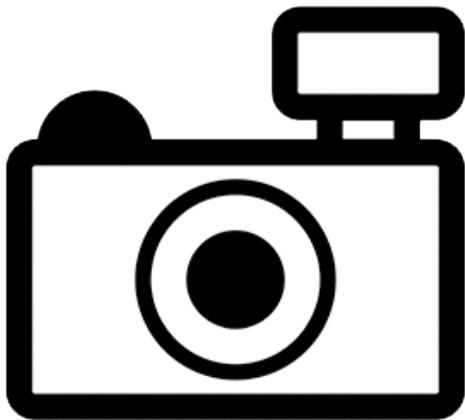


Green Labeo (*Labeo fisheri*) Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, April 2012
Revised, May 2018, June 2018
Web Version, 7/13/2018



No Photo Available

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2018):

“Asia: found only in a few rocky streams and the Mahaweli River basin in Sri Lanka.”

From Devi and Boguskaya (2009):

“This species is found only in the mid to upper reaches of the Mahaveli River basin, Sri Lanka, with an estimated Extent of Occurrence of 4,385 km².”

From Anusha et al. (2017):

“*Labeo fisheri*, a rare barb having very limited distribution, is known from the mountain streams and rivers of Sri Lanka. Jordan and Starks (1917) described this species from Mahaweli River. So far, the distribution of the species had been restricted to Sri Lankan streams and rivers. During the survey of fish habitats and communities in the upper reaches of Tamiraparani River

above the impoundments of Papanasam Reservoir, one specimen of *Labeo fisheri* was collected inside the Kalakkad Mundanthurai Tiger Reserve. The occurrence of this species in Kalakkad Mundanthurai Tiger Reserve (KMTR) shows its extension range to peninsular India.”

Status in the United States

Labeo fisheri has not been reported in the United States.
No information on trade of *L. fisheri* in the United States was found.

Means of Introductions in the United States

Labeo fisheri has not been reported in the United States.

Remarks

From Devi and Boguskaya (2009):

“It has been reported that *L. fisheri* may already be extinct [in Sri Lanka], as a result of habitat loss following the Mahaveli River Development Project (Wikramanayake 1990), [...]”

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

From Froese and Pauly (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* Cuvier, 1816
Species *Labeo fisheri* (Jordan and Starks, 1917)”

According to Eschmeyer et al. (2018), *Labeo fisheri* (Jordan and Starks, 1917) is the valid name for this species; it is also the original name.

Size, Weight, and Age Range

From Froese and Pauly (2018):

“Max length : 30.0 cm TL male/unsexed; [Pethiyagoda 1991]”

Environment

From Froese and Pauly (2018):

“Freshwater; benthopelagic.”

Climate/Range

From Froese and Pauly (2018):

“Tropical; 8°N - 7°N”

Distribution Outside the United States

Native

From Froese and Pauly (2018):

“Asia: found only in a few rocky streams and the Mahaweli River basin in Sri Lanka.”

From Devi and Boguskaya (2009):

“This species is found only in the mid to upper reaches of the Mahaveli River basin, Sri Lanka, with an estimated Extent of Occurrence of 4,385 km².”

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Introduced

No records of *Labeo fisheri* introductions were found.

Means of Introduction Outside the United States

No records of *Labeo fisheri* introductions were found.

Short Description

From Anusha et al. (2017):

“Body deep and slender, dorsal profile gently arched and its depth is 25.16 % SL, dorsal-fin origin anterior to pelvic-fin insertion vertically by a distance of 3 scale rows; pre-dorsal length 43.78 % SL; pre-pelvic length 46.55 % SL; pre-anal length 72.37% SL and pre-pectoral length 21 % SL; pelvic-fin insertion to anal-fin origin 21.68 %SL. A slight concavity at the nape with

narrow dorsum rising steeply to dorsal origin. Caudal peduncle is moderately deep, depth at narrowest region 12.69 %SL; length of caudal peduncle 13.43 %SL.”

Biology

From Froese and Pauly (2018):

“Occurs in a few localized, rocky, fast-flowing mountain streams. Has not been recorded from unshaded, silty or turbid waters [Pethiyagoda 1994]. Moves fast through the water, staying close to the bottom. Juveniles have been observed picking algae off submerged rocks. Feeds on algae. Occurs sympatrically with (and possibly mistaken for) *Puntius sp. 'martenstyn'* throughout the known range.”

Human Uses

From Froese and Pauly (2018):

“Fisheries: of no interest”

Diseases

No information on parasites or pathogens of *Labeo fisheri* was found.

Threat to Humans

From Froese and Pauly (2018):

“Harmless”

3 Impacts of Introductions

No records of *Labeo fisheri* introductions were found.

4 Global Distribution



Figure 1. Known global distribution in Sri Lanka of *Labeo fisheri*. Map from GBIF Secretariat (2018).

Anusha et al. (2017) states that *Labeo fisheri* was found in the Tamiraparani River in South Tamil Nadu, India and this location was used for climate matching.

5 Distribution Within the United States

No records of *Labeo fisheri* occurrences in the United States were found.

6 Climate Matching

Summary of Climate Matching Analysis

The climate match for *Labeo fisheri* was low throughout the contiguous United States with small patches of medium in southern Texas and peninsular Florida. The Climate 6 score (Sanders et al. 2018; 16 climate variables; Euclidean distance) for the contiguous United States was 0.000, low. The range for a low climate match is from 0.000 to 0.005, inclusive. All states had a low individual climate match score except for Florida, which had a medium one.

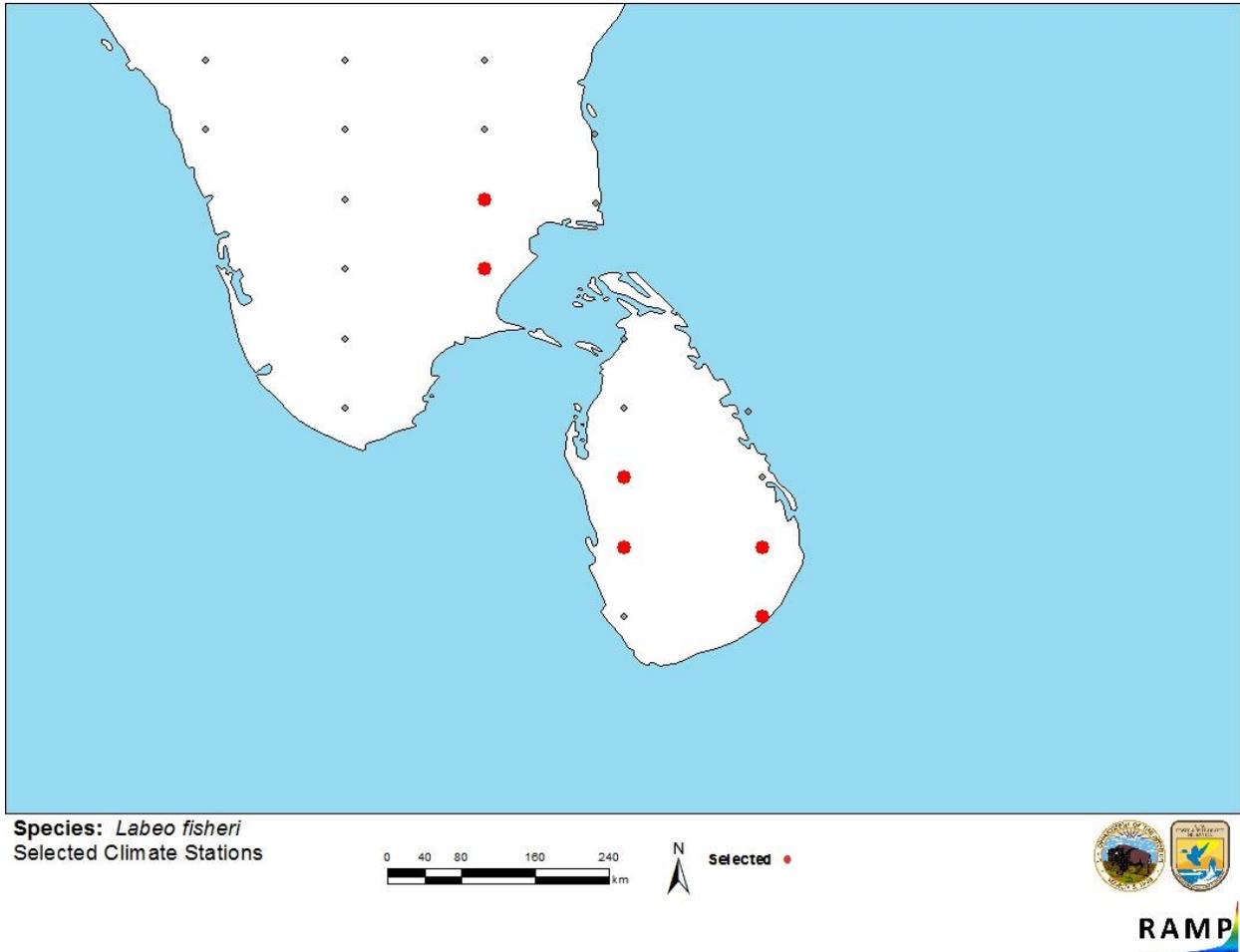


Figure 2. RAMP (Sanders et al. 2018) source map showing weather stations in southern India and Sri Lanka selected as source locations (red; India, Sri Lanka) and non-source locations (gray) for *Labeo fisheri* climate matching. Source locations from GBIF Secretariat (2018) and Anusha et al. (2017).

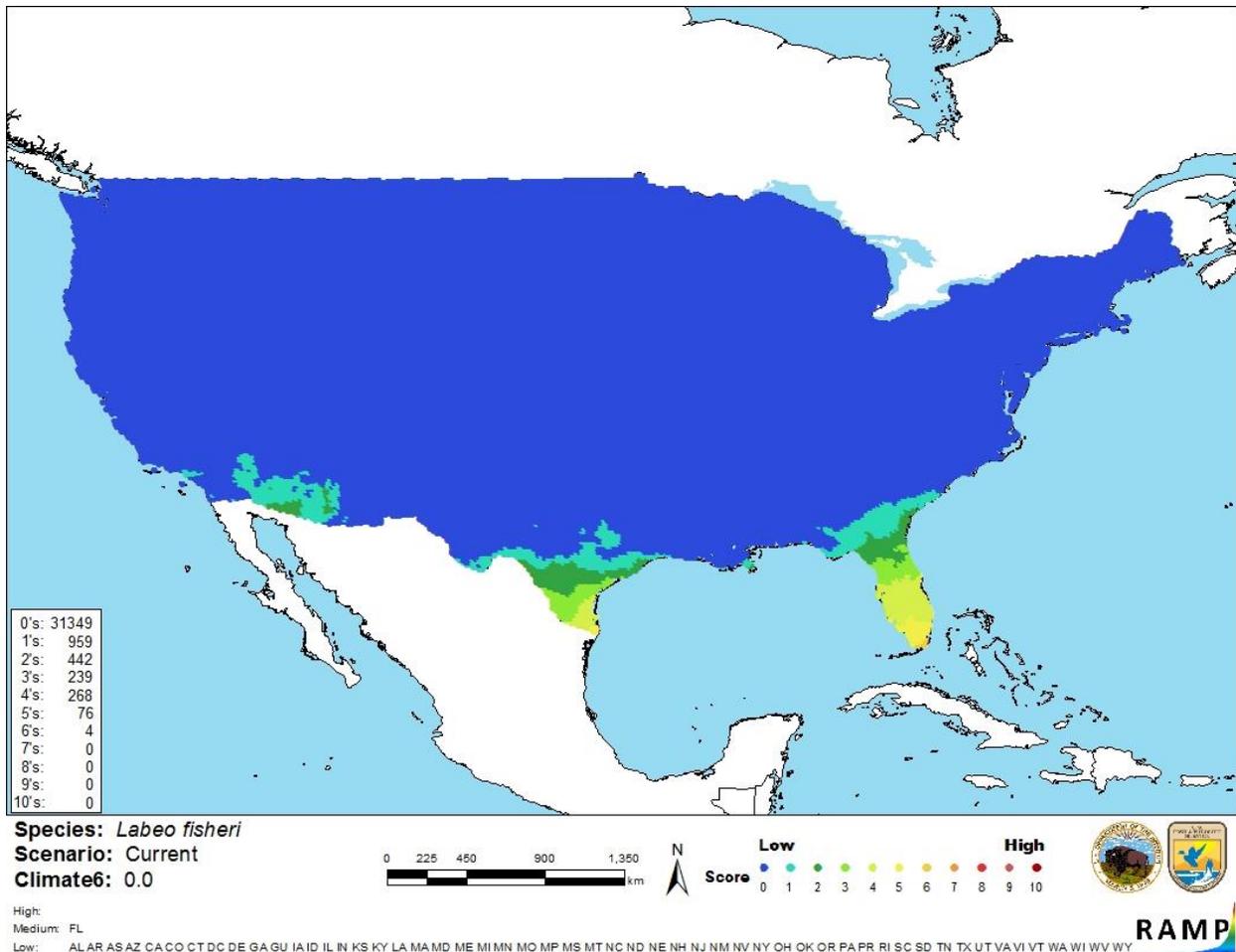


Figure 3. Map of RAMP (Sanders et al. 2018) climate matches for *Labeo fisheri* in the contiguous United States based on source locations reported by GBIF Secretariat (2018) and Anusha et al. (2017). 0 = Lowest match, 10 = Highest match.

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

7 Certainty of Assessment

The certainty of this assessment is low. There is minimal information for *Labeo fisheri* and a lack of peer-reviewed literature. No introductions of this species have been reported, so impacts of introduction are unknown.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Green Labeo (*Labeo fisheri*) is a cyprinid fish species endemic to the mid to upper reaches of the Mahaweli River basin in Sri Lanka and Tamiraparani River in South Tamil Nadu, peninsular India. The history of invasiveness is uncertain, as it has not been reported as introduced or established outside of its native range. The climate match analysis resulted in a low match for the contiguous United States. The 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**
- **Remarks/Important additional information:** No additional remarks.
- **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.

- Anusha, J., M. Arunachalam, and P. Sivakumar. 2017. New record of a Sri Lankan endemic species *Labeo fisheri* (Jordan and Starks, 1917; Cypriniformes: Cyprinidae) from Kalakkad Mundanthurai Tiger Reserve, Tamil Nadu, India. *Trends in Fisheries Research* 6:19–23.
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- 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>. (May 2018).
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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.

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Jordan, D. S., and E. C. Starks. 1917. Notes on a collection of fishes from Ceylon with descriptions of new species. *Annals of the Carnegie Museum* 11:430–460.

Pethiyagoda, R. 1991. Freshwater fishes of Sri Lanka. The Wildlife Heritage Trust of Sri Lanka, Colombo.

Pethiyagoda, R. 1994. Threats to the indigenous freshwater fishes of Sri Lanka and remarks on their conservation. *Hydrobiologia* 285:189–201.

Wikramanayake, E. D. 1990. Conservation of endemic rain forest fishes of Sri Lanka: results of a translocation experiment. *Conservation Biology* 4:32–37.