

# Rosette River Stingray (*Potamotrygon schroederi*)

## Ecological Risk Screening Summary

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Photo: Akemi Shibuya. Released to Public Domain. Available:  
<https://www.flickr.com/photos/71670325@N03/21281390763/in/photolist-8nJjKc-yqyG3p>.

## 1 Native Range and Status in the United States

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### Native Range

From Góes de Araújo (2009):

“This freshwater stingray is recorded from the Rio Negro basin in Amazonas State, Brazil, and the Orinoco River basin in Apure State, Venezuela.”

### Status in the United States

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

## Means of Introductions in the United States

No records of *Potamotrygon schroederi* 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 (2016):

“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 schroederi* Fernández-Yépez, 1958”

From Eschmeyer et al. (2017):

“*schroederi*, *Potamotrygon* Fernández-Yépez [A.] 1958:8, Figs. 1-2 [Boletín del Museo de Ciencias Naturales. Caracas, Venezuela. 2-3; [...]] Río Apure, at mouth of Río Apurito, Estado Apure, Venezuela. Holotype (unique): MHNLS 2504 [ex AFY 51289] (parts only). Type catalog: Lasso et al. 1998:41 [...]. See Carvalho 2001:1168 [...]. •Valid as *Potamotrygon schroederi* Fernández-Yépez 1958 -- (Compagno 1999:495 [...], Carvalho et al. in Reis et al. 2003:25 [...] dated 1957, Carvalho et al. 2011:12 [...], Fontenelle et al. 2014:150 [...], Weigmann 2016:157 [...], Carvalho et al. 2016:581 [...], DoNascimento 2016:527 [...], Carvalho 2016:6 [...], Carvalho 2016:646 [...]). **Current status:** Valid as *Potamotrygon schroederi* Fernández-Yépez 1958. Potamotrygonidae: Potamotrygoninae.”

### Size, Weight, and Age Range

From Góes de Araújo (2009):

“The Tiger Ray (*Potamotrygon schroederi*) reaches a maximum size of 54 cm disc width [...].”

From Froese and Pauly (2016):

“Max length: 60.0 cm WD male/unsexed; [de Carvalho et al. 2003]”

## **Environment**

From Froese and Pauly (2016):

“Freshwater; benthopelagic. [...]; 18°C - 25°C [assumed to be recommended aquarium temperature range] [Baensch and Riehl 1997]”

From Góes de Araújo (2009):

“Inhabits shallow warm waters with temperatures around 25°C.”

## **Climate/Range**

From Froese and Pauly (2016):

“Tropical; [...]”

## **Distribution Outside the United States**

Native

From Góes de Araújo (2009):

“This freshwater stingray is recorded from the Rio Negro basin in Amazonas State, Brazil, and the Orinoco River basin in Apure State, Venezuela.”

Introduced

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

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

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

## **Short Description**

From CITES (2013):

“Oval disc, dorsal surface dark grey and bluish in colour with yellow or orangish markings, vermiculate, in an irregular pattern diminishing towards the edges of the disc. This pattern is more marked in clear water and black water specimens than in white water ones. A maximum size exceeding 52.4 cm DW in males and 61.2 cm DW in females has been recorded (Lasso unpublished data). It has a fairly thick and short tail, which may be shorter than the disc (Froese and Pauly 2012). It has small teeth, with a concave front edge, arranged in 36 to 53 longitudinal rows in the upper jaw (Rosa 1985, Lasso personal communication).”

“This species is clearly different from the others in the genus, except for *Potamotrygon tigrina*, which is a species found in the Amazonia region of Peru (de Carvalho et al. 2011).”

## **Biology**

From Góes de Araújo (2009):

“The Tiger Ray (*Potamotrygon schroederi*) reaches a maximum size of 54 cm disc width and has an annual reproductive cycle with a fecundity of only two embryos.”

“Food includes small fishes, shrimps, worms and insect larvae.”

“Reproductive mode is matrotrophic viviparity with trophonemata. The reproductive cycle is annual, with mating between May and August during the rainy season. Gestation period is estimated as six months. Ovarian fecundity is 3-7 and the average uterine fecundity is two embryos. Sexual segregation has been observed in this species. Size at birth 14 cm DW, size at maturity 42 cm DW (males) and 44 cm DW (females).”

“Juveniles inhabit shallow water around sandy beaches and small creeks, and adults occupy main river channels and sandy beaches. It appears to show daily movements between these two habitats.”

## **Human Uses**

From Góes de Araújo (2009):

“It is uncommon in the ornamental fish trade, where its capture and export is regulated.”

## **Diseases**

No information on diseases of *Potamotrygon schroederi* was found.

## **Threat to Humans**

From Froese and Pauly (2016):

“Harmless”

*Potamotrygon schroederi* does possess a venomous barb on its tail which could potentially cause harm to humans.

## **3 Impacts of Introductions**

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

## 4 Global Distribution

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**Figure 1.** Known global distribution of *Potamotrygon schroederi*. Locations are in Venezuela, Brazil, Guyana, and French Guiana. Map from GBIF Secretariat (2016).



**Figure 2.** Additional known locations of *Potamotrygon schroederi*. Map from VertNet (2017).

## 5 Distribution Within the United States

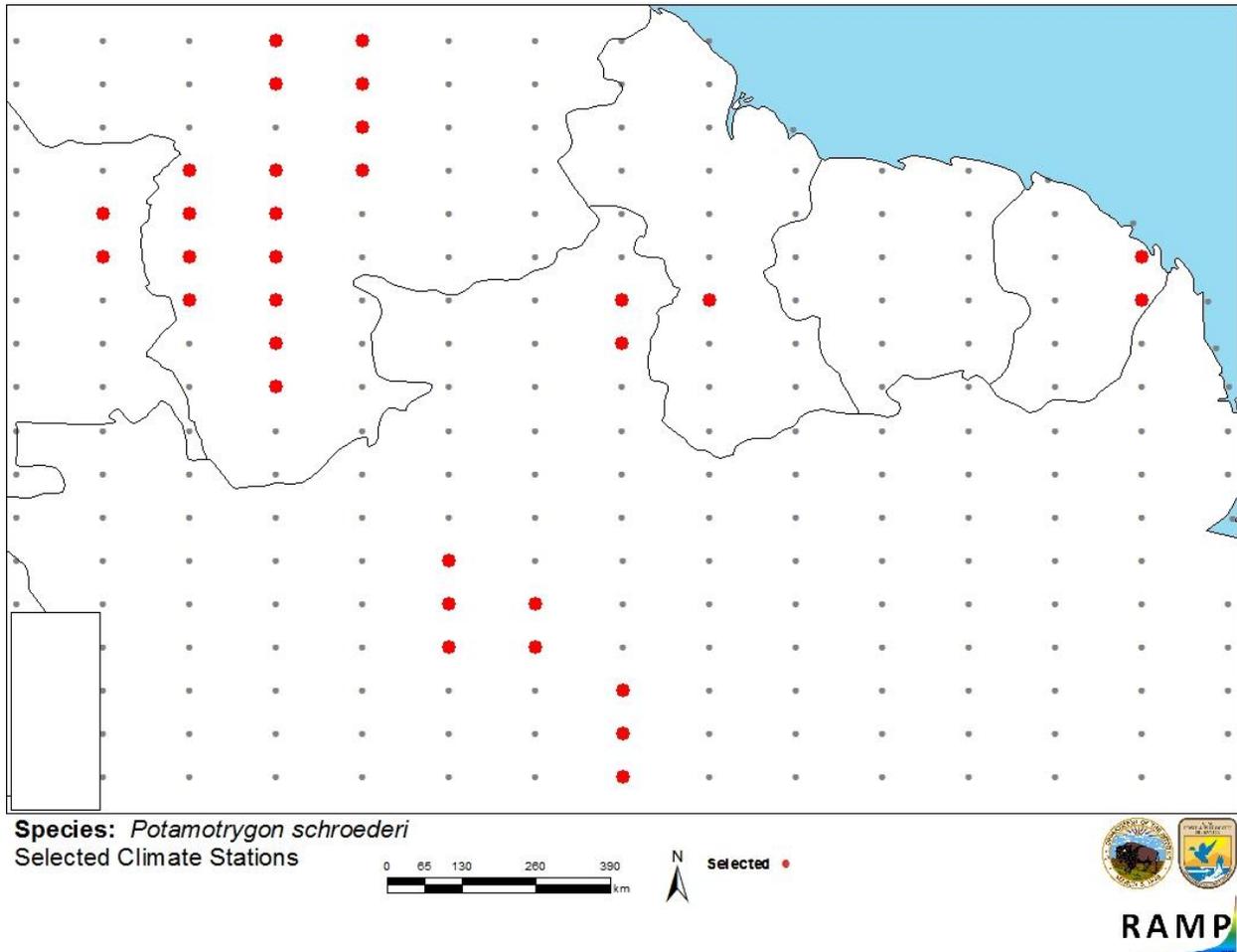
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No records of *Potamotrygon schroederi* in the United States were found.

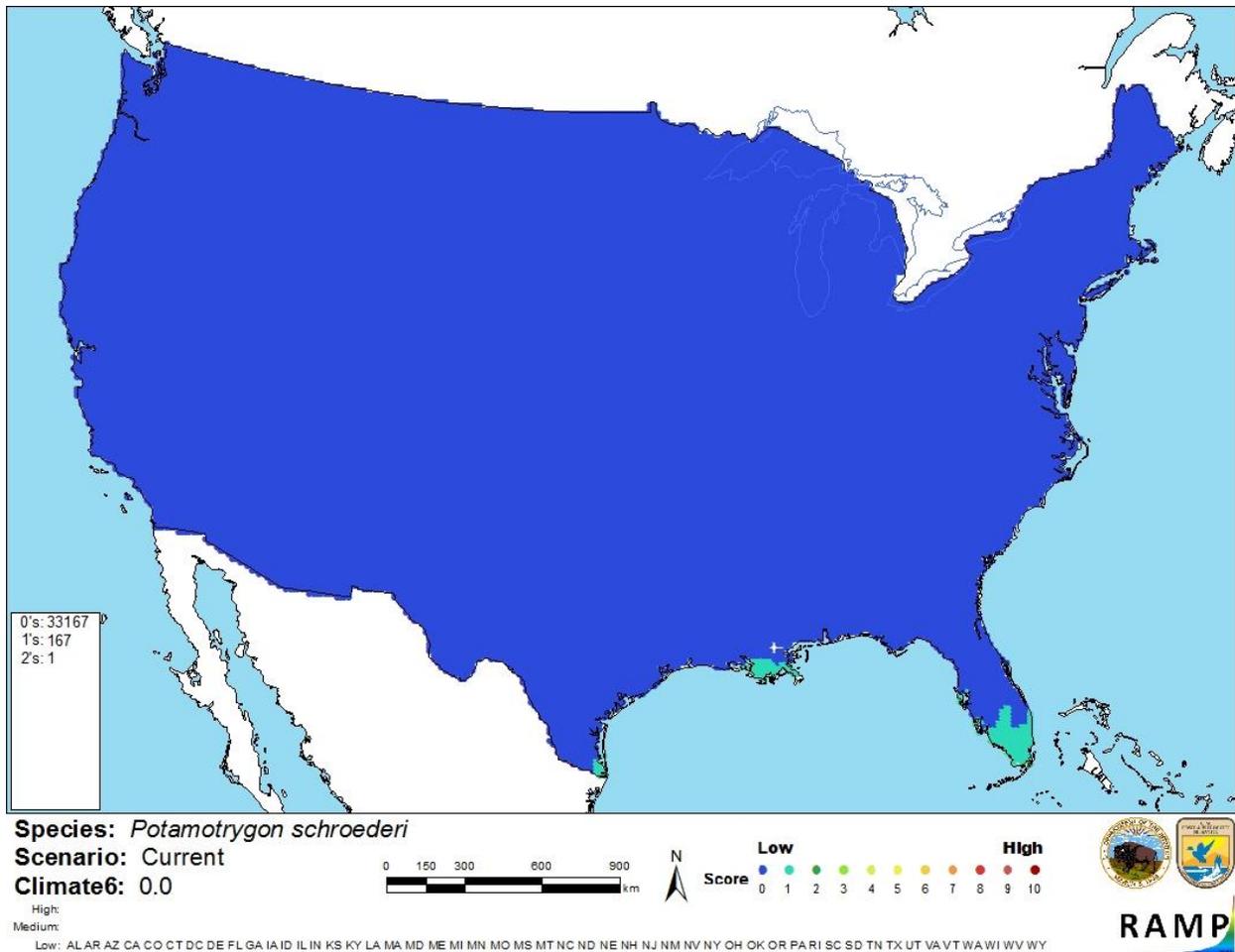
## 6 Climate Matching

### Summary of Climate Matching Analysis

The climate match for *Potamotrygon schroederi* was low across the contiguous United States. The Climate 6 score (Sanders et al. 2014; 16 climate variables; Euclidean distance) for the contiguous U.S. was 0.000, low, and no states had an individually high climate score.



**Figure 3.** RAMP (Sanders et al. 2014) source map showing weather stations in Colombia, Venezuela, Brazil, Guyana, and French Guiana selected as source locations (red) and non-source locations (grey) for *Potamotrygon schroederi* climate matching. Source locations from GBIF Secretariat (2016) and VertNet (2017).



**Figure 4.** Map of RAMP (Sanders et al. 2014) climate matches for *Potamotrygon schroederi* in the contiguous United States based on source locations reported by GBIF Secretariat (2016) and VertNet (2017). 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

The certainty of this assessment is medium. There was adequate ecological and biological information for *Potamotrygon schroederi*. No documented history of invasiveness was found.

## 8 Risk Assessment

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### Summary of Risk to the Contiguous United States

The history of invasiveness for the stingray *Potamotrygon schroederi* is uncertain. No records of introductions were found. The climate match is low. The low match across the contiguous United States indicates that this species requires a fully tropical climate and there are no areas within the United States that would be able to support a population long term. The certainty of assessment is medium. 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): Medium**
- **Remarks/Important additional information** No additional remarks.
- **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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