

Snakeskin Barb (*Desmopuntius rhomboocellatus*)

Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, February 2013

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1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2019a):

“Asia: West and Central Kalimantan in Borneo, Indonesia.”

From Seriously Fish (2019):

“Endemic to southern Kalimantan, the Indonesian portion of Borneo where it’s been recorded from several **river** systems including the Kapuas, Kedayang, Barito and Kahajan

Type locality is ‘Canal along the highway from Oelin to Bandjermasin, about 15 kilometers from Bandjermasin, Borneo.’

Status in the United States

There are no records of *Desmopuntius rhomboocellatus* in the wild in the United States. *D. rhomboocellatus* is in trade in the United States.

From Aquatic Arts (2019):

“Snakeskin aka Rhombo Aka Orange Buffalo Barb (*Desmopuntius rhomboocellatus*) Sold Out”

Means of Introductions in the United States

There are no records of *Desmopuntius rhomboocellatus* in the wild in the United States.

Remarks

From Seriously Fish (2019):

“*D. rhomboocellatus* is included in a group of closely-related, similar-looking fishes which were moved into the new genus *Desmopuntius* by Kottelat (2013). They were formerly included in the *Puntius* assemblage which was for a number of years viewed as a polyphyletic catch-all containing over 100 species of small to mid-sized cyprinid [sic] until Pethiyagoda et al. (2012) published a partial review covering South Asian members.”

The valid name *Desmopuntius rhomboocellatus* and the synonym *Puntius rhomboocellatus* (Fricke et al. 2019) were used to search for information during this assessment.

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

From Fricke et al. 2019:

“**Current status:** Valid as *Desmopuntius rhomboocellatus* (Koumans 1940).”

From Froese and Pauly (2019b):

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

Size, Weight, and Age Range

From Froese and Pauly (2018a):

“Max length : 8.8 cm TL male/unsexed; [Kottelat et al. 1993]”

From Seriously Fish (2019):

“50 – 55 mm.”

Environment

From Froese and Pauly (2018a):

“Freshwater; benthopelagic; pH range: 6.5 - 7.5; dH range: ? - 15. [...] 23°C - 28°C [Riehl and Baensch 1996; assumed to be recommended aquarium temperature].”

From Seriously Fish (2019):

“Most often inhabits peat swamps and associated black water streams as well as other still waters, often in areas with submerged grasses or aquatic plants and dense riparian vegetation.”

“The water itself is typically stained brown with humic acids and other chemicals released by decaying organic material, dissolved mineral content is generally negligible and pH as low as 3.0 or 4.0. Substrates are usually littered with fallen leaves, branches and submerged tree roots though in some places aquatic plants from genera such as *Cryptocoryne* or *Barcalaya* can be found.”

Climate/Range

From Froese and Pauly (2018a):

“Tropical;”

Distribution Outside the United States

Native

From Froese and Pauly (2019a):

“Asia: West and Central Kalimantan in Borneo, Indonesia.”

From Seriously Fish (2019):

“Endemic to southern Kalimantan, the Indonesian portion of Borneo where it’s been recorded from several river systems including the Kapuas, Kpayang, Barito and Kahajan

Type locality is ‘Canal along the highway from Oelin to Bandjermasin, about 15 kilometers from Bandjermasin, Borneo.’

Introduced

There are no records of *Desmopuntius rhomboocellatus* being introduced anywhere outside of its native range.

Means of Introduction Outside the United States

There are no records of *Desmopuntius rhomboocellatus* being introduced anywhere outside of its native range.

Short Description

From Seriously Fish (2019):

“In addition, the following characters are useful in identification of *Desmopuntius* spp.: last simple dorsal-fin ray serrated posteriorly; rostral and maxillary barbels present; lips smooth and thin, postlabial groove interrupted medially; lateral line complete, with 25–27 pored scales on body; $\frac{1}{2}$ 4/1/4 $\frac{1}{2}$ scale rows between dorsal-fin origin and ventral midline in front of pelvic-fin base; 12 circumpeduncular scale rows; 7–11 gill rakers on first gill arch.”

“Adult males tend to be slightly smaller, are noticeably slimmer and exhibit more intense colouration than females.”

Biology

From Froese and Pauly (2019a):

“Usually occurs in black water streams in forested areas [Kottelat and Widjanarti 2005]”

From Seriously Fish (2019):

“Primarily a micropredator feeding on small insects, worms, crustaceans and other zooplankton in nature.”

“Adult males tend to be slightly smaller, are noticeably slimmer and exhibit more intense colouration than females.”

“Like most small cyprinids *Desmopuntius* spp. are egg-scattering free spawners exhibiting no parental care.”

Human Uses

Desmopuntius rhomboocellatus is found for purchase on several aquarium websites (www.aquaticarts.com, www.miniwaters.fish, www.aquabid.com) suggesting it is fairly common in the aquarium trade.

Diseases

No information on diseases was found for *Desmopuntius rhomboocellatus*. **No OIE-reportable diseases (OIE 2019) were found to be associated with *D. rhomboocellatus*.**

Threat to Humans

From Froese and Pauly (2019a):

“Harmless”

3 Impacts of Introductions

There are no records of *Desmopuntius rhomboocellatus* being introduced anywhere outside of its native range.

4 Global Distribution



Figure 1. Known global distribution of *Desmopuntius rhomboocellatus*. Locations are in Borneo and Thailand. Map from GBIF Secretariat (2019). The point in peninsular Thailand was not used in the climate match because it is a single collection and there are no other records of *Desmopuntius rhomboocellatus* being found outside of Borneo.

5 Distribution Within the United States

Desmopuntius rhomboocellatus has not been reported in the wild in the United States.

6 Climate Matching

Summary of Climate Matching Analysis

The climate match for *Desmopuntius rhomboocellatus* was uniformly low throughout the contiguous United States. There were no areas of medium or high climate match anywhere. The Climate 6 score (Sanders et al. 2018; Euclidean distance) was 0.000, low. (Scores between 0.000 and 0.005, inclusive, are classified as low.) All States had low individual climate scores.

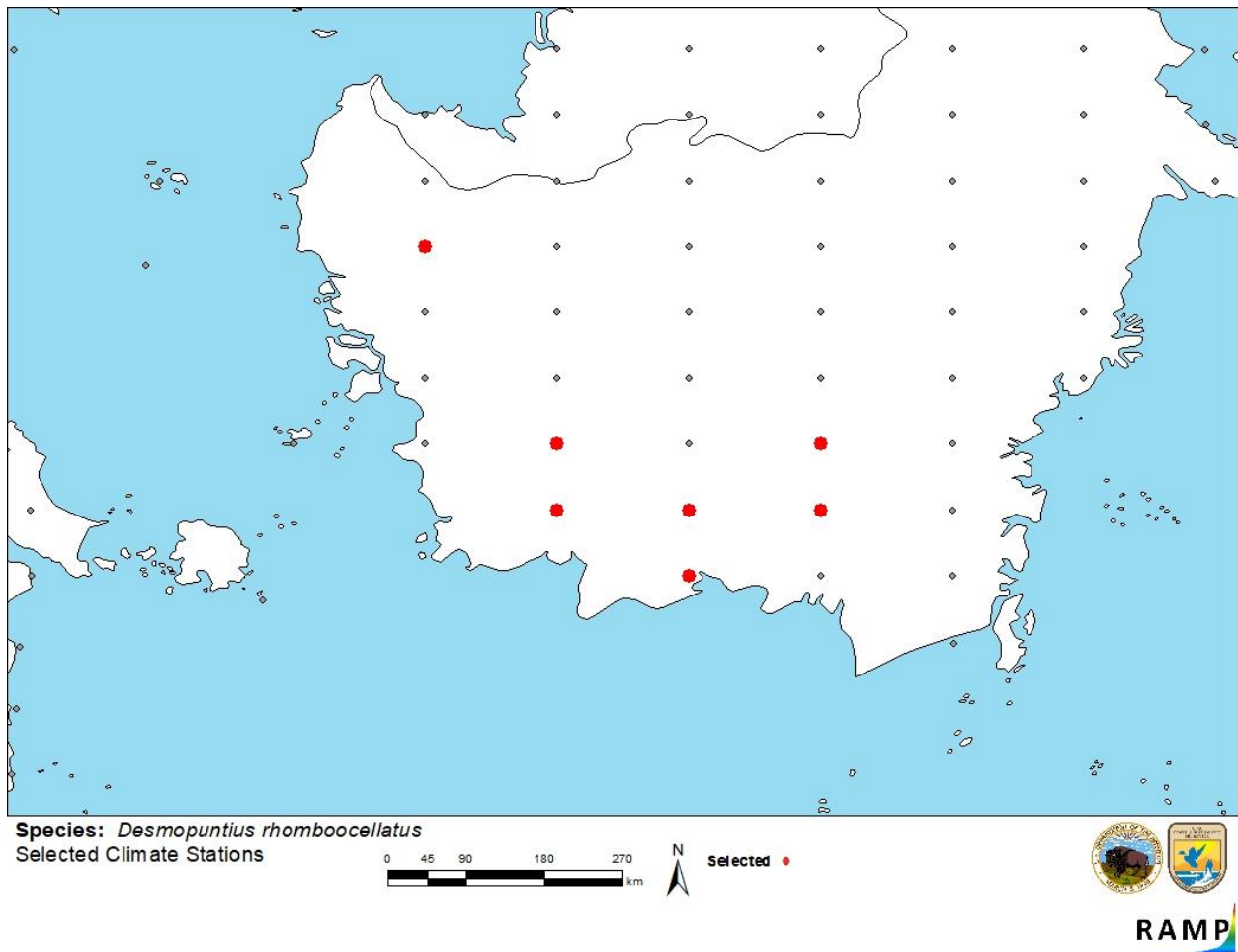


Figure 2. RAMP (Sanders et al. 2018) source map showing weather stations in Indonesia (Borneo) selected as source locations (red; Indonesia) and non-source locations (gray) for *Desmopuntius rhomboocellatus* climate matching. Source locations from GBIF Secretariat (2019). Selected source locations are within 100 km of one or more species occurrences, and do not necessarily represent the locations of occurrences themselves.

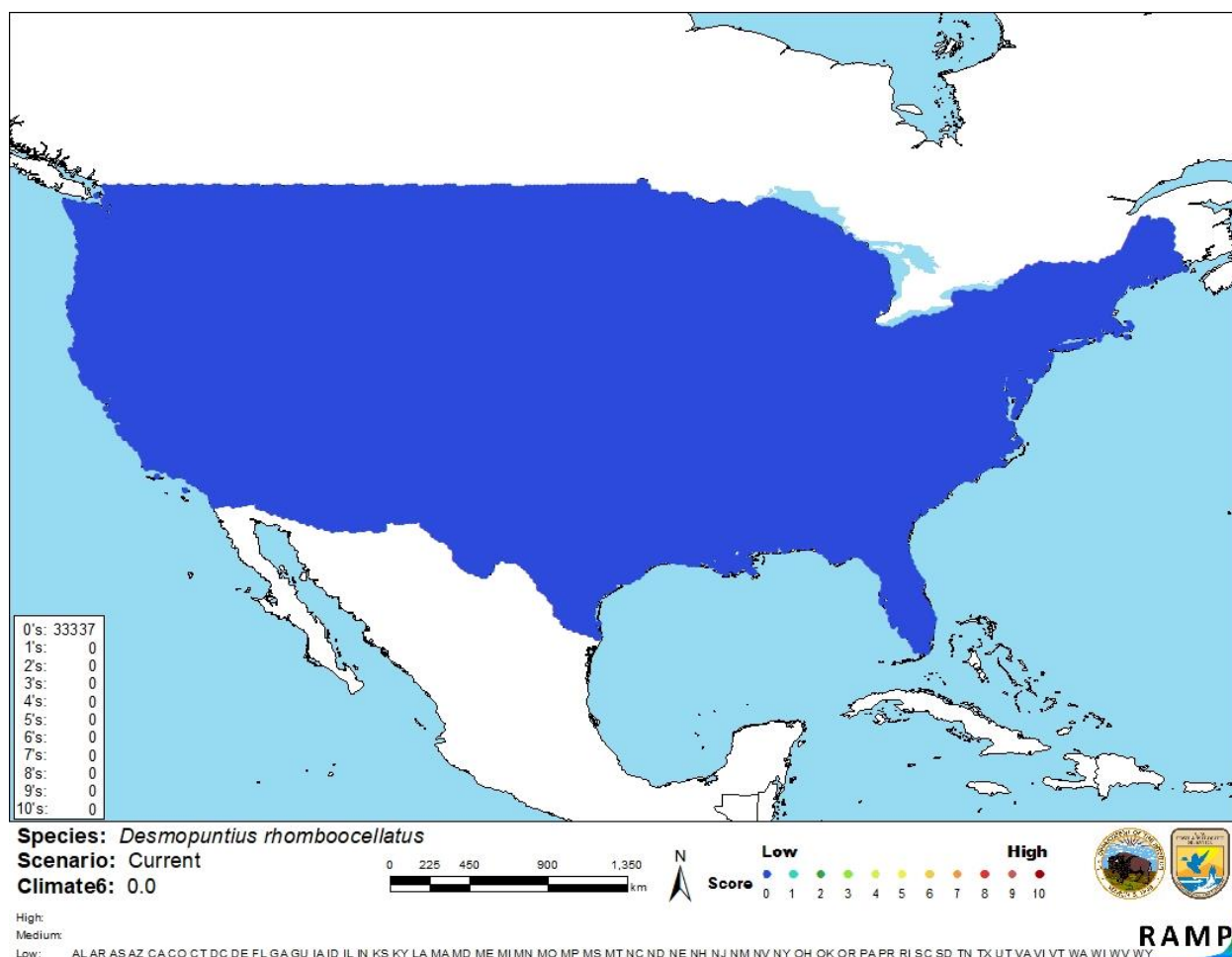


Figure 3. Map of RAMP (Sanders et al. 2018) climate matches for *Desmopuntius rhomboocellatus* in the contiguous United States based on source locations reported by GBIF Secretariat (2019). 0 = Lowest match, 10 = Highest match.

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 information available regarding the biology, ecology, and distribution of *Desmopuntius rhomboocellatus*. *D. rhomboocellatus* has not been introduced anywhere outside of its native range. Therefore there is no information on impacts of introductions. The certainty of assessment is low.

8 Risk Assessment

Summary of Risk to the Contiguous United States

The Snakeskin Barb (*Desmopuntius rhomboocellatus*) is a fish endemic to southern Borneo, Indonesia. The history of invasiveness is uncertain, it has not been reported as introduced or established anywhere outside of its native range. *Desmopuntius rhomboocellatus* is found in the aquarium trade, but no information on the volume of trade was found. The climate match was low for the entire contiguous United States. The certainty of assessment is low due to lack of information. The overall risk assessment category for *Desmopuntius rhomboocellatus* 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: None**
- **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.

- Aquatic Arts. 2019. Snakeskin aka Rhombo Aka Orange Buffalo Barb (*Desmopuntius rhomboocellatus*). Aquatic Arts. Available: https://aquaticarts.com/products/snakeskin-barb?_pos=1&_sid=24ecc781f&_ss=r. (October 2019).
- 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. *Desmopuntius rhomboocellatus* (Koumans 1940). FishBase. Available: <https://www.fishbase.de/summary/Desmopuntius-rhomboocellatus>. (March 2019).
- Froese, R., and D. Pauly, editors. 2019b. *Desmopuntius rhomboocellatus* (Koumans 1940). In World Register of Marine Species. Available: <http://www.marinespecies.org/aphia.php?p=taxdetails&id=1021435>. (March 2019).
- GBIF Secretariat. 2019. GBIF backbone taxonomy: *Desmopuntius rhomboocellatus* (Koumans 1940). Global Biodiversity Information Facility, Copenhagen. Available: <https://www.gbif.org/species/7461587>. (March 2019).

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/>. (October 2019).

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

Seriously Fish. 2018. *Desmopuntius rhomboocellatus* (Snakeskin Barb). Available: <http://www.seriouslyfish.com/species/desmopuntius-rhomboocellatus/>. (March 2019).

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.

Kottelat, M. 2013. The fishes of the inland waters of Southeast Asia; a catalogue and core bibliography of the fishes known to occur in freshwaters, mangroves and estuaries. The Raffles Bulletin of Zoology Supplement 27:1–663.

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.

Kottelat, M., A. J. Whitten, S. N. Kartikasari, and S. Wirjoatmodjo. 1993. Freshwater fishes of Western Indonesia and Sulawesi. Periplus Editions, Hong Kong.

Pethiyagoda, R., M. Meegaskumbura, and K. Maduwage. 2012. A synopsis of the South Asian fishes referred to *Puntius* (Pisces: Cyprinidae). Ichthyological Exploration of Freshwaters 23(1):69–95.

Riehl, R., and H. A. Baensch. 1996. Aquarien atlas, band 1, 10th edition. Mergus Verlag GmBH, Melle, Germany.