

Cyprinus melanes (a carp, no common name)

Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, November 2018

Revised, November 2018

Web Version, 9/9/2021

Organism Type: Fish

Overall Risk Assessment Category: Uncertain



No Photo Available

1 Native Range and Status in the United States

Native Range

From Tuyet et al. (2004):

“Of the fish species there are some endemic ones in the Phongnha Kembang karst area [north-central Vietnam] such as: *Cyprinus centralus* [*C. melanes*], [...]”

From Froese and Pauly (2018a):

“Known from the Huong River in Hué, Thua Thien Hue Province [Vietnam] and mouth of Kien Giang River in Quang Binh Province [Vietnam] [Kottelat 2013].”

Status in the United States

No records of *Cyprinus melanes* in the wild or in trade in the United States were found.

Cyprinus melanes falls within Group I of New Mexico’s Department of Game and Fish Director’s Species Importation List (New Mexico Department of Game and Fish 2010). Group I species “are designated semi-domesticated animals and do not require an importation permit.” Species within family Cyprinidae have the additional restriction of “Not to be used as bait fish.”

Means of Introductions in the United States

No records of *Cyprinus melanes* in the wild in the United States were found.

Remarks

This ERSS was previously published in October 2012 under the name *Cyprinus centralus*. Information searches were conducted using both *C. melanes* and *C. centralus*, the designation of *C. centralus* as a synonym of *C. melanes* did not occur until 2013 (Fricke et al. 2018). Revisions were done to incorporate new information and to bring the document in line with current standards.

Chien et al. (2006) lists *Cyprinus melanes* (under the name *C. centralus*) as threatened in Vietnam.

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

According to Fricke et al. (2018), *Cyprinus melanes* (Mai 1978) is the valid name for this species. It was originally described as *Carassioides cantonensis melanes* (Mai 1978) and has been previously considered as synonym of *Carassioides acuminatus* (Kottelat 2001). *Cyprinus centralus* (Nguyen and Mai 1994) is a synonym of *Cyprinus melanes*.

From Froese and Pauly (2018b):

“Animalia (Kingdom) > Chordata (Phylum) > Vertebrata (Subphylum) > Gnathostomata (Superclass) > [...] Actinopterygii (Class) > Cypriniformes (Order) > Cyprinidae (Family) > Cyprininae (Subfamily) > *Cyprinus* (Genus) > *Cyprinus melanes* (Species)”

Size, Weight, and Age Range

No information on the size or age range of *Cyprinus melanes* was found.

Environment

From Froese and Pauly (2018a):

“Freshwater; benthopelagic.”

Climate

From Froese and Pauly (2018a):

“Tropical”

Distribution Outside the United States

Native

From Tuyet et al. (2004):

“Of the fish species there are some endemic ones in the Phongnha Kebang karst area [north-central Vietnam] such as: *Cyprinus centralus* [*C. melanes*], [...]”

From Froese and Pauly (2018a):

“Known from the Huong River in Hué, Thua Thien Hue Province [Vietnam] and mouth of Kien Giang River in Quang Binh Province [Vietnam] [Kottelat 2013].”

Introduced

No records of *Cyprinus melanes* introductions were found.

Means of Introduction Outside the United States

No records of *Cyprinus melanes* introductions were found.

Short Description

A short description of *Cyprinus melanes* was not found

Biology

Information on the biology of *Cyprinus melanes* was not found.

Human Uses

From Chien et al. (2006):

“To date, seed production [for artificial propagation] of *Cyprinus centralus* [*C. melanes*], *Labeo chrysophekadion* and *Cirrhinus microlepis* is being studied.”

Diseases

No records of OIE-reportable diseases (OIE 2021) were found for *Cyprinus melanes*. No information on disease for *Cyprinus melanes* was found.

Threat to Humans

From Froese and Pauly (2018a):

“Harmless”

3 Impacts of Introductions

No records of *Cyprinus melanes* introductions were found; therefore, there is no information on impacts of introductions.

4 History of Invasiveness

The history of invasiveness for *Cyprinus melanes* is classified as No Known Nonnative Population. There are no records of introduction of *Cyprinus melanes* outside of its native range; therefore no impacts of introductions were found. One source did mention that *Cyprinus melanes* has potential as an aquarium fish, but no evidence was found that it is currently in the aquarium trade.

5 Global Distribution



Figure 1. Map of Southeast Asia, highlighting Thua Thien Hue Province and Quang Binh Province in Vietnam. According to Tuyet et al. (2004) and Froese and Pauly (2018), *Cyprinus melanes* is native to these areas. Map created with data from Natural Earth and ArcMap[®] by ESRI (2011).

No georeferenced observations were available for *Cyprinus melanes* to use as source locations for the climate match. Source points were chosen to represent the Thua Thien Hue and Quang Binh Provinces.

6 Distribution Within the United States

No records of *Cyprinus melanes* in the wild in the United States were found.

7 Climate Matching

Summary of Climate Matching Analysis

The climate match for *Cyprinus melanes* was low across the contiguous United States. There were no areas of high or medium match. The Climate 6 score (Sanders et al. 2018; 16 climate variables; Euclidean distance) for the contiguous United States was 0.000, low (scores between 0.000 and 0.005, inclusive, are classified as low). All States had Low individual Climate 6 scores.

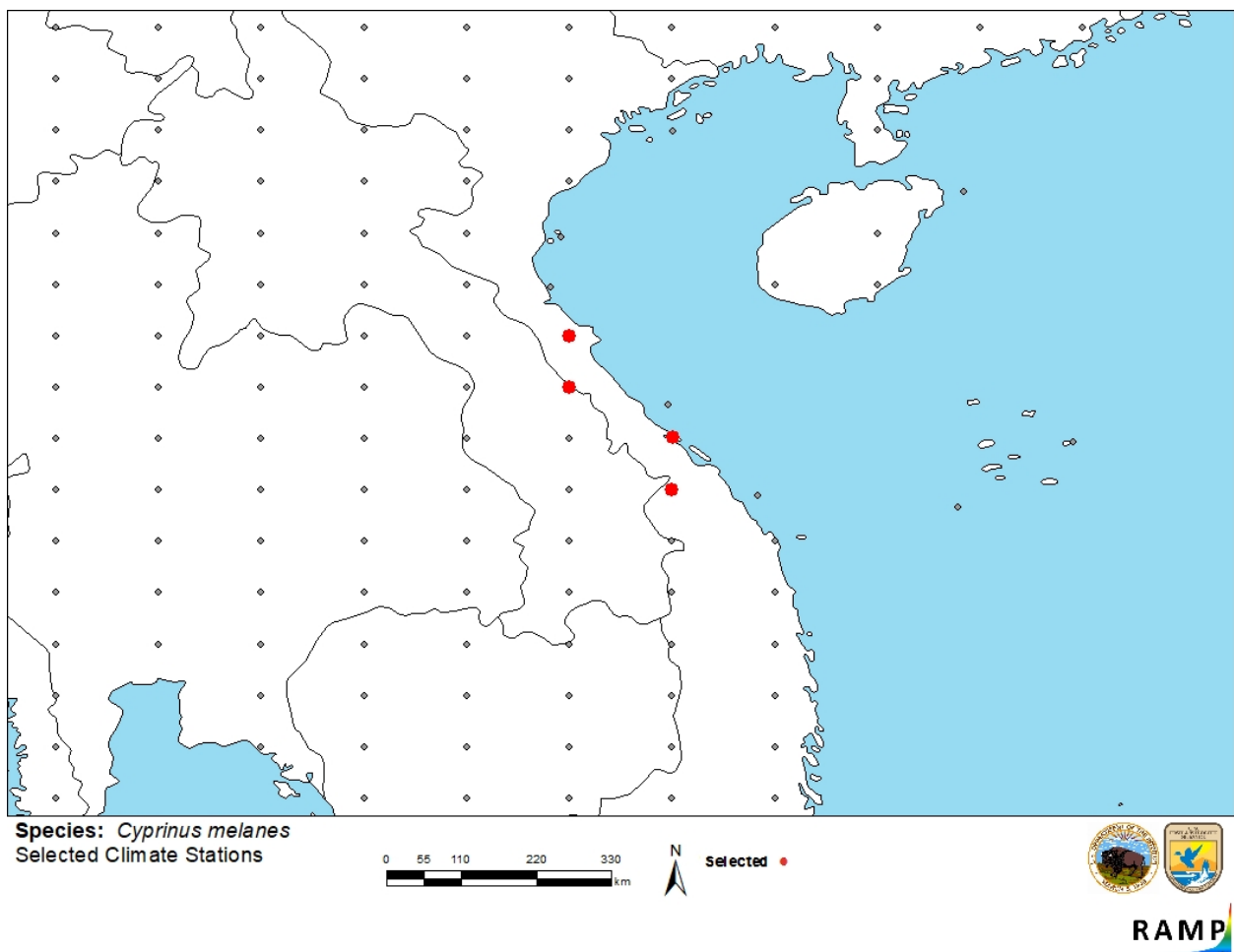


Figure 2. RAMP (Sanders et al. 2018) source map showing weather stations in southeast Asia selected as source locations (red; Vietnam) and non-source locations (gray) for *Cyprinus melanes* climate matching. Source locations representative of range descriptions found in Tuyet et al. (2004) and Froese and Pauly (2018).

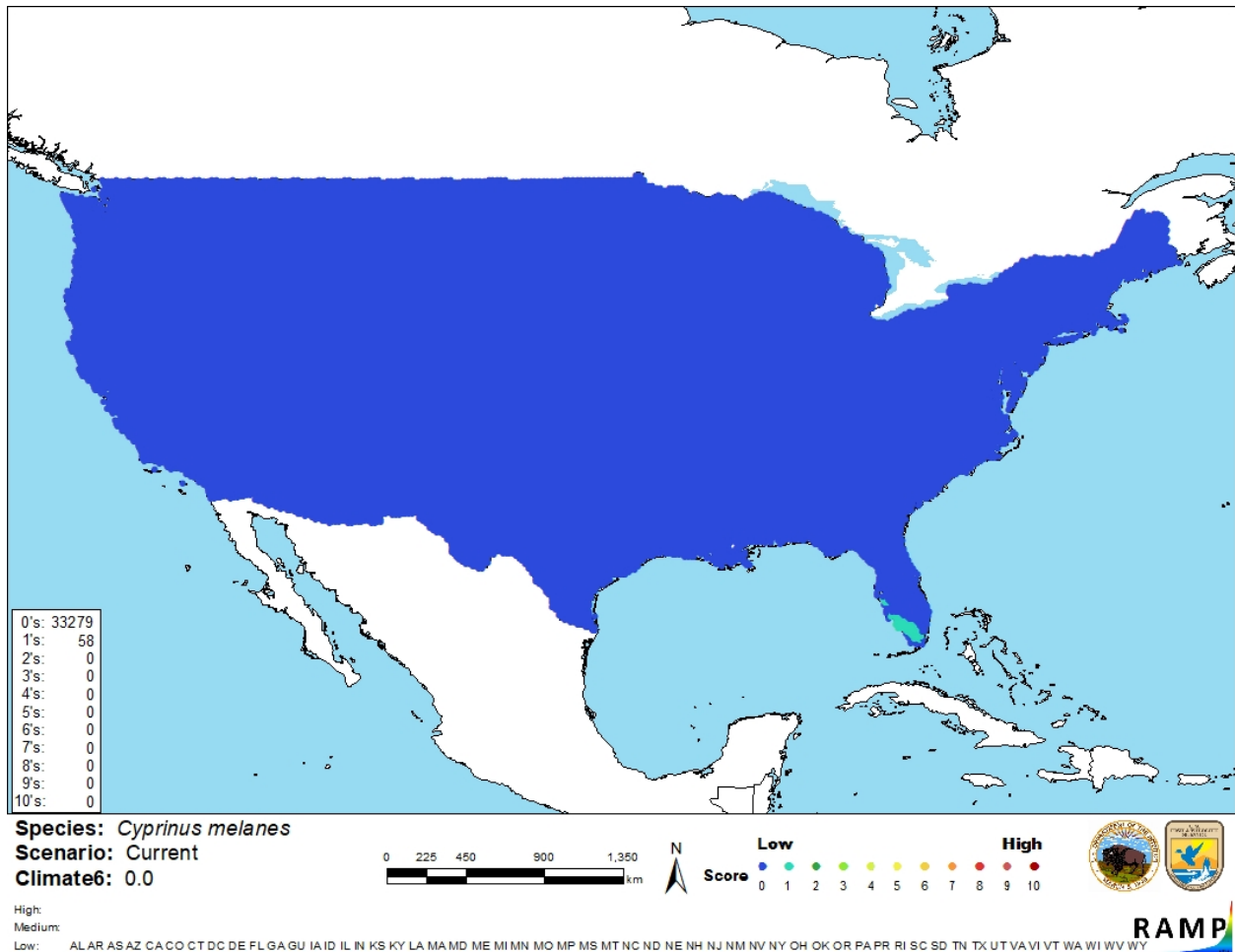


Figure 3. Map of RAMP (Sanders et al. 2018) climate matches for *Cyprinus melanes* in the contiguous United States based on range descriptions reported by Tuyet et al. (2004) and Froese and Pauly (2018). Counts of climate match scores are tabulated on the left. 0/Blue = Lowest match, 10/Red = Highest match.

The High, Medium, and Low Climate match Categories are based on the following table:

Climate 6: (Count of target points with climate scores 6-10)/ (Count of all target points)	Overall Climate Match Category
$0.000 \leq X \leq 0.005$	Low
$0.005 < X < 0.103$	Medium
≥ 0.103	High

8 Certainty of Assessment

The certainty of assessment is Low. Peer-reviewed literature on the biology, ecology, and distribution associated with *Cyprinus melanes* as well as information on its potential invasiveness is limited. There were no georeferenced observations to use as source points for the climate match.

9 Risk Assessment

Summary of Risk to the Contiguous United States

Cyprinus melanes is a species of fish native to central Vietnam. It is used commercially by the local people. The history of invasiveness is uncertain. No records of introduction were found for *C. melanes*. The climate match is low. There were no areas of high or medium match in the contiguous United States; however, the climate match is based on a general description of the species' range and not georeferenced observations. The certainty of assessment is Low. The overall risk assessment category is uncertain.

Assessment Elements

- **History of Invasiveness (Sec. 4): No Known Nonnative Population**
- **Overall Climate Match Category (Sec. 7): Low**
- **Certainty of Assessment (Sec. 8): Low**
- **Remarks, Important additional information: No additional remarks**
- **Overall Risk Assessment Category: Uncertain**

10 Literature Cited

Note: The following references were accessed for this ERSS. References cited within quoted text but not accessed are included below in Section 11.

Chien TN, Khanh NH, Truong NX. 2006. Endangered fish species and seed release strategies in Vietnam. Pages 139–144 in Primavera JH, Quintio ET, Eguia MRR, editors. Proceedings of the Regional Technical Consultation on Stock Enhancement for Threatened Species of International Concern, Iloilo City, Philippines, 2005. Tigbauan, Iloilo, Philippines: Southeast Asian Fisheries Development Center, Aquaculture Department.

ESRI. 2011. ArcGIS Desktop: Release 10. Redlands, California: Environmental Systems Research Institute.

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

Froese R, Pauly D, editors. 2018a. *Cyprinus melanes* (Mai, 1978). FishBase. Available: <http://www.fishbase.org/summary/Cyprinus-melanes.html> (November 2018).

Froese R, Pauly D, editors. 2018b. *Cyprinus melanes*. In World Register of Marine Species. Available: <http://www.marinespecies.org/aphia.php?p=taxdetails&id=1010966> (November 2018).

New Mexico Department of Game and Fish. 2010. Director's species importation list. Santa Fe: New Mexico Department of Game and Fish. Available: http://www.wildlife.state.nm.us/download/enforcement/importation/information/Directors-Species-Importation-List-08_03_2010.pdf (November 2020).

[OIE] World Organisation for Animal Health. 2021. OIE-listed diseases, infections and infestations in force in 2021. Available: <http://www.oie.int/animal-health-in-the-world/oie-listed-diseases-2021/> (February 2021).

Sanders S, Castiglione C, Hoff M. 2018. Risk Assessment Mapping Program: RAMP. Version 3.1. U.S. Fish and Wildlife Service.

Tuyet D, Van TT, Tuy PK. 2004. Characteristics of humid tropical karst of Vietnam. Pages 240–249 in Batelaan O, Dusaar M, Masschelein J, Tam VT, Van TT, Khien NX, editors. Proceedings of Trans-Karst, International Transdisciplinary Conference on Development and Conservation of Karst Regions. Ha Noi, Vietnam: Research Institute of Geology and Mineral Resources.

11 Literature Cited in Quoted Material

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.

Kottelat M. 2001. Freshwater fishes of northern Vietnam. A preliminary check-list of the fishes known or expected to occur in northern Vietnam with comments on systematics and nomenclature. The World Bank, East Asia and Pacific Region, Environment and Social Development Unit.

Kottelat M. 2013. The fishes of the inland waters of Southeast Asia: a catalogue and core bibliography of the fishes known to occur in freshwaters, mangroves and estuaries. The Raffles Bulletin of Zoology 2013(Supplement 27):1–663.

Mai DY. 1978. Identification of the fresh-water fishes of North Viet Nam. Ha Noi, Scientific & Technology 1:1–340.

Nguyen HD, Mai DY. 1994. Description of a new fish species of center of Vietnam. Tap Chí Sinh Học (J. Biol.) 16:20–21.