

***Labeo dyocheilus* (a carp, no common name)**

Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, May 2012

Revised, April 2018

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Available: <https://www.gbif.org/occurrence/657030824>. (April 2018).

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2018):

“Asia: Pakistan, India, Bangladesh and Nepal [Talwar and Jhingran 1991]. Known from Maeklong [Vidthayanon et al. 1997], Salween, Chao Phraya and Mekong basins [Vidthayanon et al. 1997, Kottelat 1998].”

Froese and Pauly (2018) report that *L. dyocheilus* is native to 10 countries in all: Afghanistan, Bangladesh, Bhutan, Cambodia, India, Laos, Myanmar, Nepal, Pakistan, and Thailand.

Status in the United States

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

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 *Labeo*
Species *Labeo dyocheilus* (McClelland, 1839)”

From Eschmeyer et al. (2018):

“Current status: Valid as *Labeo dyocheilus* (McClelland 1839). Cyprinidae: Labeoninae.”

Size, Weight, and Age Range

From Froese and Pauly (2018):

“Max length : 90.0 cm TL male/unsexed; [Talwar and Jhingran 1991]”

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 Froese and Pauly (2018):

“Asia: Pakistan, India, Bangladesh and Nepal [Talwar and Jhingran 1991]. Known from Maeklong [Vidthayanon et al. 1997], Salween, Chao Phraya and Mekong basins [Vidthayanon et al. 1997, Kottelat 1998].”

Froese and Pauly (2018) report that *L. dyocheilus* is native to 10 countries in all: Afghanistan, Bangladesh, Bhutan, Cambodia, India, Laos, Myanmar, Nepal, Pakistan, and Thailand.

Introduced

From Dahanukar (2010):

“Recently reported from Mekong and Bassac rivers of Mekong Delta, Viet Nam (Tung et al. 2005), although it may be introduced in these areas.”

No further information is available on the status and potential introduction of *L. dyocheilus* in Vietnam.

Means of Introduction Outside the United States

No information available.

Short Description

From Day (1878):

“Length of head 5 to $5\frac{1}{2}$, of caudal $5\frac{1}{2}$, height of body $3\frac{3}{4}$ to $4\frac{1}{2}$ in the total length. *Eyes* – situated in the commencement of the posterior $\frac{1}{2}$ of the head in the young, still further back in the adult: diameter from 6 to 9 in the length of the head, and from $3\frac{1}{2}$ to 5 apart. Width of head equals $\frac{2}{3}$ of its length: its lower surface being very broad and flat. Snout conical, projecting, and with a distinct lateral lobe (in General Hardwicke’s figure there is a depression across the snout.) Mouth wide, equaling $\frac{1}{2}$ to $\frac{2}{5}$ the length of the head, it is directed downwards when the upper jaw is protruded. Lips of two jaws continuous, the fold across the lower jaw is interrupted. A horny inner covering to both lips. Pores on snout. Gill-rakers short. *Barbels*—one pair of short maxillary ones. *Teeth*—pharyngeal, plough-shaped, $5, 4, 3/3, 4, 5$. *Fins*—dorsal commences midway between the end of the snout and the posterior end of the base of the anal fin, its upper margin concave, especially in the adult. Pectoral reaches the ventral, and the latter the base of the anal. Caudal deeply forked, its inner rays equaling about $\frac{1}{3}$ of the length of the outer ones. *Lateral-line*— 5 rows of scales between it and the base of the ventral fin. *Colours*—of a dull green, darkest above: fins darkest in the centre.”

Biology

From Singh et al. (2008):

“In most of monsoon breeding teleosts especially cyprinids progressive stages of gonadal development in Indian subtropical regions are well correlated with environmental cues particularly increasing daylength and temperature. In female *L. dyocheilus* from either captive or wild conditions, increasing level of gonadal development appeared positively correlated with increasing daylength and temperature till ovarian maturity but lowering of temperature associated with rainfall seemed to be crucial factor for final oocyte maturation and subsequent processes.”

From Yousafzai et al. (2010):

“The fish is omnivorous, potodromous [*sic*] and benthopelagic in natural habitat, [...]”

From Froese and Pauly (2018):

“Adults live in clear active currents of large rivers [Talwar and Jhingran 1991]. A migratory species [Hill and Hill 1994]. Found in the basin-wide mainstream of the lower Mekong [Pantulu 1986].”

Human Uses

From Mohindra et al. (2005):

“*Labeo dyocheilus* or *kali rohu* (Family Cyprinidae) is a commercially important food fish in upland water bodies. [...] The species is also considered as a potential candidate for aquaculture.”

From Dahanukar (2010):

“It has minor fishery value. It is cultured in captivity (Uniyal and Kumar 2006).”

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

No information available. It is unclear whether any introductions of this species have occurred.

4 Global Distribution

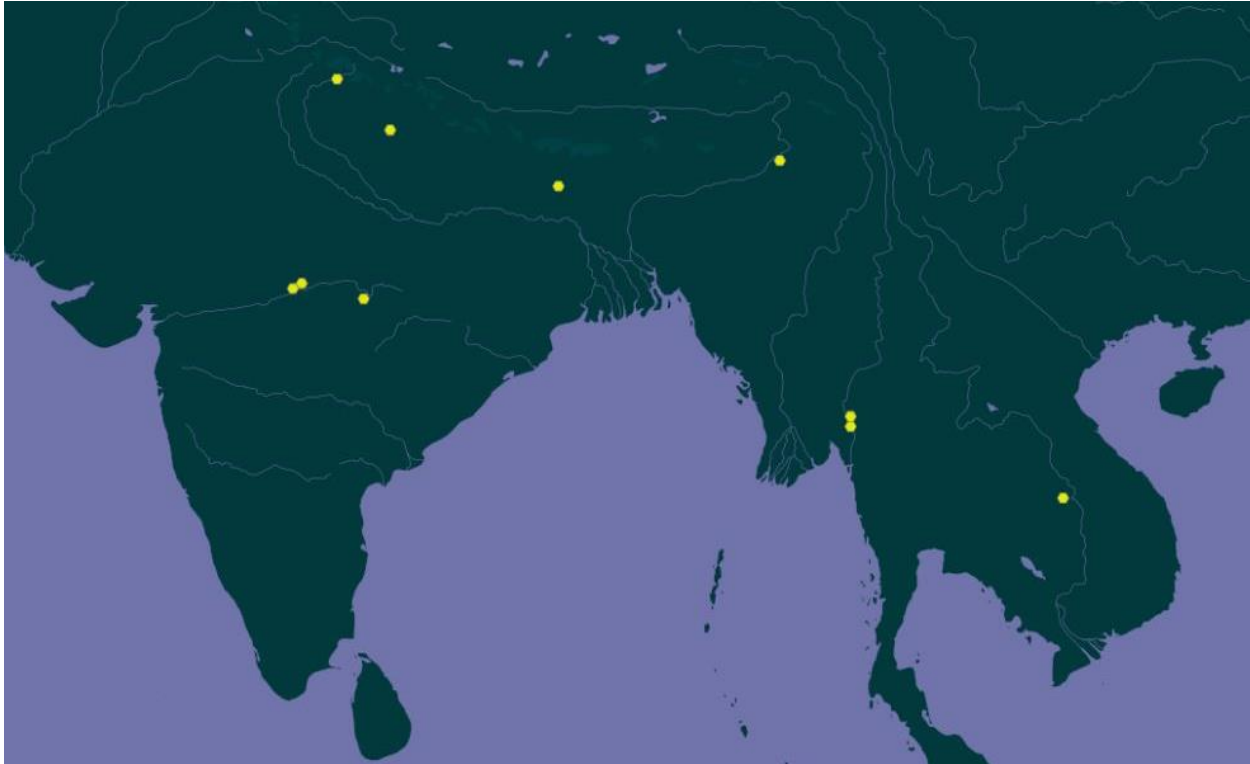


Figure 1. Known global distribution of *Labeo dyocheilus* in India, Thailand, and Nepal. Map from GBIF Secretariat (2018). No georeferenced occurrences were available for Afghanistan, Bangladesh, Bhutan, Cambodia, Laos, Myanmar, or Pakistan.

5 Distribution Within the United States

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 in every state in the contiguous U.S. Small areas of the Southwest, Southern Texas, and Florida had a medium climate match.

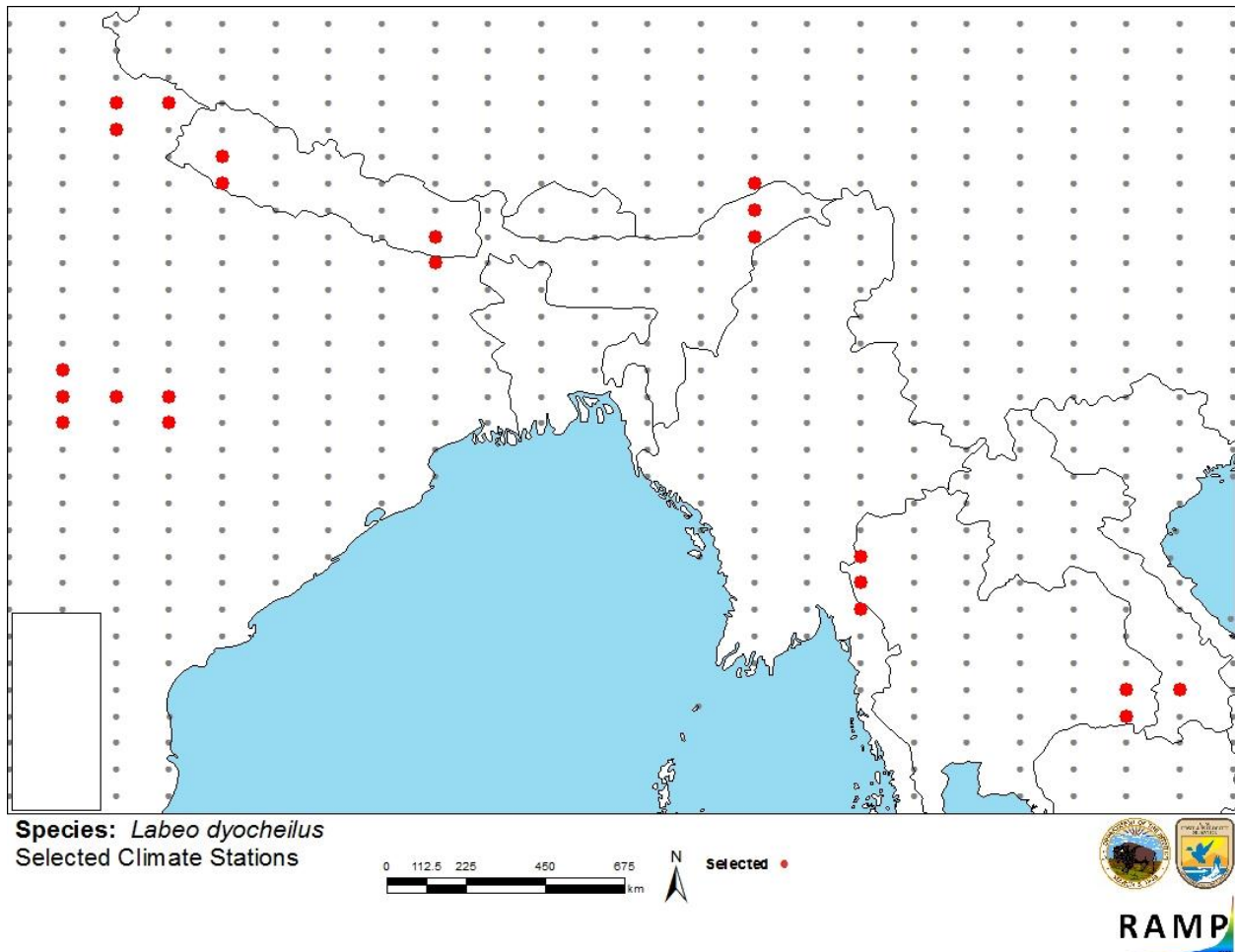


Figure 2. RAMP (Sanders et al. 2014) source map showing weather stations in southeastern Asia selected as source locations (red; India, Nepal, Myanmar, Thailand, and Laos) and non-source locations (gray) for *Labeo dyocheilus* climate matching. Source locations from GBIF Secretariat (2018).

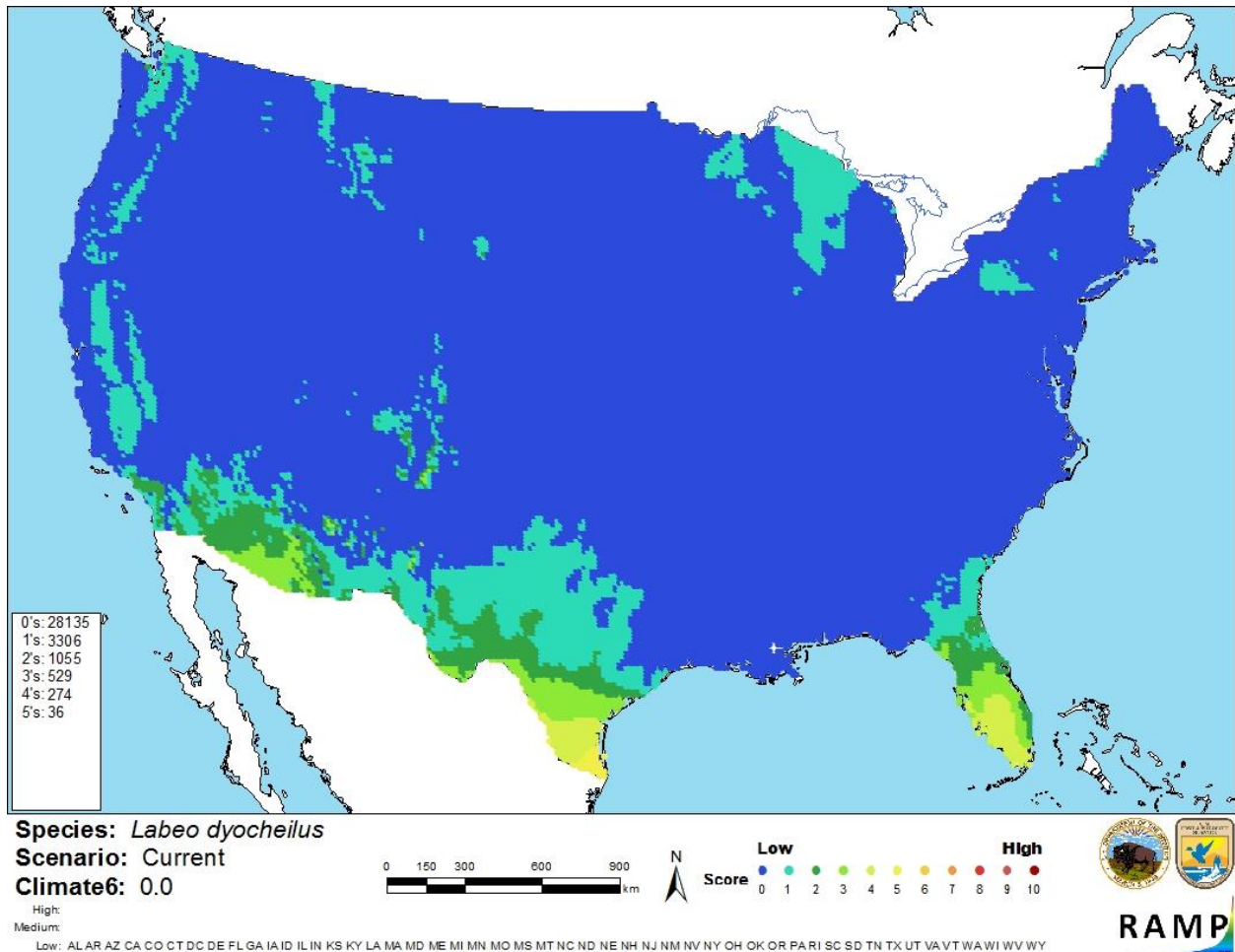


Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *Labeo dyocheilus* in the contiguous United States based on source locations reported by GBIF Secretariat (2018). 0=Lowest match, 10=Highest match.

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

There is some limited information available on the biology and distribution of *Labeo dyocheilus*. Impacts of introduction of *L. dyocheilus* are unknown, so the certainty of this assessment is low.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Labeo dyocheilus is a cyprinid native to Asia. This species is used as a food fish. No introductions to the U.S. have been reported; one source reports that the presence of *L. dyocheilus* in Vietnam may be the result of an introduction. *L. dyocheilus* has a low climate match with the contiguous United States. Because of a lack of information from which to base an assessment of invasive potential, 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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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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