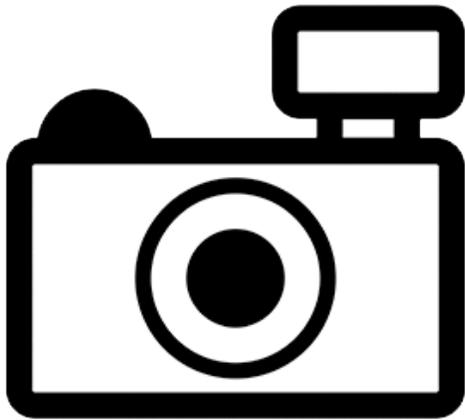


Lesser Silver Mud Carp

(*Henicorhynchus caudimaculatus*)

Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, October 2012
Revised, February 2019
Web Version, 5/31/2019



No Photo Available

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2019):

“Asia: Chao Phraya basin in Thailand [Roberts 1997] and Tonlé Sap [river and lake], Cambodia [Lim et al. 1999].”

Status in the United States

No records of any wild populations of *Henicorhynchus caudimaculatus* in the United States were found. No information on trade of *H. caudimaculatus* in the United States was found.

Means of Introductions in the United States

No records of any wild populations of *Henicorhynchus caudimaculatus* in the United States were found.

Remarks

A previous version of this ERSS was published in October 2012 under the name *Cirrhinus caudimaculatus*.

Cirrhinus caudimaculatus, and *Gymnostomus caudimaculatus* are both former valid names and synonyms for *Henicorhynchus caudimaculatus* therefore information searches were conducted using all of these names.

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

From Fricke et al. (2019):

“**Current status:** Valid as *Henicorhynchus caudimaculatus* (Fowler 1934).”

Henicorhynchus caudimaculatus recently underwent a name change and most scientific websites and papers still refer to it as *Cirrhinus caudimaculatus*. The following hierarchy refers to the synonym *Cirrhinus caudimaculatus* but it is still correct through the family for the current valid name *Henicorhynchus caudimaculatus*. *Henicorhynchus* is a genus within the family Cyprinidae.

From ITIS (2019):

“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 *Cirrhinus*
Species *Cirrhinus caudimaculatus* (Fowler, 1934)”

Size, Weight, and Age Range

From Froese and Pauly (2019):

“Max length : 26.6 cm TL male/unsexed; [Zulkafli et al. 2016]; max. published weight: 198.00 g [Zulkafli et al. 2016]”

Environment

From Froese and Pauly (2019):

“Freshwater; benthopelagic; potamodromous [Riede 2004].”

Climate/Range

From Froese and Pauly (2019):

“Tropical”

Distribution Outside the United States

Native

From Froese and Pauly (2019):

“Asia: Chao Phraya basin in Thailand [Roberts 1997] and Tonlé Sap [river and lake], Cambodia [Lim et al. 1999].”

Introduced

No records of introductions of *H. caudimaculatus* outside of its native range were found.

Means of Introduction Outside the United States

No records of introductions of *H. caudimaculatus* outside of its native range were found.

Short Description

From Froese and Pauly (2019):

“Vertebrae: 32. Differs from *Cirrhinus lobatus* in having a dark round spot on the caudal peduncle; it is small, small-headed species, often (but not always) with a strongly projecting snout not observed in other species.”

Biology

From Froese and Pauly (2019):

“Found at bottom depths in canals, ditches and small streams in large river floodplains. Migrates up small rivers and streams and out onto floodplains. Feeds on phytoplankton, periphyton, benthic algae, detritus and some zooplankton.”

Human Uses

From Froese and Pauly (2019):

“Most likely used to make prahoc [fish paste] [Rainboth 1996].”

Diseases

No information was available on diseases of *H. caudimaculatus*. **No OIE reportable disease recorded for *H. caudimaculatus* (OIE 2019).**

Threat to Humans

From Froese and Pauly (2019):

“Harmless”

3 Impacts of Introductions

No records of introductions of *H. caudimaculatus* outside of its native range were found.

4 Global Distribution

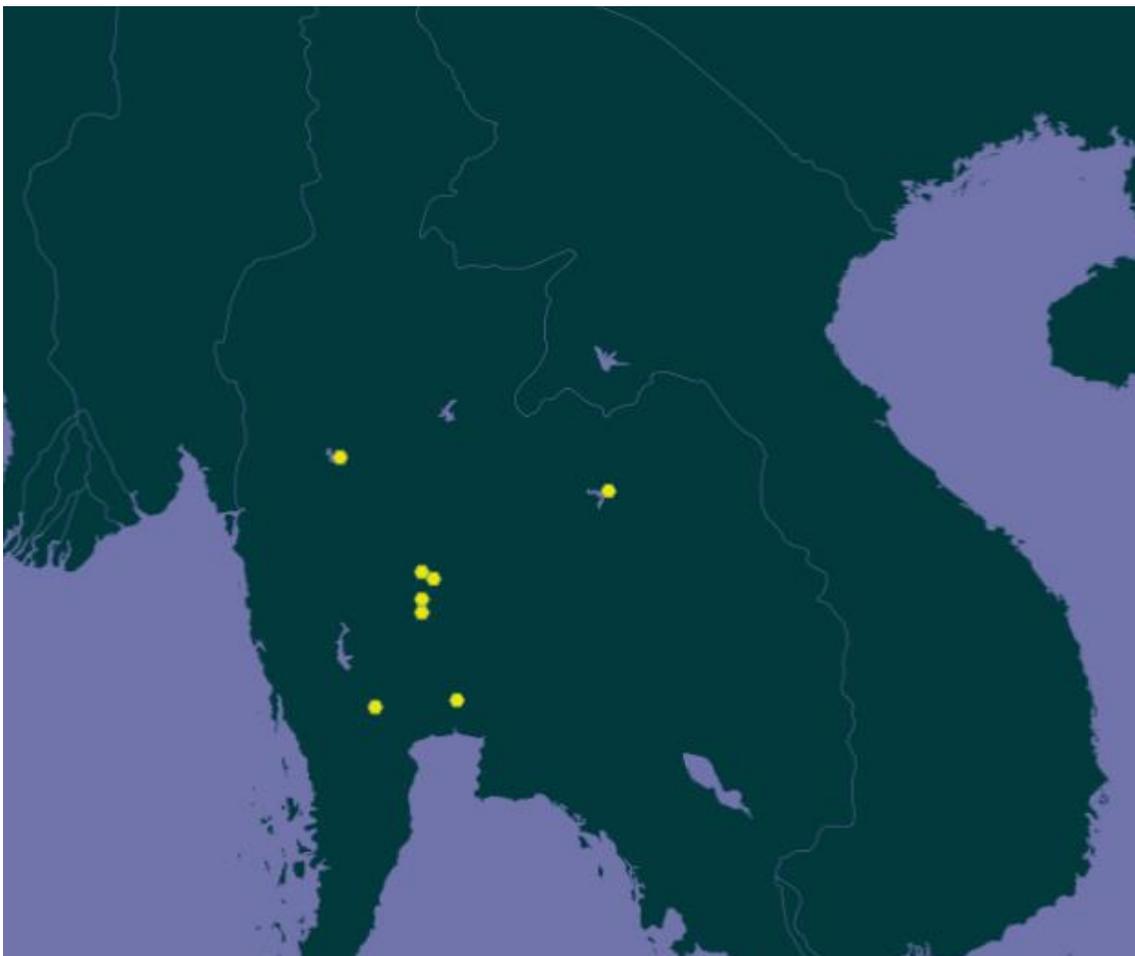


Figure 1. Known global distribution of *Henicorhynchus caudimaculatus*. Locations are reported from Thailand and Cambodia. Map from GBIF Secretariat (2019).

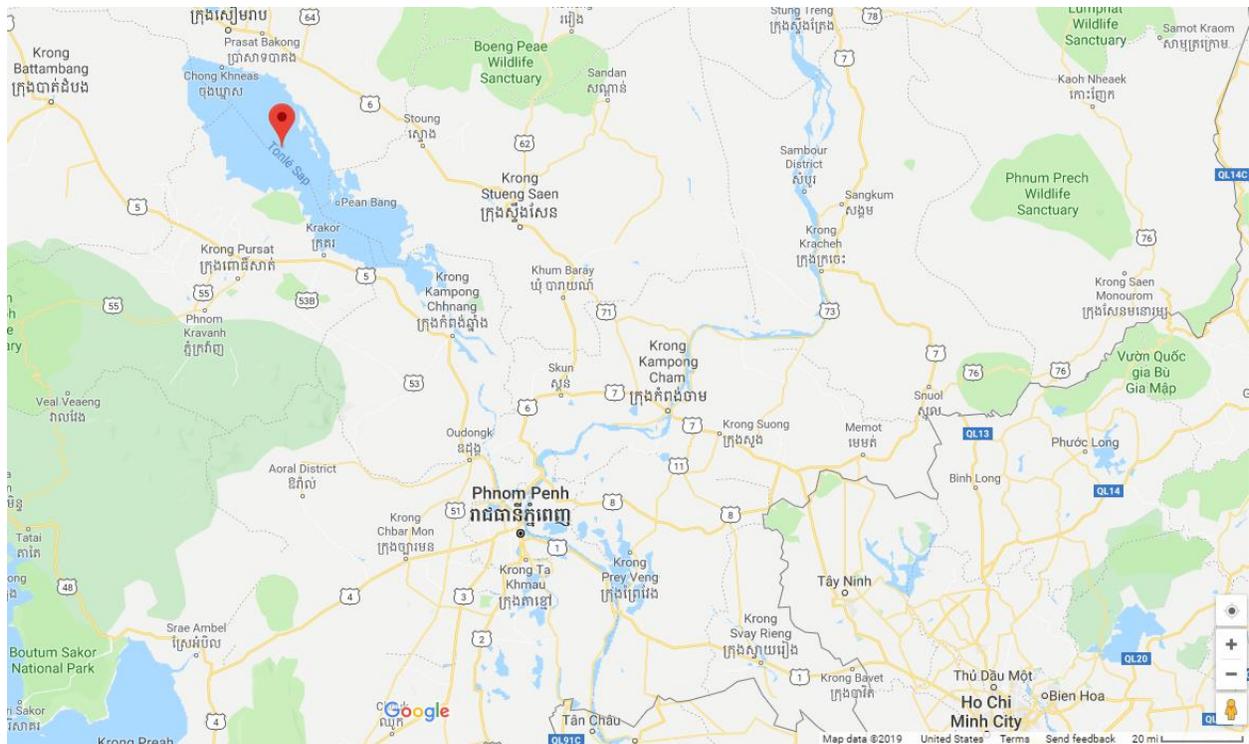


Figure 2. Map of Cambodia showing the Tonlé Sap Lake and River where *Henicorhynchus caudimaculatus* has been recorded. Map from Google Maps (2019), locations from Lim et al. (1999).

5 Distribution Within the United States

No records of any wild populations of *Henicorhynchus caudimaculatus* in the United States were found.

6 Climate Matching

Summary of Climate Matching Analysis

The climate match for most of the contiguous United States was low. There were a few patches of medium match in southern Texas and peninsular Florida, with a very small patch of high match located in the southern tip of Texas. The Climate 6 score (Sanders et al. 2018; 16 climate variables; Euclidean distance) for the contiguous United States was 0.001, a low climate match (scores between 0.000 and 0.005, inclusive, are classified as low). All individual States had a low climate score except Texas, which had a medium climate score.

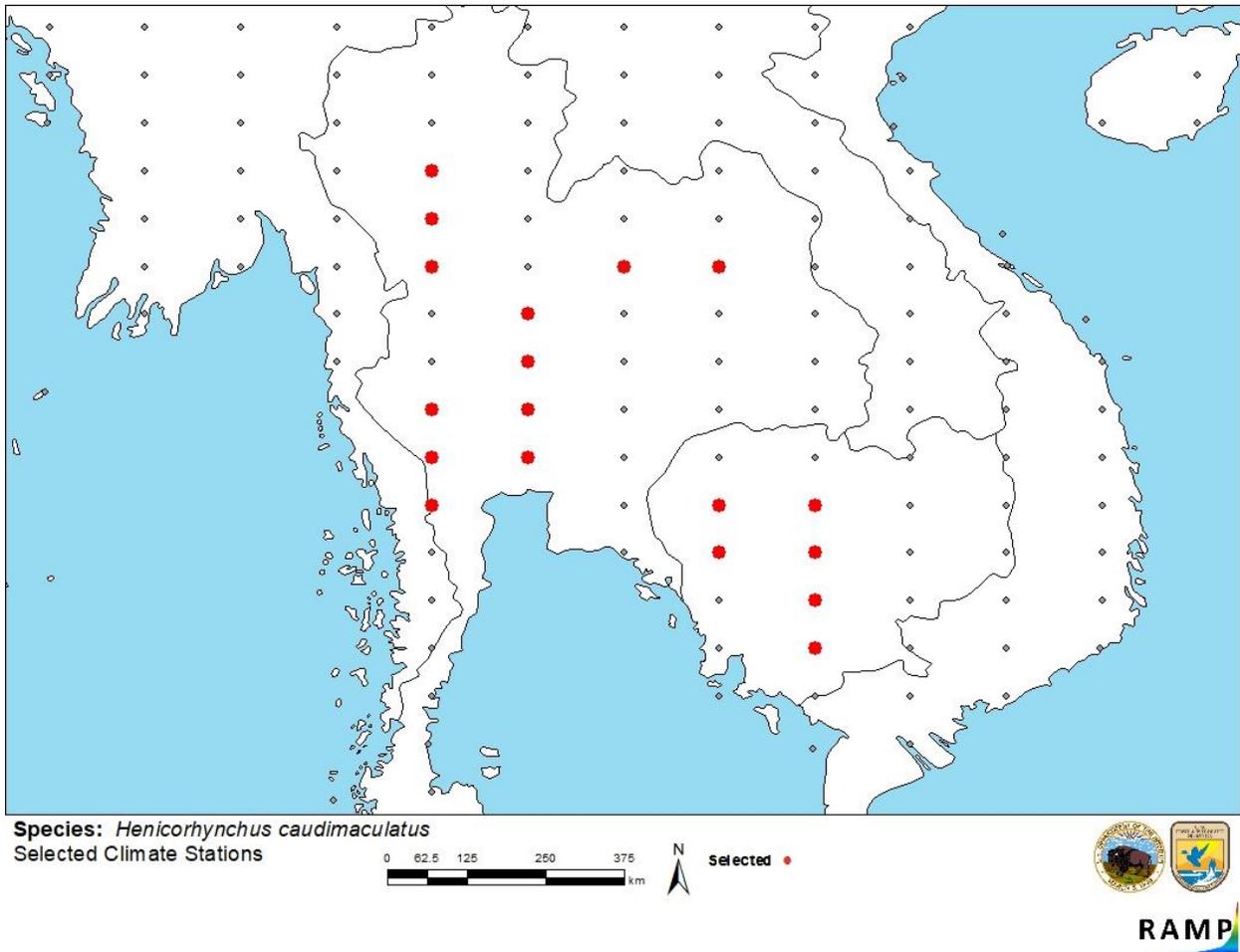


Figure 3. RAMP (Sanders et al. 2018) source map showing weather stations in Southeast Asia selected as source locations (red; Thailand, Cambodia) and non-source locations (gray) for *Henicorhynchus caudimaculatus* climate matching. Source locations from Lim et al. (1999) and GBIF Secretariat (2019).

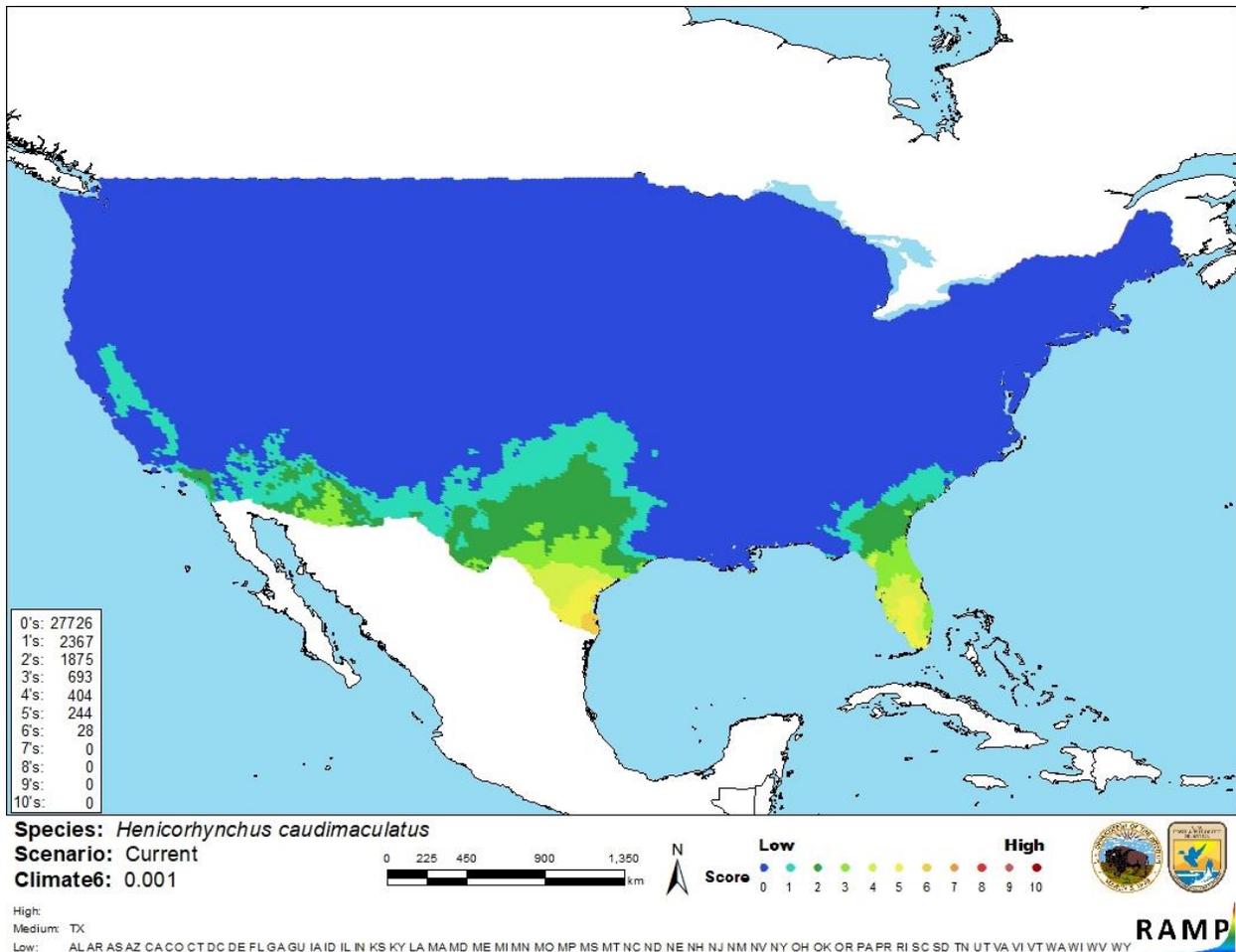


Figure 4. Map of RAMP (Sanders et al. 2018) climate matches for *Henicorhynchus caudimaculatus* in the contiguous United States based on source locations reported by Lim et al. (1999) and GBIF Secretariat (2019). 0 = Lowest match, 10 = Highest match.

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 very limited information available for *Henicorhynchus caudimaculatus* and it has never been introduced outside of its native range, therefore certainty of assessment is low.

8 Risk Assessment

Summary of Risk to the Contiguous United States

The lesser silver mud carp (*Henicorhynchus caudimaculatus*) is a freshwater fish found in Cambodia and Thailand. It may be a food source locally. There is very limited information available on this species and no records of introduction, making the history of invasiveness uncertain. The contiguous United States had a low climate match. Only southern Texas and peninsular Florida had areas of medium to high match. The certainty of this assessment is low, and 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:** Most literature still uses the synonym, *Cirrhinus caudimaculatus*, to refer to this species.
- **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. 2019. Catalog of fishes: genera, species, references. Available: <http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp>. (February 2019).

Froese, R., and D. Pauly, editors. 2019. *Cirrhinus caudimaculatus* (Fowler, 1934) FishBase. Available: <https://www.fishbase.de/summary/Cirrhinus-caudimaculatus.html>. (February 2019).

GBIF Secretariat. 2019. GBIF backbone taxonomy: *Henicorhynchus caudimaculatus* (Fowler, 1934). Global Biodiversity Information Facility, Copenhagen. Available: <https://www.gbif.org/species/2363522>. (February 2019).

Google Maps. 2019. Map of Tonle Sap, Cambodia. Available: <https://www.google.com/maps/place/Tonl%C3%A9+Sap/@12.2940708,104.5495166,8.5z/data=!4m5!3m4!1s0x310fc8e30ae43425:0x7d554ad9a332c7aa!8m2!3d12.9276385!4d104.0536735>. (May 2019).

ITIS (Integrated Taxonomic Information System). 2019. *Cirrhinus caudimaculatus* (Fowler, 1934). Integrated Taxonomic Information System, Reston, Virginia. Available: https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=688891#null. (February 2019).

Lim, P., S. Lek, S. T. Touch, S. O. Mao, and B. Chhouk. 1999. Diversity and spatial distribution of freshwater fish in Great Lake and Tonle Sap River (Cambodia, Southeast Asia). *Aquatic Living Resources* 12(6):379–386.

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/>. (May 2019).

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

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.

Rainboth, W. J. 1996. Fishes of the Cambodian Mekong. FAO species identification field guide for fishery purposes. FAO, Rome.

Riede, K. 2004. Global register of migratory species - from global to regional scales. Federal Agency for Nature Conservation, Final Report, R&D-Projekt 808 05 081, Bonn.

Roberts, T. R. 1997. Systematic revision of the tropical Asian labeon cyprinid fish genus *Cirrhinus*, with descriptions of new species and biological observations on *C. lobatus*. *Natural History Bulletin of Siam Society* 45:171–203.

Zulkafli, A. R., M. N. A. Amal, S. Shohaimi, A. Mustafa, A. H. Ghani, S. Hashim, M. I. Anuar, and S. Ayub. 2016. Length-weight relationships of 15 fish species from Tembeling River, Pahang, Malaysia. *Journal of Applied Ichthyology* 32:167–168.