

Banded Rainbowfish (*Melanotaenia trifasciata*)

Ecological Risk Screening Summary

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1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2016):

“Oceania: Northern Territory and Queensland in Australia.”

Status in the United States

No records of *Melanotaenia trifasciata* in the United States were found.

Means of Introductions in the United States

No records of *Melanotaenia trifasciata* in the United States were found.

Remarks

No additional remarks.

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

From ITIS (2016):

“Taxonomic Status:

Current Standing: valid”

“Kingdom Animalia

Subkingdom Bilateria

Infrakingdom Deuterostomia

Phylum Chordata

Subphylum Vertebrata

Infraphylum Gnathostomata

Superclass Osteichthyes

Class Actinopterygii

Subclass Neopterygii

Infraclass Teleostei

Superorder Acanthopterygii

Order Atheriniformes

Suborder Atherinoidei

Family Melanotaeniidae

Genus *Melanotaenia*

Species *Melanotaenia trifasciata* (Rendahl, 1922)”

From Eschmeyer et al. (2017):

“*trifasciata*, *Rhombosoma* Rendahl [H.] 1922:182 [Nyt Magazin for Naturvidenskaberne v. 60 [...]] Mary River, Northern Territory, Australia. Holotype (unique): ZMUO J995. Type catalog: Pethon 1969:6. •Valid as *Melanotaenia trifasciata* (Rendahl 1922) -- (Allen & Cross 1982:61 [...], Paxton et al. 1989:352 [...], Larson & Martin 1990:27 [...], Unmack 2001:1061 [...], Allen et al. 2002:159 [...], Allen et al. 2006:694 [...], Allen et al. 2008:90 [...], Larson et al. 2013:61 [...], Allen et al. 2015:103 [...], Allen et al. 2015:103 [...], Martin & Barclay 2015:54 [...], Allen et al. 2016:4 [...]). **Current status:** Valid as *Melanotaenia trifasciata* (Rendahl 1922). Melanotaeniidae.”

Size, Weight, and Age Range

From Froese and Pauly (2016):

“Max length : 13.0 cm SL male/unsexed; [Allen et al. 2002]; common length: 8.0 cm SL male/unsexed; [Allen et al. 2002]”

Environment

From Froese and Pauly (2016):

“Freshwater; benthopelagic; pH range: 7.0 - 8.0; dH range: 9 - 19. [...]; 25°C - 30°C [assumed to be recommended aquarium temperature range] [Baensch and Riehl 1985]”

“Occurs [in the wild] at [water] temperature and pH ranging from 22°-30° C and 5.2-7.0 respectively.”

Climate/Range

From Froese and Pauly (2016):

“Tropical; [...]”

Distribution Outside the United States

Native

From Froese and Pauly (2016):

“Oceania: Northern Territory and Queensland in Australia.”

Introduced

No records of *Melanotaenia trifasciata* introductions were found.

Means of Introduction Outside the United States

No records of *Melanotaenia trifasciata* introductions were found.

Short Description

A short description of *Melanotaenia trifasciata* was not available.

Biology

From Froese and Pauly (2016):

“Distinct pairing [Breder and Rosen 1966].”

“Lives mainly in small streams and waterholes in clear to moderately turbid water. Occurs over rocky or gravel bottoms or in well-vegetated areas, frequently around submerged logs and branches [...]. Inhabits small creeks and waterholes in semi-rainforest or open grassland areas.

Occasionally abundant in partly stagnant waterholes with leaf litter bottoms during the dry season.”

Human Uses

From Froese and Pauly (2016):

“Species is easy to maintain and thrives in captivity [Allen et al. 2002].”

Diseases

No records of OIE reportable diseases were found.

From Corlis (2004):

“[...] *I[liocirrus]. trifasciatae*, *H[elicirrus]. mcivori* and *L[ongidigitis]. hopevalensis* [collected] from *M. trifasciata* (Rendahl, 1922) [...]”

Threat to Humans

From Froese and Pauly (2016):

“Harmless”

3 Impacts of Introductions

No records of *Melanotaenia trifasciata* introductions were found.

4 Global Distribution



Figure 1. Known global distribution of *Melanotaenia trifasciata*. Map from GBIF Secretariat (2016).

5 Distribution Within the United States

No records of *Melanotaenia trifasciata* in the United States were found.

6 Climate Matching

Summary of Climate Matching Analysis

The climate match for *Melanotaenia trifasciata* was low for most of the west, north, and an area along the Gulf Coast. Southern areas centered on Texas and Florida had a medium match with smaller areas of high match in Florida and Texas. The Climate 6 score (Sanders et al. 2014; 16 climate variables; Euclidean distance) for the contiguous U.S. was 0.062, medium. The following states had individually high climate scores: Arizona, Florida, Oklahoma, and Texas.

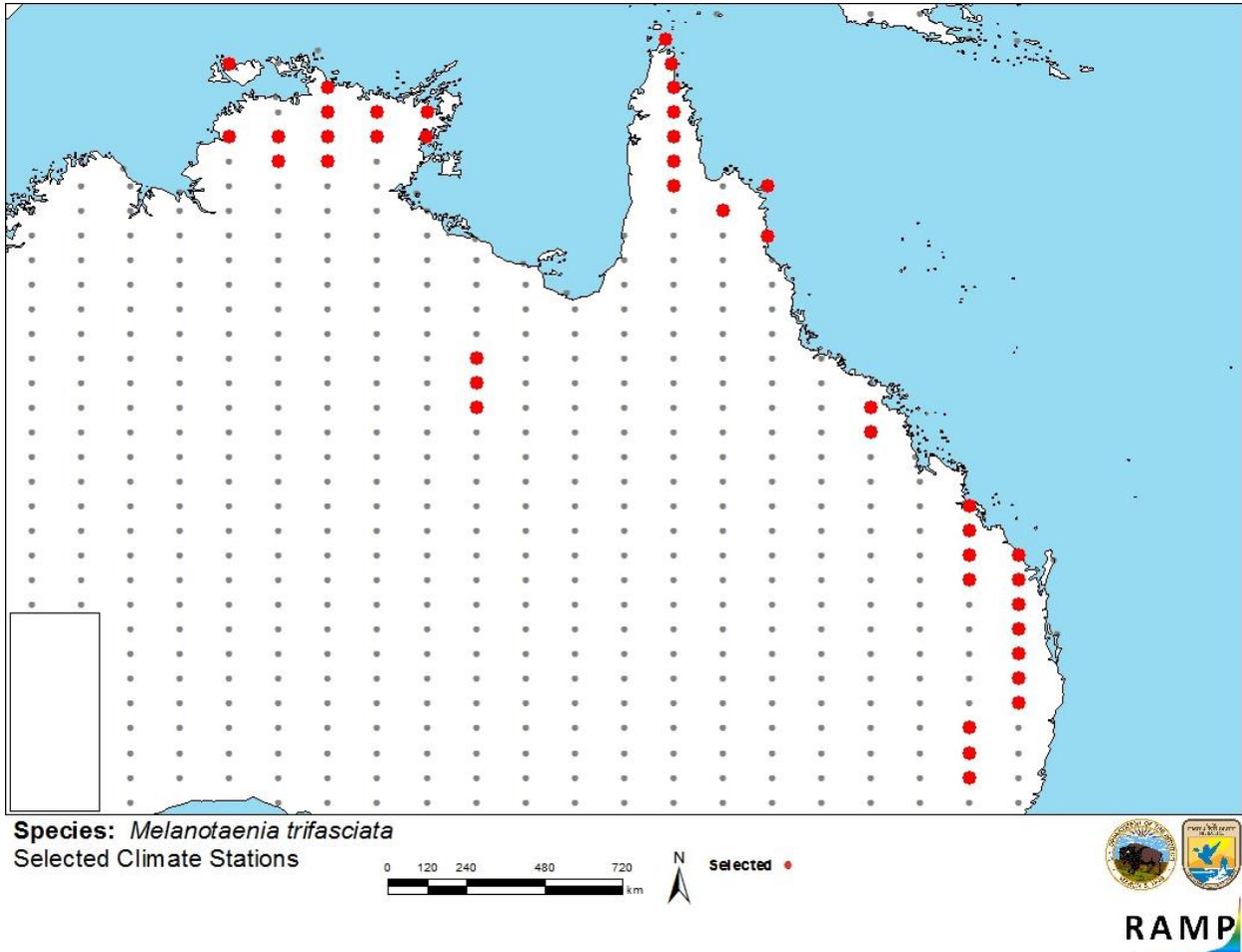


Figure 2. RAMP (Sanders et al. 2014) source map of Australia showing weather stations selected as source locations (red) and non-source locations (grey) for *Melanotaenia trifasciata* climate matching. Source locations from GBIF Secretariat (2016)

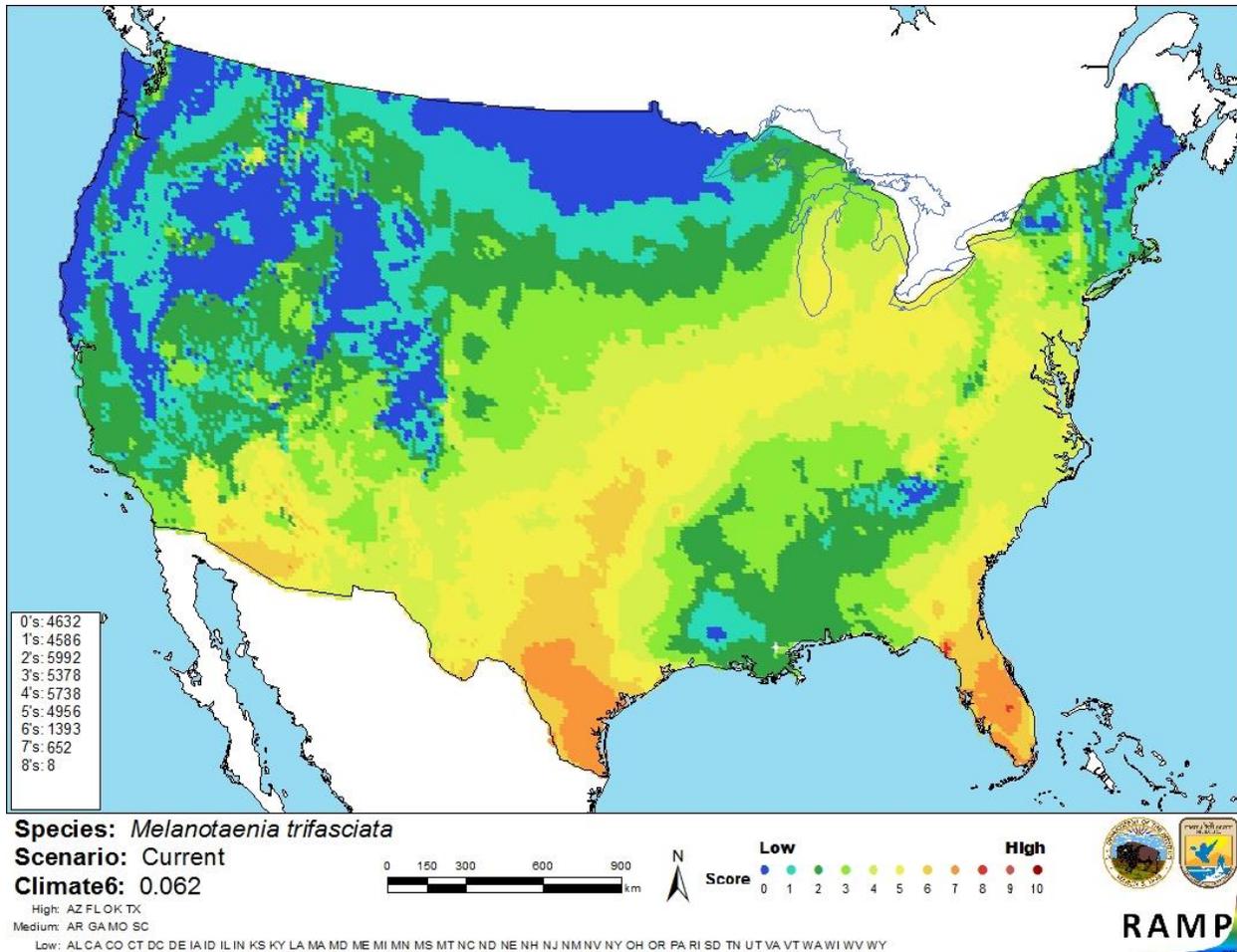


Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *Melanotaenia trifasciata* in the contiguous United States based on source locations reported by GBIF Secretariat (2016). 0 = Lowest match, 10 = Highest match.

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

7 Certainty of Assessment

The certainty of assessment is low. There was minimal information available for *Melanotaenia trifasciata*. No records of introductions were found.

8 Risk Assessment

Summary of Risk to the Contiguous United States

The history of invasiveness for *Melanotaenia trifasciata* is uncertain. No records of introduction were found. The climate match is medium; areas of higher climate match include Texas and Florida. The certainty of assessment is low. The overall risk assessment category is uncertain.

Assessment Elements

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