

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

Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, August 2011

Revised, August 2018

Web Version, 2/1/2019



Photo: F. C. T. de Lima and R. A. Caires. Licensed under CC BY NC 4.0. Available: <http://ref.scielo.org/tfhz3g>. (August 2018).

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2018):

“South America: São Francisco, Parnaíba and Capivara River basins in Brazil.”

Status in the United States

This species has not been reported as introduced or established in the United States. There is no indication that this species is in trade in the United States.

Means of Introductions in the United States

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

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 sanctifranciscense* Kullander, 1983”

From Eschmeyer et al. (2018):

“Current status: Valid as *Cichlasoma sanctifranciscense* Kullander 1983. Cichlidae: Cichlinae.”

Size, Weight, and Age Range

From Froese and Pauly (2018):

“Max length : 8.8 cm SL male/unsexed; [Ottoni and Mattos 2015]”

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: São Francisco, Parnaíba and Capivara River basins in Brazil.”

Introduced

This species has not been reported as introduced or established outside of its native range.

Means of Introduction Outside the United States

This species has not been reported as introduced or established outside of its native range.

Short Description

From Kullander and Silfvergrip (1991):

“Vertical bars: Most South American cichlids have a more or less prominent pattern of dark pigmented vertical areas recognized as vertical bars. These generally descend vertically from the countershaded dark back and reach the middle or lower sides.”

“Surveying other cichlids, it seems to us that among cichlasomine cichlids there is an underlying basic pattern irrespective of the very expression of the bar pattern in particular taxa. We note that as a rule there are eight, serially homologous, vertical dark markings across the caudal fin base and the flanks [...]”

“*Cichlasoma* species mostly have one more body bar. In Kullander (1983, [...]), bars shown as Bars 4 and 5 correspond in position to a split of bar 5 in the basic cichlasomine pattern. *Cichlasoma paranaense* Kullander and *C. sanctifranciscense* Kullander, however, have the basic pattern.”

Biology

From Froese and Pauly (2018):

“Inhabits rivers [Axelrod 1993].”

Human Uses

No information available.

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

This species has not been reported as introduced or established outside of its native range.

4 Global Distribution



Figure 1. Known global distribution of *Cichlasoma sanctifranciscense*. Map from GBIF Secretariat (2017). A point in Bolivia and a point in Colombia were excluded from the extent of this map and from climate matching analysis because they fall far outside the reported range of this species.

5 Distribution Within the United States

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

6 Climate Matching

Summary of Climate Matching Analysis

The Climate 6 score (Sanders et al. 2014; 16 climate variables; Euclidean distance) for the contiguous United States was 0.002, which is a low climate match. A Climate 6 score of 0.005 or less indicates a low climate match. The climate score was low in all states in the contiguous United States except for Florida and Texas, where the climate match was medium. Most of peninsular Florida, the southeastern tip of Louisiana, southern Texas, the southern California coast and a small area in southern Arizona were a medium match. The remainder of the contiguous United States was a low match.

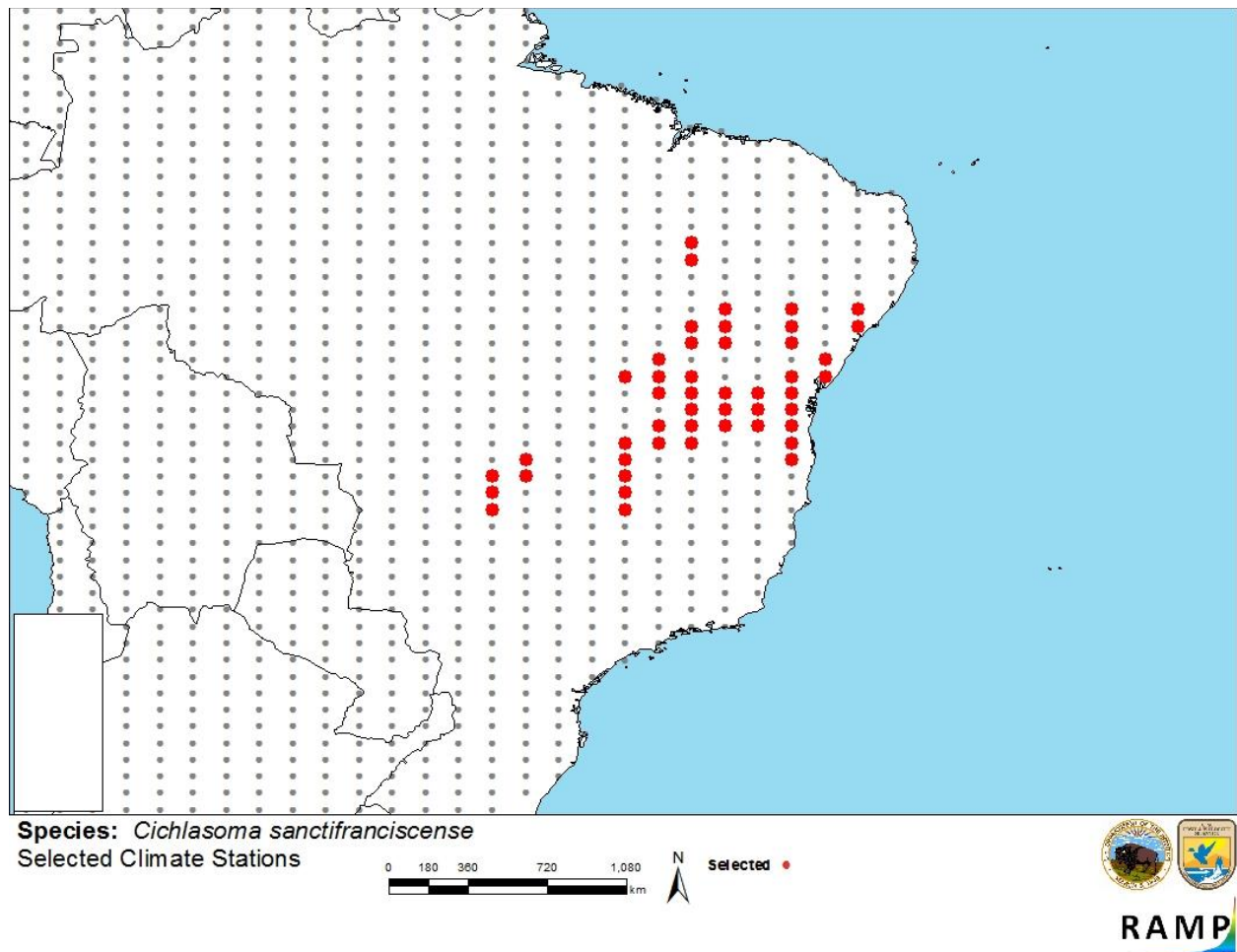


Figure 2. RAMP (Sanders et al. 2014) source map showing weather stations selected as source locations (red; Brazil) and non-source locations (gray) for *Cichlasoma sanctifranciscense* climate matching. Source locations from GBIF Secretariat (2017).

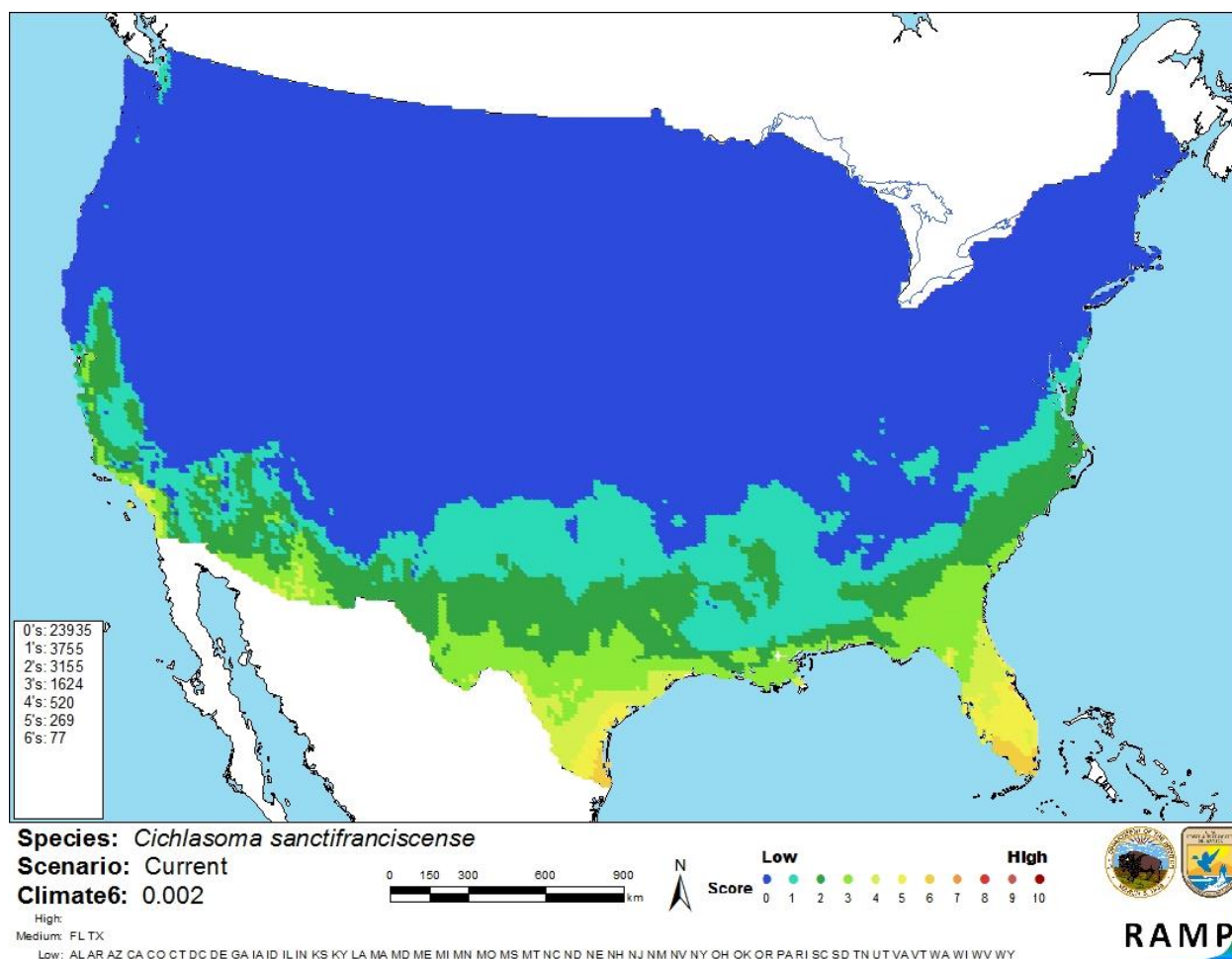


Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *Cichlasoma sanctifranciscense* in the contiguous United States based on source locations reported by GBIF Secretariat (2017). 0= Lowest match, 10=Highest match.

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

7 Certainty of Assessment

There is little information available about the biology of *Cichlasoma sanctifranciscense*. This species has never been reported as introduced or established outside of its native range, so there is no information available on the invasive history or potential of this species. Further information is needed to adequately assess the risk this species poses to the contiguous United States. Certainty of this assessment is low.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Cichlasoma sanctifranciscense is a cichlid species native to the São Francisco, Parnaíba and Capivara River basins in Brazil. This species has never been reported as introduced or established outside of its native range. Therefore, history of invasiveness is uncertain. No information was available on its use in trade. *C. sanctifranciscense* has a low climate match with the contiguous United States, with areas of medium match in peninsula Florida and along the Texas Gulf Coast, as well as in small patches in southern Louisiana, California and Arizona. Certainty of this assessment is low because of a lack of information from which to base an assessment of risk. 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**
- **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.

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

Froese, R., and D. Pauly, editors. 2018. *Cichlasoma sanctifranciscense* (Kullander, 1983). FishBase. Available: <https://www.fishbase.de/summary/Cichlasoma-sanctifranciscense.html>. (August 2018).

GBIF Secretariat. 2017. GBIF backbone taxonomy: *Cichlasoma sanctifranciscense*, Kullander, 1983. Global Biodiversity Information Facility, Copenhagen. Available: <https://www.gbif.org/species/2371852>. (August 2018).

ITIS (Integrated Taxonomic Information System). 2018. *Cichlasoma sanctifranciscense* (Kullander, 1983). Integrated Taxonomic Information System, Reston, Virginia. Available: https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=648379#null. (August 2018).

Kullander, S. O., and A. M. Silfvergrip. 1991. Review of the South American cichlid genus *Mesonauta* Günther (Teleostei, Cichlidae) with descriptions of two new species. *Revue Suisse de Zoologie* 98(2):407-448.

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

Axelrod, H. R. 1993. The most complete colored lexicon of cichlids. T.F.H. Publications, Neptune City, New Jersey.

Kullander, S. O. 1983. A revision of the South American cichlid genus *Cichlasoma*. Stockholm.

Otoni, F. P., and J. L. O. Mattos. 2015. Phylogenetic position and re-description of the endangered cichlid *Nannacara hoehnei*, and description of a new genus from Brazilian Cerrado (Teleostei, Cichlidae, Cichlasomatini). *Vertebrate Zoology* 65(1):65-79.