

Striped Silver Dollar (*Metynnis fasciatus*)

Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, January 2013

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Photo: *Metynnis fasciatus* (cropped). Credit: Edmund Hall. Licensed under: CC-BY 3.0. Available: <http://www.fishbase.org/photos/UploadedBy.php?autoctr=17528&win=uploaded>. (January 2018).

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2017):

“South America: Capiuru River basin in middle Amazon River drainage [Brazil].”

Status in the United States

There are no known populations of this species in the United States, however, Nico et al. (2018) report that the genus *Metynnis* (species uncertain) is locally established in Florida. This species is in trade in the United States and is bred by an aquarium supplier in Florida (Imperial Tropicals 2015).

From Nico et al. (2018):

“A member of this genus [*Metynnis*] was collected in **Florida** from a lake on Marco Island, Collier County in January, 1980 (FSBC 19822; listed as *Metynnis lippincotianus* in Courtenay et al. 1984, and as *Metynnis* sp. in Courtenay and Stauffer 1990 and in Courtenay et al. 1991). A reproducing population was found in Halpatoiokee Regional Park Conservation Area in Martin County in 2005, with additional specimens taken in 2006 and 2007 (Shafland et al. 2008; Florida Fish and Wildlife Conservation Commission 2009). In **Kentucky**, a single fish (originally identified as a piranha and as *Metynnis roosevelti*) was taken by hook and line from Lighthouse Lake, Louisville, Jefferson County, in the summer of 1981 (Anonymous 1981; Fossett 1981).”

“There is considerable confusion surrounding the Kentucky record. In original published accounts, the fish was identified as a piranha, but the scientific name provided was *Metynnis roosevelti* (= *Metynnis maculatus*). However, in a photograph of the fish accompanying the newspaper article (Fossett 1981), the specimen actually appears to have a short adipose fin and is probably a pacu, possibly *Piaractus brachypomus*. The collectors gave the live fish to the Louisville Zoo, where it was kept in aquaria; when the fish later died, it was supposedly not preserved. The Kentucky specimen has been the basis for inclusion of the species in published lists of nonestablished foreign species, with earlier listings identifying it as *Metynnis roosevelti* (e.g., Courtenay et al. 1984) and later simply as *Metynnis* sp. (i.e., Courtenay and Stauffer 1990; Courtenay et al. 1991).”

Means of Introductions in the United States

From Nico et al. (2018):

“Records [for *Metynnis* sp.] mostly likely represent aquarium releases.”

Remarks

Common name from aquarium trade website (Imperial Tropicals 2015). No common name available from scientific sources.

From Nico et al. (2018):

“The genus *Metynnis* is in great need of systematic revision.”

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

From ITIS (2018):

“Kingdom Animalia
Phylum Chordata
Subphylum Vertebrata
Superclass Osteichthyes
Class Actinopterygii
Subclass Neopterygii
Infraclass Teleostei
Superorder Ostariophysi
Order Characiformes
Family Characidae
Genus *Metynnis* Cope, 1878
Species *Metynnis fasciatus* Ahl, 1931”

“Taxonomic Status: valid”

Size, Weight, and Age Range

From Froese and Pauly (2017):

“Max length : 5.8 cm SL male/unsexed [Zarske and Géry 1999]”

Environment

From Froese and Pauly (2017):

“Freshwater; pelagic.”

Climate/Range

From Froese and Pauly (2017):

“Tropical”

Distribution Outside the United States

Native

From Froese and Pauly (2017):

“South America: Capiuru River basin in middle Amazon River drainage [Brazil].”

Introduced

There are no known introductions of this species outside of its native range.

Means of Introduction Outside the United States

There are no known introductions of this species outside of its native range.

Short Description

From Ampil (2018):

“[...] *M. fasciatus* has the characteristic round body shape. Juvenile specimens seem to be more diamond-shaped. They become rounder as they grow larger.”

“The base color is silver with a greenish gold sheen on the upper part of the body. The key distinct feature of the *M. fasciatus* is the vertical stripes found in the body. In fact, its species name, *fasciatus*, means “banded” in Latin. These stripes are dark grey in color. Some are generally straight from top to bottom while others are crooked.”

“It is said that no two specimens are identical in terms of body pattern. A dark blotch is located behind the eye. However, this blotch is not always present [...]”

“The *M. fasciatus* has a red anal fin which hooks at the tip. The pectoral fins are reddish in color, but the rest of the fins are generally clear. The dorsal fin seems to be quite longer than that of the Silver Dollar [*Metynnis argenteus*].”

Biology

No information available.

Human Uses

From Imperial Tropicals (2015):

“Up for sale are captive bred Striped Silver Dollars. These are extremely rare in the hobby. Most are wild caught, but ours have been bred here in Florida.”

Diseases

No information available.

Threat to Humans

From Froese and Pauly (2013):

“Harmless.”

3 Impacts of Introductions

There are currently no recorded introductions or impacts of introductions of *Metynnis fasciatus*, however unidentified species of *Metynnis* are listed as locally established in Florida.

4 Global Distribution

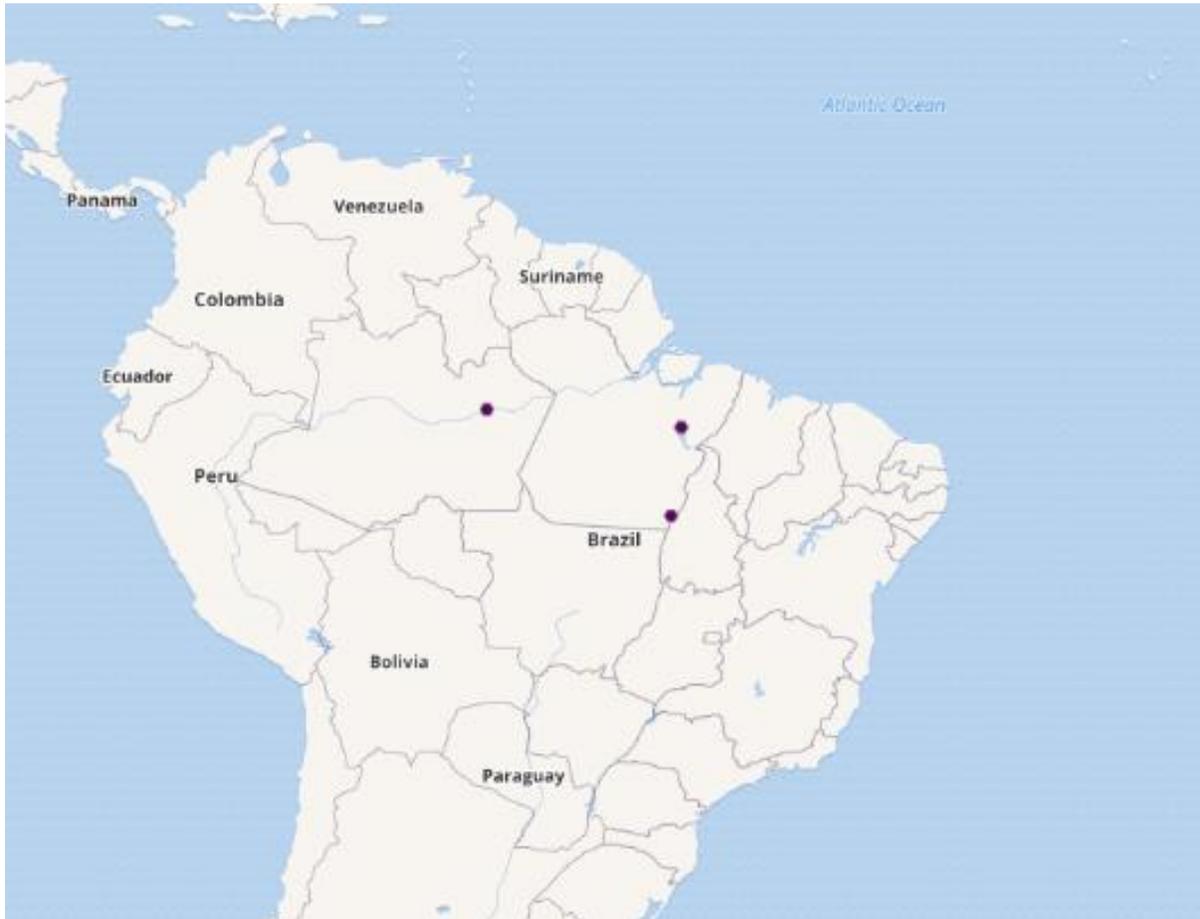


Figure 1. Known global distribution of *Metynnis fasciatus*. Map from GBIF (2017).

5 Distribution Within the United States

There is currently no known distribution of *Metynnis fasciatus* within the United States; however, unidentified species of *Metynnis* are listed as locally established in Florida.

6 Climate Matching

Summary of Climate Matching Analysis

The Climate 6 score (Sanders et al. 2014; 16 climate variables; Euclidean distance) for *Metynnis fasciatus* for the contiguous United States was 0.0, which is low. The range for a low climate match is from 0.0 to 0.005, inclusive. The climate match was low throughout the contiguous United States, except in southwest peninsular Florida, where it was medium.

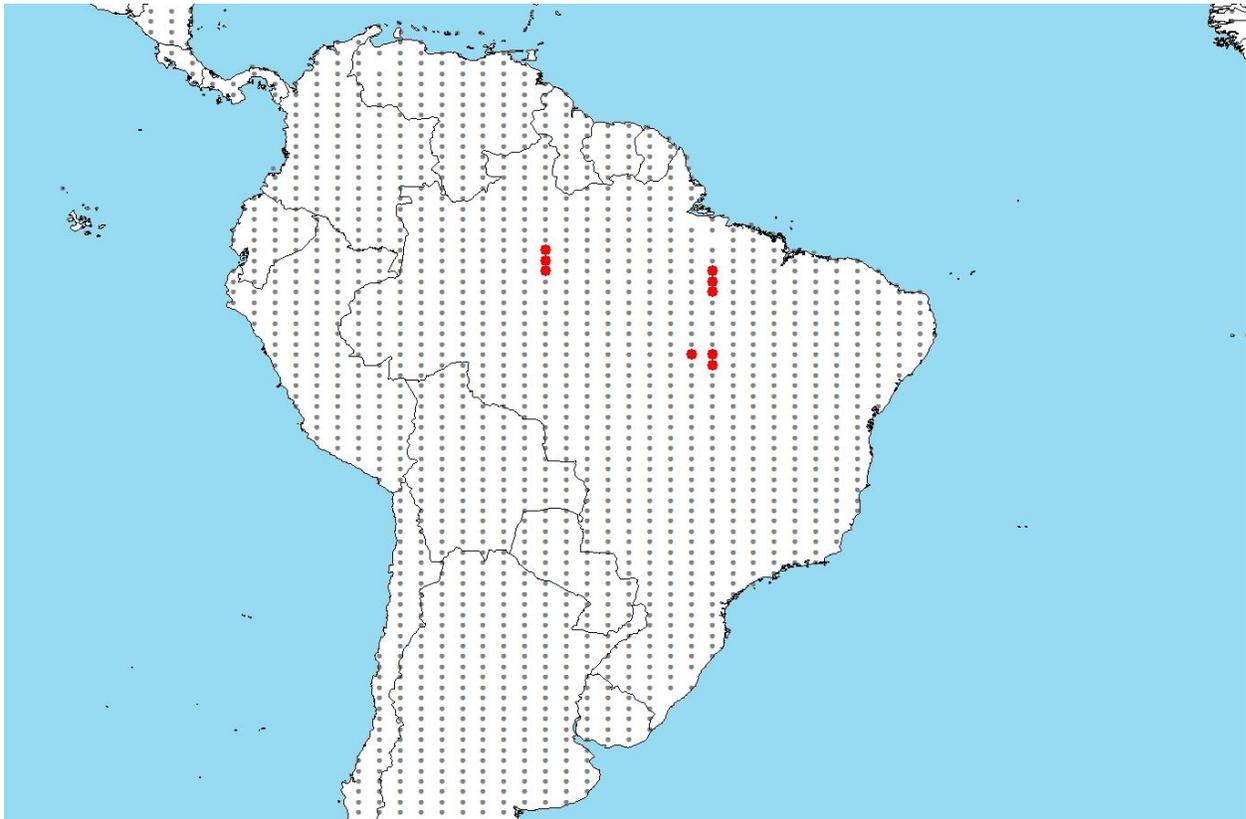


Figure 2. RAMP (Sanders et al. 2014) source map showing weather stations selected as source locations (red; Brazil) and non-source locations (gray) for *Metynnis fasciatus* climate matching. Source locations from GBIF (2017).

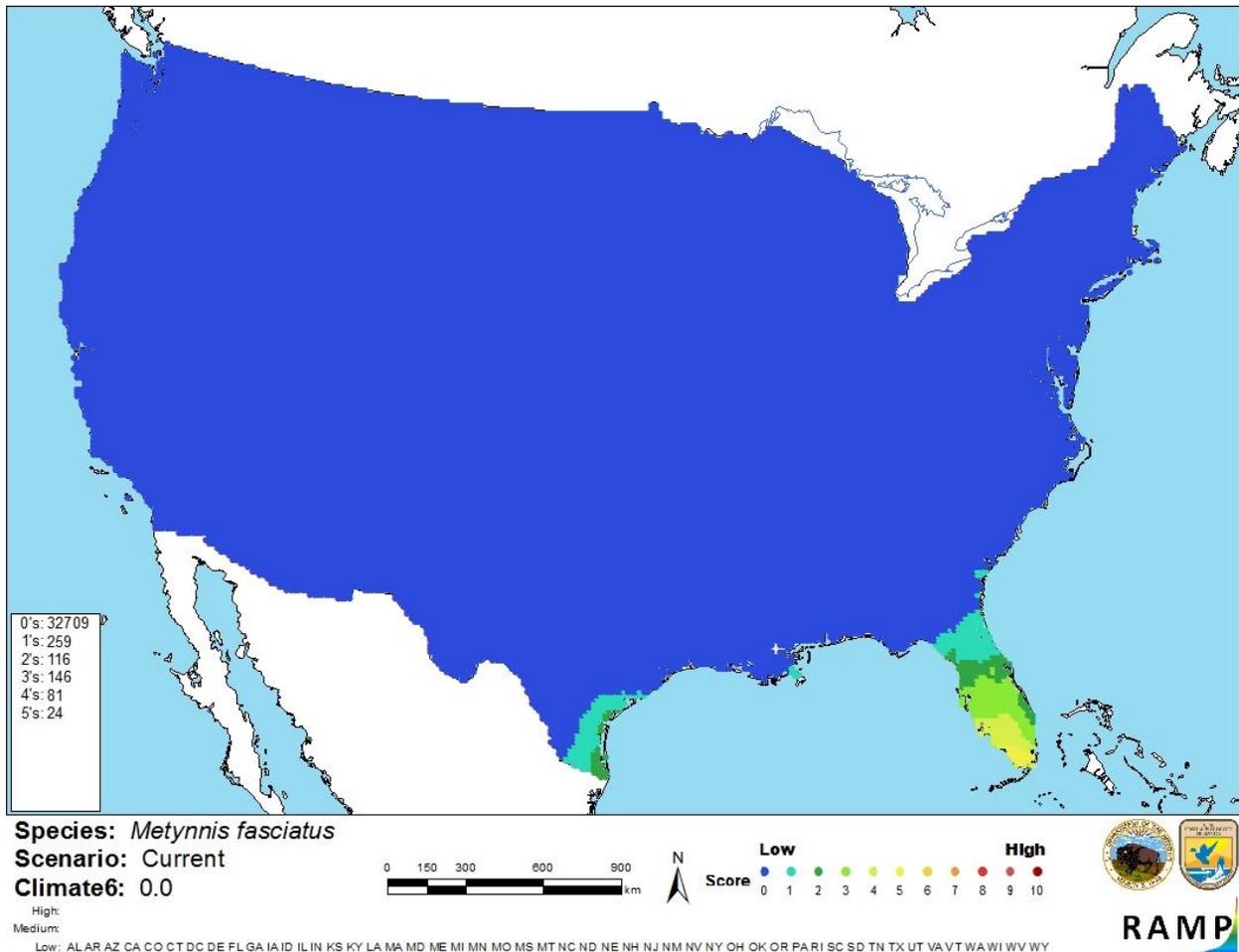


Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *Metynnis fasciatus* in the contiguous United States based on source locations reported by GBIF (2017). 0= Lowest match, 10=Highest match.

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

7 Certainty of Assessment

Information on *Metynnis fasciatus* in English is extremely limited; all known peer-reviewed literature describing this species is in Portuguese or German. No introductions of this species have been reported, so impacts of introduction are unknown. Assessment of this species is complicated due to uncertain identification of *Metynnis* spp. captured and established in the United States, and the need for systematic revision of the genus. Additional information and

research on this species will be needed to increase the certainty of this assessment. Based on available data, the certainty of this assessment is low.

8 Risk Assessment

Summary of Risk to the Contiguous United States

The striped silver dollar (*Metynnis fasciatus*) is a fish native to Brazil. This species is not known to be established outside of its native range. However, members of the *Metynnis* genus (species uncertain) have been collected beyond their native range in Florida, where their status is listed as locally established. *Metynnis* spp. found in Florida are believed to be aquarium releases. *M. fasciatus* is in the aquarium hobby trade, and is bred in Florida. The lack of information about impacts of introduction leads to an uncertain classification for history of invasiveness. The climate match with the contiguous United States for this species was low, with a small area of medium match in southwest Florida. Certainty of this assessment is low due to a lack of information and taxonomic uncertainty. The overall risk assessment category for *Metynnis fasciatus* 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**

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.

Ampil, A. 2018. The striped silver dollar. Animal Scene Magazine (April 9). Manila Bulletin Publishing, Inc. Available: <https://animalscene.ph/2018/04/09/the-striped-silver-dollar/>. (August 2018).

Froese, R. and D. Pauly, editors. 2017. *Metynnis fasciatus* Ahl, 1931. FishBase. Available: <http://www.fishbase.org/summary/56433>. (January 2018).

GBIF (Global Biodiversity Information Facility). 2017. *Metynnis fasciatus* Ahl, 1931. Available: <http://data.gbif.org/species/2353446/> (January 2018).

Imperial Tropicals. 2015. F-1 Striped silver dollar (*Metynnis fasciatus*). Available: <https://imperialtropicals.com/products/striped-silver-dollar-metynnis-fasciatus-tank-raised-f-1>. (January 2018).

ITIS (Integrated Taxonomic Information System Online Database). 2018. *Metynnis fasciatus* Ahl, 1931. Available: http://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=641341. (January 2018).

Nico, L., P. Fuller, and M. Neilson. 2018. *Metynnis sp.* Cope, 1878. U.S. Geological Survey, Nonindigenous Aquatic Species Database, Gainesville, Florida. Available: <https://nas.er.usgs.gov/queries/FactSheet.aspx?SpeciesID=423>. (February 2018).

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

Anonymous. 1981. Piranha caught in Kentucky. *Pet Business* 7(11):33.

Courtenay, W. R., Jr., D. A. Hensley, J. N. Taylor, and J. A. McCann. 1984. Distribution of exotic fishes in the continental United States. Pages 41-77 in W. R. Courtenay, Jr., and J. R. Stauffer, Jr, editors. *Distribution, biology, and management of exotic fishes*. John Hopkins University Press, Baltimore, Maryland.

Courtenay, W. R., Jr., D. P. Jennings, and J. D. Williams. 1991. Appendix 2: exotic fishes. Pages 97-107 in C. R. Robins, R. M. Bailey, C. E. Bond, J. R. Brooker, E. A. Lachner, R. N. Lea, and W. B. Scott. *Common and scientific names of fishes from the United States and Canada*, 5th edition. American Fisheries Society Special Publication 20. American Fisheries Society, Bethesda, Maryland.

Courtenay, W. R., Jr., and J. R. Stauffer, Jr. 1990. The introduced fish problem and the aquarium fish industry. *Journal of the World Aquaculture Society* 21(3):145-159.

Florida Fish and Wildlife Conservation Commission. 2009. Florida FWC exotic database. Florida Fish and Wildlife Conservation Commission, Tallahassee, Florida.

Fossett, J. 1981. Here's one that didn't get away. *The Courier-Journal*, Louisville, Kentucky (June 19).

Shafland, P. L., K. B. Gestring, and M. S. Stanford. 2008. Florida's exotic freshwater fishes - 2007. *Florida Scientist* 71(3):220-245.

Zarske, A., and J. Géry. 1999. Revision der neotropischen Gattung *Metynnis* Cope, 1878. 1. Evaluation der Typusexemplare der nominellen Arten (Teleostei: Characiformes: Serrasalminidae). *Zoologische Abhandlungen, Museum für Tierkunde Dresden* 50(13):169-216.