

Pristobrycon calmoni (a piranha, no common name)

Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, April 2012
Revised, November 2018
Web Version, 1/22/2021

Organism Type: Fish
Overall Risk Assessment Category: Uncertain



Photo: T. Østergaard. Licensed under Creative Commons BY-NC 3.0 Unported. Available: <https://www.fishbase.de/photos/PicturesSummary.php?StartRow=0&ID=25617&what=species&TotRec=2>. (April 2012).

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2018):

“South America: lower and middle Amazon [Brazil] and Orinoco River basins. Also in coastal rivers of Guyana.”

“Found in Mánamo channel - Güinamorena [Venezuela] [Lasso et al. 2004].”

Status in the United States

No records of *Pristobrycon calmoni* in the wild or in trade in the United States were found.

The Florida Fish and Wildlife Conservation Commission has listed the fish, *Pristobrycon calmoni* as a prohibited species. Prohibited nonnative species (FFWCC 2018), "are considered to be dangerous to the ecology and/or the health and welfare of the people of Florida. These species are not allowed to be personally possessed or used for commercial activities."

Pristobrycon calmoni is a prohibited species in Alabama (Alabama DCNR 2019). “No person, firm, corporation, partnership, or association shall possess, sell, offer for sale, import, bring, release, or cause to be brought or imported into the State of Alabama” a prohibited species.

Piranhas are prohibited species in Arkansas (Arkansas GFC 2019). *Pristobrycon calmoni* is a species of piranha.

Species of piranha (including *Pristobrycon calmoni*) are prohibited as pets in Georgia (Georgia DNR 2020).

Possession of species of piranha (including *Pristobrycon calmoni*) is prohibited in Louisiana (Louisiana State Legislature 2019).

Pristobrycon calmoni falls within Group IV of New Mexico’s Department of Game and Fish Director’s Species Importation List (New Mexico Department of Game and Fish 2010). Group IV species “are prohibited for the general public but may be allowed for, scientific study, department approved restoration and recovery plans, zoological display, temporary events/entertainment, use as service animal or by a qualified expert.”

Pristobrycon calmoni is a prohibited species in Texas (Texas Parks and Wildlife 2020).

From Virginia DWR (2020):

“A special permit is required, and may be issued by the Department, if consistent with the Department’s fish and wildlife management program, to import, possess, or sell the following non-native (exotic) amphibians, fish, mollusks, aquatic invertebrates, and reptiles: [...] piranhas,”

Means of Introductions in the United States

No records of *Pristobrycon calmoni* in the wild in the United States were found.

Remarks

Information searches were conducted using the synonym *Serrasalmus calmoni* and valid name *Pristobrycon calmoni*.

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

According to Fricke et al. (2018), *Pristobrycon calmoni* is the valid name for this species. It was originally described as *Serrasalmo (Pygocentrus) calmoni* and was previously known as *Serrasalmus calmoni*.

From ITIS (2018):

Kingdom Animalia

Subkingdom Bilateria

Infrakingdom Deuterostomia

Phylum Chordata

Subphylum Vertebrata

Infraphylum Gnathostomata

Superclass Actinopterygii

Class Teleostei

Superorder Ostariophysi

Order Characiformes

Family Characidae

Genus *Pristobrycon*

Species *Pristobrycon calmoni* (Steindachner, 1908)

Size, Weight, and Age Range

From Froese and Pauly (2018):

“Max length : 15.0 cm TL male/unsexed; [Jégu 2003]”

Environment

From Froese and Pauly (2018):

“Freshwater; benthopelagic; pH range: 6.5 - 7.8; dH range: 4 - 25. [...]; 23°C - 28°C [assumed to be recommended aquarium temperature] [Baensch and Riehl 1985]”

Climate/Range

From Froese and Pauly (2018):

“Tropical; [...]”

Distribution Outside the United States

Native

From Froese and Pauly (2018):

“South America: lower and middle Amazon [Brazil] and Orinoco River basins. Also in coastal rivers of Guyana.”

“Found in Mánamo channel - Güinamorena [Venezuela] [Lasso et al. 2004].”

Introduced

No records of *Pristobrycon calmoni* introductions were found.

Means of Introduction Outside the United States

No records of *Pristobrycon calmoni* introductions were found.

Short Description

A short description of *Pristobrycon calmoni* was not found.

Biology

From Froese and Pauly (2018):

“Spawns in schools between plants.”

“Feeds on fish and benthic organisms [Val and Almeida-Val 1995].”

Horn et al. (2011) list *Pristobrycon calmoni* as a species that consumes fruits and seeds.

Human Uses

From Froese and Pauly (2018):

“Fisheries: commercial”

“Found in fish markets in Santarém [Brazil] [Ferreira et al. 1996].”

According to Prang (2007), *Pristobrycon calmoni* is approved for export from Brazil for the ornamental trade.

Diseases

No information on diseases of *Pristobrycon calmoni* was found. **No records of OIE-reportable diseases (OIE 2021) were found for *P. calmoni*.**

Threat to Humans

From Froese and Pauly (2018):

“Harmless”

3 Impacts of Introductions

No records of *Pristobrycon calmoni* introductions were found, therefore, there is no information on impacts of introductions.

4 History of Invasiveness

No records of introductions of *Pristobrycon calmoni* were found, therefore the history of invasiveness is classified as “no known nonnative population.”

5 Global Distribution

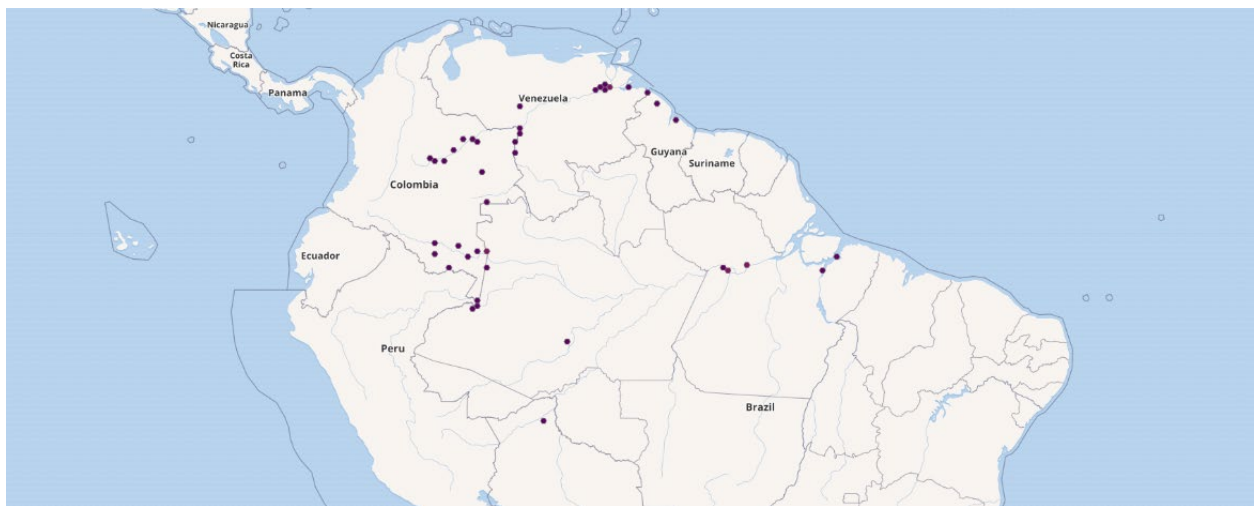


Figure 1. Known global distribution of *Pristobrycon calmoni*. Locations are in Colombia, Venezuela, Guyana, Brazil, and Bolivia. Map from GBIF Secretariat (2018).



Figure 2. Additional known global distribution of *Pristobrycon calmoni*. Locations are in Venezuela, Guyana, and Brazil. Map from VertNet (2018).

6 Distribution Within the United States

No records of *Pristobrycon calmoni* in the wild in the United States were found.

7 Climate Matching

Summary of Climate Matching Analysis

The climate match for *Pristobrycon calmoni* was mostly low across the contiguous United States. There were areas of medium match in southern Texas, Louisiana, and most of peninsular Florida. The very southern tip of Florida had a high climate match. The Climate 6 score (Sanders et al. 2018; 16 climate variables; Euclidean distance) for contiguous United States was 0.001, low (scores between 0.000 and 0.005, inclusive, are classified as low). All States had low individual climate 6 scores, except for Florida which had a medium individual score.

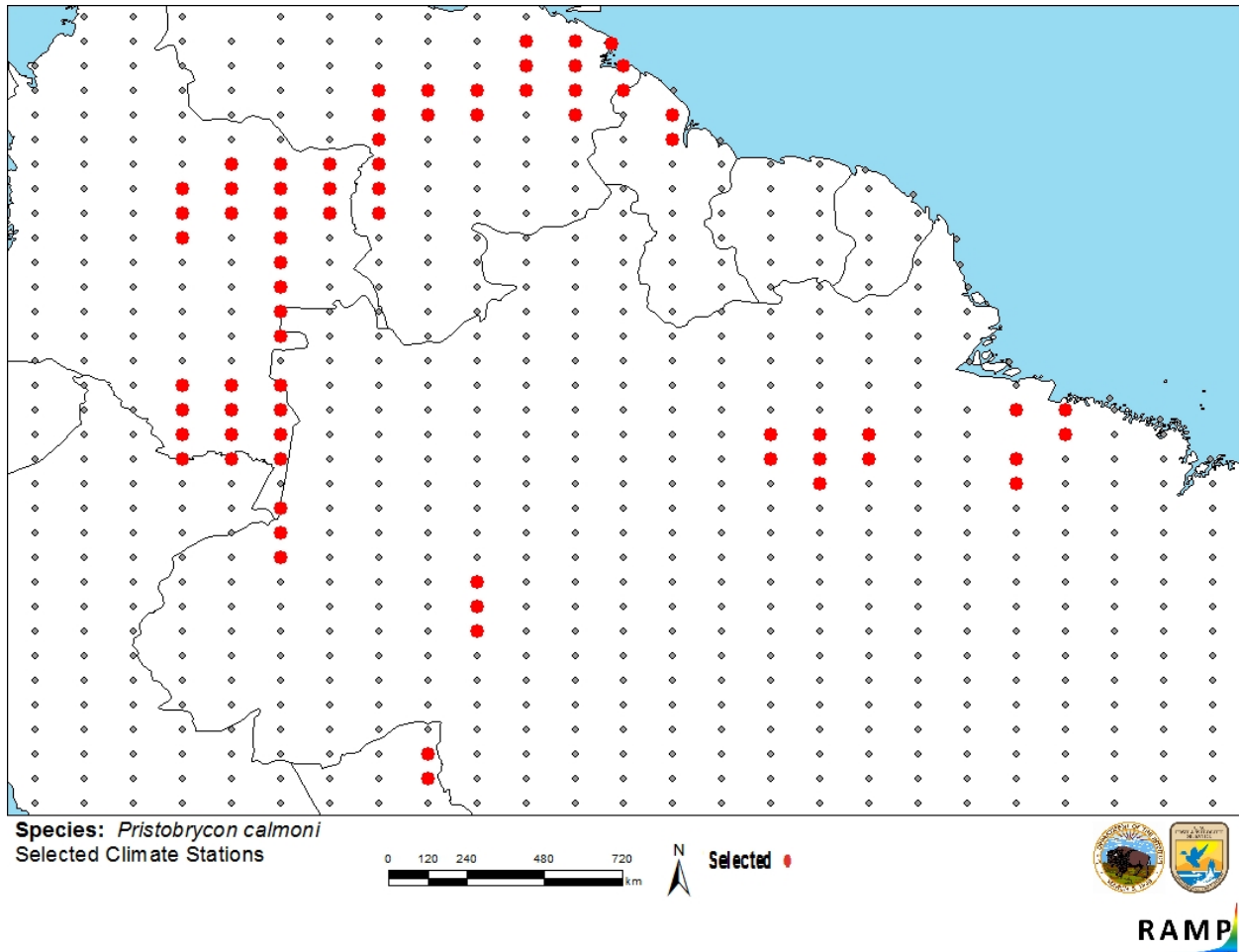


Figure 3. RAMP (Sanders et al. 2018) source map showing weather stations in northern South America selected as source locations (red; Brazil, Bolivia, Colombia, Guyana, Peru, Venezuela) and non-source locations (gray) for *Pristobrycon calmoni* climate matching. Source locations from GBIF Secretariat (2018) and VertNet (2018). Selected source locations are within 100 km of one or more species occurrences, and do not necessarily represent the locations of occurrences themselves.

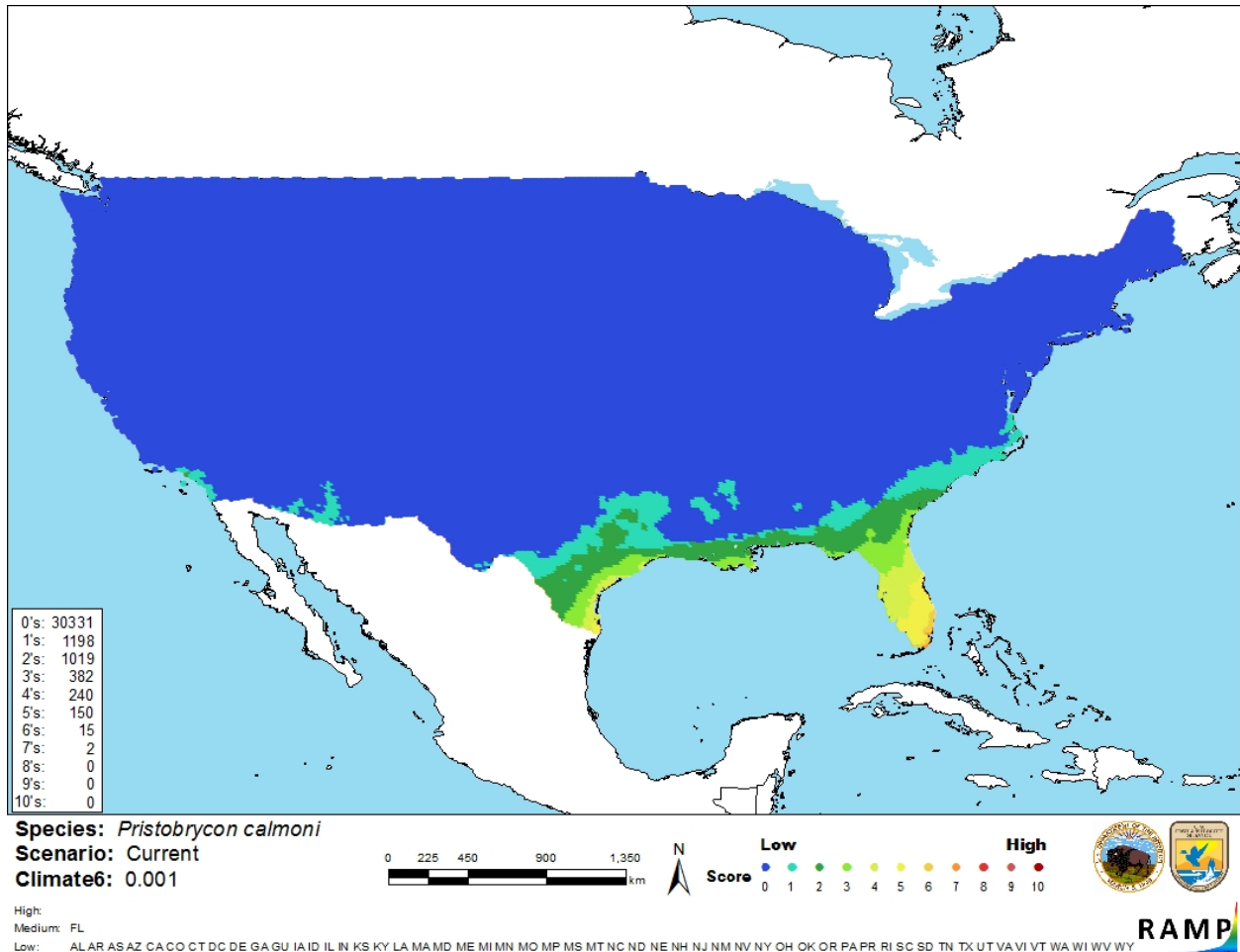


Figure 4. Map of RAMP (Sanders et al. 2018) climate matches for *Pristobrycon calmoni* in the contiguous United States based on source locations reported by GBIF Secretariat (2018) and VertNet (2018). Counts of climate match scores are tabulated on the left. 0/Blue = Lowest match, 10/Red = Highest match.

The High, Medium, and Low Climate match Categories are based on the following table:

Climate 6: (Count of target points with climate scores 6-10)/ (Count of all target points)	Overall Climate Match Category
$0.000 \leq X \leq 0.005$	Low
$0.005 < X < 0.103$	Medium
≥ 0.103	High

8 Certainty of Assessment

The certainty of assessment for *Pristobrycon calmoni* is low. There is minimal information available for this species. No records of introduction were found, therefore there is no information on impacts of introduction.

9 Risk Assessment

Summary of Risk to the Contiguous United States

Pristobrycon calmoni is a species of piranha native to river basins in northern South America from the Orinoco River in Venezuela to the Amazon River in Brazil. There is some indication that it may be in the ornamental trade. The history of invasiveness is classified as “no known nonnative population.” No records of introduction were found. The climate match for the contiguous United States was low. There were some areas of medium to high match along the Gulf Coast and in Florida. The certainty of assessment is low. The overall risk assessment category is uncertain.

Assessment Elements

- **History of Invasiveness (Sec. 4): No Known Nonnative Population**
- **Overall Climate Match Category (Sec. 7): Low**
- **Certainty of Assessment (Sec. 8): Low**
- **Remarks/Important additional information:** No additional remarks
- **Overall Risk Assessment Category: Uncertain**

10 Literature Cited

Note: The following references were accessed for this ERSS. References cited within quoted text but not accessed are included below in Section 11.

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Arkansas [GFC] Game and Fish Commission. 2019. Certain exotic species prohibited. Arkansas Game and Fish Commission Code of Regulations 26.13.

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Virginia [DWR] Department of Wildlife Resources. 2020. Nongame fish, reptile, amphibian and aquatic invertebrate regulations. Henrico, Virginia: Virginia Department of Wildlife Resources. Available: <https://dwr.virginia.gov/fishing/regulations/nongame/> (November 2020).

11 Literature Cited in Quoted Material

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.

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