

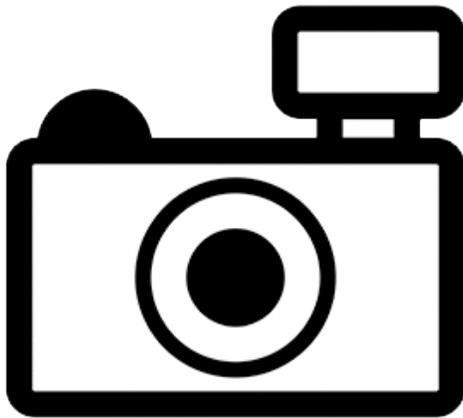
## ***Cyprinus barbatus* (a carp, no common name)**

### **Ecological Risk Screening Summary**

U.S. Fish & Wildlife Service, October 2012

Revised, November 2018

Web Version, 7/29/2019



No Photo Available

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

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### **Native Range**

From Chen and Zhou (2011):

“Endemic to Erhai Lake (250 km<sup>2</sup>), Yunnan province (Mekong drainage), China. Previous records from Yilonghu Lake are miss-identifications.”

### **Status in the United States**

No records of *Cyprinus barbatus* in the wild or in trade in the United States was found.

### **Means of Introductions in the United States**

No records of *Cyprinus barbatus* in the wild in the United States was found.

## Remarks

An ERSS for *Cyprinus barbatus* was previously published in 2012.

From Chen and Zhou (2011):

“It has not been recorded since 1982 (W. Zhou pers. comm.) and is assessed as Critically Endangered Possibly Extinct.”

From Wang et al. (2015):

“In 1970s, the indigenous fish species, such as *Schizothorax yunnanensis*, *Schizothorax lissolabiatu*s Tsao, *Schizothorax griseus* Pellegrin, *Cyprinus barbatus* and *Cyprinus daliensis* disappeared [from Lake Erhai].”

## 2 Biology and Ecology

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### Taxonomic Hierarchy and Taxonomic Standing

From Fricke et al. (2018):

“**Current status:** Valid as *Cyprinus barbatus* Chen & Huang 1977.”

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 barbatus* Chen and Huang, 1977”

### Size, Weight, and Age Range

From Froese and Pauly (2018):

“Max length : 35.0 cm OT male/unsexed; [Hwang et al. 1988]”

## **Environment**

From Froese and Pauly (2018):

“Freshwater; benthopelagic.”

## **Climate/Range**

From Froese and Pauly (2018):

“Subtropical”

## **Distribution Outside the United States**

Native

From Chen and Zhou (2011):

“Endemic to Erhai Lake (250 km<sup>2</sup>), Yunnan province (Mekong drainage), China. Previous records from Yilonghu Lake are miss-identifications.”

Introduced

No records of *Cyprinus barbatus* introductions were found.

## **Means of Introduction Outside the United States**

No records of *Cyprinus barbatus* introductions were found.

## **Short Description**

A short description of *Cyprinus barbatus* was not found.

## **Biology**

From Chen and Zhou (2011):

“It is a fish of the upper and middle layers of the lake and dwells mainly in the deep parts. It swims fast and can not tolerate poor water quality, and dies quickly in turbid water. It feeds on mainly plankton and alga. It spawns from April to September, but mainly in May and June. The generation length is c. 2 years.”

“The species spawns on macrophytes which are eaten by introduced grass carps and collected for fodder.”

## **Human Uses**

From Froese and Pauly (2018):

“Previously important in fisheries [Luo and Yue 2000].”

## Diseases

Information on diseases of *Cyprinus barbatus* was not found.

No records of OIE-reportable diseases (OIE 2019) were found *Cyprinus barbatus*.

## Threat to Humans

From Froese and Pauly (2018):

“Harmless”

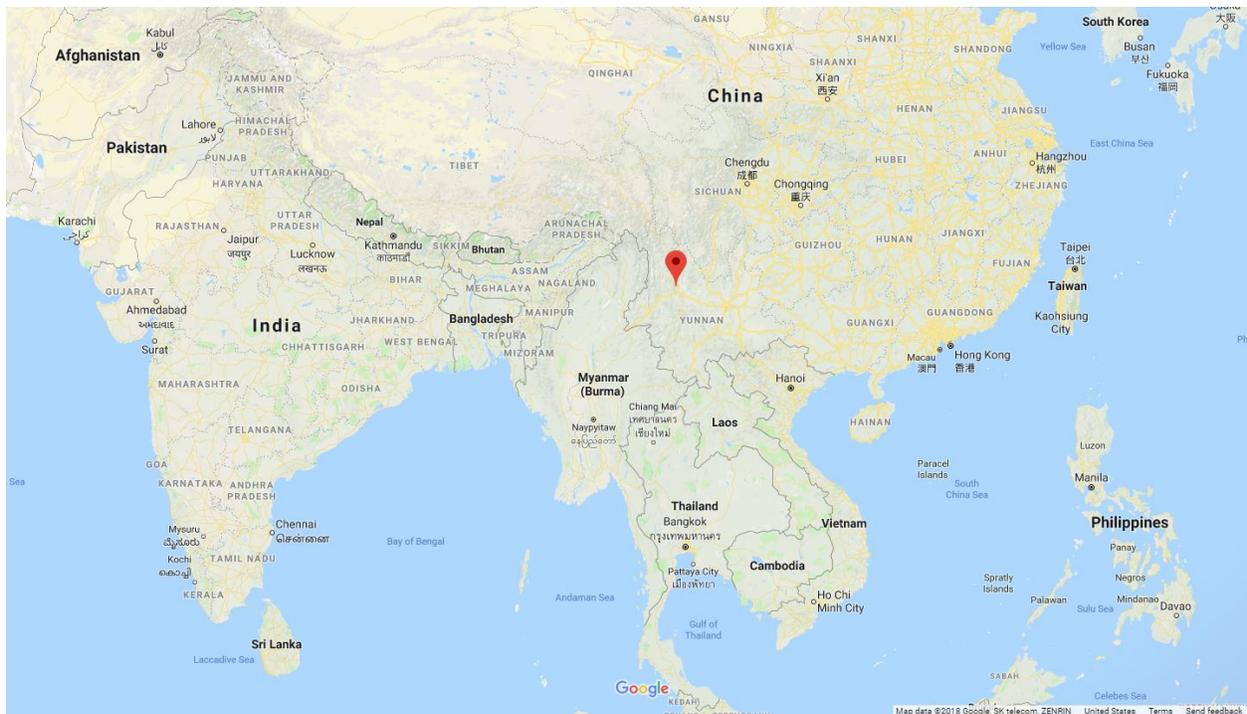
## 3 Impacts of Introductions

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

## 4 Global Distribution

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**Figure 1.** Map showing the location of Lake Erhai in southern China. *Cyprinus barbatus* is endemic to Lake Erhai (Chen and Zhou 2011). Map from Google, Inc. (2018).

## 5 Distribution Within the United States

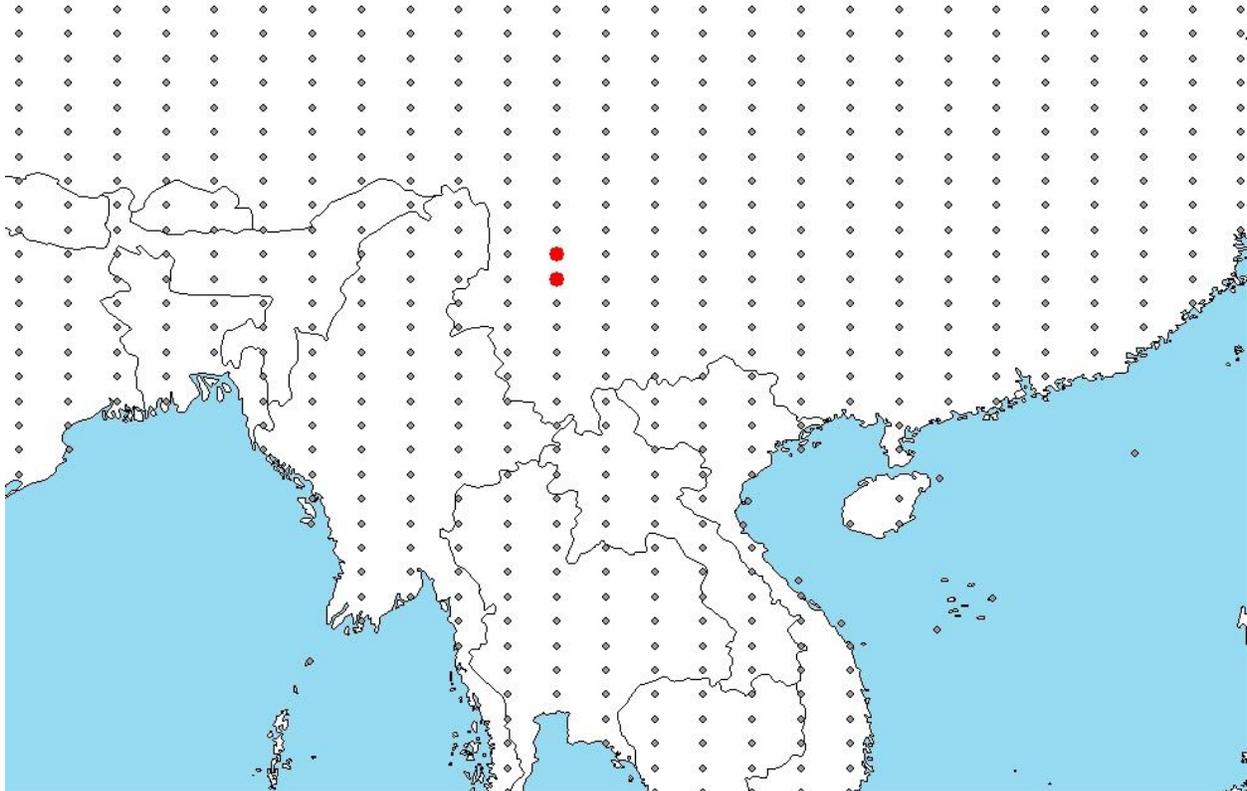
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No records of *Cyprinus barbatus* in the wild in the United States was found.

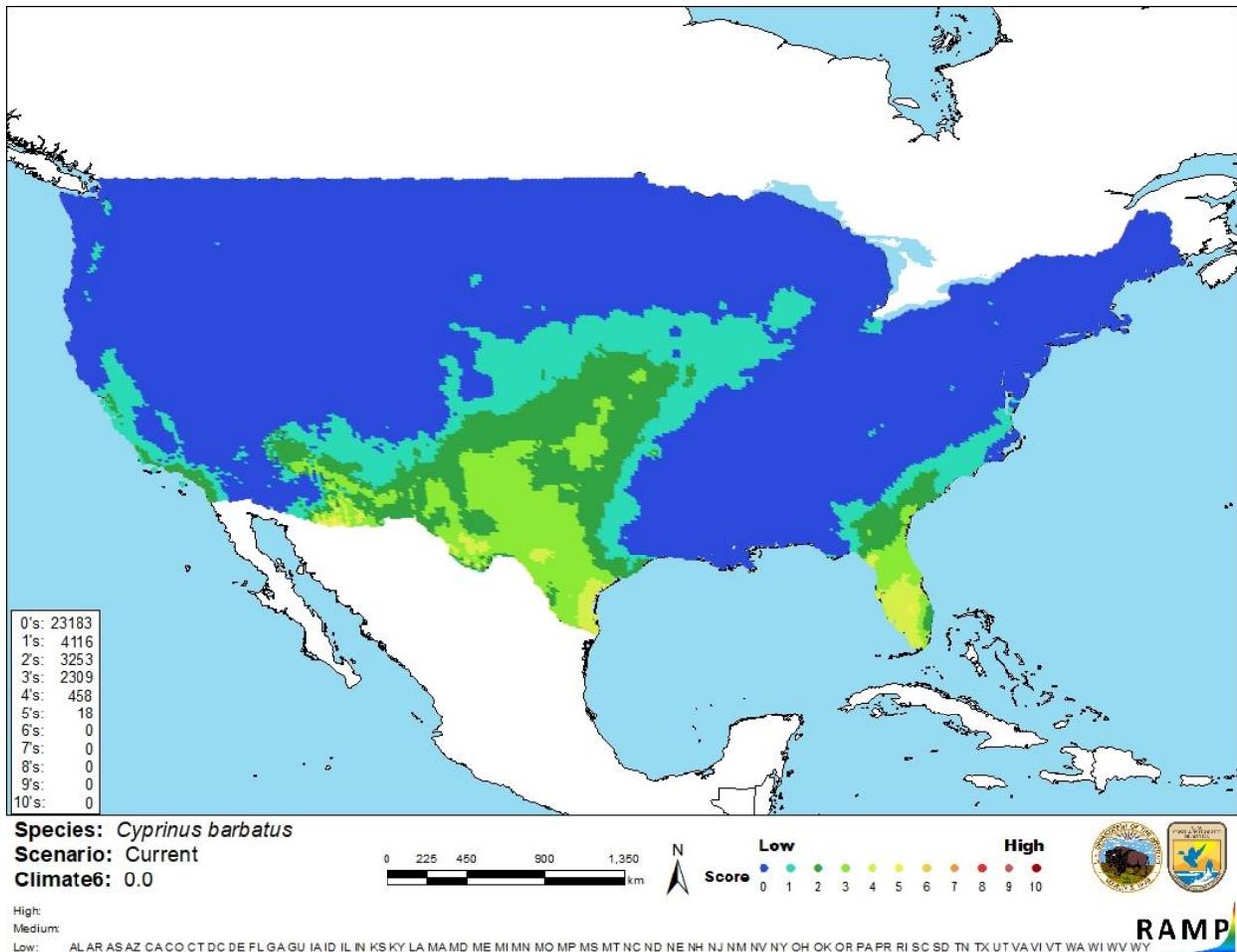
## 6 Climate Matching

### Summary of Climate Matching Analysis

The climate match for *Cyprinus barbatus* 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 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 southern China selected as source locations (red) and non-source locations (gray) for *Cyprinus barbatus* climate matching. Source locations chosen to represent Lake Erhai; the only known area with this species (Chen and Zhou 2011).



**Figure 3.** Map of RAMP (Sanders et al. 2018) climate matches for *Cyprinus barbatus* in the contiguous United States based on source locations reported by Chen and Zhou (2011). Counts of climate match scores are tabulated on the left. 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
$\geq 0.103$	High

## 7 Certainty of Assessment

Certainty of assessment is low. Peer-reviewed literature on the biology, ecology, and distribution associated with *Cyprinus barbatus* as well as information on its potential invasiveness is extremely limited. No georeferenced observations were available; the climate match was based on the text description of the species range.

## 8 Risk Assessment

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### Summary of Risk to the Contiguous United States

*Cyprinus barbatus* is a species of carp native to Lake Erhai in southern China. The species was used commercially in the past but may be extinct now. The history of invasiveness is uncertain. No records of introduction were found. The climate match 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:** Species may be extinct.
- **Overall Risk Assessment Category: Uncertain**

## 9 References

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**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 barbatus* Chen and Huang, 1977. FishBase. Available: <http://www.fishbase.se/summary/Cyprinus-barbatus.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). 2018. *Cyprinus barbatus* Chen and Huang, 1977). Integrated Taxonomic Information System, Reston, Virginia. Available: [https://www.itis.gov/servlet/SingleRpt/SingleRpt?search\\_topic=TSN&search\\_value=688948#null](https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=688948#null). (November 2018).

OIE (World Organisation for Animal Health). 2019. OIE-listed diseases, infections and infestations in force in 2019. Available: <http://www.oie.int/animal-health-in-the-world/oie-listed-diseases-2019/>. (July 2019).

Sanders, S., C. Castiglione, and M. Hoff. 2018. Risk assessment mapping program: RAMP, version 3.1. U.S. Fish and Wildlife Service.

Wang, S., L. Zhang, L. Ni, H. Zhao, L. Jiao, S. Yang, L. Guo, and J. Shen. 2015. Ecological degeneration of the Erhai Lake and prevention measures. *Environmental Earth Sciences* 74:3839–3847.

Zhou, W., and X.-Y. Chen. 2011. *Cyprinus barbatus*. The IUCN Red List of Threatened Species 2011: e.T166039A6175926. Available: <https://www.iucnredlist.org/species/166039/6175926>. (November 2018).

## 10 References Quoted But Not Accessed

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**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.**

Hwang, H. C., I. Y. Chen, and P. C. Yueh. 1988. The freshwater fishes of China in colored illustrations. Shanghai Sciences and Technology Press, Shanghai, China.

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.