

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

Ecological Risk Screening Summary

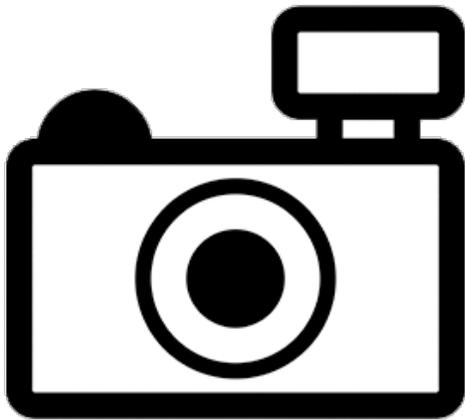
U.S. Fish & Wildlife Service, February 2013

Revised, September 2018

Web Version, 12/18/2020

Organism Type: Fish

Overall Risk Assessment Category: Uncertain



No Photo Available

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2018):

“South America: Rupununi River in Guyana.”

From Armbruster and Werneke (2005):

“Collected from two localities around the Macushi village of Massara near Anai in the Rupununi River [...]”

Status in the United States

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

Peckoltia cavatica 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 cavatica* in the wild in the United States were found.

Remarks

No additional remarks.

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

According to Eschmeyer et al. (2018), *Peckoltia cavatica* Armbruster and Werneke 2005 is the original and current valid name of this species.

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 cavatica* Armbruster and Werneke, 2005

Size, Weight, and Age Range

From Armbruster and Werneke (2005):

“Fairly small loricariids, largest specimen 71.8 mm SL (likely only juveniles examined).”

Environment

From Froese and Pauly (2018):

“Freshwater; demersal.”

Climate/Range

From Froese and Pauly (2018):

“Tropical”

Distribution Outside the United States

Native

From Froese and Pauly (2018):

“South America: Rupununi River in Guyana.”

From Armbruster and Werneke (2005):

“Collected from two localities around the Macushi village of Massara near Anai in the Rupununi River [...]”

Introduced

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

Means of Introduction Outside the United States

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

Short Description

From Armbruster and Werneke (2005):

“*Peckoltia cavatica* can be separated from all other described *Peckoltia* except *P. braueri* by the presence of an orange band in the dorsal fin and by having thin, black lines that outline the plates and bones of the head. *Peckoltia cavatica* can be separated from *P. braueri* as in the *P. cavatica* diagnosis. The only other described species of *Peckoltia* similar to *P. braueri* in coloration is *P. vermiculata*, which can be separated by having vermiculations on the dorsal head bones and plates (vs. coloration confined to the borders between bones and plates in *P. braueri*).”

“Body stout and fairly wide. Head and nape gently sloped to insertion of dorsal fin. Supraoccipital with slight rounded crest, slightly higher than nuchal region. Dorsal profile sloped ventrally to dorsal procurrent caudal-fin spines, then rising rapidly to caudal fin. Ventral profile flat to ventral procurrent caudal-fin spines and then sloping ventrally to caudal fin. Supraorbital ridge rounded, continuing to anterolateral corner of anterior nare. Mesethmoid raised slightly above lateral surface of snout to form slight ridge. Head contours smooth. Eyes relatively large.”

“Keels absent. Inframedian plates bent at their midline above pectoral fin to form ridge. Dorsal plates bent dorsally below dorsal fin to form very slight ridges that converge at adipose fin, dorsal surface flat between ridges. Five rows of plates on caudal peduncle. Abdomen almost fully plated in largest specimen available, naked only in small area just posterior to insertion of pectoral-fin spine and in a wide band between insertions of pelvic fin spines; smaller individuals

with various degree of plating. First anal-fin pterygiophore exposed to form a platelike structure. A pair of lateral plates converging at midline between anus and exposed first anal-fin pterygiophore. 25–26 [...] plates in the median series.”

“Frontals, infraorbitals, nasals, pterotic-supracleithra, sphenotics, and 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 18–36, longest reaching first inframedian plate in adults. Cheek plates evertible to approximately 90° from head. Odontodes on tip of pectoral-fin spine slightly hypertrophied.”

“Dorsal fin reaching preadipose plate when adpressed; dorsal-fin spine not elongate, edge of dorsal fin straight. Dorsal-fin spinelet V-shaped, dorsal-fin spine lock functional. Dorsal fin II7. Adipose fin with one preadipose plate and moderately long spine. Caudal fin emarginate, lower lobe longer than upper, I14I with four to five [...] dorsal procurrent caudal-fin rays and four ventral caudal-fin rays. Anal fin short with unbranched ray weak and approximately same length of first branched ray. Anal fin I4. Pectoral-fin spine almost reaching anus when adpressed ventral to pelvic fin. Pectoral fin I6. Pelvic fin reaching beyond anal-fin when adpressed. Pelvic fin I5.”

“Dorsal flap of iris present. Flap between anterior and posterior nares short. Lips wide, fairly thin. Upper lip with small, round papillae. Lower lip with medium-sized papillae anteriorly and smaller ones posteriorly. Maxillary barbels short, not reaching gill opening. Buccal papilla represented only by a very small flap, occasionally absent. Jaws narrow, dentaries forming a very acute angle, premaxillaries forming an angle of 90° to slightly greater than 90°. Teeth with small, moderately narrow cusps, lateral cusp approximately half-length of medial cusp, stalks of teeth long, dentary and premaxillary teeth about equal in length; 9–15 dentary teeth [...] and 9–17 premaxillary teeth [...].”

“Color same for live and preserved specimens except that live specimens have thick, orange bands at edge of dorsal and caudal fins. Background color gray-brown. Dorsal surface with four faint saddles, first below second and third dorsal-fin rays, second below last two dorsal-fin rays and slightly behind dorsal fin, third below adipose fin, and fourth at end of caudal peduncle. First two saddles combine at lateral line to form dark patch that extends from second saddle almost to pterotic-supracleithrum anteriorly and to ventral margin of inframedian plate row. Head plates and bones and plates of the nuchal region and dorsal, supramedian, and median plate rows to below dorsal fin completely outlined in black. Dorsal fin gray with wide distal orange band in life. Caudal fin spines gray, caudal fin with distal orange band in life. Ventral surface lighter than sides, saddles three and four contiguous across ventral surface in juveniles, but much lighter ventrally, and not contiguous in the largest specimens. Pectoral and pelvic fins gray. Juveniles colored similarly to adults, but dark colors more intense.”

“Males of *Peckoltia* generally have hypertrophied odontodes on the lateral plates, but this was not observed in *P. cavatica*.”

Biology

From Armbruster and Werneke (2005):

“Found in areas with a large number of lateritic rocks. Most specimens were removed from holes in the rocks.”

Human Uses

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

Diseases

No records of diseases of *Peckoltia cavatica* were found. **No records of OIE-reportable diseases (OIE 2020) were found for *P. cavatica*.**

Threat to Humans

From Froese and Pauly (2018):

“Harmless”

3 Impacts of Introductions

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

4 History of Invasiveness

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

5 Global Distribution

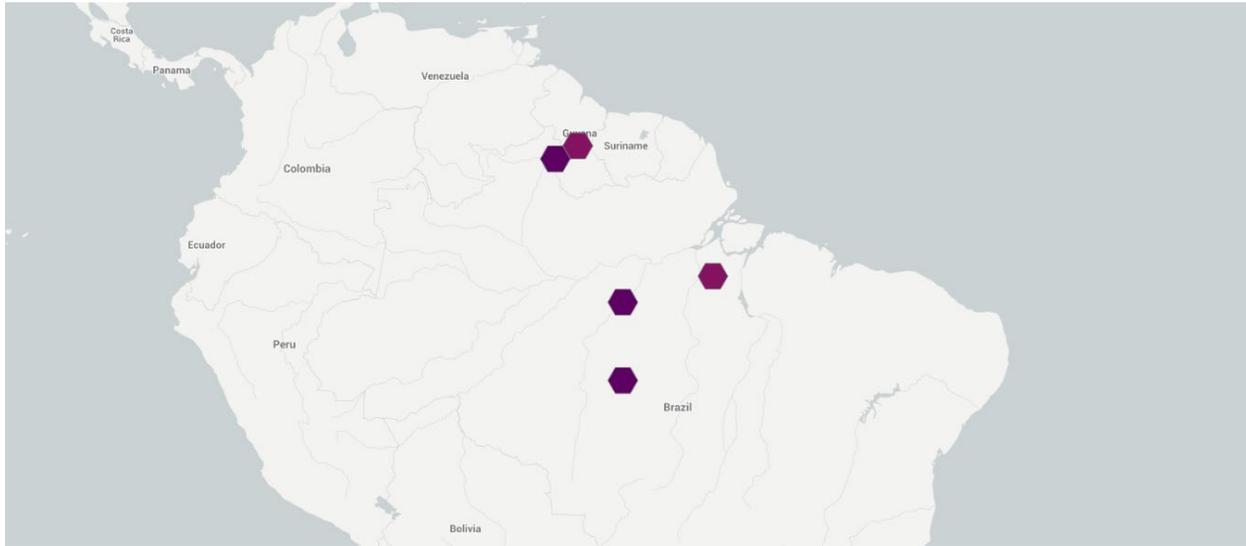


Figure 1. Known global distribution of *Peckoltia cavatica*. Locations are in Guyana and Brazil. Map from GBIF Secretariat (2018).

6 Distribution Within the United States

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

7 Climate Matching

Summary of Climate Matching Analysis

The climate match for *Peckoltia cavatica* was low across the entire contiguous United States. There were no areas of medium or 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.

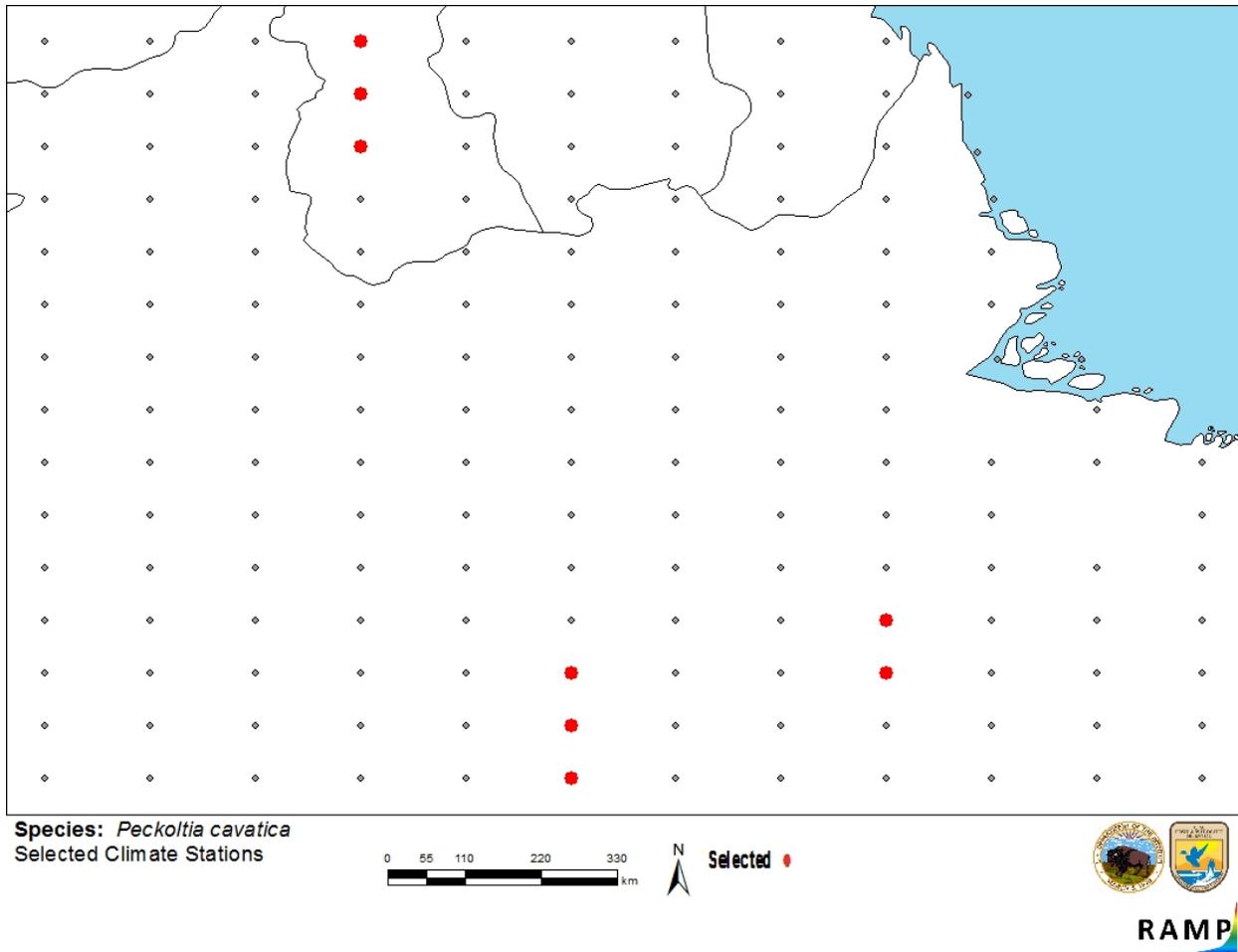


Figure 2. RAMP (Sanders et al. 2018) source map showing weather stations in South America selected as source locations (red; Guyana, Brazil) and non-source locations (gray) for *Peckoltia cavatica* climate matching. Source locations from GBIF Secretariat (2018). Selected source locations are within 100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

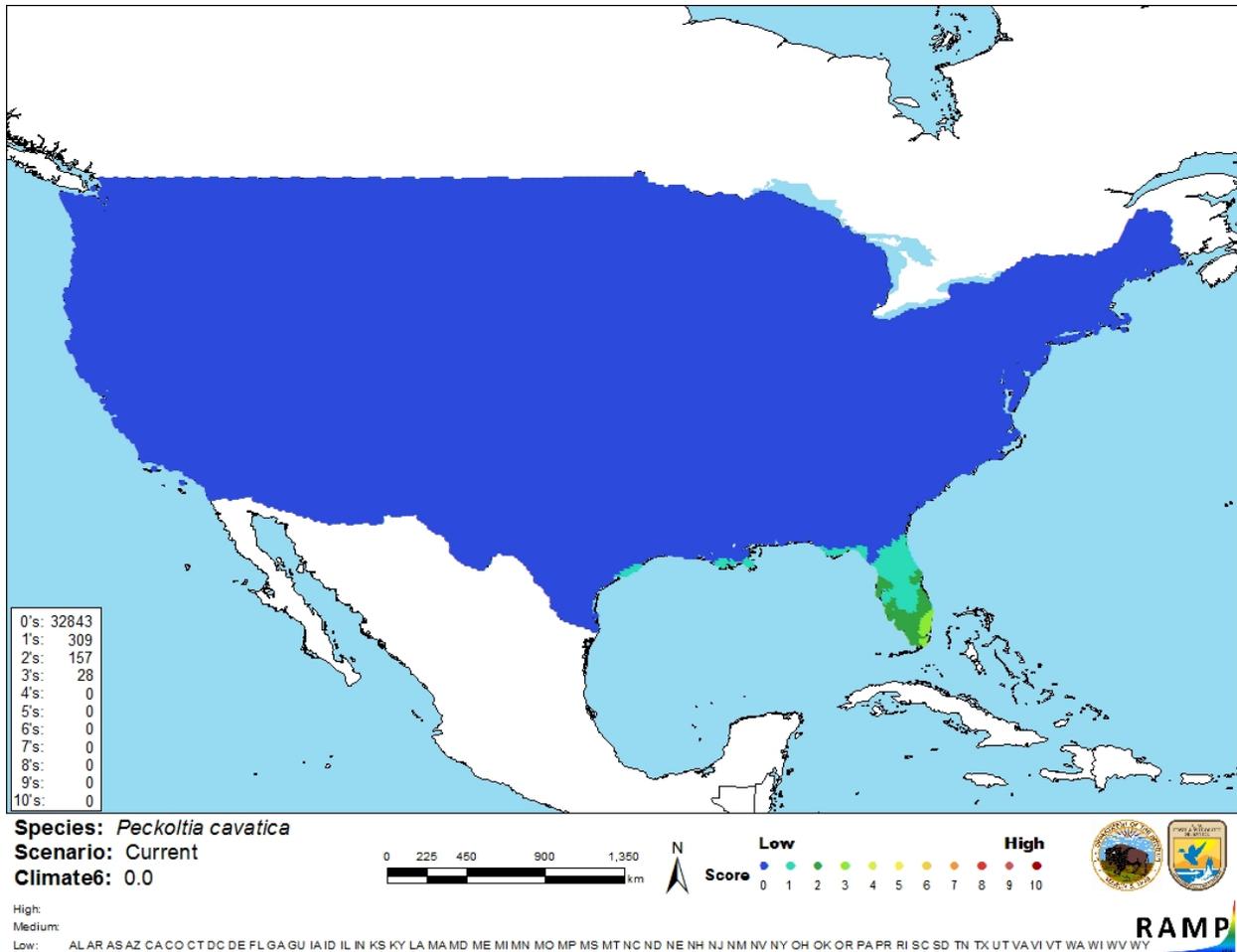


Figure 3. Map of RAMP (Sanders et al. 2018) climate matches for *Peckoltia cavatica* in the contiguous United States based on source locations reported from GBIF Secretariat (2018). Counts of climate match scores are tabulated on the left. 0/Blue = Lowest match, 10/Red = Highest match.

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 cavatica is a species of small armored catfish native to northeastern South America. It was found associated with rock formations. Not much is known about this species. The history of invasiveness is classified as “no known nonnative population.” There were no records of introductions to the wild found and therefore no information on impacts of introduction. The climate match was low. There were no areas of high or medium match in the contiguous United States. 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, Werneke DC. 2005. *Peckoltia cavatica*, a new loricariid catfish from Guyana and a redescription of *P. braueri* (Eigenmann 1912) (Siluriformes). *Zootaxa* 882:1–14.

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 cavatica* (Armbruster and Werneke, 2005). FishBase. Available: <https://www.fishbase.de/summary/Peckoltia-cavatica.html> (September 2018).

GBIF Secretariat. 2018. GBIF backbone taxonomy: *Peckoltia cavatica* (Armbruster and Werneke, 2005). Copenhagen: Global Biodiversity Information Facility. Available: <https://www.gbif.org/species/5202094> (September 2018).

[ITIS] Integrated Taxonomic Information System. 2018. *Peckoltia cavatica* (Armbruster and Werneke, 2005). Reston, Virginia: Integrated Taxonomic Information System. Available: https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=680313#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.

No references in this section.