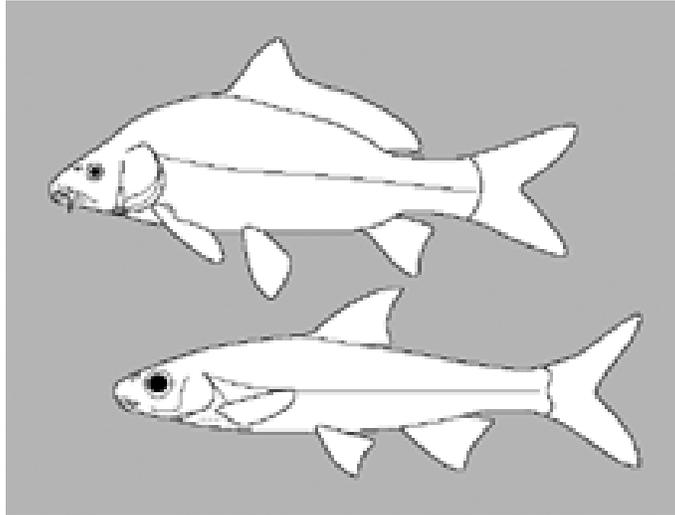


Cyprinus chilia

Ecological Risk Screening Summary

Web Version – 10/01/2012



No image available for this species; drawing shows typical fish in this Family (Froese and Pauly 2011).

1 Native Range, and Status in the United States

Native Range

From Chen and Zhou (2011):

“Only recorded from lakes in Yunnan in southern China, including Yilong, Qilu, Xingyun, Fuzian, Yangzong, Diangchi, Erh Hai, Chenghai, Jianhu, and Cibi lakes, and Wenbi reservoir. In 1998-99, the lakes were surveyed and the species was only found in Fuzian Lake (121 km²), Jianhu (30km²) Lake, and Erh Hai Lake (250km²), and could not be found in other lakes (W. Zhou and X.-Y. Chen pers. comm. 2011[not cited]). It may be present in other reservoirs, but surveys are required to confirm this.”

“The area of occupancy (from the three lakes surveyed in 1998-99) is less than 500 km².”

Status in the United States

No occurrences within the United States.

Means of Introductions to the United States

No known means of introduction.

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

From ITIS (2011):

Kingdom Animalia
Phylum Chordata
Subphylum Vertebrata
Superclass Osteichthyes
Class Actinopterygii
Subclass Neopterygii
Infraclass Teleostei
Superorder Ostariophysi
Order Cypriniformes
Superfamily Cyprinoidea
Family Cyprinidae
Genus *Cyprinus*
Species *Cyprinus chilia*

Taxonomic Standing: valid

Size, Weight, Age

From Froese and Pauly (2011):

“Max length: 4.8 cm SL male/unsexed; (Yang 1991)”

Environment

From Froese and Pauly (2011): “Benthopelagic; freshwater”

Climate/Range

From Froese and Pauly (2011): “Subtropical”

Distribution

From Chen and Zhou (2011):

“The species was previously known from at least twelve lakes in Yunnan, southern China. Recent surveys in 1998-99 (W. Zhou and X.-Y. Chen pers. comm. 2011) recorded the species as present in only three lakes, and the species population is inferred to have been lost from other

previously known locations. Key impacts have been from overfishing, introduction of alien species of fish, and pollution, resulting in declines in water quality and the loss of macrophyte vegetation required in reproduction.”

“The area of occupancy (from the three lakes where it has been recently recorded in 1998-99) is estimated at less than 500 km², and the species is assessed as Endangered due to the loss from previously known locations and a population decline that is inferred to be in the region of at least 50% in the last 30 years (3 generations).”

Biology

From Chen and Zhou (2011):

“It is a fish of the upper and middle layers of water bodies and dwells mainly in the deep parts of lakes with clear water. It swims fast and can not tolerate poor environmental conditions, dying quickly in turbid water. It is an omnivore, feeding on benthos. Its spawning period is from April to September, but mainly in May and June. It spawns in batches on aquatic plants with viscid roe.”

“Key threats are overfishing, alien species of fish, and pollution from agriculture and industrial sources. Water quality has declined, and macrophytes, required for egg laying, have declined in all lakes.”

Human uses

None reported.

Diseases

None reported.

Threat to humans

Harmless

3 Impacts of Introductions

No known impacts of introductions

4 Global Distribution



Figure 1 (above). Map showing location of *Cyprinus chilia* (Note the yellow push pin showing reported the location). Map from Google Earth (2011).

5 Distribution within the United States

No known locations in the United States.

6 CLIMATCH

Summary of Climate Matching Analysis

The climate match (Australian Bureau of Rural Sciences 2011; 16 climate variables; Euclidean Distance) was Low throughout the United States. Climate 6 match indicated that the Continental U.S. has a low climate match. The range for a low climate match is 0.0 – 0.005 and the climate match of *Cyprinus chilia* is 0.000.

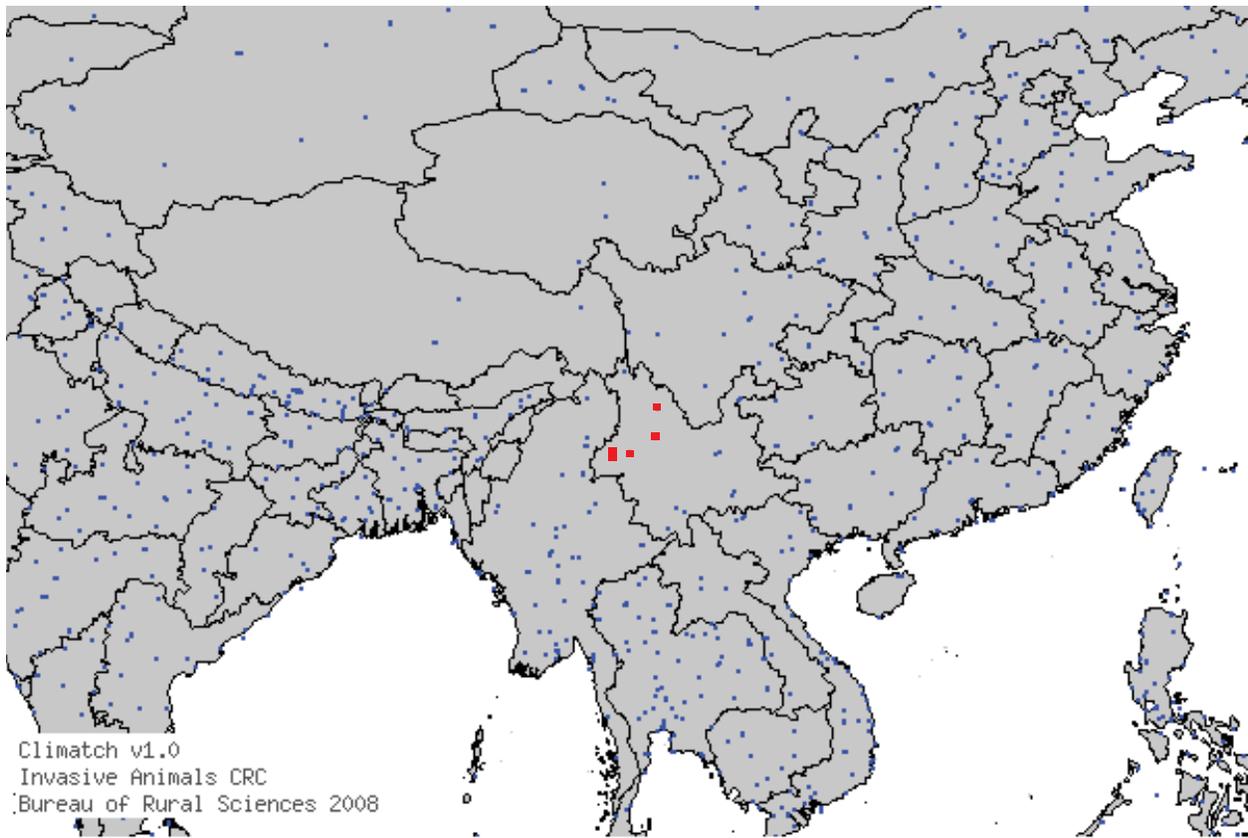


Figure 2 (above). CLIMATCH (Australian Bureau of Rural Sciences 2011) source map showing weather stations selected as source locations (red) and non-source locations (blue) for *Cyprinus chilia* climate matching. Source locations based on descriptive information from Froese and Pauly (2011), not geo-referenced data points.

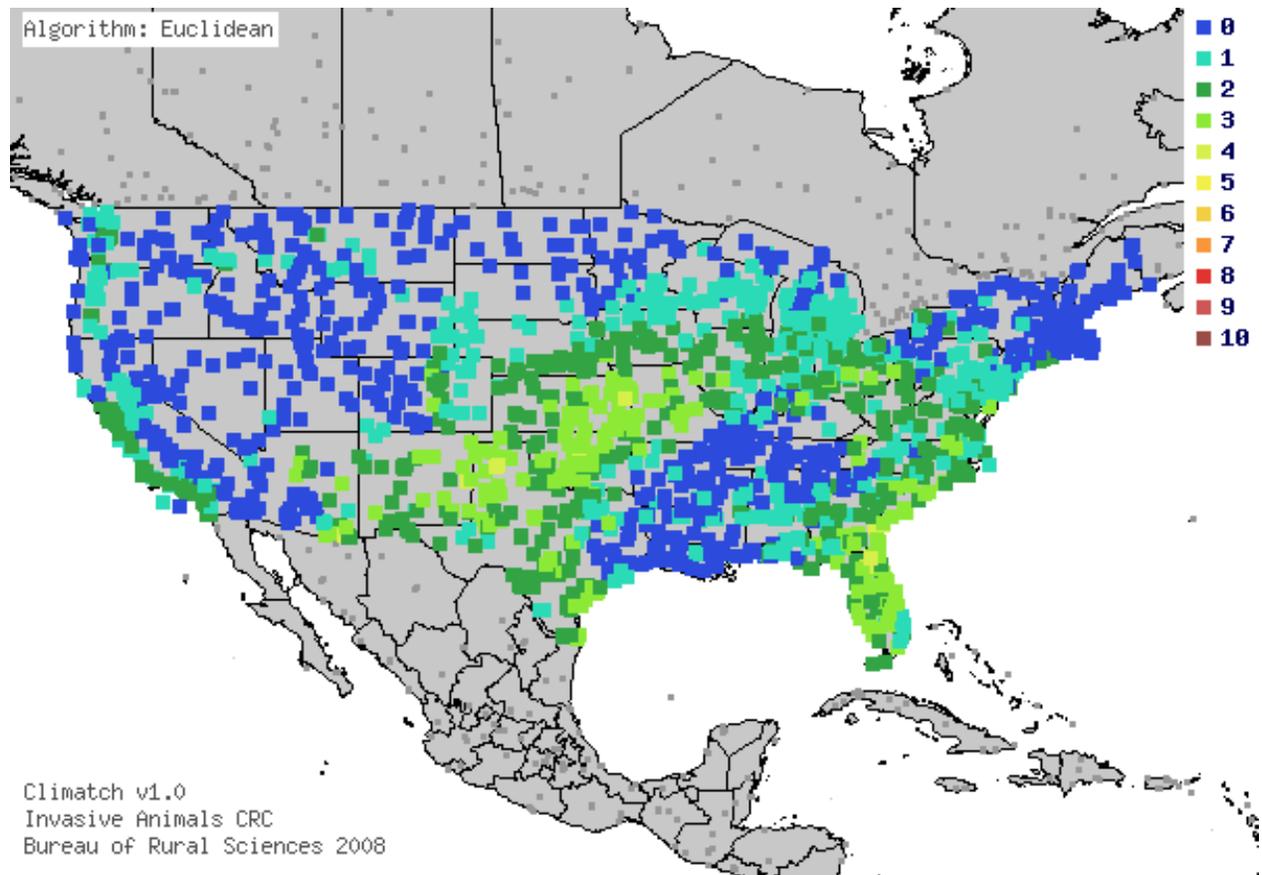


Figure 3 (above). Map of CLIMATCH (Australian Bureau of Rural Sciences 2011) climate matches for *Cyprinus chilia* in the continental United States. Source locations based on descriptive information from Froese and Pauly (2011), not geo-referenced data points. 0=Lowest match, 10=Highest match.

Table 1 (below). CLIMATCH (Australian Bureau of Rural Sciences 2011) climate match scores

| CLIMATCH Score | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|------------------------|-----|-----|-----|-----|----|---|---|---|---|---|----|
| Count | 710 | 505 | 502 | 243 | 14 | 0 | 0 | 0 | 0 | 0 | 0 |
| Climate 6 Proportion = | | | 0 | | | | | | | | |

7 Certainty of Assessment

Peer-reviewed literature on the biology, ecology, and distribution associated with *Cyprinus chilia* as well as information on its potential invasiveness is limited. More information and research on this species will be needed to strengthen the certainty of this assessment. The risk level is therefore uncertain, and the certainty of this risk is low.

8 Risk Assessment

Summary of Risk to the Continental United States

The overall risk assessment category for *Cyprinus chilia* is uncertain. History of invasiveness and climate match are both low, but lack of information is a concern. This species is not known to be in the aquaculture or pet industry and has not been introduced outside of its native range.

Assessment Elements

- **History of Invasiveness (Sec. 3):** Low
- **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.

Australian Bureau of Rural Sciences. 2011. CLIMATCH. Available:
<http://adl.brs.gov.au:8080/Climatch/> (Accessed September 2011).

Chen, X.Y. and W. Zhou. 2011. *Cyprinus chilia*. In: IUCN 2012. IUCN Red List of Threatened Species. Version 2012.1. Available: <http://www.iucnredlist.org/details/166210/0> (Accessed September 28, 2012).

Froese, R. and D. Pauly (Eds). 2011. *Cyprinus chilia*. FishBase. Available:
<http://www.fishbase.org/Summary/speciesSummary.php?ID=52958&genusname=Cyprinus&speciesname=chilia&AT=cyprinus+chilia&lang=English> (Accessed September 2011).

Google Earth. 2011. Google Earth Version 6.0.3.2197, Google Inc. (Software)]. Available:
<http://www.google.com/intl/en/earth/index.html> (Accessed September 2011).

ITIS. 2011. *Cyprinus chilia*. Integrated Taxonomic Information System. Available:
http://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=688950 (Accessed September 2011).

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.

Yang, J.X. 1991. The fishes of Fuxian Lake, Yunnan, China, with description of two new species. *Ichthyol. Explor. Freshwat.* 2(3):193-202.