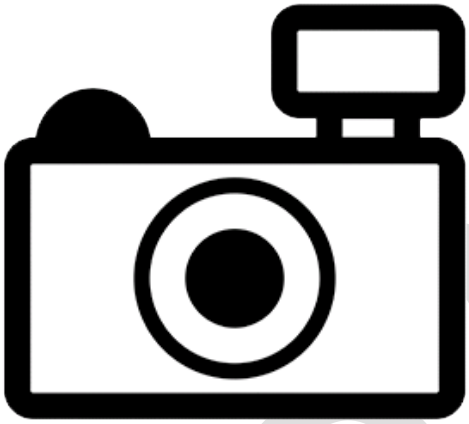
Rio Jari Peacock Bass (*Cichla jariina*)

Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, August 2011
Revised, September 2012, May 2018
Web Version, 9/7/2018



No Photo Available

DRAFT

1 Native Range and Status in the United States

Native Range

From Kullander and Ferreira (2006):

"Known only from the Rio Jari, in the region of Cachoeira Itacari and Cachoeira Santo Antonio [northeastern Brazil]"

Status in the United States

No known introductions. There is no indication that this species is in trade in the United States.

Means of Introductions in the United States

No known introductions.

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 jariina* (Species)"

"Status accepted"

Size, Weight, and Age Range

From Froese and Pauly (2011):

"Max length: 34.0 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):

"Known only from the Rio Jari, in the region of Cachoeira Itacari and Cachoeira Santo Antonio [northeastern Brazil]"

Introduced

No known introductions.

Means of Introduction Outside the United States

No reported introductions.

DRAFT

Short Description

From Froese and Pauly (2011):

"Diagnosis: Most similar to its congeners, *pinima*, *temensis*, *thyrorus*, and *vazzoleri* in having distinct rows of light spots along the side, and presence of large ocellated blotches replacing vertical bars in adults. It is unique by absence or extreme reduction of squamation of dorsal fin. Scales in E1 row 100-108 (vs. 77-90 in *C. thyrorus*). Similar only to *C. pinima* in having an ocellated black spot just below soft dorsal fin. Only breeding male known has three blotches ocellated by white dots representing bars 1 and 2, it is similar to *thyrorus*, but different from *pinima*, *temensis*, and *vazzoleri* in which bars below upper lateral line typically entire and dorsal ocellar markings frequent only in *vazzoleri*. Dorsal fin count modally XV 16 (shared with *vazzoleri* vs. XV 17 in other species of *Cichla*) and vertebral count modally 18 + 16 = 34 (vs. 18 + 17 = 35, 18 + 18 = 36 or 19 + 17 = 36 in other species) [Kullander and Ferreira 2006]."

Biology

From Kullander and Ferreira (2006):

"The type series was obtained from both upstream and downstream of the Cachoeira Santo Antonio, which is a major waterfall separating the upper Rio Jari from the Amazon lowland. It would seem impassable at least in low water stands, but obviously forms no barrier to *C. jariina*."

"The radiograph of the smallest specimen available, 62.1 mm SL, shows two articulated specimens of ostariophysans curled up in the stomach, apparently swallowed whole."

Human Uses

From Kullander and Ferreira (2006):

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

Diseases

Oliveira et al. (2017) report *C. jariina* as a host of the parasitic crustacean *Argulus multicolor* Stekhoven, 1937, found parasitizing the mouth of *C. jariina*.

No OIE-reportable diseases have been documented for this species.

Threat to Humans

From Froese and Pauly (2011):

"Harmless"

DRAFT

3 Impacts of Introductions

Moore et al. (2010) states that *Cichla jariina* 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.

4 Global Distribution

No georeferenced occurrences have been documented for this species (GBIF Secretariat 2017).

Figure 1. Map of the Amazon River basin with the Jari River highlighted in pink. *C. jariina* is endemic to the Jari River (Kullander and Ferraris 2006). Map: ValeriySh. Licensed under Creative Commons (CC BY-SA 3.0). Available: https://commons.wikimedia.org/w/index.php?curid=37363002. (September 2018).

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 low throughout the contiguous United States, reflected in a Climate 6 proportion of 0.0. The range for Climate 6 proportions indicating a low climate match is 0.000 to 0.005. The highest score was 3 out of 10 in southeastern Florida, but nearly all of the contiguous United States scored 0 out of 10.

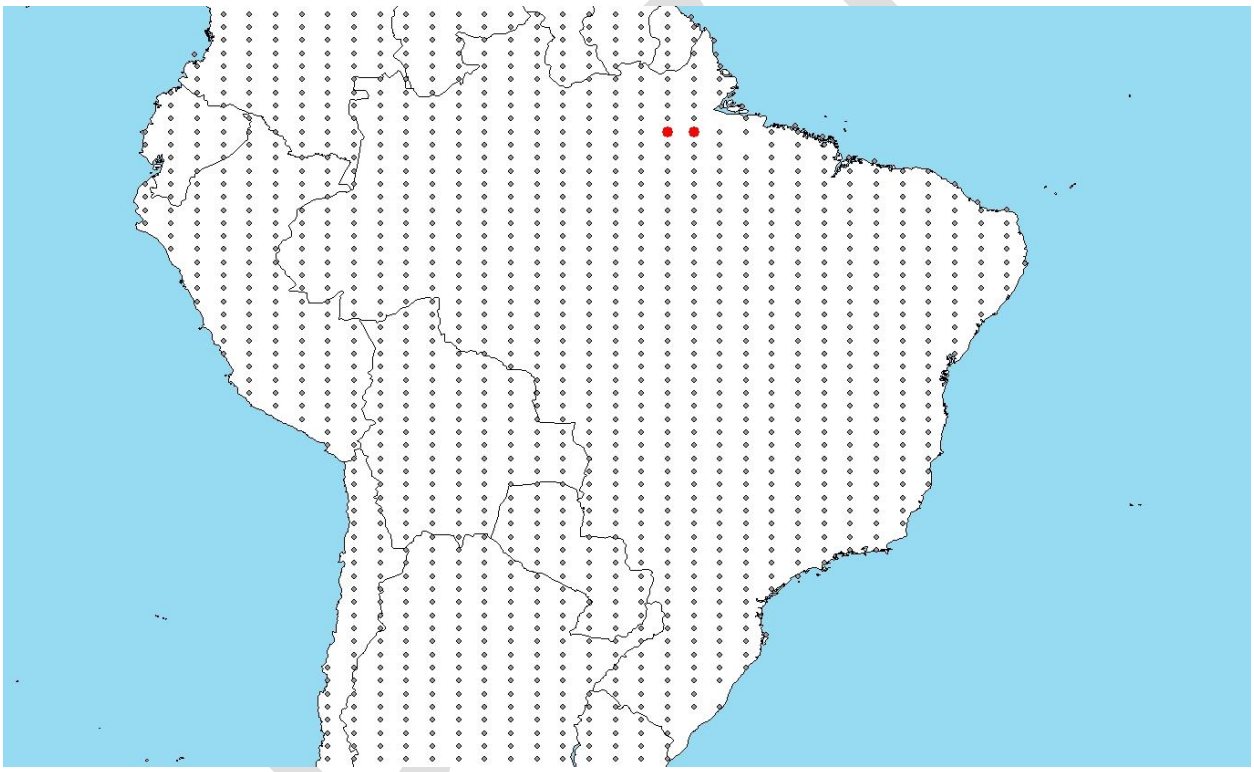


Figure 2. RAMP (Sanders et al. 2018) source map showing weather stations selected as source locations (red; Brazil) and non-source locations (gray) for *Cichla jariina* climate matching. Source locations approximated from map in Kullander and Ferraris (2006).

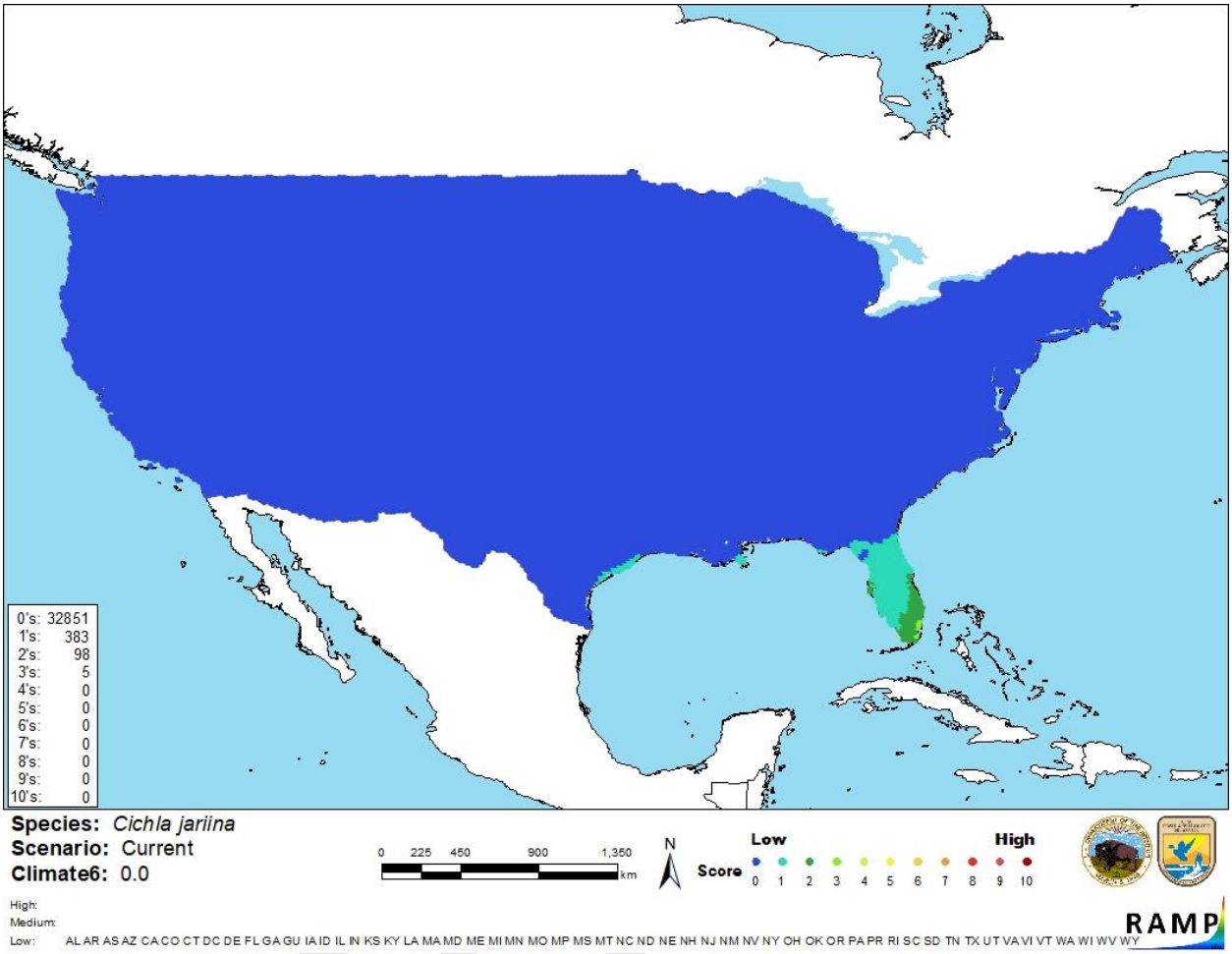


Figure 3. Map of RAMP (Sanders et al. 2018) climate matches for *Cichla jariina* in the contiguous United States based on source locations reported by Kullander and Ferraris (2006). 0= Lowest match, 10=Highest match. Counts of climate match scores are tabulated on the left.

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≤X≤0.005	Low
0.005<X<0.103	Medium
≥0.103	High

7 Certainty of Assessment

The biology and ecology of *Cichla jariina* are poorly known. There are no records showing introductions of this species outside of its native range. Little information is known to conclude what kind of effect it could have if it were introduced. 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

Rio Jari Peacock Bass (*Cichla jariina*) is native to northeastern Brazil and is not known to have been introduced outside its native range. *C. jariina* has a low climate match with the contiguous United States. This species is not known to be in the aquarium or aquaculture industry. The lack of research makes the certainty of assessment low and the overall risk 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

Froese, R., and D. Pauly, editors. 2011. *Cichla jariina* Kullander & Ferreira, 2006. FishBase. Available: http://www.fishbase.us/summary/Cichla-jariina.html. (August 2011, September 2012).

Froese, R., and D. Pauly, editors. 2018. *Cichla jariina* Kullander & Ferreira, 2006. FishBase. *In* World Register of Marine Species. Available: http://www.marinespecies.org/aphia.php?p=taxdetails&id=1008934. (September 2018).

GBIF Secretariat. 2017. GBIF backbone taxonomy: *Cichla jariina* Kullander & Ferreira, 2006. Global Biodiversity Information Facility, Copenhagen. Available: https://www.gbif.org/species/5208142. (May 2018, September 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).

Oliveira, M. S. B., L. L. Corrêa, D. O. Ferreira, L. R. Neves, and M. Tavares-Dias. 2017. Records of new localities and hosts for crustacean parasites in fish from the eastern Amazon in northern Brazil. Journal of Parasitic Diseases 41(2):565-570.

Sanders, S., C. Castiglione, and M. H. Hoff. 2018. Risk Assessment Mapping Program: RAMP, version 3.1. US Fish and Wildlife Service.

DRAFT