

***Bullockia maldonadoi* (a catfish, no common name)**

Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, April 2015
Revised, October 2017, November 2017
Web Version, 9/10/2018



Photo: Johannes Schoeffmann. Licensed under Creative Commons BY 3.0. Available: <http://www.fishbase.se/photos/UploadedBy.php?autoctr=26304&win=uploaded>. (October 16, 2017).

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2017):

“South America: Chile.”

From Dyer (2000):

“*Bullockia maldonadoi* Is another endemic taxon to the Chilean Province (ARRATIA et al.1978) [...]”

Status in the United States

No records of *Bullockia maldonadoi* in the wild or in trade in the United States were found.

Means of Introductions in the United States

No records of *Bullockia maldonadoi* in the United States were found.

Remarks

No additional remarks.

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

According to Eschmeyer et al. (2017), *Bullockia maldonadoi* (Eigenmann 1920) is the valid name for this species. It was originally described as *Hatcheria maldonadoi*.

From ITIS (2015):

“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 *Bullockia*
Species *Bullockia maldonadoi* (Eigenmann, 1928)”

Size, Weight, and Age Range

From Froese and Pauly (2017):

“Max length : 5.7 cm SL male/unsexed; [DoNascimento et al. 2014]”

Environment

From Froese and Pauly (2017):

“Freshwater; demersal; pH range: 6.0 - 7.0; dH range: ? - 15. [...]; 16°C - 26°C [assumed to be recommended aquarium temperature] [Baensch and Riehl 1991]”

Climate/Range

From Froese and Pauly (2017):

“Subtropical; [...]”

Distribution Outside the United States

Native

From Froese and Pauly (2017):

“South America: Chile.”

From Dyer (2000):

“*Bullockia maldonadoi* Is another endemic taxon to the Chilean Province (ARRATIA et al.1978) [...]”

Introduced

No records of *Bullockia maldonadoi* introductions were found.

Means of Introduction Outside the United States

No records of *Bullockia maldonadoi* introductions were found.

Short Description

A description of *Bullockia maldonadoi* was not found.

Biology

From Link and Habit (2015):

“Areas with sandy substrate. Juveniles inhabit in rivers with current velocity <0.09 m/s and adults <0.9 m/s [Arratia 1983; Scott et al. 2007; Penaluna et al. 2009]”

“Benthic, insectivorous, nocturnal”

Human Uses

From Froese and Pauly (2017):

“Fisheries: of no interest”

Diseases

Information on pathogens of *Bullockia maldonadoi* was not found.

Threat to Humans

From Froese and Pauly (2017):

“Harmless”

3 Impacts of Introductions

No records of *Bullockia maldonadoi* introductions were found, therefore there is no information on impacts of introduction.

4 Global Distribution



Figure 1. Known global distribution of *Bullockia maldonadoi*. Locations are all in Chile. Map from GBIF Secretariat (2017).

5 Distribution Within the United States

No records of *Bullockia maldonadoi* in the United States were found.

6 Climate Matching

Summary of Climate Matching Analysis

The climate match for *Bullockia maldonadoi* was high along the Pacific Coast and low everywhere else. The Climate 6 score (Sanders et al. 2014; 16 climate variables; Euclidean distance) for the contiguous United States was 0.015, medium. Oregon and Washington had individually high climate scores, California had a medium individual climate score. All other states had low individual climate scores.

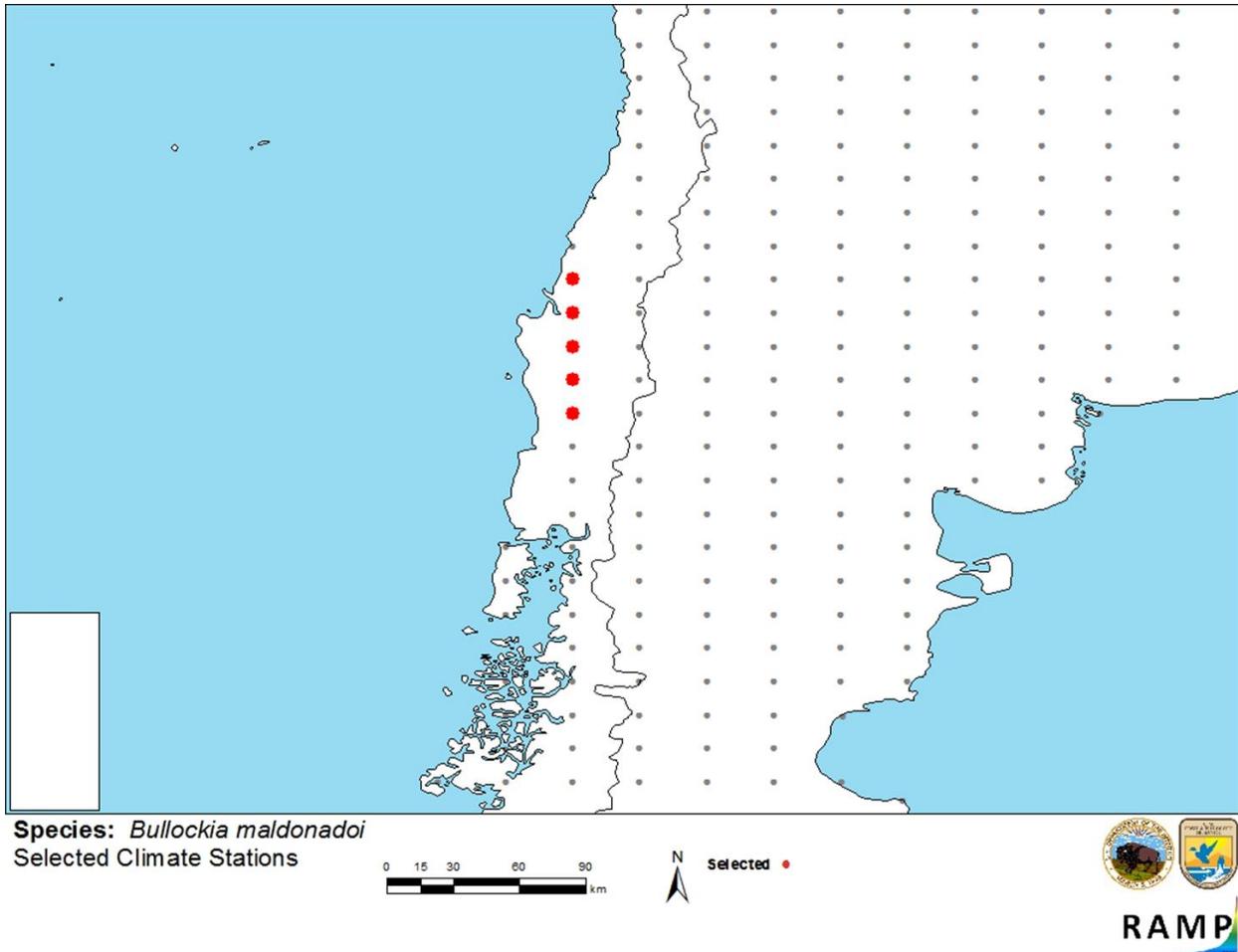


Figure 2. RAMP (Sanders et al. 2014) source map showing weather stations in southern South America selected as source locations (red; Chile) and non-source locations (gray) for *Bullockia maldonadoi* climate matching. Source locations from GBIF Secretariat (2017).

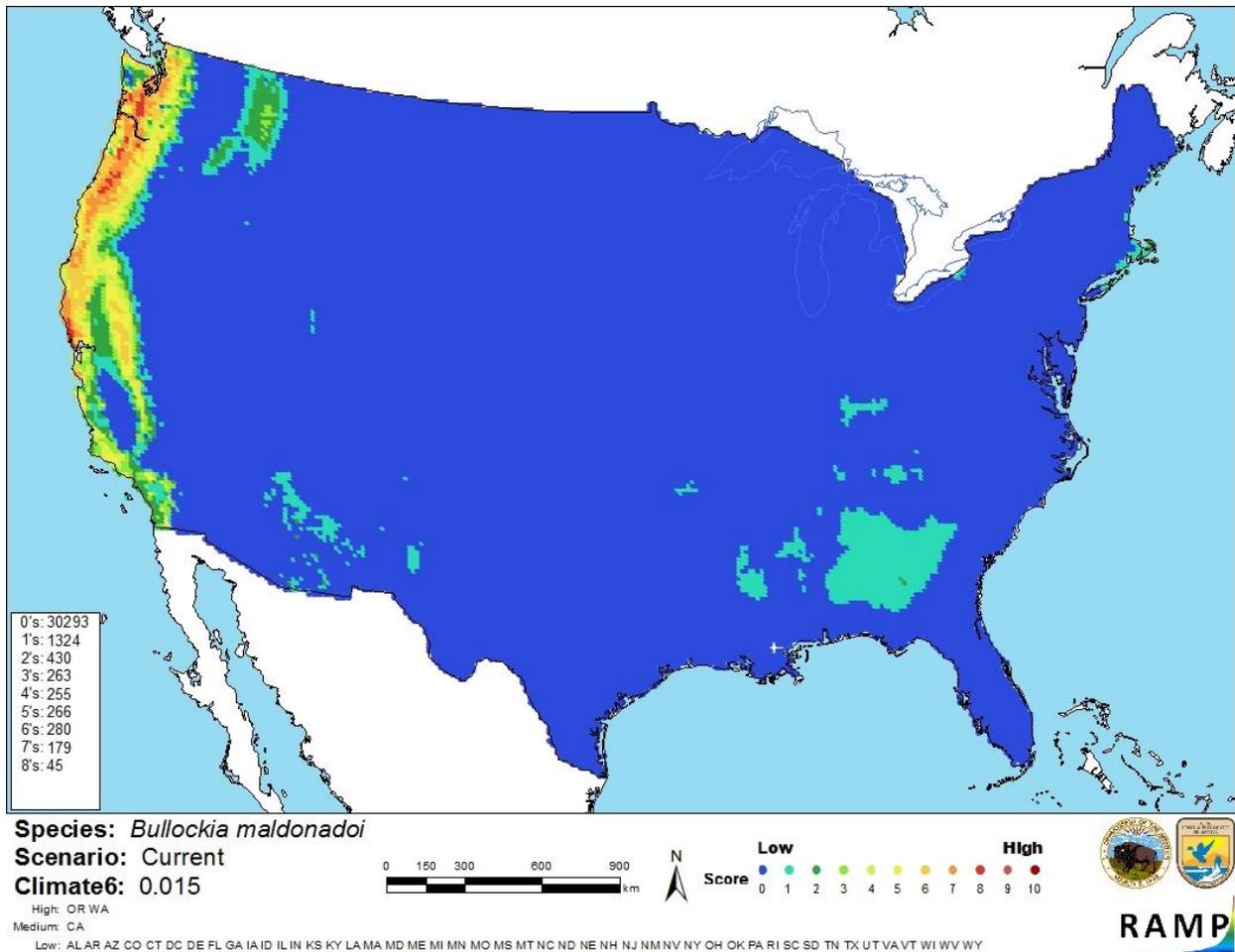


Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *Bullockia maldonadoi* in the contiguous United States based on source locations reported by GBIF Secretariat (2017). 0 = Lowest match, 10 = Highest match. Counts of climate match scores are tabulated on the left.

The High, Medium, and Low Climate match Categories are based on the following table:

Climate 6: Proportion of (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

The certainty of assessment is low. Very minimal information was available for *Bullockia maldonadoi*. No records of introductions were found.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Bullockia maldonadoi is a species of catfish native to Chile. It is insectivorous and nocturnal. The history of invasiveness is uncertain. There were no records of introductions found, therefore there is no information on impacts of introduction. The climate match is medium; the Climate 6 score was 0.015. Oregon and Washington had high individual state climate scores. The certainty of assessment is low. Very minimal information was available for *Bullockia maldonadoi*. The overall risk assessment category is uncertain.

Assessment Elements

- **History of Invasiveness (Sec. 3): Uncertain**
- **Climate Match (Sec. 6): Medium**
- **Certainty of Assessment (Sec. 7): Low**
- **Remarks/Important additional information** No additional remarks.
- **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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Link, O., and E. Habit. 2015. Requirements and boundary conditions for fish passes of non-sport fish species based on Chilean experiences. *Reviews in Environmental Science and Bio/Technology* 14:9–21.

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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.

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Baensch, H. A., and R. Riehl. 1991. *Aquarien atlas*. Bd. 3. Melle: Mergus, Verlag für Natur-und Heimtierkunde, Germany.

DoNascimento, C., S. Prada-Pedreras, and J. Guerrero-Kommritz. 2014. A new catfish species of the genus *Trichomycterus* (Siluriformes: Trichomycteridae) from the río Orinoco versant of Páramo de Cruz Verde, Eastern Cordillera of Colombia. *Neotropical Ichthyology* 12(4):717–728.

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