

Peckoltia vittata (a catfish, no common name)

Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, February 2013
Revised, September 2018
Web Version, 1/5/2021

Organism Type: Fish
Overall Risk Assessment Category: Uncertain



Photo: Gabriel Lelis Togni. Licensed under Creative Commons Attribution 3.0 Unported. Available: https://commons.wikimedia.org/wiki/File:Peckoltia_vittata.jpg. (September 2018).

1 Native Range and Status in the United States

Native Range

From Armbruster (2008):

“Described from the Brazilian Amazon and lower reaches of the Rio Tapajos, Rio Madeira and Xingu. Also known from the Río Ventuari of Venezuela, southern tributaries of the Amazon from the Madeira to the mouth, and the Rios Uatumã, Trombetas, Capim, and Maranhão [...].

One collection of what appears to be *Peckoltia vittata* was also identified from the upper Río Guaviare of Colombia [...].”

From Froese and Pauly (2018):

“South America: Brazilian Amazon and lower reaches of the Rio Tapajos, Rio Madeira and Xingu; Río Ventuari of Venezuela, southern tributaries of the Amazon from the Madeira to the mouth, and the Rios Uatumã, Trombetas, Capim, and Maranhão. One collection of what appears to be this species was also recorded from the upper Río Guaviare of Colombia.”

Status in the United States

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

Peckoltia vittata 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 vittata* 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 vittata* (Steindachner 1881) is the current valid name of this species. *Peckoltia vittata* was originally described as *Chaetostomus vittatus* Steindachner 1881.

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 vittata* Steindachner, 1881

Size, Weight, and Age Range

From Froese and Pauly (2018):

“Max length : 15.0 cm TL male/unsexed; [Giarrizzo et al. 2015]; max. published weight: 43.00 g [Giarrizzo et al. 2015]”

Environment

From Froese and Pauly (2018):

“Freshwater; demersal; pH range: 5.0 - 7.5; dH range: 2 - 20. [...]; 23°C - 26°C [assumed to be recommended aquarium temperature range] [Riehl and Baensch 1996]”

Climate

From Froese and Pauly (2018):

“Tropical; [...].”

Distribution Outside the United States

Native

From Armbruster (2008):

“Described from the Brazilian Amazon and lower reaches of the Rio Tapajos, Rio Madeira and Xingu. Also known from the Río Ventuari of Venezuela, southern tributaries of the Amazon from the Madeira to the mouth, and the Rios Uatumã, Trombetas, Capim, and Maranhão [...]. One collection of what appears to be *Peckoltia vittata* was also identified from the upper Río Guaviare of Colombia [...].”

From Froese and Pauly (2018):

“South America: Brazilian Amazon and lower reaches of the Rio Tapajos, Rio Madeira and Xingu; Río Ventuari of Venezuela, southern tributaries of the Amazon from the Madeira to the mouth, and the Rios Uatumã, Trombetas, Capim, and Maranhão. One collection of what appears to be this species was also recorded from the upper Río Guaviare of Colombia.”

Introduced

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

Means of Introduction Outside the United States

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

Short Description

From Armbruster (2008):

“*Peckoltia vittata* can be identified from all other *Peckoltia* by having the dorsal color of the head with a wedge of dark pigment on the snout and a bar from the posterior edge of the frontal to just behind the parieto-supraoccipital (the pigment may alternatively appear as dark mottling and/or the anterior marking may appear, particularly in juveniles, in the form of a dark E on the snout). All other *Peckoltia* either have spots or vermiculations on the head, or the head plates and bones outlined in black.”

“Body stout but slightly narrower in appearance than other *Peckoltia*. 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 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, 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 ranging from naked to 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. A 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 13–57 [...], 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, 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 two to five [...] dorsal procurrent caudal-fin rays and two 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 32 dentary teeth [...], 10–35 premaxillary teeth [...].”

“Base color light tan with brown markings. Intensity of color is variable, but always consists of four dorsal saddles on the body, 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 may or may not combine at the midline. There may be secondary bars slightly lighter than the main saddles and not or barely reaching the dorsal midline between the second and third and third and fourth saddles. There may be a faint, broad stripe that covers the lower half of the sides from first to last saddle. Two additional saddles are present on the head of adults, the first forming a wedge on the snout from the tip of the snout to the anterior margins of the orbits and the second from the posterior edge of the frontal to just behind the parieto-supraoccipital; the intensity of the head saddles varies, and sometimes they appear more like mottling; occasionally, the first head saddle will appear as diffuse E-shaped blotch. All fins with dark bands with dark and light areas of approximately equal width, dorsal and caudal bands may be irregular; intensity of the bands varies greatly with some specimens having the pectoral-fin and pelvic-fin bands faint. Number of bands increases with size. Dark spot present between dorsal-fin spinelet and spine. Abdomen either without spots or with large, faint spots. Lower surface of caudal peduncle mottled. Juveniles colored as adults except that the smallest individuals usually have a dark E on the snout (vs. a dark wedge).”

Biology

From Armbruster (2008):

“Few breeding males examined, and they are not fully developed. Appears to be the same as in *P. brevis*: 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.”

“Specimens collected in Venezuela were from rock runs.”

From Froese and Pauly (2018):

“Nocturnal species; feeds on algae [Riehl and Baesnsch 1996].”

Human Uses

From Froese and Pauly (2018):

“Aquarium: commercial”

Diseases

No records of diseases of *Peckoltia vittata* were found. **No records of OIE-reportable diseases (OIE 2021) were found for *P. vittata*.**

Threat to Humans

From Froese and Pauly (2018):

“Harmless”

3 Impacts of Introductions

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

4 History of Invasiveness

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

5 Global Distribution

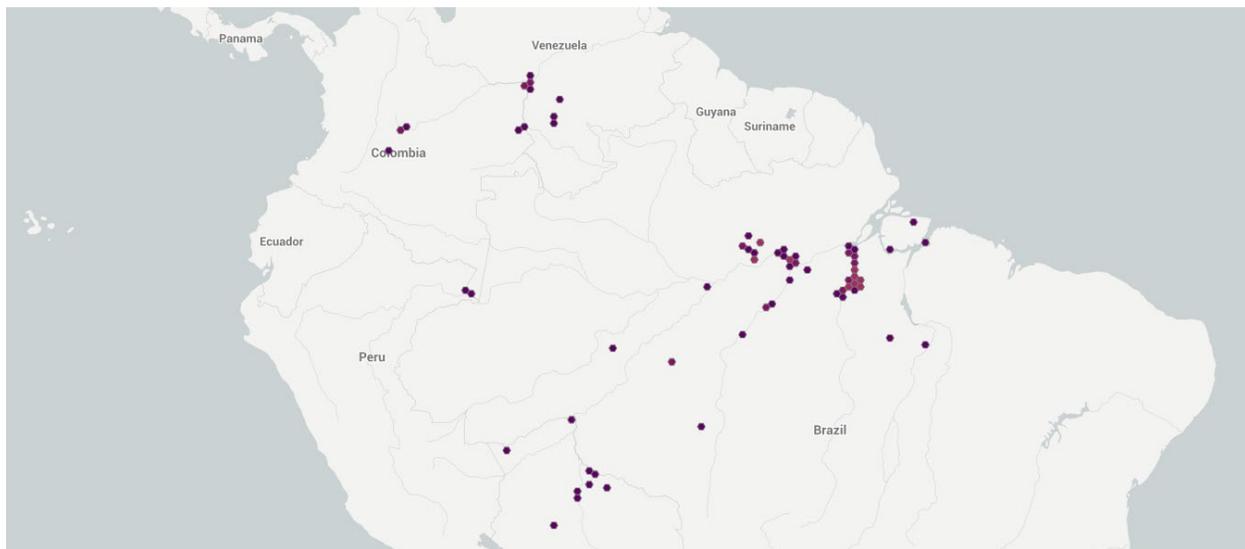


Figure 1. Known global distribution of *Peckoltia vittata*. Map from GBIF Secretariat (2018).

6 Distribution Within the United States

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

7 Climate Matching

Summary of Climate Matching Analysis

The climate match for *Peckoltia vittata* was low across the majority of the contiguous United States. Peninsular Florida had medium to high matches and there were small areas of medium match along the Gulf Coast. The Climate 6 score (Sanders et al. 2018; 16 climate variables; Euclidean distance) for the contiguous United States was 0.005, 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.

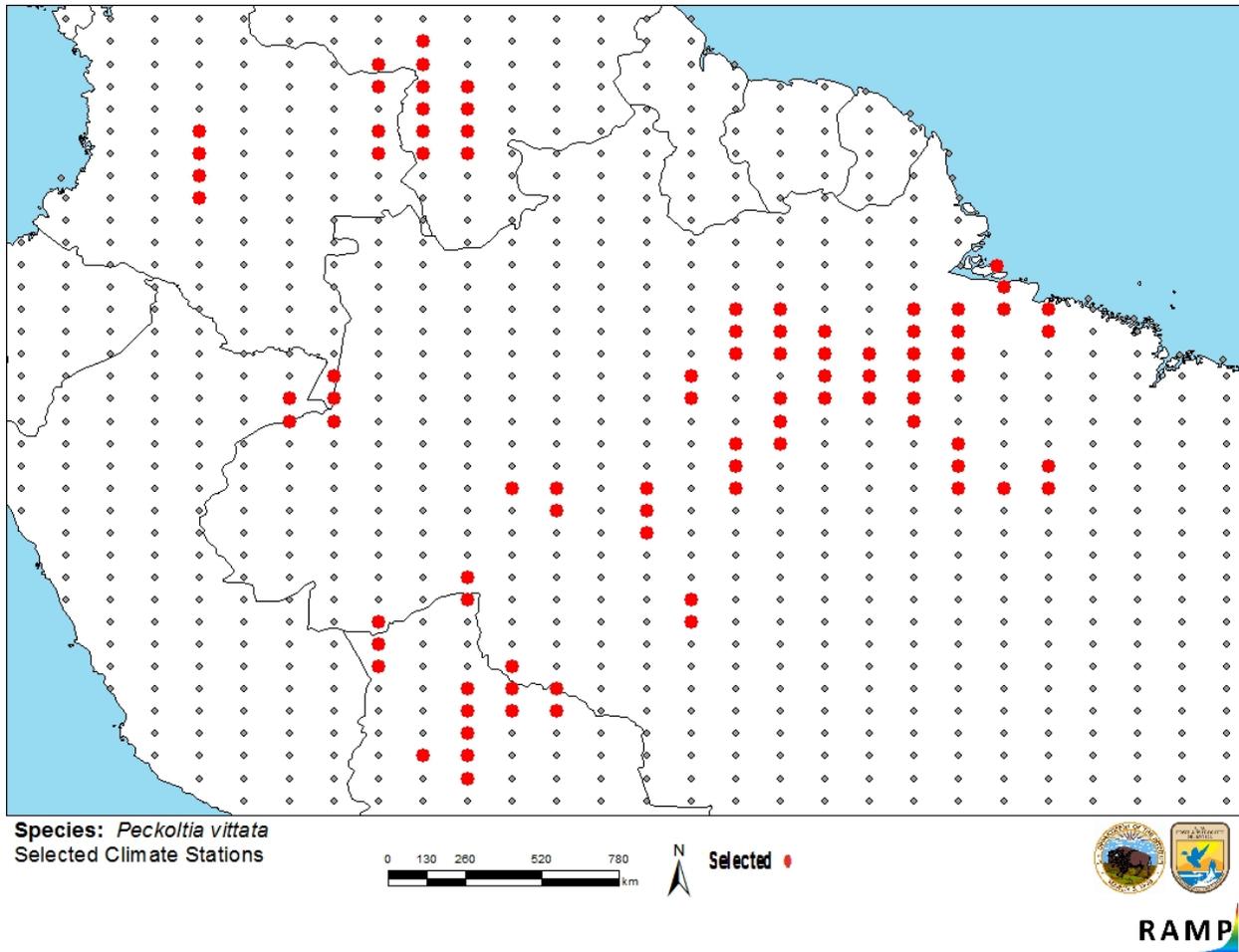


Figure 2. RAMP (Sanders et al. 2018) source map showing weather stations in South America selected as source locations (red; Colombia, Venezuela, Peru, Brazil, Bolivia) and non-source locations (gray) for *Peckoltia vittata* climate matching. Source locations from GBIF Secretariat (2018). Selected source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

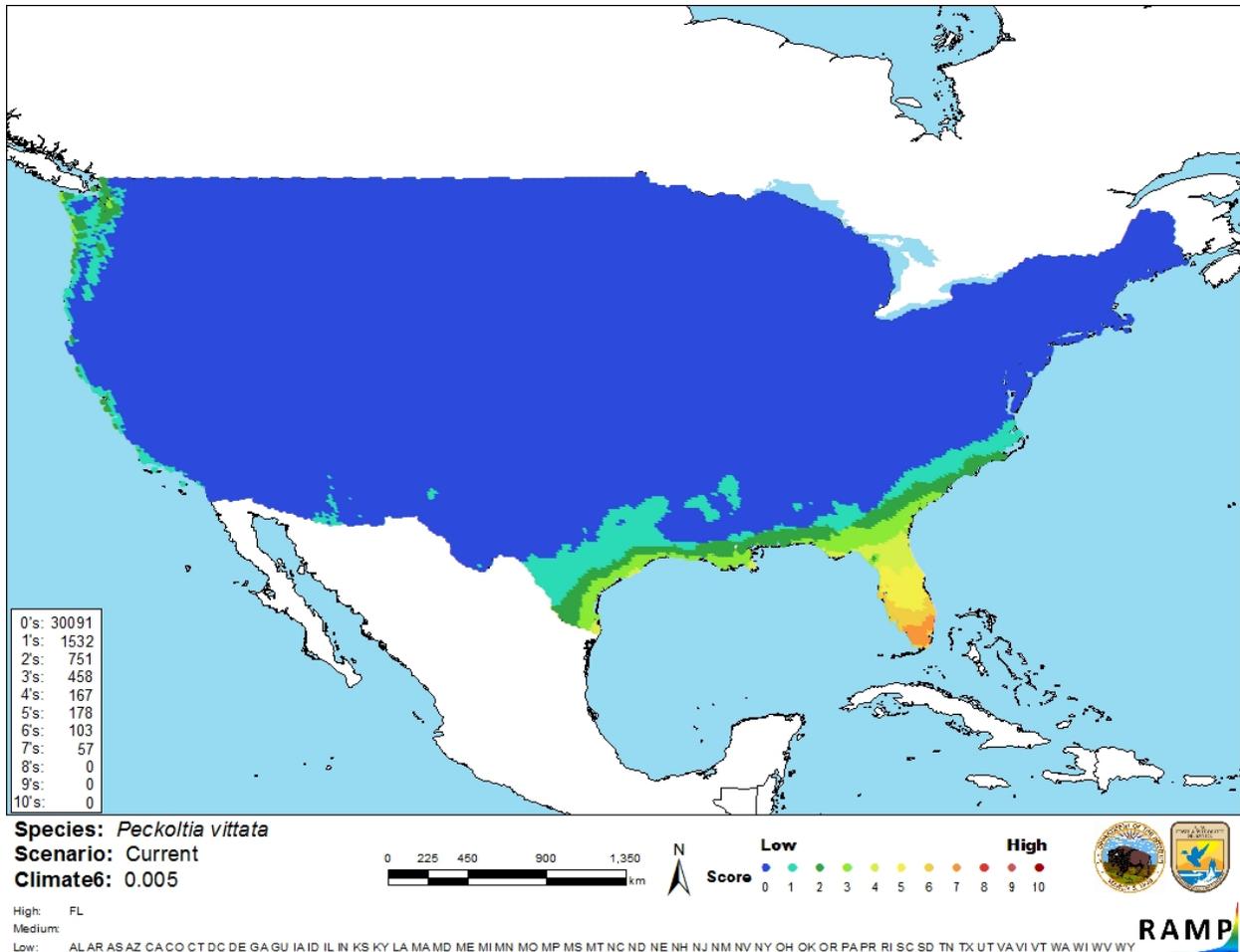


Figure 3. Map of RAMP (Sanders et al. 2018) climate matches for *Peckoltia vittata* in the contiguous United States based on source locations reported from GBIF Secretariat (2018). Counts of climate match scores are tabulated on the left. 0/Blue = Lowest match, 10/Red = Highest match.

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 vittata is a species of catfish native to South America. *P. vittata* is used in the aquarium industry. There were no records of this species in trade in the United States found. 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 areas of high and medium match in Florida and medium match along the Gulf Coast. Florida had a high individual climate score. 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.

Fricke R, Eschmeyer WN, 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 vittata* (Steindachner, 1881). FishBase. Available: <https://www.fishbase.de/summary/Peckoltia-vittata.html> (September 2018).

GBIF Secretariat. 2018. GBIF backbone taxonomy: *Peckoltia vittata* (Steindachner, 1881). Copenhagen: Global Biodiversity Information Facility. Available: <https://www.gbif.org/species/5202098> (September 2018).

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[OIE] World Organisation for Animal Health. 2021. OIE-listed diseases, infections and infestations in force in 2020. Available: <http://www.oie.int/animal-health-in-the-world/oie-listed-diseases-2020/> (January 2021).

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.

Riehl R, Baensch HA. 1996. Aquarien atlas. Band 1. 10th edition. Melle, Germany: Mergus, Verlag GmbH.

Giarrizzo T, de Sena Oliveira RR, Andrade MC, Gonçalves AP, Barbosa TAP, Martins AR, Marques DK, dos Santos JLB, da S. Frois PR, de Albuquerque TPO, de A. Montag LF, Camargo M, de Sousa LM. 2015. Length-weight and length-length relationships for 135 fish species from the Xingu River (Amazon basin, Brazil). *Journal of Applied Ichthyology* 31:514–424.

Le Bail P-Y, Keith P, Planquette P. 2000. Atlas des poissons d'eau douce de Guyane. Tome 2 - fascicule II. Siluriformes. Paris: Publications scientifiques du M.N.H.N., Service du Patrimoine Naturel.

Steindachner F. 1881. Beiträge zur Kenntniss der Flussfische Südamerika's. II. Denkschriften der Kaiserlichen Akademie der Wissenschaften in Wien, Mathematisch-Naturwissenschaftliche Classe 43:103–146.