

***Potamotrygon boesemani* (a stingray, no common name)**

Ecological Risk Screening Summary

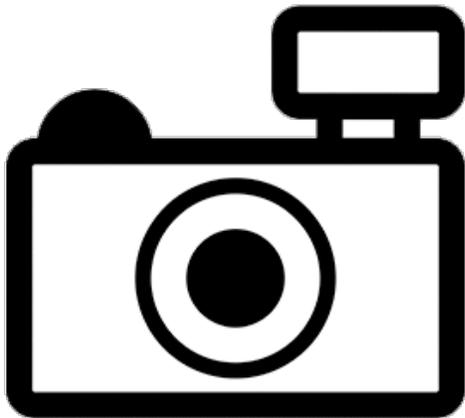
U.S. Fish & Wildlife Service, August 2012

Revised, September 2018

Web Version, 10/22/2020

Organism Type: Fish

Overall Risk Assessment Category: Uncertain



No Photo Available

1 Native Range and Status in the United States

Native Range

From Rosa et al. (2008):

“Geographic Distribution. This species is known from the Corantijn river drainage, in Sipaliwini and Nickerie districts, Surinam [*sic*].”

Status in the United States

No records of *Potamotrygon boesemani* in the wild or in trade were found in the United States.

The Florida Fish and Wildlife Conservation Commission has listed the freshwater stingray *Potamotrygon boesemani* as a conditional species. Conditional 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, although

exceptions are made by permit from the Executive Director for research, commercial use (with security measures to prevent escape or release) or public exhibition purposes.”

Means of Introductions in the United States

No records of *Potamotrygon boesemani* occurrences in the United States were found.

Remarks

From van de Boog et al. (2018):

“The species’ narrowly endemic distribution, the great losses during transportation and the lack of any (inter-)national regulatory regime to protect this species in combination with a sudden increase in international demand suggest that the boesemani stingray is likely to become extinct in the Corentyne River.”

Potamotrygon boesemani was first described in 2008 (Rosa et al. 2008).

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

According to Eschmeyer et al. (2018), *Potamotrygon boesemani* Rosa, Carvalho and Almeida Wanderley, 2008 is the current valid name and the original name of this species.

From ITIS (2018):

Kingdom Animalia
Subkingdom Bilateria
Infrakingdom Deuterostomia
Phylum Chordata
Subphylum Vertebrata
Infraphylum Gnathostomata
Superclass Chondrichthyes
Class Chondrichthyes
Subclass Elasmobranchii
Superorder Euselachii
Order Myliobatiformes
Family Potamotrygonidae
Genus *Potamotrygon*
Species *Potamotrygon boesemani* Rosa, Carvalho and Almeida
Wanderley, 2008

Size, Weight, and Age Range

From Froese and Pauly (2018):

“Max length: 41.3cm WD male/unsexed; [Rosa et al. 2008] Max published weight: 15.0 kg”

Environment

From Froese and Pauly (2018):

“Freshwater; benthopelagic.”

Climate/Range

From Froese and Pauly (2018):

“Tropical”

Distribution Outside the United States

Native

From Rosa et al. (2008):

“Geographic Distribution. This species is known from the Corantijn river drainage, in Sipaliwini and Nickerie districts, Surinam [*sic*].”

Introduced

No records of introductions of *Potamotrygon boesemani* were found.

Means of Introduction Outside the United States

No records of introductions of *Potamotrygon boesemani* were found.

Short Description

From Rosa et al. (2008):

“The species has a diagnostic dorsal color pattern formed by deep orange to red ocellated spots of irregular form, encircled by relatively broad black rings. *Potamotrygon boesemani* is distinguished from other ocellated congeners (*P. motoro*, *P. henlei* and *P. leopoldi*) by the more intensely colored ocelli, which are usually yellow in the latter species. From *P. motoro* it is also distinguished by the darker dorsal background coloration, by the broader black contour of the dorsal ocelli, and by the irregular form of the ocelli as compared to the more rounded shape in the latter species. From *P. henlei* and *P. leopoldi*, it is distinguished by the lack of ocelli on tail. From the tentatively identified specimen of *P. ocellata*, which also has dark orange ocelli, the irregular contour of the ocelli in the new species is also distinctive. The teeth are relatively smaller and in greater number than in *P. motoro* and *P. ocellata*, with up to 45 rows in the upper jaw.”

Biology

From Rosa et al. (2008):

“Teeth sexually dimorphic, females and immature males with rhombic posterior margin, mature males with cuspidate posterior margin.”

Human Uses

From van den Boog et al. (2018):

“[...] living *boesemani* stingrays have become a highly desirable showpiece in aquaria worldwide”

“[...] we found [*Potamotrygon boesemani*] specimens for sale in France, the Netherlands, Russia, China, and Taiwan.”

Diseases

No information on diseases of *Potamotrygon boesemani* was found. **No records of OIE-reportable diseases (OIE 2020) were found for *P. boesemani*.**

Threat to Humans

From Froese and Pauly (2018):

“Harmless”

3 Impacts of Introductions

No records of introductions of *Potamotrygon boesemani* were found, therefore there is no information on impacts of introductions. *P. boesemani* is listed as a conditional nonnative species in Florida (FFWCC 2018).

4 History of Invasiveness

No records of introductions of *Potamotrygon boesemani* were found. Therefore the history of invasiveness is classified as No Known Nonnative Populations.

5 Global Distribution



Figure 1. Known global distribution of *Potamotrygon boesemani*. Locations are in Suriname, South America. Map from GBIF Secretariat (2018).

6 Distribution Within the United States

No records of *Potamotrygon boesemani* in the wild in the United States were found.

7 Climate Matching

Summary of Climate Matching Analysis

The climate match for *Potamotrygon boesemani* was low for virtually all of the contiguous United States. There was a small area of medium match on the southeastern coast of Florida. The Climate 6 score (Sanders et al. 2018; 16 climate variables; Euclidean distance) for the contiguous United States was 0.000, low (scores between 0.000 and 0.005, inclusive, are classified as low). All States had low individual climate scores.

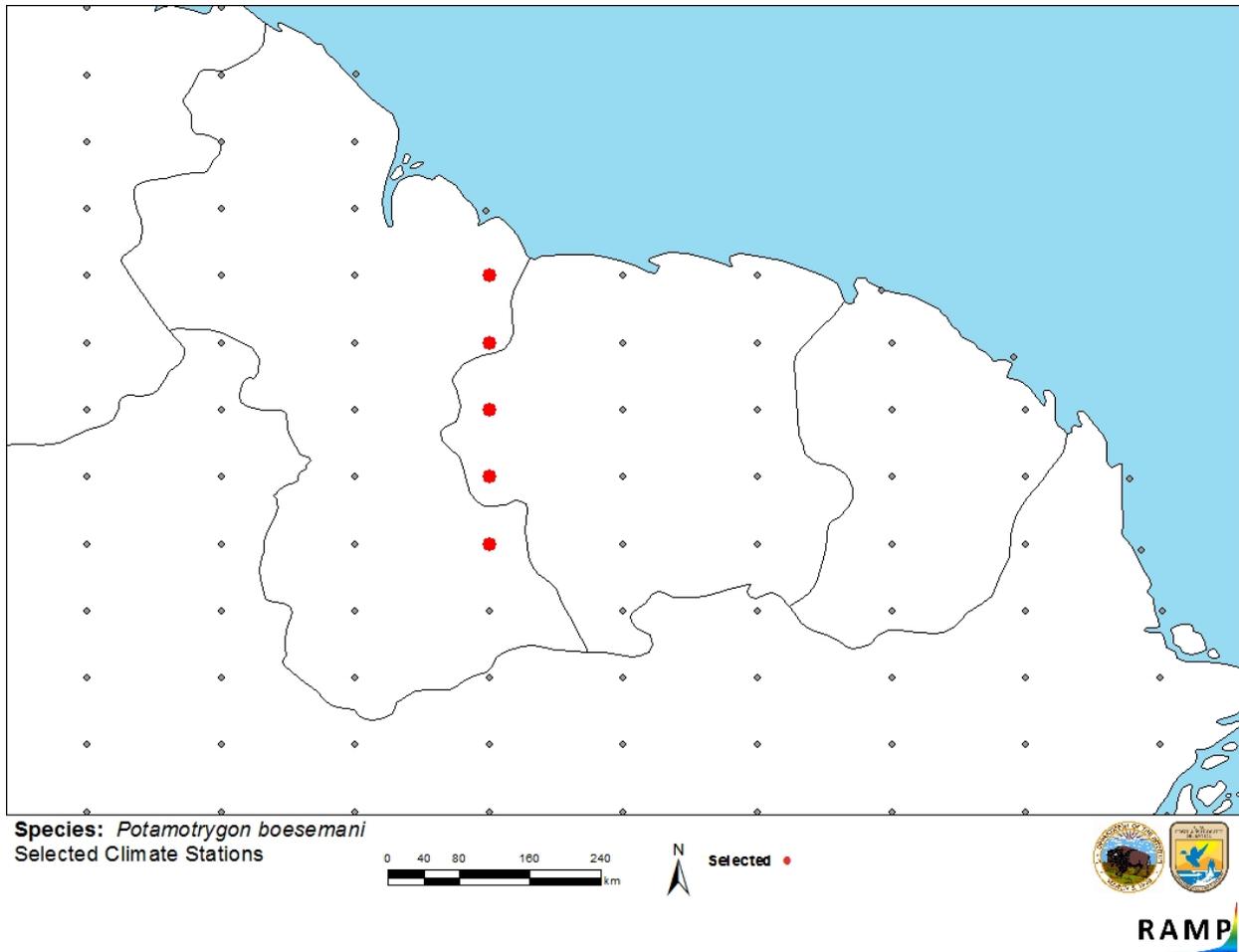


Figure 2. RAMP (Sanders et al. 2018) source map showing weather stations in northern South America selected as source locations (red; Suriname, Guyana) and non-source locations (gray) for *Potamotrygon boesemani* climate matching. Source locations from GBIF Secretariat (2018). Selected source locations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

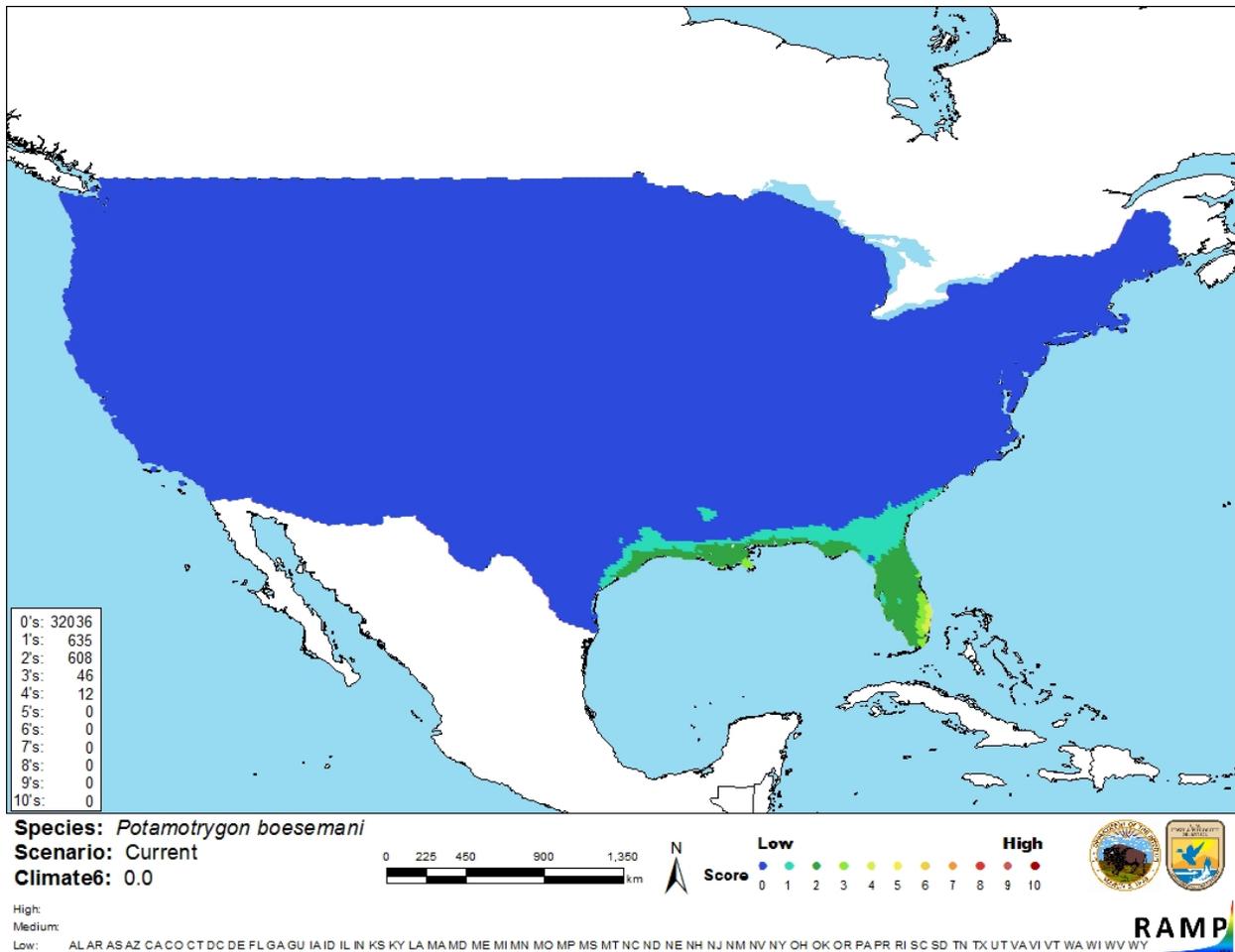


Figure 3. Map of RAMP (Sanders et al. 2018) climate matches for *Potamotrygon boesemani* in the contiguous United States based on source locations reported by GBIF Secretariat (2018). Counts of climate match scores are tabulated on the left. 0/Blue = Lowest match, 10/Red = Highest match.

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
$0.000 \leq X \leq 0.005$	Low
$0.005 < X < 0.103$	Medium
≥ 0.103	High

8 Certainty of Assessment

The certainty of assessment for *Potamotrygon boesemani* is low. There was minimal information available for this species. No records of introduction were found therefore, no information on impacts of introduction could be evaluated.

9 Risk Assessment

Summary of Risk to the Contiguous United States

Potamotrygon boesemani is a freshwater stingray endemic to the Corantijn river drainage in Suriname, South America. The history of invasiveness is classified as No Known Nonnative Population. No records of introduction were found. *P. boesemani* is listed as a conditional species in Florida which prohibits possession without a special permit. Reports indicate that there is increasing demand for live *Potamotrygon boesemani* trade in Suriname, Europe, and Asia. The climate match was low for the contiguous United States, with a medium match only along the southeastern coast of Florida. The certainty of assessment is low, due to a lack of information. 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 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.

Eschmeyer WN, Fricke R, van der Laan R, editors. 2018. Catalog of fishes: genera, species, references. California Academy of Science. Available: <http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp> (September 2018).

[FFWCC] Florida Fish and Wildlife Conservation Commission. 2018. Conditional species list. Tallahassee, Florida: Florida Fish and Wildlife Conservation Commission. Available: <http://myfwc.com/wildlifehabitats/nonnatives/regulations/conditional/> (September 2018).

Froese R, Pauly D, editors. 2018. *Potamotrygon boesemani* Rosa, Carvalho, and Almeida Wanderley, 2008. FishBase. Available: <http://www.fishbase.org/summary/Potamotrygon-boesemani.html> (September 2018).

GBIF Secretariat. 2018. GBIF backbone taxonomy: *Potamotrygon boesemani* Rosa, Carvalho, and Almeida Wanderley, 2008. Copenhagen: Global Biodiversity Information Facility. Available: <https://www.gbif.org/species/2419366> (September 2018).

[ITIS] Integrated Taxonomic Information System. 2018. *Potamotrygon boesemani* Rosa, Carvalho, and Almeida Wanderley, 2008. Reston, Virginia: Integrated Taxonomic Information System. Available: https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=943758#null (September 2018).

[OIE] World Organisation for Animal Health. 2020. OIE-listed diseases, infections and infestations in force in 2020. Available: <http://www.oie.int/animal-health-in-the-world/oie-listed-diseases-2020/> (October 2020).

Rosa RS, Carvalho MRD, Wanderley CDA. 2008. *Potamotrygon boesemani* (Chondrichthyes: Myliobatiformes: Potamotrygonidae), a new species of Neotropical freshwater stingray from Surinam. *Neotropical Ichthyology* 6:1–8.

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

Van den Boog T, Bulkan J, Tansey J, van Andel TR. 2018. Sustainability issues of commercial non-timber forest product extraction in West Suriname. *Journal of Ethnobiology and Ethnomedicine* 14:44.

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.

No references in this section.