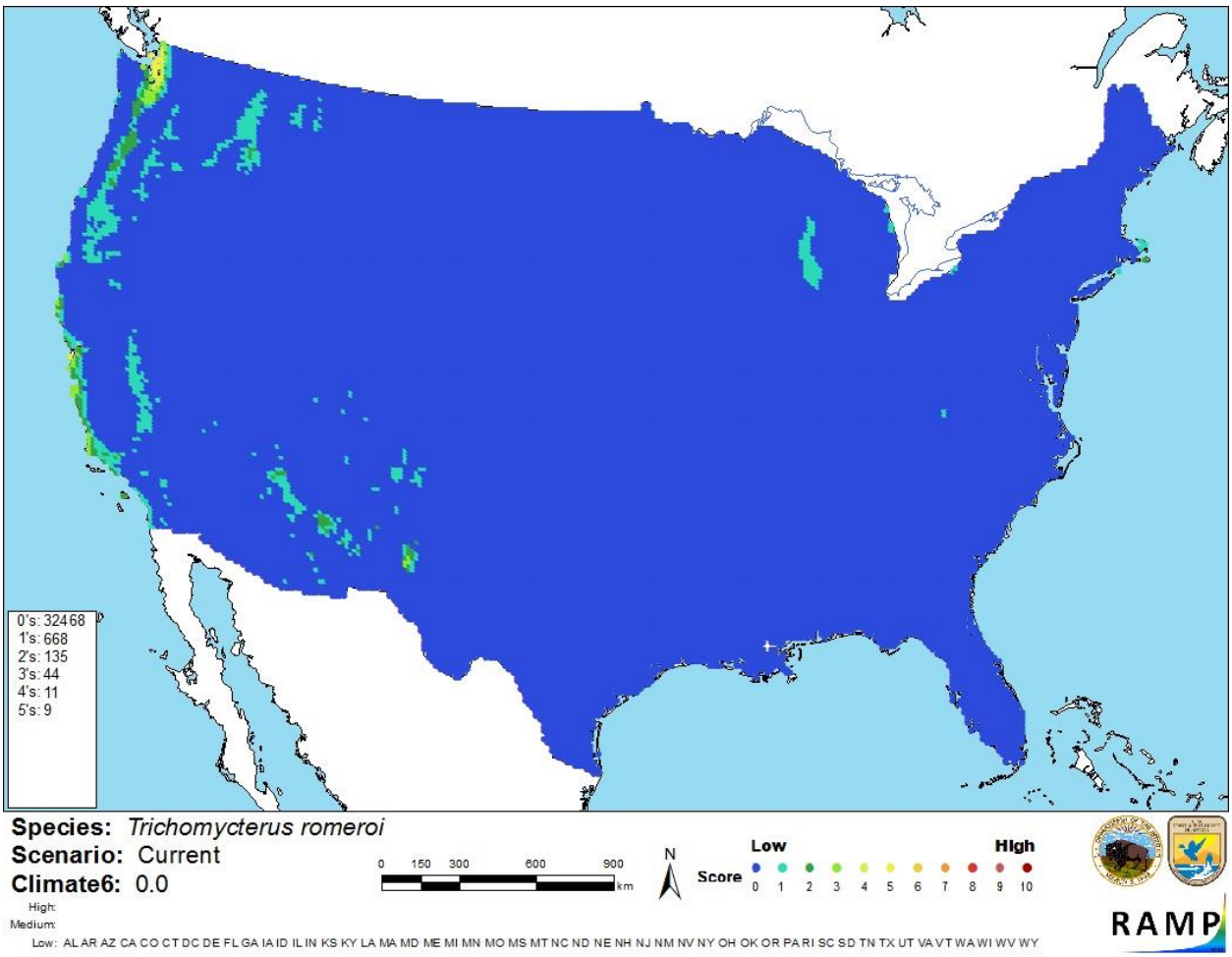

Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *Trichomycterus romeroi* in the contiguous United States using source locations based on the holotype location reported by Villa-Navarro (2016). 0=Lowest match, 10=Highest match. Counts of climate match scores are tabulated on the left.

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≤X≤0.005	Low
0.005<X<0.103	Medium
≥0.103	High

7 Certainty of Assessment

There is limited information available on *T. romeroi*. There is no documented history of introduction for this species so impacts of introduction remain unknown. *T. romeroi* has very limited information available in regards to its distribution. Certainty of this assessment is low because of the lack of information and high uncertainty.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Trichomycterus romeroi is a catfish native to the Magdalena river system in Colombia. It has a low climate match with the U.S. There is very little information available on this species because only five specimens have been collected, and there is only general distribution information available. The Florida Fish and Wildlife Conservation Commission has listed the parasitic catfish *T. romeroi* as a prohibited species. Overall risk assessment category 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.

Eschmeyer, W. N., R. Fricke, and R. van der Laan, editors. 2016. Catalog of fishes: genera, species, references. Available: http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp. (December 2016).

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/. (May 2017).

Froese, R., and D. Pauly, editors. 2016. *Trichomycterus romeroi* (Fowler, 1941). FishBase. Available: http://www.fishbase.org/summary/Trichomycterus-romeroi.html. (December 2016).

Fowler, H. W. 1941. Notes on Colombian fresh-water fishes with descriptions of four new species. Notulae Naturae 73:1-10.

GBIF (Global Biodiversity Information Facility). 2016. GBIF backbone taxonomy: *Trichomycterus romeroi* (Fowler, 1941). Global Biodiversity Information Facility, Copenhagen. Available: http://www.gbif.org/species/2343071. (May 2017).

ITIS (Integrated Taxonomic Information System). 2016. *Trichomycterus romeroi* (Fowler, 1941). Integrated Taxonomic Information System, Reston, Virginia. Available: https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=682258#null. (December 2016).

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

Villa-Navarro, F. 2016. *Trichomycterus romeroi*. The IUCN Red List of Threatened Species 2016. Available: http://www.iucnredlist.org/details/49830625/0. (December 2016).

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.

Castellanos-Morales, C. A., and F. Galvis. 2012. Species from the genus *Trichomycterus* (Siluriformes:Trichomycteridae) in Colombia. Boletín Científico Museo de Historia Natural 16(1):194-206.

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.