

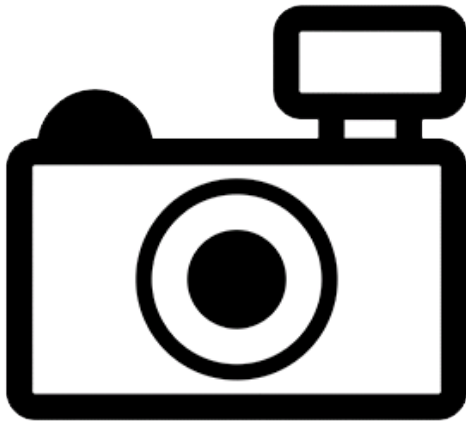
***Cichla pinima* (a South American cichlid, no common name)**

Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, August 2011

Revised, October 2012, June 2018

Web Version, 9/10/2018



No Photo Available

1 Native Range and Status in the United States

Native Range

From Kullander and Ferreira (2006):

“*Cichla pinima*, new species, occurs in the lower parts of southern tributaries of the Rio Amazonas in Brazil (Tapajós, Curuá-Una, Xingu), and the lower Tocantins and Capim rivers. Tentatively identified specimens are recorded from the Amapá, Araguari, and Canumã rivers in Brazil.”

Status in the United States

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

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

From Froese and Pauly (2018):

“Biota > Animalia (Kingdom) > Chordata (Phylum) > Vertebrata (Subphylum) > Gnathostomata (Superclass) > Pisces (Superclass) > Actinopterygii (Class) > Perciformes (Order) > Labroidei (Suborder) > Cichlidae (Family) > Cichlinae (Subfamily) > *Cichla* (Genus) > *Cichla pinima* (Species)”

“Status accepted”

Size, Weight, and Age Range

From Froese and Pauly (2011):

“Max length: 52.0 cm SL male/unsexed; [Kullander and Ferreira 2006]”

Environment

From Froese and Pauly (2011):

“Freshwater; benthopelagic”

Climate/Range

From Froese and Pauly (2011):

“Tropical”

Distribution Outside the United States

Native

From Kullander and Ferreira (2006):

“*Cichla pinima*, new species, occurs in the lower parts of southern tributaries of the Rio Amazonas in Brazil (Tapajós, Curuá-Una, Xingu), and the lower Tocantins and Capim rivers. Tentatively identified specimens are recorded from the Amapá, Araguari, and Canumã rivers in Brazil.

Introduced

From Kullander and Ferreira (2006):

“*Cichla pinima* occurs translocated in the Rio Paraguaçu in southeastern Brazil, and is reported as translocated from the northeast of Brazil.”

Means of Introduction Outside the United States

From Kullander and Ferreira (2006):

“[...] it forms self-sustaining stocks following introductions into numerous reservoirs in the 1940s (Fontenele, 1948; Braga, 1952, 1953; Menezes, 1953; Bezerra e Silva et al., 1980; as *C. temensis*).

Short Description

From Froese and Pauly (2011):

“This species is most similar to its congeners *jariina*, *temensis*, *thyrurus*, and *vazzoleri* in having four or more horizontal rows of light spots along side in subadults and large females, and prominent black, light-margined vertical bars or blotches in adults. It differs in having an ocellated dark blotch dorsally in bar 3 (vs. absent in *temensis*, absent or present only in the breeding pattern together with other ocellated blotches in *thyrurus* and *vazzoleri*). Scales in E1 row 86-105 (vs. 77-90 in *thyrurus*). Lateral line commonly not continuous (vs. usually continuous in *temensis* and *thyrurus*). Differs from *C. temensis* in having less scales in E1 row, 86-105, usually less than 100 (vs. 98-128), usually more than 110, and vertical bars of adults blotch-like and bar 1 often appearing as round blotch or divided into 2-3 blotches, instead of straight vertical and about uniformly wide. Differs from *C. vazzoleri* by having larger scales (86-105 vs. 95-114), but ranges overlap, and common absence of row of light spots along the abdominal side (vs. persistent in *vazzoleri*). Breeding individuals possess three ocellated bars, which is continuous above upper lateral line when extending above it, and isolated blotches on dorsum usually not present (vs. dorsal blotches present or absent in *vazzoleri*, and typically three vertical rows of 3, 3, and 2 blotches in *jariina* and *thyrurus*) [Kullander and Ferreira 2006].”

Biology

From Reis and Santos (2014):

“For *C. pinima* [in the Paraguaçu River], fish (IAi [relative proportion] = 35.2%) Ephemeroptera insects (IAi = 31.7%) and molluscs (IAi = 21.2%) were the most important food types. [...] The high prevalence of insects in the diet may be related to the high number of juveniles among the specimens analyzed.”

Human Uses

From Kullander and Ferreira (2006):

“Species of the genus *Cichla* are among the major food and game fishes in South America.”

C. pinima is mentioned on U.S.-based online aquarium forums, but was not found for sale from major U.S.-based online aquarium retailers.

Diseases

From Pereira and Luque (2017):

“*Cucullanus opisthoporus* n. sp. [parasitic nematode] was collected in [...] *C. pinima* from River Jamarí, State of Rondônia [Brazil].”

From Zatti et al. (2018):

“We describe three new *Henneguya* spp. (Myxobolidae) found parasitizing two species of cichlid fish from the Amazon basin, Brazil [including] *H. tapajoensis* n. sp. from gill filaments of *Cichla pinima* [...]”

No OIE reportable diseases.

Threat to Humans

From Froese and Pauly (2011):

“Harmless”

3 Impacts of Introductions

Moore et al. (2010) state that *Cichla pinima* may have biological or ecological traits that lead to high risk of negative impact if introduced. However, no scientific studies are cited to support this risk characterization.

From Reis and Santos (2014):

“The presence of native fish in the stomach contents of tucunarés [*C. pinima*] deserves particular attention, because the voracity of this fish can lead to extinction of native species.”

4 Global Distribution

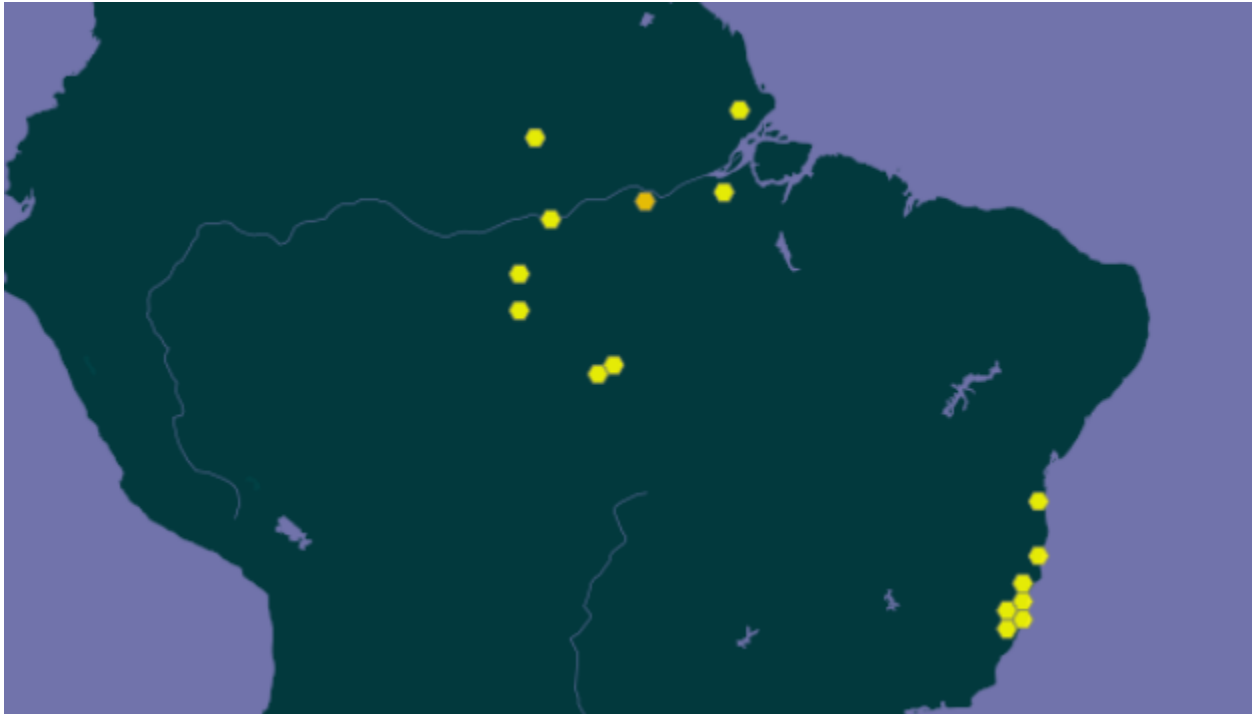


Figure 1. Known global distribution of *Cichla pinima* in Brazil. Map from GBIF Secretariat (2017).

5 Distribution Within the United States

No known occurrences.

6 Climate Matching

Summary of Climate Matching Analysis

The climate match (Sanders et al. 2018; 16 climate variables; Euclidean Distance) was medium overall for the contiguous United States, reflected in a Climate 6 proportion of 0.008. The range for Climate 6 proportions indicating a medium climate match is between 0.005 and 0.103. The highest match was found in southern Florida. Most of Florida, coastal Texas, coastal Georgia, and southeastern Louisiana had medium matches. The remainder of the contiguous United States had low matches.

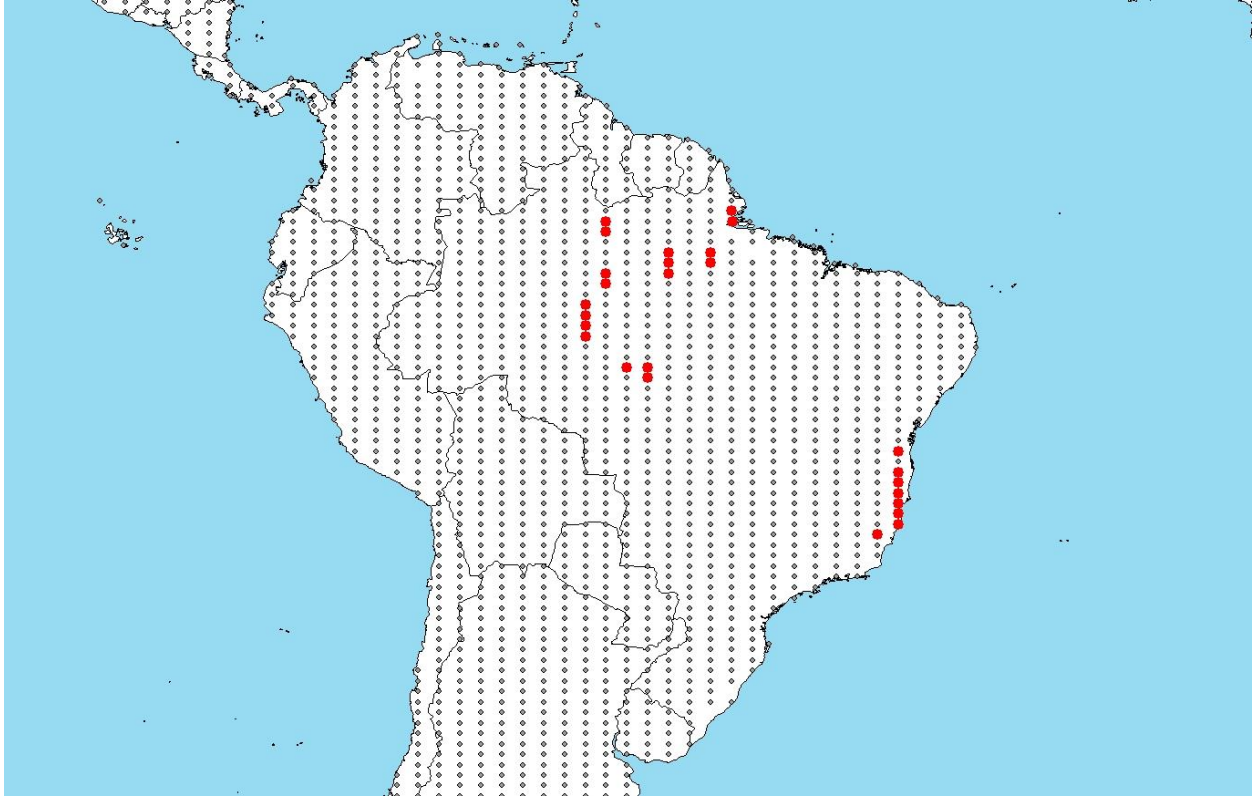


Figure 2. RAMP (Sanders et al. 2018) source map showing weather stations selected as source locations (red; Brazil) and non-source locations (gray) for *Cichla pinima* climate matching. Source locations from GBIF Secretariat (2017).

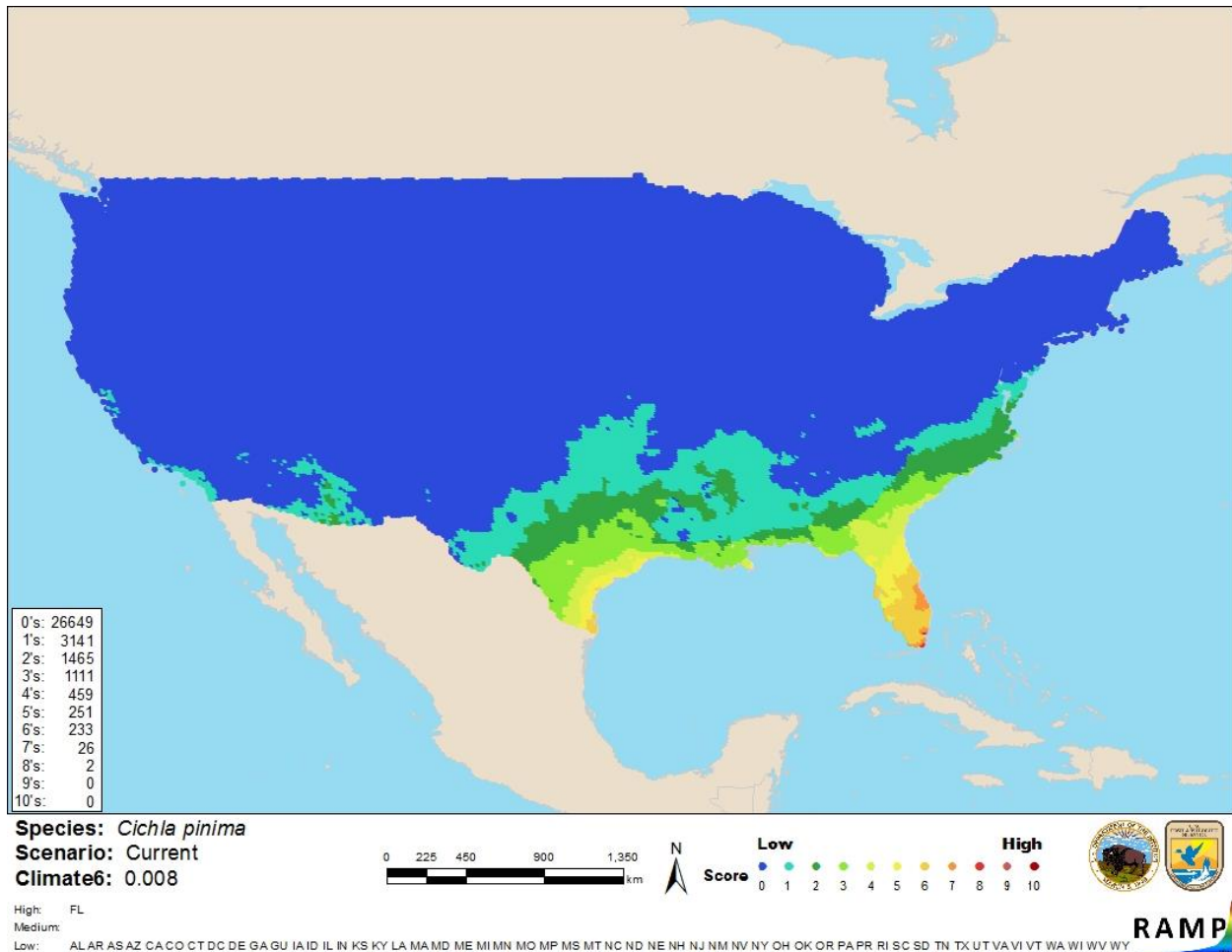


Figure 3. Map of RAMP (Sanders et al. 2018) climate matches for *Cichla pinima* in the contiguous United States based on source locations reported by GBIF Secretariat (2017). 0= Lowest match, 10=Highest match. Counts of climate match scores are tabulated on the left.

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 biology and ecology of *Cichla pinima* are poorly known. It has been introduced into areas of Brazil outside its native range, but very little is known about the impacts it is having as a result of introduction. Due to lack of information, the certainty of assessment is low. More information is needed to elevate the assessment certainty.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Cichla pinima is native to parts of Brazil. The species has been introduced to reservoirs and river basins within Brazil where it is not native, and it has become established in at least some locations. The prevalence of fish in the diet of introduced *C. pinima* is cause for concern for one author, but little information is available to quantify impacts on native species where *C. pinima* has been introduced. Climate match to the contiguous United States is medium, with southern Florida having a high climate match. Without further information on impacts of introduction, certainty of the assessment is low and overall risk posed by *C. pinima* is uncertain.

Assessment Elements

- **History of Invasiveness (Sec. 3): None Documented**
- **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. 2011. *Cichla pinima* Kullander & Ferreira, 2006. FishBase. Available: <http://www.fishbase.us/summary/Cichla-pinima.html>. (August 2011).

Froese, R., and D. Pauly, editors. 2018. *Cichla pinima* Kullander & Ferreira, 2006. FishBase. In World Register of Marine Species. Available: <http://www.marinespecies.org/aphia.php?p=taxdetails&id=1008935>. (September 2018).

GBIF Secretariat. 2017. GBIF backbone taxonomy: *Cichla pinima* Kullander & Ferreira, 2006. Global Biodiversity Information Facility, Copenhagen. Available: <https://www.gbif.org/species/5208146>. (May 2018).

Kullander, S. O., and E. J. G. Ferreira. 2006. A review of the South American cichlid genus *Cichla*, with descriptions of nine new species. *Ichthyological Exploration of Freshwaters* 17:289-398.

Moore, A., N. Marton, and A. McNee. 2010. A strategic approach to the management of ornamental fish in Australia. Communication strategy and grey list review – a report to OFMIG. Bureau of Rural Sciences, Canberra, Australia. Available: https://www.dpi.nsw.gov.au/__data/assets/pdf_file/0008/637145/OrnamentalFishManagementReport2010.pdf. (May 2018).

- Pereira, F. B., and J. L. Luque. 2017. Morphological and molecular characterization of cucullanid nematodes including *Cucullanus opisthoporus* n. sp. in freshwater fish from the Brazilian Amazon. *Journal of Helminthology* 91(6):739-751.
- Reis, L. R. G., and A. C. A. Santos. 2014. Dieta de duas espécies de peixes da família Cichlidae (*Astronotus ocellatus* e *Cichla pinima*) introduzidos no rio Paraguaçu, Bahia. *Biotemas* 27(4):83-91. (In Portuguese with English abstract.)
- Sanders, S., C. Castiglione, and M. H. Hoff. 2018. Risk Assessment Mapping Program: RAMP, version 3.1. U.S. Fish and Wildlife Service.
- Zatti, S. A., S. D. Atkinson, A. A. M. Maia, J. L. Bartholomew, and E. A. Adriano. 2018. Novel *Henneguya* spp. (Cnidaria: Myxozoa) from cichlid fish in the Amazon basin cluster by geographic origin. *Parasitology Research* 117(3):849-859.

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.

- Bezerra e Silva, J. W., J. de Oliveira Chacon, E. P. dos Santos, J. T. C. de Mello, and E. de A. Duarte. 1980. Curva de rendimento do tucunaré pinima, *Cichla temensis* (Humboldt, 1833), do açude público “Estevam Marinho” (Curemas, Paraíba, Brasil). *Revista Brasileira de Biologia* 40:203-206.
- Braga, R. A. 1952. Ninhos de tucunarés, “*Cichla temensis*” Humboldt e “– *Cichla ocellaris*” Bloch & Schneider. *Revista Brasileira de Biologia* 12:273-278.
- Braga, R. A. 1953. Crescimento de tucunaré pinima, *Cichla temensis* Humboldt, em cativeiro. *Dusenía* 4:41-46.
- Fontenele, O. 1948. Um caráter sexual secundário extragenital nos tucunarés (Actinopterygii, Cichlidae). *Revista Brasileira de Biologia* 8:185-188.
- Menezes, R. S. de. 1953. Listas dos nomes vulgares de peixes de águas doces e salobras da zona seca do Nordeste e Leste do Brasil. *Arquivos do Museu Nacional* 42:343-388.