

***Cichlasoma orientale* (a fish, no common name)**

Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, August 2011

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Web Version, 1/31/2019



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1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2018):

“South America: Atlantic coast rivers of Ceará, Pernambuco, Rio Grande do Norte and Paraíba, Brazil.”

Status in the United States

No records of *Cichlasoma orientale* in the wild or in trade in the United States were found.

Means of Introductions in the United States

No records of *Cichlasoma orientale* in the wild in the United States were found.

Remarks

No additional remarks.

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

According to Fricke et al. (2018), *Cichlasoma orientale* (Kullander 1983) is the original and current valid name of this species.

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 orientale* Kullander, 1983”

Size, Weight, and Age Range

From Froese and Pauly (2018):

“Maturity: L_m 10.0 [...]
Max length : 13.6 cm SL male/unsexed; [Kullander 2003]”

From Chellappa et al. (2009):

“The amplitude total body length of 30 females and 22 males of *C. orientale* varied from 120 to 160 mm [...], and body mass ranged from 78 to 105 g [...].”

Environment

From Froese and Pauly (2018):

“Freshwater; benthopelagic.”

Climate/Range

From Froese and Pauly (2018):

“Tropical”

Distribution Outside the United States

Native

From Froese and Pauly (2018):

“South America: Atlantic coast rivers of Ceará, Pernambuco, Rio Grande do Norte and Paraíba, Brazil.”

Introduced

No records of introductions of *Cichlasoma orientale* were found.

Means of Introduction Outside the United States

No records of introductions of *Cichlasoma orientale* were found.

Short Description

No information on a short description of *Cichlasoma orientale* was found.

Biology

From Linhares et al. (2014):

“A total of 113 individuals of *C. orientale* were observed underwater. The fish remained mostly in still waters near the river bank, in groups of up to five individuals.”

“The demersal spawning pattern observed for *C. orientale* (few and large eggs) indicated that the species invests heavily in larval survival. Indeed, *C. orientale* also engages in biparental care, as observed for many other cichlids (Winemiller, 1995; Teresa & Gonçalves-deFreitas, 2011; Korzelecka-Orkisz et al., 2012).”

Human Uses

From Froese and Pauly (2018):

“Aquarium: commercial”

Diseases

No information on diseases of *Cichlasoma orientale* was found. **No records of OIE-reportable diseases were found for *C. orientale*.**

Threat to Humans

From Froese and Pauly (2018):

“Harmless”

3 Impacts of Introductions

No records of introductions of *Cichlasoma orientale* were found.

4 Global Distribution



Figure 1. Known global distribution of *Cichlasoma orientale*. Locations are in Brazil. Map from GBIF Secretariat (2018).

5 Distribution Within the United States

No records of *Cichlasoma orientale* in the wild in the United States were found.

6 Climate Matching

Summary of Climate Matching Analysis

The climate match for *Cichlasoma orientale* was low for the entire contiguous United States. The entire southern border of the United States, from southern California to Florida, had a slightly higher climate match than the rest of the country with medium to low climate match scores. The Climate 6 score (Sanders et al. 2014; 16 climate variables; Euclidean distance) for the contiguous United States was 0.000, low. All States had low individual climate scores.

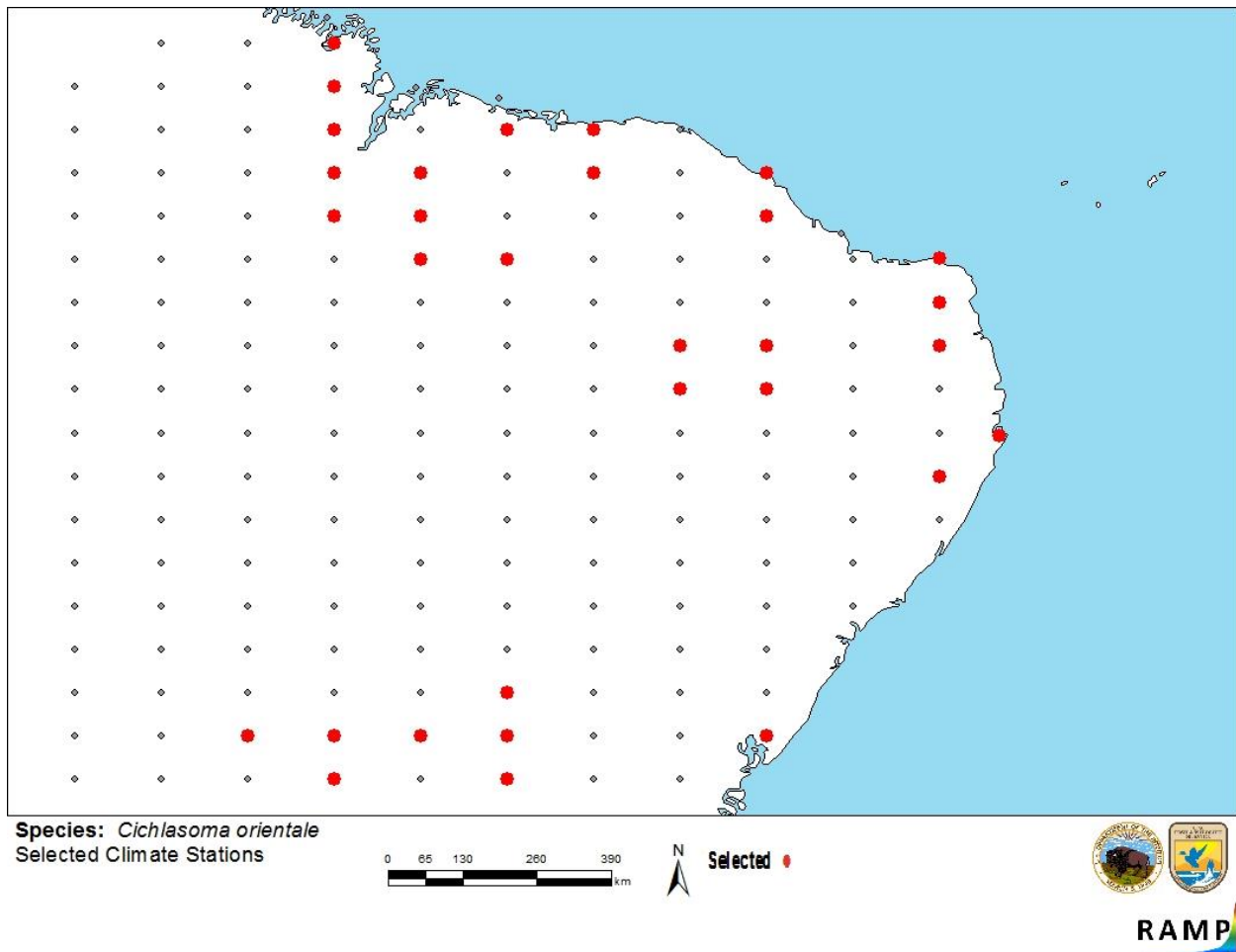


Figure 2. RAMP (Sanders et al. 2018) source map showing weather stations in South America selected as source locations (red; Brazil) and non-source locations (gray) for *Cichlasoma orientale* climate matching. Source locations from GBIF Secretariat (2018).

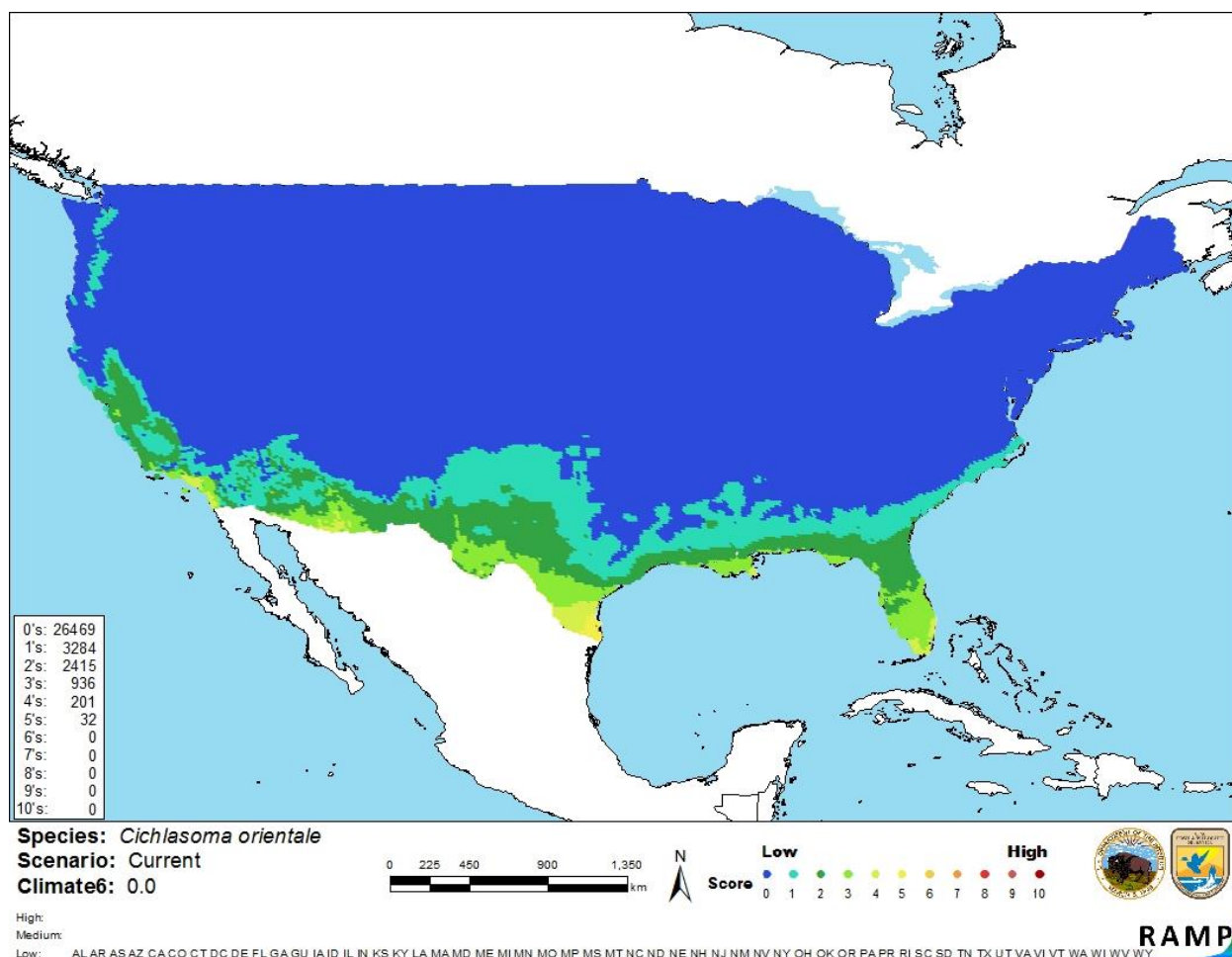


Figure 3. Map of RAMP (Sanders et al. 2018) climate matches for *Cichlasoma orientale* in the contiguous United States based on source locations reported from GBIF Secretariat (2018). 0 = Lowest match, 10 = Highest match.

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

7 Certainty of Assessment

The certainty of assessment for *Cichlasoma orientale* is low. There is minimal information available for this species. No information on impacts of introductions of *Cichlasoma orientale* was found due to no records of introduction outside of their native range.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Cichlasoma orientale is a freshwater Neotropical cichlid fish native to Brazil. The history of invasiveness is uncertain. It has not been reported as introduced or established anywhere in the world outside of its native range nor is there any indication that the species is found in trade. The climate match for the contiguous United States was low. The certainty of assessment is low. The overall risk assessment category is uncertain.

Assessment Elements

- **History of Invasiveness (Sec. 3): Uncertain**
- **Climate Match (Sec. 6): Low**
- **Certainty of Assessment (Sec. 7): Low**
- **Remarks/Important additional information:** No additional information.
- **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.

Chellappa, S., R. M. X. Bueno, T. Chellappa, N. T. Chellappa, and V. M. F. A. el Val. 2009. Reproductive seasonality of the fish fauna and limnoecology of semi-arid Brazilian reservoirs. *Limnologia* 39:325–329.

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

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GBIF Secretariat. 2018. GBIF backbone taxonomy: *Cichlasoma orientale* Kullander, 1983. Global Biodiversity Information Facility, Copenhagen. Available: <https://www.gbif.org/species/2371881> (November 2018).

ITIS (Integrated Taxonomic Information System). 2018. *Cichlasoma orientale* (Kullander, 1983). Integrated Taxonomic Information System, Reston, Virginia. Available: https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=648375#null. (November 2018).

Linhares, J. C. S., L. R. Manna, R. Mazzoni, C. F. Rezende, and J. R. F. Silva. 2014. Reproductive tactics optimizing the survival of the offspring of *Cichlasoma orientale* (Perciformes: Cichlidae). *Revista de Biologia Tropical* 62(3):1007–1018.

Sanders, S., C. Castiglione, and M. Hoff. 2018. Risk assessment mapping program: RAMP, version 3.1. U.S. Fish and Wildlife Service.

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.

Korzelecka-Orkisz, A., Z. Szalast, D. Pawlos, I. Smaruj, A. Tañski, J. Szulc, and K. Formicki. 2012. Early ontogenesis of the angelfish, *Pterophyllum scalare* Schultze, 1823 (Cichlidae). *Neotropical Ichthyology* 10(3):567–576.

Kullander, S. O. 1983. A revision of the South American cichlid genus *Cichlasoma* (Teleostei: Cichlidae). Naturhistoriska Riksmuseet, Stockholm.

Kullander, S. O. 2003. Cichlidae (cichlids). Pages 605–654 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.

Teresa, F. B., and E. Gonçalves-de-Freitas. 2011. Reproductive behavior and parental roles of the cichlid fish *Laetacara araguaiaae*. *Neotropical Ichthyology* 9(2):355–362.

Winemiller, K. O. 1995. Fish ecology. Pages 49–65 in W. A. Nierenberg, editor. Encyclopedia of Environmental Biology. Academic Press, San Diego, California.