

***Listrura boticario* (a catfish, no common name)**

Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, December 2016

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No Photo Available

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2016):

“South America: Da Figueira and Guaraqueçaba River basins in Brazil.”

Status in the United States

This species has not been reported as introduced in the United States.

From FFWCC (2016):

“Prohibited nonnative species are considered to be dangerous to the ecology and/or the health and welfare of the people of Florida. These species are not allowed to be personally possessed or used for commercial activities. [...]

Freshwater Aquatic Species [...]

Parasitic catfishes [...]

Listrura boticario”

Means of Introductions in the United States

This species has not been reported as introduced in the United States.

Remarks

From Villa-Verde et al. (2013b):

“Of the six valid species of *Listrura*, three are included in Brazilian lists of threatened species [...] On the other hand, the conservation status for the other two species, *L. boticario* and *L. picinguabae*, is undetermined (Menezes et al., 2007). The latter two species have at least part of their populations within official preservation areas, which represent some measure of protection for their immediate survival.”

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

From ITIS (2016):

“Kingdom Animalia
Subkingdom Bilateria
Infrakingdom Deuterostomia
Phylum Chordata
Subphylum Vertebrata
Infraphylum Gnathostomata
Superclass Osteichthyes
Class Actinopterygii
Subclass Neopterygii
Infraclass Teleostei
Superorder Ostariophysii
Order Siluriformes
Family Trichomycteridae
Subfamily Glanapteryginae
Genus *Listrura* de Pinna, 1988
Species *Listrura boticario* de Pinna and Wosiacki, 2002”

“Current Standing: valid”

Size, Weight, and Age Range

From Froese and Pauly (2016):

“Max length : 3.7 cm SL male/unsexed; [de Pinna and Wosiacki 2003]”

Environment

From Froese and Pauly (2016):

“Freshwater; demersal.”

From Villa-Verde et al. (2013a):

“Those species [in the genus *Listrura*] inhabit interstitial environments and are usually found in small and shallow water bodies characterized by leaf litter and soft mud bottom, commonly associated with small mountain streams (Nico and de Pinna, 1996).”

Climate/Range

From Froese and Pauly (2016):

“Tropical, preferred ?”

Distribution Outside the United States

Native

From Froese and Pauly (2016):

“South America: Da Figueira and Guaraqueçaba River basins in Brazil.”

Introduced

No introductions of this species have been reported.

Means of Introduction Outside the United States

No introductions of this species have been reported.

Short Description

From de Pinna and Wosiacki (2002):

“The two-rayed pectoral fin distinguishes the new species from all other trichomycterids, which can have either a single ray, or three or more. *Listrura boticario* is further distinguished from its congeners by the absence of the dorsal fin.

“*Listrura boticario* can be further distinguished from species of *Glanapteryx* by the presence of an anal fin and rounded caudal-fin margin.”

“Body elongate, head wider than trunk in dorsal view. Body slightly compressed anteriorly, gradually becoming more so posteriorly. Caudal peduncle gently tapering posteriorly toward caudal fin. Dorsal and ventral profiles of body nearly straight. Dorsal and ventral profiles of caudal peduncle (including fold corresponding to procurrent rays) gently convex and continuous with caudal fin. Dorsal keel of caudal peduncle extending anteriorly as low, mid-dorsal, rayless, cutaneous fold to beyond vertical through anus [...].”

Biology

From de Pinna and Wosiacki (2002):

“The single specimen of *Listrura boticario* was collected [...] in a pool on a small island [...] Standing water was only about 2-3 cm deep, but it covered a thick layer of loose organic debris [...] The whole area had a dense cover of emergent vegetation, and the surface of the leaf litter had thick deposits of loose, rust-colored bacterial growth. [...] there was no evident underground source for the water, although a slight surface current was noticeable.”

“Several hours of additional collecting subsequent to the capture of the holotype failed to secure additional specimens of the species. [...] Populations of the closely related *L. nematopteryx* apparently have a rather spotty distribution, with locally abundant populations concentrated in extremely restricted areas. If the new species follows this pattern, then it seems that the holotype was, at least on a small scale, a stray specimen.”

Human Uses

No information available.

Diseases

No information available.

Threat to Humans

From Froese and Pauly (2016):

“Harmless”

3 Impacts of Introductions

This species is known only from one specimen. No introductions of this species have been reported.

From FFWCC (2016):

“Prohibited nonnative species are considered to be dangerous to the ecology and/or the health and welfare of the people of Florida. These species are not allowed to be personally possessed or used for commercial activities. [...]

Freshwater Aquatic Species [...]

Parasitic catfishes [...]

Listrura boticario”

4 Global Distribution



Figure 1. Known global established locations of *Listrura boticario* in Brazil. Map from GBIF (2016).

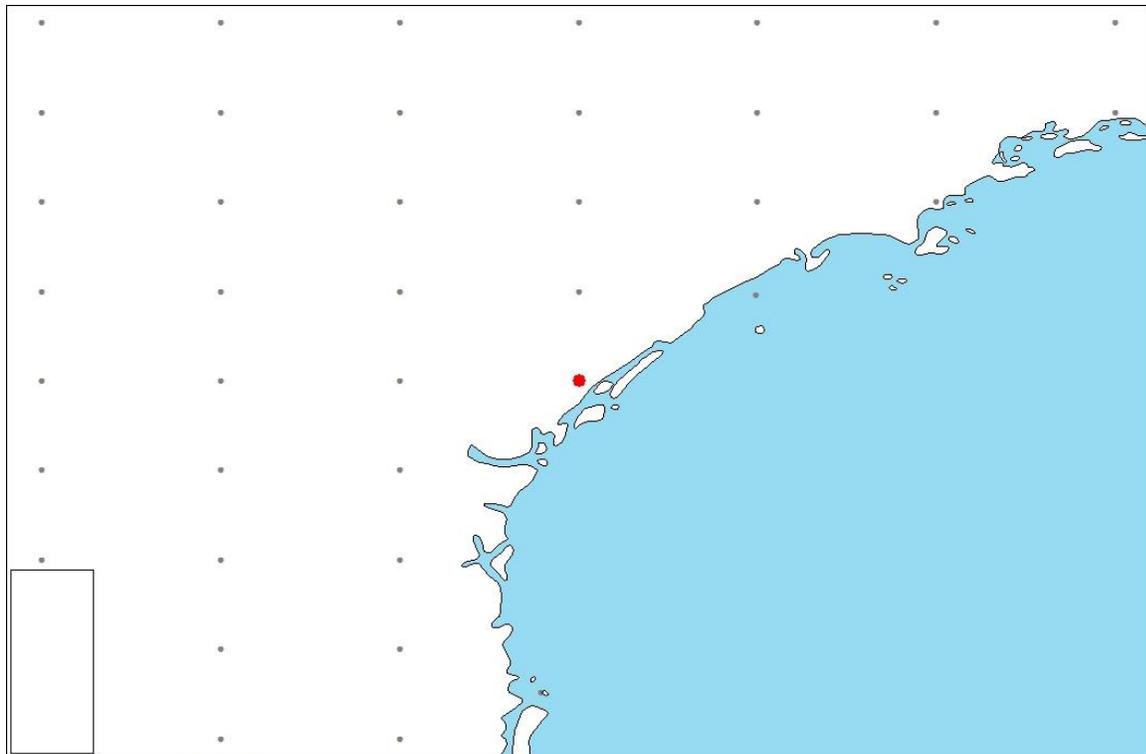
5 Distribution Within the United States

This species has not been reported in the United States.

6 Climate Matching

Summary of Climate Matching Analysis

The climate match (Sanders et al. 2014; 16 climate variables; Euclidean Distance) was medium across most of Florida and in southwestern Louisiana, and low throughout the remainder of the contiguous U.S. The Climate 6 proportion indicated a low climate match for the contiguous U.S. The range of proportions indicating a low climate match is 0.000 to 0.005; the Climate 6 proportion for *Listrura boticaro* was 0.0.



Species: *Listrura boticario*
 Selected Climate Stations

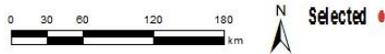


Figure 1. RAMP (Sanders et al. 2014) source map showing weather stations in eastern Brazil selected as source locations (red) and non-source locations (gray) for *Listrura boticario* climate matching. Source locations from GBIF (2016).

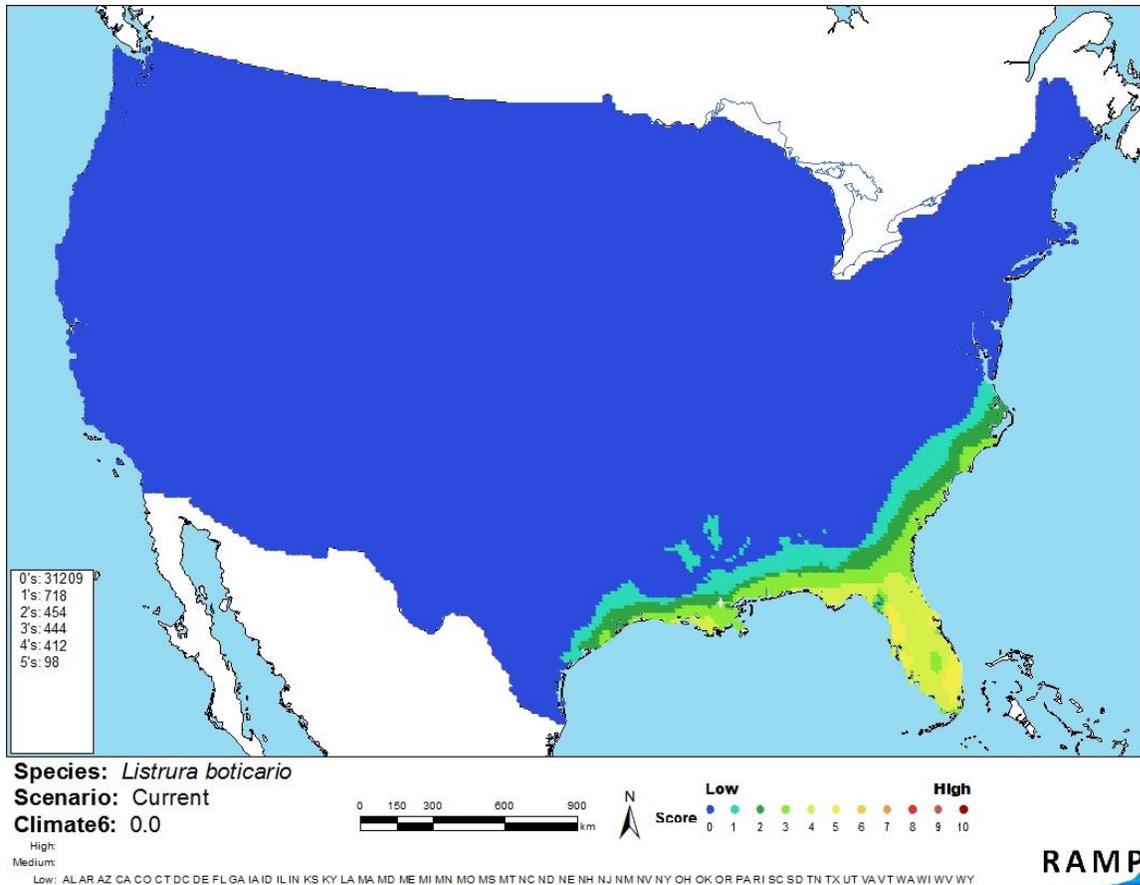


Figure 2. Map of RAMP (Sanders et al. 2014) climate matches for *Listrura boticario* in the contiguous United States based on source locations reported by GBIF (2016). 0= Lowest match, 10=Highest match. Counts of climate match scores are tabulated on the left.

The “High”, “Medium”, and “Low” climate match categories are based on the following table:

Climate 6: Proportion of (Sum of Climate Scores 6-10) / (Sum of total Climate Scores)	Climate Match Category
$0.000 \leq X \leq 0.005$	Low
$0.005 < X < 0.103$	Medium
≥ 0.103	High

7 Certainty of Assessment

There is very limited information available on the biology and distribution of *Listrura boticario*. The potential impacts of an introduction are unknown because the species has not been reported as introduced outside its native range. Due to this lack of information, the certainty of this assessment is low.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Listrura boticario is a trichomycterid catfish native to eastern Brazil, where it inhabits shallow pools with abundant leaf litter. Very little is known about its biology because only one specimen is known. The species has not been reported as introduced outside its native range, so impacts of introduction are unknown. Along with other trichomycterids, it is listed as a prohibited species by the state of Florida. Climate match to the contiguous U.S. is low. Overall risk posed by *L. boticario* is uncertain.

Assessment Elements

- **History of Invasiveness (Sec. 3): Uncertain**
- **Climate Match (Sec.6): Low**
- **Certainty of Assessment (Sec. 7): Low**
- **Overall Risk Assessment Category: Uncertain**

9 References

Note: The following references were accessed for this ERSS. References cited within quoted text but not accessed are included below in Section 10.

de Pinna, M. C. C., and W. Wosiacki. 2002. A new interstitial catfish of the genus *Listrura* from southern Brazil (Siluriformes: Trichomycteridae: Glanapteryginae). *Proceedings of the Biological Society of Washington* 115(4):720-726.

FFWCC (Florida Fish and Wildlife Conservation Commission). 2016. Prohibited species list. Florida Fish and Wildlife Conservation Commission, Tallahassee, Florida. Available: <http://myfwc.com/wildlifehabitats/nonnatives/regulations/prohibited/#nogo>. (December 2016).

Froese, R., and D. Pauly, editors. 2016. *Listrura boticario* de Pinna & Wosiacki, 2002. FishBase. Available: <http://www.fishbase.org/summary/Listrura-boticario.html>. (December 2016).

GBIF (Global Biodiversity Information Facility). 2016. GBIF backbone taxonomy: *Listrura boticario* de Pinna & Wosiacki, 2002. Global Biodiversity Information Facility, Copenhagen. Available: <http://www.gbif.org/species/2343312>. (December 2016).

ITIS (Integrated Taxonomic Information System). 2016. *Listrura boticario* de Pinna and Wosiacki, 2002. Integrated Taxonomic Information System, Reston, Virginia. Available: https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=682131#null. (December 2016).

Sanders, S., C. Castiglione, and M. H. Hoff. 2014. Risk Assessment Mapping Program: RAMP. U.S. Fish and Wildlife Service.

Villa-Verde, L., J. Ferrer, and L. R. Malabarba. 2013a. A new species of *Listrura* from Laguna dos Patos System, Brazil: the southernmost record of the Glanapteryginae (Siluriformes: Trichomycteridae). *Copeia* 2013(4):641-646.

Villa-Verde, L., S. M. Q. Lima, P. H. Carvalho, and M. C. C. de Pinna. 2013b. Rediscovery, taxonomic and conservation status of the threatened catfish *Listrura camposi* (Miranda-Ribeiro) (Siluriformes: Trichomycteridae). *Neotropical Ichthyology* 11(1):55-64.

10 References Quoted But Not Accessed

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.

de Pinna, M. C. C., and W. Wosiacki. 2003. Trichomycteridae (pencil or parasitic catfishes). Pages 270-290 in R. E. Reis, S. O. Kullander, and C. J. Ferraris, Jr., editors. Checklist of the freshwater fishes of South and Central America. EDIPUCRS, Porto Alegre, Brazil.

Menezes, N. A., S. H. Weitzman, O. T. Oyakawa, F. C. T. Lima, C. M. C. Castro, and M. J. Weitzman. 2007. Peixes de água doce da Mata Atlântica: lista preliminar das espécies e comentários sobre conservação de peixes de água doce neotropicais. [Freshwater fishes of Mata Atlântica: list of species and comments on conservation of neotropical freshwater fishes.] Museu de Zoologia da Universidade de São Paulo, São Paulo, Brazil.

Nico, L. G., and M. C. C. de Pinna. 1996. Confirmation of *Glanapteryx anguilla* (Siluriformes, Trichomycteridae) in the Orinoco River basin, with notes on the distribution and habitats of the Glanapteryginae. *Ichthyological Exploration of Freshwaters* 7:27-32.