

Silver Dollar Fish (*Mylossoma duriventris*)

Ecological Risk Screening Summary

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Photo: © L. Sousa from Schulz and Jerep (2014).

1 Native Range, and Status in the United States

Native Range

From Jégu (2003):

“South America: Amazon, Orinoco and Paraguay-Paraná River basins.”

Status in the United States

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

Means of Introductions in the United States

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

Remarks

Another common name for *Mylossoma duriventris* is Silver Mylossoma (Schulz and Jerep 2014). The scientific name is commonly misspelled as *Mylossoma duriventre* (ITIS 2014).

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

From: ITIS (2014):

“Kingdom Animalia
 Phylum Chordata
 Subphylum Vertebrata
 Superclass Osteichthyes
 Class Actinopterygii
 Subclass Neopterygii
 Infraclass Teleostei
 Superorder Ostariophysi
 Order Characiformes
 Family Characidae
 Genus *Mylossoma*
 Species *Mylossoma duriventris* (Cuvier, 1818)

Taxonomic Status: Valid.”

Size, Weight, and Age Range

From Jégu (2003):

“Max length : 25.0 cm SL male/unsexed; max. published weight: 1.0 kg.”

Environment

From Jégu (2003):

“Freshwater; benthopelagic; pH range: 5.0 - 7.8; dH range: ? - 20; potamodromous (Riede 2004).”

Climate/Range

From Jégu (2003):

“Tropical; 22°C - 28°C (Riehl and Baensch 1991).”

Distribution Outside the United States

Native

From Jégu (2003):

“South America: Amazon, Orinoco and Paraguay-Paraná River basins.”

Introduced

From Jégu (2003):

Introduction reported from unknown location to the Philippines (Central Luzon State University 1996). Establishment status unknown.

Means of Introduction Outside the United States

From Jégu (2003):

Reason listed for introduction was ornamental.

Short description

No information reported for this species.

Biology

From Jégu (2003):

“Occurs over mud and silt in streams and lakes. Feeds on fish, insects, and plants (Garcia 1978).”

From Schulz and Jerep (2014):

“Rivers in the Amazon basin are commonly classified as white water, clear water, or black water based on their color, which results from different mineral and ionic composition. White water rivers are often mud-colored and rich in dissolved minerals. Different fish species may be limited to one or more types of water. In the Amazon Basin, white water rivers are thought to function as spawning grounds for many fish species, including *M. duriventre*, with the associated floodplains functioning as nursery grounds. Although adult *M. duriventre* are found in clear, black, and white rivers, larval and early juvenile have been found only in white waters. White water habitats may function as “sources” of *M. duriventre* that supply fish to black and clear river “sinks”, i.e., populations in black and clear rivers may be regularly replenished from productive white river populations. *Mylossoma duriventre* lay eggs, which then hatch into planktonic larvae. (De Lima and Araujo-Lima 2004).”

“*Mylossoma duriventre* are omnivorous. In a study of an Amazonian tropical floodplain lake, Oliveira et al. (2006) found that these fish consumed mainly fruit and seeds during the rising water, high water, and receding water periods, whereas during the low water period they consumed mainly plant material, insects, and zooplankton. Leite and Araujo-Lima (2000) studied the larval diet of this species in the central Amazon.”

Human uses

From Jégu (2003):

“Fisheries: commercial; aquarium: commercial.”

From Schulz and Jerep (2014):

“...Often encountered in the aquarium trade.”

Diseases

There are no known OIE-reportable diseases for this species.

Threat to humans

From Jégu (2003):

Harmless.

From Tolesani Júnior et al. (2013):

“Haff disease associated rhabdomyolysis is correlated with the ingestion of certain freshwater fish and shellfish and is caused by an unidentified toxin.”

“The toxin and all fish species associated with the development of Haff disease are still to be identified, but it seems that *Mylossoma duriventre* is one of the species associated with Haff disease in Brazil...”

3 Impacts of Introductions

The species was reported as introduced in the Philippines but no information was available about the impacts of the introduction.

4 Global Distribution



Figure 1. Map of known global distribution of *Mylossoma duriventris*. Map from GBIF (2012).

5 Distribution within the United States

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

6 CLIMATCH

Summary of Climate Matching Analysis

The climate match (Australian Bureau of Rural Sciences 2008; 16 climate variables; Euclidean Distance) was medium to high for the state of Florida and medium for the majority of the southern and eastern portions of the contiguous United States. Most northern and western states had a low climate match although the California coastline had a medium climate match. Climate 6 proportion indicated that the contiguous U.S. has a high climate match overall. The range for a high climate match is 0.103 and greater; climate match of *Mylossoma duriventris* is 0.133.



Figure 2. CLIMATCH (Australian Bureau of Rural Sciences 2008) source map showing weather stations selected as source locations (red) and non-source locations (blue) for *Mylossoma duriventris* climate matching. Source locations from GBIF (2012).

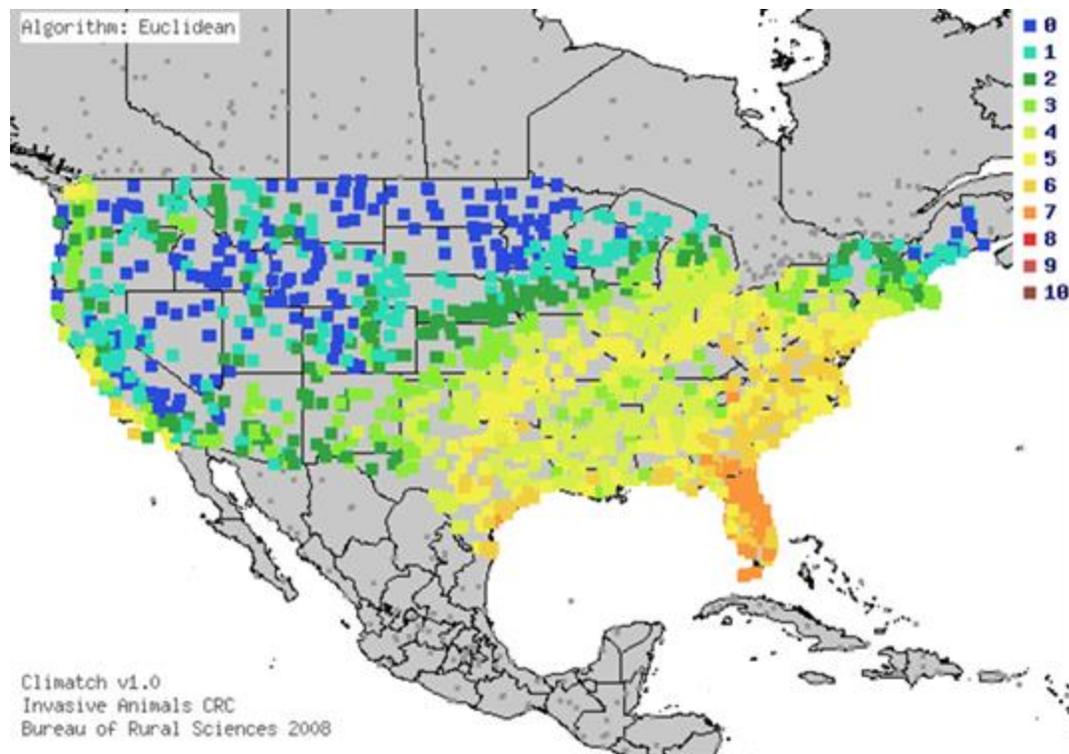


Figure 3. Map of CLIMATCH (Australian Bureau of Rural Sciences 2008) climate matches for *Mylossoma duriventris* in the contiguous United States based on source locations reported by GBIF (2012). 0= Lowest match, 10=Highest match.

Table 1. CLIMATCH (Australian Bureau of Rural Sciences 2008) climate match scores.

CLIMATCH Score	0	1	2	3	4	5	6	7	8	9	10
Count	205	245	235	260	404	350	182	78	1	0	0
Climate 6 Proportion =		0.133									

7 Certainty of Assessment

There is limited information about *Mylossoma duriventris* available. In particular, there is insufficient information about the impacts of introduced *Mylossoma duriventris*. The distribution of this species, however, is fairly well-documented. Due to the lack of information on impacts, the certainty of this assessment is low.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Mylossoma duriventris is a freshwater fish native to several South American countries and river basins. It is commercially fished and used in the aquarium trade. It is not documented as established anywhere in the United States or outside its native range. One introduction is reported in the Philippines but little information is available for that introduction. Consumption of this species is associated with Haff disease, but cases have been limited. There is no information available on the impacts of introduced *Mylossoma duriventris*, making its invasiveness uncertain. The climate match for the contiguous United States is high, with the most likely habitat in the southeastern United States. The overall risk assessment category is uncertain.

Assessment Elements

- **History of Invasiveness (Sec. 3):** Uncertain
- **Climate Match (Sec.6):** High
- **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.

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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.

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