

Belingka (*Barbodes belinka*)

Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, March 2015
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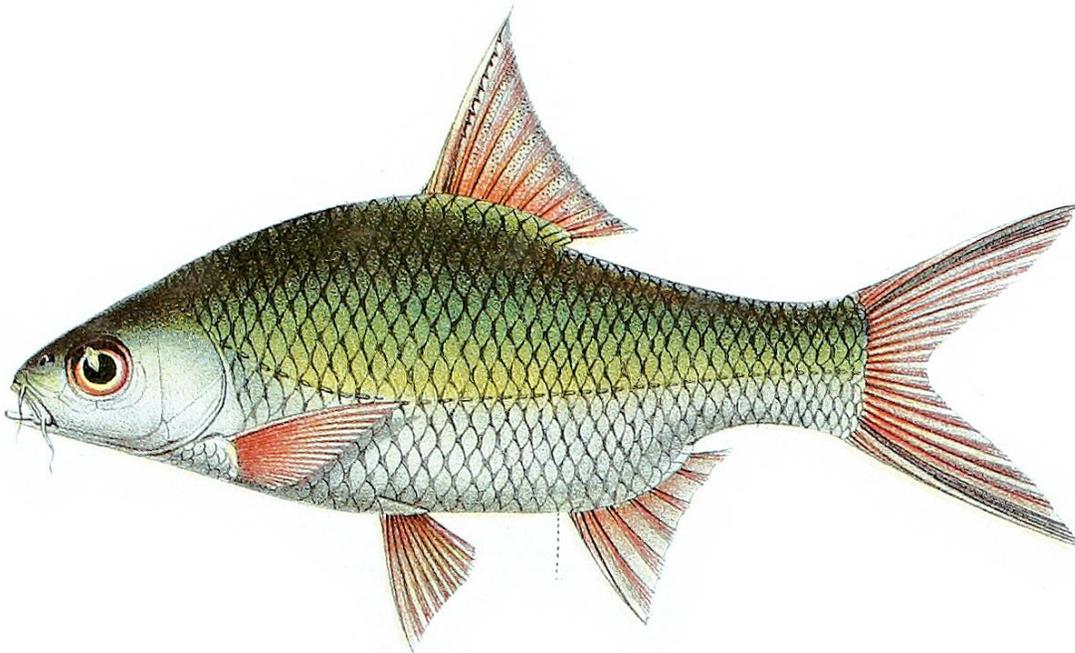


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Available: https://commons.wikimedia.org/wiki/File:Barbodes_belinka_Bleeker.jpg. (March 26, 2015).

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2014):

“Asia: Indonesia and Malaysia [Kottelat et al. 1993].”

From Oijen and Loots (2012):

“Sumatra (Padang, Solok, Sinkara), in rivers and lakes.”

Status in the United States

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

Means of Introductions in the United States

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

Remarks

No additional remarks.

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

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 belinka* (Bleeker, 1860)”

“Taxonomic Status:

Current Standing: valid”

Size, Weight, and Age Range

From Oijen and Loots (2012):

“Length of 9 specimens 61’’ to 113’’[sic].”

Environment

From Froese and Pauly (2014):

“Freshwater; benthopelagic.”

Climate/Range

From Froese and Pauly (2014):

“Tropical”

Distribution Outside the United States

Native

From Froese and Pauly (2014):

“Asia: Indonesia and Malaysia [Kottelat et al. 1993].”

From Oijen and Loots (2012):

“Sumatra (Padang, Solok, Sinkara), in rivers and lakes.”

Introduced

No records of *Barbodes belinka* introductions were found.

Means of Introduction Outside the United States

No records of *Barbodes belinka* introductions were found.

Short Description

From Oijen and Loots (2012):

“A *Systomus* (*Barbodes*) with an oblong compressed body, depth of body contained $3\frac{3}{5}$ to $3\frac{1}{2}$ times in its length, width contained $2\frac{1}{4}$ to $2\frac{1}{2}$ times in its depth. Head slightly obtuse, contained $4\frac{3}{4}$ to $5\frac{1}{3}$ times in length of body with caudal fin, $3\frac{1}{2}$ to 4 times in length of body without caudal fin; depth of head contained $1\frac{1}{5}$ to $1\frac{1}{6}$ times in its length, width contained $1\frac{3}{4}$ to $1\frac{3}{5}$ times in its length; eye diameter contained $2\frac{1}{4}$ to $2\frac{3}{4}$ times in the length of the head, eye diameter contained 1 to $1\frac{1}{5}$ times in the postocular part of the head; palpebral membrane covering the external margin of the iris only, opening nearly circular; snout slightly obtuse, convex, shorter than the eye, not sticking out in front of the mouth; nostrils closer to the orbit than to the tip of the snout; rostro-dorsal profile hardly or not concave between the snout and the nape, very convex on the nape; interorbital line slightly convex; anterior suborbital bone pentagonal, depth slightly or not greater than length, lower margin nearly horizontal, anterior and posterior lower margins truncate or convex, upper margins concave united into an upward facing angle close to the nose; lower half traversed by a longitudinal, nearly horizontal crest; 2nd suborbital bone elongate-quadrangular, length more than twice as great as depth, more than twice as low as 1st suborbital bone; upper jaw longer than lower jaw, moderately vertically downward protrusible, ending

below the anterior rim of the eye, contained about 3 times in the length of the head; gape strongly oblique, barbels thin, upper jaw barbels slightly longer than nasal barbels, slightly longer or shorter than the eye; lower jaw at the symphysis with a conical, obtuse, little conspicuous tubercle, lower part without visible pores; lips thin, terete, not conspicuously rugose; width of gill cover contained nearly 2 times to 2 times in its depth, lower margin nearly straight or slightly convex; gill opening ending below the posterior margin of the preoperculum. Pharyngeal teeth slightly hooked to slightly spoon-shaped to grinding, 2.3.5/5.3.2; more or less tuberculate on the chewing surface; scapula triangular, obtuse, rounded; back strongly elevated, angular, higher than the belly; belly flat anterior to ventral fins, angular at the flanks, behind ventral fins rounded, not ridged; depth of tail contained $1\frac{4}{5}$ to 2 times in the length of the head; scales generally without visible longitudinal stripes, seldom with very sparse stripes, 37 or 38 scales in the lateral line, 15 in a transverse row (without the lowest ventral scales) of which 9 ($8\frac{1}{2}$) above the lateral line, 15 or 16 in a longitudinal row between occiput and dorsal fin, lowest ventral scales in three longitudinal rows, scales in medial row not larger than those in flanking rows; lateral line strongly curved, each scale marked by a simple tube generally reaching the centre of the scale; dorsal fin starting above the base of the ventral fins, acute, emarginate, depth contained $1\frac{1}{3}$ to $1\frac{1}{2}$ times in the depth of the body, much deeper but much less than twice as deep as base length, spine thick, posteriorly serrated with large teeth, with a flexible part not or hardly longer than the head; pectoral fins and ventral fins acute, nearly equal in length, contained $6\frac{1}{2}$ to 7 times in the length of the body, pectoral fins reaching or nearly reaching ventral fins, ventral fins reaching or nearly reaching anal fin; anal fin acute, emarginate, much lower but much less than twice as low as dorsal fin, not much higher than base length, simple third ray medium-sized, bony only on the base; caudal fin scaled only at the base, with a deep incision, lobes acute, contained $3\frac{1}{3}$ to $3\frac{1}{2}$ times in the length of the body. Colour: upper part of the body green, lower part silver, iris yellow, upper part dark; scales on back, flanks and tail each with a small transverse, crescent-shaped, dark or violet band; fins pink, upper part of dorsal fin, except for the top of the tip, broadly blackish-dark, caudal fin with a longitudinal, intermarginal dark-violet band on each lobe.”

Biology

Information on the biology of *Barbodes belinka* was not found.

Human Uses

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

Diseases

Information on pathogens of *Barbodes belinka* was not found.

Threat to Humans

From Froese and Pauly (2014):

“Harmless”

3 Impacts of Introductions

No records of *Barbodes belinka* introductions were found.

4 Global Distribution



Figure 1. Map of Malaysia and the Indonesian island of Sumatra; the general locations listed for the native range of *Barbodes belinka*. Map from Google Inc. (2011).

5 Distribution Within the United States

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

6 Climate Matching

Summary of Climate Matching Analysis

The climate match for *Barbodes belinka* had very small pockets of medium match along the Gulf Coast and in southeastern Florida. The climate match was low everywhere else. The Climate 6 score (Sanders et al. 2018; 16 climate variables; Euclidean distance) for the contiguous United States was 0.000, low. No states had an individually high climate score.

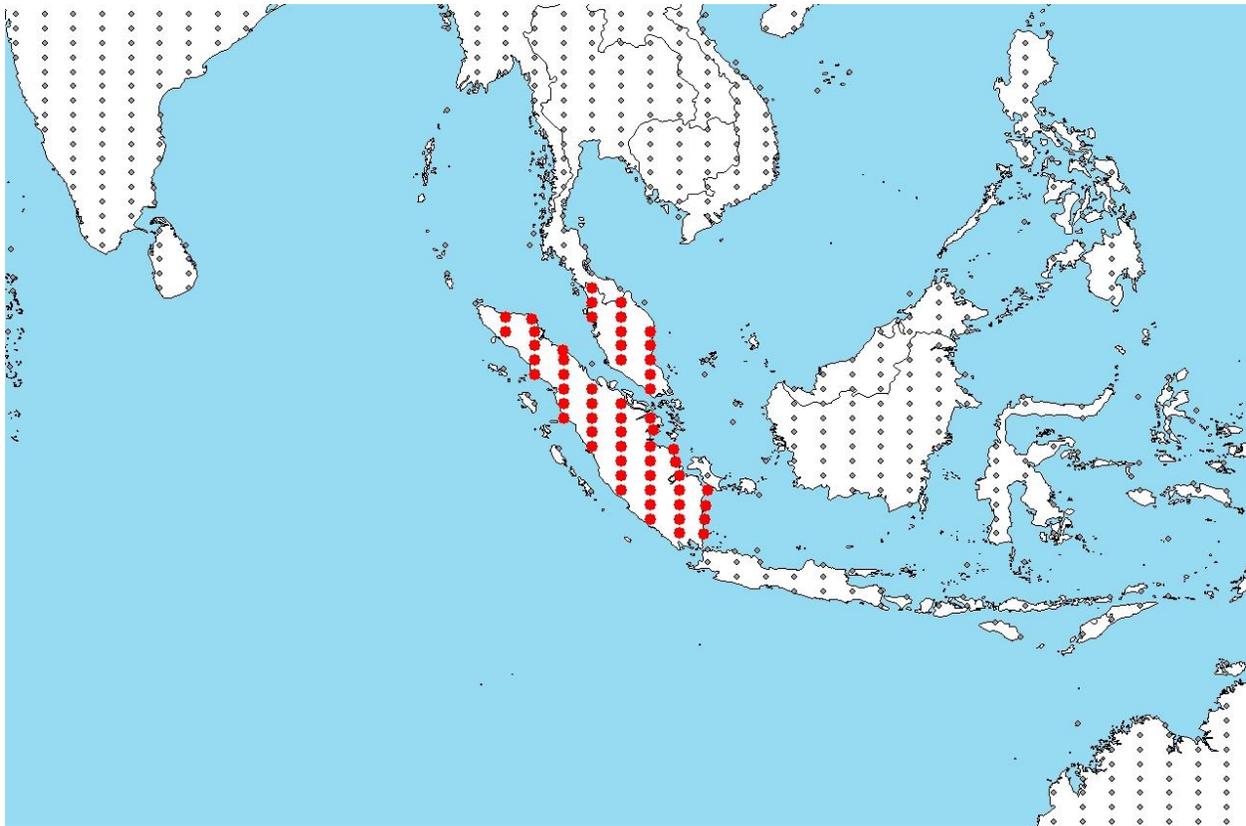


Figure 2. RAMP (Sanders et al. 2018) source map showing weather stations in southern Asia selected as source locations (red; Malaysia, Indonesia) and non-source locations (gray) for *Barbodes belinka* climate matching. Source locations from Oijen and Loots (2012) and Froese and Pauly (2014).

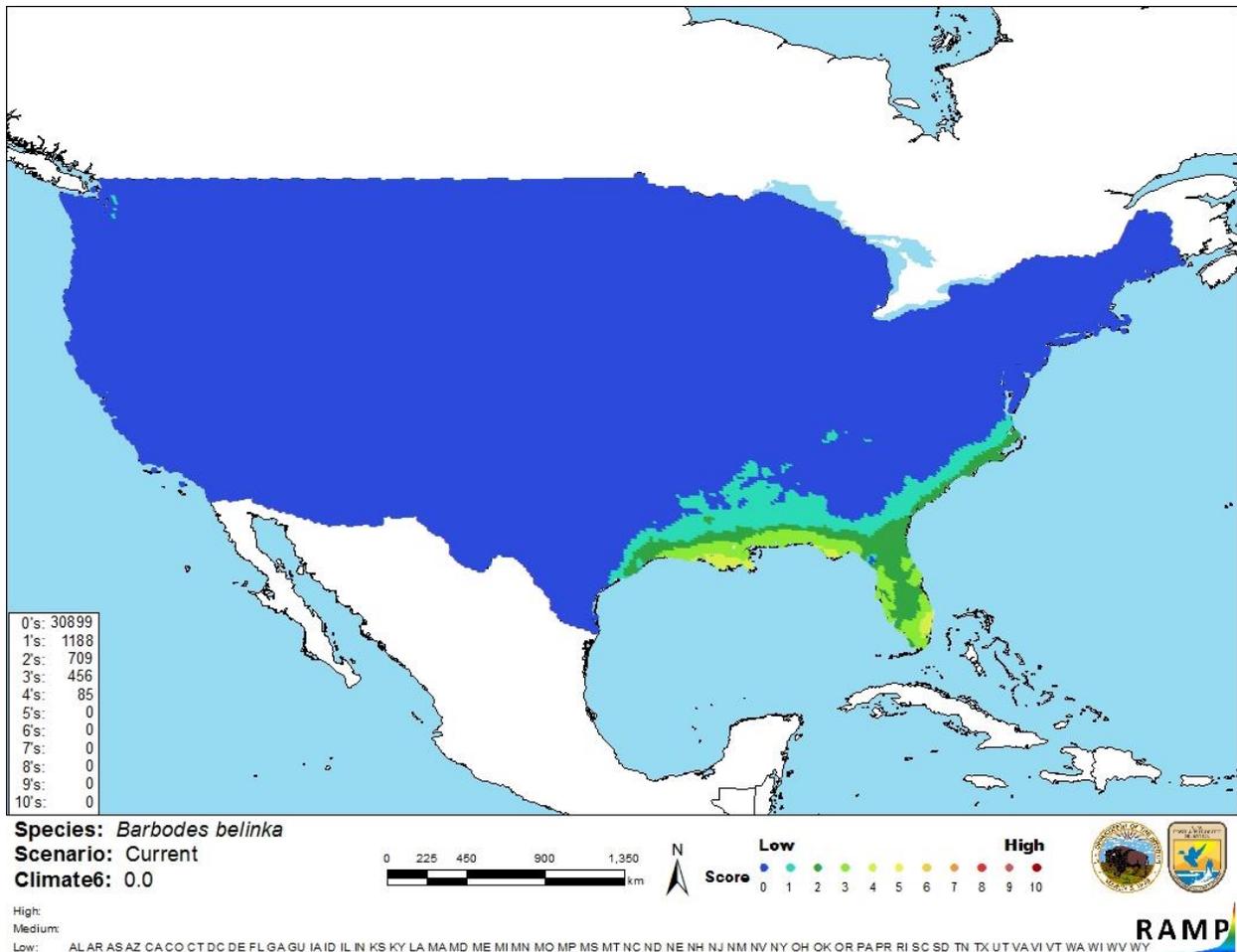


Figure 3. Map of RAMP (Sanders et al. 2018) climate matches for *Barbodes belinka* in the contiguous United States based on source locations reported by Oijen and Loots (2012) and Froese and Pauly (2014). 0 = Lowest match, 10 = Highest match. Counts of climate match scores are tabulated on the left.

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

7 Certainty of Assessment

The certainty of this assessment is low. There was very limited information available for *Barbodes belinka*. No records of introductions were found. Distributional data was limited to a list of countries where it is present, no georeferenced data was available. The climate match was performed using approximate distribution of the species.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Belinka (*Barbodes belinka*) is a species of cyprinid that is native to islands in southern Asia. The history of invasiveness for *B. belinka* is uncertain. There were no records of introductions found and therefore there is no information on impacts of introductions. The climate match is low. The climate match was conducted with only very general source locations; no georeferenced observations were available. If more detailed distributional information for *B. belinka* becomes available, the climate match should be revisited. The certainty of assessment is low. There is very little information in general about this species. The overall risk assessment 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:** Virtually no information was found for this species.
- **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.

Froese, R., and D. Pauly, editors. 2014. *Barbodes belinka* (Bleeker, 1860). FishBase. Available: <http://www.fishbase.org/summary/Barbodes-belinka.html>. (March 2015).

Google Inc. 2011. Google Earth (Version 7.0.3.8542) [Software]. Available: <http://www.google.com/intl/en/earth/index.html>. (June 2014).

ITIS (Integrated Taxonomic Information System). 2015. *Barbodes belinka* (Bleeker, 1860). Integrated Taxonomic Information System, Reston, Virginia. Available: http://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=688434. (March 2015).

Oijen, M. J. P. van, and G. M. P. Loots. 2012. An illustrated translation of Bleeker's fishes of the Indian Archipelago part II Cyprini. *Zoologische Mededelingen Leiden* 86(1):1–469.

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.

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