

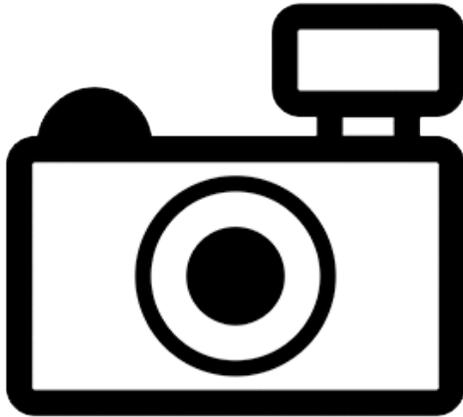
Cyprinus qionghaiensis (a carp, no common name)

Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, September 2011

Revised, September 2018

Web Version, 12/18/2018



No Photo Available

1 Native Range and Status in the United States

Native Range

From Zhang et al. (2009):

“Endemic, only distributed in the Qionghai Lake of Sichuan Province (Ding 1994).”

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.

Remarks

From Devi and Boguskaya (2009):

“*C. qionghaiensis* has been assessed as Critically Endangered, and is suspected Possibly Extinct, as it has a restricted distribution (10km²), is found in only one location, and there are threats from pollution, overfishing, and introduced *Cyprinus carpio*. Furthermore, it is suspected that the population has declined by over 80% in the past 21 years (three generations).”

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 Ostariophysii
Order Cypriniformes
Superfamily Cyprinoidea
Family Cyprinidae
Genus *Cyprinus*
Species *Cyprinus qionghaiensis* Liu, 1981”

From Fricke et al. (2018):

“Current status: Valid as *Cyprinus qionghaiensis* Liu 1981. Cyprinidae: Cyprininae.”

Size, Weight, and Age Range

From Zhang et al. (2009):

“Body length 172–228 mm.”

Environment

From Froese and Pauly (2018):

“Freshwater; benthopelagic.”

Climate/Range

From Froese and Pauly (2018):

“Temperate”

Distribution Outside the United States

Native

From Zhang et al. (2009):

“Endemic, only distributed in the Qionghai Lake of Sichuan Province (Ding 1994).”

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 Zhang et al. (2009):

“Body laterally compressed. Head large (length 33.3% of SL), its length approximately equal to body depth. Mouth large and terminal, with a pair of short barbells at corners; lips thin; eyes large (diameter 17.2% of HL). Base of dorsal fin comparatively long (31.3% of SL), origin of dorsal fin opposite to that of pelvic fin, outer edge of it markedly concave; tips of pectoral fin reach or approach origin of pelvic fins; pelvic fins inserted under anterior second branched rays of dorsal fin; anal fin inserted under posterior third or fourth branched rays of dorsal fin; caudal fin deeply forked. Last simple rays of dorsal and anal fins spined and serrated on hind margins. Body color green yellow on back, yellow-white on abdomen, golden luster on sides; orange on lower lobe of caudal fin (Liu 1981; Ding 1994; Yue 2000).”

Biology

From Zhang et al. (2009):

“Inhabits bottom of the lake with clear water. Mainly feeds on plankton, hydrophytes, benthos and organic debris. [...] Breeding habits similar to *Cyprinus carpio* Linnaeus; sticky eggs laid on aquatic plants in April and May.”

Human Uses

From Devi and Boguskaya (2009):

“The species has been heavily impacted by pollution and overfishing in Qiong Lake.”

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

No georeferenced occurrences for *C. qionghaiensis* were available from GBIF Secretariat (2017).

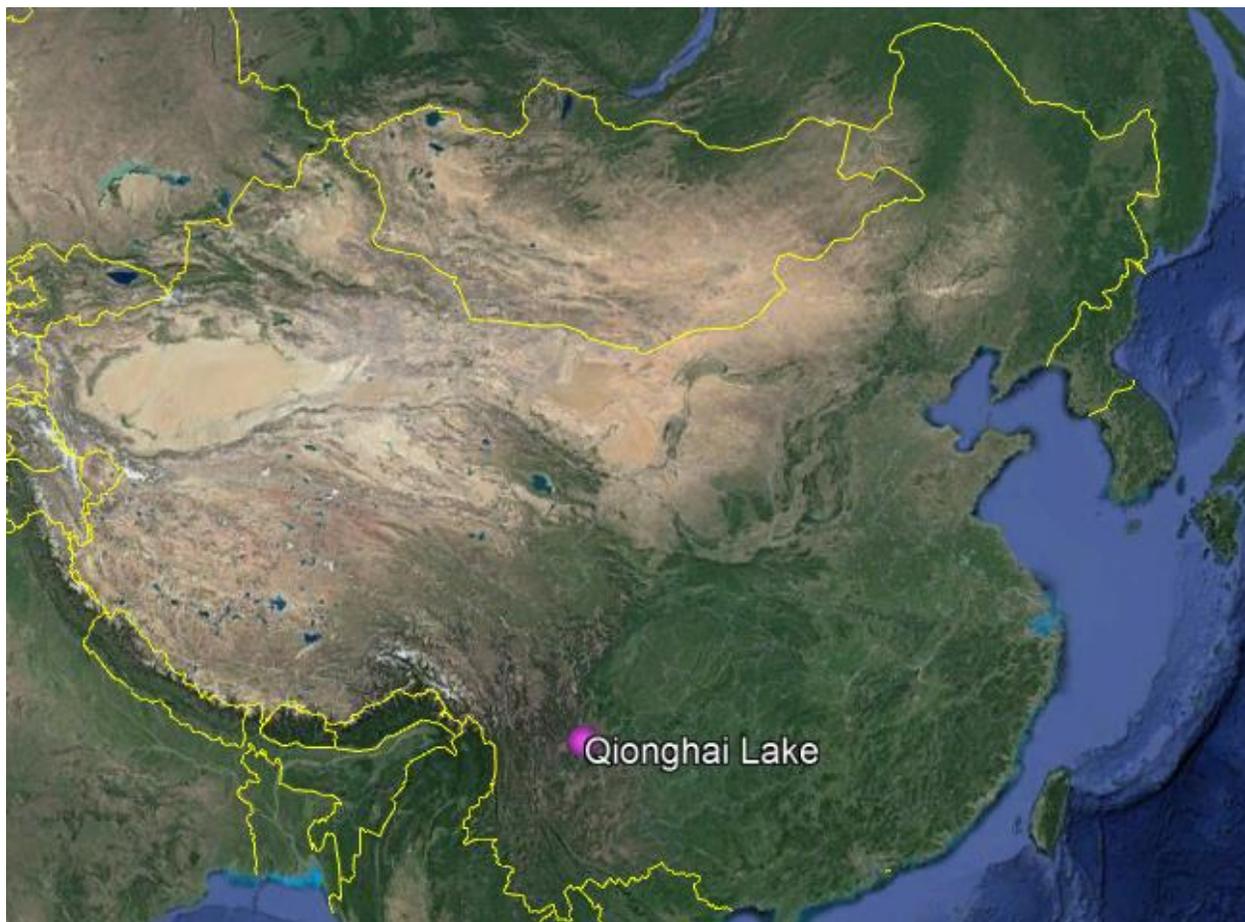


Figure 1. Known global distribution of *Cyprinus qionghaiensis* based on description of range from Zhang et al. (2009), who reported the species from Sichuan Province, southern China. Map made with Google Earth Pro 7.3.1.4507 (Google LLC, Mountain View, California).

5 Distribution Within the United States

This species has not been reported as introduced or established in the United States.

6 Climate Matching

Summary of Climate Matching Analysis

The Climate 6 score (Sanders et al. 2014; 16 climate variables; Euclidean distance) for the contiguous United States was 0.0, which is low. A Climate 6 score of 0.005 or lower indicates a low climate match. The climate match was low across the entire contiguous United States, with the exception of a few tiny patches in the Southwest that were low-medium.

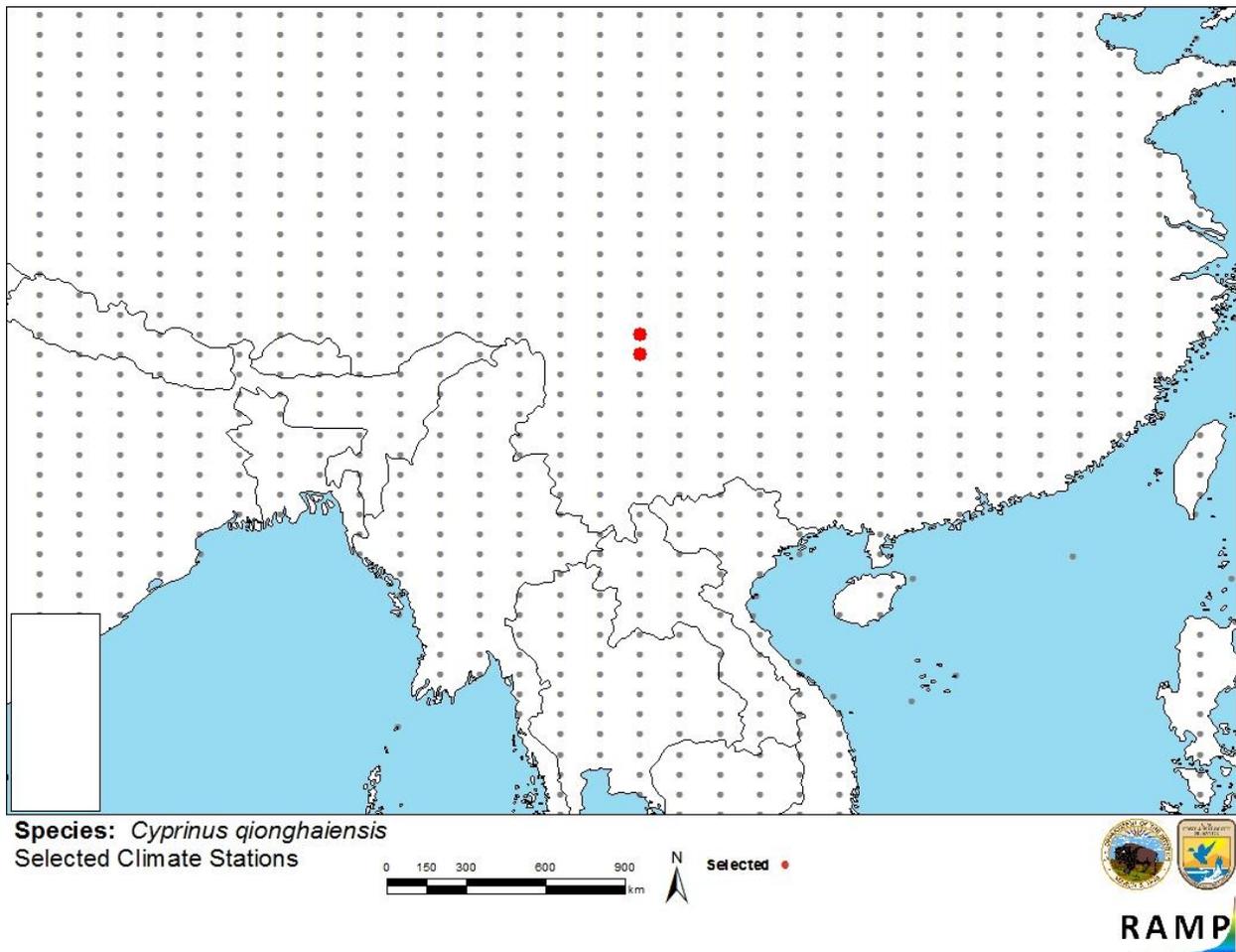


Figure 2. RAMP (Sanders et al. 2014) source map showing weather stations selected as source locations (red; Sichuan Province, southern China) and non-source locations (gray) for *Cyprinus qionghaiensis* climate matching. Source locations based on description of range by Zhang et al. (2009).

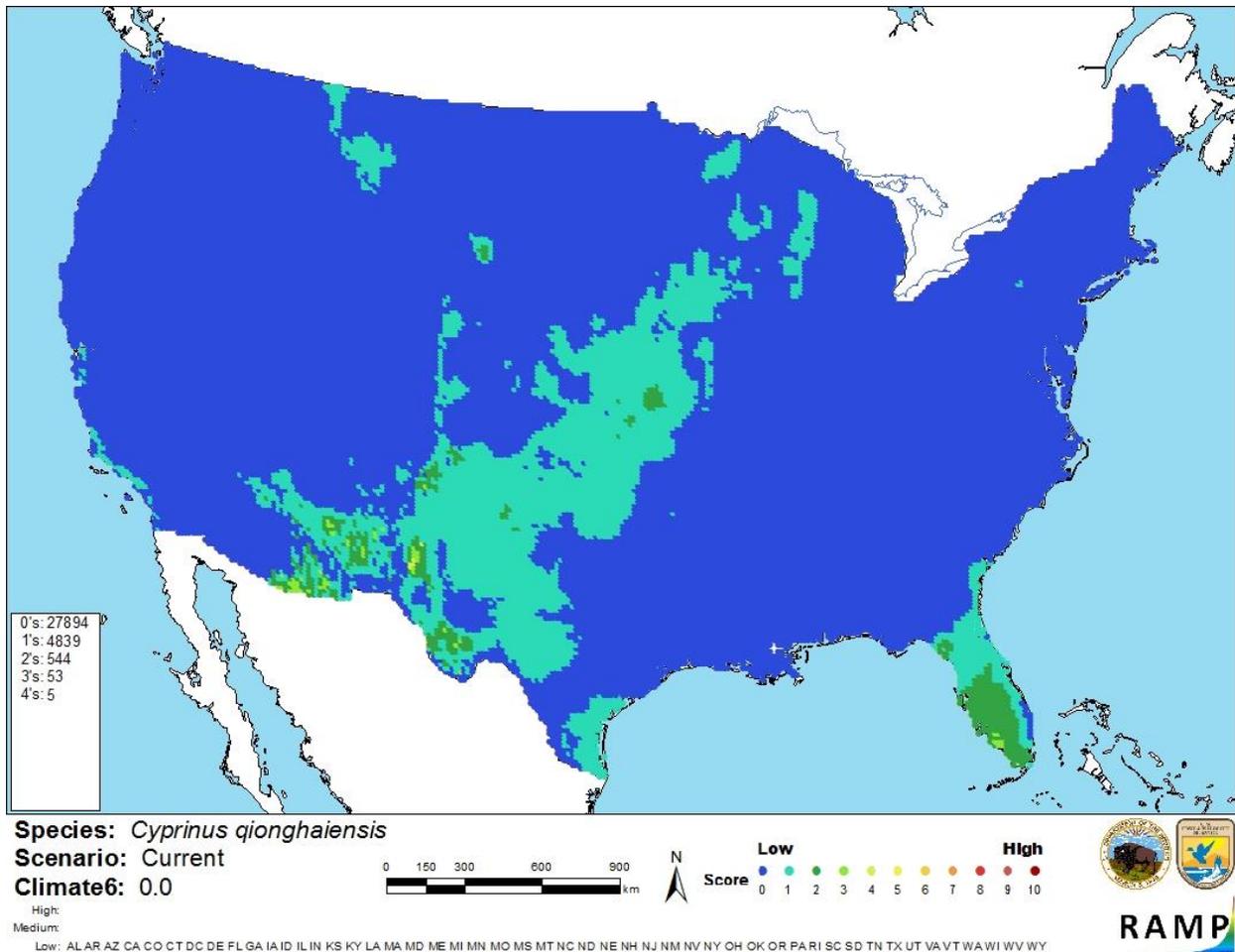


Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *Cyprinus qionghaiensis* in the contiguous United States based on source locations from description of range by Zhang et al. (2009). 0= Lowest match, 10=Highest match.

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

7 Certainty of Assessment

There is limited information available about *Cyprinus qionghaiensis*. There are no georeferenced points available documenting its range, but its native range is well-known and restricted to a single lake in China. There are no documented introductions of this species outside of its native range, so no information is available from which to base an assessment of the invasive potential of this species. Certainty of this assessment is low.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Cyprinus qionghaiensis is a carp species endemic to Qionghai Lake in southern China. This species is critically endangered in its native habitat due to overfishing, pollution, and the invasive common carp (*Cyprinus carpio*). *C. qionghaiensis* has a low climate match with the contiguous United States. It has never been reported as introduced or established outside of its native range, therefore history of invasiveness is uncertain. Because there is no information from which to assess the risk this species poses to the contiguous United States, 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**
- **Remarks/Important additional information:** *C. qionghaiensis* has been assessed as Critically Endangered, and is suspected Possibly Extinct

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.

Devi, R., and N. Boguskaya. 2009. *Cyprinus qionghaiensis*. The IUCN Red List of Threatened Species 2009: e.T169621A6656020. Available: <http://www.iucnredlist.org/details/169621/0>. (September 2018).

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>. (September 2018).

Froese, R., and D. Pauly, editors. 2018. *Cyprinus qionghaiensis* (Liu, 1981). FishBase. Available: <http://www.fishbase.us/summary/SpeciesSummary.php?ID=60474&genusname=Cyprinus&speciesname=qionghaiensis&AT=Cyprinus+qionghaiensis&lang=English>. (September 2018).

GBIF Secretariat. 2017. GBIF backbone taxonomy: *Cyprinus qionghaiensis* Liu, 1981. Global Biodiversity Information Facility, Copenhagen. Available: <https://www.gbif.org/species/2367208>. (December 2018).

ITIS (Integrated Taxonomic Information System). 2018. *Cyprinus qionghaiensis* (Liu, 1981). Integrated Taxonomic Information System, Reston, Virginia. Available:

https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=688965#null. (September 2018).

Sanders, S., C. Castiglione, and M. H. Hoff. 2014. Risk Assessment Mapping Program: RAMP. U.S. Fish and Wildlife Service.

Zhang, X., X. Zhang, and Z. Song. 2009. Threatened fishes of the world: *Cyprinus qionghaiensis* Liu 1981 (Cyprinidae). *Environmental Biology of Fishes* 85(1):49-50.

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.

Ding, R. 1994. The fishes of Sichuan, China. Sichuan Publishing House of Science and Technology, Chengdu, China. (In Chinese.)

Liu, C. 1981. A new subspecies of carps in Sichuan Province, China. *Journal of Sichuan University (Natural Science Edition)* 2:145-148. (In Chinese with English abstract.)

Yue, P. 2000. *Fauna sinica: Osteichthyes (Cypriniformes III)*. Science Press, Beijing. (In Chinese.)