Amazon Puffer (*Colomesus asellus*)

Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, June 2014
Revised, February 2016, February 2017, April 2017
Web Version, 6/14/2018

Photo: Oliver Schneider. Licensed under Creative Commons BY-SA 3.0 Unported. Available: https://commons.wikimedia.org/wiki/File:Assel-Kugelfisch.jpg.

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2014):

"South America: Amazon River basin from Peru to Marajó Island, including tributaries Araguaia and Guaporé Rivers; Orinoco River basin near the mouth; Essequibo River basin."

Status in the United States

No records of *Colomesus asellus* in the United States were found.

Means of Introductions in the United States

No records of *Colomesus asellus* in the United States were found.

Remarks

No additional remarks.

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

From ITIS (2014):

"Kingdom Animalia
Subkingdom Bilateria
Infrakingdom Deuterostomia
Phylum Chordata
Subphylum Vertebrata
Infraphylum Gnathostomata
Superclass Osteichthyes
Class Actinopterygii
Subclass Neopterygii
Infraclass Teleostei
Superorder Acanthopterygii
Order Tetraodontiformes
Suborder Tetraodontoidei
Family Tetraodontidae
Subfamily Tetraodontinae
Genus *Colomesus* Gill, 1884
Species *Colomesus asellus* (Müller and Troschel, 1849)"

According to Eschmeyer et al. (2017), *Colomesus asellus* (Müller & Troschel 1849) is the valid name for this species. *Colomesus asellus* was originally described as *Chelichthys asellus* Müller & Troschel 1849.

Size, Weight, and Age Range

From Froese and Pauly (2014):

"Max length: 12.8 cm SL male/unsexed; [Kullander 2003]"

Environment

From Froese and Pauly (2014):

"Freshwater; demersal; pH range: 5.5 - 7.2; dH range: 5 – 15. […]; 22°C - 28°C [assumed to be recommended aquarium temperature] [Baensch and Riehl 1997]"

Climate/Range

From Froese and Pauly (2014):

"Tropical; […]"

Distribution Outside the United States

Native

From Froese and Pauly (2014):

"South America: Amazon River basin from Peru to Marajó Island, including tributaries Araguaia and Guaporé Rivers; Orinoco River basin near the mouth; Essequibo River basin."

Introduced

No records of *Colomesus aselllus* introductions were found.

Means of Introduction Outside the United States

No records of *Colomesus aselllus* introductions were found.

Short Description

From Froese and Pauly (2014):

"Distinct large black spot on underside of caudal peduncle."

"Pectoral soft rays: 13-16"

From Tyler (1964):

"Five dark bars across the dorsum form the interorbital to the caudal peduncle; a dark bar on underside of caudal peduncle, like that on its dorsal surface and sometimes confluent with it; pectoral fin rays (not including rudiment) 13 to 16, mostly 14 or 15; dermal flaps transversely across the chin."

Biology

From Froese and Pauly (2014):

"Found mostly in freshwater and coastal streams, but can tolerate brackish water."

Human Uses

From Froese and Pauly (2014):

"Sometimes kept in aquariums [Smith 1997]."

Diseases

No records of OIE reportable diseases were found.

From Tavares and Luque (2005):

"Species: *E.*[*rgasilus*] *colomesus* Host: *Colomesus asellus*"

Threat to Humans

From Froese and Pauly (2014):

"Harmless"

3 Impacts of Introductions

No records of *Colomesus aselllus* introductions were found.

4 Global Distribution

Figure 1. Known global distribution of *Colomesus asellus* in northern South America. Map from Froese and Pauly (2014).

Figure 2. Known global distribution of *Colomesus asellus* in northern South America. Map from GBIF Secretariat (2014).

5 Distribution Within the United States

No records of *Colomesus asellus* in the United States were found.

6 Climate Matching

Summary of Climate Matching Analysis

The climate match for *Colomesus asellus* was very low across the country. There was a patch of medium climate match in southern Florida. The Climate 6 score (Sanders et al. 2014; 16 climate variables; Euclidean distance) for the contiguous United States was 0.001, low, and no states had an individually high climate match.

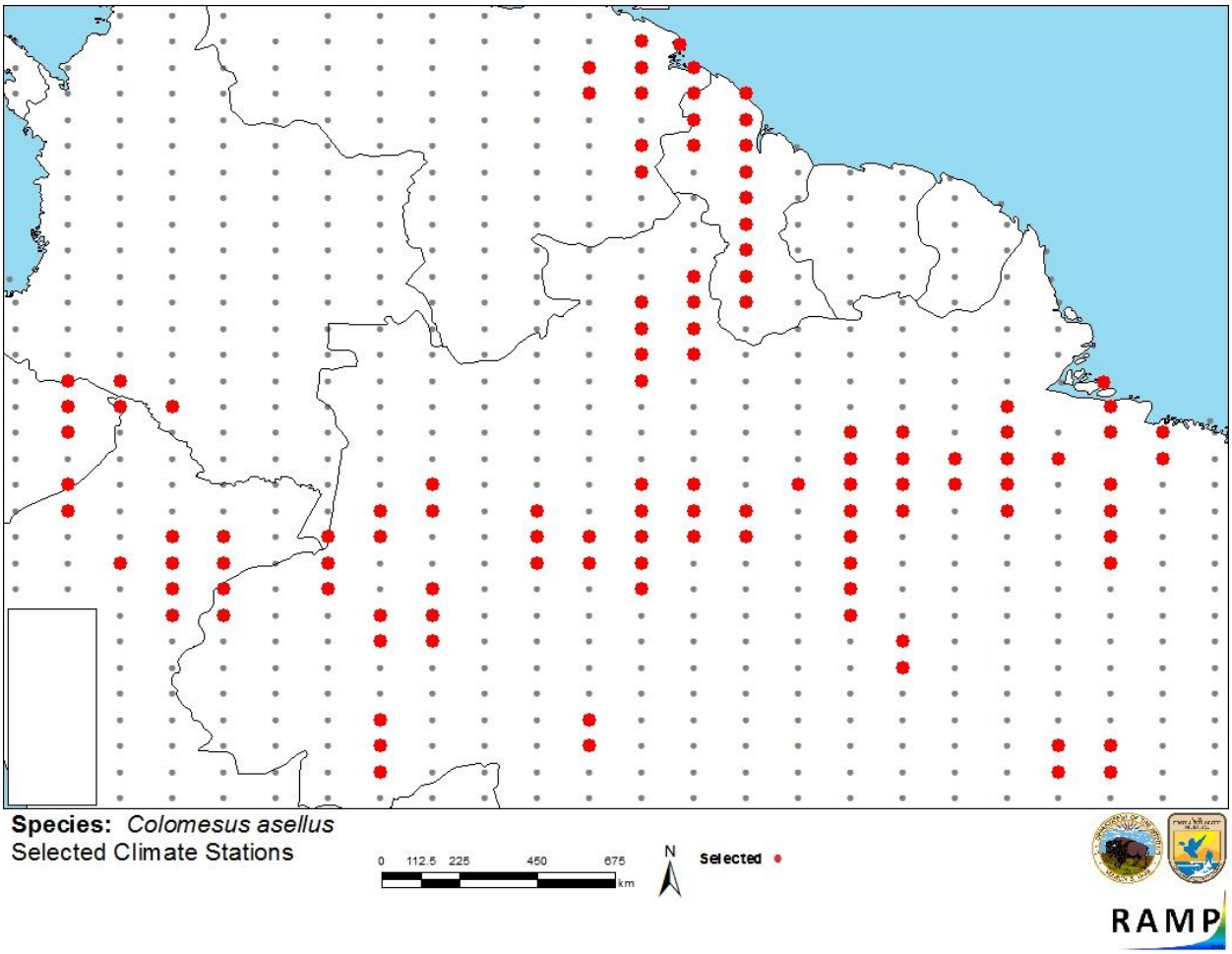

Figure 3. RAMP (Sanders et al. 2014) source map showing weather stations in northern South America selected as source locations (red) and non-source locations (grey) for *Colomesus asellus* climate matching. Source locations from Froese and Pauly (2014) and GBIF Secretariat (2014).

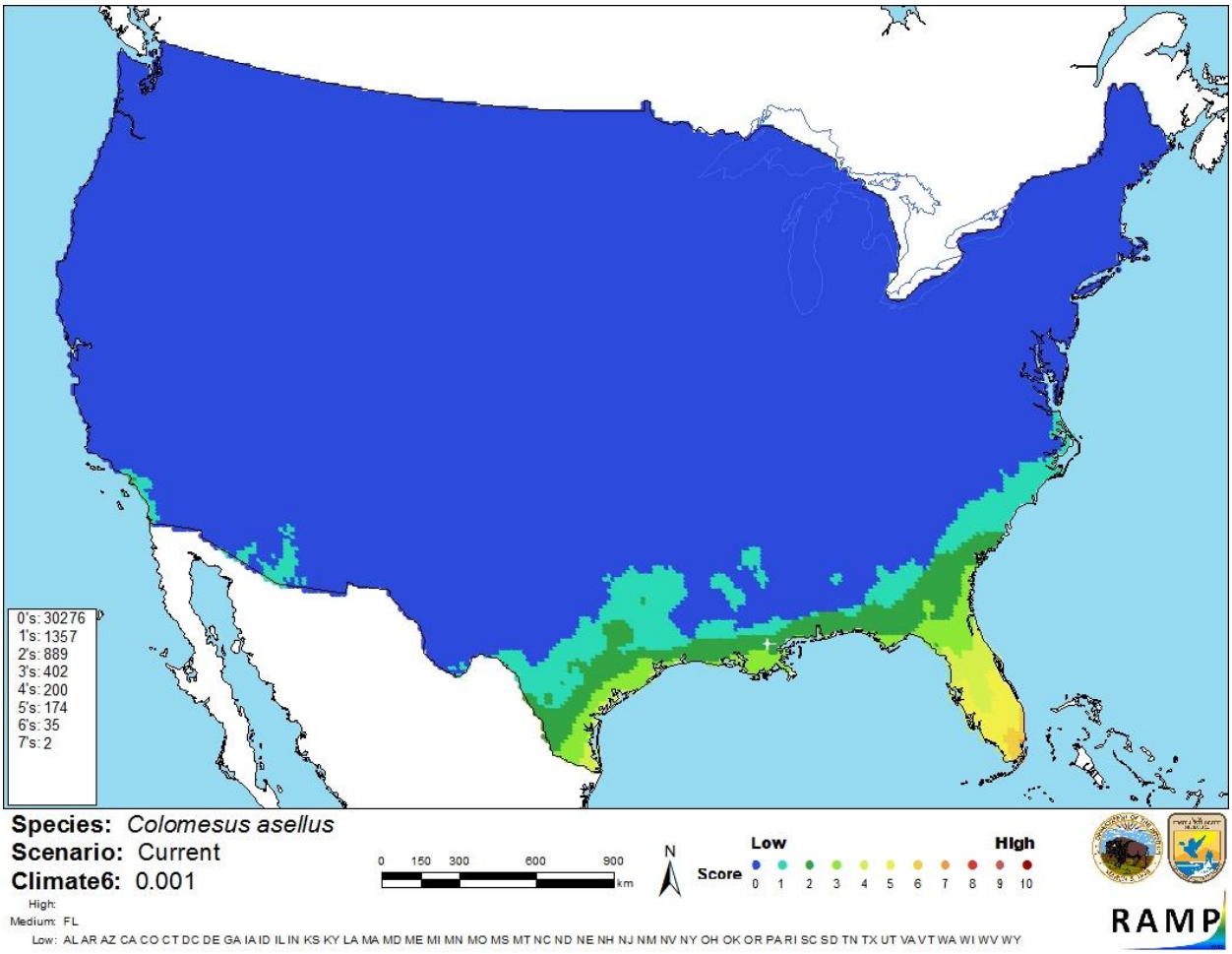

Figure 4. Map of RAMP (Sanders et al. 2014) climate matches for *Colomesus asellus* in the contiguous United States based on source locations reported by Froese and Pauly (2014) and GBIF Secretariat (2014). 0 = Lowest match, 10 = Highest match.

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

7 Certainty of Assessment

The certainty of this assessment is medium. Minimal ecological information was available for *Colomesus asellus*. No records of introductions or possible impacts of introductions were found.

8 Risk Assessment

Summary of Risk to the Contiguous United States

The history of invasiveness for *Colomesus asellus* is uncertain. There were no records of introduction or impacts of introductions found for this species. The climate match category was low. The climate match is very low across most of the country with a patch of medium match in southern Florida. 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

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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Sanders, S., C. Castiglione, and M. Hoff. 2014. Risk assessment mapping program: RAMP. U.S. Fish and Wildlife Service.

Tavares, L. E. R., and J. L. Luque. 2005. *Ergasilus youngi* sp. nov. (Copepoda, Poecilostomatoida, Ergasilidae) parasitic on *Aspistor luniscutis* (Actinopterygii, Arridae) from off the State of Rio de Janeiro, Brazil. Acta Parasitologica 50(2):150–155.

Tyler, J. C. 1964. A diagnosis of the two species of South American puffer fishes (Tetraodontidae, Plectognathi) of the genus *Colomesus*. Proceedings of the Academy of Natural Science of Philadelphia 116(1964):119–148.

10 References Quoted But Not Accessed

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.

Baensch, H. A., and R. Riehl. 1997. Aquarien atlas, band 5. Mergus Verlag, Melle, Germany.

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Müller, J., and F. H. Troschel. 1849. Fische. Pages 618–644 *in* Reisen in Britisch-Guiana in den Jahren 1840-44. Im Auftrag Sr. Mäjestat des Königs von Preussen ausgeführt von Richard Schomburgk. [Versuch einer Fauna und Flora von Britisch-Guiana.] Volume 3. Berlin.

Smith, C. L. 1997. National Audubon Society field guide to tropical marine fishes of the Caribbean, the Gulf of Mexico, Florida, the Bahamas, and Bermuda. Alfred A. Knopf, New York.