

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

## **Ecological Risk Screening Summary**

U.S. Fish and Wildlife Service, January 2017

Revised, April 2017

Web Version, 4/30/2018

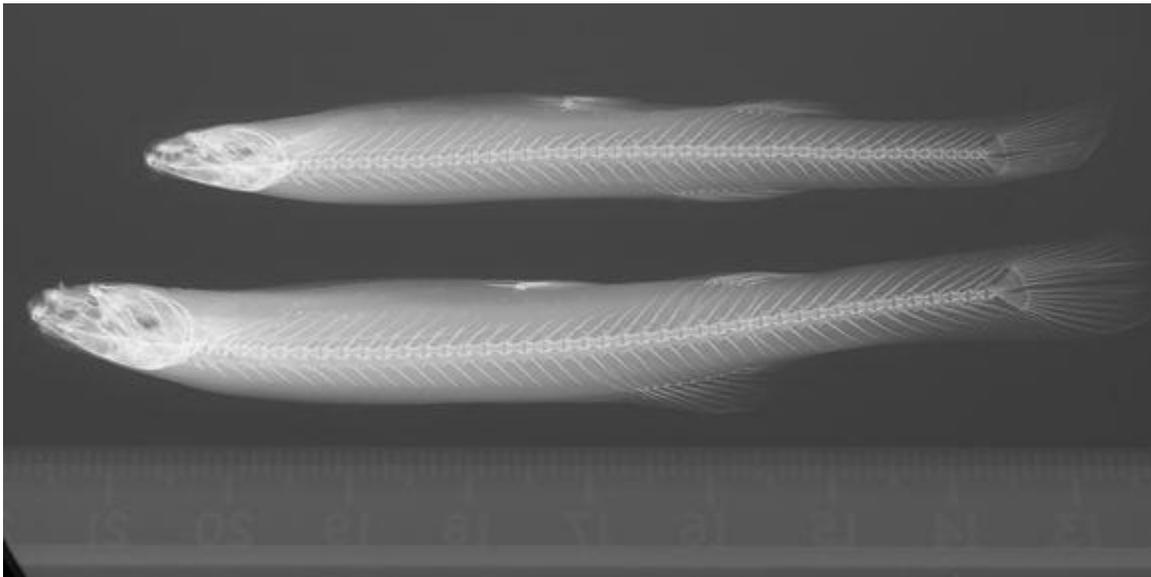


Photo: Smithsonian Institution, National Museum of Natural History, Department of Vertebrate Zoology, Division of Fishes. Licensed under Creative Commons BY-NC-SA. Available: [http://eol.org/data\\_objects/18137203](http://eol.org/data_objects/18137203). (April 2017).

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

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### **Native Range**

From Froese and Pauly (2016):

“South America: western drainages in central Chile.”

### **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 chiltoni*”

## Means of Introduction into the United States

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

## Remarks

From GBIF (2016):

“BASIONYM  
*Pygidium chiltoni* Eigenmann, 1928”

## 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 Ostariophysi  
Order Siluriformes  
Family Trichomycteridae  
Subfamily Trichomycterinae  
Genus *Trichomycterus*  
Species *Trichomycterus chiltoni* (Eigenmann, 1928)”

“Current Standing: valid”

### Size, Weight, and Age Range

From Froese and Pauly (2016):

“Max length : 17.0 cm male/unsexed; [de Pínna and Wosiacki 2003]”

## **Environment**

From Froese and Pauly (2016):

“Freshwater; benthopelagic.”

## **Climate/Range**

From Froese and Pauly (2016):

“Temperate, preferred ?”

## **Distribution Outside the United States**

Native

From Froese and Pauly (2016):

“South America: western drainages in central Chile.”

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 Eigenmann (1920):

“Head 6-7; depth 7.5-9; D. 14; A. 10.

Eel-like, much compressed at caudal peduncle; outer maxillary barbel extending very little beyond the first interopercular spines; nasal barbel a little beyond eye. Depth of caudal peduncle 1.66-2 in the length of the head; width of caudal peduncle 3.5-4 in its depth; width of head about equal to its length behind the posterior nares, teeth conical, in narrow bands.

Origin of dorsal equidistant from tip of caudal and some point on anterior half of the head, its base equal to the head without the opercular spines; last anal ray considerably behind the vertical from the last dorsal ray, its distance from the caudal 3.75-4.25 in the length; caudal slightly emarginate; origin of ventrals nearer snout than caudal by one-third or one-fourth the length of the head; pectoral without a filament.

Very [n]umerous black spots of variable size, with yellow vermiculations between.

Vertebrae: coalesced 43+I, counted in two specimens.”

## **Biology**

From Scott et al. (2007):

“*T. areolatus* and *T. chiltoni* may be classified as strict insectivores, feeding mainly on aquatic insects (Habit et al. 2005), and these fishes, as do other siluroids, scrape organisms from plant and rock surfaces (Aranha et al. 1998).”

“Trophic composition of *T. chiltoni* and *T. areolatus* consisted mainly of chironomids in all seasons [...] Ephemeroptera was almost absent in both species during winter, but represented almost 20 % of prey items the rest of the year. Prey organisms that represented less than five percent (Others), include the following insects: Coleoptera, Diptera, Baetidae, Tipulidae, Simuliidae and Odonata; crustaceans: Decapoda and Amphipoda; Hirudinea and molluscs. [...] *Trichomycterus chiltoni* showed the greatest niche breadth.”

“*T. chiltoni* shows a differential diet at different body sizes as intraspecific habitat partitioning (Arratia 1983).”

## **Human Uses**

From Froese and Pauly (2016):

“Fisheries: of no interest”

## **Diseases**

No information available. No OIE-reportable diseases have been reported.

## **Threat to Humans**

From Froese and Pauly (2016):

“Harmless”

## **3 Impacts of Introductions**

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No introductions of this species have been reported.

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

## 4 Global Distribution

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**Figure 1.** Known global established locations of *T. chiltoni*, reported in Chile. Map from GBIF (2016).

## 5 Distribution Within the United States

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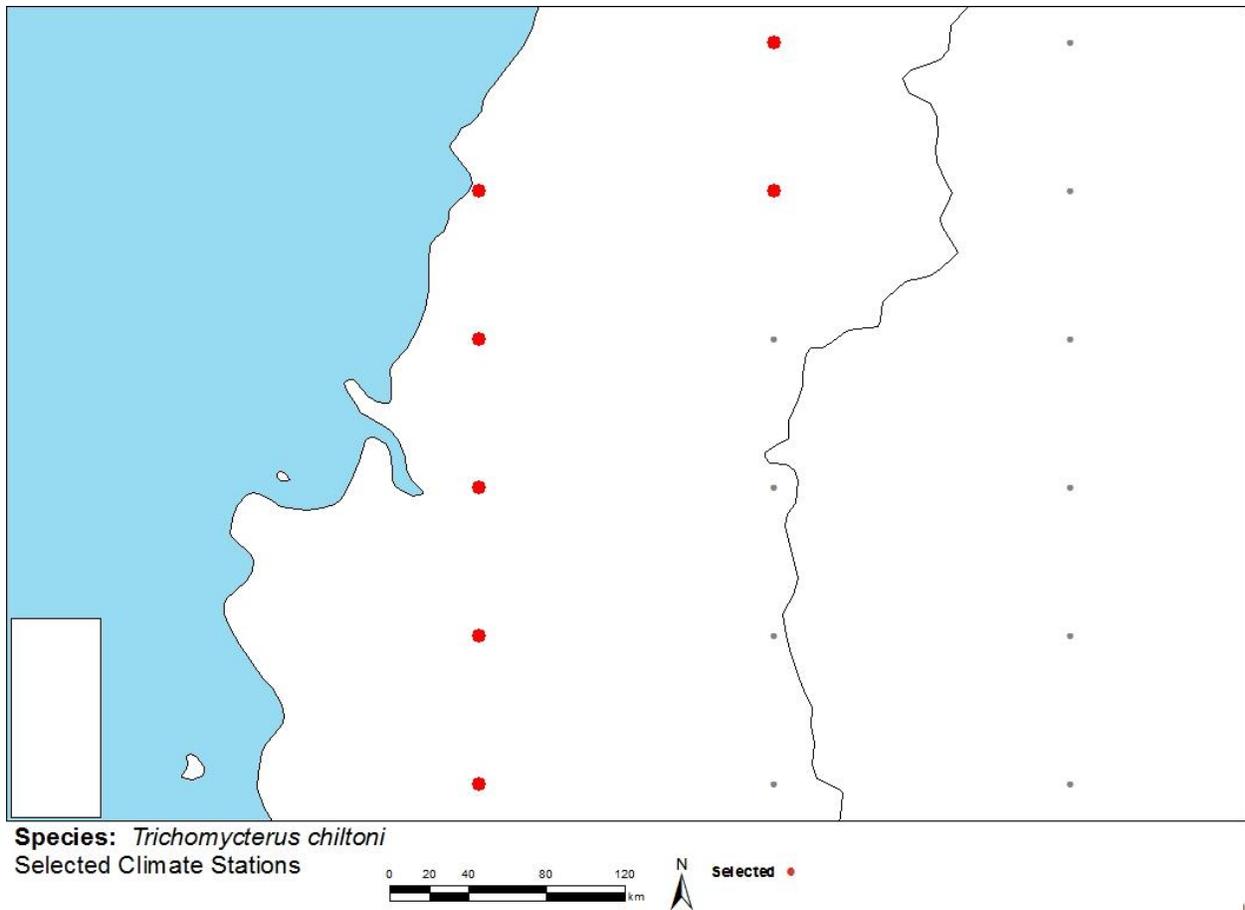
This species has not been reported in the United States.

## 6 Climate Matching

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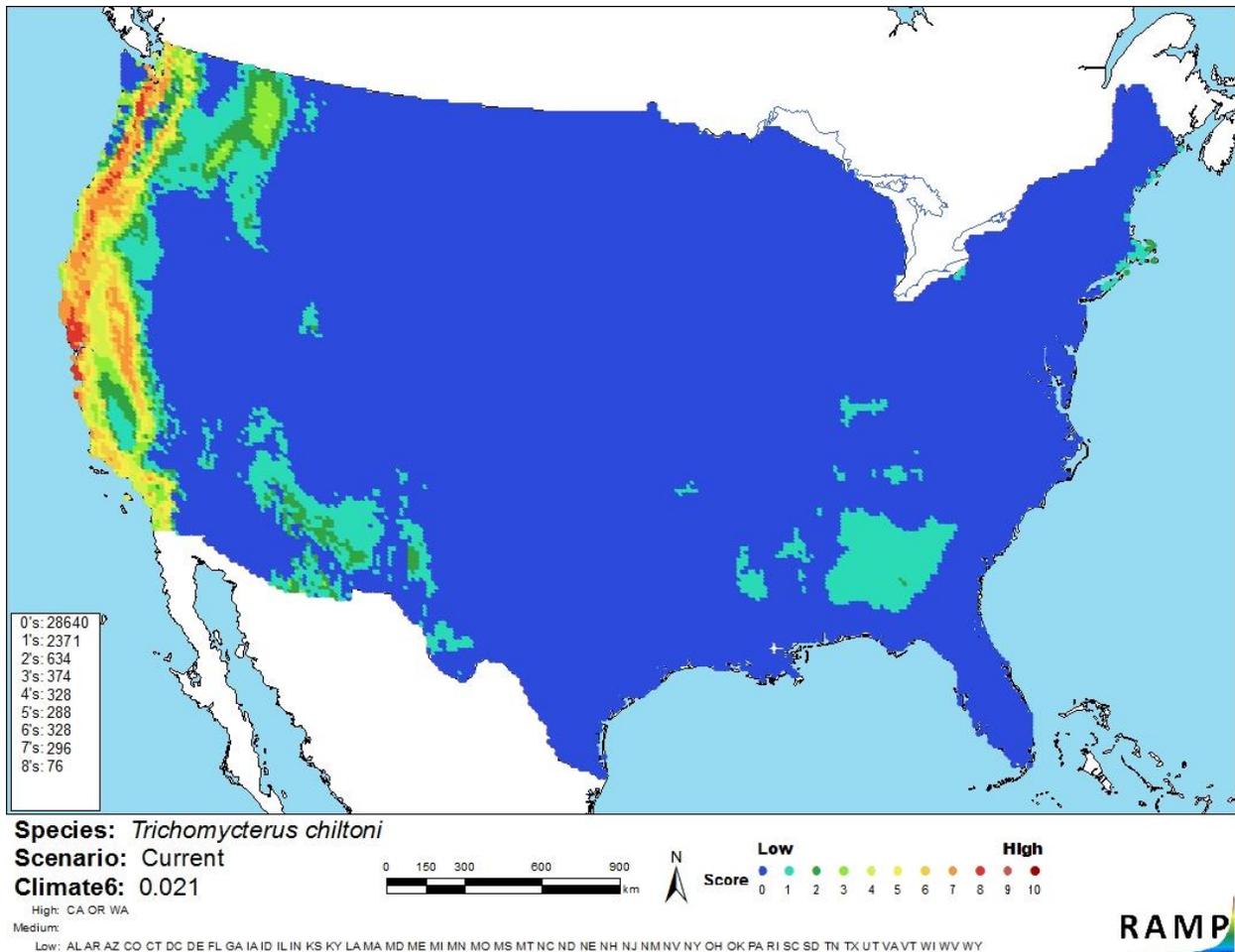
### Summary of Climate Matching Analysis

The climate match (Sanders et al. 2014; 16 climate variables; Euclidean Distance) was medium to high along the length of the Pacific coast. All other areas of the contiguous U.S. showed low climate match. Climate 6 proportion indicated a medium climate match overall for the contiguous U.S. Proportions between 0.005 and 0.103 are classified as medium match; the Climate 6 proportion for *T. chiltoni* was 0.021.



**RAMP**

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



**Figure 3.** Map of RAMP (Sanders et al. 2014) climate matches for *T. chiltoni* 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
$0.000 \leq X < 0.005$	Low
$0.005 < X < 0.103$	Medium
$\geq 0.103$	High

## 7 Certainty of Assessment

*T. chiltoni* has never been introduced outside its native range, so any impacts of introduction are unknown. Little information is available on the biology, ecology, or distribution of *T. chiltoni*. The certainty of this assessment is low.

## 8 Risk Assessment

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### Summary of Risk to the Contiguous United States

*Trichomycterus chiltoni* is a catfish species native to rivers in central Chile. 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. chiltoni* to the U.S. The Florida Fish and Wildlife Conservation Commission has listed the parasitic catfish *T. chiltoni* as a prohibited species. Climate match to the contiguous United States is medium. The overall risk posed by *T. chiltoni* 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.**

Eigenmann, C. H. 1920. On a new species of *Hatcheria* and a new species of *Pygidium*. *Revista Chilena de Historia Natural* 23:53-54.

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 chiltoni* (Eigenmann, 1928). FishBase. Available: <http://www.fishbase.org/summary/Trichomycterus-chiltoni.html>. (January 2017).

GBIF (Global Biodiversity Information Facility). 2016. GBIF backbone taxonomy: *Trichomycterus chiltoni* (Eigenmann, 1928). Global Biodiversity Information Facility, Copenhagen. Available: <http://www.gbif.org/species/2343208>. (January 2017).

ITIS (Integrated Taxonomic Information System). 2017. *Trichomycterus chiltoni* (Eigenmann, 1928). Integrated Taxonomic Information System, Reston, Virginia. Available: [https://www.itis.gov/servlet/SingleRpt/SingleRpt?search\\_topic=TSN&search\\_value=682194#null](https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=682194#null). (January 2017).

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

Scott, S., R. Pardo, and I. Vila. 2007. Trophic niche overlap between two Chilean endemic species of *Trichomycterus* (Teleostei: Siluriformes). *Revista Chilena de Historia Natural* 80(4):431-437.

## 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.**

Aranha, J. M. R., D. F. Takeuti, and T. M. Yoshimura. 1998. Habitat use and food partitioning of the fishes in a coastal stream of Atlantic forest, Brazil. *Revista de Biología Tropical* 46:951-959.

Arratia, G. 1983. Preferencias de hábitat de peces siluriformes de aguas continentales de Chile (Fam. Diplomystidae y Trichomycteridae). *Studies of Neotropical Fauna and Environment* 18:217-237.

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.

Habit, E., P. Victoriano, and H. Campos. 2005. Ecología trófica y aspectos reproductivos de *Trichomycterus areolatus* (Pisces, Trichomycteridae) en ambientes lóticos artificiales. *Revista de Biología Tropical* 53:195-210.