

***Peckoltia brevis* (a catfish, no common name)**

Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, February 2013

Revised, September 2018

Web Version, 12/17/2020

Organism Type: Fish

Overall Risk Assessment Category: Uncertain



Photo: Hantanplan. Licensed under Creative Commons Attribution 3.0 Unported. Available: <https://commons.wikimedia.org/wiki/File:Peckoltia-brevis.JPG>. (September 2018).

1 Native Range and Status in the United States

Native Range

From Armbruster (2008):

“From the Rios Purus, Juruá, Marañon and upper Amazon of Brazil and Peru and also found in the upper Río Madeira of Bolivia [...]. Two collections from the Río Orinoco basin in Vichada, Colombia appear to be *Peckoltia brevis*.”

Status in the United States

No records of *Peckoltia brevis* in the wild or in trade in the United States were found.

Peckoltia brevis falls within Group I of New Mexico’s Department of Game and Fish Director’s Species Importation List (New Mexico Department of Game and Fish 2010). Group I species “are designated semi-domesticated animals and do not require an importation permit.”

Means of Introductions in the United States

No records of *Peckoltia brevis* in the wild in the United States were found.

Remarks

No additional remarks.

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

According to Fricke et al. (2018), *Peckoltia brevis* (La Monte 1935) is the current valid name of this species. *Peckoltia brevis* was originally described as *Hemiancistrus brevis* La Monte 1935.

From ITIS (2018):

Kingdom Animalia

Subkingdom Bilateria

Infrakingdom Deuterostomia

Phylum Chordata

Subphylum Vertebrata

Infraphylum Gnathostomata

Superclass Actinopterygii

Class Teleostei

Superorder Ostariophysii

Order Siluriformes

Family Loricariidae

Subfamily Hypostominae

Genus *Peckoltia*

Species *Peckoltia brevis* (La Monte, 1935)

Size, Weight, and Age Range

From Armbruster (2008):

“Largest specimen examined 105.7 mm SL.”

Environment

From Froese and Pauly (2018):

“Freshwater; demersal; pH range: 5.8 - 7.8; dH range: 15 - 28. [...]; 22°C - 26°C [assumed to be recommended aquarium temperature range] [Baensch and Riehl 1985]”

Climate

From Froese and Pauly (2018):

“Tropical; [...]”

Distribution Outside the United States

Native

From Armbruster (2008):

“From the Rios Purus, Juruá, Marañon and upper Amazon of Brazil and Peru and also found in the upper Río Madeira of Bolivia [...]. Two collections from the Río Orinoco basin in Vichada, Colombia appear to be *Peckoltia brevis*.”

Introduced

No records of introductions of *Peckoltia brevis* were found.

Means of Introduction Outside the United States

No records of introductions of *Peckoltia brevis* were found.

Short Description

From Armbruster (2008):

“*Peckoltia brevis* can be identified from all other *Peckoltia* except *P. bachi*, *P. caenosa*, *P. lineola*, and *P. oligospila* by having round spots on the head and abdomen; from *P. bachi* by having the spots on the head small (vs. large), the pelvic spines narrow (vs. wide), and the eye high on the head (vs. low); from *P. caenosa* and *P. lineola* by having none of the head spots combining to form lines; from *P. caenosa* by having spots on the abdomen (vs. vermiculations), by having bands in the dorsal (vs. light spots), and by having the dark and light bands on the caudal fin of about equal width (vs. light bands about 25% of width of dark bands); and from *P. oligospila* by lacking spots laterally behind the dorsal fin (vs. spots present on sides), and by having bands in the dorsal and caudal fins and dorsal saddles (vs. spots on the fins and body and saddles faint). *Peckoltia furcata* additionally has spots on the head, but not the abdomen and *P. brevis* can be further separated from *P. furcata* by having bands in the dorsal fin (vs. spots).”

“Body stout and fairly wide. Head gently sloped to parieto-supraoccipital. Parieto-supraoccipital with tall, rounded crest. Parieto-supraoccipital crest raised slightly above nuchal region. Nuchal region rises slightly to nuchal plate. Dorsal profile sloped ventrally to dorsal procurent caudal-fin spines, then rising rapidly to caudal fin. Ventral profile flat to ventral procurent caudal-fin spines and then sloping ventrally to caudal fin. Supraorbital ridge rounded, contiguous, but slightly offset medially from rounded ridge proceeding from anterior margin of orbit to anterolateral corner of anterior nare. Head contours smooth. Eye medium-sized.”

“Keels absent. Mid-ventral plates bent at their midline above pectoral fin to form ridge. Dorsal plates bent dorsally below dorsal fin to form ridges that converge at preadipose plate, dorsal

surface flat between ridges. Five rows of plates on caudal peduncle. Abdomen fully covered in small plates except for small naked areas posterior to lower lip and at insertions of paired fins. First anal-fin pterygiophore exposed to form a platelike structure. Pair of lateral plates converging at midline between anus and exposed first anal-fin pterygiophore. 22–26 [...] plates in the median series.”

“Frontal, infraorbitals, nasal, compound pterotic, sphenotic, and parieto-supraoccipital, supporting odontodes; opercle supporting odontodes in juveniles but not in adults, posterodorsal corner of opercle covered by one or two plates in adults. Odontodes on lateral plates not enlarged to form keels. Hypertrophied cheek odontodes 14–42 [...], longest almost reaching first mid-ventral plate in adults. Cheek plates evertible to approximately 90° from head. Odontodes on tip of pectoral-fin spine slightly hypertrophied.”

“Dorsal fin short, just reaching preadipose plate fin when adpressed; dorsal-fin spine same length as proceeding rays making edge straight. Dorsal-fin spinelet V-shaped, dorsal-fin spine lock functional. Dorsal fin II,7. Adipose fin with one preadipose plate and fairly long spine. Caudal fin forked, lower lobe longer than upper, I,14,I with four to five [...] dorsal procurrent caudal-fin rays and three to five [...] ventral procurrent-fin rays. Anal fin short with unbranched ray weak and approximately same length of first branched ray. Anal fin I,4, Pectoral-fin spine almost reaching just beyond pelvic fin when adpressed ventral to pelvic fin. Pectoral fin I,6. Pelvic fin reaching to posterior insertion of anal-fin when adpressed. Pelvic fin I,5.”

“Iris operculum present. Flap between anterior and posterior nares short. Lips wide, fairly thin. Upper lip with small, round papillae. Lower lip with small papillae anteriorly and posteriorly, becoming larger medially. Maxillary barbel short, maximally reaching base of evertible cheek plates. Buccal papilla small. Jaws narrow, dentaries forming very acute angle, premaxillaries forming angle of 90° to slightly greater than 90°. Teeth with small, moderately wide cusps, lateral cusp approximately half length of medial cusp, stalk of tooth long; seven to 22 dentary teeth [...], six to 22 premaxillary teeth [...].”

“Base color light tan with brown markings. Head with small to medium spots, spots fading in region between head and dorsal fin. Parieto-supraoccipital crest dark. Body with four dorsal saddles, the first below the middle rays of the dorsal fin, the second below the posterior rays of the dorsal fin and slightly posterior, the third below the adipose fin and slightly anterior, and the fourth at the end of the caudal peduncle. The first two saddles combine at the midline or may fuse completely. Head slightly darker from tip of snout to anterior edge of orbits and medially from posterior edge of frontal to posterior edge of parieto-supraoccipital. All fins with dark bands with dark and light areas of approximately equal width, caudal bands may be irregular. Number of bands increases with size. Dark spot present between dorsal-fin spinelet and spine, and occasionally dark spots present at the bases of the dorsal-fin membranes (darkest anteriorly). Abdomen with medium spots anteriorly and large spots posteriorly. Lower surface of caudal peduncle mottled. Juveniles colored as adults, but with fewer spots on head and few spots (if any) on abdomen.”

“Nuptial males with hypertrophied odontodes on sides and posterior part of head; hypertrophied odontodes becoming larger posteriorly. Hypertrophied odontodes on upper caudal-fin spine and

adipose spine. Upper caudal-fin spine thickened. Odontodes on pectoral-fin spine not noticeably larger.”

Biology

From Armbruster (2008):

“Specimens collected in Peru were from a lowland, muddy-bottomed river. The specimens were collected on and in submerged logs.”

Human Uses

No information on human uses of *Peckoltia brevis* was found.

Diseases

No information on diseases of *Peckolita brevis* was found. **No records of OIE-reportable diseases (OIE 2020) were found for *P. brevis*.**

Threat to Humans

From Froese and Pauly (2018):

“Harmless”

3 Impacts of Introductions

No records of introductions of *Peckoltia brevis* were found, therefore there is no information on impacts of introductions.

4 History of Invasiveness

No records of introductions of *Peckoltia brevis* were found, therefore the history of invasiveness is classified as “no known nonnative population.”

5 Global Distribution



Figure 1. Map of South America showing locations where *Peckoltia brevis* has been reported. Locations are in Colombia, Venezuela, Peru, Brazil, and Bolivia. Map from GBIF Secretariat (2018). The location in southern Brazil was not used as a source point due to lack of literature to support that this is an established population.

6 Distribution Within the United States

No records of *Peckoltia brevis* in the wild in the United States were found.

7 Climate Matching

Summary of Climate Matching Analysis

The climate match for *Peckoltia brevis* was low across the majority of the contiguous United States. There were small areas of medium match along the Gulf Coast and southern Florida had areas of high match. The Climate 6 score (Sanders et al. 2018; 16 climate variables; Euclidean distance) for the contiguous United States was 0.004, low (scores between 0.000 and 0.005, inclusive, are classified as low). All States had low individual Climate 6 scores except for Florida that has a high individual climate score.

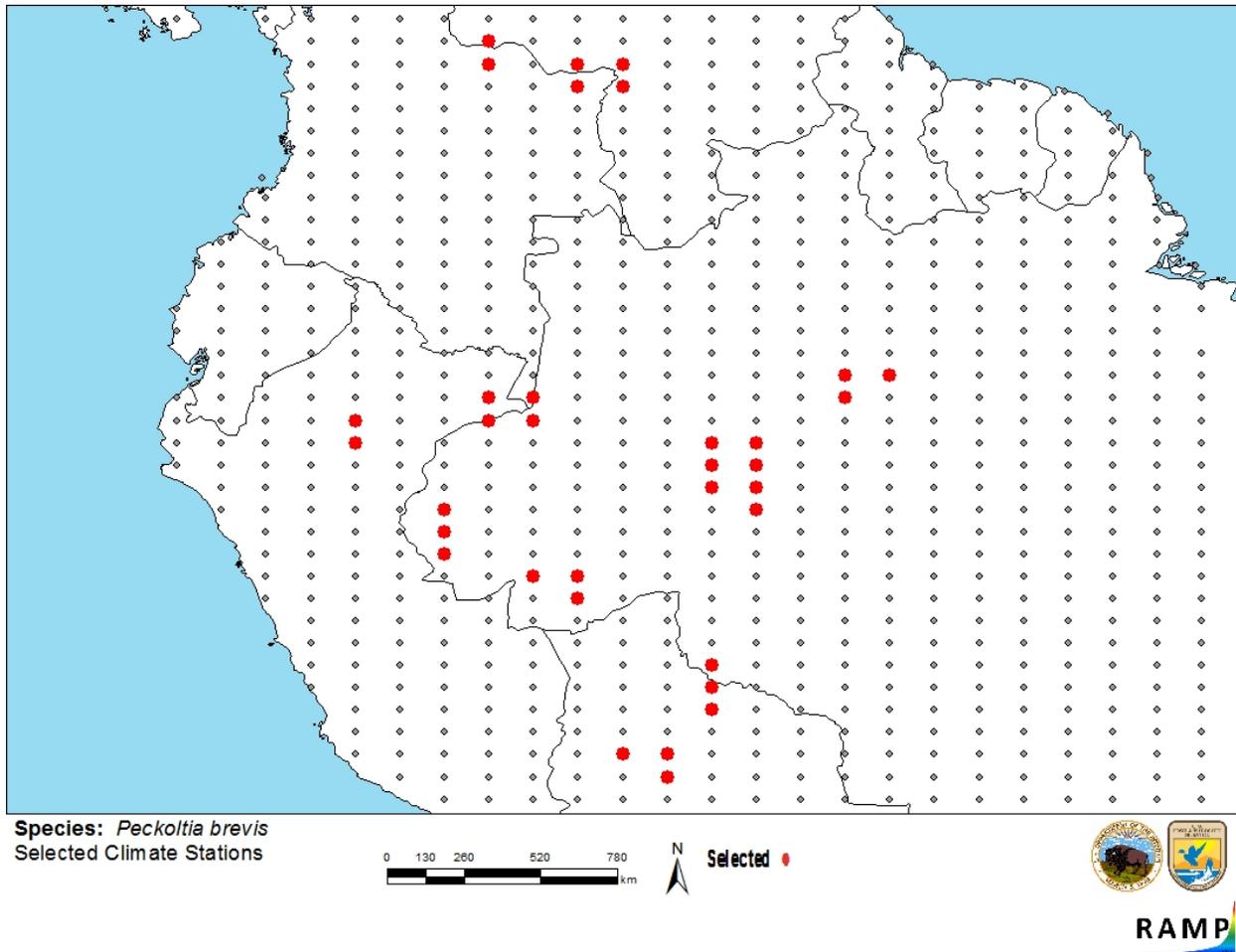


Figure 2. RAMP (Sanders et al. 2018) source map showing weather stations in northern South America selected as source locations (red; Colombia, Venezuela, Peru, Brazil, Bolivia) and non-source locations (gray) for *Peckoltia brevis* climate matching. Source locations from GBIF Secretariat (2018). Selected source locations are within 100 km of one or more species occurrences, and do not necessarily represent the locations of occurrences themselves.

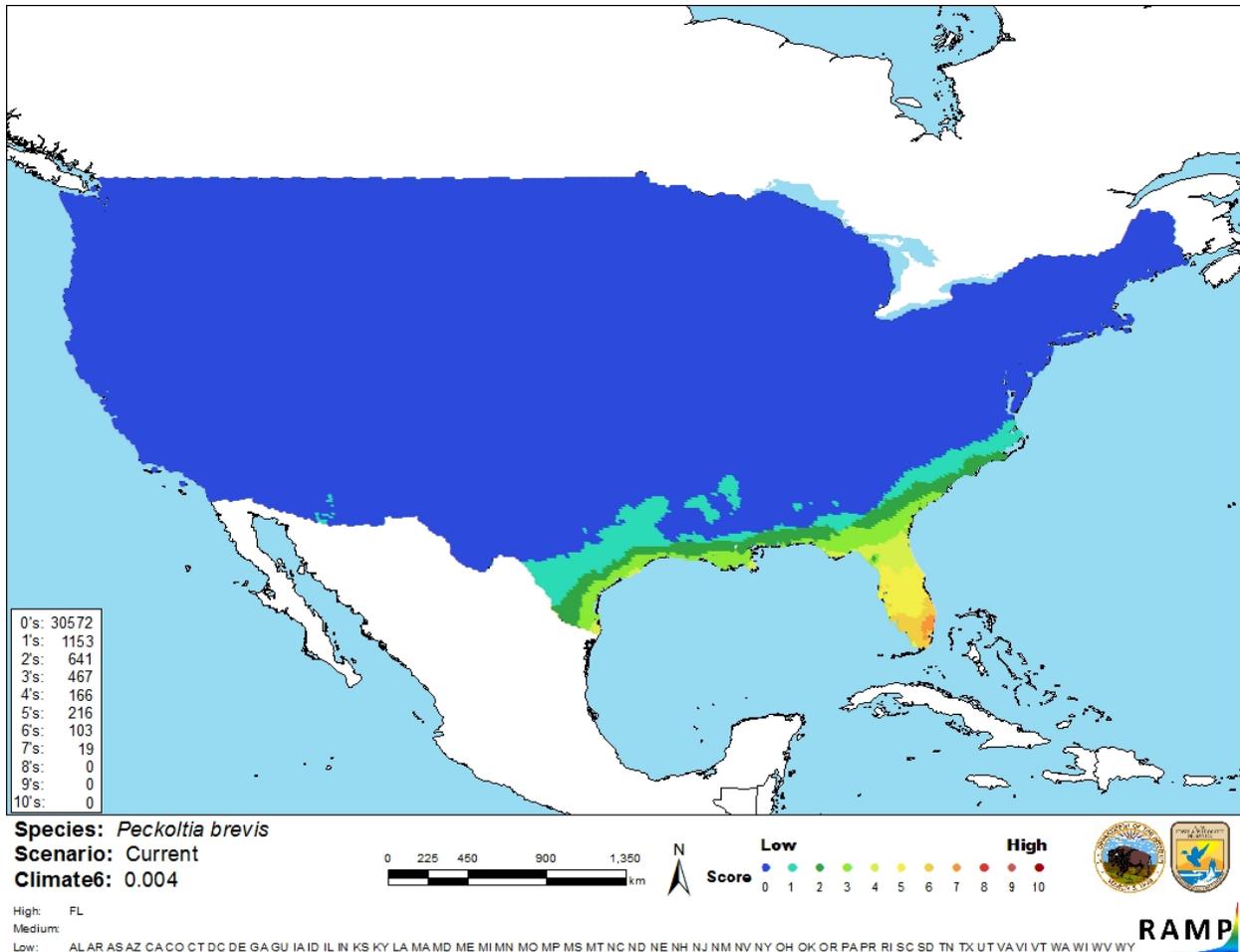


Figure 3. Map of RAMP (Sanders et al. 2018) climate matches for *Peckoltia brevis* in the contiguous United States based on source locations reported from GBIF Secretariat (2018). Counts of climate match scores are tabulated on the left. 0/Blue = Lowest match, 10/Red = Highest match.

The High, Medium, and Low Climate match Categories are based on the following table:

Climate 6: (Count of target points with climate scores 6-10)/ (Count of all target points)	Overall Climate Match Category
$0.000 \leq X \leq 0.005$	Low
$0.005 < X < 0.103$	Medium
≥ 0.103	High

8 Certainty of Assessment

The certainty of assessment is low. There was some general information about the species available from peer-reviewed sources. There were no records of introductions found, and therefore there is no information on impacts available to evaluate.

9 Risk Assessment

Summary of Risk to the Contiguous United States

Peckoltia brevis is a species of catfish native to South America. The history of invasiveness is classified as “no known nonnative population.” There were no records of introductions found and therefore no information on impacts of introduction. The climate match was low for the majority of the contiguous United States with Florida having an individually high climate match. The certainty of assessment is low. The overall risk assessment is uncertain.

Assessment Elements

- **History of Invasiveness (Sec. 4): No Known Nonnative Population**
- **Overall Climate Match Category (Sec. 7): Low**
- **Certainty of Assessment (Sec. 8): Low**
- **Remarks/Important additional information: No additional information**
- **Overall Risk Assessment Category: Uncertain**

10 Literature Cited

Note: The following references were accessed for this ERSS. References cited within quoted text but not accessed are included below in Section 11.

Armbruster JW. 2008. The genus *Peckoltia* with the description of two new species and a reanalysis of the phylogeny of the genera of the Hypostominae (siluriformes: Loricariidae). *Zootaxa* 1822:1–76.

Eschmeyer WN, Fricke R, van der Laan R, editors. 2018. Catalog of fishes: genera, species, references. California Academy of Science. Available: <http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp> (September 2018).

Froese R, Pauly D, editors. 2018. *Peckoltia brevis* (La Monte, 1935). FishBase. Available: <https://www.fishbase.de/summary/Peckoltia-brevis.html> (September 2018).

GBIF Secretariat. 2018. GBIF backbone taxonomy: *Peckoltia brevis* (La Monte, 1935). Copenhagen: Global Biodiversity Information Facility. Available: <https://www.gbif.org/species/5202101> (September 2018).

[ITIS] Integrated Taxonomic Information System. 2018. *Peckoltia brevis* (La Monte, 1935). Reston, Virginia: Integrated Taxonomic Information System. Available: https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=680312#null (September 2018).

New Mexico Department of Game and Fish. 2010. Director's species importation list. Santa Fe, New Mexico: New Mexico Department of Game and Fish. Available: http://www.wildlife.state.nm.us/download/enforcement/importation/information/Directors-Species-Importation-List-08_03_2010.pdf (November 2020).

[OIE] World Organisation for Animal Health. 2020. OIE-listed diseases, infections and infestations in force in 2020. Available: <http://www.oie.int/animal-health-in-the-world/oie-listed-diseases-2020/> (November 2020).

Sanders S, Castiglione C, Hoff M. 2018. Risk Assessment Mapping Program: RAMP. Version 3.1. U.S. Fish and Wildlife Service.

11 Literature Cited in Quoted Material

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 HA, Riehl R. 1985. Aquarien atlas. Band 2. Melle, Germany: Mergus, Verlag für Natur- und Heimtierkunde GmbH.

Fisch-Muller S. 2003. Loricariidae-Ancistrinae (Armored catfishes). Checklist of the Freshwater Fishes of South and Central America. Porto Alegre, Brazil: Edipucrs.

La Monte FR. 1935. Fishes from Rio Jurua and Rio Purus, Brazilian Amazonas. American Museum Novitates 784:1–8.