

***Henicorhynchus lobatus* (a carp, no common name)**

Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, June 2012

Revised, September 2018

Web Version, 2/15/2019

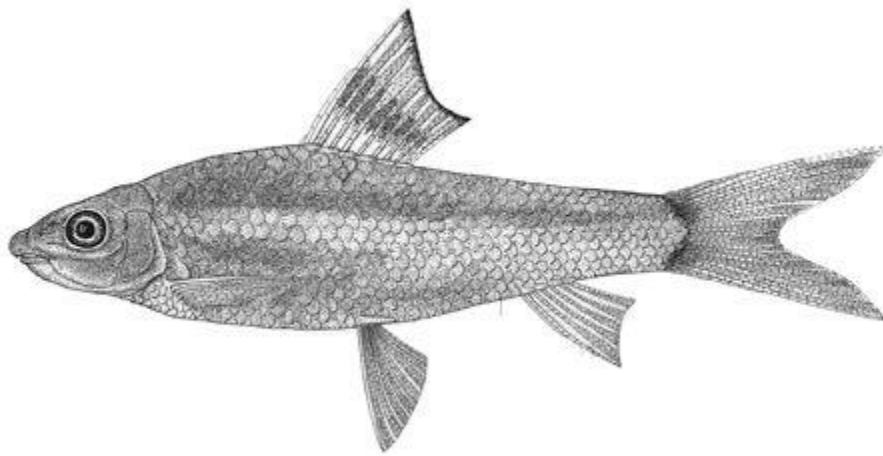


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1 Native Range and Status in the United States

Native Range

From Baird and Allen (2011):

“This species is widespread in the Mekong, and also found in the Mae Khlong and Chao Phraya basins.”

“Native: Cambodia; Lao People's Democratic Republic; Thailand; Viet Nam”

Status in the United States

This species has not been reported as introduced or established in the United States. There is no indication that this species is in trade in the United States.

Means of Introductions in the United States

This species has not been reported as introduced or established in the United States.

Remarks

The synonym *Gymnostomus lobatus* was also used when researching in preparation of this report.

From Baird and Allen (2011):

“Scientific Name: *Gymnostomus lobatus* (Smith, 1945)”

“Considered by some authors to be in the genus *Henicorhynchus*, or *Cirrhinus*.”

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

From ITIS (2018):

“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 *Henicorhynchus*
Species *Henicorhynchus lobatus* Smith, 1945”

From Fricke et al. (2018):

“Current status: Valid as *Henicorhynchus lobatus* Smith 1945. Cyprinidae: Labeoninae.”

Size, Weight, and Age Range

From Froese and Pauly (2018):

“Max length : 15.0 cm SL male/unsexed; [Baird et al. 1999]”

Environment

From Froese and Pauly (2018):

“Freshwater; benthopelagic; potamodromous [Riede 2004].”

Climate/Range

From Froese and Pauly (2018):

“Tropical”

Distribution Outside the United States

Native

From Baird and Allen (2011):

“This species is widespread in the Mekong, and also found in the Mae Khlong and Chao Phraya basins.”

“Native: Cambodia; Lao People's Democratic Republic; Thailand; Viet Nam”

Introduced

This species has not been reported as introduced or established outside of its native range.

Means of Introduction Outside the United States

This species has not been reported as introduced or established outside of its native range.

Short Description

From Froese and Pauly (2018):

“Dorsal spines (total): 0; Dorsal soft rays (total): 8; Vertebrae: 32. A small species, largest recorded specimen just over 10 cm SL; snout but not always strongly projecting; head relatively small, especially compared to the closely related and somewhat larger species *C[irrhinus] siamensis*; differs from all other species of *Cirrhinus* so far as known in being a protogynous hermaphrodite [Roberts 1997]. Body silvery plan [Kottelat 2001].”

Biology

From Hurwood et al. (2007):

“It is well documented that *H. lobatus* undertakes mass migrations [usually in association with the wet season but not necessarily triggered by its onset (Baran 2006)], and that timing of migrations vary among regions (Baird et al. 2003; Poulsen et al. 2004).”

From Baird and Allen (2011):

“Occur in rapids and in slow flowing water (Singhanouvong et al. 1996). Collected in numerous tributaries as small as 2-3 m wide in widely separated localities in Thailand, Laos and Cambodia.”

“Possibly the single most abundant species in the Mekong basin. In terms of absolute numbers, it is the most abundant fish species in the major migrations that occur in the mainstream of the

Mekong River below Khone Falls every December-February and May-July, where there is an important artisanal fishery. It is one of the lead species in the massive migrations of cyprinid fishes moving up the Mekong mainstream in the Khone Falls area. The fish in Laos migrate from Tonle Sap in Cambodia (Baird et al. 2003).”

From Froese and Pauly (2018):

“Probably the single most important forage or prey species for many piscivore fish species present there, and may also be heavily preyed upon by the local dolphin, *Orcaella brevirostris* .”

Human Uses

From Fukushima et al. (2014):

“Inhabiting the Mekong and Chao Phraya basins (*H. siamensis*) and the Mekong basin (*H. lobatus*), these two small sized cyprinids, collectively referred to as Siamese mud carp, are the most abundant and most economically important fish in the middle and lower Mekong basin [Roberts 1997], [Roberts and Baird 1995]. They are harvested in huge numbers, especially in and around Tonle Sap Lake in Cambodia and the Khone Falls area in southern Laos. These species account for 43% [Lieng et al. 1995], [Nguyen et al. 2009] and over 50% [Baran et al. 2005] of the total catch in these areas, respectively, with an overall basin-wide catch being >12% for the two species combined [Baran 2010].”

From Hurwood et al. (2007):

“This species is considered to be critical to the long-term food security of 60 million people who live in the MRB [Mekong River Basin] and who rely on fish as their primary source of animal protein (Baird et al. 2003).”

Diseases

No information available. No OIE-reportable diseases have been documented for this species.

Threat to Humans

From Froese and Pauly (2018):

“Harmless”

3 Impacts of Introductions

This species has not been reported as introduced or established outside of its native range.

4 Global Distribution

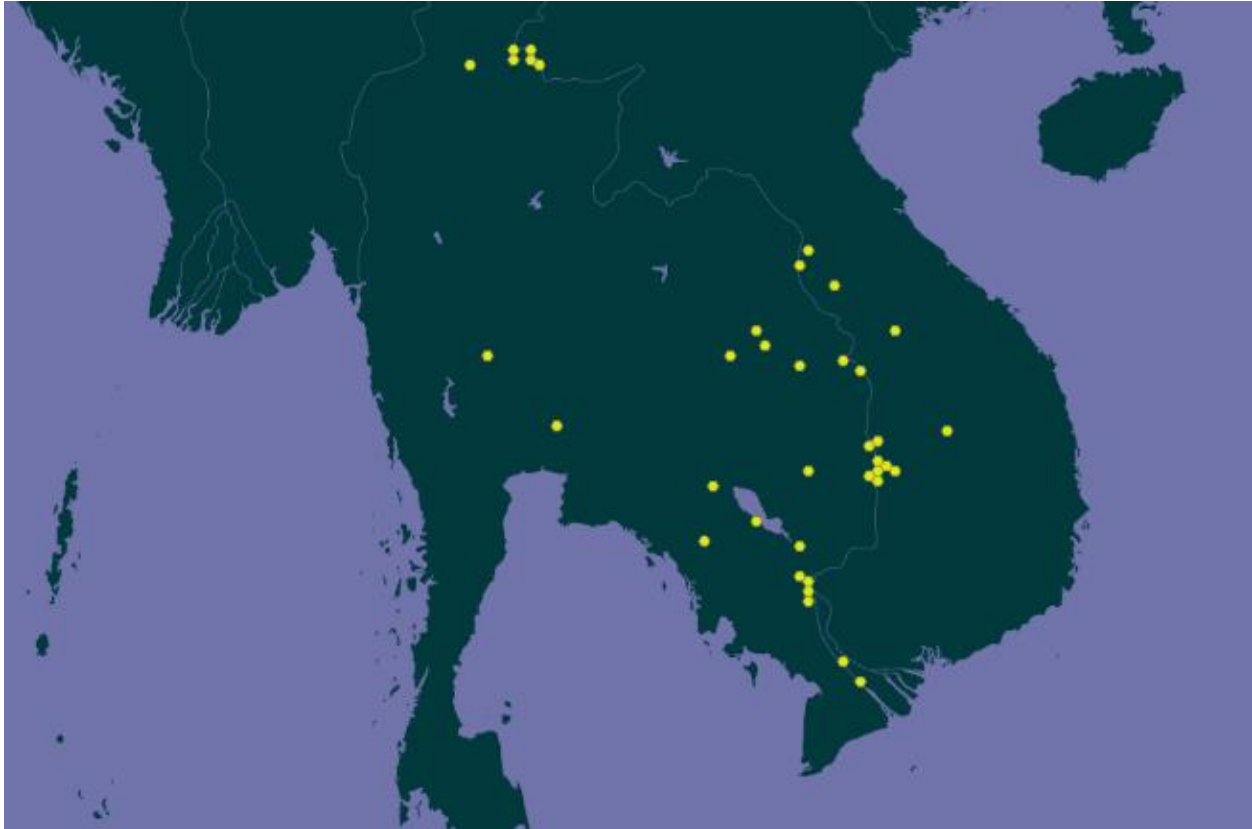


Figure 1. Known global distribution of *Henicorhynchus lobatus* reported from Laos, Thailand, Cambodia, and Vietnam. Map from GBIF Secretariat (2017).

5 Distribution Within the United States

This species has not been reported as introduced or established in the United States.

6 Climate Matching

Summary of Climate Matching Analysis

The Climate 6 score (Sanders et al. 2014; 16 climate variables; Euclidean distance) for the contiguous United States was 0.0, which is a low climate match. A Climate 6 score of 0.005 or below indicates a low climate match. All states in the contiguous United States had a low climate score. There were areas of medium climate match in southern Texas and Florida. The remainder of the contiguous United States had a low match.

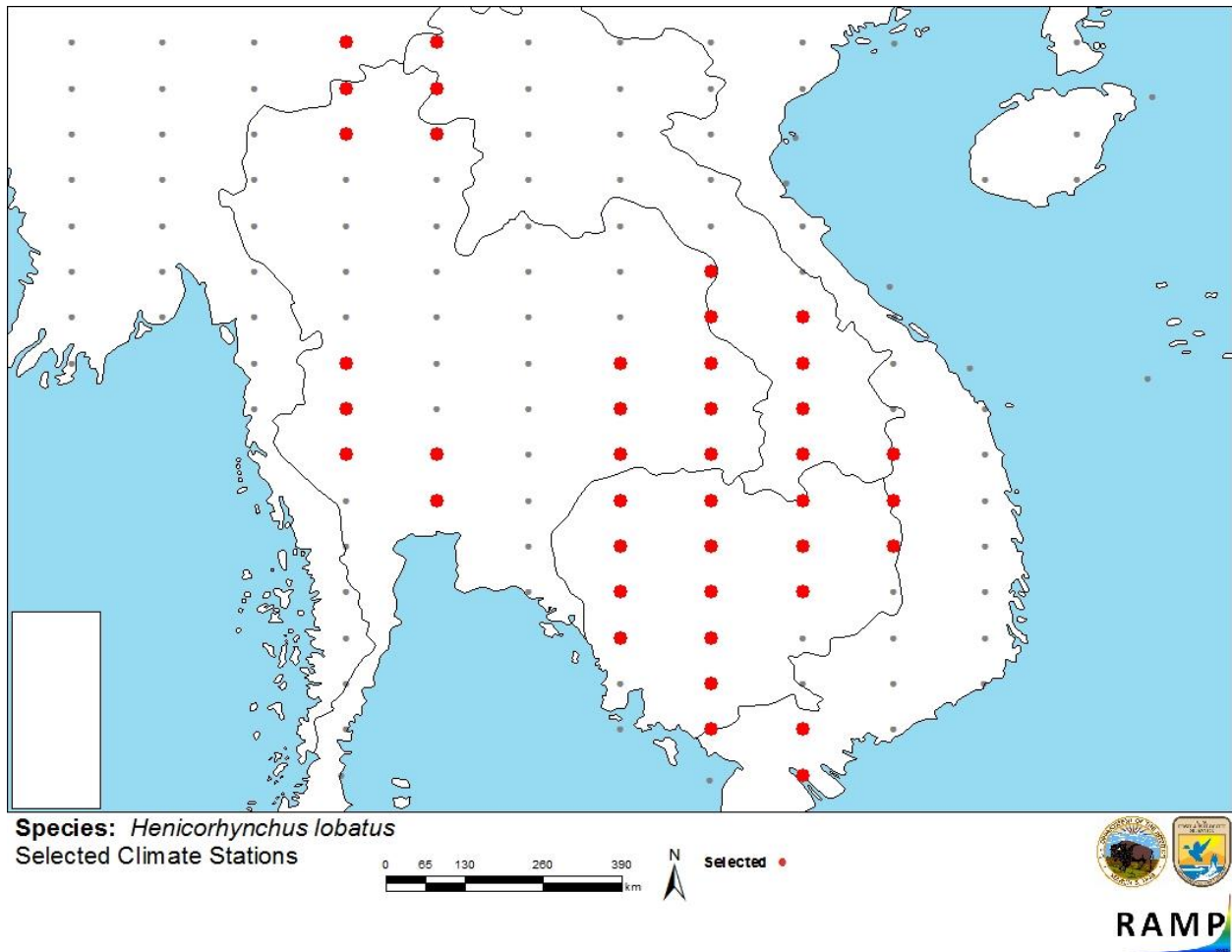


Figure 2. RAMP (Sanders et al. 2014) source map showing weather stations selected as source locations (red; Laos, Thailand, Cambodia, Vietnam and Myanmar) and non-source locations (gray) for *Henicorhynchus lobatus* climate matching. Source locations from GBIF Secretariat (2017). Selected source locations are within 100 km of one or more species occurrences, and do not necessarily represent the locations of occurrences themselves.

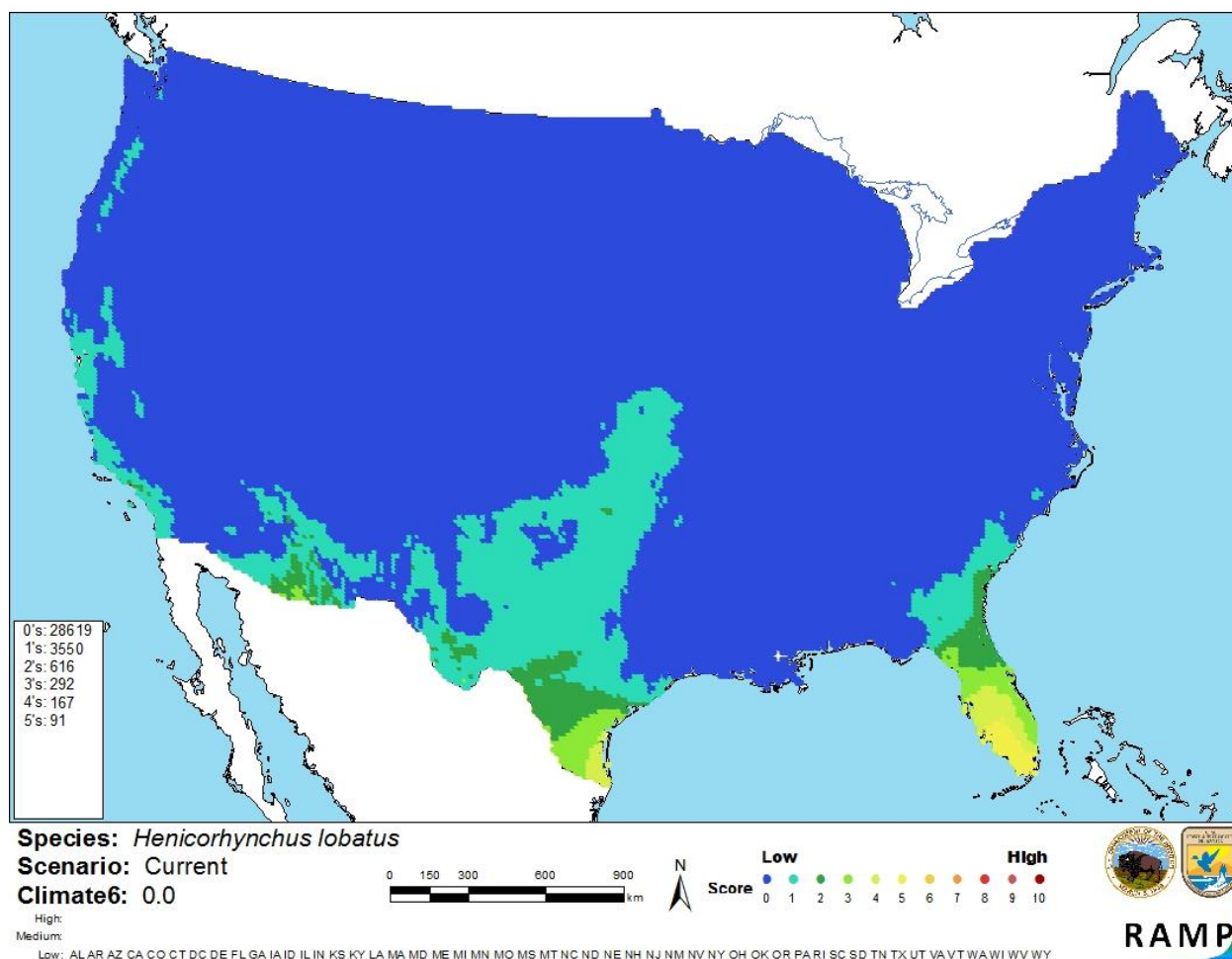


Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *Henicorhynchus lobatus* in the contiguous United States based on source locations reported by GBIF Secretariat (2017). 0=Lowest match, 10=Highest match.

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

7 Certainty of Assessment

Information is available about the biology and ecology of *Henicorhynchus lobatus*. However, this species has never been reported as introduced or established outside of its native range, so there is inadequate information available from which to assess the risk this species poses to the contiguous United States. Certainty of this assessment is low.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Henicorhynchus lobatus is a freshwater fish species native to Southeast Asia. This species is important as a food fish in its native range. There is no indication that this species is in trade in the United States. There are no reports of *H. lobatus* outside of its native range. Therefore, history of invasiveness is uncertain. *H. lobatus* has a low climate match with the contiguous United States. There were areas of medium climate match in southern Texas and Florida. Due to a lack of information on impacts of introduction, certainty of this assessment is low. 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**
- **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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- Fricke, R., W. N. Eschmeyer, and R. van der Laan, editors. 2018. Catalog of fishes: genera, species, references. Available: <http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp>. (September 2018).
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Sanders, S., C. Castiglione, and M. H. Hoff. 2014. Risk Assessment Mapping Program: RAMP. 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.

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