

Lined Barb (*Striuntius lineatus*)

Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, December 2013

Revised, June 2018

Web Version, 7/1/2019



Photo: Staudacher. Public domain. Available:
<https://commons.wikimedia.org/wiki/File:Linienbarbe-puntius-lineatus.jpg>. (June 2018).

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2018):

“Asia: Malaysia and Indonesia.”

Status in the United States

This species has not been reported as introduced or established in the United States. This species is in trade in the United States. For example, Oregon-based aquarium retailer The Wet Spot Tropical Fish includes *S. lineatus* in their current stock list at a cost of \$6.00 per medium-sized (1.5” to 2”) individual (The Wet Spot Tropical Fish 2019).

Means of Introductions in the United States

This species has not been reported as introduced or established in the United States.

Remarks

The synonym *Puntius lineatus* commonly appears in the scientific literature, so this name was also used when researching in preparation of this report.

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

From ITIS (2018):

“Kingdom Animalia
Subkingdom Bilateria
Infrakingdom Deuterostomia
Phylum Chordata
Subphylum Vertebrata
Infraphylum Gnathostomata
Superclass Actinopterygii
Class Teleostei
Superorder Ostariophysi
Order Cypriniformes
Superfamily Cyprinoidea
Family Cyprinidae
Genus *Puntius*
Species *Puntius lineatus* (Duncker, 1904)”

The higher taxonomy is the same for both genera *Puntius* and *Striuntius*.

From Eschmeyer et al. (2018):

“Current status: Valid as *Striuntius lineatus* (Duncker 1904). Cyprinidae: Cyprininae.”

From GBIF (2018):

“= *Barbus lineatus* Duncker, 1904
= *Puntius lineatus* (Duncker, 1904)”

Size, Weight, and Age Range

From Froese and Pauly (2018):

“Max length : 5.3 cm SL male/unsexed; [Kottelat 1996]”

Environment

From Froese and Pauly (2018):

“Freshwater; benthopelagic. [...] 21°C - 24°C [Baensch and Riehl 1985; assumed to be recommended aquarium temperature range]

Climate/Range

From Froese and Pauly (2018):

“Tropical [...]”

Distribution Outside the United States

Native

From Froese and Pauly (2018):

“Asia: Malaysia and Indonesia.”

Introduced

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

Means of Introduction Outside the United States

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

Short Description

From Roberts (1989):

“In *P. lineatus* the rostral barbels are absent and the maxillary barbels are absent (according to Duncker) or relatively short, their length less than half eye diameter (material examined); [...] *Puntius lineatus* has gill rakers on first gill arch moderately elongate, 18-19; [...] Parietal fontanel open. There is no indication that *P. lineatus* ever exhibits a vertically barred color pattern or goes through anything like the complex and protracted change in color pattern from vertical bars to longitudinal stripes observed in *P. eugrammus* at 18-50 mm. The 39.2 mm specimen of *P. lineatus* from Pahang is apparently a sexually mature male; the dorsal surface of the first four pectoral-fin rays is densely covered with fine breeding tubercles. The 41.9 mm specimen from the same collection is a female with ripening ovaries and non-tuberculate pectoral fins.”

From Froese and Pauly (2018):

“Mouth subinferior; lower lip fleshy, forming a continuous postlabial groove in specimens larger than 20 mm SL. None to one pair of barbels, much shorter than eye.”

Biology

From Froese and Pauly (2018):

“Collected from swamps and open areas with standing waters and submerged grasses [Kottelat 1996]. Quite common in clear, black waters [Kottelat and Widjanarti 2005].”

Human Uses

From Froese and Pauly (2018):

“Aquarium: commercial”

This species is in trade in the United States. For example, Oregon-based aquarium retailer The Wet Spot Tropical Fish includes *S. lineatus* in their current stock list at a cost of \$6.00 per medium-sized (1.5” to 2”) individual (The Wet Spot Tropical Fish 2019).

Diseases

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

Threat to Humans

From Froese and Pauly (2018):

“Harmless”

3 Impacts of Introductions

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

4 Global Distribution



Figure 1. Known global distribution of *Striuntius lineatus*, reported from Malaysia and Indonesia. Map from GBIF Secretariat (2018).

5 Distribution Within the United States

This species has not been reported as introduced or established in the United States.

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 a low climate match. Scores between 0.000 and 0.005, inclusive, are classified as low. The climate match was very low across the entire contiguous United States. There was a small area of slightly higher, but still low, climate match along the Gulf Coast from Louisiana to the Florida Panhandle.

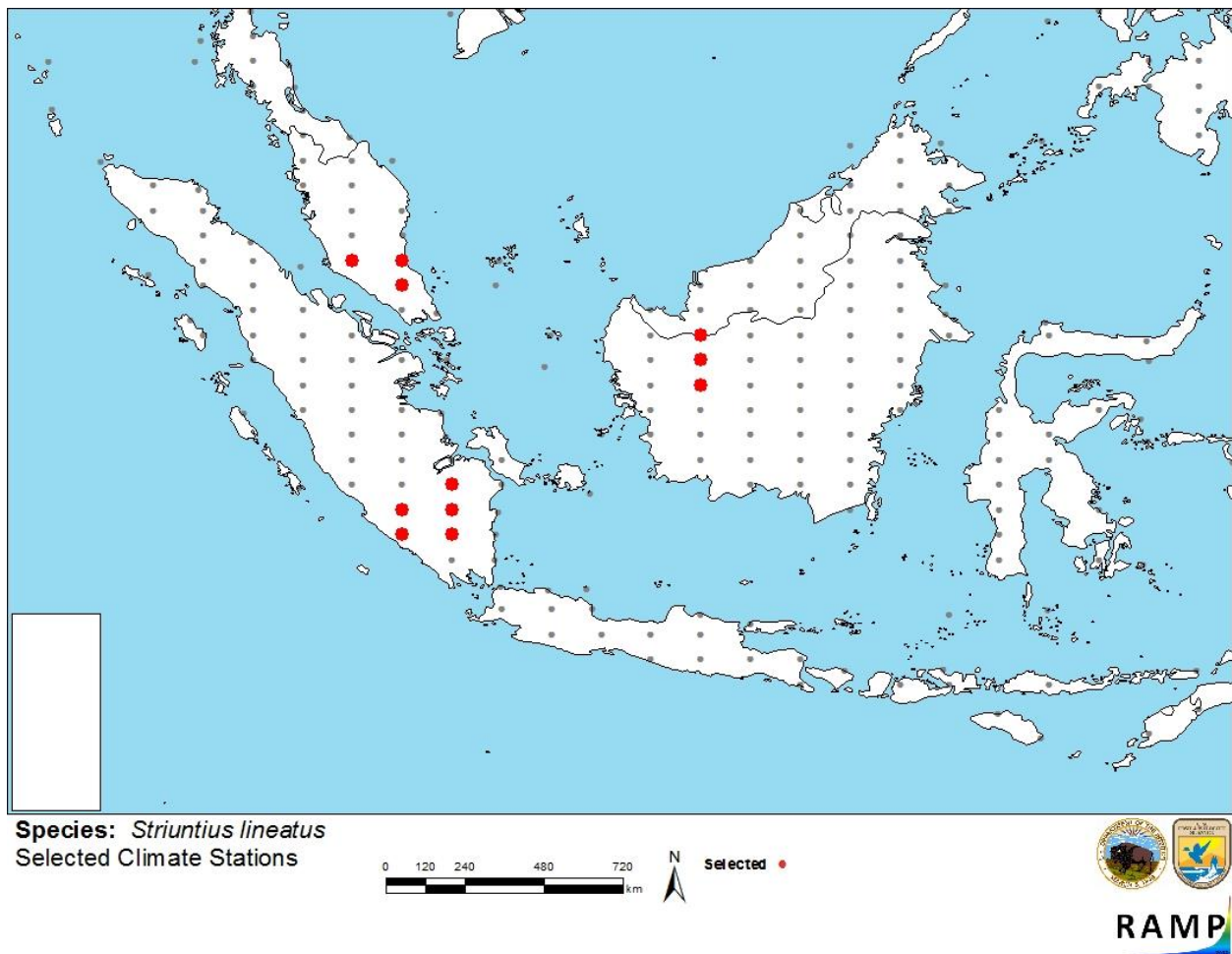


Figure 2. RAMP (Sanders et al. 2014) source map showing weather stations selected as source locations (red; Malaysia, Indonesia) and non-source locations (gray) for *Striuntius lineatus* climate matching. Source locations from GBIF Secretariat (2018).

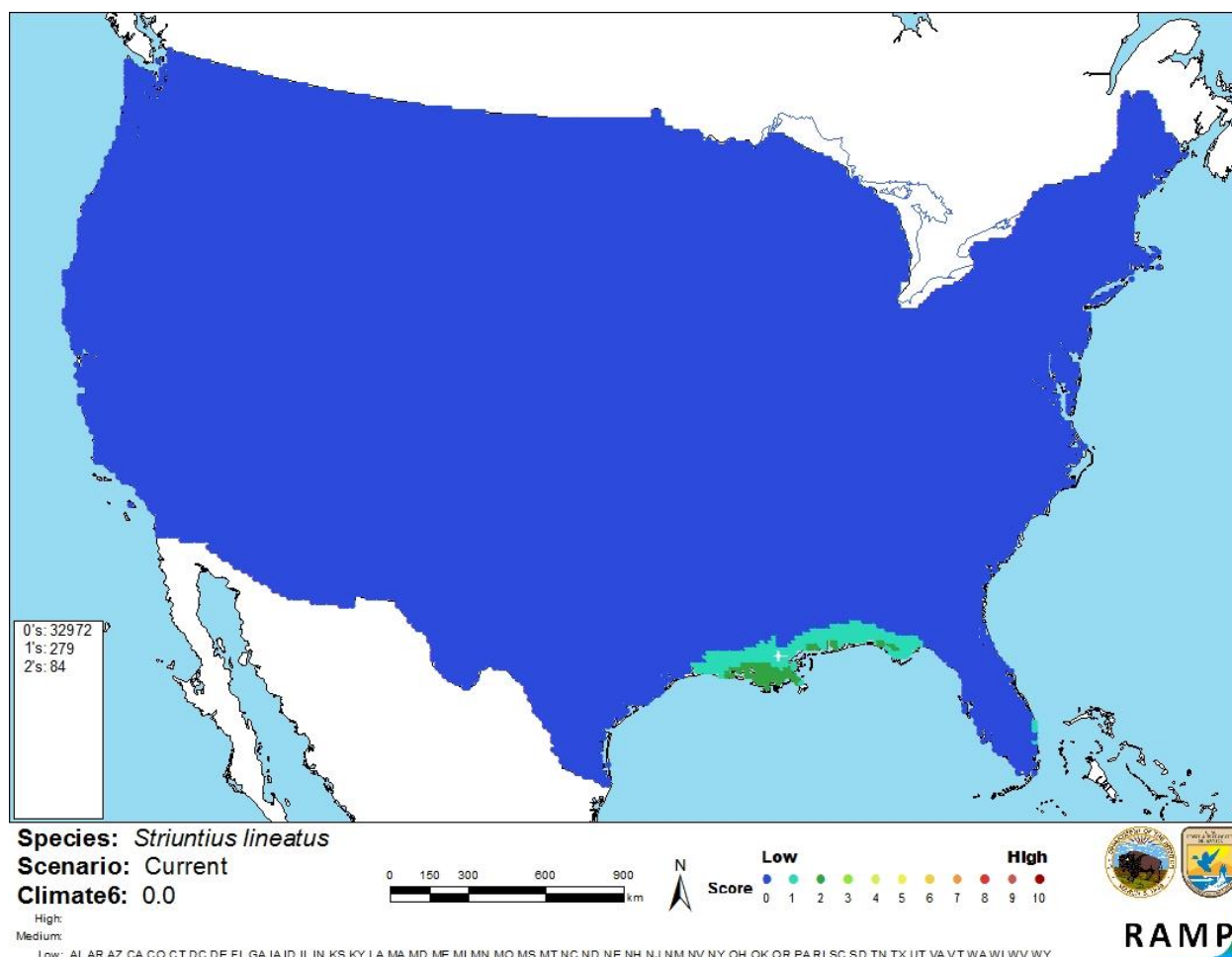


Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *Striuntius lineatus* in the contiguous United States based on source locations reported by GBIF Secretariat (2018). 0=Lowest match, 10=Highest match.

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

There is limited information available on the biology and ecology of *Striuntius lineatus*. This species has never been reported as introduced or established outside of its native range, so there is no information available on negative impacts of this species’ introduction. Because of this, its risk to the contiguous United States. cannot be adequately evaluated, so the certainty of this assessment is low.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Striuntius lineatus, the Lined Barb, is a small fish native to Malaysia and Indonesia. It is used in the aquarium trade. This species has a low climate match with the contiguous United States. It has never been reported as introduced or established outside of its native range. History of invasiveness is uncertain. Because there is no information on introductions from which to base an assessment of risk, the certainty of this assessment is low. The overall risk assessment category is therefore 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:
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- Froese, R., and D. Pauly, editors. 2018. *Striuntius lineatus* (Duncker, 1904). FishBase. Available:
<https://fishbase.ca/summary/Striuntius-lineatus.html>. (June 2018).
- GBIF Secretariat. 2018. GBIF backbone taxonomy: *Striuntius lineatus*, Duncker, 1904. Global Biodiversity Information Facility, Copenhagen. Available:
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https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=689819#null. (June 2018).
- Roberts, T. 1989. The freshwater fishes of Western Borneo (Kalimantan, Barat, Indonesia). *Memoirs of the California Academy of Sciences* 14:1-210.
- Sanders, S., C. Castiglione, and M. H. Hoff. 2014. Risk Assessment Mapping Program: RAMP. U.S. Fish and Wildlife Service.

The Wet Spot Tropical Fish. 2019. Current stock – fish. The Wet Spot Tropical Fish, Portland, Oregon. Available: <https://www.wetspottropicalfish.com/current-stock/>.

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.

Baensch, H. A., and R. Riehl. 1985. Aquarien atlas. Volume 2. Mergus, Verlag für Natur-und Heimtierkunde GmbH, Melle, Germany.

Kottelat, M. 1996. The identity of *Puntius eugrammus* and diagnoses of two new species of striped barbs (Teleostei: Cyprinidae) from southeast Asia. Raffles Bulletin of Zoology 44(1):301-316.

Kottelat, M., and E. Widjanarti. 2005. The fishes of Danau Sentarum National Park and the Kapuas Lakes area, Kalimantan Barat, Indonesia. Raffles Bulletin of Zoology Supplement 13:139-173.