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

U.S. Fish and Wildlife Service, December 2016
Revised, April 2017
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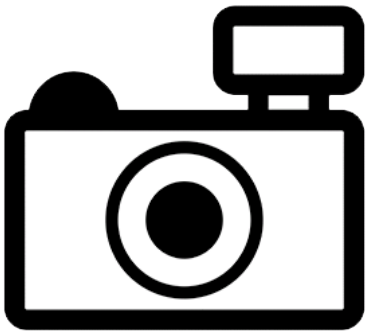

No Photo Available

1 Native Range and Status in the United States

Native Range

From Villa-Navarro et al. (2016):

"This species endemic to Colombia occurs in the creeks of Antioquia and in the Pacific slope rivers of the Dagua, Calima and San Juan basins (Maldonado-Ocampo et al. 2005). It also has been reported from Alto Napo, Ecuador, but this information should be verified. Its type locality is Boquía creek, Quindío Department, Upper Cauca (Eigenmann 1912)."

Status in the United States

This species has not been reported as introduced 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 chapmani*"

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* Valenciennes, 1832
Species *Trichomycterus chapmani* (Eigenmann, 1912)"

"Current Standing: valid"

Size, Weight, and Age Range

From Froese and Pauly (2016):

"Max length : 11.8 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 ?"

From Villa-Navarro et al. (2016):

“It has been found at elevations between 1,085 and 1,900 m asl, and temperatures between 16 and 23°C.”

Distribution Outside the United States

Native

From Villa-Navarro et al. (2016):

“This species endemic to Colombia occurs in the creeks of Antioquia and in the Pacific slope rivers of the Dagua, Calima and San Juan basins (Maldonado-Ocampo et al. 2005). It also has been reported from Alto Napo, Ecuador, but this information should be verified. Its type locality is Boquía creek, Quindío Department, Upper Cauca (Eigenmann 1912).”

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 Schaefer (2005):

“[…] spots […]”

“[…] seven total pectoral-fin rays […]”

“[…] skin of the trunk with […] papillae large, threadlike […]”

“[…] tip of adpressed pelvic-fin […] extending to anus […]”

“[…] teeth incisiform).”

Biology

From Villa-Navarro et al. (2016):

“There are no data on population size and trends for this species. It is not abundant.”

“This nocturnal species lives in torrential waters of small creeks and medium rivers hidden amongst the submerged vegetation, rocks and gravel. […] It feeds mainly on aquatic insects (Leptoceridae, Helicopsychidae, Hydropsychidae, Tricorythidae, Baetidae, Simuliidae, Culicidae, Tabanidae, Psychodidae, Chironomidae [and] Vellidae), arthropods, Hydra, Anélida, Nemátoda and plant remains (Maldonado-Ocampo et al. 2005).”

Human Uses
From Villa-Navarro et al. (2016):

"The species is not utilized."

Diseases
From Moravec et al. (2004):

"*Procamallanus* (*Spirocamallanus*) *chimusensis* (Freitas & Ibáñez, 1968) […]
Hosts: Catfishes *Trichomycterus chapmani* (Eigenman) and *Trichomycterus* spp. (Trichomycteridae, Siluriformes) […]
Site of infection: Stomach and intestine."

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 has listed the parasitic catfish *Trichomycterus chapmani* as a prohibited species (FFWCC 2017).

4 Global Distribution

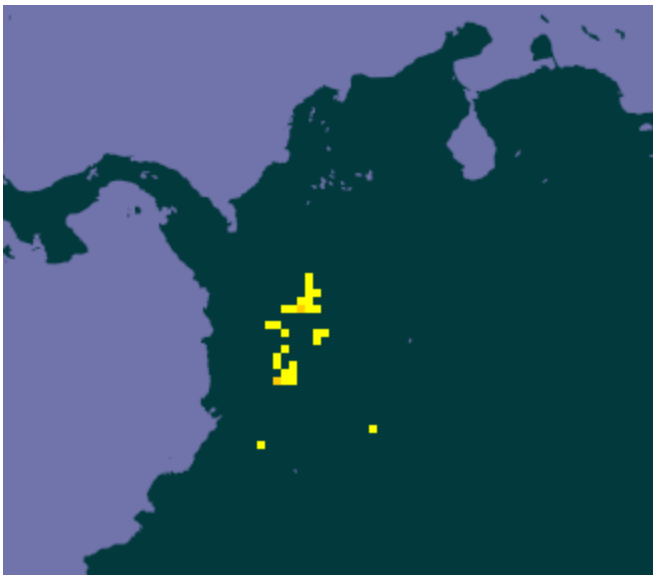

Figure 1. Known global established locations of *T. chapmani*. Map from GBIF (2016). Location reported in Ecuador (GBIF 2016) was not shown because this location requires confirmation as an established population (Villa-Navarro et al. 2016).

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 medium on the eastern coast of peninsular Florida and low elsewhere. Climate 6 proportion indicated a low climate match with the contiguous U.S. Proportions of 0.005 or less are classified as low match; Climate 6 proportion for *T. chapmani* was 0.000.

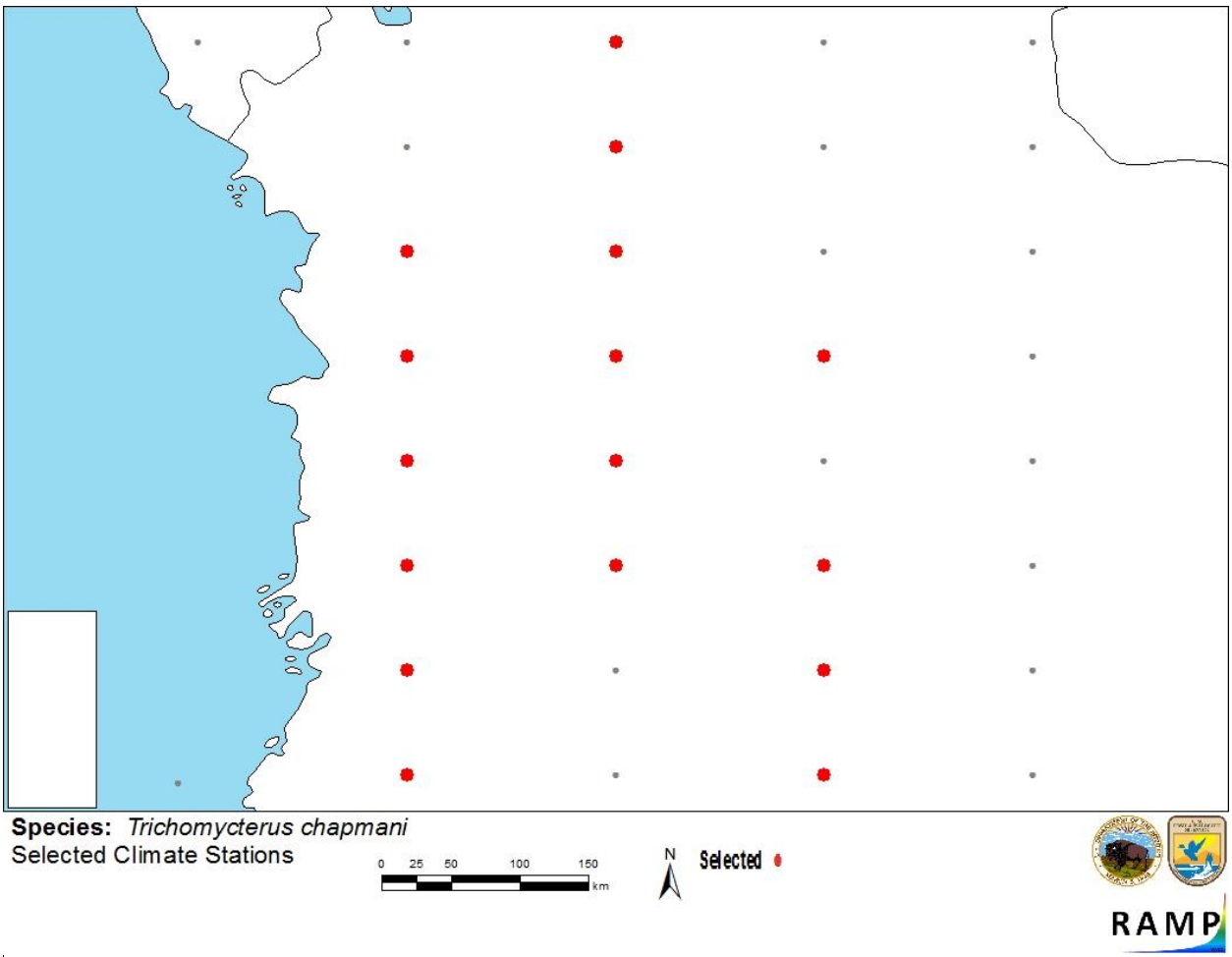

Figure 2. RAMP (Sanders et al. 2014) source map showing weather stations selected as source locations (red) and non-source locations (gray) for *T. chapmani* climate matching in Colombia. Source locations from GBIF (2016).

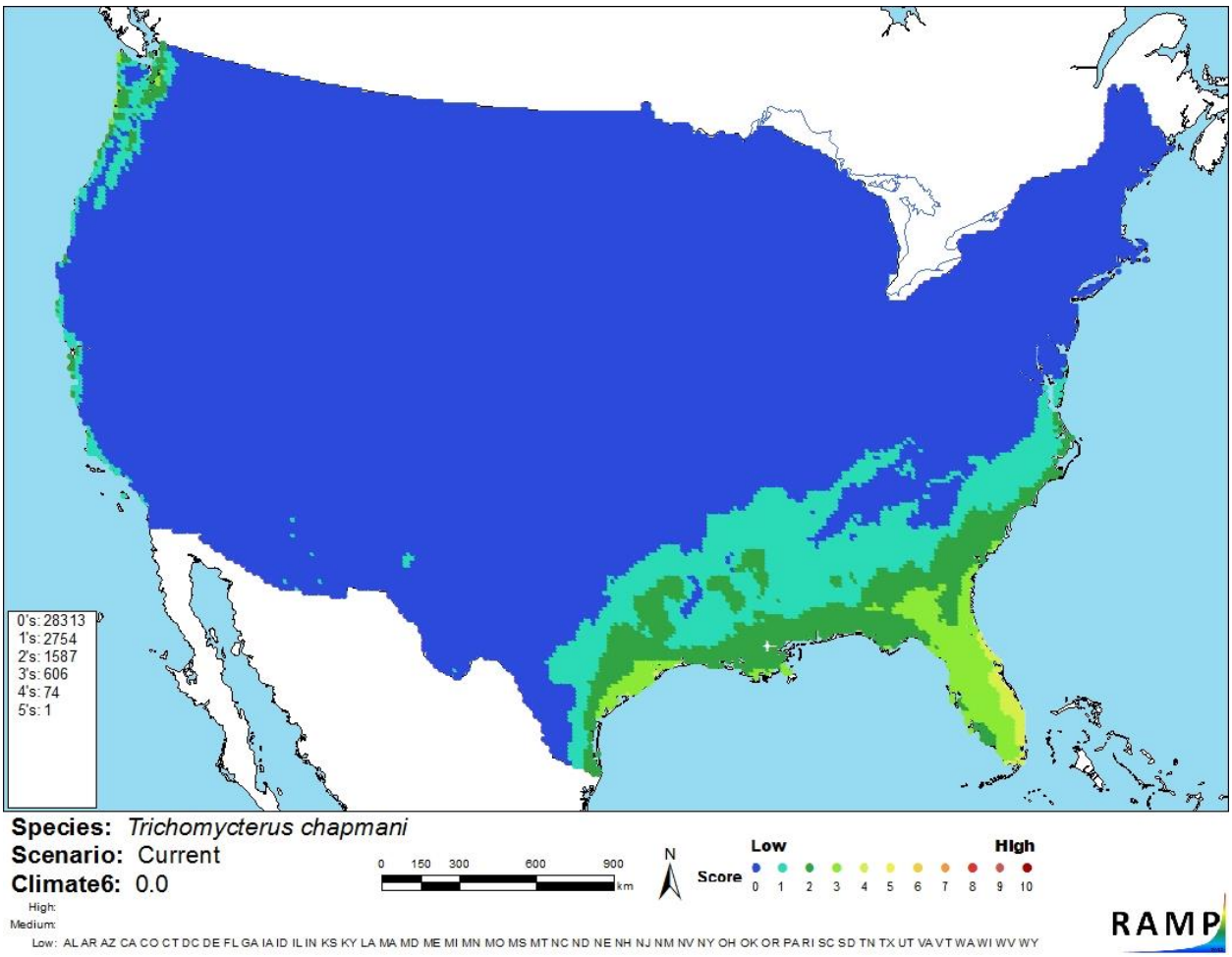

Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *T. chapmani* in the contiguous United States based on source locations reported by GBIF (2016). 0= Lowest match, 10=Highest match. Counts of climate match scores are tabulated on the left.

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

T. chapmani has never been introduced outside its native range, so any impacts of introductions of this species remain unknown. Little is known about the biology or ecology of *T. chapmani*, and some uncertainty surrounds the species distribution. The certainty of this assessment is low.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Trichomycterus chapmani is a catfish native to fast-flowing creeks and rivers in western Colombia. 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. chapmani* to the U.S. The Florida Fish and Wildlife Conservation Commission has listed the parasitic catfish *T. chapmani* as a prohibited species. Climate match to the contiguous U.S. is low. The overall risk to the contiguous U.S. posed by *T. chapmani* 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.

Fernández, L., and S. Schaefer. 2005. New *Trichomycterus* (Siluriformes: Trichomycteridae) from an offshore island of Colombia. Copeia 2005(1):68-76.

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 chapmani* (Eigenmann, 1912). FishBase. Available: http://www.fishbase.org/summary/48675. (December 2016).

GBIF (Global Biodiversity Information Facility). 2016. GBIF backbone taxonomy: *Trichomycterus chapmani* (Eigenmann, 1912). Global Biodiversity Information Facility, Copenhagen. Available: http://www.gbif.org/species/2343041. (December 2016, April 2017).

ITIS (Integrated Taxonomic Information System). 2016. Trichomycterus chapmani (Eigenmann, 1912). Integrated Taxonomic Information System, Reston, Virginia. Available: https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=682193#null. (December 2016).

Moravec, F., J. Chara, and A. P. Shinn. 2004. Two nematodes, *Dentinema trichomycteri* n. g., n. sp. (Cosmocercidae) and *Procamallanus chimusensis* Freitas & Ibañez, 1968

(Camallanidae), from catfishes *Trichomycterus* spp. (Pisces) in Colombia. Systematic Parasitology 59:189-197.

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

Villa-Navarro, F., L. Mesa-Salazar, and P. Sanchez-Duarte. 2016. *Trichomycterus chapmani*. The IUCN Red List of Threatened Species 2016: e.T49830263A61473868. Available: http://www.iucnredlist.org/details/full/49830263/0. (April 2017).

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 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.

Eigenmann, C. H. 1912. Some results from an ichthyological reconnaissance of Colombia, South America. Part I. (Contrib. Zool. Lab. Ind. Univ. No. 127.). Indiana University Studies 16:1-27.

Maldonado-Ocampo, J. A., A. Ortega-Lara, J. S. U. Oviedo, G. G. Vergara, F. A. Volla-Navarro, L. V. Gamboa, S. Prada-Pedreros, and C. A. Rodriguez. 2005. Peces de los Andes de Colombia. Guia de campo. Instituto de Investigacion de Recursos Biologicos Alexander von Humboldt, Bogota, Colombia.