

## ***Labeo curchius* (a carp, no common name)**

### **Ecological Risk Screening Summary**

U.S. Fish and Wildlife Service, April 2012

Revised, April 2018

Web Version, 6/6/2018



Photo: Museum national d'Histoire naturelle. Licensed under CC BY-NC-ND. Available: <https://science.mnhn.fr/institution/mnhn/collection/ic/item/a-3560>. (March 2018).

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

### **Native Range**

From Dahanukar (2010):

“*Labeo curchius* was originally described from freshwaters of Bengal (Hamilton 1822). Day (1873b) suggested that this species is present throughout India except south of Madras and Burma. However, later workers synonymized this species with more widespread species *Labeo gonius* (Day 1877; 1878; Menon 1999; Jayaram and Dhas 2000). Fishbase (2010) consider this species as endemic to Salween basin based on Doi (1997). This is erroneous for two reasons. First, this species was originally described from Ganga river in Bangladesh and the name of the species is also based on its local name in this region. Second, Doi (1997) has just mentioned that the species is present in Salween and not endemic to Salween.”

## Status in the United States

This species has not been reported as introduced or established in the U.S.

## Means of Introductions in the United States

This species has not been reported as introduced or established in the U.S.

## Remarks

From Dahanukar (2010):

“There is a taxonomic ambiguity regarding the validity of this species. *Labeo curchius* was originally described by Hamilton (1822) as *Cyprinus curchius* from freshwaters of Bengal. Hamilton himself was aware of the similarity between *Cyprinus curchius*, *C. cursa* and *C. goniuis* and it is reflected in Day (1873a). M’Clelland [*sic*] (1839) suggested that *Cyprinus curchius* and allied species namely *C. cursa* and *C. cursis* were not different but were varieties resulting from domestication of the fish. Cuvier and Valenciennes (1842) proposed new genus *Labeo* and realized that there is similarity between *Labeo curchius* and *L. goniuis*. Günther (1868) and Beavan (1877) both considered *Labeo curchius* as a synonym of *L. cursa*. In the early years Day (1873b) considered this species valid as *Labeo curchius*, however, in the later years Day (1877; 1878) synonymized *L. curchius* to more wide spread species *L. goniuis*. Fowler (1924) never doubted the synonymy of *L. curchius* and *L. goniuis* but suggested that the species should be called *L. curchius* because of page priority. However, more recent publications by Menon (1999) and Jayaram and Dhas (2000) considered *L. goniuis* as valid species and *L. curchius* as a junior synonym.”

“Both Fishbase (2010) and Catalog of fishes (Echmeyer [*sic*] 2010) consider *L. curchius* as valid based on Doi (1997). However, even though Doi (1997) has mentioned the species in the list of fishes from South-east Asia, no rationale is given regarding the validity of the species. Therefore, the species identified as *Labeo curchius* from the Salween basin may refer to a hitherto undescribed species of *Labeo*.”

## 2 Biology and Ecology

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### 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 Ostariophysii  
Order Cypriniformes

Superfamily Cyprinoidea  
Family Cyprinidae  
Genus *Labeo*  
Species *Labeo curchius* (Hamilton, 1822)”

From Eschmeyer et al. (2018):

“Current status: Valid as *Labeo curchius* (Hamilton 1822). Cyprinidae: Labeoninae.”

### **Size, Weight, and Age Range**

From Fowler (1924):

“[...] length 84 to 245 mm.”

### **Environment**

From Froese and Pauly (2018):

“Freshwater; benthopelagic.”

### **Climate/Range**

From Froese and Pauly (2018):

“Tropical”

### **Distribution Outside the United States**

Native

From Dahanukar (2010):

“*Labeo curchius* was originally described from freshwaters of Bengal (Hamilton 1822). Day (1873b) suggested that this species is present throughout India except south of Madras and Burma. However, later workers synonymized this species with more widespread species *Labeo gonius* (Day 1877; 1878; Menon 1999; Jayaram and Dhas 2000). Fishbase (2010) consider this species as endemic to Salween basin based on Doi (1997). This is erroneous for two reasons. First, this species was originally described from Ganga river in Bangladesh and the name of the species is also based on its local name in this region. Second, Doi (1997) has just mentioned that the species is present in Salween and not endemic to Salween.”

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 Fowler (1924):

“Head  $3\frac{1}{2}$  to 4; depth 3 to  $3\frac{1}{3}$ ; D. III, 14, i, varies III, 13, i to III, 16, I; A. III, 5, I; scales 66 to 75 in lateral line to caudal base and 3 to 5 more on latter; 17 to 19 scales above lateral line, 11 below, rarely 9; 27 to 34 predorsal scales; snout  $2\frac{7}{8}$  to  $3\frac{1}{8}$  in head; eye 3 to  $5\frac{1}{4}$ ; mouth width 4 to  $4\frac{4}{5}$ ; interorbital  $1\frac{7}{8}$  to  $2\frac{1}{3}$ ; [...]”

## Biology

From Dahanukar (2010):

“This species was recorded from freshwater ponds and rivers (Hamilton 1822; Day 1873b).”

## Human Uses

From Dahanukar (2010):

“It was [...] reported as a domesticated species in small lakes (Hamilton 1822; McClelland 1839).”

“This species was reported as a food fish (Hamilton 1822; Day 1873b).”

## 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

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

## 4 Global Distribution

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Figure 1. Known global distribution of *Labeo curchius*. Map from VertNet (2016).

## 5 Distribution Within the United States

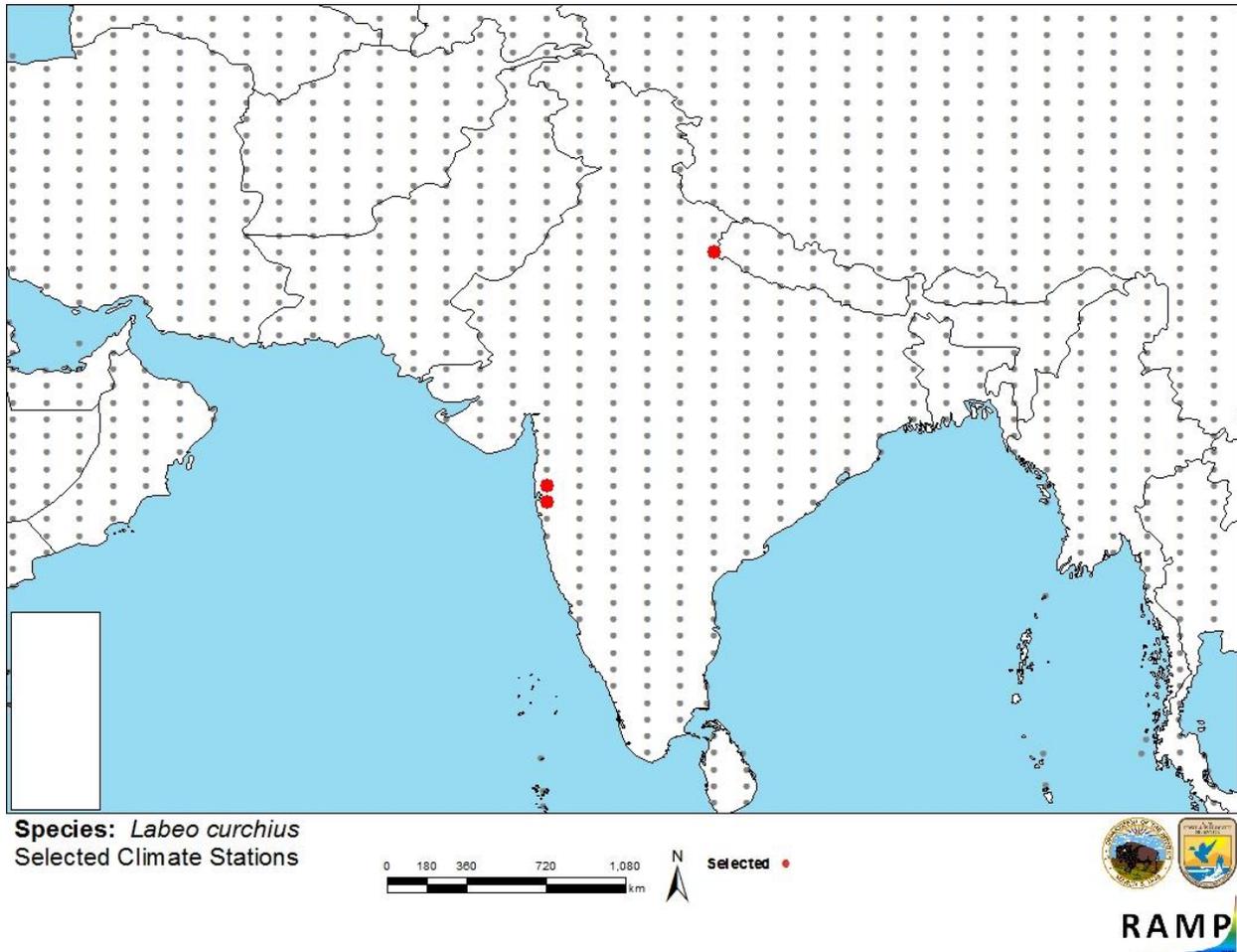
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This species has not been reported as introduced or established in the U.S.

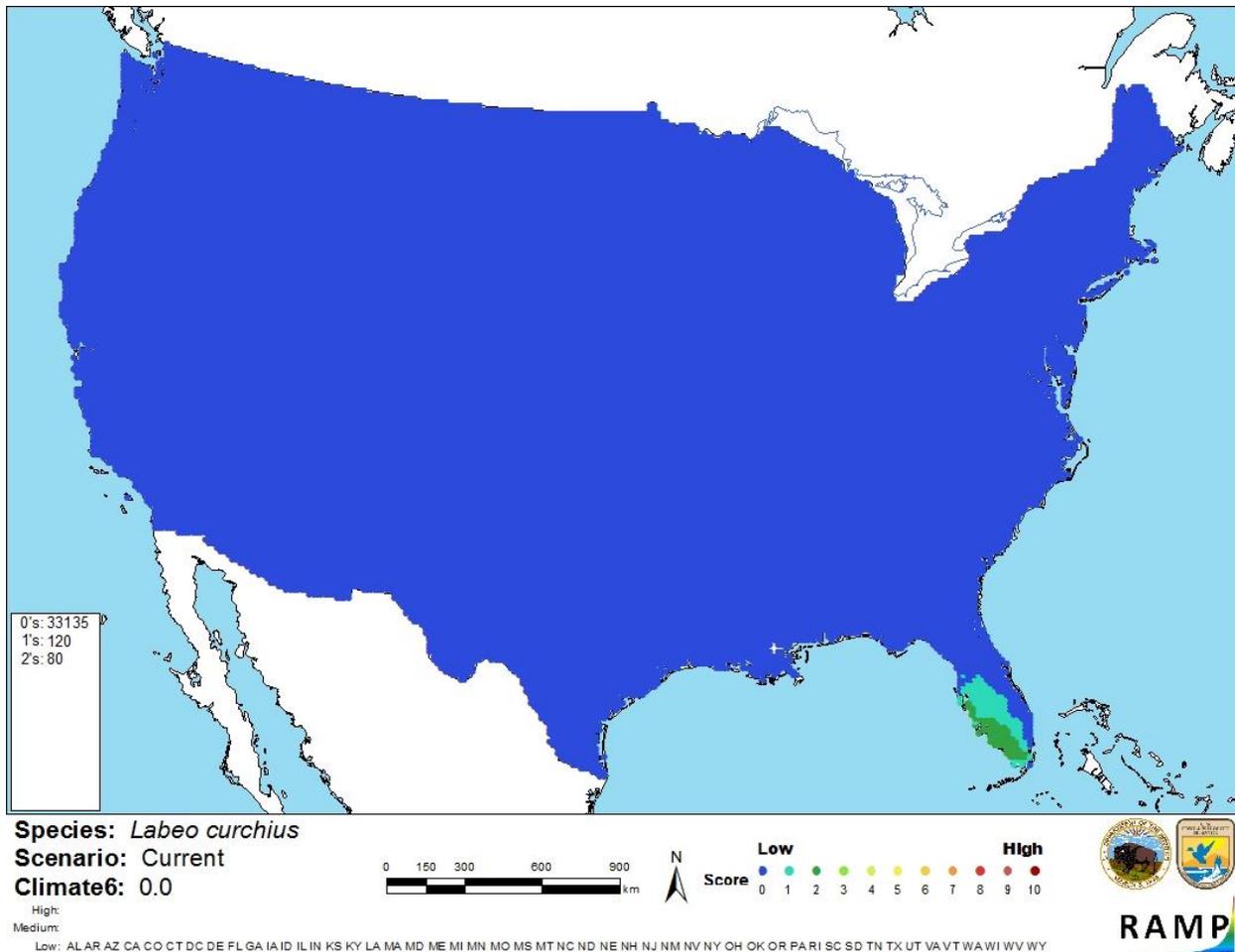
## 6 Climate Matching

### Summary of Climate Matching Analysis

The Climate 6 score (Sanders et al. 2014; 16 climate variables; Euclidean distance) for the contiguous U.S. was 0.0, which is a low climate match. The climate match was low across the entire contiguous U.S. Southern Florida had a slightly higher climate match than the rest of the U.S.



**Figure 2.** RAMP (Sanders et al. 2014) source map showing weather stations selected as source locations (red; India) and non-source locations (gray) for *Labeo curchius* climate matching. Source locations from VertNet (2016).



**Figure 3.** Map of RAMP (Sanders et al. 2014) climate matches for *Labeo curchius* in the contiguous United States based on source locations reported by VertNet (2016). 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
$\geq 0.103$	High

## 7 Certainty of Assessment

There is almost no information available on *Labeo curchius*. There is little information available on its biology, there are few georeferenced occurrences, and its taxonomic status has been called into question. Further information is necessary to adequately assess the risk this species poses. Certainty of this assessment is low.

## 8 Risk Assessment

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### Summary of Risk to the Contiguous United States

*Labeo curchius* is a freshwater carp native to South Asia. This species has a low climate match with the contiguous U.S. There is little information available about this species; both its range and its taxonomic status are uncertain. *L. curchius* has been reported to be used in aquaculture in its native range, but there have been no documented introductions of this species outside of its native range. Further information is needed to adequately assess the risk this species poses to the contiguous U.S., so 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

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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.**

Dahanukar, N. 2010. *Labeo curchius*. The IUCN Red List of Threatened Species 2010: e.T174489A7078806. Available: <http://www.iucnredlist.org/details/174489/0>. (March 2018)

Eschmeyer, W. N., R. Fricke, and R. van der Laan, editors. 2018. Catalog of fishes: genera, species, references. Available: <http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp>. (March 2018).

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## 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.**

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Menon, A. G. K. 1999. Checklist-freshwater fishes of India. Zoological Survey of India, Occasional Paper 175.