

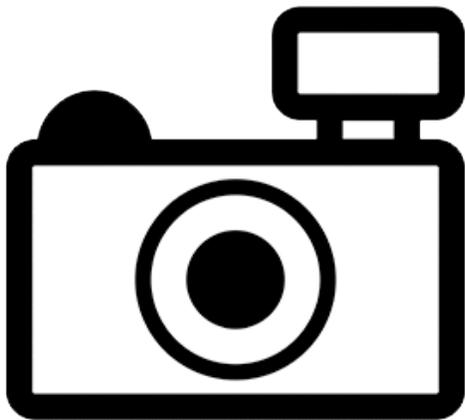
## ***Barbodes strigatus* (a fish, no common name)**

### **Ecological Risk Screening Summary**

U.S. Fish & Wildlife Service, April 2015

Revised, October 2017

Web Version, 8/29/2018



No Photo Available

## **1 Native Range and Status in the United States**

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### **Native Range**

Chong et al. (2010) lists *Barbodes strigatus* as endemic to the Sabah river system in East Malaysia.

Horn et al. (2011) lists *Barbodes strigatus* as present in the Kapuas River basin in Indonesia.

From Kottelat (1989):

“*Barbodes strigatus* (Boulenger, 1894) [...]”

A single record [in Malaysia] (Herre & Myers, 1937:64), apparently erroneous, the species being otherwise known from North Borneo only”

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

No records of *Barbodes strigatus* in the wild or in trade in the United States were found.

## Means of Introductions in the United States

No records of *Barbodes strigatus* in the United States were found.

## Remarks

No additional remarks.

## 2 Biology and Ecology

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### Taxonomic Hierarchy and Taxonomic Standing

According to Eschmeyer et al. (2017), *Barbodes strigatus* (Boulenger 1894) is the valid name for this species. It was originally described as *Barbus strigatus* and has also previously been known as *Barbonymus strigatus*.

From ITIS (2015):

“Kingdom Animalia  
Subkingdom Bilateria  
Infrakingdom Deuterostomia  
Phylum Chordata  
Subphylum Vertebrata  
Infraphylum Gnathostomata  
Superclass Osteichthyes  
Class Actinopterygii  
Subclass Neopterygii  
Infraclass Teleostei  
Superorder Ostariophysi  
Order Cypriniformes  
Superfamily Cyprinoidea  
Family Cyprinidae  
Genus *Barbodes*  
Species *Barbodes strigatus* (Boulenger, 1894)”

### Size, Weight, and Age Range

From Froese and Pauly (2015):

“Max length: 16.8 cm TL male/unsexed; [Kottelat et al. 1993]”

### Environment

From Froese and Pauly (2015):

“Freshwater; benthopelagic.”

## **Climate/Range**

From Froese and Pauly (2015):

“Tropical”

## **Distribution Outside the United States**

Native

Chong et al. (2010) lists *Barbodes strigatus* as endemic to the Sabah river system in East Malaysia.

Horn et al. (2011) lists *Barbodes strigatus* as present in the Kapuas River basin in Indonesia.

From Kottelat (1989):

“*Barbodes strigatus* (Boulenger, 1894) [...]

A single record [in Malaysia] (Herre & Myers, 1937:64), apparently erroneous, the species being otherwise known from North Borneo only”

Introduced

No records of *Barbodes strigatus* introductions were found.

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

No records of *Barbodes strigatus* introductions were found.

## **Short Description**

A description of *Barbodes strigatus* was not found.

## **Biology**

From Froese and Pauly (2015):

“plants/detritus+animals (troph. 2.2-2.79) [Yap 1988]”

“grazing on aquatic plants [Yap 1988]”

Chong et al. (2010) lists *Barbodes strigatus* as present in rivers and streams.

## **Human Uses**

Information on human uses of *Barbodes strigatus* was not found.

## **Diseases**

Information on parasites and pathogens of *Barbodes strigatus* was not found.

## Threat to Humans

From Froese and Pauly (2015):

“Harmless”

## 3 Impacts of Introductions

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No records of *Barbodes strigatus* introductions were found.

## 4 Global Distribution

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**Figure 1.** Map of Borneo showing the Kapuas River and the Sabah region; locations given for the distribution of *Barbodes striagtus* (Chong et al. 2010; Horn et al. 2011). Map data: Google.

## 5 Distribution Within the United States

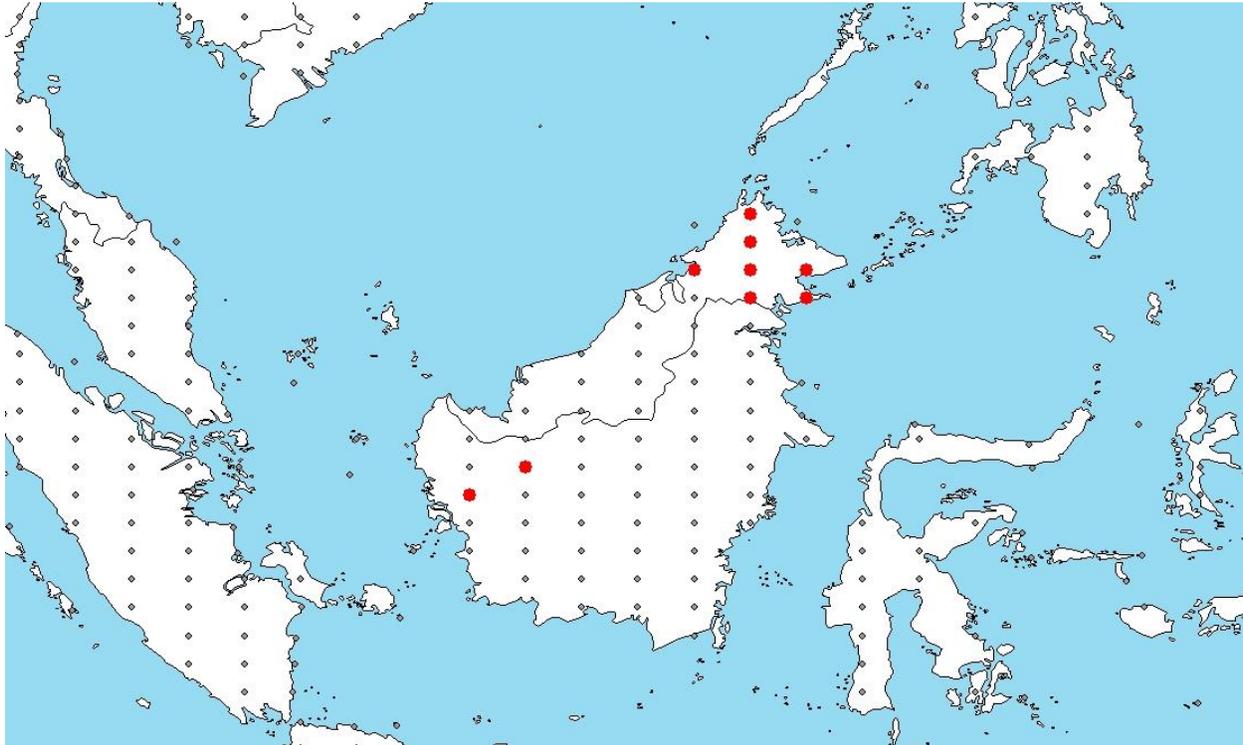
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No records of *Barbodes strigatus* in the United States were found.

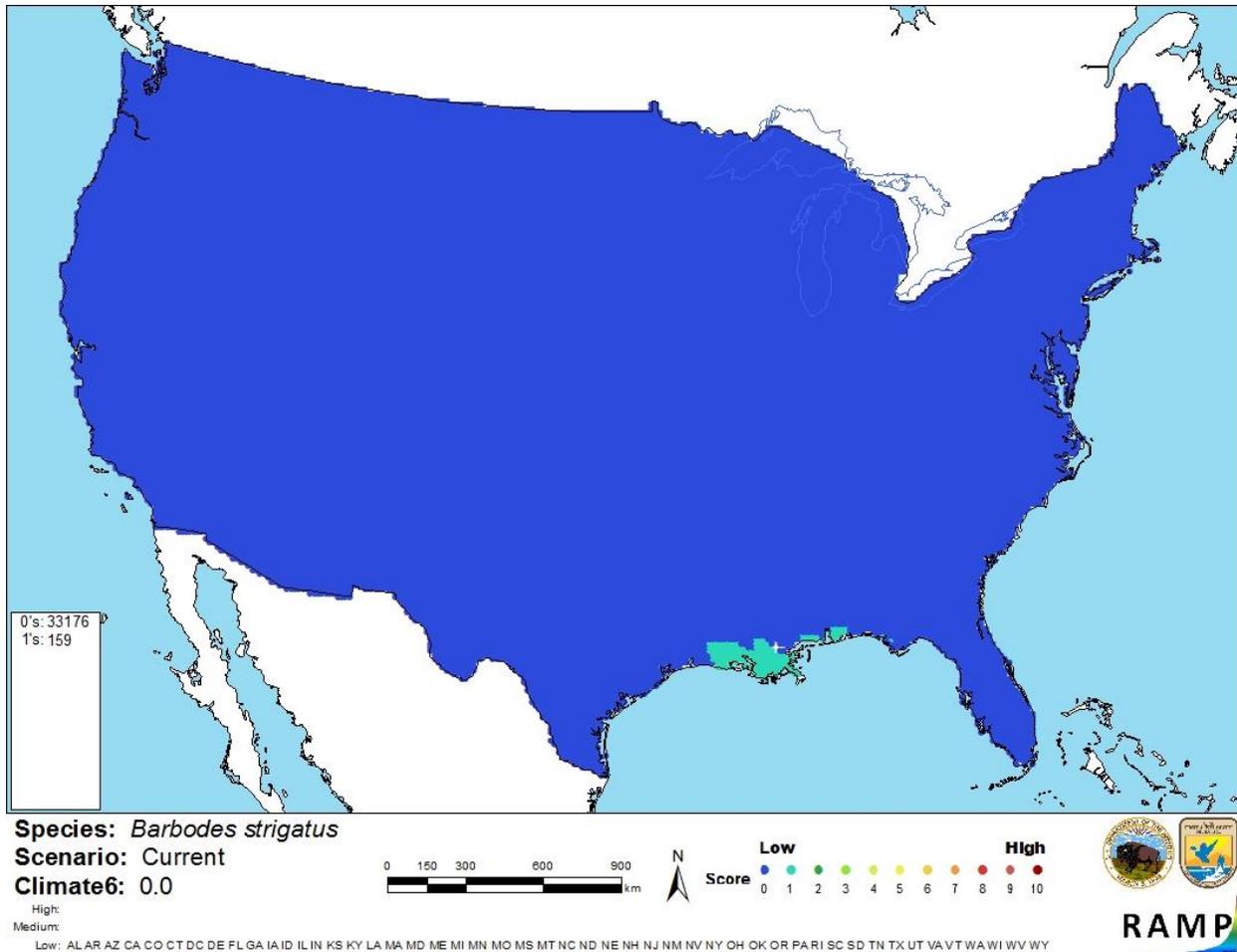
## 6 Climate Matching

### Summary of Climate Matching Analysis

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



**Figure 2.** RAMP (Sanders et al. 2014) source map showing weather stations on the island of Borneo selected as source locations (red; Indonesia, Malaysia) and non-source locations (gray) for *Barbodes strigatus* climate matching. Source locations from Chong et al. (2010) and Horn et al. (2011).



**Figure 3.** Map of RAMP (Sanders et al. 2014) climate matches for *Barbodes strigatus* in the contiguous United States based on source locations reported by Chong et al. (2010) and Horn et al. (2011). 0 = Lowest match, 10 = Highest match. Counts of climate match scores are tabulated on the left.

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
$\geq 0.103$	High

## 7 Certainty of Assessment

The certainty of this assessment is low. There was minimal information available for *Barbodes strigatus*. No records of introductions were found. Distributional data was only available in general terms. The climate match was conducted using generalized locations as source points instead of locations of known populations.

## 8 Risk Assessment

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### Summary of Risk to the Contiguous United States

*Barbodes strigatus* is a species of freshwater fish native to the island of Borneo. History of invasiveness for *B. strigatus* is uncertain. No records of introductions were found. The climate match is low; the Climate 6 score was 0.000. The certainty of assessment is low. There was minimal information available for *B. strigatus*. Distributional data was only available in general terms. The climate match was conducted using generalized locations as source points instead of locations of known populations. 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.**

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.

Eschmeyer, W. N., R. Fricke, and R. van der Laan, editors. 2017. *Catalog of fishes: genera, species, references*. Available: <http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp>. (October 2017).

Froese, R., and D. Pauly, editors. 2015. *Barbodes strigatus* (Boulenger, 1894). FishBase. Available: <http://www.fishbase.org/summary/Barbodes-strigatus.html>. (April 2015).

Horn, M. H., S. B. Correa, P. Parolin, B. J. A. Pollux, J. T. Anderson, C. Lucas, P. Widmann, A. Tjiu, M. Galetti, and M. Goulding. 2011. Seed dispersal by fishes in tropical and temperate fresh waters: The growing evidence. *Acta Oecologica* xxx(2011):1–17.

ITIS (Integrated Taxonomic Information System). 2015. *Barbodes strigatus* (Boulenger, 1894). Integrated Taxonomic Information System, Reston, Virginia. Available: [http://www.itis.gov/servlet/SingleRpt/SingleRpt?search\\_topic=TSN&search\\_value=639559](http://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=639559). (April 2015).

Kottelat, M. 1989. Zoogeography of the fishes from Indochinese inland waters with an annotated check-list. *Bulletin Zoologisch Museum* 12(1):1–55.

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

## **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.**

Boulenger, G. A. 1894. Descriptions of new freshwater fishes from Borneo. *Annals and Magazine of Natural History (Series 6)* 13(75):245–251.

Herre, A. W. C. T., and G. S. Myers. 1937. A contribution to the ichthyology of the Malay Peninsula. *Bulletin Raffles Museum* 13:5–75.

Kottelat, M., A. J. Whitten, S. N. Kartikasari, and S. Wirjoatmodjo. 1993. *Freshwater fishes of Western Indonesia and Sulawesi*. Periplus Editions, Hong Kong.

Yap, S.-Y. 1988. Food resource utilization partitioning of fifteen fish species at Bukit Merah Reservoir, Malaysia. *Hydrobiologia* 157:143–160.