

## ***Peckoltia capitulata* (a catfish, no common name)**

### **Ecological Risk Screening Summary**

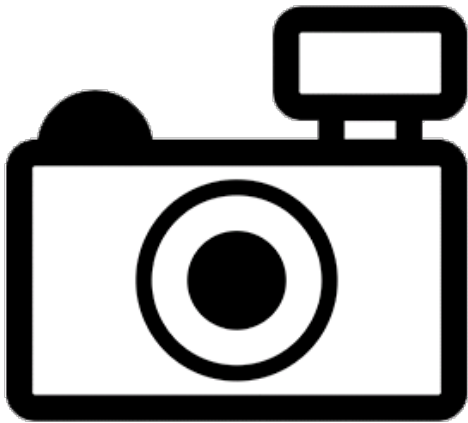
U.S. Fish & Wildlife Service, February 2013

Revised, September 2018

Web Version, 12/17/2020

Organism Type: Fish

Overall Risk Assessment Category: Uncertain



No Photo Available

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

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### **Native Range**

From Froese and Pauly (2018):

“South America: Approuague River in French Guiana.”

From Fisch-Muller et al. (2012):

“Distribution and habitat *Peckoltia capitulata* was collected with a cast net at a single place of the Approuague River in swift current of Saut Athanase [...].”

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

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

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

## Remarks

*Peckoltia capitulata* was first described in 2012 (Fisch-Muller and Covain 2012).

## 2 Biology and Ecology

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### Taxonomic Hierarchy and Taxonomic Standing

According to Eschmeyer et al. (2018), *Peckoltia capitulata* Fisch-Muller and Covain 2012 is the current valid name and the original name for this species.

From Bailly (2017):

"Biota > Animalia (Kingdom) > Chordata (Phylum) > Vertebrata (Subphylum) > Gnathostomata (Superclass) > [...] Actinopterygii (Class) > Siluriformes (Order) > Loricariidae (Family) > Hypostominae (Subfamily) > *Peckoltia* (Genus) > *Peckoltia capitulata* (Species)"

### Size, Weight, and Age Range

From Fisch-Muller et al. (2012):

"Small to medium-sized species (largest specimen examined 75.9 mm SL, no breeding male)."

### Environment

From Froese and Pauly (2018):

"Freshwater; demersal; pH range: 5.0 - 6.4. [...]; 27°C - 30°C [assumed to be recommended aquarium temperature] [Fisch-Muller et al. 2012]"

### Climate/Range

From Froese and Pauly (2018):

"Tropical; [...]"

### Distribution Outside the United States

Native

From Froese and Pauly (2018):

"South America: Approuague River in French Guiana."

From Fisch-Muller et al. (2012):

“Distribution and habitat *Peckoltia capitulata* was collected with a cast net at a single place of the Approuague River in swift current of Saut Athanase [...].”

### Introduced

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

## Means of Introduction Outside the United States

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

### Short Description

From Fisch-Muller et al. (2012):

“*Peckoltia capitulata* is characterized by its specific barcode sequence [...], distinguishing it from Guianese species, and by a spotted pattern of colouration of posterior part of body, distinguishing it from all congeners except *Peckoltia oligospila*, *P. bachi*, *P. sabaji*, *P. simulata*, and *P. otali*. In contrast to these five species, no spot is present on the head of *Peckoltia capitulata*. It is additionally distinguished from the spotted species as well as from most other *Peckoltia* species by a shorter head (length 33.4-33.6% SL versus more than 33.7).”

“*Peckoltia capitulata* is also easily separated from both *P. bachi* and *P. otali* by rounded spotting (versus mottling); from *P. bachi* by a much narrower interorbital (34.4-34.5% HL, mean 34.5, versus 57.9-59.9, mean 58.8); from *P. otali* by several measurements including those listed in diagnosis of the latter; from *P. sabaji* by smaller spots on caudal peduncle and less slender body. It is further distinguished from *P. oligospila* by lower occipital depth (18.4-20.4% SL, [...], versus 21.1-23.4, [...]), smaller cleithral width (30.3-30.5% SL, [...], versus 30.9-32.8, [...]) and shorter orbital diameter (6.5-7.0% SL, [...], versus 6.9-8.1, [...]); from *P. oligospila* and *P. simulata* by a shorter dorsal-fin spine (27.7-27.9% SL, [...], versus more than 28.4) and higher caudal peduncle (11.3-11.7% SL, [...], versus less than 10.6); and from *P. simulata* by tooth shape and length of hypertrophied cheek odontodes [...].”

“Body moderately stout. Dorsal profile gently convex from snout tip to supraoccipital process, then straight to dorsal-fin origin, sloped ventrally to precurrent caudal-fin rays, and rising straight to caudal fin. Ventral profile flat to caudal fin.”

“Snout slightly pointed (holotype) to rounded (paratype) anteriorly, slight rounded ridge from antero-lateral corner of nostril to end of dorsal margin of orbit, supraoccipital with very slight rounded crest. Eye moderately large. Dorsal margin straight flattened from base of first branched dorsal-fin ray to base of adipose fin between light ridges formed with lateral plates of dorsal series. First lateral plates of midventral series forming slight lateral ridge. Caudal peduncle roughly ovoid in cross section, slightly flattened ventrally, and more compressed posteriorly.”

“Lips covered with short, wide papillae. Buccal papilla small. Lower lip wide, far from reaching pectoral girdle, upper lip much narrower. Maxillary barbel reaching posteriorly halfway the distance to gill opening. Teeth bicuspid, lateral lobe up to one-half smaller than medial lobe.”

“Head and body plated. Tip of snout naked. Two rows of plates and curved nuchal plate between triangular supraoccipital process and dorsal fin. Five series of lateral plates extending to caudal fin. Abdomen naked. Few patches of platelets below pectoral girdle. First anal-fin pterygiophore exposed to form a small platelike structure.”

“Head and body plates covered by odontodes of relatively uniform size and distribution. Odontodes on lateral series of plates not arranged in distinct longitudinal rows and not forming keels on sides. Odontodes on plates of posterodorsal part of body and on adipose fin slightly enlarged. Odontodes on posterior third of pectoral-fin spine enlarged in holotype. Opercle supporting few odontodes. Posterodorsal margin of opercle covered with one or two plates. Hypertrophied cheek odontodes straight with tips curved, not reaching posterior margin of cleithrum. Cheek plates evertible to approximately 90° from head.”

“Dorsal-fin origin slightly anterior to pelvic-fin origin; when adpressed, dorsal-fin tip not reaching preadipose plate. Dorsal-fin spine locking mechanism functional. Adipose fin preceded by single median unpaired plate, short and raised. Adipose spine thin and very slightly curved. Pectoral-spine tip reaching about one-fourth [...] to quite half [...] of pelvic spine, somewhat longer and more robust in large males. Anal fin with weak spine slightly shorter than first branched ray. Caudal fin apparently concave, damaged in both specimens. Finray formulae: dorsal II,7; pectoral I,6; pelvic i,5; anal i,4; caudal i,14, i.”

“Base colour light tan in life [...], somewhat darker in alcohol [...]. Head with darker areas, and without spot. Three or four faint dorsal saddles on body. Body and fins brown spotted. Spots very small and numerous at dorsal-fin origin level, but becoming rapidly larger posteriorly, about the size of the pupil before end of dorsal-fin base, and less numerous on caudal peduncle. Spots few in number, darker, larger and more rounded on dorsal and caudal fins. No spot on ventral face, abdomen with diffuse pigmentation.”

## Biology

From Froese and Pauly (2018):

“Collected in swift current at a single place of Approuague River. During the time of collection, the river was very turbid as a result of illegal gold mining activities [Fisch-Muller et al. 2012].”

## Human Uses

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

## Diseases

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

## Threat to Humans

From Froese and Pauly (2018):

“Harmless”

## 3 Impacts of Introductions

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

## 4 History of Invasiveness

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

## 5 Global Distribution

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**Figure 1.** Map of northeastern South America showing locations where *Peckoltia capitulata* has been reported. Location is in French Guiana. Map from GBIF Secretariat (2018).

## 6 Distribution Within the United States

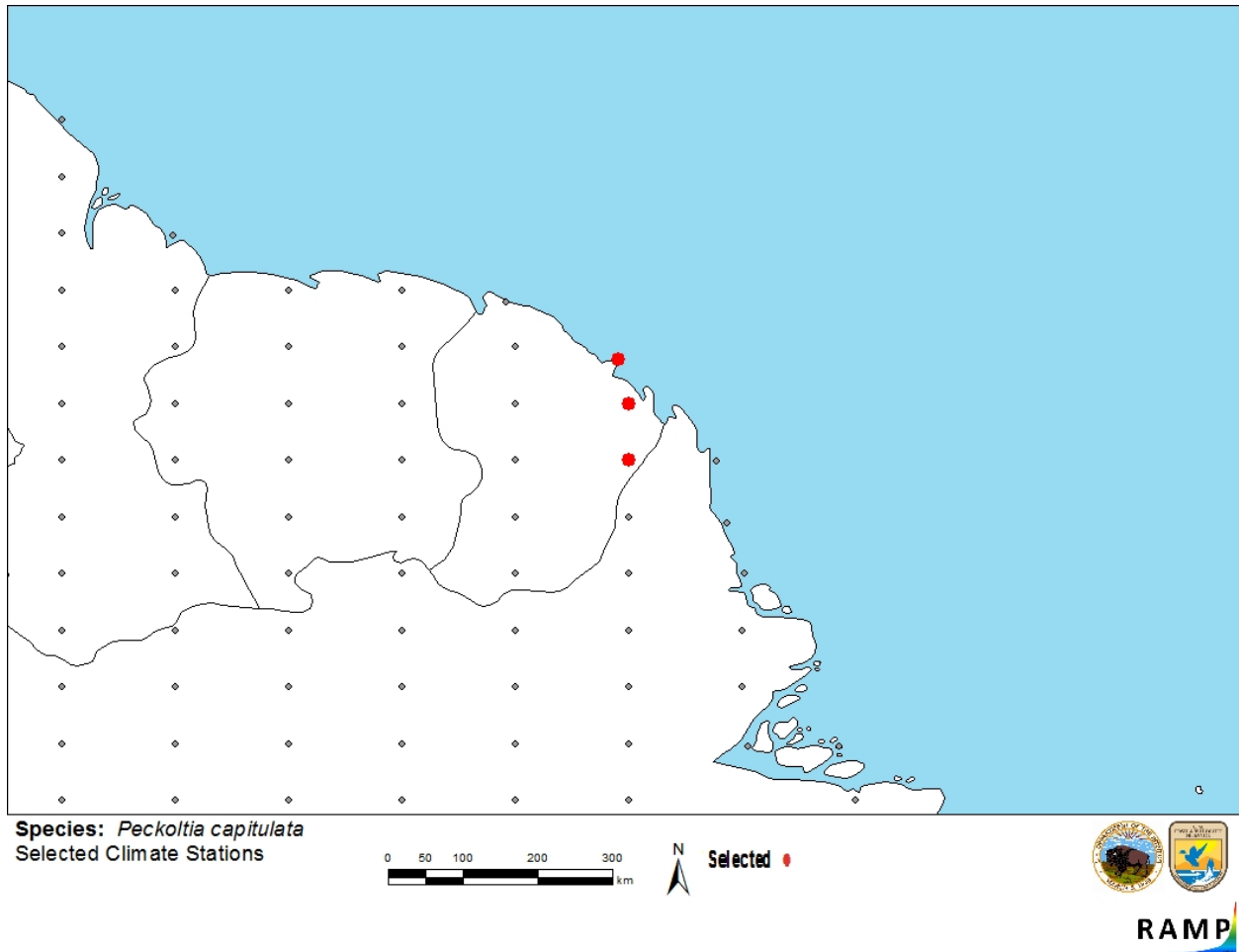
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No records of *Peckoltia capitulata* in the wild in the United States were found.

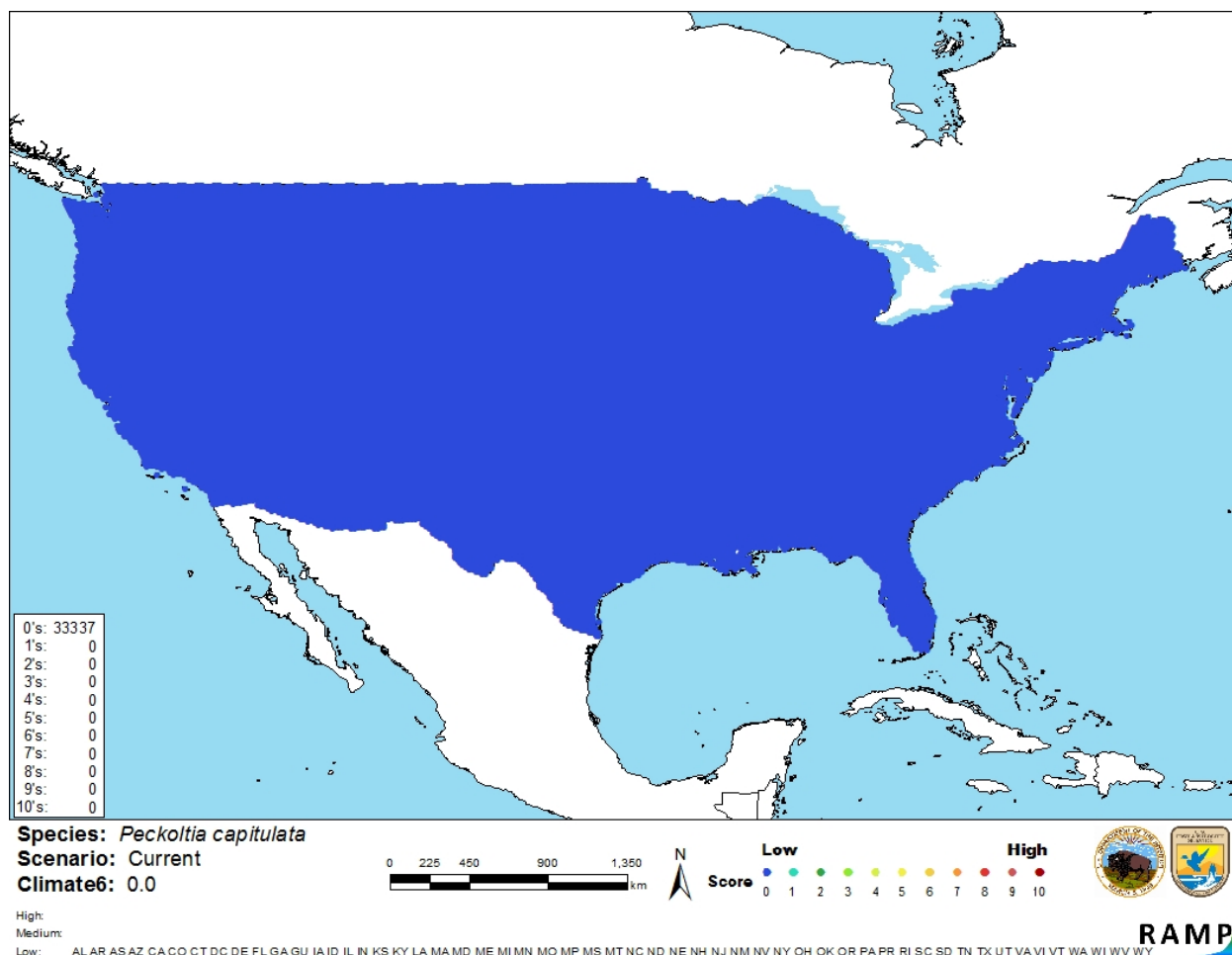
## 7 Climate Matching

### Summary of Climate Matching Analysis

The climate match for *Peckoltia capitulata* was low across the entire contiguous United States. There were no areas of high or medium climate 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 low individual climate 6 scores.



**Figure 2.** RAMP (Sanders et al. 2018) source map showing weather stations in northeastern South America selected as source locations (red; French Guiana) and non-source locations (gray) for *Peckoltia capitulata* 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 capitulata* 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:<br>(Count of target points with climate scores 6-10)/<br>(Count of all target points) | Overall<br>Climate Match<br>Category |
|--------------------------------------------------------------------------------------------------|--------------------------------------|
| $0.000 \leq X \leq 0.005$                                                                        | Low                                  |
| $0.005 < X < 0.103$                                                                              | Medium                               |
| $\geq 0.103$                                                                                     | 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

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### Summary of Risk to the Contiguous United States

*Peckoltia capitulata* is a species of catfish native to French Guiana. *P. capitulata* was first described in 2012. It was collected from a single location with fast flowing water. Not much else 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 for the entire 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:** *Peckoltia capitulata* was first described in 2012.
- **Overall Risk Assessment Category: Uncertain**

## 10 Literature Cited

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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 11.**

- Bailly N. 2017. *Peckoltia capitulata*. World Register of Marine Species. Available: <http://www.marinespecies.org/aphia.php?p=taxdetails&id=1007645> (September 2018).
- 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).
- Fisch-Muller A, Montoya-Burgos JI, Le Bail PY, Covain R. 2012. Diversity of the Ancistrini (Siluriformes: Loricariidae) from the Guianas: the *Panaque* group, a molecular appraisal with descriptions of new species. *Cybum* 36:163–193.
- Froese R, Pauly D, editors. 2018. *Peckoltia capitulata* Fisch-Muller and Covain, 2012. FishBase. Available: <https://www.fishbase.de/summary/Peckoltia-capitulata.html> (September 2018).
- GBIF Secretariat. 2018. GBIF backbone taxonomy: *Peckoltia capitulata* Fisch-Muller and Covain, 2012. Copenhagen: Global Biodiversity Information Facility. Available: <https://www.gbif.org/species/7192991> (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](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

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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.**

No references in this section.