U.S. Fish & Wildlife Service

Mylossoma aureum (a fish, no common name)

Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, December 2012
Revised, February 2019
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Photo: Valeria Machado. Licensed under CC BY-SA. Available: http://v3.boldsystems.org/index.php/Taxbrowser_Taxonpage?taxid=545865. (February 2019).

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2019):

"South America: Amazon and Orinoco River basins [Bolivia, Brazil, Columbia, Ecuador, Peru, and Venezuela]."

Status in the United States

Mylossoma aureum has not been reported in the wild in the United States.

M. aureum may be in trade within the United States. This species is on the Unrestricted List in Maine, which means that it may be imported, possessed, or traded without permits (MDIFW 2020).

Means of Introductions in the United States

No records of *Mylossoma aureum* in the wild in the United States have been found.

Remarks

No additional remarks.

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

According to Fricke et al. (2019), *Mylossoma aureum* (Spix and Agassiz 1829) is the current and valid name of this species. The original name of the species was *Myletes aureus* (Spix and Agassiz 1829). *Myletes herniarius* and *Mylossoma ventriosa* are both synonyms of *Mylossoma aureum*.

From ITIS (2019):

"Kingdom Animalia
Phylum Chordata
Subphylum Vertebrata
Superclass Osteichthyes
Class Actinopterygii
Subclass Neopterygii
Infraclass Teleostei
Superorder Ostariophysi
Order Characiformes
Family Characidae
Genus *Mylossoma*
Species *Mylossoma aureum* (Spix and Agassiz, 1829)"

Size, Weight, and Age Range

From Froese and Pauly (2019):

"Max length : 20.0 cm TL male/unsexed; [Jegu 2003]"

Environment

From Froese and Pauly (2019):

"Freshwater; benthopelagic; potamodromous [Riede 2004]. […] 22°C - 28°C [Baensch and Riehl 1995; assumed to be recommended aquarium temperature]"

Climate/Range

From Froese and Pauly (2019):

"Tropical"

Distribution Outside the United States

Native

From Froese and Pauly (2019):

"South America: Amazon and Orinoco River basins [Bolivia, Brazil, Columbia, Ecuador, Peru and Venezuela]."

Introduced

No introductions outside of their native range have been reported for *Mylossoma aureum.*

Means of Introduction Outside the United States

No introductions outside of their native range have been reported for *Mylossoma aureum.*

Short Description

From Schultz (1944):

"Ventral serrae 18 to 22 behind root of pelvic; last spine very close- to first ray of anal; dorsal with 14 or 15 branched rays and anal with 34 to 38; base of adipose fin 2⅗ to 2⅔ in that of rayed dorsal."

From Mateussi et al. (2018):

"Body deep, compressed laterally. Dorsal profile concave at posterior region of head and convex between head and dorsal fin. Ventral profile convex; slightly concave at isthmus and strongly convex from this point to end of anal fin. Highest body depth on vertical line passing through dorsal- and pelvic-fins origins. Caudal peduncle deeper than longer."

"Small head. Eyes lateral at middle of head; upper margin of eyes below longitudinal axis of lateral-line origin. Frontal and parietal fontanel broadly expanded laterally. Snout short and rounded on lateral view. Nostrils dorsolateraly positioned, above longitudinal axis through upper margin of eye."

"Mouth terminal to slightly upturned, at same level of orbits. Premaxilla projected forward, with inner premaxillary row over or surpassing dentary teeth […]. Premaxillary teeth molariform with robust base; outer portion of anteriormost three teeth of outer row and posterior portion of remaining teeth pointed. Inner premaxillary row with two teeth, separated from outer row. Outer premaxillary row with five teeth. Dentary with four (rarely five) tricuspid, robust, molariform teeth; symphyseal dentary teeth present, with robust base and large conical cusp, behind main row […]. Maxilla edentulous."

Biology

From Mateussi et al. (2018):

"*Mylossoma aureum* is a highly fecund, fast growing species with high mortality rates in early life stages (Lima & Araújo-Lima, 2004). The species is considered an omnivore with high tendency to herbivory, feeding mainly on vegetal matter and invertebrates. *Mylossoma aureum* undertakes reproductive migrations, and the spawning occurs during the flood season, mainly in white waters [*sic*] rivers and associated wetlands (Santos et al., 2006)."

Human Uses

From Mateussi et al. (2018):

"*Mylossoma aureum* has moderate importance in commercial fisheries (Santos et al., 2006)."

Diseases

No records of OIE-reportable diseases (OIE 2020) were found for *Mylossoma aureum*.

According to Poelen (2014), *Mylossoma aureum* is a host for the following parasites: *Pseudocladorchis* spp., *Dadaytrema* spp., and *Microrchis* spp.

Threat to Humans

From Froese and Pauly (2019):

"Harmless"

3 Impacts of Introductions

No introductions have been reported for *Mylossoma aureum*; therefore there is no information on impacts of introductions.

4 Global Distribution

Figure 1. Known global distribution of *Mylossoma aureum*. Locations in Bolivia, Brazil, Columbia, Ecuador, Peru and Venezuela. Map from GBIF Secretariat (2019). A location in the northern United States was excluded from this map because it is a preserved specimen in a university museum and did not represent an established, wild population.

5 Distribution Within the United States

Mylossoma aureum has not been reported as introduced to the United States.

6 Climate Matching

Summary of Climate Matching Analysis

The climate match was very low for a majority of the contiguous United States. There was a medium match in the southern tip of Texas, southern tip of Louisiana, and central Florida. The southern tip of the Florida peninsula is the only area with high match. The Climate 6 score (Sanders et al. 2018; 16 climate variables; Euclidean distance) for contiguous United States was 0.005, a low match. (Scores between 0.000 and 0.005, inclusive, are classified as low.) All states received low individual climate scores, except for Florida, which received a high climate score.

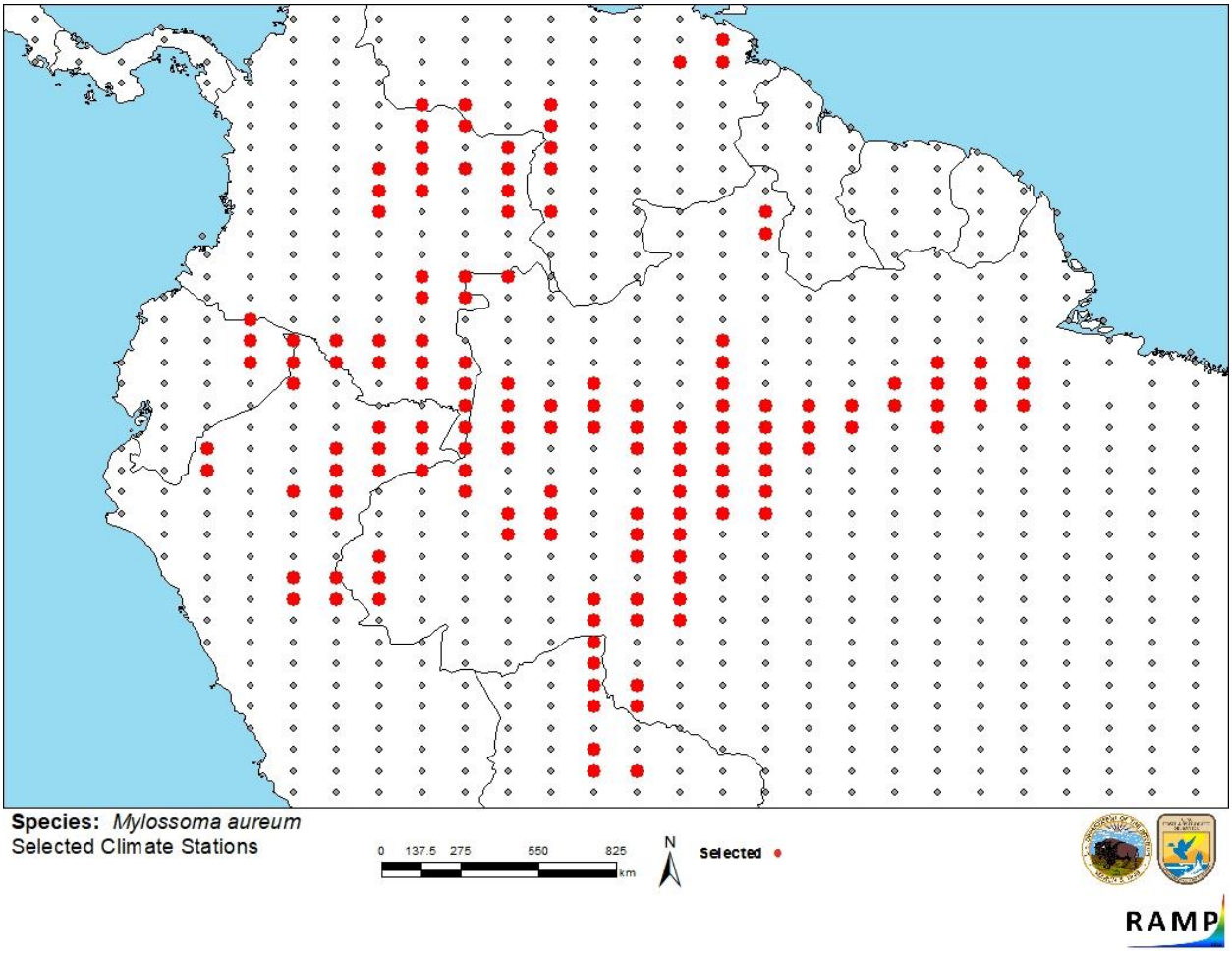

Figure 2. RAMP (Sanders et al. 2018) source map showing weather stations in South America selected as source locations (red; Bolivia, Brazil, Columbia, Ecuador, Peru, and Venezuela) and non-source locations (gray) for *Mylossoma aureum* climate matching. Source locations from GBIF Secretariat (2019). Selected source locations are within 100 km of one or more species occurrences, and do not necessarily represent the locations of occurrences themselves.

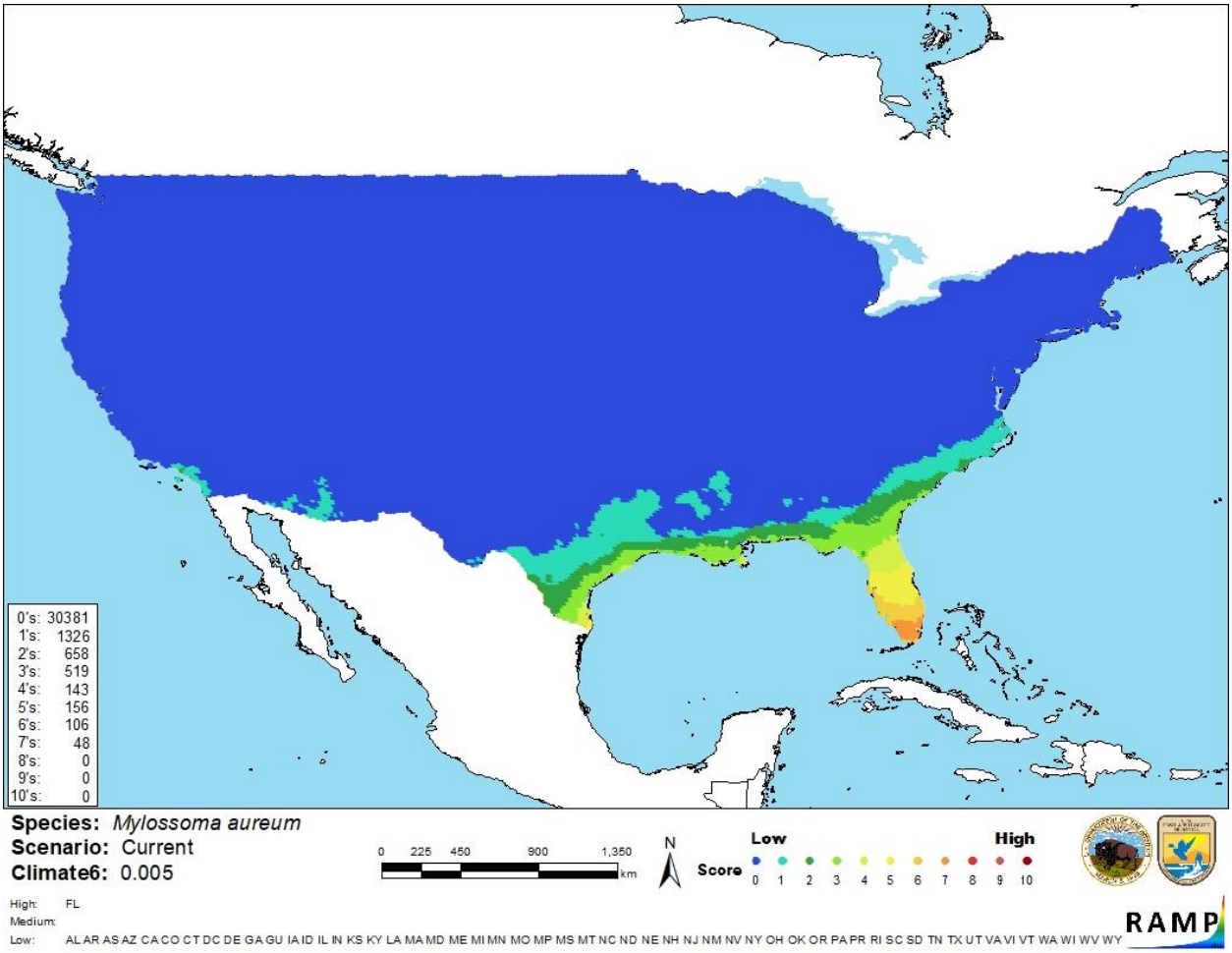

Figure 3. Map of RAMP (Sanders et al. 2018) climate matches for *Mylossoma aureum* in the contiguous United States based on source locations reported by GBIF Secretariat (2019). 0 = Lowest match, 10 = Highest match.

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≤X≤0.005	Low
0.005<X<0.103	Medium
≥0.103	High

7 Certainty of Assessment

Certainty of assessment is low. There is limited available information on *Mylossoma aureum*. No introductions have been reported outside of their native range.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Mylossoma aureum is a South American freshwater fish native to the Amazon and Orinoco River basins. This species can be found in Bolivia, Brazil, Columbia, Ecuador, Peru and Venezuela. It is present to some extent in the aquarium trade, including possible trade within the United States. *M. aureum* is a moderately important commercial fish in its home range. *M. aureum* has not been reported outside of their native range, creating an uncertain history of invasiveness. The climate match for the contiguous United States was low. All states received low individual climate scores, except for Florida, which received a high climate score. The certainty of assessment is low due to lack of information. The overall risk assessment category for *Mylossoma aureum* 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:** No additional remarks.
- **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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