

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

### **Ecological Risk Screening Summary**

U.S. Fish and Wildlife Service, March 2012

Revised, April 2018

Web Version, 5/29/2018



Photo: S. Grosjean and M. Silvain. Licensed under CC BY-NC-ND. Available: <https://www.gbif.org/occurrence/583536861>. (April 2018).

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

---

### **Native Range**

From Dahanukar (2010):

“It is found in India (West Bengal and Assam), Bangladesh and Myanmar (Talwar and Jhingran 1991).”

From Froese and Pauly (2018):

“Asia: India, Bangladesh and Myanmar.”

From Day (1889):

“The specimen of *L. nandina* [...] was from Gowhatty [Guwahati] in Assam: the one of *L. macronotus* [synonym of *L. nandina*] was from Moulmein [Mawlamyine] in Burma. I have obtained it as high up the Irrawaddy as Mandalay.”

## 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.

# 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 nandina* (Hamilton, 1822)”

From Eschmeyer et al. (2018):

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

## Size, Weight, and Age Range

From Froese and Pauly (2018):

“Max length : 81.2 cm SL male/unsexed; [Rahman 1989]; max. published weight: 10.0 kg [Rahman 1989]”

## 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 Dahanukar (2010):

“It is found in India (West Bengal and Assam), Bangladesh and Myanmar (Talwar and Jhingran 1991).”

From Froese and Pauly (2018):

“Asia: India, Bangladesh and Myanmar.”

From Day (1889):

“The specimen of *L. nandina* [...] was from Gowhatty [Guwahati] in Assam: the one of *L. macronotus* [synonym of *L. nandina*] was from Moulmein [Mawlamyine] in Burma. I have obtained it as high up the Irrawaddy as Mandalay.”

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 Day (1889):

“Length of head  $4\frac{1}{2}$  to 5, of caudal  $4\frac{1}{4}$  to  $4\frac{1}{2}$ , height of body 4 in the total length. *Eyes*— diameter  $4\frac{1}{2}$  to 5 in length of head,  $1\frac{1}{2}$  diameters from end of snout, and  $2\frac{1}{2}$  apart. Dorsal profile rather concave above the eyes : interorbital space flat. The greatest width of the head equals its length behind the angle of the mouth : the width of the mouth  $\frac{1}{3}$  of the length of the head. Snout obtuse, slightly projecting beyond the jaws, no lateral lobe : a few fine pores on snout. Lips thick and fringed, with a distinct inner fold above and below. Gill-rakers close together, about  $\frac{1}{3}$  as long as the eye. *Barbels*— four, and short. *Fins*— the dorsal commences midway between the

snout and end of the base of the anal fin : its upper edge is somewhat convex. Ventral inserted below the ninth dorsal ray. Caudal deeply forked. *Lateral-line*—5 rows of scales between it and base of ventral fin. *Colours*—dark greenish above, becoming lighter on the sides and beneath : a few cloudy blotches along the sides : the centre of many of the scales reddish.”

## **Biology**

From Froese and Pauly (2018):

“Found in rivers and beels [Rahman 1989]. Occurs in the upper reaches of large rivers [Menon 1999].”

## **Human Uses**

From Dahanukar (2010):

“It is a minor fishery value species.”

## **Diseases**

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

## **Threat to Humans**

From Froese and Pauly (2018):

“Harmless”

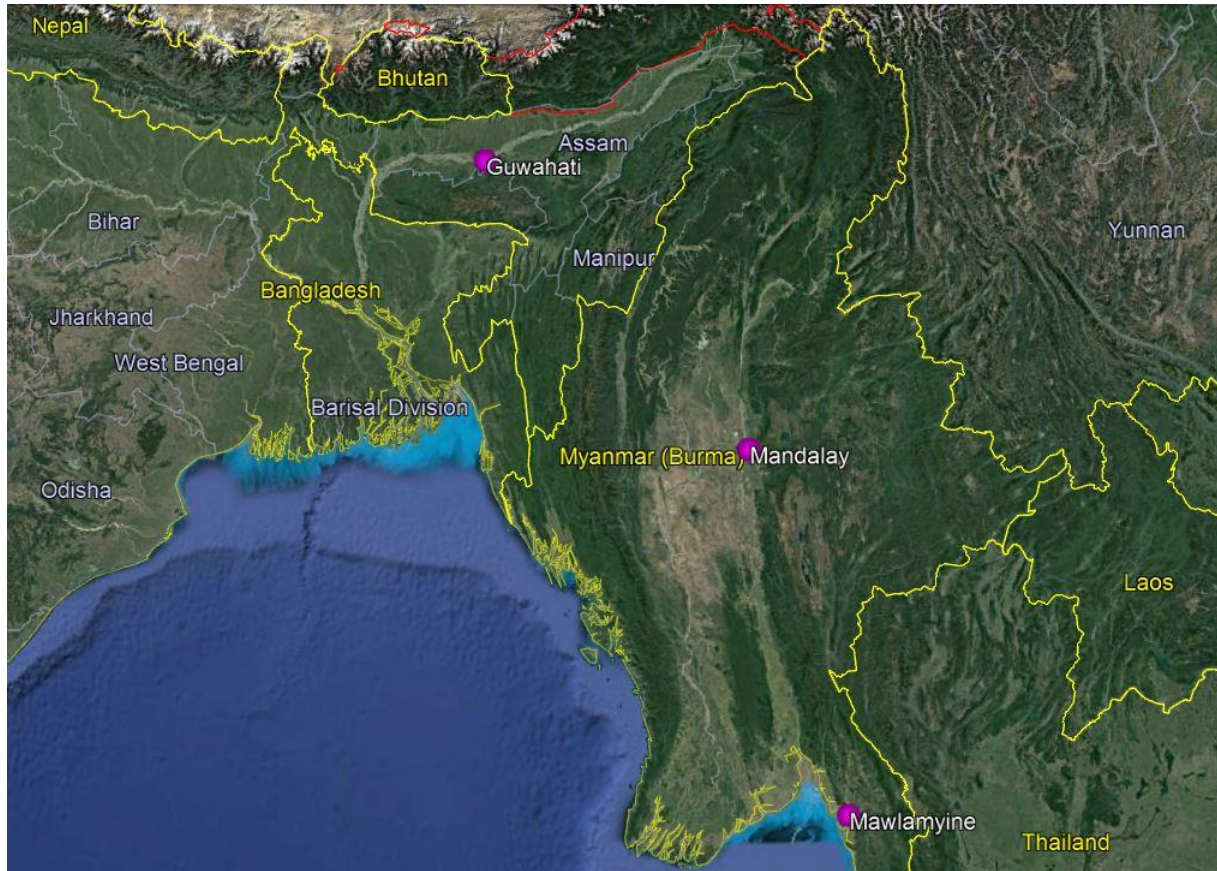
## **3 Impacts of Introductions**

---

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

## 4 Global Distribution

---



**Figure 1.** Known global distribution of *Labeo nandina*. Map extent shows West Bengal and Assam (India), Bangladesh, and Myanmar, the range of *L. nandina* as reported by Dahanukar (2010). Points on map represent the approximate location of specimens collected by Day (1889) and are the coordinates used for climate match analysis. Bangladesh was excluded from the climate match analysis because location of collection is not known. Map made with Google Earth Pro 7.3.1.4507 (Google LLC, Mountain View, California).

## 5 Distribution Within the United States

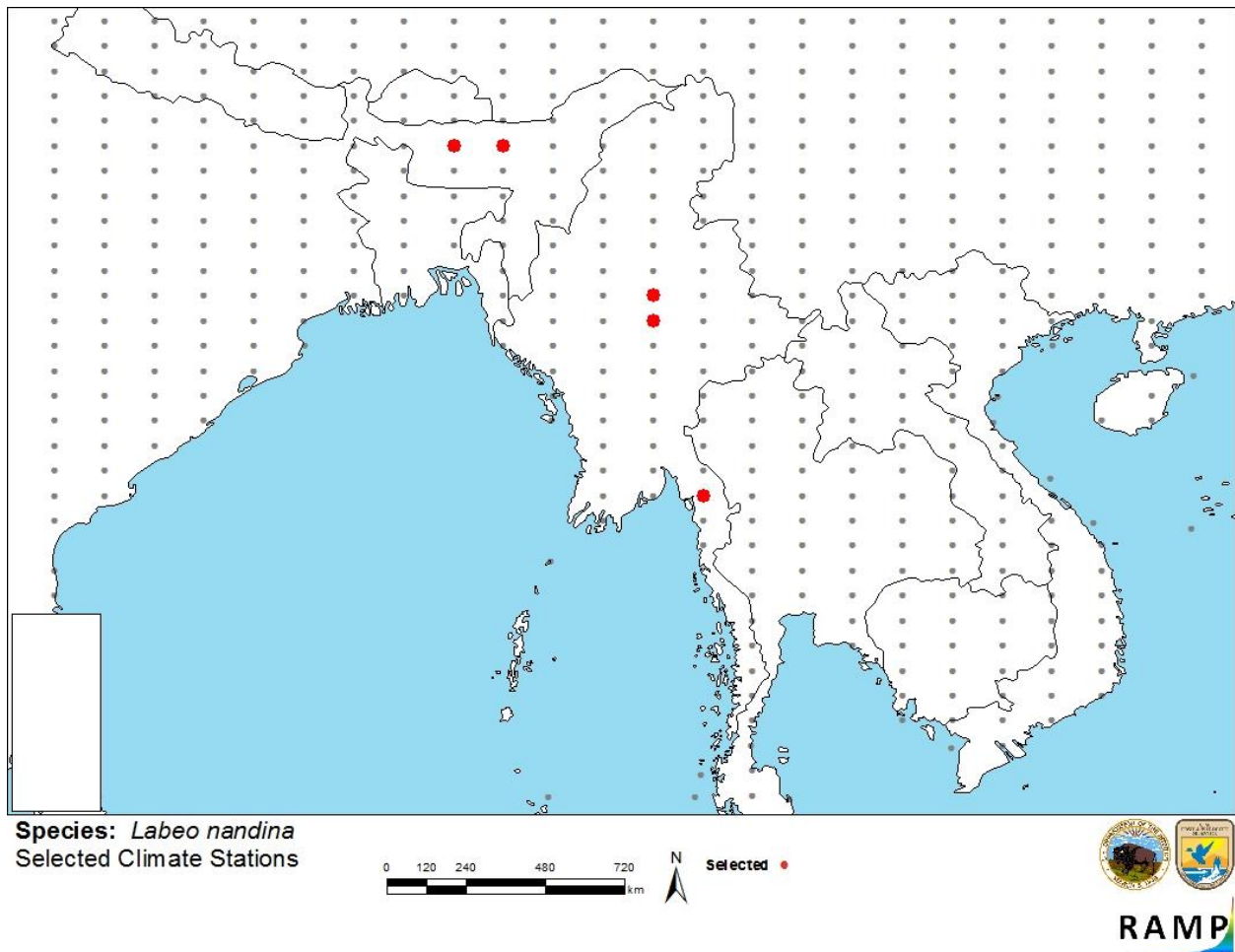
---

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

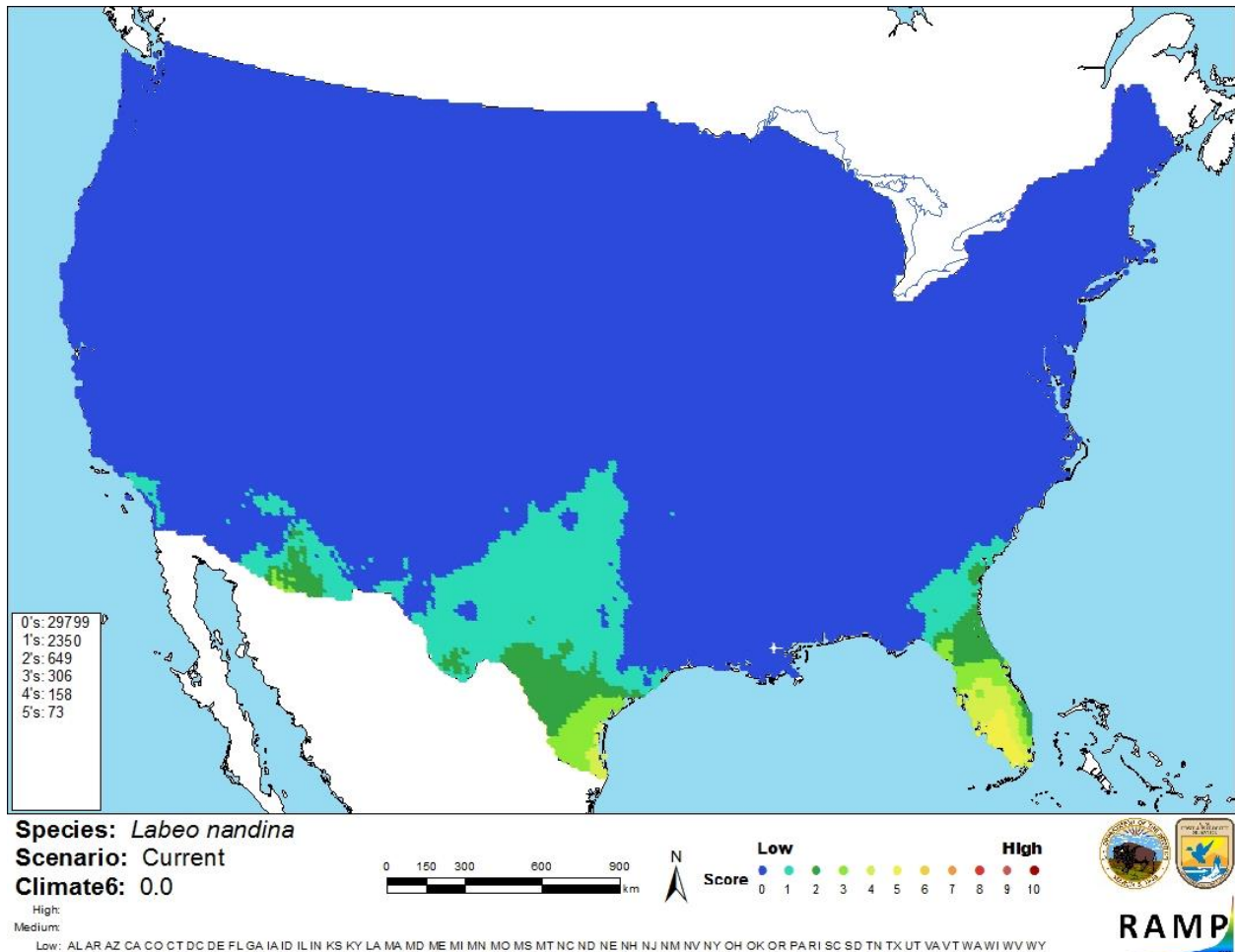
## 6 Climate Matching

### 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 across almost the entire contiguous United States. Southern Florida and southeast Texas had small areas of medium climate match. The source locations used as the basis for the climate match do not include any locations in Bangladesh because no precise locations were found for this country. Thus, the climate matching analysis presented here may underestimate the true climate match of *L. nandina* to the contiguous United States.



**Figure 2.** RAMP (Sanders et al. 2014) source map showing weather stations in Southeast Asia selected as source locations (red; India, Myanmar) and non-source locations (gray) for *Labeo nandina* climate matching. Source locations from Day (1889).



**Figure 3.** Map of RAMP (Sanders et al. 2014) climate matches for *Labeo nandina* in the contiguous United States based on source locations reported by Day (1889). 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 very little information available about *Labeo nandina*. The range information available for this species is very general, and no species distribution map is available. The climate match is based on only three points of occurrence. There have been no known introductions of this species, so there is no indication of the impacts it could have if introduced outside its native range. Further information is needed to adequately assess the risk this species poses. Certainty of this assessment is low.

## 8 Risk Assessment

---

### Summary of Risk to the Contiguous United States

*Labeo nandina* is a cyprinid fish native to India, Myanmar, and Bangladesh. It is of minor fishery value. This species has not been reported as introduced outside its range. *L. nandina* has a low climate match with the contiguous United States. The map used as the basis for the climate match does not include locations reported in Bangladesh because no precise collection locations were found for this country. Because of a lack of information on which to base a risk assessment, 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**
- **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.**

Dahanukar, N. 2010. *Labeo nandina*. The IUCN Red List of Threatened Species 2010: e.T166455A6213375. Available: <http://www.iucnredlist.org/details/166455/0>. (April 2018).

Day, F. 1889. Volume I—Fishes. In W. T. Blanford, editor. The Fauna of British India, including Ceylon and Burma. Taylor and Francis, London.

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>. (April 2018).

Froese, R., and D. Pauly, editors. 2018. *Labeo nandina* (Hamilton, 1822). FishBase. Available: <http://www.fishbase.org/summary/Labeo-nandina.html>. (April 2018).

GBIF Secretariat. 2018. GBIF backbone taxonomy: *Labeo nandina*, Hamilton, 1822. Global Biodiversity Information Facility, Copenhagen. Available: <https://www.gbif.org/species/5206059>. (April 2018).

ITIS (Integrated Taxonomic Information System). 2018. *Labeo nandina* (Hamilton, 1822). Integrated Taxonomic Information System, Reston, Virginia. Available: [https://www.itis.gov/servlet/SingleRpt/SingleRpt?search\\_topic=TSN&search\\_value=689317#null](https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=689317#null). (April 2018).



Sanders, S., C. Castiglione, and M. H. Hoff. 2014. Risk Assessment Mapping Program: RAMP. US 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.**

Menon, A. G. K. 1999. Check list - fresh water fishes of India. Rec. Zool. Surv. India, Misc. Publ., Occas. Pap. No. 175, 366 p.

Rahman, A. K. A. 1989. Freshwater fishes of Bangladesh. Zoological Society of Bangladesh. Department of Zoology, University of Dhaka, Bangladesh.

Riede, K. 2004. Global register of migratory species - from global to regional scales. Final Report of the R&D-Projekt 808 05 081. Federal Agency for Nature Conservation, Bonn, Germany.

Talwar, P. K., and A. G. Jhingran. 1991. Inland fishes of India and adjacent countries. Oxford-IBH Publishing Co. Pvt. Ltd., New Delhi, India.