

***Cyprinus megalophthalmus* (a carp, no common name)**

Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, September 2011
Revised, November 2018
Web Version, 1/30/2019

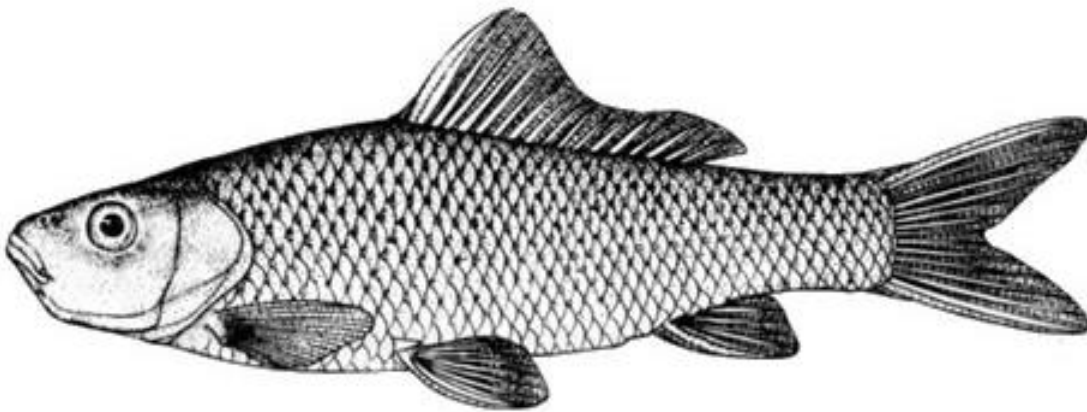


Image: Chinese Academy of Fishery Sciences. Licensed under Creative Commons BY-NC 3.0 Unported. Available:
<http://www.fishbase.org/photos/PicturesSummary.php?ID=58084&what=species>. (2011).

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2018):

“Asia: Yunnan, China.”

“Known from the Er Hai [also spelled as Erhai] Lake (Mekong basin) in Yunnan.”

Status in the United States

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

Means of Introductions in the United States

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

Remarks

No additional remarks.

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

According to Fricke et al. (2018), *Cyprinus megalophthalmus* Wu et al. 1963 is the valid name for this species. It was originally described as *Cyprinus carpio megalophthalmus*.

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 *Cyprinus*
Species *Cyprinus megalophthalmus* Wu et al., 1963”

Size, Weight, and Age Range

From Froese and Pauly (2018):

“Max length : 24.2 cm SL male/unsexed; [Luo and Yue 2000].”

Environment

From Froese and Pauly (2018):

“Freshwater; benthopelagic”

Climate/Range

From Froese and Pauly (2018):

“Subtropical”

Distribution Outside the United States

Native

From Froese and Pauly (2018):

“Asia: Yunnan, China.”

“Known from the Er Hai [also spelled as Erhai] Lake (Mekong basin) in Yunnan.”

Introduced

No records of introduction were found for *Cyprinus megalophthalmus*.

Means of Introduction Outside the United States

No records of introduction were found for *Cyprinus megalophthalmus*.

Short Description

From Froese and Pauly (2018):

“Body silver gray on sides, white on abdomen and fins light yellow; black in front of lip; scales above lateral line with crescent black spots. Barbels 1 or 2 pairs and rostral one less developed or degenerated.”

Biology

From Froese and Pauly (2018):

“Lives in the upper and middle layers of the lake along the shore and in winter it stays in deep places of water. Feeds on plankton, small fishes, shrimps and algae. Spawns in May and June mainly at the bottom sides of rocks in shallow clear water [Wang 1998].”

From Xie and Chen (1999):

“The proportion of the native *Cyprinus megalophthalmus* in the total catch [of the survey] was as high as about 48% before 1969, but declined to 10% in 1974 and 1% in 1977.”

Human Uses

No information on human uses of *Cyprinus megalophthalmus* was found.

Diseases

No information on diseases of *Cyprinus megalophthalmus* was found. **No records of OIE-reportable diseases were found for *Cyprinus megalophthalmus*.**

Threat to Humans

From Froese and Pauly (2018):

“Harmless”

3 Impacts of Introductions

No records of introduction were found for *Cyprinus megalophthalmus*; therefore, there is no information on impacts of introduction.

4 Global Distribution



Figure 1. Map showing the location of Lake Erhai in southern China. *Cyprinus megalophthalmus* is endemic to Lake Erhai (Froese and Pauly 2018). Map from Google, Inc. (2018).

5 Distribution Within the United States

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

6 Climate Matching

Summary of Climate Matching Analysis

The climate match for *Cyprinus megalophthalmus* was low for most of the contiguous United States. There were small areas of medium match in southern Florida, Texas, and Arizona. The Climate 6 score (Sanders et al. 2018; 16 climate variables; Euclidean distance) for contiguous United States was 0.000, low. The range for a low climate score is from 0.0 to 0.005, inclusive. All states had low individual climate scores.

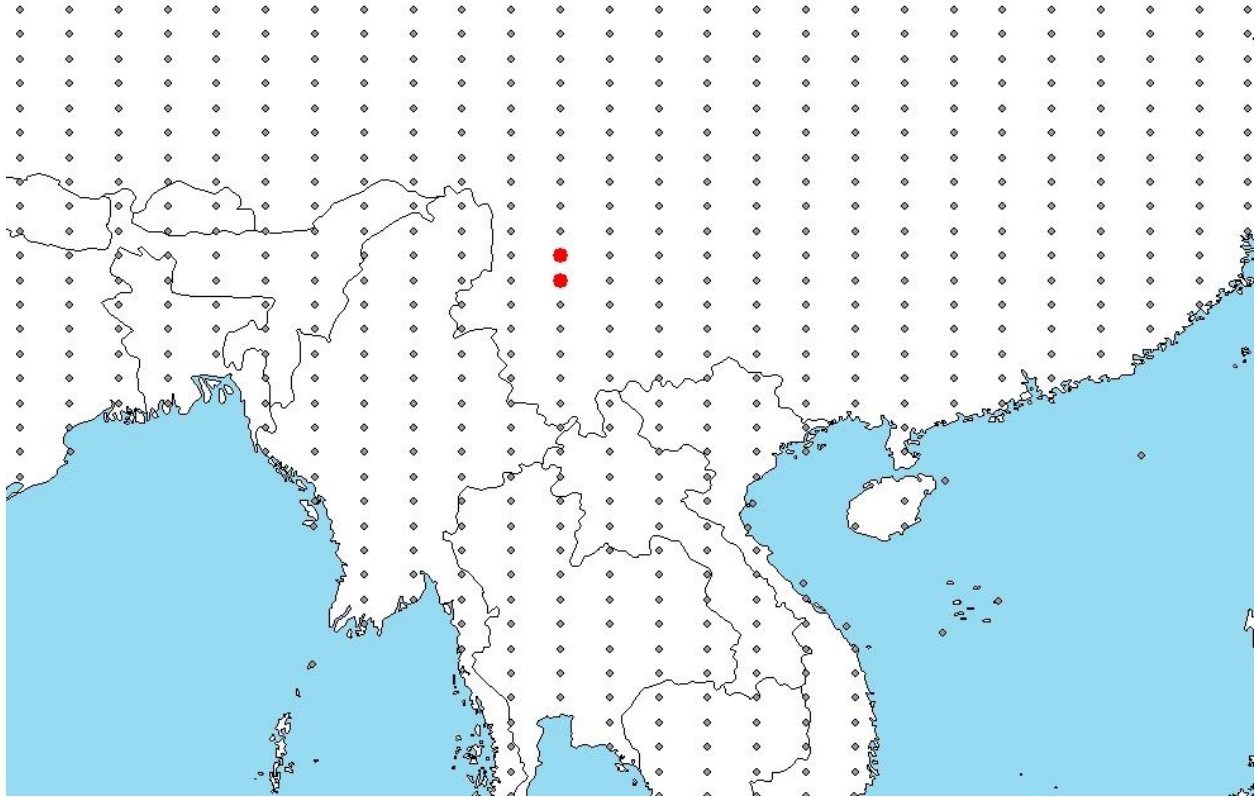


Figure 2. RAMP (Sanders et al. 2018) source map showing weather stations in southern Asia selected as source locations (red; southern China) and non-source locations (gray) for *Cyprinus megalophthalmus* climate matching. Source locations from Froese and Pauly (2018).

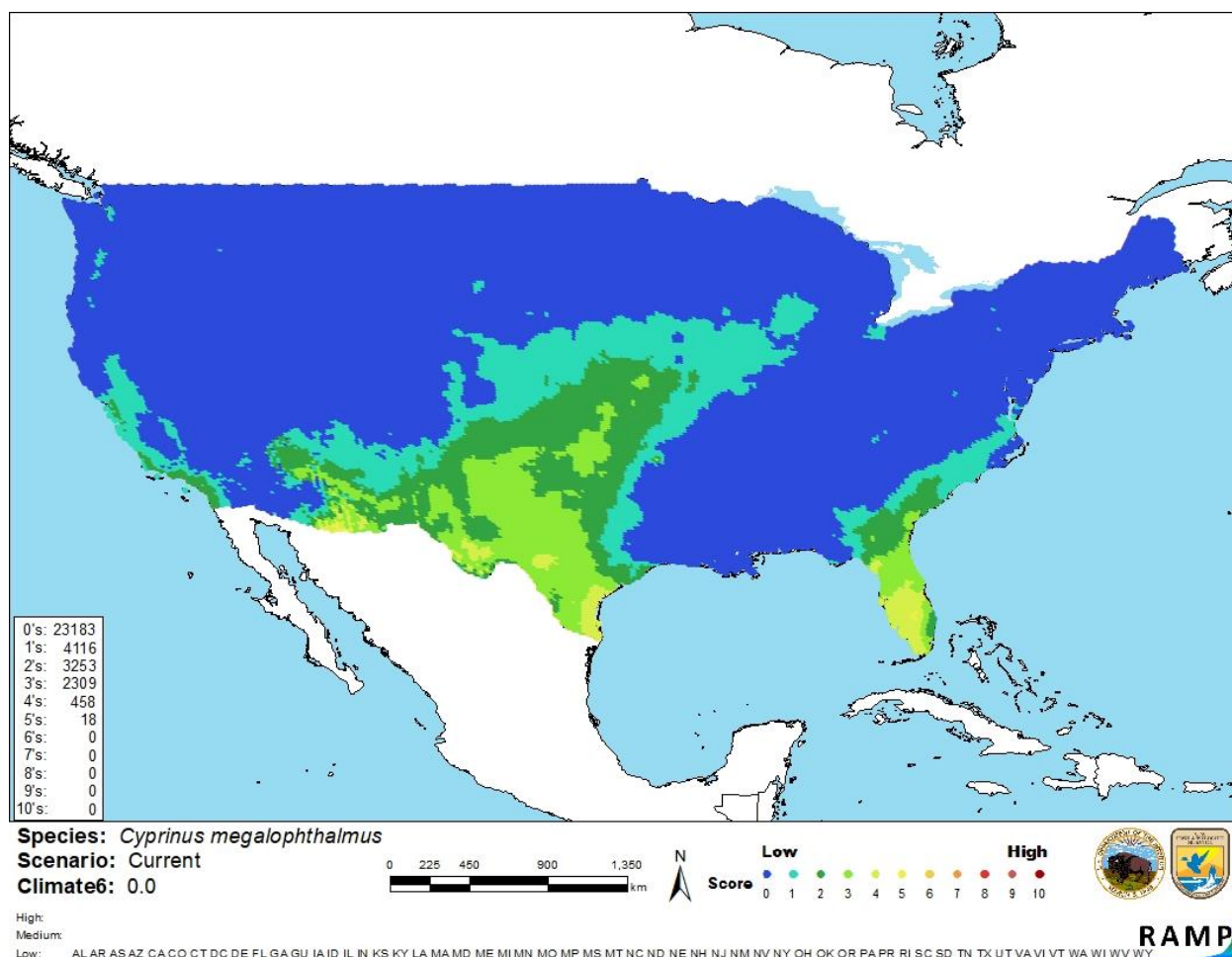


Figure 3. Map of RAMP (Sanders et al. 2018) climate matches for *Cyprinus megalophthalmus* in the contiguous United States based on source locations reported by Froese and Pauly (2018). 0 = Lowest match, 10 = Highest match.

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

7 Certainty of Assessment

The certainty of assessment for *Cyprinus megalophthalmus* is low. There is minimal information available for this species. No georeferenced observations were available; the climate match was based on the text description of the species range. No records of introduction were found; therefore, there is no information on impacts of introduction to evaluate.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Cyprinus megalophthalmus is a species of carp native to Lake Erhai in southern China. Catches in scientific surveys of the lake reportedly declined through the 1970's. The history of invasiveness is uncertain. No records of introduction were found. No records of this species in trade were found. The climate match for the contiguous United States is low. There were small areas of medium match in Florida, Texas, and Arizona. The certainty of assessment is low. There is minimal information available for the species. 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 information.
- **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.

- Fricke, R., W. N. Eschmeyer, and R. van der Laan, editors. 2018. Catalog of fishes: genera, species, references. Available: <http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp>. (November 2018).
- Froese, R., and D. Pauly, editors. 2018. *Cyprinus megalophthalmus* Wu et al., 1963. FishBase. Available: <http://www.fishbase.org/summary/Cyprinus-megalophthalmus.html>. (November 2018).
- Google, Inc. 2018. Map of Lake Erhai, China. Available: <https://www.google.com/maps/place/Erhai+Lake/@24.7705358,98.4724695,5z/data=!4m5!3m4!1s0x3727bf6d59732bf3:0xb4288374da6970b5!8m2!3d25.8006596!4d100.1927389>. (November 2018).
- ITIS (Integrated Taxonomic Information System). 2015. *Cyprinus megalophthalmus* Wu et al., 1963. Integrated Taxonomic Information System, Reston, Virginia. Available: https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=688961#null. (November 2018).
- Sanders, S., C. Castiglione, and M. Hoff. 2018. Risk assessment mapping program: RAMP, version 3.1. U.S. Fish and Wildlife Service.

Xie, P., and Y. Chen. 1999. Threats to biodiversity in Chinese inland waters. *Ambio* 28(8):674–681.

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.

Luo, Y., and P. Yue. 2000. Cyprinidae: Cyprininae. Pages 391–433 *in* P. Yue, et al., editors. Fauna Sinica. Osteichthyes. Cypriniformes III. Science Press. Beijing. [Source material did not give full citation for this reference.]

Wang, S. 1998. China red data book of endangered animals. Pisces. National Environmental Protection Agency. Endangered Species Scientific Commission. Science Press, Beijing.