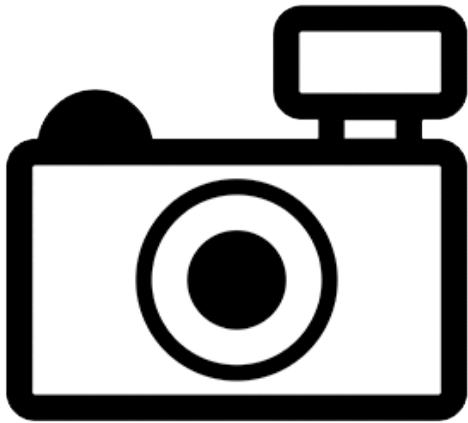


Tamesi Molly (*Poecilia latipunctata*)

Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, web version – 4/3/2018



No Photo Available

1 Native Range and Status in the United States

Native Range

From Neilson (2016):

“Tamaulipas, Mexico: headwaters of the Rio Tamesi (Miller et al. 2005; Tobler and Schlupp 2009).”

Status in the United States

From Neilson (2016):

“Collected in Palm Beach (Courtenay et al. 1974) and Hillsborough counties, Florida.”

“Failed introduction: this species has not been collected since 1974.”

Means of Introductions in the United States

From Neilson (2016):

“Aquarium release or escape from tropical fish farms (Courtenay et al. 1974).”

Remarks

From Neilson (2016):

“This [fish] is considered endangered throughout its native range (Jelks et al. 2008; Tobler and Schlupp 2009). The Tamesi molly was recently recognized as a third reproductive host species for the unisexual gynogenetic Amazon molly (*P. formosa*), an all-female species that requires sperm from another species to stimulate egg/zygote development (Niemeitz et al. 2002). Although originally classified as part of the shortfin molly (*P. sphenops*) group based on morphology (Miller 1983), both behavioral (Niemeitz et al. 2002) and genetic (Shartl et al. 1995; Ptacek and Breden 1998) evidence suggest that Tamesi mollies are part of the sailfin molly (*P. latipinna*) species group.”

From Tobler and Schlupp (2009):

“The species is protected by Mexican law, but no specific conservation actions have been taken to date.”

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 Acanthopterygii
Order Cyprinodontiformes
Suborder Cyprinodontoidei
Family Poeciliidae
Subfamily Poeciliinae
Genus *Poecilia*
Species *Poecilia latipunctata* Meek, 1904”

From Eschmeyer et al. (2017):

“*latipunctata*, *Poecilia* Meek [S. E.] 1904:150, Fig. 48 [Field Columbian Museum, Zoological Series v. 5; [...]] Forlón, Río Pánuco basin, Tamaulipas, Mexico. Holotype: FMNH 4484.

Paratypes: CAS 22771 [ex IU 10947] (1), FMNH 4485 (12). Possible types: BMNH 1905.12.6.452 (1). Type catalog: Ibarra & Stewart 1987:67 [...]. •Valid as *Poecilia latipunctata* Meek 1904 -- (Rosen & Bailey 1963:55 [...], Espinosa Pérez et al. 1993:49 [...], Rodriguez 1997:673 [...], Fuller et al. 1999:310 [...], Meyer & Radda 2000:75 [...], Meyer et al. 2002:50 [...], Poeser 2003:160 [...], Lucinda in Reis et al. 2003:568 [...], Nelson et al. 2004:104 [...], Lucinda & Reis 2005:45 [...], Miller 2006:235 [...], Scharpf 2007:20 [...], Poeser 2011:420 [...], Page et al. 2013:110 [...], Palacios et al. 2013:13 [...], Meyer 2015:232 [...], Palacios et al. 2016:232 [...] in subgenus *Mollienesia*). **Current status:** Valid as *Poecilia latipunctata* Meek 1904. Poeciliidae: Poeciliinae.”

Size, Weight, and Age Range

From Neilson (2016):

“Size: to 50 mm SL (Miller et al. 2005).”

From Froese and Pauly (2016):

“Max length: 5.0 cm TL male/unsexed; [Lucinda 2003]; 6.0 cm TL (female); common length: 4.0 cm TL male/unsexed; [Hugg 1996]”

Environment

From Froese and Pauly (2016):

“Freshwater; benthopelagic;”

Climate/Range

From Froese and Pauly (2016):

“Tropical; 24°C - 30°C [Wischnath 1993]”

Distribution Outside the United States

Native

From Neilson (2016):

“Tamaulipas, Mexico: headwaters of the Rio Tamesi (Miller et al. 2005; Tobler and Schlupp 2009).”

Introduced

No records of introductions of *Poecilia latipunctata* outside the United States were found.

Means of Introduction Outside the United States

No records of introductions of *Poecilia latipunctata* outside the United States were found.

Short Description

From Neilson (2016):

“Tamesi mollies can be distinguished from other co-occurring species of *Poecilia* by the absence of two cephalic pores, counts of scales around the caudal peduncle, and color patterns (Miller 1983).”

From Miller (1983):

“Midside of body with a longitudinal stripe of discontinuous black spots, especially prominent in female; dorsal fin of male with profuse small melanophores; gonopodium with hook at tip of ray 3 and retrorse spine at tip of ray 5; male not polychromatic, no red on fins and no humeral spot; lacrimal bone nor free below.”

Biology

From Neilson (2016):

“Primarily a benthic feeder, consuming organic matter, detritus, and associated algae and diatoms (Miller et al. 2005; Tobler and Schlupp 2009).”

“Occurs in clear, flowing reaches of water containing abundant aquatic vegetation over gravel or mud substrates.”

From Froese and Pauly (2016):

“Produces 10 to 30 young after a gestation period of 28 days.”

From Tobler and Schlupp (2009):

“It also occurs in irrigation ditches with lower flow and overhanging vegetation.”

Human Uses

From Froese and Pauly (2016):

“Aquarium: commercial”

Diseases

No information on diseases of *Poecilia latipunctata* was found.

Threat to Humans

From Froese and Pauly (2016):

“Harmless”

3 Impacts of Introductions

From Neilson (2016):

“Unknown, but likely none because of failure to establish.”

4 Global Distribution



Figure 1. Known global distribution of *Poecilia latipunctata*. Map from GBIF Secretariat (2016).

The locations in Florida do not represent established populations and were not used as source points in the climate match.

5 Distribution Within the United States



Figure 2. Known distribution of *Poecilia latipunctata* in the United States. Map from Neilson (2016).

The locations in Florida do not represent established populations and were not used as source points in the climate match.

6 Climate Matching

Summary of Climate Matching Analysis

The climate match for *Poecilia latipunctata* was medium for most of Florida and parts of the southwest, including the coast of California. Most of the rest of the contiguous U.S. had a low match. The Climate 6 score (Sanders et al. 2014; 16 climate variables; Euclidean distance) for the contiguous U.S. was 0.019, medium, and Texas had an individually high climate score.

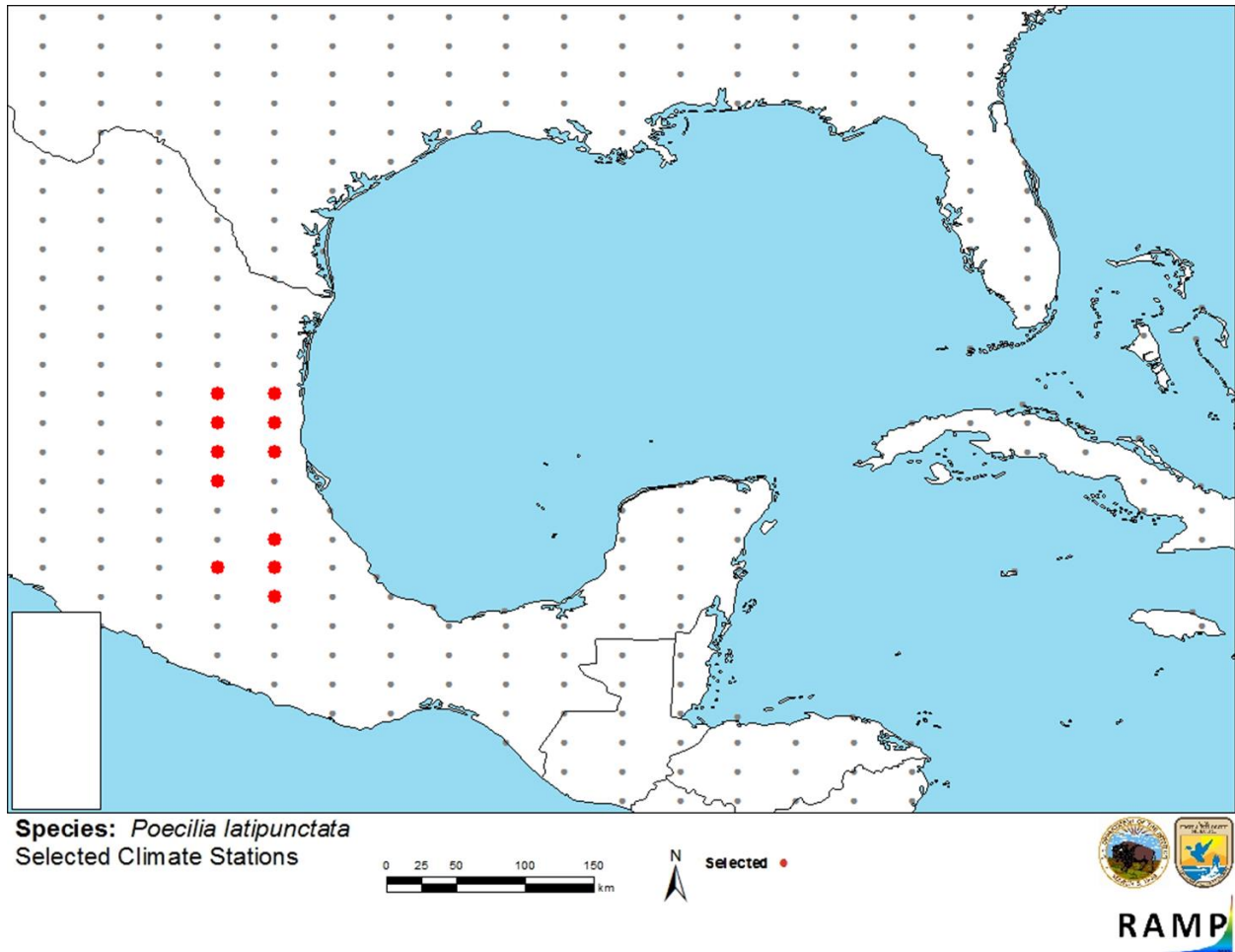


Figure 3. RAMP (Sanders et al. 2014) source map showing weather stations in Mexico selected as source locations (red) and non-source locations (grey) for *Poecilia latipunctata* climate matching. Source locations from GBIF Secretariat (2016) and Neilson (2016).

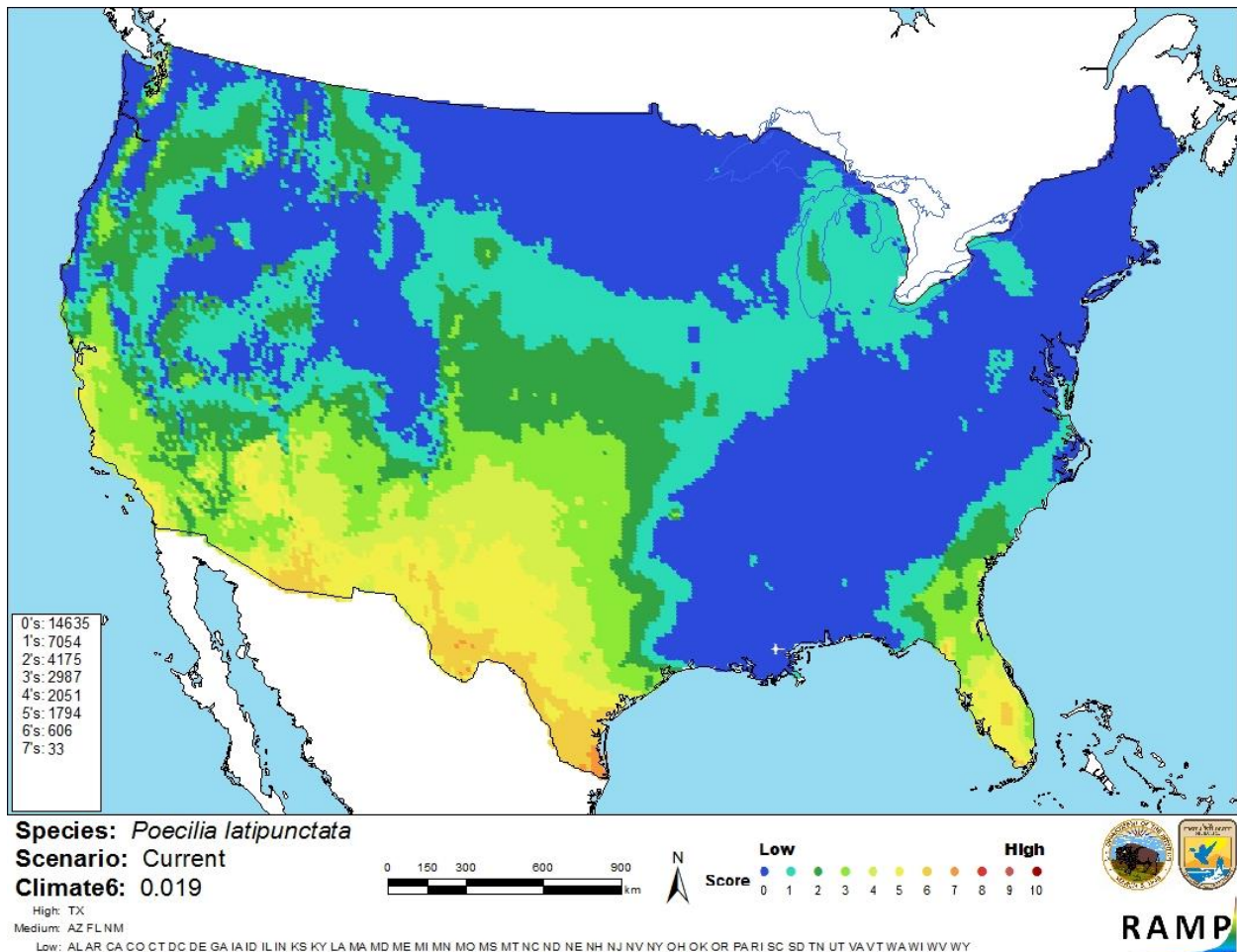


Figure 4. Map of RAMP (Sanders et al. 2014) climate matches for *Poecilia latipunctata* in the contiguous United States based on source locations reported by GBIF Secretariat (2016) and Neilson (2016). 0 = Lowest match, 10 = Highest match.

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 this assessment is medium. There was adequate ecological and biological information about *Poecilia latipunctata*. There were records of introduction found in Florida but those records did not represent an established population. No records of any impacts from the introductions in Florida were found.

8 Risk Assessment

Summary of Risk to the Contiguous United States

The history of invasiveness for the fish *Poecilia latipunctata* is not documented. There were records of introduction found in Florida but they did not represent an established population. There have been no *P. latipunctata* caught within the United States since 1974 (Neilson 2016). There are no known impacts from the introductions and there were none expected since a population did not establish. The climate match is medium, indicating that there are areas in the contiguous United States with a climate that might be able to support an established population. The certainty of assessment is medium. The overall risk assessment category is uncertain.

Assessment Elements

- **History of Invasiveness (Sec. 3): None Documented**
- **Climate Match (Sec. 6): Medium**
- **Certainty of Assessment (Sec. 7): Medium**
- **Remarks/Important additional information** No additional remarks.
- **Overall Risk Assessment Category: Uncertain**

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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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