

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

### **Ecological Risk Screening Summary**

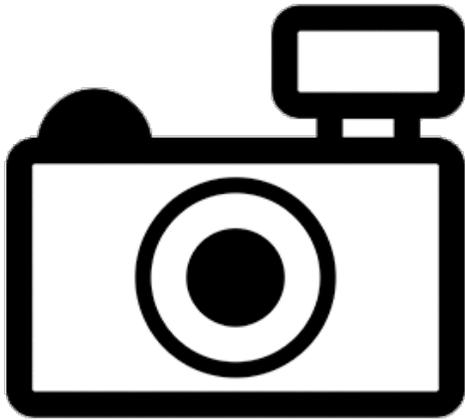
U.S. Fish & Wildlife Service, February 2013

Revised, September 2018

Web Version, 12/16/2020

Organism Type: Fish

Overall Risk Assessment Category: Uncertain



No Photo Available

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

---

### **Native Range**

From Armbruster (2008):

“*Peckoltia bachi* can be found throughout the upper Amazon and its tributaries in Brazil, Colombia, Ecuador, and Peru [...]. One specimen [of *Peckoltia bachi*] was found from the Río Meta system near Villavicencio, Colombia. Given that no other specimens have been collected in the Orinoco basin, this collection is suspect. Villavicencio has been active in exporting fishes for a long time, and Armbruster (2005) suggested that a collection of *Lasiancistrus guacharote* (endemic to the Lago Maracaibo basin) collected near Villavicencio was the result of aquarium release. This may also be the case for *P. bachi*.”

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

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

*Peckoltia bachi* (as part of Family Loricariidae) 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 bachi* in the wild in the United States were found.

## Remarks

Information searches for this screening were conducted using the valid name *Peckoltia bachi* and the synonym *Chaetostomus bachi*.

## 2 Biology and Ecology

---

### Taxonomic Hierarchy and Taxonomic Standing

According to Eschmeyer et al. (2018), *Peckoltia bachi* (Boulenger 1898) is the current valid name of this species. *Peckoltia bachi* was originally described as *Chaetostomus bachi* Boulenger 1898.

From ITIS (2018):

Kingdom Animalia  
Subkingdom Bilateria  
Infrakingdom Deuterostomia  
Phylum Chordata  
Subphylum Vertebrata  
Infraphylum Gnathostomata  
Superclass Actinopterygii  
Class Teleostei  
Superorder Ostariophysi  
Order Siluriformes  
Family Loricariidae  
Subfamily Hypostominae  
Genus *Peckoltia*  
Species *Peckoltia bachi* (Boulenger, 1898)

### Size, Weight, and Age Range

From Armbruster (2008):

"Largest specimen examined 108.4 mm SL."

From Froese and Pauly (2018):

"Max length : 14.0 cm TL male/unsexed; [Fisch-Muller 2003]"

## Environment

From Froese and Pauly (2018):

“Freshwater; demersal.”

## Climate

From Froese and Pauly (2018):

“Tropical”

## Distribution Outside the United States

Native

From Armbruster (2008):

“*Peckoltia bachi* can be found throughout the upper Amazon and its tributaries in Brazil, Colombia, Ecuador, and Peru [...].”

Introduced

From Armbruster (2008):

“One specimen [of *Peckoltia bachi*] was found from the Río Meta system near Villavicencio, Colombia. Given that no other specimens have been collected in the Orinoco basin, this collection is suspect.”

## Means of Introduction Outside the United States

From Armbruster (2008):

“Villavicencio has been active in exporting fishes for a long time, and Armbruster (2005) suggested that a collection of *Lasiancistrus guacharote* (endemic to the Lago Maracaibo basin) collected near Villavicencio was the result of aquarium release. This may also be the case for *P. bachi*.”

## Short Description

From Armbruster (2008):

“*Peckoltia bachi* is diagnosed by one unique characteristic: presence of deep pockets ventrally on the pelvic girdle for the insertion of hypertrophied pelvic adductor muscles. In whole specimens, this results in the ability to fold the pelvic fins ventrally such that the pelvic-fin spines run parallel with the ventral surface body. In addition, *P. bachi* can be diagnosed by the homoplastic characteristic of the presence of widened pelvic-fin spines. *Peckoltia bachi* can be identified from all other *Peckoltia* by the presence of widened pelvic-fin spines, enlarged plates on the abdomen [...], eye low on the head [...], and opercle generally with a patch of odontodes at all ages (vs. opercle maximally with a single row of odontodes with odontodes disappearing with size).”

“*Peckoltia bachi* can be identified from all other *Peckoltia* except *P. caenosa* by being mottled (vs. the presence of dorsal saddles or spots), and it can be identified from *P. caenosa* by having diffuse, large spots on the head and the abdomen without markings (vs. head and abdomen with vermiculations).”

“Body stout and fairly wide. Head and nape gently sloped to insertion of dorsal fin. Parieto-supraoccipital with slight rounded crest. Dorsal profile sloped ventrally to dorsal procurrent caudal-fin spines, then inclined steeply to caudal fin. Ventral profile flat 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. Eye relatively large, set low on head. Interorbital space slightly convex; supraorbital ridge just slightly higher than interorbital space.”

“Keels absent. Mid-ventral 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 completely plated with fairly large platelets; fairly large naked area around insertion of pelvic fins. 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. 23–27 [...] plates in the median series.”

“Frontal, infraorbitals, nasal, compound pterotic, sphenotic, and parieto-supraoccipital, supporting odontodes; opercle usually supporting odontodes although some specimens lack odontodes on opercle. Posterodorsal corner of opercle covered by one or two plates in adults. Odontodes on lateral plates not enlarged to form keels. Hypertrophied cheek odontodes 11–44, longest reaching anterior border of compound pterotic. Cheek plates evertible to approximately 90° from head.”

“Odontodes on tip of pectoral-fin spine slightly hypertrophied. Dorsal fin reaching preadipose plate when adpressed in some specimens; dorsal-fin spine not elongate. Dorsal-fin spinelet V-shaped, dorsal-fin spine lock functional. Dorsal fin II,7. Adipose fin with one preadipose plate and moderately long spine. Caudal fin emarginate, lower lobe longer than upper, I,14,I [...] with three to six [...] dorsal procurrent caudal-fin rays and three to six [...] 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 reaching slightly behind posterior insertion of pelvic fin when adpressed ventral to pelvic fin. Pectoral fin I,6 [...]. Pelvic fin reaching to middle 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 medium-sized papillae anteriorly and smaller ones posteriorly. Maxillary barbel short, not reaching gill opening. Buccal papilla represented only by very small flap, never absent. Jaws narrow, dentaries forming angle just slightly greater than 90°, premaxillaries forming very shallow arc with overall angle less than 135°. 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; 13–25 dentary teeth [...] and 11–22 premaxillary teeth [...].”

“Base color tan with slightly darker markings on most specimens [...]. Head with large spots or mottling. Body mottled occasionally with four weak saddles. Dorsal-fin spines and rays with oblong spots; interradi al membranes usually unmarked or with slightly darker spots. Pectoral, pelvic, and anal fins with slightly darker spots on spines and rays or unmarked. Caudal fin with dark spots combining to form bands that are wider than the light interspaces; bands darker on lower lobe. Abdomen and lower surface of caudal peduncle slightly lighter than sides.”

## Biology

From Armbruster (2008):

“*Peckoltia bachi* can be found at the edge of medium to large rivers among submerged twigs and grasses, usually in flow. The specimens I have collected appear to have been chased from the middle depths of submerged grasses and twigs as the seine was not fully on the bottom. This suggests that the hypertrophied pelvic muscles and widened pelvic-fin spines may be used to grasp the grasses and twigs.”

## Human Uses

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

## Diseases

No information on diseases of *Peckoltia bachi* was found. **No records of OIE-reportable diseases (OIE 2020) were found for *Peckoltia bachi*.**

## Threat to Humans

From Froese and Pauly (2018):

“Harmless”

## 3 Impacts of Introductions

---

The record of a single possible introduction in Colombia was found but there was no information on impacts of introduction found.

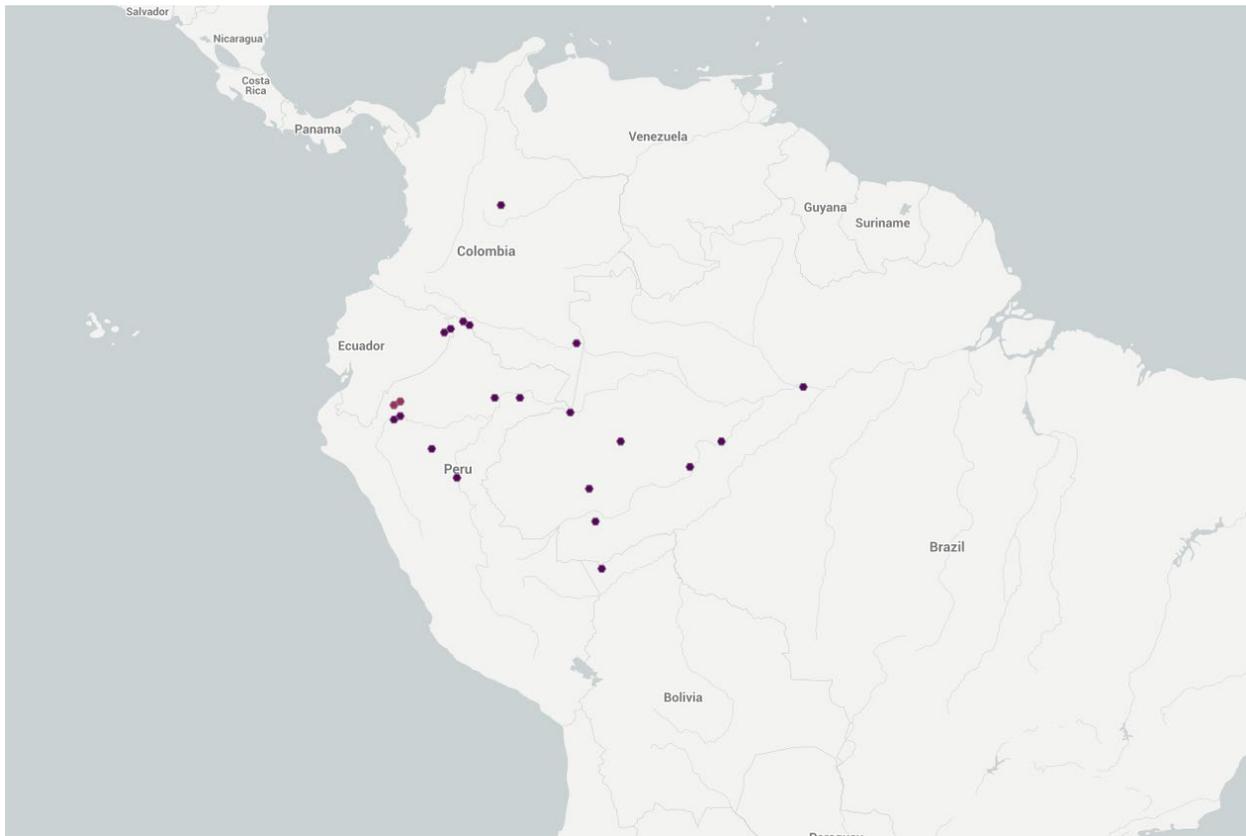
## 4 History of Invasiveness

---

One possible record of introduction was found for *Peckoltia bachi*. The record is the result of a single individual collected with no other observations of the species in that area. No information on either potential or demonstrated impacts of introduction were found. No concrete evidence of this species in trade was found. Due to the lack of evidence of establishment at the location of the single recorded introduction and information on impacts of introduction the history of invasiveness is classified as “No Known Nonnative Population.”

## 5 Global Distribution

---



**Figure 1.** Known global distribution of *Peckoltia bachi*. Locations are in Colombia, Ecuador, Peru, and Brazil. Map from GBIF Secretariat (2018). The northern location in Colombia is thought to be a single collection of a released aquarium specimen (Armbruster 2008) and does not represent an established population. This location was not used as to select source points in the climate match.

Additional observations provided in Armbruster (2008).

## 6 Distribution Within the United States

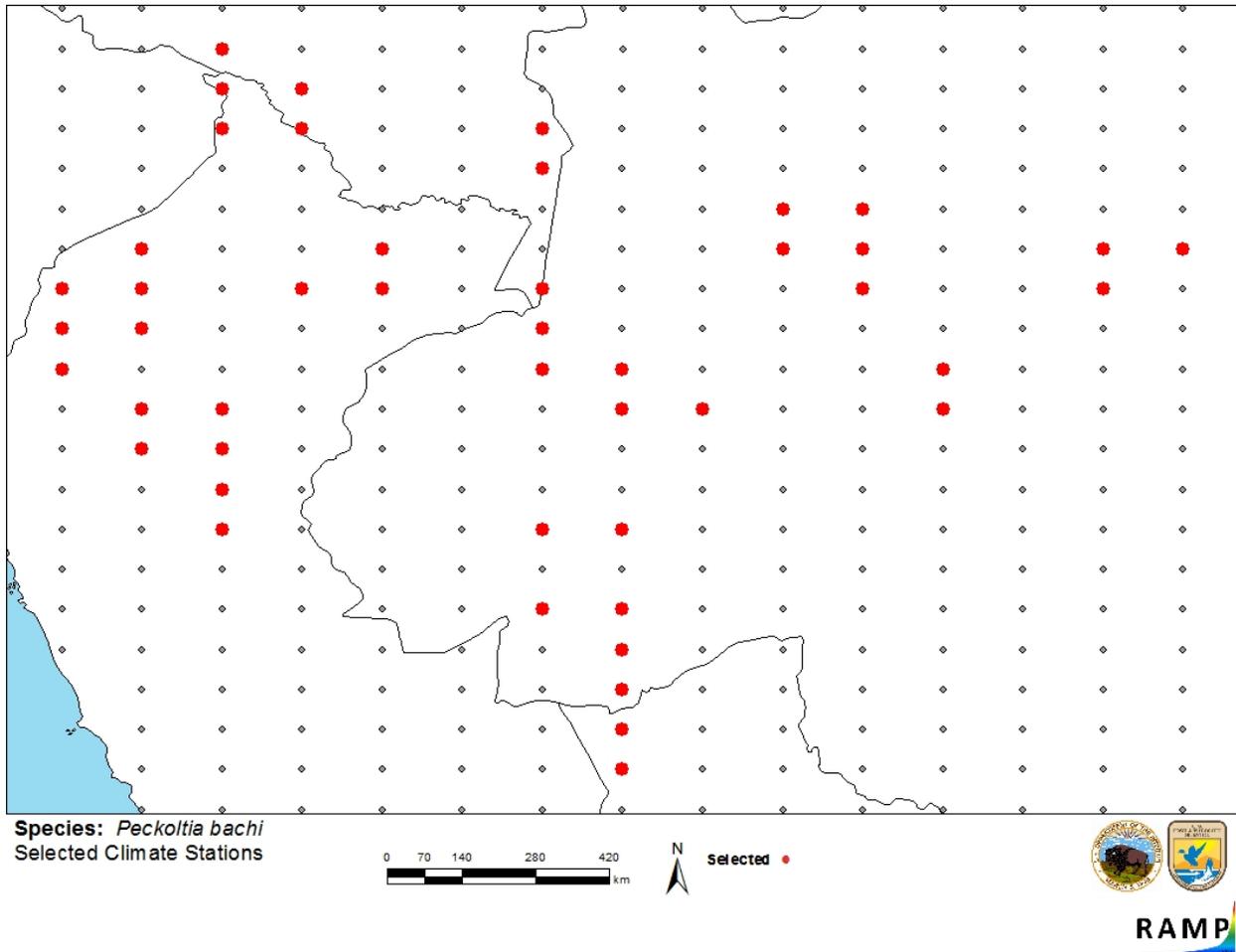
---

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

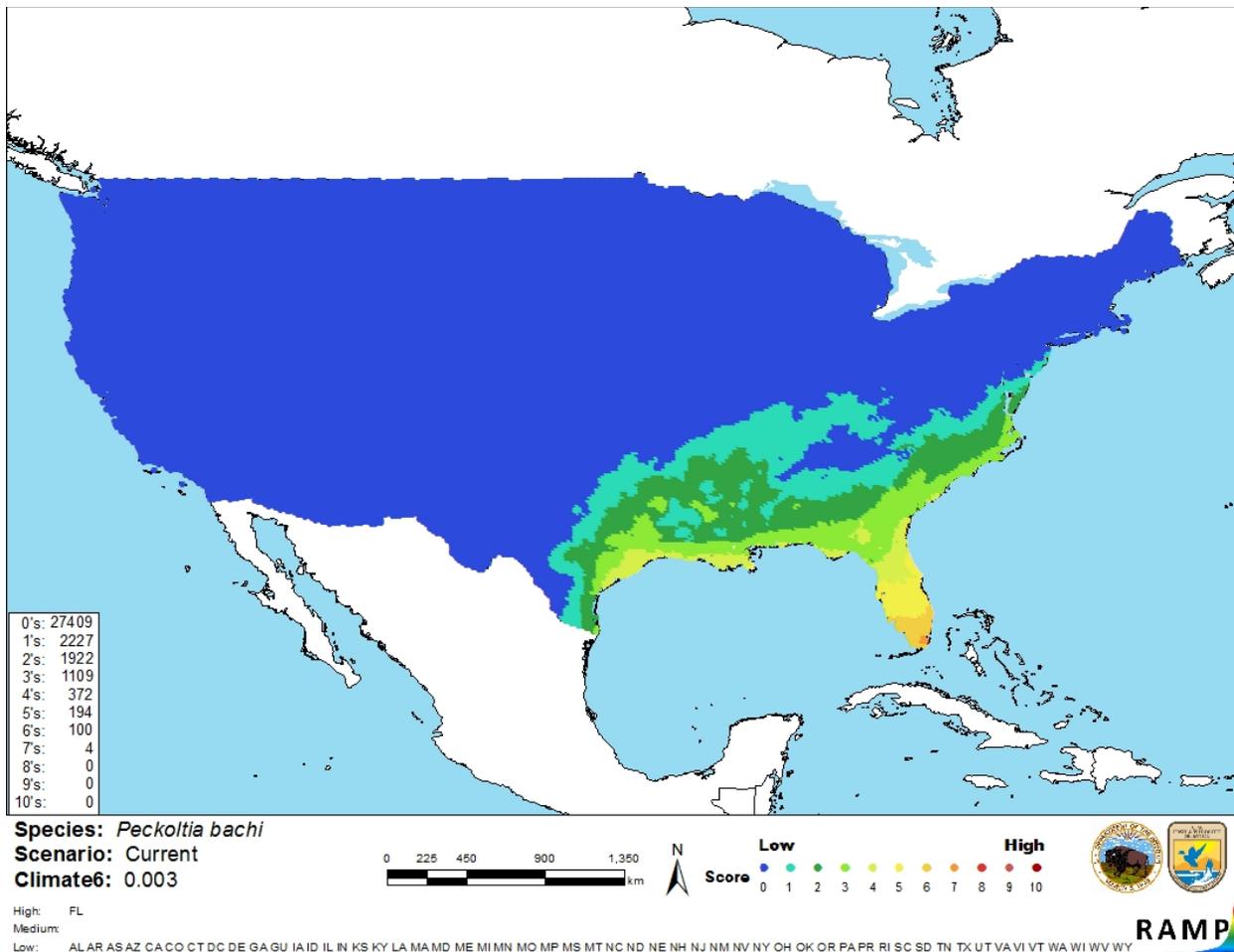
# 7 Climate Matching

## Summary of Climate Matching Analysis

The climate match for *Peckoltia bachi* was low across the majority of the contiguous United States with patches of medium match along the southeastern coast. There are patches of high match in Florida. The Climate 6 score (Sanders et al. 2018; 16 climate variables; Euclidean distance) for the contiguous United States was 0.003, low (scores between 0.000 and 0.005, inclusive, are classified as low). All States had a low individual Climate 6 score except for Florida which had a high individual climate score.



**Figure 2.** RAMP (Sanders et al. 2018) source map showing weather stations in South America selected as source locations (red; Colombia, Peru, Brazil, Bolivia) and non-source locations (gray) for *Peckoltia bachi* climate matching. Source locations from Armbruster (2008) and 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 bachi* in the contiguous United States based on source locations reported from Armbruster (2008) and GBIF Secretariat (2018). Counts of climate match are tabulated on the left. 0 = Lowest match, 10 = 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
$\geq 0.103$	High

## 8 Certainty of Assessment

The certainty of assessment is low. There was some general information about the species available from peer-reviewed sources. The record of a possible introduction was found but there was no information on impacts of introductions to evaluate.

## 9 Risk Assessment

---

### Summary of Risk to the Contiguous United States

*Peckoltia bachi* is a species of catfish native to the upper Amazon River basin in western Brazil, southern Colombia, and eastern Ecuador and Peru. The history of invasiveness is classified as “No Known Nonnative Population.” The record of a possible introduction was found. There was not enough information available to determine if the introduction resulted in an established population. No information on impacts of introduction was available. The climate match was low. Most of the contiguous United States had a low match with Florida and some areas of the Gulf Coast having a medium 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 remarks.
- **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. Available: <http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp> (September 2018).

Froese R, Pauly D, editors. 2018. *Peckoltia bachi* (Boulenger, 1898). FishBase. Available: <https://www.fishbase.de/summary/Peckoltia-bachi.html> (September 2018).

GBIF Secretariat. 2018. GBIF backbone taxonomy: *Peckoltia bachi* (Boulenger, 1898). Copenhagen: Global Biodiversity Information Facility. Available: <https://www.gbif.org/species/5202091> (September 2018).

[ITIS] Integrated Taxonomic Information System. 2018. *Peckoltia bachi* (Boulenger, 1898). Reston, Virginia: Integrated Taxonomic Information System. Available: [https://www.itis.gov/servlet/SingleRpt/SingleRpt?search\\_topic=TSN&search\\_value=680310#null](https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=680310#null) (September 2018).

[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).

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).

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.**

Armbruster JW. 2005. The loricariid catfish genus *Lasiancistrus* (Siluriformes) with description of two new species. *Neotropical Ichthyology* 3:549–569.

Boulenger GA. 1898. On a collection of fishes from the Rio Jurua, Brazil. *Transactions of the Zoological Society of London* 14(2):421–428.

Fisch-Muller S. 2003. Loricariidae-Ancistrinae (armored catfishes). Pages 373–400 in Reis RE, Kullander SO, Ferraris CJ, Jr, editors. *Checklist of the freshwater fishes of South and Central America*. Porto Alegre, Brazil: EDIPUCRS.