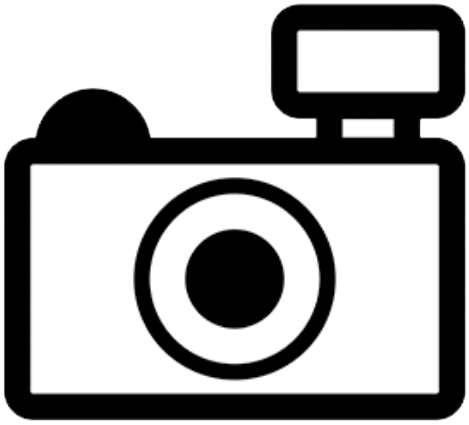
Barbodes sealei (a fish, no common name)

Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, February 2013
Revised, June 2019
Web Version, 11/19/2019



1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2019):

"Asia: Borneo [Malaysia and Indonesia]."

Status in the United States

There are no records of *Barbodes sealei* in the wild or in trade in the United States.

Means of Introductions in the United States

There are no records of *Barbodes sealei* in the wild in the United States.

Remarks

Puntius sealei is a synonym of *Barbodes sealei* and therefore a search was conducted using both names. According to our taxonomic authority, *Barbodes sealei* is the valid name for this species (Fricke et al. 2019) but all other databases consulted refer to it as *Puntius sealei*.

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

From Fricke et al. (2019):

"Current Status: Valid as *Barbodes sealei* Herre 1933."

From ITIS (2019):

"Kingdom Animalia
Subkingdom Bilateria
Infrakingdom Deuterostomia
Phylum Chordata
Subphylum Vertebrata
Infraphylum Gnathostomata
Superclass Actinopterygii
Class Teleostei
Superorder Ostariophysi
Order Cypriniformes
Superfamily Cyprinoidea
Family Cyprinidae
Genus *Puntius*
Species *Puntius sealei* (Herre, 1933)"

A hierarchy could not be obtained using the valid name of the species. The above hierarchy, using a synonym, is correct for the valid name to the family level.

Size, Weight, and Age Range

From Froese and Pauly (2019):

"Max length : 13.7 cm TL male/unsexed; [Kottelat et al. 1993]"

Environment

From Froese and Pauly (2019):

"Freshwater; benthopelagic."

Climate/Range

From Froese and Pauly (2019):

"Tropical"

Distribution Outside the United States

Native

From Froese and Pauly (2019):

"Asia: Borneo [Malaysia and Indonesia]."

Introduced

According to Froese and Pauly (2019) *Puntius sealei* was introduced into Palau and established in Ngardok Lake.

Means of Introduction Outside the United States

From Froese and Pauly (2019):

"Introduced by: unknown"

Short Description

From Froese and Pauly (2019):

"Last simple dorsal ray bony and serrated behind. Middle side of body with 4 round or oval black spots; anterior base of dorsal and sometimes anal with a small dark spot. Specimens > 6 cm SL with simple pelvic ray longer than adjacent branched ray, thus forming a filament. In young specimens, end of first anal ray with a black spot [Kottelat et al. 1993]"

Biology

From Froese and Pauly (2019):

"Recorded from rivers and streams [Chong et al. 2010]"

Human Uses

There is no information available regarding the human uses of *Barbodes sealei*.

Diseases

No records of OIE-reportable diseases were found for *Barbodes sealei*.

There are no records of diseases for *Barbodes sealei*.

Threat to Humans

From Froese and Pauly (2019):

"Harmless"

3 Impacts of Introductions

Even though *Barbodes sealei* has been recorded in Palau and established in Ngardok Lake there have been no recorded impacts of this introduction.

4 Global Distribution

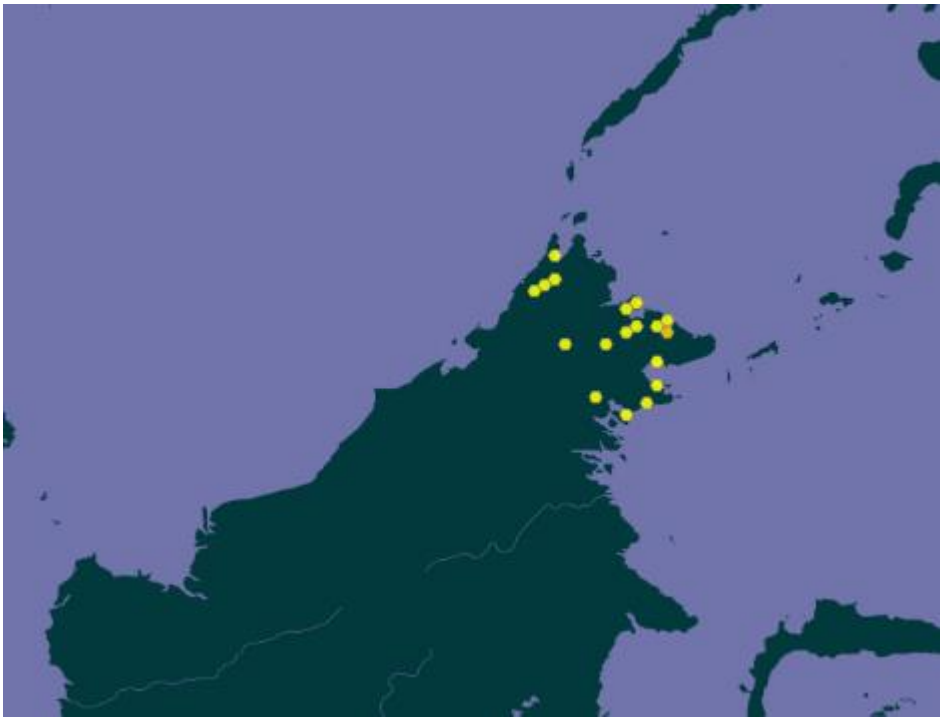


Figure 1. Known global distribution of *Barbodes sealei*. Locations in Malaysia and Indonesia. Map from GBIF Secretariat (2019).

No georeferenced observations for the population in Palau were available, however, since the name of the lake containing the population was given, the location of the lake was used to select source points for the climate match.

5 Distribution Within the United States

There are no records of *Barbodes sealei* in the wild in the United States.

6 Climate Matching

Summary of Climate Matching Analysis

The climate match for *Barbodes sealei* was low for all of the contiguous United States. There were no patches of medium or high match anywhere in the contiguous United States. 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 6 scores.

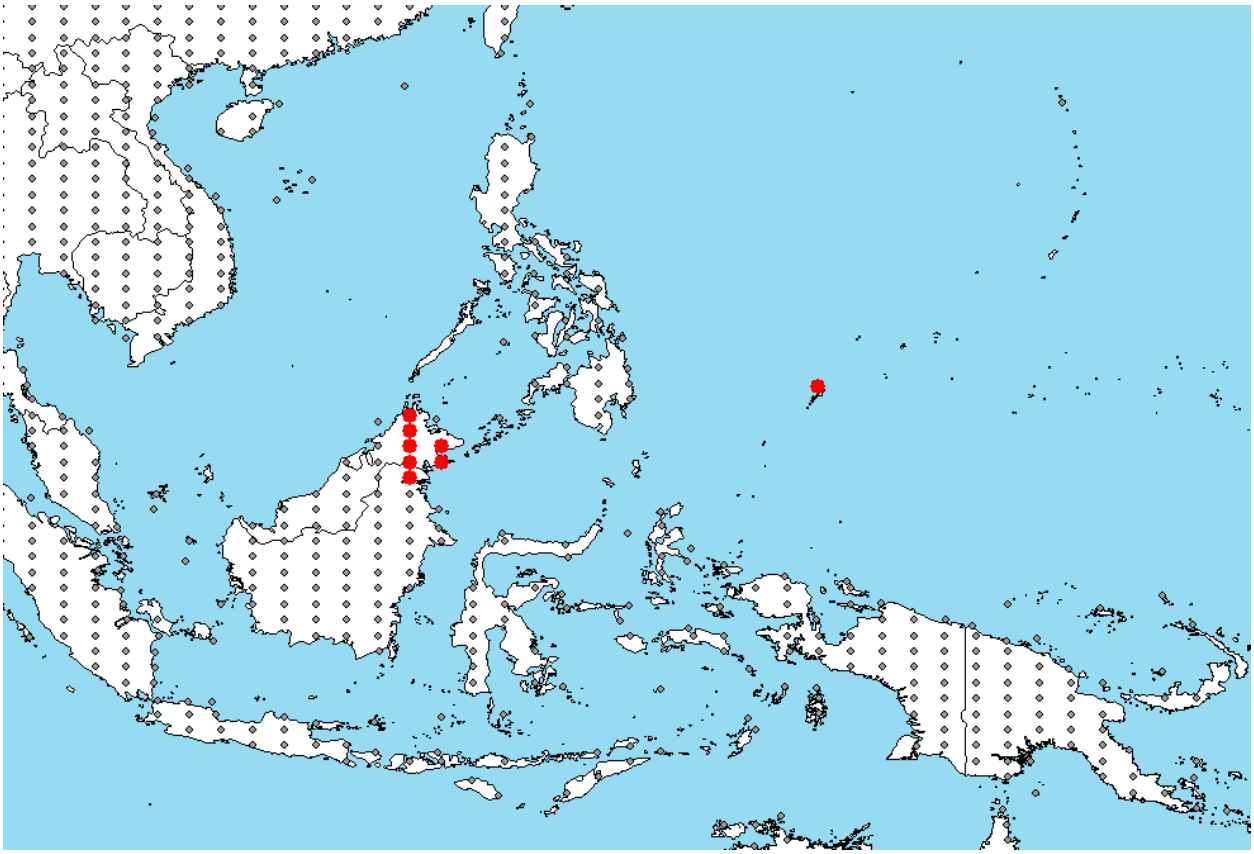


Figure 2. RAMP (Sanders et al. 2018) source map showing weather stations in Malaysia, Indonesia, and Palau selected as source locations (red) and non-source locations (gray) for *Barbodes sealei* climate matching. Source locations from GBIF Secretariat (2019) and Froese and Pauly (2019). Selected source locations are within 100 km of one or more species occurrences, and do not necessarily represent the locations of occurrences themselves.

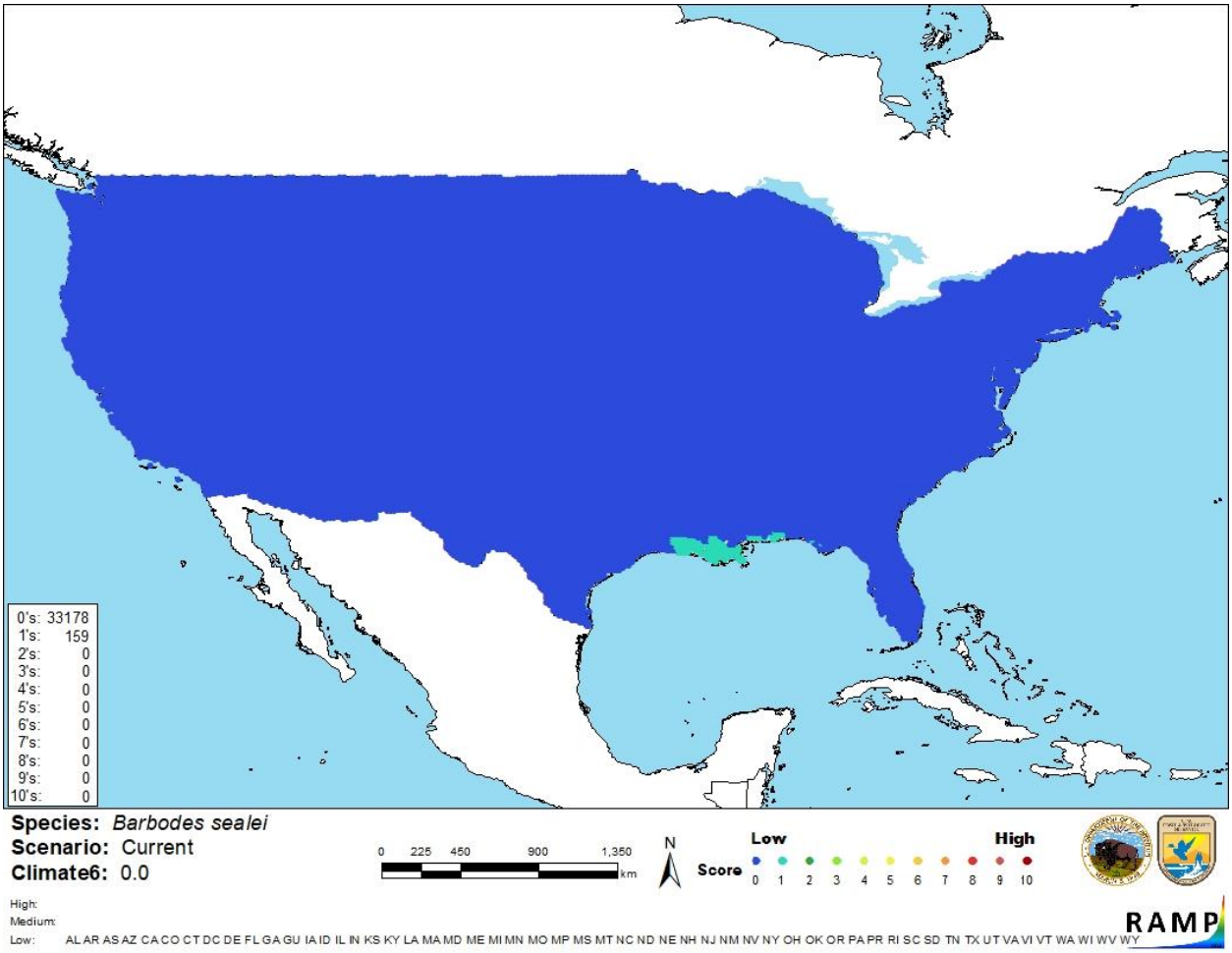


Figure 3. Map of RAMP (Sanders et al. 2018) climate matches for *Barbodes sealei* in the contiguous United States based on source locations reported by GBIF Secretariat (2019) and Froese and Pauly (2019). 0 = Lowest match, 10 = Highest match.

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 assessment for *Barbodes sealei* is low. There was some information available on the description and environment for *Barbodes sealei*, but there was a lack of information on its biology. *Barbodes sealei* has been introduced outside of its native range but how it got there and the impact it may have had has not been recorded.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Barbodes sealei is a fish native to Borneo. *Barbodes sealei* normally can be found in rivers and streams. The history of invasiveness is none documented. *B. sealei* has become established outside of its native range in Palau, but means of introduction and any impacts it may cause have not been recorded yet. The climate match for the contiguous United States was low, no areas of medium or high climate match were found. All states have low individual climate scores. The certainty of assessment is low due to lack of information. The overall risk assessment category for *Barbodes sealei* is uncertain.

Assessment Elements

- **History of Invasiveness (Sec. 3): None Documented**
- **Climate Match (Sec. 6): Low**
- **Certainty of Assessment (Sec. 7): Low**
- **Remarks/Important additional information:** According to our taxonomic authority *Barbodes sealei* is the valid name for this species but all other databases refer to it as *Puntius sealei*.
- **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.

Fricke, R., W. N. Eschmeyer, and R. van der Laan, editors. 2019. Eschmeyer's catalog of fishes: genera, species, references. Available: http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp. (June 2019).

Froese, R., and D. Pauly, editors. 2019. *Puntius sealei* (Herre, 1933). FishBase. Available: https://www.fishbase.in/summary/Puntius-sealei.html. (June 2019).

GBIF Secretariat. 2019. GBIF backbone taxonomy: *Puntius sealei* (Herre, 1933). Global Biodiversity Information Facility, Copenhagen. Available: https://www.gbif.org/species/2363862. (June 2019).

ITIS (Integrated Taxonomic Information System). 2019. *Puntius sealei* (Herre, 1933). Integrated Taxonomic Information System, Reston, Virginia. Available: https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=689849#null. (June 2019).

Sanders, S., C. Castiglione, and M. Hoff. 2018. Risk assessment mapping program: RAMP, version 3.1. U.S. Fish and Wildlife Service.

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.

Chong, V. C., P. K. Y. Lee, and C. M. Lau. 2010. Diversity, extinction risk and conservation of Malaysian fishes. Journal of Fish Biology 76(9):2009–2066.

Kottelat, M., A. J. Whitten, S. N. Kartikasari, and S. Wirjoatmodjo. 1993. Freshwater fishes of Western Indonesia and Sulawesi = Ikan air tawar Indonesia Bagian Barat dan Sulawesi. Periplus Editions, Hong Kong.