

***Cichlasoma boliviense* (a cichlid, no common name)**

Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, August 2011

Revised, October 2012, August 2018

Web Version, 9/11/2018



Photo: Wikipeixes. Licensed under: CC BY-NC 3.0. Available:
http://eol.org/data_objects/26103901. (August 2018).

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2018):

“South America: Amazon River basin, in the Madre de Dios drainage in Peru, and the Mamoré and Guaporé River basins [Bolivia, Brazil].”

Status in the United States

This species has not been reported as introduced or established in the United States. *C. boliviense* is mentioned on United States-based online aquarium forums, but it was not found for sale from United States-based online aquarium retailers.

Means of Introductions in the United States

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

Remarks

From Seriously Fish (2018):

“Sometimes referred to (incorrectly) as *cichlasoma [sic] boliviensis [...]*”

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 Actinopterygii
Class Teleostei
Superorder Acanthopterygii
Order Perciformes
Suborder Labroidei
Family Cichlidae
Genus *Cichlasoma*
Species *Cichlasoma boliviense* Kullander, 1983”

“Taxonomic Status:

Current Standing: valid”

Size, Weight, and Age Range

From Froese and Pauly (2018):

“Max length : 10.7 cm SL male/unsexed; [Kullander 1986]”

Environment

From Froese and Pauly (2018):

“Freshwater; benthopelagic; pH range: 7.0 - ? ; dH range: 15 - ?. [...] 23°C - 27°C [Baensch and Riehl 1991; presumed to represent recommended aquarium water temperatures]”

Climate/Range

From Froese and Pauly (2018):

“Tropical; [...]”

Distribution Outside the United States

Native

From Froese and Pauly (2018):

“South America: Amazon River basin, in the Madre de Dios drainage in Peru, and the Mamoré and Guaporé River basins [Bolivia, Brazil].”

Introduced

No known introductions.

Means of Introduction Outside the United States

No known introductions.

Short Description

From Kullander (1986):

“*Cichlasoma boliviense* is similar to *C. amazonarum*, but readily recognized by the 3 rather than 4 anal-fin spines. The posterior sides are commonly mottled dark on light, and the caudal spot prominently ocellated. Staeck & Linke (1985) have a colour photo of a living Bolivian specimen maintained in aquarium. Yellowish preorbital and light blue lower lip as in that specimen were the only notable colours of large specimens from [Rio Tambopata drainage in Madre de Dios].”

Biology

From Froese and Pauly (2018):

“Inhabit shallow clayey portion of the shore and from shallow pools with muddy water.”

Human Uses

C. boliviense is mentioned on United States-based online aquarium forums, but it was not found for sale from United States-based online aquarium retailers.

From Seriously Fish (2018):

“[...] the Bolivia cichlid is not commonly seen in the [aquarium] hobby.”

Diseases

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

Threat to Humans

From Froese and Pauly (2018):

“Harmless”

3 Impacts of Introductions

No information available. No known introductions.

4 Global Distribution



Figure 1. Known global distribution of *Cichlasoma boliviense*, reported from the Madre de Dios, Mamoré, and Guaporé River basins in Peru, Bolivia and Brazil. Map from GBIF Secretariat (2017). The most northern occurrence on the lower Amazon River in Brazil was excluded from the climate matching analysis because this species is only known to be established in the Amazon tributaries noted above.

5 Distribution Within the United States

No known occurrences.

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 0.012, which is a medium match. Scores between 0.005 and 0.103 indicate a medium climate match. Most of the contiguous United States had a low match. The climate match was high in southern Florida and medium throughout the rest of peninsular Florida. Medium matches also occurred in southern Georgia and coastal Texas. All states recorded a low climate score except Florida and Texas, which recorded high and medium scores, respectively.

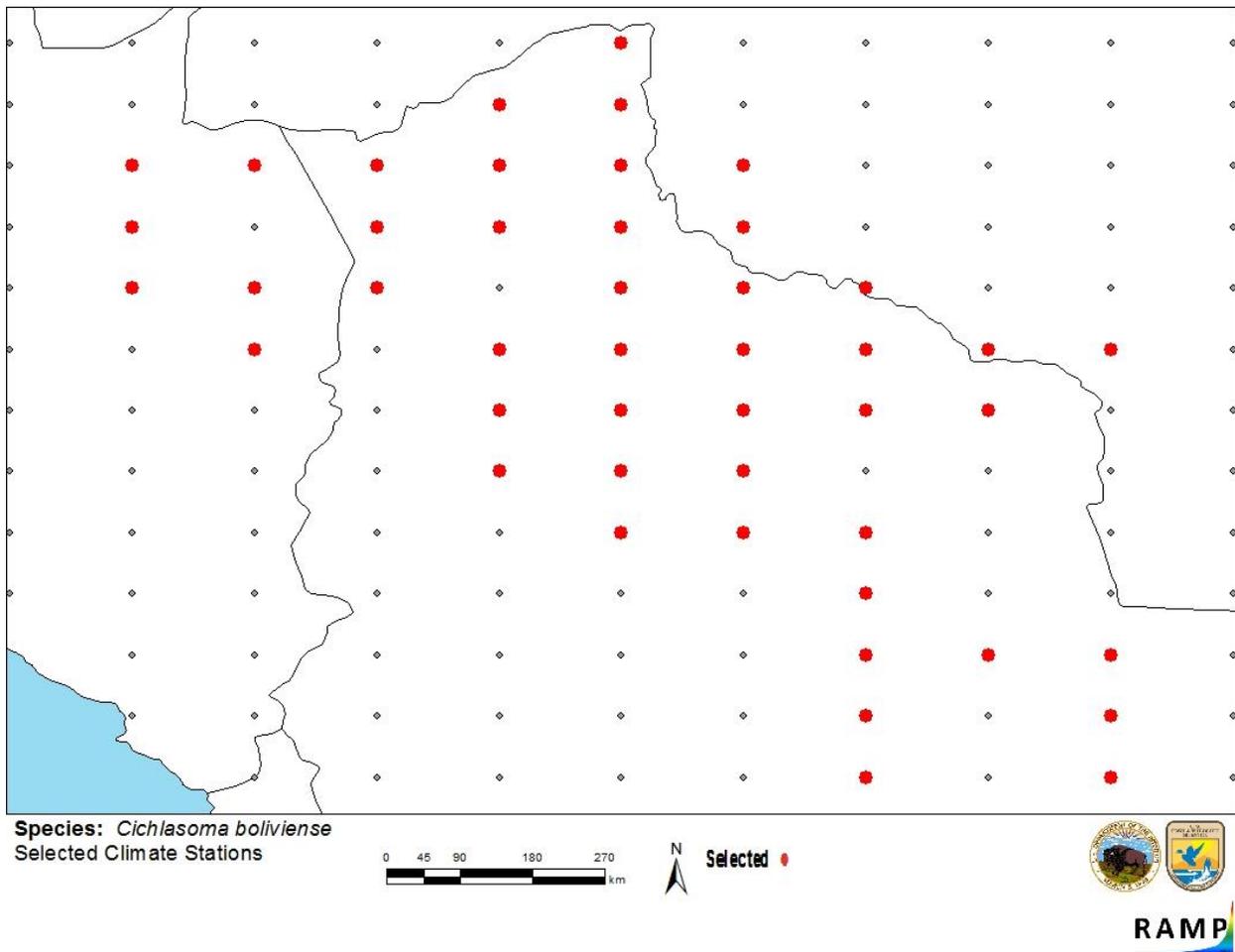


Figure 2. RAMP (Sanders et al. 2018) source map showing weather stations selected as source locations (red; Peru, Bolivia and Brazil) and non-source locations (gray) for *Cichlasoma boliviense* climate matching. Source locations from GBIF Secretariat (2017).

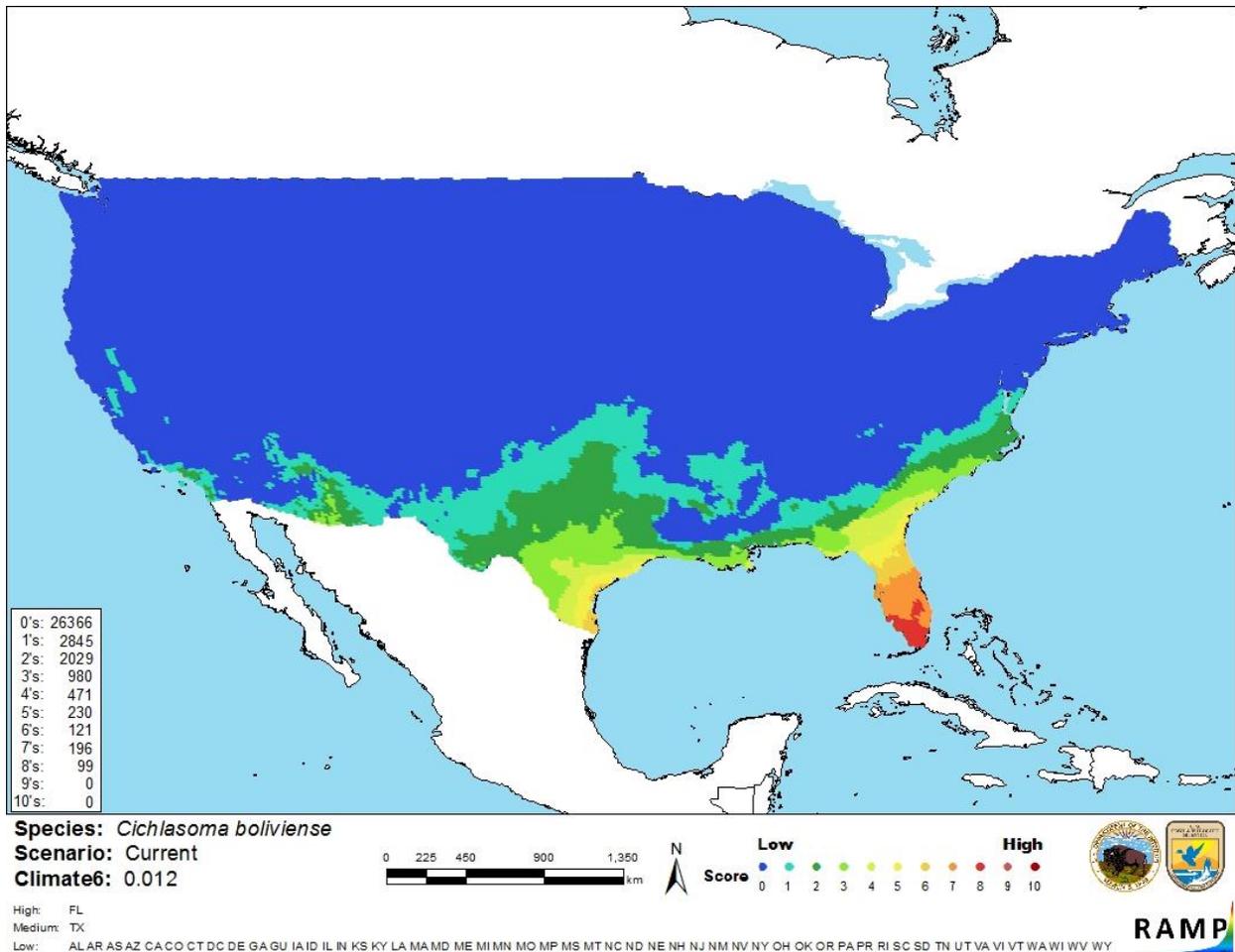


Figure 3. Map of RAMP (Sanders et al. 2018) climate matches for *Cichlasoma boliviense* in the contiguous United States based on source locations reported by GBIF Secretariat (2017). 0= Lowest match, 10= Highest match.

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

Little information is known about the biology and ecology of *Cichlasoma boliviense*. This species has not been reported as introduced outside its native range, therefore no information is available on impacts of introduction. Due to lack of information, the certainty of assessment is low. More information is needed to increase the assessment certainty.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Cichlasoma boliviense is a cichlid fish that is native to the Amazon River basin within the Madre de Dios, Mamaré and Guaporé River basins in Peru, Bolivia and Brazil. It has not been reported as introduced outside of its native range, therefore history of invasiveness is uncertain. This species is rare in the aquarium trade and was not found for sale from United States-based online aquarium retailers. The climate match with the contiguous United States was medium with the highest match in south Florida. All states recorded a low climate score except Florida and Texas, which recorded high and medium scores, respectively. Due to lack of information about potential negative impacts from introduction, the certainty of assessment is low and overall risk for this species 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

Note: The following references were accessed for this ERSS. References cited within quoted text but not accessed are included below in Section 10.

- Froese, R., and D. Pauly, editors. 2018. *Cichlasoma boliviense* (Kullander, 1983). FishBase. Available: <https://www.fishbase.de/summary/Cichlasoma-boliviense.html>. (August 2018)
- GBIF Secretariat. 2017. GBIF backbone taxonomy: *Cichlasoma boliviense* (Kullander, 1983). Global Biodiversity Information Facility, Copenhagen. Available: <https://www.gbif.org/species/2371900>. (August 2018)
- ITIS (Integrated Taxonomic Information System). 2018. *Cichlasoma boliviense* (Kullander, 1983). Integrated Taxonomic Information System, Reston, Virginia. Available: https://itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=648366#null. (August 2018).
- Kullander, S. O. 1986. Cichlid fishes of the Amazon River drainage of Peru. Swedish Museum of Natural History, Stockholm.
- Sanders, S., C. Castiglione, and M. H. Hoff. 2018. Risk Assessment Mapping Program: RAMP, version 3.1. U.S. Fish and Wildlife Service.
- Seriously Fish. 2018. *Cichlasoma boliviense* (Bolivia Cichlid). Seriously Fish. Available: <http://www.seriouslyfish.com/species/cichlasoma-boliviense/>. (September 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.

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

Kullander, S. O. 1986. Cichlid fishes of the Amazon River drainage of Peru. Department of Vertebrate Zoology, Research Division, Swedish Museum of Natural History, Stockholm, Sweden.

Staeck, W., and H. Linke. 1985. Amerikanische Cichliden II. Grosse Buntbarsche. Melle, Germany.