

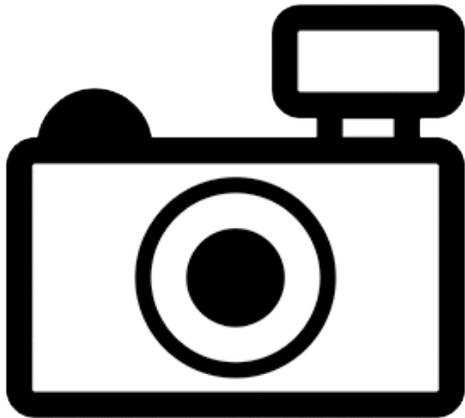
## ***Puntius tetraspilus* (a fish, no common name)**

### **Ecological Risk Screening Summary**

U.S. Fish & Wildlife Service, February 2013

Revised, April 2019

Web Version, 8/8/2019



No Photo Available

## **1 Native Range and Status in the United States**

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### **Native Range**

From Froese and Pauly (2019a):

“Asia”

Fricke et al. (2019) lists Sri Lanka under distribution for *Puntius tetraspilus*.

The Ministry of Environment (2012) names *Puntius tetraspilus* on the List of Freshwater Fish in Sri Lanka.

### **Status in the United States**

No records of *Puntius tetraspilus* in the wild or in trade in the United States were found.

### **Means of Introductions in the United States**

No records of *Puntius tetraspilus* in the wild in the United States were found.

## Remarks

The literature review was conducted using the valid name, *Puntius tetraspilus*, and the recent synonyms, *Barbus tetraspilus*, and *Leuciscus binotatus* (Fricke et al. 2019).

## 2 Biology and Ecology

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### Taxonomic Hierarchy and Taxonomic Standing

From Fricke et al. (2019):

“**Current status:** Valid as *Puntius tetraspilus* (Günther 1868).”

From Froese and Pauly (2019b):

“Biota > Animalia (Kingdom) > Chordata (Phylum) > Vertebrata (Subphylum) > Gnathostomata (Superclass) > [...] Actinopterygii (Class) > Cypriniformes (Order) > Cyprinidae (Family) > Barbinae (Subfamily) > *Puntius* (Genus) > *Puntius tetraspilus* (Species)”

### Size, Weight, and Age Range

From Froese and Pauly (2019a):

“Max length : 3.6 cm SL male/unsexed [Pethiyagoda et al. 2008]”

### Environment

From Froese and Pauly (2019a):

“Freshwater; benthopelagic.”

### Climate/Range

From Froese and Pauly (2019a):

“Tropical”

### Distribution Outside the United States

Native

From Froese and Pauly (2019a):

“Asia”

Fricke et al. (2019) lists Sri Lanka under distribution for *Puntius tetraspilus*.

The Ministry of Environment (2012) names *Puntius tetraspilus* on the List of Freshwater Fish in Sri Lanka.

## Introduced

*Puntius tetraspilus* has not been reported as introduced anywhere outside of its native range.

## Means of Introduction Outside the United States

*Puntius tetraspilus* has not been reported as introduced anywhere outside of its native range.

## Short Description

From Froese and Pauly (2019a):

“Distinguished from *Puntius kelumi* by the presence of both rostral and maxillary barbels, and 1/4 [sic] scale rows between the dorsal-fin origin and the lateral line (vs. absence of rostral barbels and presence of only 1/3 [sic] scale rows between the dorsal-origin and the lateral line) [Pethiyagoda et al., 2008].”

## Biology

No information on the biology of *Puntius tetraspilus* was found

## Human Uses

No information on human uses of *Puntius tetraspilus* was found.

## Diseases

No information on diseases was found for *Puntius tetraspilus*. **No records of OIE-reportable diseases (OIE 2019) were found for *Puntius tetraspilus*.**

## Threat to Humans

From Froese and Pauly (2019a):

“Harmless”

## 3 Impacts of Introductions

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No records of introductions of *Puntius tetraspilus* were found; therefore there is no information on impacts of introduction.

## 4 Global Distribution

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**Figure 1.** Known global distribution of *Puntius tetraspilus*. Map from Google Earth (2019). Location is approximate based on general information from Fricke et al. (2019) and the Ministry of Environment (2012).

## 5 Distribution Within the United States

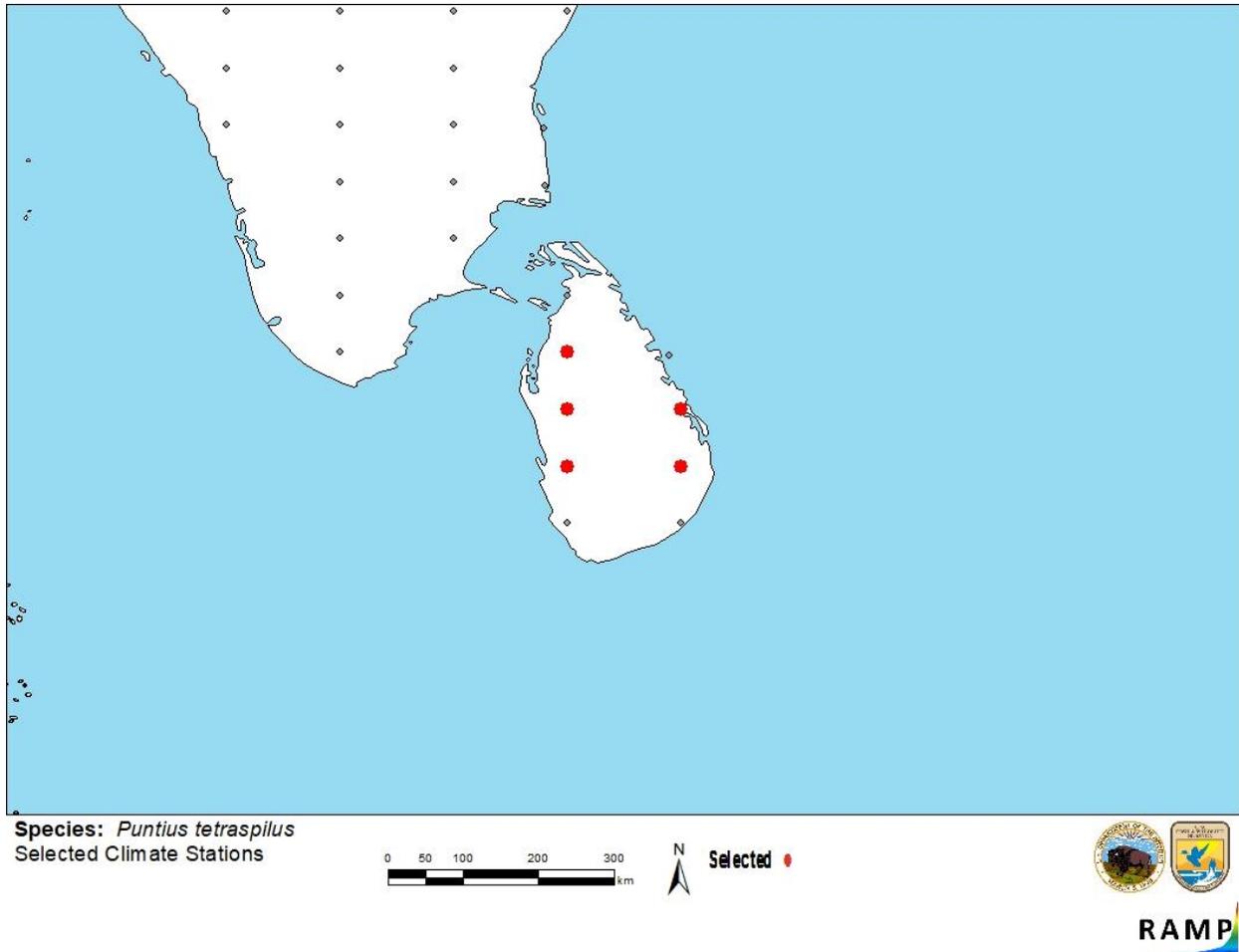
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No records of *Puntius tetraspilus* in the wild in the United States were found.

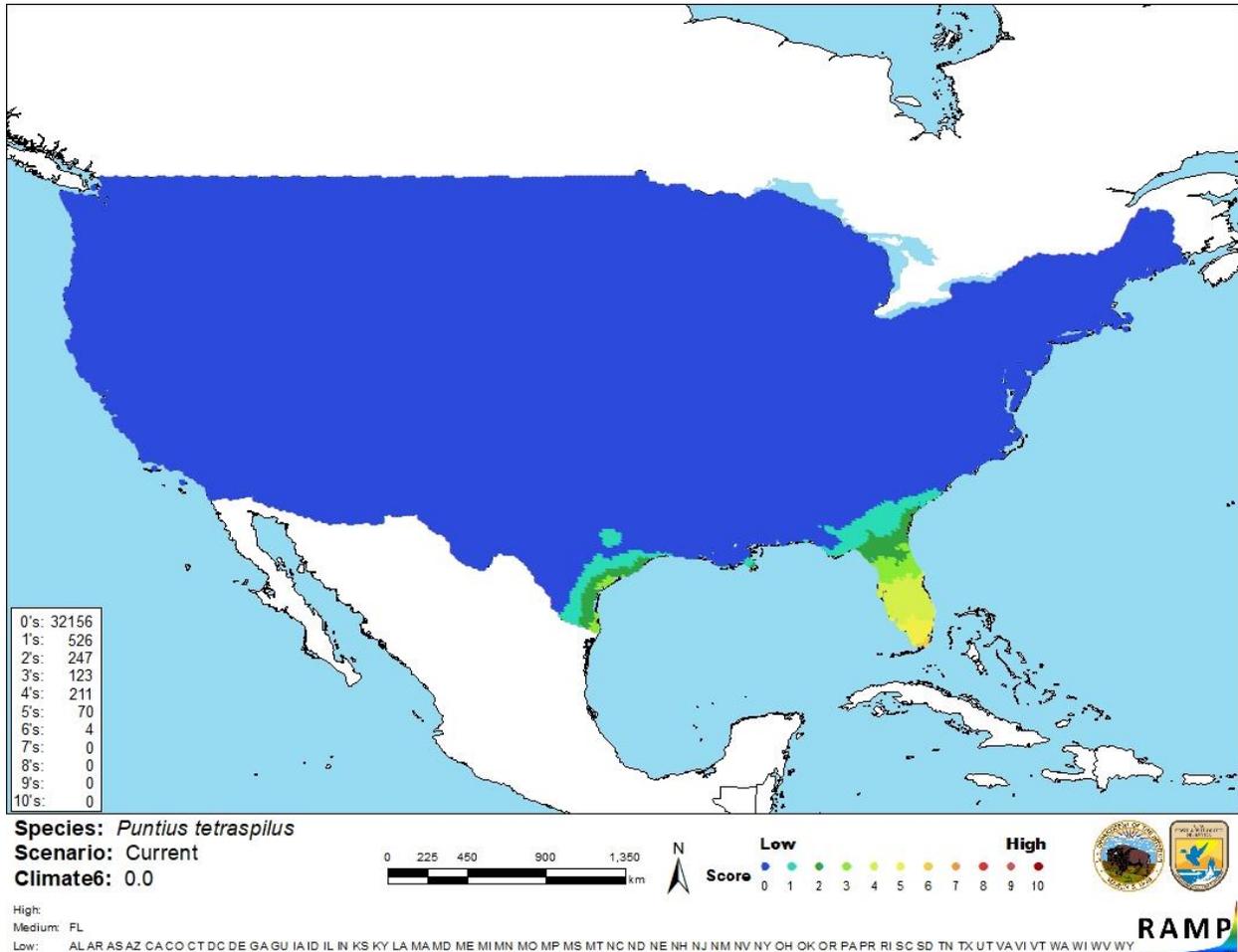
## 6 Climate Matching

### Summary of Climate Matching Analysis

The climate match for the contiguous United States was low for almost the entire country. The only area with a medium match was southern Florida. There were no areas of high match. The Climate 6 score (Sanders et al. 2018; 16 climate variables; Euclidean distance) for the contiguous United States was 0.000, low (scores between 0.000 and 0.005, inclusive, are classified as low). All States had a low individual Climate 6 score excluding Florida, which had a medium score.



**Figure 2.** RAMP (Sanders et al. 2018) source map showing weather stations in Sri Lanka selected as source locations (red) and non-source locations (gray) for *Puntius tetraspilus* climate matching. Source locations are approximate based on general distribution information from Fricke et al. (2019) and Ministry of Environment (2012).



**Figure 3.** Map of RAMP (Sanders et al. 2018) climate matches for *Puntius tetraspilus* in the contiguous United States based on source locations reported by Fricke et al. (2019) and the Ministry of Environment (2012). 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
$\geq 0.103$	High

## 7 Certainty of Assessment

The certainty of assessment for *Puntius tetraspilus* is low. There is minimal information available regarding all aspects of this species. No information on introductions of *Puntius tetraspilus* were found, so impacts of introduction are unknown.

## 8 Risk Assessment

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### Summary of Risk to the Contiguous United States

*Puntius tetraspilus* is a freshwater fish native to Sri Lanka. There is very little known about this species. The history of invasiveness is uncertain, *Puntius tetraspilus* has not been documented anywhere outside of its native range. The climate match for the contiguous United States was low. Southern Florida was the only area with a medium climate match. No georeferenced locations were available for the climate match so a verbal description of collection sites was used to select source points. The certainty of assessment is low due to lack of information, and the overall risk category for *Puntius tetraspilus* is uncertain.

### Assessment Elements

- **History of Invasiveness (Sec. 3): Uncertain**
- **Climate Match (Sec. 6): Low**
- **Certainty of Assessment (Sec. 7): Low**
- **Remarks/Important additional information: No additional information.**
- **Overall Risk Assessment Category: Uncertain**

## 9 References

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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.**

Fricke, R., W. N. Eschmeyer, and R. van der Laan, editors. 2019. Eschmeyer's catalog of fishes: genera, species, references. Available: <http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp>. (March 2019).

Froese, R., and D. Pauly, editors. 2019a. *Puntius tetraspilus* (Günther 1868). Fishbase. Available: <https://www.fishbase.de/summary/Puntius-tetraspilus.html>. (March 2019).

Froese, R., and D. Pauly, editors. 2019b. *Puntius tetraspilus*. In World Register of Marine Species. Available: <http://www.marinespecies.org/aphia.php?p=taxdetails&id=1021315>. (March 2019).

Google. 2019. Google Earth Pro. Google, Inc.

Ministry of Environment. 2012. The national red list 2012 of Sri Lanka; Conservation status of the Fauna and flora. Ministry of Environment, Colombo, Sri Lanka.

OIE (World Organisation for Animal Health). 2019. OIE-listed diseases, infections and infestations in force in 2019. Available: <http://www.oie.int/animal-health-in-the-world/oie-listed-diseases-2019/>. (March 2019).

Sanders, S., C. Castiglione, and M. Hoff. 2018. Risk assessment mapping program: RAMP, version 3.1. U.S. Fish and Wildlife Service.

## **10 References Quoted But Not Accessed**

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**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.**

Pethiyagoda, R., A. Silva, K. Maduwage, and M. Meegaskumbura. 2008. *Puntius kelumi*, a new species of cyprinid fish from Sri Lanka (Teleostei: Cyprinidae). *Ichthyological Exploration of Freshwaters* 19(3):201–214.