

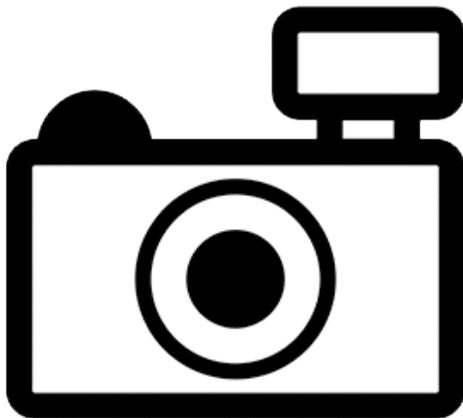
Metynnis longipinnis (a fish, no common name)

Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, February 2013

Revised, January 2018

Web Version, 8/23/2018



No Photo Available

1 Native Range and Status in the United States

Native Range

From Eschmeyer et al. (2018):

“Distribution: Venezuela and Brazil.”

Status in the United States

From Nico et al. (2018):

“A member of this genus 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 Halpatokee 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 non-established 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).”

There is no indication that this species is present in trade in the United States.

Means of Introductions in the United States

From Nico et al. (2018):

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

Remarks

From Ota et al. (2016):

“Taxonomic confusion is rife in the literature dealing with *Metynnis* species. There are 28 nominal species and only around half of them are recognized as valid. The elevated number of synonyms is probably a consequence of the enormous variability of body shape and color pattern, which in turn are highly influenced by ontogeny and sexual dimorphism (Zarske & Géry, 1999; Jégu, 2003; Pavanelli et al., 2009; Ota et al., 2013). As a consequence, there is little information about the phylogenetic relationships among species of *Metynnis*.”

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

From Froese and Pauly (2018):

“Biota > Animalia (Kingdom) > Chordata (Phylum) > Vertebrata (Subphylum) > Gnathostomata (Superclass) > Pisces (Superclass) > Actinopterygii (Class) > Characiformes (Order) > Serrasalminidae (Family) > *Metynnis* (Genus) > *Metynnis longipinnis* (Species)”

From Eschmeyer et al. (2018):

“Current status: Valid as *Metynnis longipinnis* Zarske & Géry 2008.”

Size, Weight, and Age Range

From Froese and Pauly (2017):

“Max length : 6.7 cm SL male/unsexed; [Zarske and Géry 2008]”

Environment

From Froese and Pauly (2017):

“Freshwater; pelagic.”

Climate/Range

From Froese and Pauly (2017):

“Tropical”

Distribution Outside the United States

Native

From Eschmeyer et al. (2018):

“Distribution: Venezuela and 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 Froese and Pauly (2017):

“The species is closely related to *Metynnis hypsauchen* (Müller & Troschel, 1844) according to 1. high number of gill-rakers, 2. long adipose fin, 3. deep body, 4. short head and 5. long occipitale and is clearly defined because of 1. the high number of serrae (36-37 vs. 27-32 of *M. hypsauchen*), 2. the small scales (91-93 vs. about 75-83), 3. uniformly silver colouration and 4. the extremely elongated dorsal fin and anal fin [Zarske and Géry 2008].”

Biology

No information available.

Human Uses

No information available.

Diseases

No information available. No OIE-reportable diseases have been documented for this species.

Threat to Humans

From Froese and Pauly (2017):

“Harmless”

3 Impacts of Introductions

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

4 Global Distribution



Figure 1. Known global distribution of *Metynnis longipinnis*, reported from Brazil and Venezuela. Map from GBIF (2017).

5 Distribution Within the United States

There is currently no known distribution of *Metynnis longipinnis* 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 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 across the entire contiguous United States.

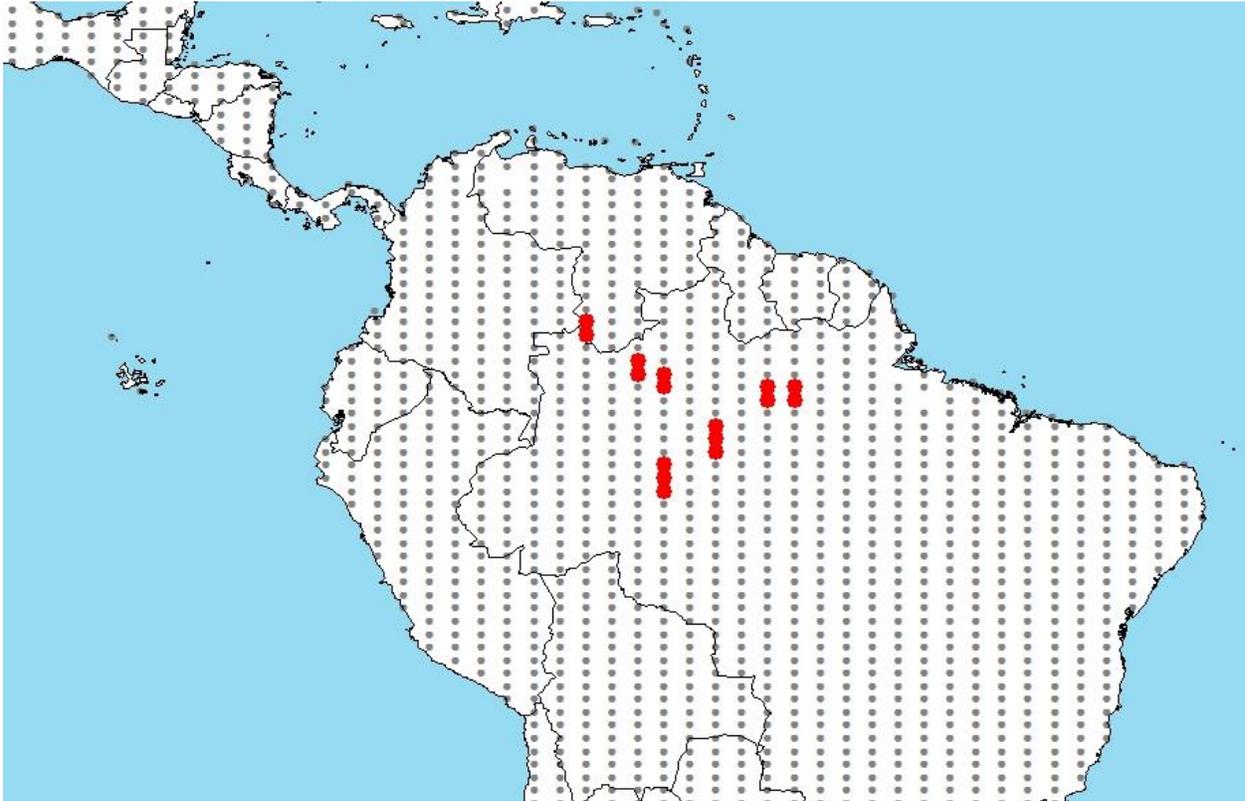


Figure 2. RAMP (Sanders et al. 2014) source map of northern South America showing weather stations selected as source locations (red; Brazil, Venezuela) and non-source locations (gray) for *Metynnis longipinnis* climate matching. Source locations from GBIF (2017).

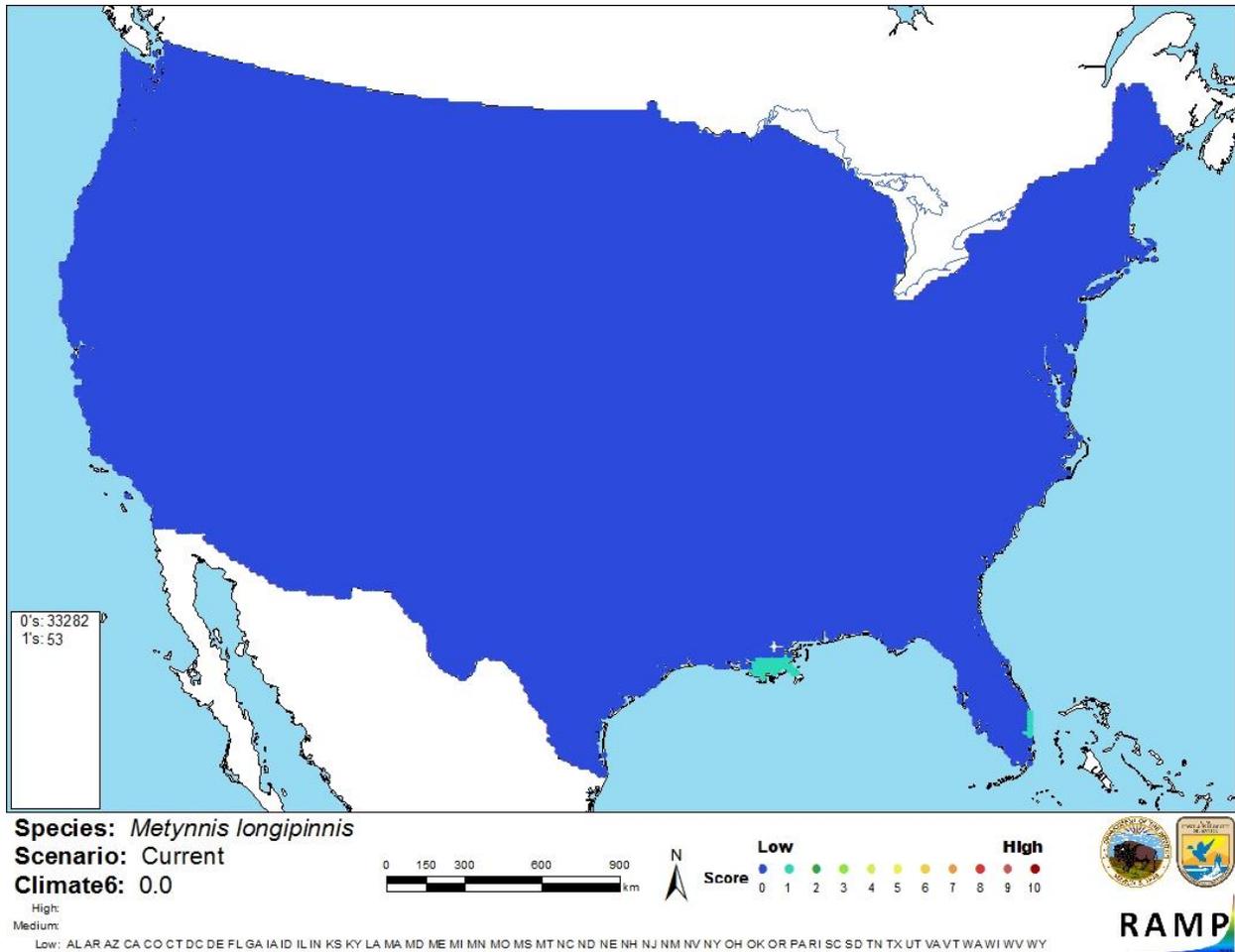


Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *Metynnis longipinnis* in the contiguous United States based on source locations reported by GBIF (2017). 0=Lowest match, 10=Highest match.

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

Peer-reviewed literature on the biology, ecology and distribution of *Metynnis longipinnis* is unavailable. 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

Metynnis longipinnis is a freshwater fish native to Brazil and Venezuela. It is not known to be introduced outside of its native range, which makes its history of invasiveness uncertain. Members of the *Metynnis* genus (species uncertain) have been collected beyond their native range in Florida, where their status is listed as locally established. *M. longipinnis* has a low climate match with the contiguous United States. There is very little information available on this species and the taxonomy of the genus is unresolved, which makes the certainty of this assessment low. Overall risk for this species 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.

- Eschmeyer, W. N., R. Fricke, and R. van der Laan, editors. 2018. Catalog of fishes: genera, species, references. Available: <http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatget.asp?spid=4062>. (January 2018).
- Froese, R., and D. Pauly, editors. 2017. *Metynnis longipinnis* Zarske & Géry, 2008. FishBase. Available: <http://www.fishbase.se/summary/64780>. (January 2018).
- Froese, R., and D. Pauly, editors. 2018. *Metynnis longipinnis* Zarske & Géry, 2008. FishBase. *In* World Register of Marine Species. Available: <http://www.marinespecies.org/aphia.php?p=taxdetails&id=1008365>. (August 2018).
- GBIF Secretariat. 2017. GBIF backbone taxonomy: *Metynnis longipinnis* Zarske & Géry, 2008. Global Biodiversity Information Facility, Copenhagen. Available: <https://www.gbif.org/species/2353431>. (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).

Ota, R. P., L. H. R. Py-Daniel, and M. Jégu. 2016. A new Silver Dollar species of *Metynnis* Cope, 1878 (Characiformes: Serrasalminidae) from Northwestern Brazil and Southern Venezuela. *Neotropical Ichthyology* 14(4):e160023.

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).

Jégu, M. 2003. Subfamily Serrasalminae (Pacus and piranhas). Pages 182-196 in R. E. Reis, S. O. Kullander, and C. J. Ferraris Jr., editors. *Check list of the freshwater fishes of South and Central America*. Edipucrs, Porto Alegre, Brazil.

Ota, R. P., C. P. Röpke, J. Zuanon, and M. Jégu. 2013. Serrasalminidae. Pages 15-47 in L. J. Queiroz, G. Torrente-Vilara, W. M. Ohara, T. H. S. Pires, J. Zuanon, and C. R. C. Dória, organizers. *Peixes do rio Madeira*, volume II. Santo Antônio Energia, São Paulo, Brazil.

Pavanelli, C. S., R. P. Ota, and P. Petry. 2009. New species of *Metynnis* Cope, 1878 (Characiformes: Characidae) from the rio Paraguay basin, Mato Grosso State, Brazil. *Neotropical Ichthyology* 7:141-146.

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. 2008. Revision der neotypischen Gattung *Metynnis* Cope, 1878. II Beschreibung zweier neuer Arten und zum status von *Metynnis goeldii* Eigenmann, 1903 (Teleostei: Characiformes: Serrasalminidae). *Vertebrate Zoology* 58(2):173-196.