

***Erythrinus erythrinus* (no common name)**

Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, August 2011

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Web Version, 12/28/2017



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1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2016):

“Central and South America: Amazon and Orinoco River basins [Brazil and Venezuela, respectively] and coastal rivers of the Guianas.”

Status in the United States

This species has not been reported in the United States.

Means of Introductions

This species has not been reported in the United States.

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

From ITIS (2016):

“Kingdom Animalia
Subkingdom Bilateria
Infrakingdom Deuterostomia
Phylum Chordata
Subphylum Vertebrata
Infraphylum Gnathostomata
Superclass Osteichthyes
Class Actinopterygii
Subclass Neopterygii
Infraclass Teleostei
Superorder Ostariophysi
Order Characiformes
Family Erythrinidae
Genus *Erythrinus*
Species *Erythrinus erythrinus* (Bloch and Schneider, 1801)”

“Current Standing: valid”

Size, Weight, and Age Range

From Froese and Pauly (2016):

“Max length: 20.0 cm SL male/unsexed; [Boujard et al. 1997]”

Environment

From Froese and Pauly (2016):

“Freshwater; demersal; pH range: 5.6 - 7.8; dH range:? – 30.”

“[...] 22°C - 26°C [Riehl and Baensch 1991, assumed to be recommended aquarium water temperature]”

Climate/Range

From Froese and Pauly (2016):

“Tropical [...]”

Distribution Outside the United States

Native

From Froese and Pauly (2016):

“Central and South America: Amazon and Orinoco River basins and coastal rivers of the Guianas.”

Introduced

This species has not been reported as introduced outside its native range.

Short Description

From Eigenmann and Allen (1942):

“No occipital crest, fontanel or adipose fin; caudal well rounded; anterior nares marginal, tubular; gill-membranes free, gill-opening wide; walls of anterior portion of air-bladder cellular; palatine teeth villiform, in a single patch on the side; maxillary teeth pectinate, no canines; dentary with short, conical teeth; two canines near symphysis, the outer larger; all teeth blunt; snout decurved; pterygoids without teeth.”

“*Neoceratodus*-like, short, broad-tailed, peduncle erect and compressed, basis of caudal and anal well built up and encased in a scaly armor, the former 5-6 irregular rows. These specimens are lightest in color on the lower trunk region and caudal peduncle, from the base of the ventral fins caudally.”

Biology

From Froese and Pauly (2016):

“Lives in creeks and marshy zones where it can survive in water with low oxygen levels due to some anatomical modification of its swim bladder which serves as a respiratory appendage. It stays on the bottom as well as at the surface among floating vegetation [Boujard et al. 1997]. Feeds on small fishes and insects [Planquette et al. 1996].”

From Saul (1975):

“*Habitat*. - Similar to that of *Hoplias malabaricus* (Bloch) but more restricted in distribution, living primarily in swamps, stagnant pools, and sluggish creeks. *E. erythrinus* was present in shallow water over a bottom composed of soft mud or sand and covered with plant litter; water depths range from 5.0 cm to 0.3 m.”

“*Stomach contents*. - Insect debris; mayfly nymphs (Ephemeroptera); damselfly nymphs (Odonata-Zygoptera); stonefly nymph (Plecoptera); water striders (Hemiptera-Gerridae); beetles (Coleoptera-Coccinellidae); fly larvae (Diptera-Chironomidae); ants (Hymenoptera-Formicidae); shrimp (Branchiopoda-Natantia). Ants were most abundant.”

“Remarks. - *Erythrinus* employs methods similar to those of other erythrins for securing prey, i.e. prey organisms are sucked in head first. However, *E. erythrinus* does not appear to feed nearly as voraciously as *Hoplias*. Hoedeman (1950) indicates that *Pseudoerythrinus* lies on the bottom among plants and suddenly darts towards its victims. If the food is not taken head first, it is spat out until swallowed properly.”

“Eigenmann and Allen (1942) stated that the people of Oriental Peru believe Erythriniidae to be able to travel overland from pool to pool during periods of drought.”

Human Uses

From Froese and Pauly (2016):

“Fisheries: of no interest; aquarium: commercial”

“Known among aquarists since 1910, its culture is reputedly difficult and its reproduction in captivity has not been reported to date [Boujard et al. 1997].”

Diseases

From Froese and Pauly (2016):

“*Procamallanus* Infection 21, Parasitic infestations (protozoa, worms)
Paraseuratum Infestation, Parasitic infestations (protozoa, worms)”

Threat to Humans

From Froese and Pauly (2016):

“Harmless”

3 Impacts of Introductions

This species has not been reported as introduced outside its native range.

4 Global Distribution



Figure 1. Known global established locations of *Erythrinus erythrinus*. Map from GBIF (2016).

5 Distribution Within the United States

This species has not been reported in the United States.

6 Climate Matching

Summary of Climate Matching Analysis

The climate match (Sanders et al. 2014; 16 climate variables; Euclidean Distance) was medium to high in peninsular Florida, medium in southern Texas, and low throughout the rest of the country. Climate 6 score indicated that the contiguous U.S. is a medium climate match. The range of scores for a medium climate match is greater than 0.005 and less than 0.103; Climate 6 score of *Erythrinus erythrinus* is 0.017.

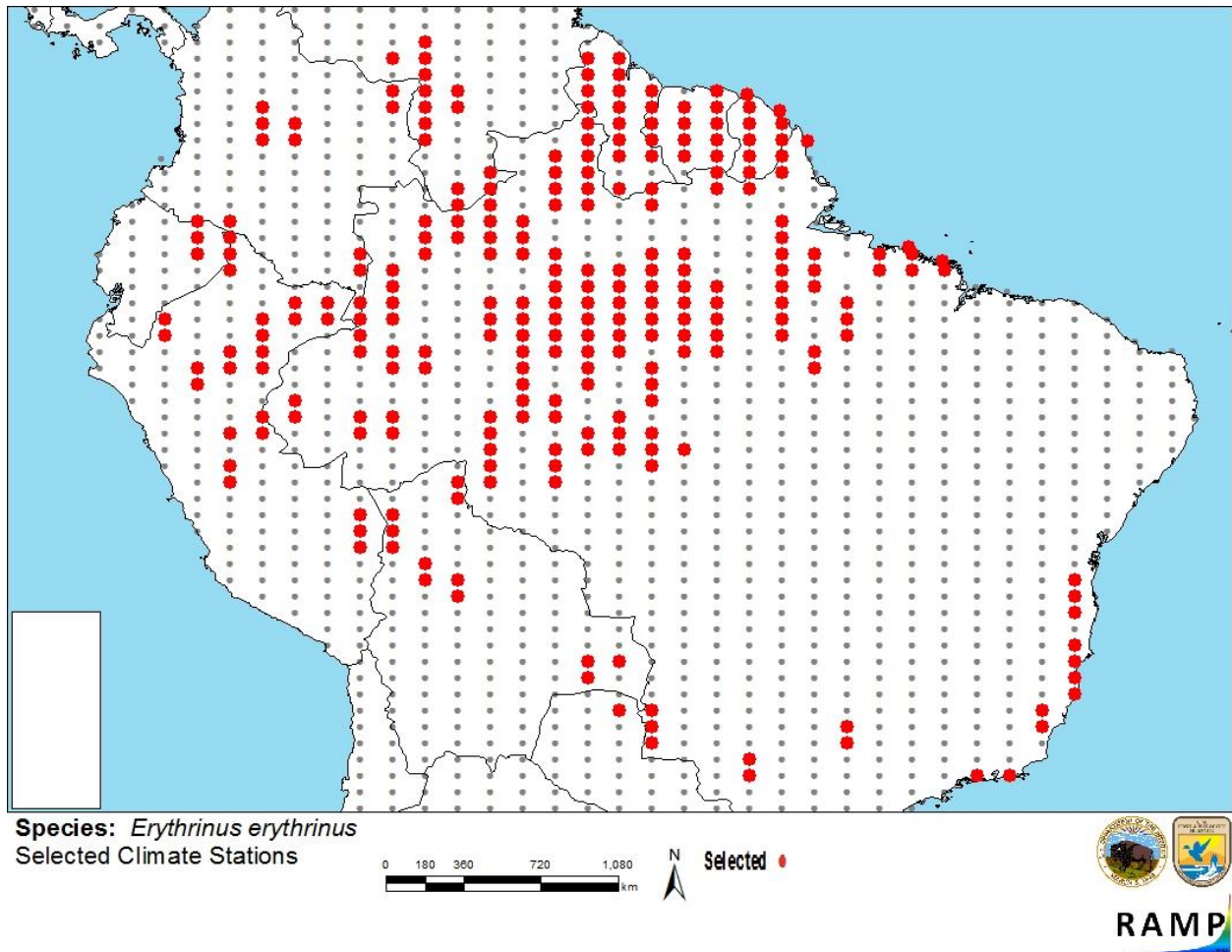


Figure 2. RAMP (Sanders et al. 2014) source map showing weather stations selected as source locations (red) and non-source locations (gray) for *Erythrinus erythrinus* climate matching. Source locations from GBIF (2016).

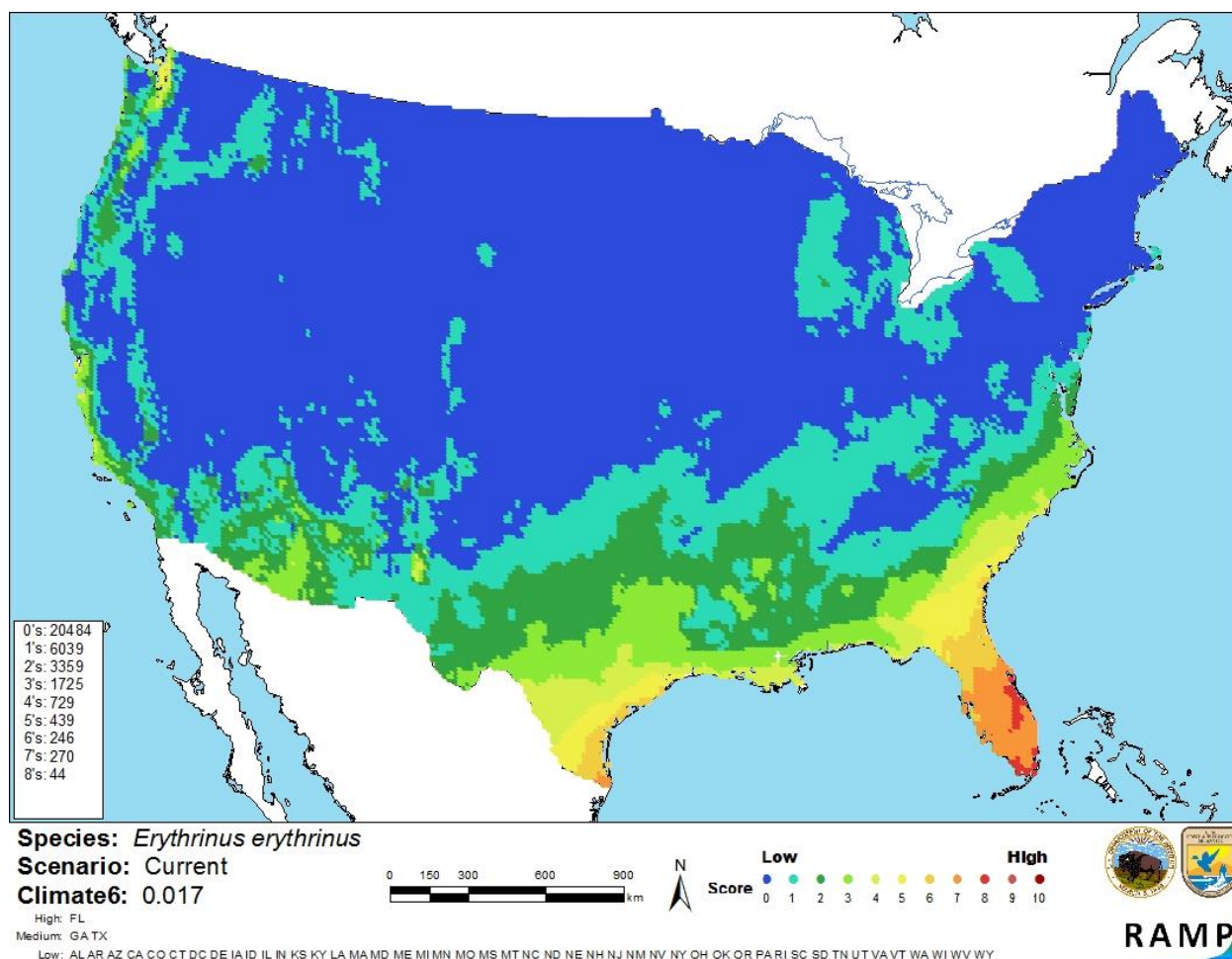


Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *Erythrinus erythrinus* in the contiguous United States based on source locations reported by GBIF (2016). 0= Lowest match, 10=Highest match. Counts of climate match scores are tabulated on the left.

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

Little information is available on the biology and distribution of *E. erythrinus*. The species has yet to become established outside its native range, so impacts of introductions remain unknown. Certainty of this assessment is low.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Erythrinus erythrinus is native to northern South America and has not been reported as established outside its native range. The species is part of the aquarium trade, but its culture is difficult. Climate match to the contiguous U.S. is medium. Overall risk posed by *E. erythrinus* is uncertain.

Assessment Elements

- **History of Invasiveness: Uncertain**
- **Climate Match: Medium**
- **Certainty of Assessment: 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.

- Eigenmann, C. H., and W. R. Allen. 1942. Fishes of Western South America. University of Kentucky, Lexington.
- Froese, R., and D. Pauly, editors. 2016. *Erythrinus erythrinus* (Bloch & Schneider, 1801). FishBase. Available: <http://fishbase.org/summary/Erythrinus-erythrinus.html>. (November 2016).
- GBIF (Global Biodiversity Information Facility). 2016. GBIF backbone taxonomy: *Erythrinus erythrinus* (Bloch & Schneider, 1801). Global Biodiversity Information Facility, Copenhagen. Available: <http://www.gbif.org/species/2352207>. (November 2016).
- ITIS (Integrated Taxonomic Information System). 2016. *Erythrinus erythrinus* (Bloch and Schneider, 1801). Integrated Taxonomic Information System, Reston, Virginia. Available: https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=163057#null. (November 2016).
- Sanders, S., C. Castiglione, and M. Hoff. 2014. Risk Assessment Mapping Program: RAMP. U.S. Fish and Wildlife Service.
- Saul, W. G. 1975. An ecological study of fishes at a site in Upper Amazonian Ecuador. Proceedings of the National Academy of Natural Sciences of Philadelphia 127:93-134.

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.

Boujard, T., M. Pascal, F. J. Meunier, and P.-Y. Le Bail. 1997. Poissons de Guyane. Guide écologique de l'Approuague et de la réserve des Nouragues. Institut National de la Recherche Agronomique, Paris.

Hoedeman, J. J. 1950. A new characid-erythrinine fish. *The Amsterdam Naturalist* I(3):78-91.

Planquette, P., P. Keith, and P.-Y. Le Bail. 1996. Atlas des poissons d'eau douce de Guyane, volume 1. Collection du Patrimoine Naturel Volume 22. MNHN, Paris & INRA, Paris.

Riehl, R., and H. A. Baensch. 1991. *Aquarien Atlas*, volume 1. Mergus, Verlag für Natur-und Heimtierkunde, Melle, Germany.