

# Striped Headstander (*Anostomus anostomus*)

## Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, August 2013  
Revised, December 2015, September 2017, October 2017, July 2018  
Web Version, 7/13/2018



Photo: J. Buyyems. Licensed under Creative Commons BY-NC 3.0. Available: <http://www.fishbase.de/photos/UploadedBy.php?autoctr=17205&win=uploaded>. (September 15, 2017).

## 1 Native Range and Status in the United States

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### Native Range

From Froese and Pauly (2010):

“South America: Amazon [Brazil, Peru] and Orinoco River basins [Venezuela, Colombia] [Garavello and Britski 2003]. Reported from Suriname [Coppename River] [Alonso and Berrenstein 2006].”

From Eschmeyer et al. (2017):

“Distribution: Amazon and Orinoco River basins: Brazil, Guyana, Peru and Suriname.”

### **Status in the United States**

No records of *Anostomus anostomus* in the United States were found.

From LiveAquaria (2018):

“Anostomus Cigar Fish (*Anostomus anostomus*) [...] \$23.99”

### **Means of Introductions in the United States**

No records of *Anostomus anostomus* in the United States were found.

### **Remarks**

No additional remarks.

## **2 Biology and Ecology**

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### **Taxonomic Hierarchy and Taxonomic Standing**

From ITIS (2013):

“Kingdom Animalia  
Phylum Chordata  
Subphylum Vertebrata  
Superclass Osteichthyes  
Class Actinopterygii  
Subclass Neopterygii  
Infraclass Teleostei  
Superorder Ostariophysi  
Order Characiformes  
Family Anostomidae  
Subfamily Anostominae  
Genus *Anostomus* Scopoli, 1777  
Species *Anostomus anostomus* (Linnaeus, 1758)”

According to Eschmeyer et al. (2017), *Anostomus anostomus* (Linnaeus 1758) is the valid name for this species. *Anostomus anostomus* was originally described as *Salmo anostomus* Linnaeus 1758.

## **Size, Weight, and Age Range**

From Froese and Pauly (2010):

“Max length: 16.0 cm TL male/unsexed; [Garavello and Britski 2003]”

## **Environment**

From Froese and Pauly (2010):

“Freshwater; benthopelagic; pH range: 6.0 - 8.0; dH range: 5 - 12. [...]; 22°C - 28°C [assumed to be recommended aquarium temperature range] [Riehel and Baensch 1991]”

## **Climate/Range**

From Froese and Pauly (2010):

“Tropical; [...]”

## **Distribution Outside the United States**

Native

From Froese and Pauly (2010):

“South America: Amazon [Brazil, Peru] and Orinoco River basins [Venezuela, Colombia] [Garavello and Britski 2003]. Reported from Suriname [Coppename River] [Alonso and Berrenstein 2006].”

From Eschmeyer et al. (2017):

“Distribution: Amazon and Orinoco River basins: Brazil, Guyana, Peru and Suriname.”

Introduced

*Anostomus anostomus* was introduced to the Philippines (FAO 2017). No further information was given.

## **Means of Introduction Outside the United States**

From FAO (2017):

“Reasons of Introduction: 1) ornamental”

## **Short Description**

From Eigenmann (1912:294):

“Dark brown, with two conspicuous light bands: one from mouth along upper margin of eye to upper caudal lobe, one along lower margin of eye to lower caudal lobe; a fainter band from nape to behind the dorsal on either side of the median line, a similar one from below pectoral to anal, and another along the midventral line. Brilliant in life”

From Eigenmann (1912:112):

“The young of *Anostomus anostomus* (Plate XLI, fig. 1 [in original source]) so closely resemble the young of *Leporinus arcus* (Plate XLII, fig. 2 [in original source]) that a most skilled ichthyologist pronounced them the same when snouts of the two specimens were covered.”

From Myers and Carvalho (1959):

“In *Anostomus*, both upper and lower lips are thrown into numerous folds or pilcations, which divide the lip into a sort of fringe.”

“The eye is almost at mid-position in the depth of the head in both *Anostomus* and *Gnathodolus*, [...]”

## **Biology**

From Froese and Pauly (2010):

“Adults feed on worms, crustaceans, insects and plant matter [Mills and Vevers 1989]. Oviparous [Breder and Rosen 1966]. Distinct pairs breed on densely grown weedy places [Breder and Rosen 1966].”

“Males tend to be near the nesting site [Breder and Rosen 1966].”

## **Human Uses**

From Froese and Pauly (2010):

“Aquarium: commercial”

“Species are not known to have been bred in an aquarium but has probably been bred in commercial hatcheries [Mills and Vevers 1989].”

## **Diseases**

No records of diseases of *Anostomus anostomus* were found.

## **Threat to Humans**

From Froese and Pauly (2010):

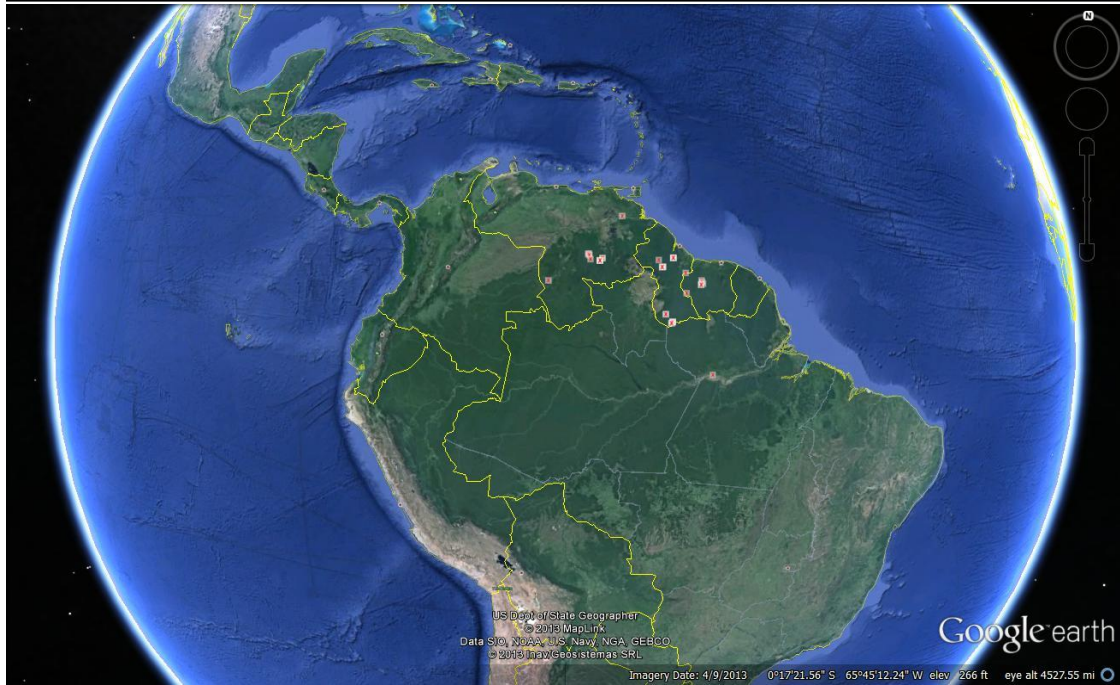
“Harmless”

## **3 Impacts of Introductions**

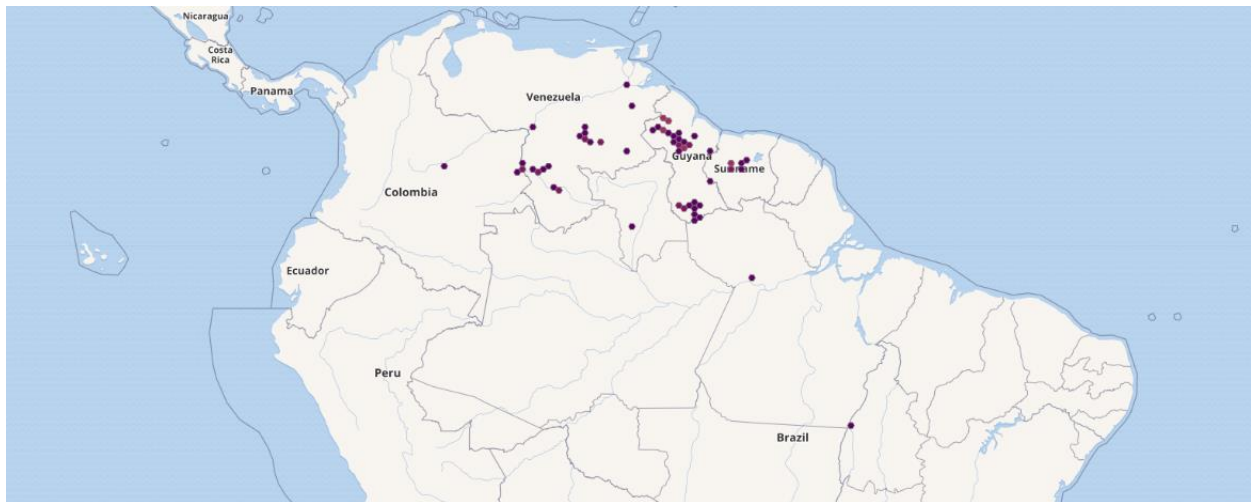
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A record of introduction of *Anostomus anostomus* to the Philippines (FAO 2017) was found; establishment in the new location could not be verified. No records of impacts of this introduction were found.

## 4 Global Distribution



**Figure 1.** Known global distribution of *Anostomus anostomus*. Locations are in Brazil, Guyana, Suriname, and Venezuela. Map from Froese and Pauly (2013).



**Figure 2.** Known global distribution of *Anostomus anostomus*. Locations are in Brazil, Guyana, Suriname, Venezuela, and Colombia. Map from GBIF Secretariat (2018).

The southernmost point in Brazil was not used as a source point for the climate match. It is located in the Tocantins River basin (GBIF Secretariat 2018) which is outside the described range of the species.

A record of introduction to the Philippines was found (FAO 2017), but no information on a specific location or if it resulted in an established population was available. *Anostomus anostomus* was reported from Peru, but no georeferenced location is available.

## **5 Distribution Within the United States**

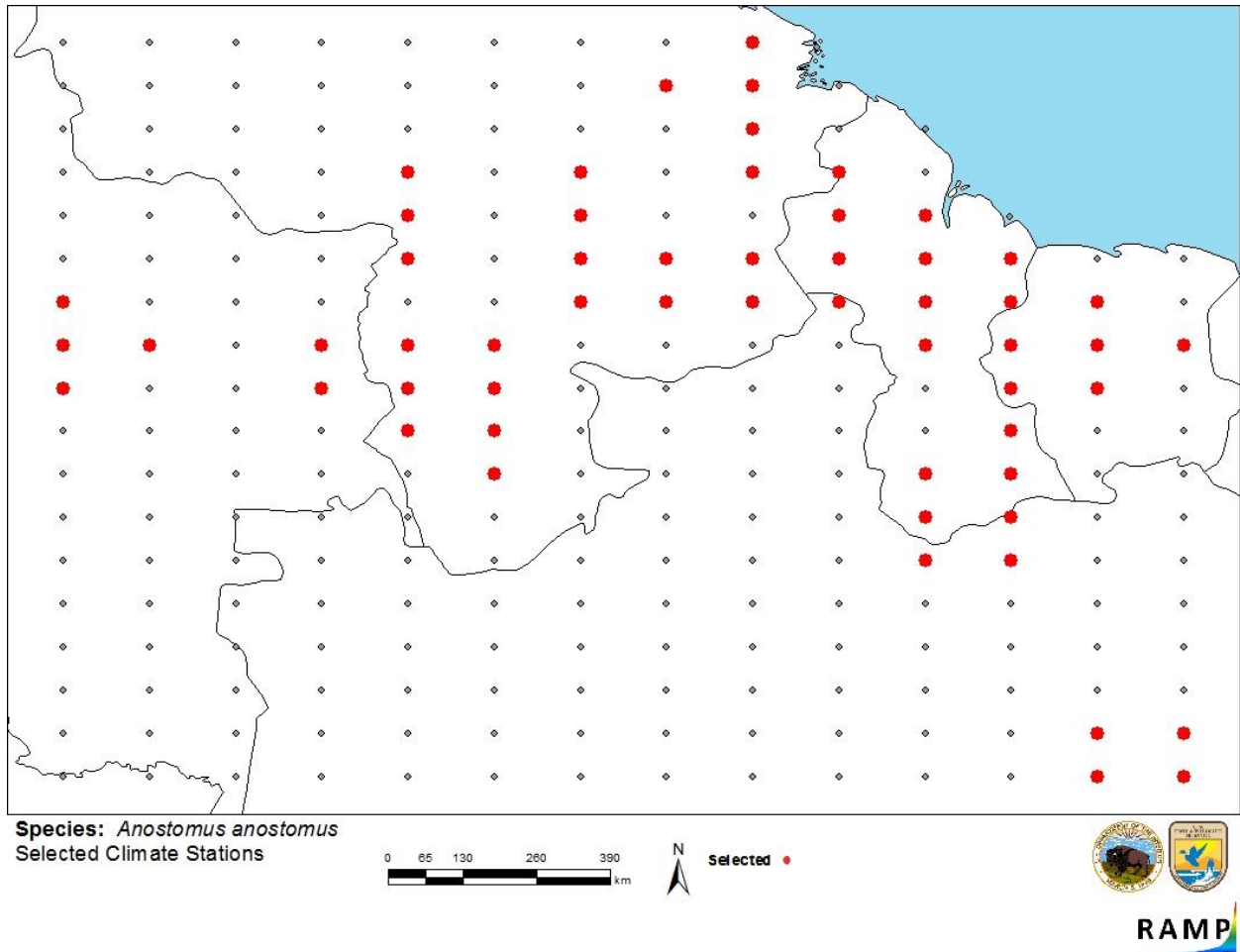
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No records were found of *Anostomus anostomus* in the wild in the United States.

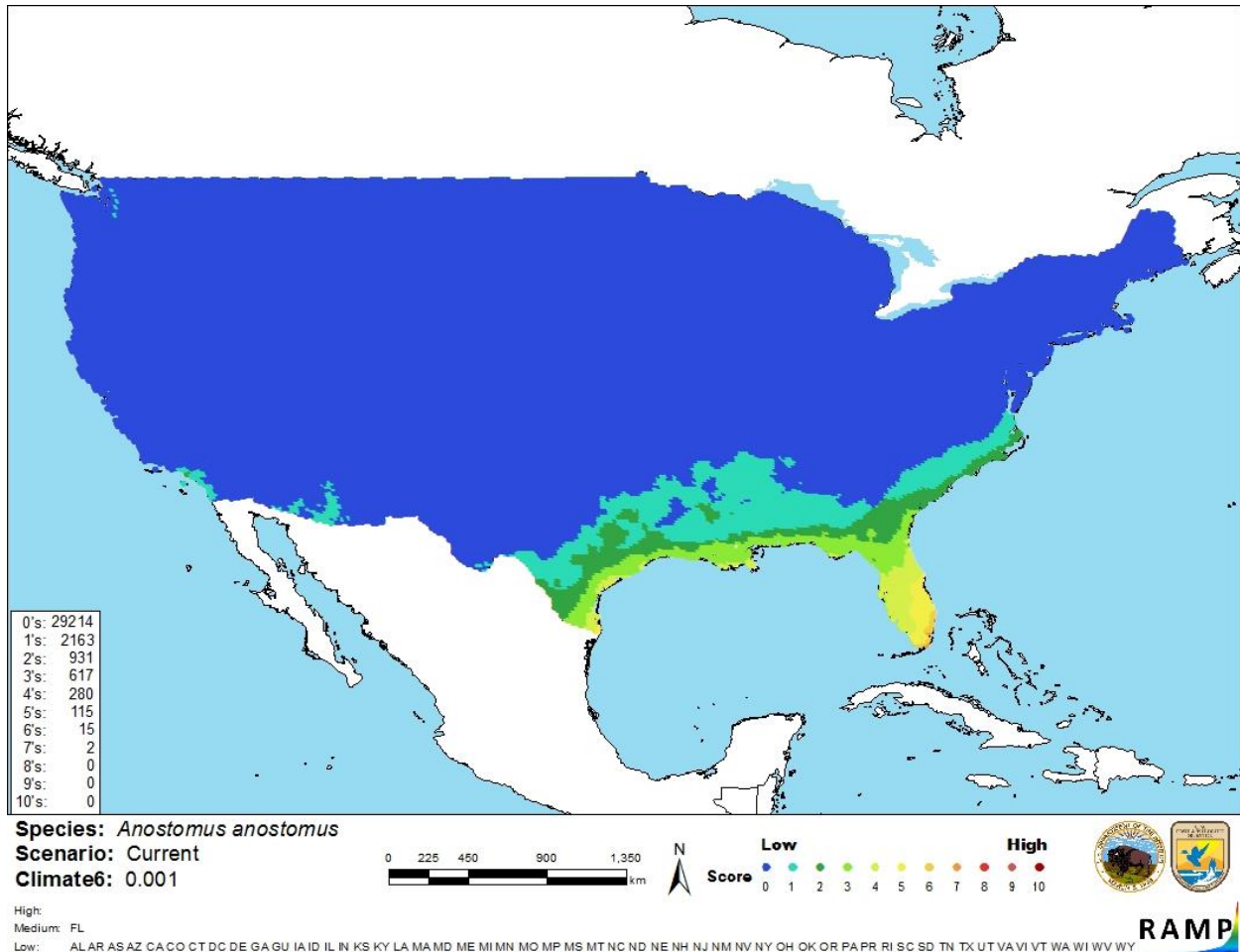
## 6 Climate Matching

### Summary of Climate Matching Analysis

The climate match for *Anostomus anostomus* was low throughout the contiguous United States, with small areas of medium match in extreme southern Texas, extreme southern Louisiana and southern Florida. The Climate 6 score (Sanders et al. 2018; 16 climate variables; Euclidean distance) for the contiguous United States was 0.001, low, and no states had an individually high climate match.



**Figure 3.** RAMP (Sanders et al. 2018) source map showing weather stations selected as source locations (red; Brazil, Colombia, Guyana, Suriname, and Venezuela) and non-source locations (gray) for *Anostomus anostomus* climate matching. Source locations from Froese and Pauly (2013) and GBIF Secretariat (2018).



**Figure 4.** Map of RAMP (Sanders et al. 2018) climate matches for *Anostomus anostomus* in the contiguous United States based on source locations reported by Froese and Pauly (2013) and GBIF Secretariat (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 a moderate amount of biological and ecological information available for this species. Detailed information on the one introduction record, including if it resulted in an established population, was missing. A specific location other than the introduced country was not given. The certainty of this assessment is low.



## 8 Risk Assessment

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### Summary of Risk to the Contiguous United States

The Striped Headstander (*Anostomus anostomus*) is a fish native to the Amazon and Orinoco River basins of South America. It is sold as an aquarium fish. The history of invasiveness for *Anostomus anostomus* was uncertain. There was a record of introduction found but no information on whether it was an established population or impacts of the introduction. The Climate 6 score was 0.000, low. The climate match was low across the United States with small areas of medium match in extreme southern Texas, extreme southern Louisiana and southern Florida. The certainty of assessment was low. The overall risk assessment category is uncertain.

### Assessment Elements

- **History of Invasiveness (Sec. 3): Uncertain**
- **Climate Match (Sec. 6): Low**
- **Certainty of Assessment (Sec. 7): Low**
- **Remarks/Important additional information** No additional information.
- **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.**

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## 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.**

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Mills, D., and G. Vevers. 1989. *The Tetra encyclopedia of freshwater tropical aquarium fishes*. Tetra Press, New Jersey.