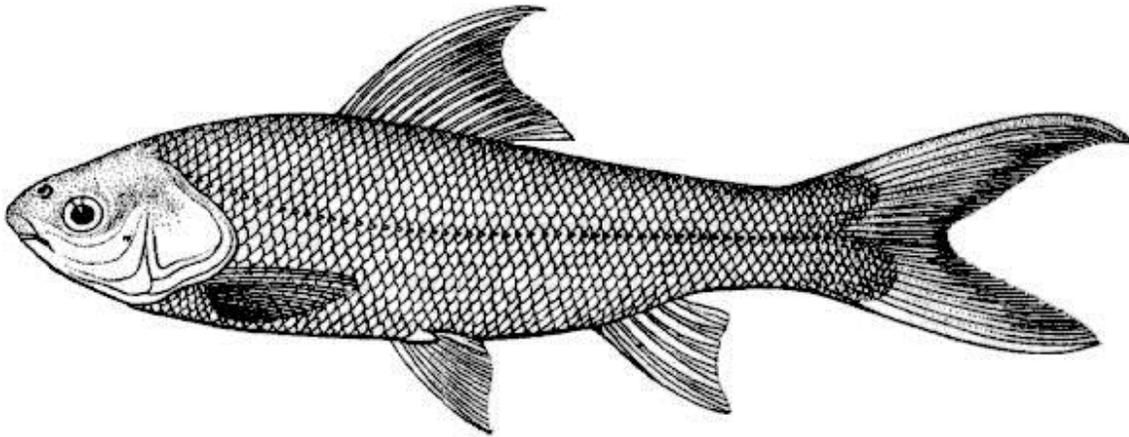


# Small Scale Mud Carp (*Cirrhinus microlepis*)

## Ecological Risk Screening Summary

Web Version – 10/31/2012



FAO

Photo: © FAO From EOL (2014).

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

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### **Native Range**

From Froese and Pauly (2011):

“Chao Phraya and Mekong basins in Thailand, Laos, Cambodia and Viet Nam.”

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

No known nonindigenous occurrences.

## Means of Introductions in the United States

No known means of introductions.

## 2 Biology and Ecology

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### 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 *Cirrhinus* Oken  
                        Species *Cirrhinus microlepis*

Current Taxonomic Standing: valid

### Size, Weight, Age

From Froese and Pauly (2011):

“Max length: 65.0 cm SL male/unsexed; (Baird 1999); max. published weight: 5,000 g (Roberts and Warren 1994)”

### Environment

From Froese and Pauly (2011):

“Freshwater, benthopelagic; potamodromous (Riede 2004)”

### Climate/Range

From Froese and Pauly (2011): “Tropical; 19°N - 9°N, 101°E - 108°E”

## **Distribution**

From Froese and Pauly (2011):

“Asia: Chao Phraya and Mekong basins in Thailand, Laos, Cambodia and Viet Nam.”

## **Short description**

From Froese and Pauly (2011):

“Dorsal spines (total): 0; Dorsal soft rays (total): 15-16; Vertebrae: 40. Distinguished from other species of the genus in the area by its count of lateral line scales: 53-60 (Kottelat 1998). A large species with very small scales, no barbels, and distinctive coloration. Juveniles silvery with red caudal fin, larger fish with head and body violaceous, rosy, or bluish and caudal fin dusky (Roberts 1997)”

## **Biology**

From Froese and Pauly (2011):

“Inhabits large rivers and lowland floodplains (Rainboth 1996). Occurs in riffle and deep slow reaches (Singhanouvong et al. 1996). Moves out into the flooded forest where it feeds on leafy plant matter, phytoplankton and insects (Rainboth 1996).”

“Migration pattern is markedly different above and below the Khone Falls in the Mekong basin. Below the falls, it makes an upstream migration from Phnom Penh to the Khone Falls between November and February, consisting mainly of sub-adults of sizes 10 to 50 cm. From April to July, it migrates in the opposite direction, from Khone Falls and downstream, constituting mainly of sub-adults up to about 50 cm (Sokheng et al. 1999).”

“Above the Khone Falls, from Klong Kaem District, Ubolratchatani in Thailand, fish migrates upstream in February; at Khemmaratch further upstream in Ubolratchatani, it moves upstream in March-April; and at Mukdahan, it goes upstream in May. However, it migrates downstream at Klong Kaem in June-July (Sokheng et al. 1999). Only downstream migrations are reported in the Mekong Delta in Viet Nam, constituting mainly of juveniles (2-20 cm), with the smallest fish mainly in June-July and fish between 10 and 20 mainly from September to November (Sokheng et al. 1999).”

“From Xayabouri in Laos to Chiang Saen in Thailand, upstream migrations take place from March to August. This appears to be two distinct migrations: one of sub-adults measuring 15-50 cm during March-April and another one of larger fishes of sizes 40 to 90 cm during June-July (Sokheng et al. 1999). Not known to persist in impoundments. Individuals caught with dais or traps are often immediately kept alive in fish cages for future sale. Marketed fresh and sometimes dried and salted (Rainboth 1996). Known to reach up to 15 kg in Thailand (Jean-Francois, pers. comm. 11/02) [not cited].”

## **Human uses**

From Froese and Pauly (2011): “Fisheries: commercial”

## **Diseases**

None reported.

## **Threat to humans**

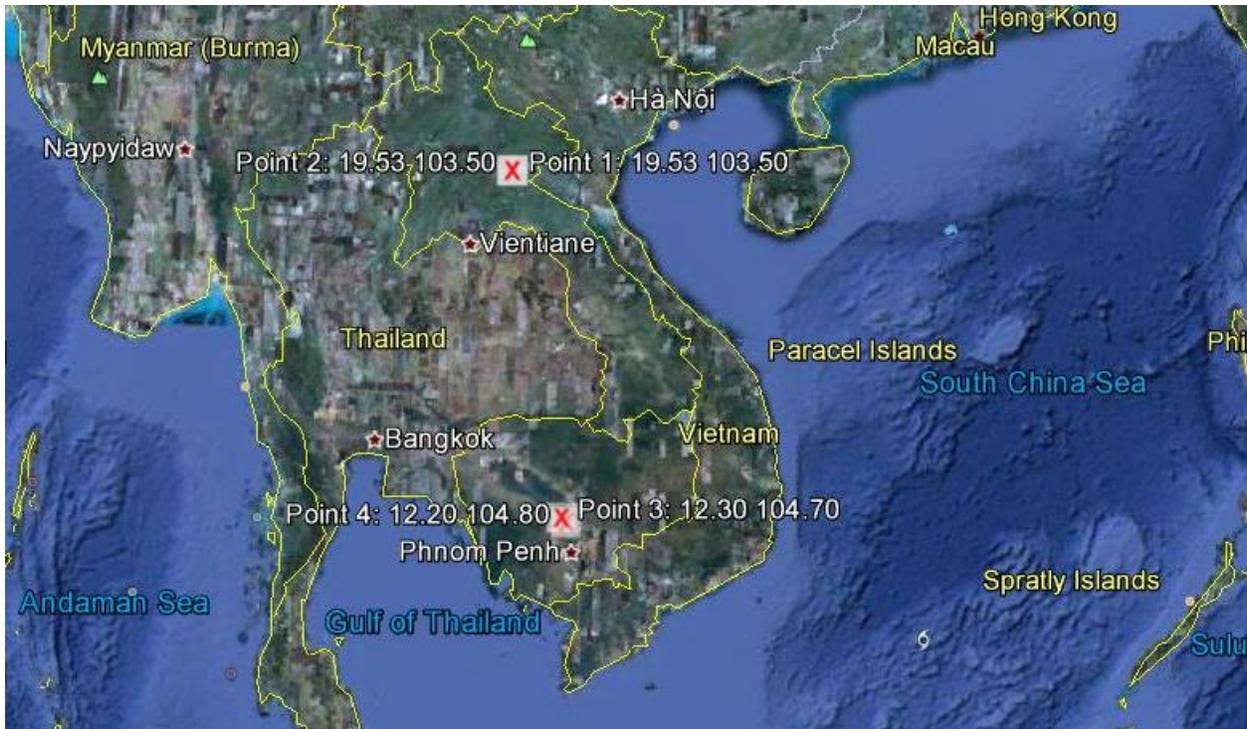
From Froese and Pauly (2011): “Harmless”

## **3 Impacts of Introductions**

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No known impacts of introductions

## 4 Global Distribution



**Figure 1 (above).** Map with known distribution of *C. microlepis*. Map from Google Earth (2011).

## 5 Distribution within the United States

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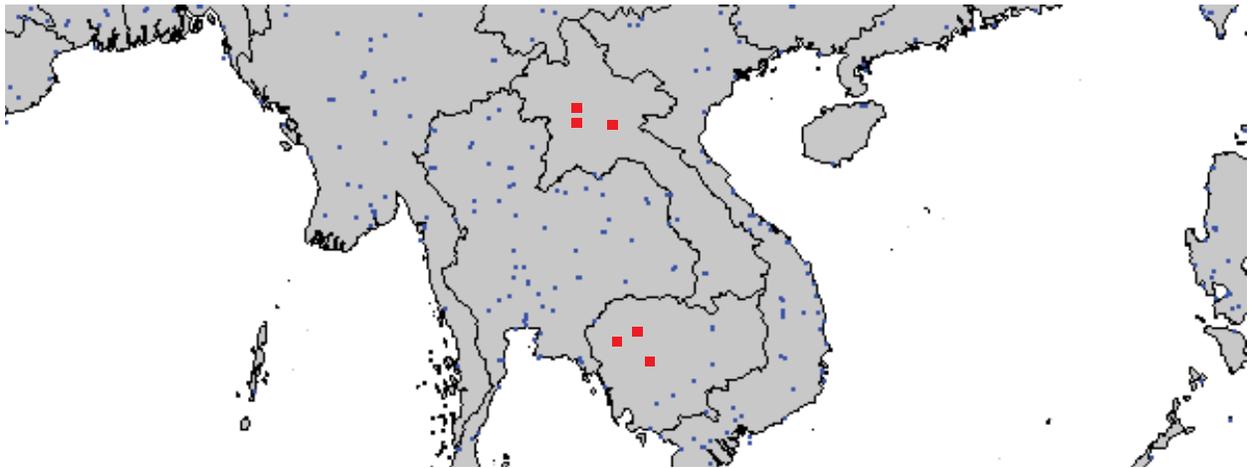
No known distribution within the United States

## 6 CLIMATCH

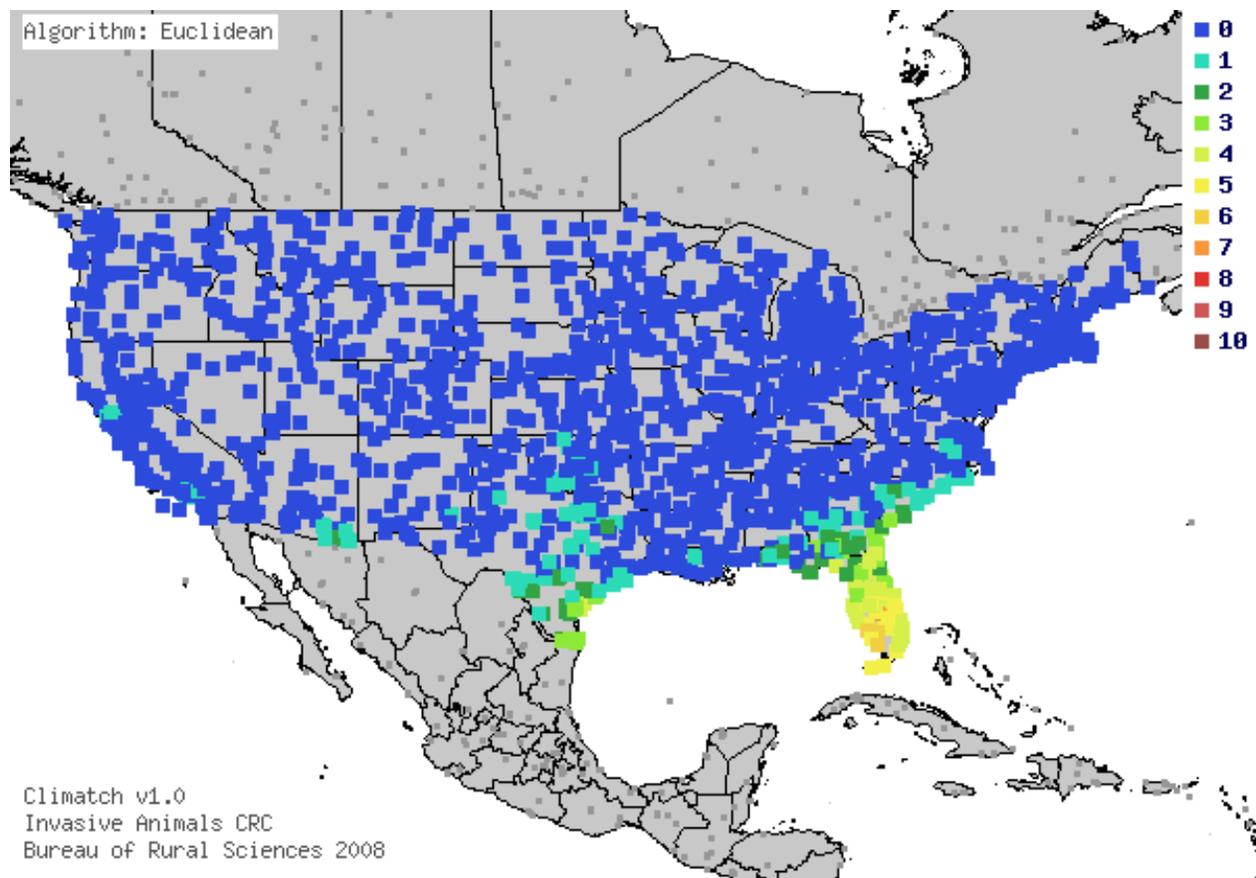
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### Summary of Climate Matching Analysis

The climate match (Australian Bureau of Rural Sciences 2010; 16 climate variables; Euclidean Distance) was Low throughout the U.S. except in Florida where it was medium. 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 *Cirrhinus microlepis* is 0.004.



**Figure 2 (above).** CLIMATCH (Australian Bureau of Rural Sciences 2010) source map showing weather stations selected as source locations (red) and non-source locations (blue) for *Cirrhinus microlepis* climate matching. Source locations from Froese and Pauly (2011).



**Figure 3 (above).** Map of CLIMATCH (Australian Bureau of Rural Sciences 2010) climate matches for *Cirrhinus microlepis* in the continental United States based on source locations reported by Froese and Pauly (2011). 0= Lowest match, 10=Highest match.

**Table 1 (below).** CLIMATCH (Australian Bureau of Rural Sciences 2010) climate match scores

CLIMATCH Score	0	1	2	3	4	5	6	7	8	9	10
Count	1697	117	54	29	51	19	6	1	0	0	0
Climate 6 Proportion = 0.004 (Low)											

## 7 Certainty of Assessment

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Peer-reviewed literature on the biology, ecology, and distribution associated with *Cirrhinus microlepis* as well as information on its potential invasiveness is extremely 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

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### Summary of Risk to the Continental United States

*C. microlepis* is native to parts of Southeast Asia, and has not been reported outside of its native range. This species is not known to be popular in the aquarium industry and may be locally popular as a food species. Climate match for this species is low and this species has no history of invasiveness. The risk for this species is uncertain.

### 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

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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.**

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Froese, R. and D. Pauly (Eds.). 2011. *Cirrhinus microlepis*. FishBase. Available:  
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[http://www.itis.gov/servlet/SingleRpt/SingleRpt?search\\_topic=TSN&search\\_value=688896](http://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=688896) (Accessed August 2011).

## 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.**

Baird, I.G., V. Inthaphaisy, P. Kisouvannalath, B. Phylavanh and B. Mounsouphom. 1999. The fishes of southern Lao. Lao Community Fisheries and Dolphin Protection Project. Ministry of Agriculture and Forestry. 161 p.

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Sokheng, C., C.K. Chhea, S. Viravong, K. Bouakhamvongsa, U. Suntornratana, N. Yoorong, N.T. Tung, T.Q. Bao, A.F. Poulsen and J.V. Jørgensen. 1999. Fish migrations and spawning habits in the Mekong mainstream: a survey using local knowledge (basin-wide). Assessment of Mekong fisheries: Fish Migrations and Spawning and the Impact of Water Management Project (AMFC). AMFP Report 2/99. Vientiane, Lao, P.D.R.