

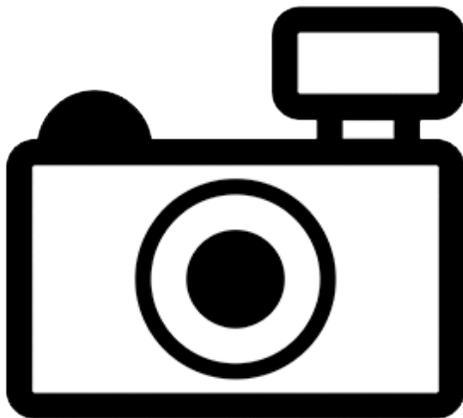
***Trichomycterus weyrauchi* (a catfish, no common name)**

Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, March 2017

Revised, April 2018

Web Version, 10/29/2019



No Photo Available

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2018):

“South America: Ucayali River basin (elevation 2900 m) in Peru.”

From Eschmeyer et al. (2018):

“Ucayali River basin, Peru.”

From Velasquez (2016):

“This species occurs in the Peruvian Amazon (Ortega et al. 2012), where it is known only from its type locality in Acobamba, near Tarma, in the Ucayali River basin at an altitude of 2,200 m (Fowler 1954).”

Status in the United States

This species has not been reported as introduced in the United States. There is no evidence that this species is in trade in the United States, based on a search of the literature and online aquarium retailers.

From Arizona Secretary of State (2006):

“Fish listed below are restricted live wildlife [in Arizona] as defined in R12-4-401. [...] South American parasitic catfish, all species of the family Trichomycteridae and Cetopsidae [...]”

From Dill and Cordone (1997):

“[...] At the present time, 22 families of bony and cartilaginous fishes are listed [as prohibited in California], e.g. all parasitic catfishes (family Trichomycteridae) [...]”

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.

[The list of prohibited nonnative species includes:]

Parasitic catfishes [...]

Trichomycterus weyrauchi”

From Louisiana House of Representatives Database (2010):

“No person, firm, or corporation shall at any time possess, sell, or cause to be transported into this state [Louisiana] by any other person, firm, or corporation, without first obtaining the written permission of the secretary of the Department of Wildlife and Fisheries, any of the following species of fish: [...] all members of the families [...] *Trichomycteridae* (pencil catfishes) [...]”

From Mississippi Secretary of State (2019):

“All species of the following animals and plants have been determined to be detrimental to the State's native resources and further sales or distribution are prohibited in Mississippi. No person shall import, sell, possess, transport, release or cause to be released into the waters of the state any of the following aquatic species or hybrids thereof.

[The list includes all species of] Family Trichomycteridae”

From Legislative Council Bureau (2018):

“Except as otherwise provided in this section and NAC 504.486, the importation, transportation or possession of the following species of live wildlife or hybrids thereof, including viable embryos or gametes, is prohibited [in Nevada]: [...]”

All species in the families Cetopsidae and Trichomycteridae”

From Utah DNR (2012):

“All species of fish listed in Subsections (2) through (30) are classified [in Utah] as prohibited for collection, importation and possession [...]

Parasitic catfish (candiru, carnero) family Trichomycteridae (All species)”

Means of Introductions in the United States

This species has not been reported as introduced in the United States.

Remarks

This species is listed as endangered on the IUCN Red List. From Velasquez (2016):

“The species has a restricted range (its extent of occurrence (EOO) is 3,160 km²) and it occurs at a single location that is affected by urban waste waters, causing a continuous decline in the quality of its habitat. Additional information is needed to determine if the species is more widely distributed and to assess the impact of the current threats on its population. Hence, it is listed as Endangered.”

Eschmeyer et al. (2018) list *Pygidium weyrauchi* as a synonym for *Trichomycterus weyrauchi*. Both names were used in searching for information for this report.

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

From ITIS (2018):

“Kingdom Animalia
Subkingdom Bilateria
Infrakingdom Deuterostomia
Phylum Chordata
Subphylum Vertebrata
Infraphylum Gnathostomata
Superclass Osteichthyes
Class Actinopterygii
Subclass Neopterygii
Infraclass Teleostei
Superorder Ostariophysii
Order Siluiformes
Family Trichomycteridae
Subfamily Trichomycterinae
Genus *Trichomycterus*
Species *Trichomycterus weyrauchi*”

From Eschmeyer et al. (2018):

“Current status: Valid as *Trichomycterus weyrauchi* (Fowler 1945). Trichomycteridae: Trichomycterinae.”

Size, Weight, and Age Range

From Froese and Pauly (2018):

“Max length: 4.9 cm male/unsexed [de Pínna and Wosiacki 2003].”

Environment

From Froese and Pauly (2018):

“Freshwater; benthopelagic.”

Climate/Range

From Froese and Pauly (2018):

“Tropical, preferred ?”

Distribution Outside the United States

Native

From Froese and Pauly (2018):

“South America: Ucayali River basin (elevation 2900 m) in Peru.”

From Eschmeyer et al. (2018):

“Ucayali River basin, Peru.”

From Velasquez (2016):

“This species occurs in the Peruvian Amazon (Ortega et al. 2012), where it is known only from its type locality in Acobamba, near Tarma, in the Ucayali River basin at an altitude of 2,200 m (Fowler 1954).”

Introduced

This species has not been reported beyond its native range.

Means of Introduction Outside the United States

This species has not been reported beyond its native range.

Short Description

From Fowler (1945):

“Depth $6\frac{1}{2}$ to $6\frac{7}{8}$; head $4\frac{1}{4}$ to $4\frac{3}{4}$, width $1\frac{1}{10}$ to $1\frac{1}{8}$ in its length. Snout (in profile) $2\frac{1}{8}$ to $3\frac{1}{8}$ in head; eye 5 to $6\frac{1}{5}$, 2 in snout, $1\frac{4}{5}$ to 2 in interorbital, high and entering upper profile of head; mouth cleft moderate, transverse, width $2\frac{2}{3}$ to $2\frac{4}{5}$ in head; lower jaw low, well shorter than upper; lips smooth; minute teeth in bands in jaws; nasal barbell $1\frac{3}{7}$ to $1\frac{2}{3}$ in head; upper maxillary barbell $1\frac{1}{8}$ to $1\frac{1}{2}$, in type reaches pectoral origin, lower maxillary barbel $1\frac{3}{4}$ to 2; interorbital width $2\frac{2}{3}$ to 3 in head, low, level; opercle with cluster of moderately small spines and large cluster on interopercle, arranged in several irregular series. Gill opening extends forward opposite front of eye.”

“Skin smooth, without distinct lateral line.”

“D. II, 7 or 8, second branched ray $1\frac{1}{2}$ to 2 in head, fin origin midway between front to hind eye edge and hind caudal edge; A. II, 6, first branched ray $1\frac{1}{2}$ to $1\frac{2}{3}$ in head; least depth of caudal peduncle $1\frac{2}{3}$ to 2; caudal fin $1\frac{1}{10}$ to $1\frac{1}{4}$, truncate behind; pectoral $1\frac{1}{5}$ to $1\frac{1}{2}$, rays 7; ventral 6, fin $2\frac{1}{4}$ to $2\frac{1}{2}$ in head.”

“Color in alcohol pale or light grayish to pale olive buff. A dark to gray black axial lateral band, made up of large undefined dark to blackish blotches and not extended on caudal base. Hind part of hypural with transverse dark line at bases of median caudal rays. Above and below dark lateral band on body are scattered dark gray variable spots and blotches. Dark grayish spots and shades on sides and upper part of head. Iris grayish. Barbels pale. Fins pale gray, lower ones whitish.”

Biology

From Velasquez (2016):

“It probably occurs in clear waters and has insectivorous habits. The quality of its habitat is inferred to be declining due to pollution from urban waste waters.”

Human Uses

No information available.

Diseases

No information available. No OIE-reportable diseases (OIE 2019) have been documented for this species.

Threat to Humans

From Froese and Pauly (2018):

“Harmless.”

3 Impacts of Introductions

No introductions of *Trichomycterus weyrauchi* have been reported outside its native range so no impacts of introduction are known.

The importation, possession, or trade of the parasitic catfish *T. weyrauchi* is prohibited or restricted in the following states: Arizona (Arizona Secretary of State 2006), California (Dill and Cordone 1997), Florida (FFWCC 2017), Louisiana (Louisiana House of Representatives Database 2010), Mississippi (Mississippi Secretary of State 2019), Nevada (Legislative Council Bureau 2018), and Utah (Utah DNR 2012).

4 Global Distribution

No georeferenced occurrences of *T. weyrauchi* were available (GBIF Secretariat 2019).



Figure 1. Map of Peru showing the location of the city of Tarma. The type locality and only known occurrences of *T. weyrauchi* are near Tarma (Velasquez 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 6 score (Sanders et al. 2018; 16 climate variables; Euclidean distance) for the contiguous United States was 0.0, indicating a low overall climate match. (Scores between 0.000 and 0.005, inclusive, are classified as low.) The climate match was medium-high in coastal California from approximately San Francisco to Los Angeles, and medium throughout Florida, in

southeast New Mexico and near Seattle. The remainder of the contiguous United States had a low climate match. All States had low individual Climate 6 scores.

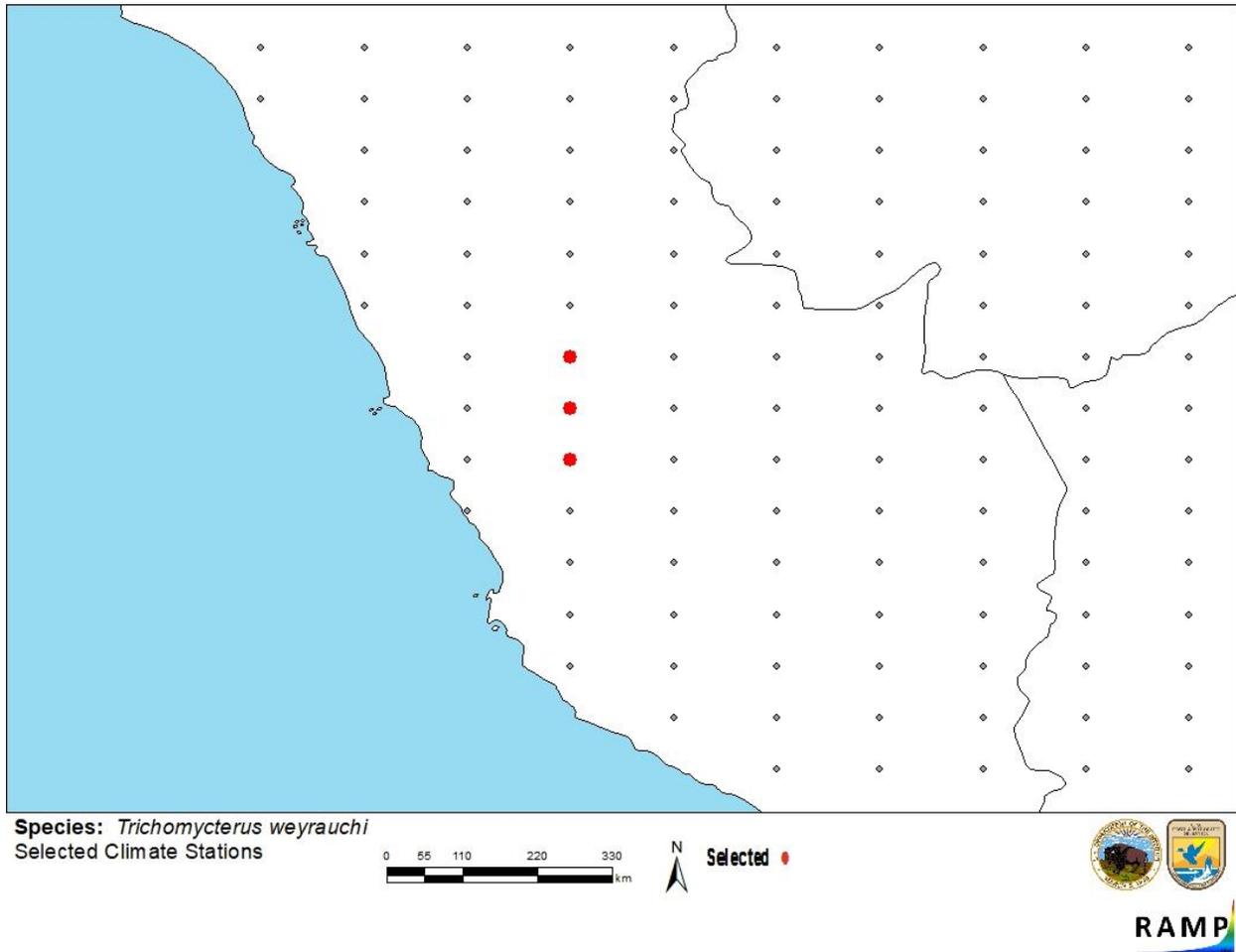


Figure 2. RAMP (Sanders et al. 2018) source map showing weather stations selected as source locations (red; Peru) and non-source locations (gray) for *Trichomycterus weyrauchi* climate matching. Source locations estimated from verbal description in Velasquez (2016).

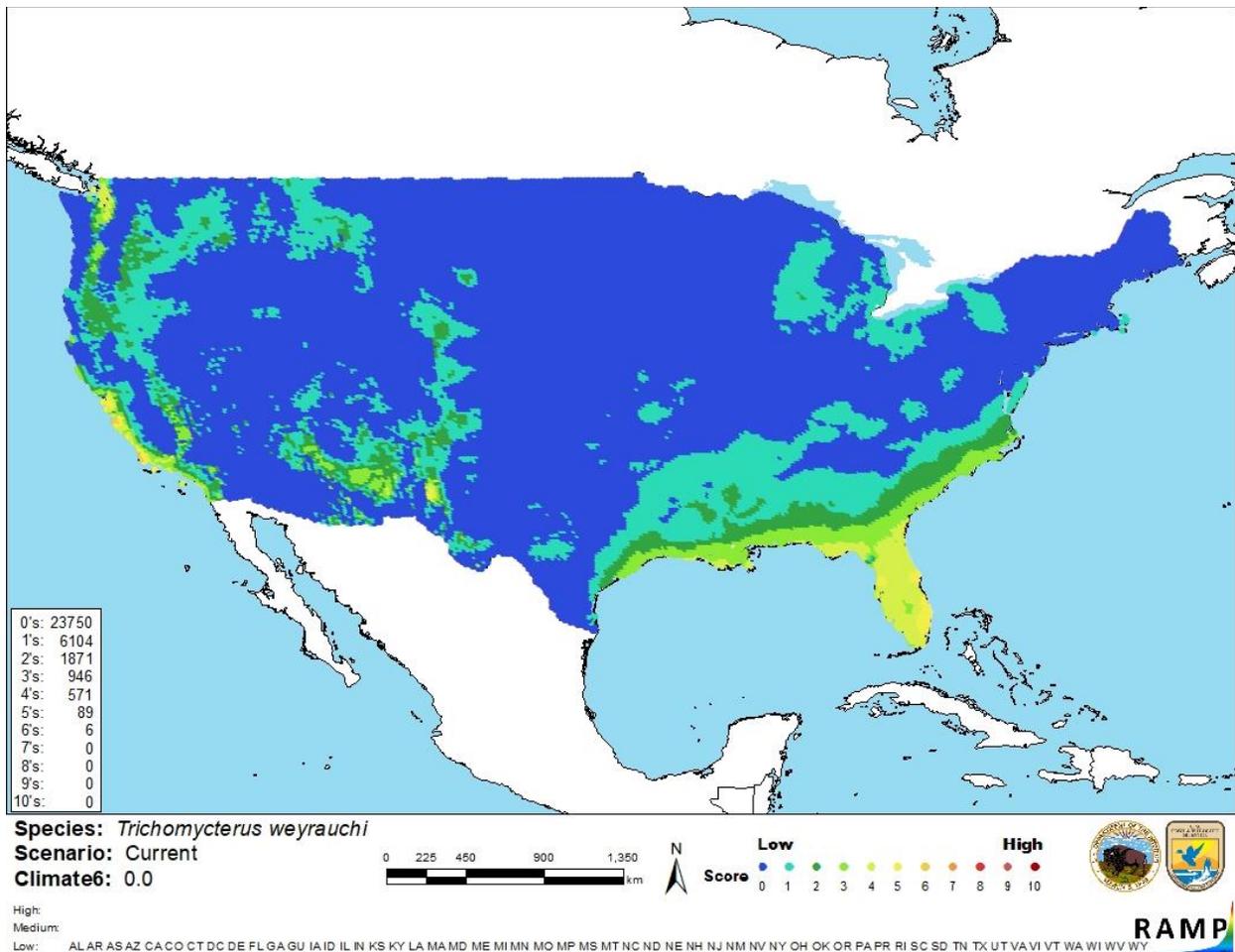


Figure 3. Map of RAMP (Sanders et al. 2018) climate matches for *Trichomycterus weyrauchi* in the contiguous United States based on source locations estimated from verbal description in Velasquez (2016). 0=Lowest match, 10=Highest match.

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
$0.000 \leq X < 0.005$	Low
$0.005 < X < 0.103$	Medium
≥ 0.103	High

7 Certainty of Assessment

There is little information available on *Trichomycterus weyrauchi*. More research is needed to address the species’ biology, ecology, and distribution. No introductions of this species outside of its native range have been documented. Certainty of this assessment is low due to a lack of information.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Trichomycterus weyrauchi is a small catfish native to the Ucayali River basin in Peru. The species is considered endangered because it occurs in a single location affected by urban waste waters, causing a continuous decline in the quality of its habitat. More research is needed to determine if the species is more widely distributed and to address existing knowledge gaps. There are no reported introductions of this species. History of invasiveness is uncertain, and certainty of assessment is low. *T. weyrauchi* has a low climate match within the contiguous United States, although medium matches occurred along parts of the Pacific Coast, southeast New Mexico and in Florida. Overall risk assessment is uncertain due to the limited amount of available information about the species.

Assessment Elements

- **History of Invasiveness (Sec. 3): Uncertain**
- **Climate Match (Sec. 6): Low**
- **Certainty of Assessment (Sec. 7): Low**
- **Remarks/Important additional information:** *T. weyrauchi* is considered endangered by the IUCN.
- **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.

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Eschmeyer, W. N., R. Fricke, and R. van der Laan, editors. 2017. Catalog of fishes: genera, species, references. Available: <http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp>. (April 2018).

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).

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- Sanders, S., C. Castiglione, and M. H. Hoff. 2018. Risk Assessment Mapping Program: RAMP, version 3.1. U.S. Fish and Wildlife Service.
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- Velasquez, M. 2016. *Trichomycterus weyrauchi*. The IUCN Red List of Threatened Species 2016: e.T49830538A53818508. Available: <http://www.iucnredlist.org/details/49830538/0>. (April 2018).

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.