Pristobrycon striolatus (a piranha, no common name)

Ecological Risk Screening Summary

U.S. Fish & Wildlife, May 2012
Revised, November 2018
Web Version, 1/25/2021

Organism Type: Fish
Overall Risk Assessment Category: Uncertain

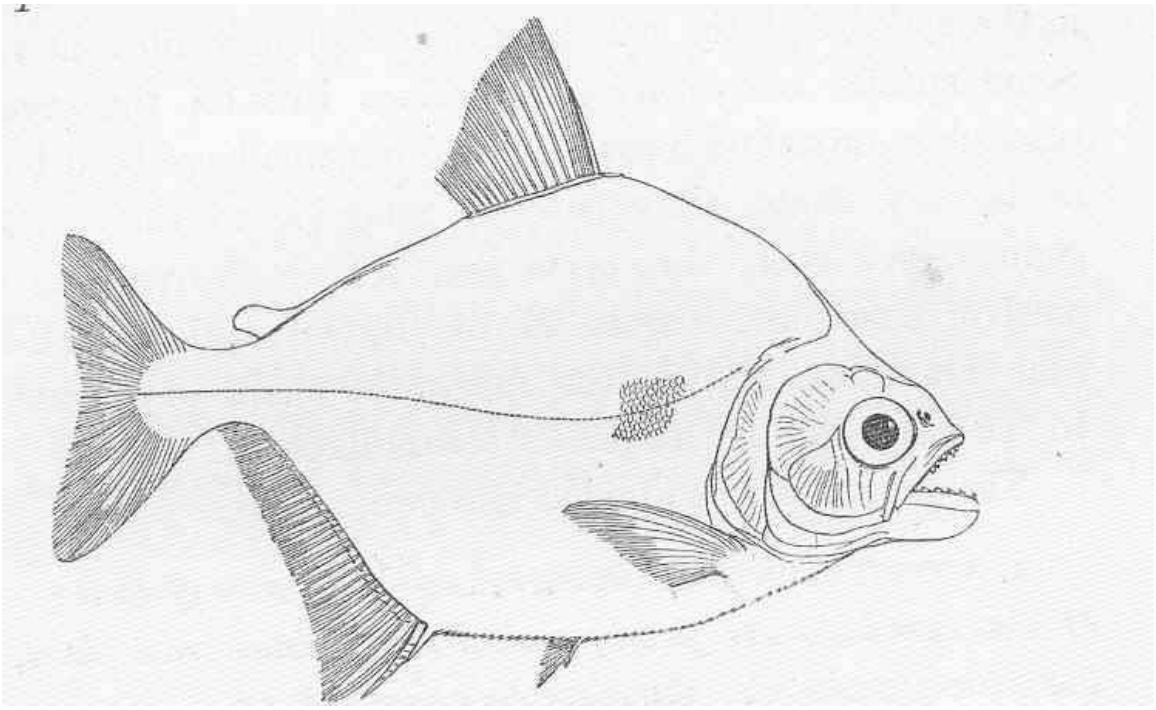

Image: Albert C. L. G. Gunther. Public Domain, hosted by Freshwater and Marine Image Bank. Available: https://eol.org/media/9336782. (November 7, 2018).

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2018):

"South America: Amazon and Orinoco River basins [Brazil, Venezuela] and north and eastern Guiana Shield rivers [French Guiana, Guyana, Suriname]."

"[In Brazil:] Known from the Amazon River basin [Jégu 2003]. Occurs in Para and Serra do Roncador [Planquette et al. 1996]."

"[In French Guiana:] Present in the Maroni River [Planquette et al. 1996]."

From Diaz-Sarmiento and Alvares-León (2003):

"*Serrasalmus* (*Pygocentrus*) *nattereri*, *Serrasalmus rhombeus*, *Serrasalmus spilopleura*, and *Serrasalmus* [*Pristobrycon*] *striolatus* have been reported from the Caquetá River [Colombia]."

Status in the United States

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

The Florida Fish and Wildlife Conservation Commission has listed the fish, *Pristobrycon striolatus* 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 striolatus 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 striolatus* is a species of piranha.

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

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

Pristobrycon striolatus 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 striolatus 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 striolatus* in the wild in the United States were found.

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

2 Biology and Ecology

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

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 striolatus* (Steindachner, 1908)

Size, Weight, and Age Range
From Froese and Pauly (2018):

"Max length : 20.1 cm TL male/unsexed; [Giarrizzo et al. 2015]; max. published weight: 230.00 g [Giarrizzo et al. 2015]"

Environment
From Froese and Pauly (2018):

"Freshwater; benthopelagic."

Climate
From Froese and Pauly (2018):

"Tropical"

Distribution Outside the United States

Native

From Froese and Pauly (2018):

"South America: Amazon and Orinoco River basins [Brazil, Venezuela] and north and eastern Guiana Shield rivers [French Guiana, Guyana, Suriname]."

"[In Brazil:] Known from the Amazon River basin [Jégu 2003]. Occurs in Para and Serra do Roncador [Planquette et al. 1996]."

"[In French Guiana:] Present in the Maroni River [Planquette et al. 1996]."

From Diaz-Sarmiento and Alvares-León (2003):

"*Serrasalmus* (*Pygocentrus*) *nattereri*, *Serrasalmus rhombeus*, *Serrasalmus spilopleura*, and *Serrasalmus* [*Pristobrycon*] *striolatus* have been reported from the Caquetá River [Colombia]."

Introduced

No records of *Pristobrycon striolatus* introductions were found.

Means of Introduction Outside the United States

No records of *Pristobrycon striolatus* introductions were found.

Short Description

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

Biology

From Froese and Pauly (2018):

"Prefers to inhabit the upper reaches of main rivers. Stomach content analysis showed that its food consisted mainly of seeds and to a lesser degree, morsels of fins [Planquette et al. 1996]."

Human Uses

From Froese and Pauly (2018):

"Rarely captured."

According to Begossi et al. (2019), *Pristobrycon striolatus* is consumed as a food fish in coastal and inland areas of Brazil.

Diseases

No records of OIE-reportable diseases (OIE 2021) were found for *Pristobrycon striolatus*.

Casal et al. (1997) described *Henneguya striolata* as a parasite of *P. striolatus* (under the name *Serrasalmus striolatus*).

Brandão et al. (2013) list *P. striolatus* as a host for *Anacanthorus amazonicus*, *Anacanthorus cinctus*, *Anacanthorus crytocaulus*, and *Anacanthorus lasiophallus*.

Kritsky et al. (1997) list *P. striolatus* as a host for *Amphithecium prodotum*, *Pithanothecium amazonensis*, and *Pithanothecium piranhus*.

Kritsky et al. (1996) list *P. striolatus* as a host for *Notozothecium robustum*.

Kritsky et al. (1998) list *P. striolatus* as a host for Enallothecium variabilum.

Whipps et al. (2012) list *P. stiolatus* (as *Serrasalmus striolatus*) as a host for *Calyptospora spinosa*.

Poelen et al. (2014) list *Anavilhanatrema* sp. as an additional parasite of *P. striolatus.*

Threat to Humans

From Froese and Pauly (2018):

"Harmless"

3 Impacts of Introductions

No records of *Pristobrycon striolatus* introductions were found; therefore, there is no information on impacts of introduction to evaluate.

P. striolatus is regulated in multiple States.

4 History of Invasiveness

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

5 Global Distribution

Figure 1. Known global distribution of *Pristobrycon striolatus*. Locations are in Colombia, Venezuela, French Guiana, Guyana, Suriname, and Brazil. Map from GBIF Secretariat (2018). The location in southern Brazil was not used to select source points for the climate match. The recorded collection point does not match the recorded coordinates (GBIF Secretariat 2018).

6 Distribution Within the United States

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

7 Climate Matching

Summary of Climate Matching Analysis

The climate match for *Pristobrycon striolatus* was mostly low for the contiguous United States. There were some areas of medium match along the Gulf Coasts of Texas and Louisiana. Southern Florida had a medium match with the very tip of the state having a high 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.

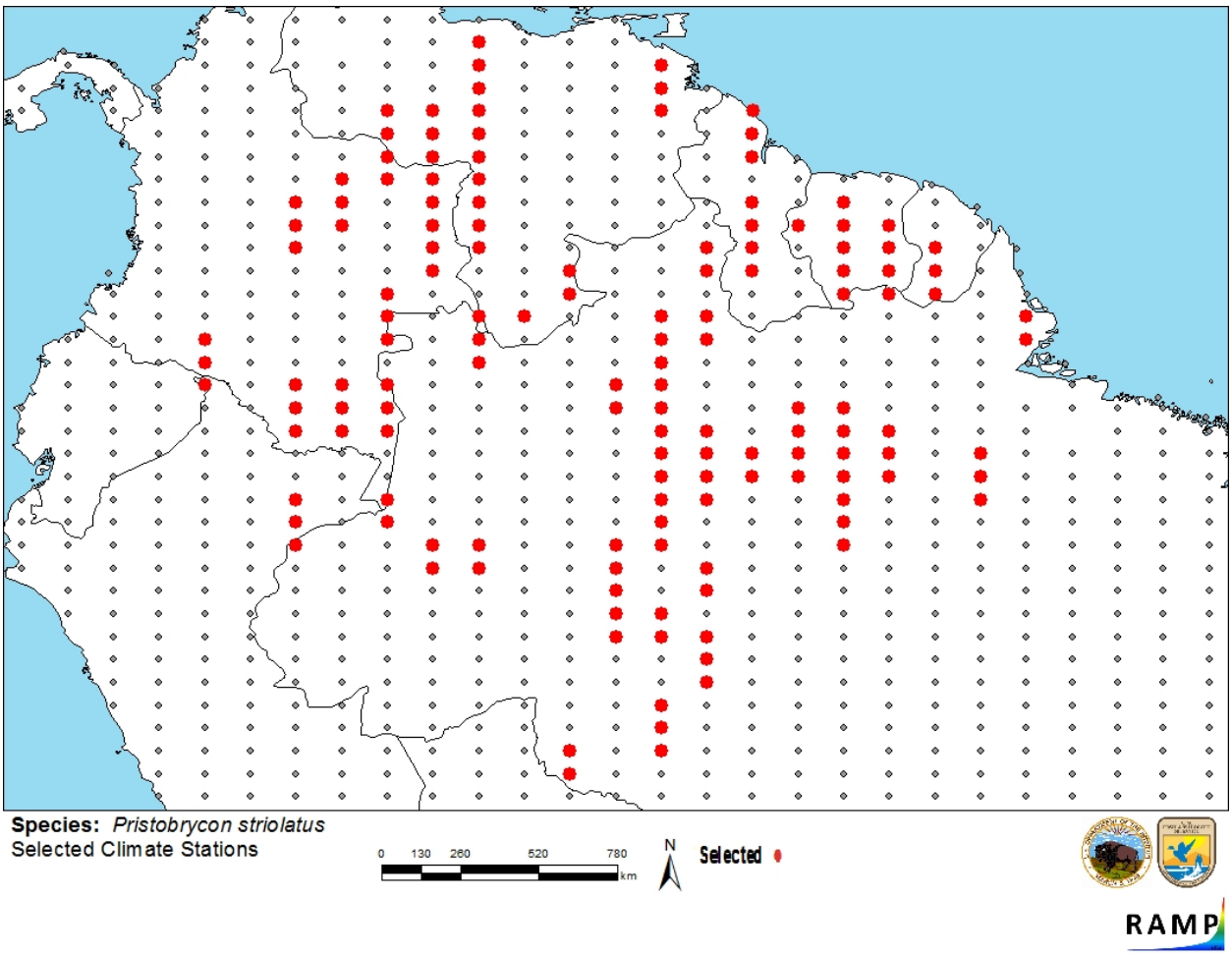

Figure 2. RAMP (Sanders et al. 2018) source map showing weather stations in South America selected as source locations (red; Colombia, Venezuela, French Guiana, Guyana, Suriname, Brazil, Peru) and non-source locations (gray) for *Pristobrycon striolatus* climate matching. Source locations from GBIF Secretariat (2018). Selected source locations are within 100 km of one or more species occurrences, and do not necessarily represent the locations of occurrences themselves.

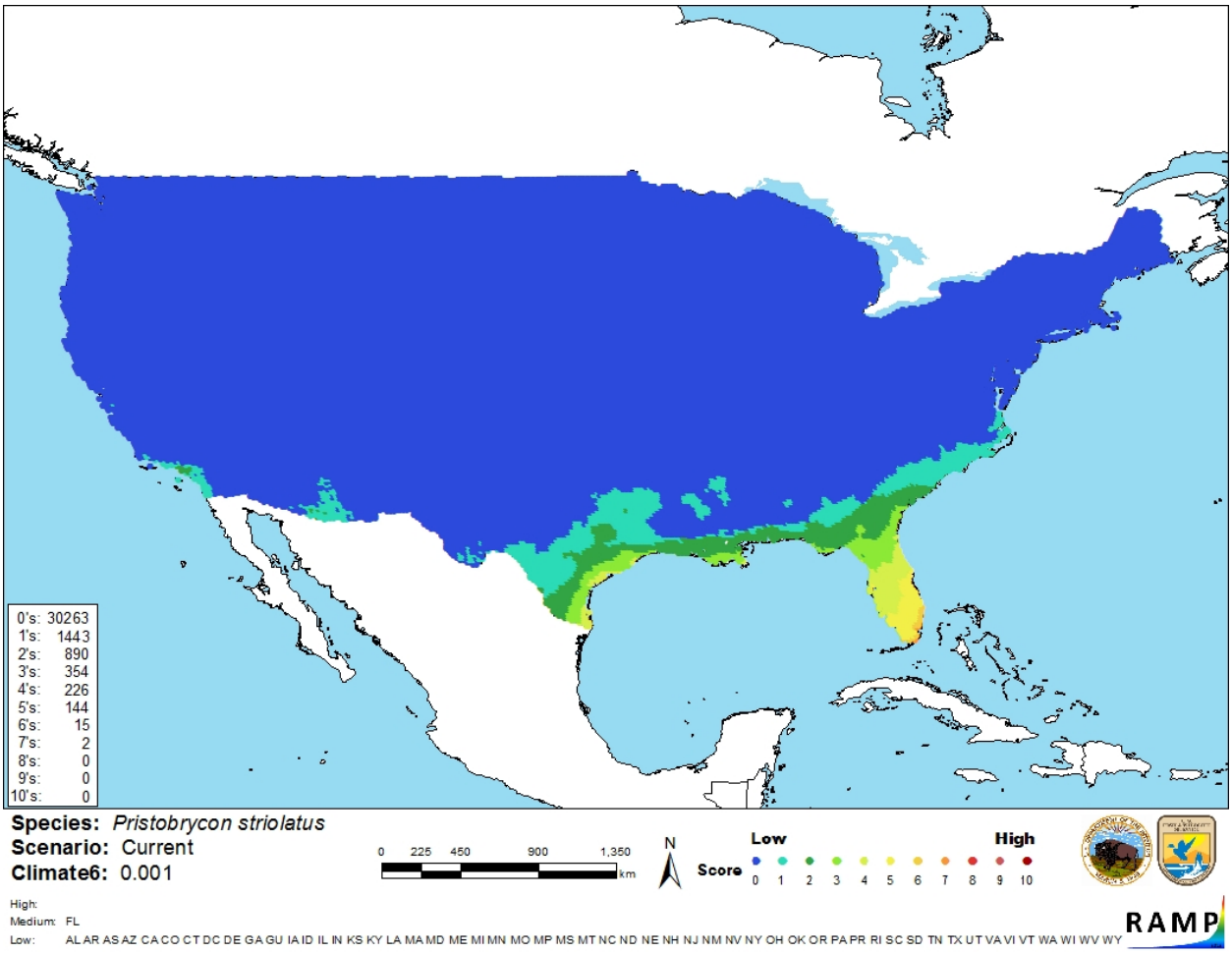

Figure 3. Map of RAMP (Sanders et al. 2018) climate matches for *Pristobrycon striolatus* in the contiguous United States based on source locations reported by GBIF Secretariat (2018). Counts of climate match scores are tabulated on the left. 0/Blue = Lowest match, 10/Red = Highest match.

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

8 Certainty of Assessment

The certainty of assessment for *Pristobrycon striolatus* 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 available to evaluate.

9 Risk Assessment

Summary of Risk to the Contiguous United States

Pristobrycon striolatus is a species of piranha native to Atlantic river basins in South America from the Orinoco to the Amazon. It eats seeds and fruits as well as fish fins and is used as a food source in Brazil. The history of invasiveness is classified as "no known nonnative population." No records of introduction were found. *P. striolatus* is regulated in multiple States. The climate match was low. There were small areas of medium match around the Gulf Coast along with medium matches for southern Florida and a high match at the very southern tip of Florida. The certainty of assessment is low. The overall risk assessment 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 information**
- **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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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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