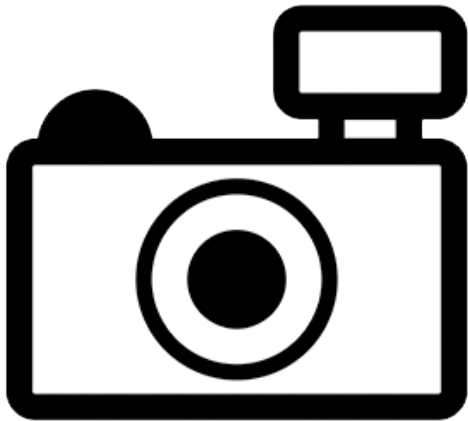


## ***Cichlasoma pusillum* (a cichlid, no common name)**

### **Ecological Risk Screening Summary**

U.S. Fish and Wildlife Service, August 2011  
Revised, August 2018 and February 2019  
Web Version, 2/1/2019



No Photo Available

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

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### **Native Range**

From Froese and Pauly (2018):

“South America: Paraná River basin, Acaray River, Paraguay.”

From Ottoni (2011):

“[...] *C. pusillum* Kullander, 1983, from the upper rio Paraná and rio Uruguay drainages, southern 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

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### 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 pusillum* Kullander, 1983”

From Eschmeyer et al. (2018):

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

### Size, Weight, and Age Range

From Froese and Pauly (2018):

“Max length : 6.6 cm SL male/unsexed; [Kullander 2003]”

### 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: Paraná River basin, Acaray River, Paraguay.”

From Ottoni (2011):

“[...] *C. pusillum* Kullander, 1983, from the upper rio Paraná and rio Uruguay drainages, southern 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 Ottoni (2011):

“[...] 2-3 anal-fin spines [...]”

## **Biology**

No information available.

## **Human Uses**

From Froese and Pauly (2018):

“Aquarium: commercial”

## **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**

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

## 4 Global Distribution

No georeferenced occurrences were available for this species (GBIF Secretariat 2017).



**Figure 1.** Map of the Rio de la Plata drainage basin in South America showing the locations of the upper Uruguay River basin and upper Paraná River basin (including the Acaray River), where *C. pusillum* is reported to be native. Map: Kmusser. Licensed under Creative Commons (CC BY-SA 3.0). Available: <https://commons.wikimedia.org/w/index.php?curid=11713483>. (February 2019).



**Figure 2.** Map showing the approximate location of the Acaray River in Paraguay, the distribution of *Cichlasoma pusillum* as reported by Froese and Pauly (2018). Map made with Google Earth Pro 7.3.1.4507 (Google LLC, Mountain View, California).

## 5 Distribution Within the United States

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

## 6 Climate Matching

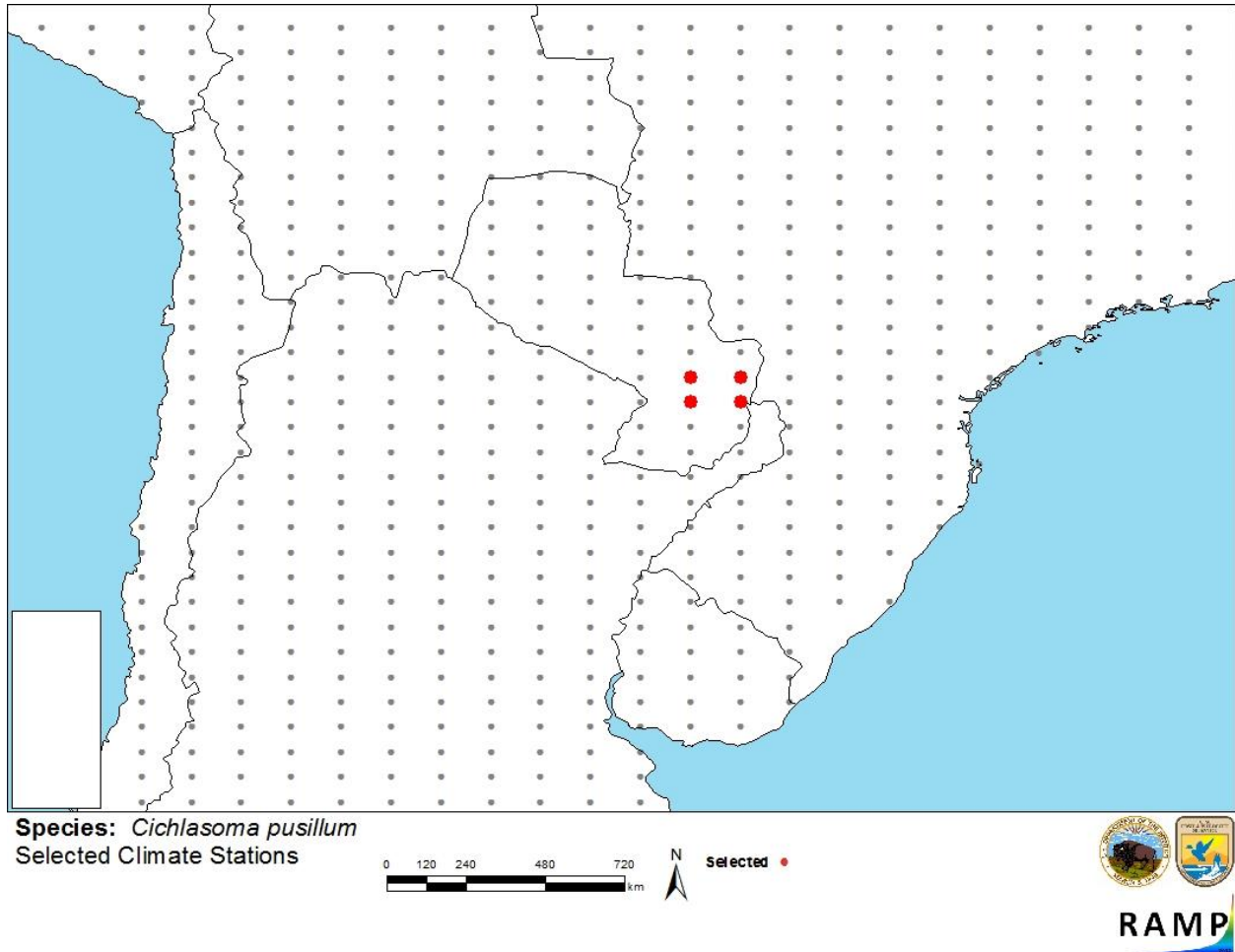
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### Summary of Climate Matching Analysis

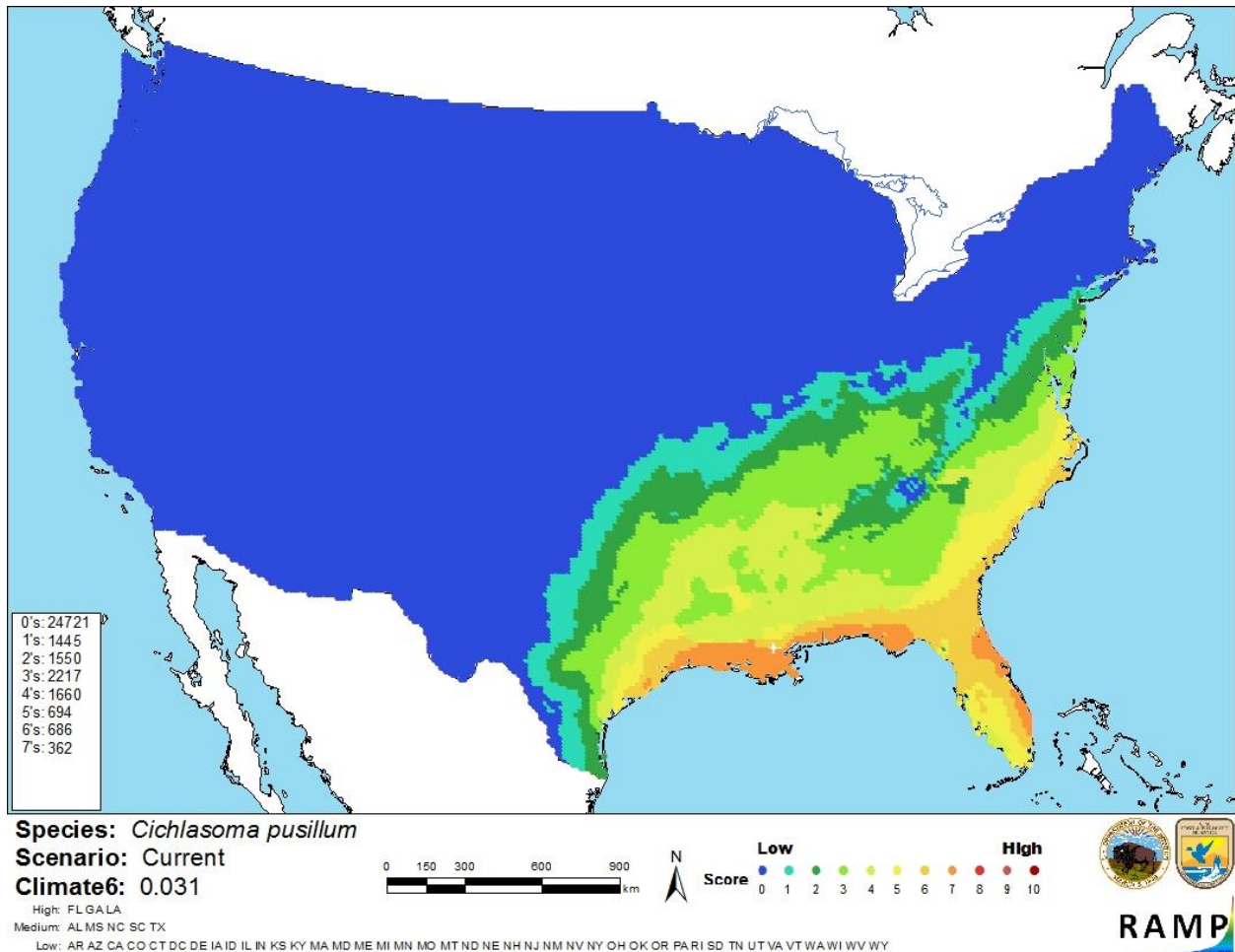
This climate matching analysis was based on a verbal description of the range of *C. pusillum* as only the Acaray River in Paraguay (Froese and Pauly 2018). No georeferenced occurrences were available and no precise descriptions of range were available for other parts of the range in the Upper Paraná and Upper Uruguay River basins (Ottoni 2011).

The Climate 6 score (Sanders et al. 2014; 16 climate variables; Euclidean distance) for the contiguous United States was 0.031, which is a medium climate match. The range for a medium climate score is between 0.005 and 0.103. Climate match was low across much of the contiguous United States. Medium match extended through the Gulf Coast states from eastern Texas to Florida and up the Atlantic coast as far as Virginia. High matches were concentrated along the Gulf coastline from Louisiana to western Florida and in eastern coastal Florida. The climate

score was high in Florida, Georgia, and Louisiana. Alabama, Mississippi, South Carolina, and North Carolina; Texas had a medium climate score. All other states had low climate scores.



**Figure 2.** RAMP (Sanders et al. 2014) source map showing weather stations selected as source locations (red; Paraguay) and non-source locations (gray) for *Cichlasoma pusillum* climate matching. Source locations from description of range in Froese and Pauly (2018). Neither georeferenced occurrences nor precise verbal descriptions of occurrence were available for other parts of the Upper Paraná and Upper Uruguay River basins.



**Figure 3.** Map of RAMP (Sanders et al. 2014) climate matches for *Cichlasoma pusillum* in the contiguous United States based on description of range reported by Froese and Pauly (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
$0.000 \leq X < 0.005$	Low
$0.005 < X < 0.103$	Medium
$\geq 0.103$	High

## 7 Certainty of Assessment

There is little information available about *Cichlasoma pusillum*. There is no information available about the biology of this species, and its range information comes only from a brief description of the distribution of the species. There are no georeferenced distribution points available for *C. pusillum*. Because this species has not been reported as introduced or established outside of its native range, further information is needed to adequately assess the risk it poses to the contiguous United States. Certainty of this assessment is low.

## 8 Risk Assessment

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### Summary of Risk to the Contiguous United States

*Cichlasoma pusillum* is a cichlid fish species native to the Paraná River basin in Paraguay and from the upper Paraná and Uruguay River basins in southern Brazil. Detailed information about the range of this species is not known. It has never been reported as introduced outside of its native range. Therefore, history of invasiveness is uncertain. It is used as an aquarium fish, but is apparently not sold in the United States. *C. pusillum* has a medium climate match with the contiguous United States, based on source locations derived from the general location of the Acaray River in the Paraná River basin. The areas of highest match were located in Florida, Alabama, Mississippi, and Louisiana. Certainty of this assessment is low because additional information is needed on the biology, range, and invasive potential of *C. pusillum* to adequately assess the risk it poses to the contiguous United States. 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**
- **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.**

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 pusillum* (Kullander, 1983). FishBase. Available: <https://www.fishbase.de/summary/Cichlasoma-pusillum.html>. (August 2018).

GBIF Secretariat. 2017. GBIF backbone taxonomy: *Cichlasoma pusillum* Kullander, 1983. Global Biodiversity Information Facility, Copenhagen. Available: <https://www.gbif.org/species/2371888>. (February 2019).

ITIS (Integrated Taxonomic Information System). 2018. *Cichlasoma pusillum* (Kullander, 1983). Integrated Taxonomic Information System, Reston, Virginia. Available: [https://www.itis.gov/servlet/SingleRpt/SingleRpt?search\\_topic=TSN&search\\_value=648378#null](https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=648378#null). (August 2018).



Otoni, F. P. 2011. *Cichlasoma zarskei*, a new cichlid fish from northern Brazil (Teleostei: Labroidei: Cichlidae). *Vertebrate Zoology* 61(3):335-342.

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**

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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.**

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. Porto Alegre: EDIPUCRS, Brasil.