

Listrura camposae (a catfish, no common name)

Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, January 2017

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Photo: Cristiano Moreira in Villa-Verde et al. (2013). Licensed under Creative Commons BY-NC.

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2016):

“South America: Poço Grande River, tributary of the Juquiá River, São Paulo and Ribeirão da Ilha, Florianópolis, Santa Catarina, Brazil.”

From Villa-Verde et al. (2013):

“*Listrura camposi* is known to occur in two small streams tributaries to rio Juquiá, rio Ribeira de Iguape basin, São Paulo State: ribeirão Poço Grande, município de Juquiá (type locality), and a tributary to rio Itariri, município de Pedro de Toledo [...] Approximately 37 km separate the two localities. However, the area of the type locality is presently much degraded, due to intense human activity in the region (O.T. Oyakawa, pers. comm.; MCCP, pers. obs.), and there seems to be little hope of any surviving populations of *L. camposi* there.”

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 camposi”

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. (2013):

“Of all species of *Listrura*, *L. camposi* is the least known. Its description (Miranda-Ribeiro, 1957) was based on a single specimen collected in 1940 from ribeirão do Poço Grande (tributary to rio Juquiá, itself tributary to rio Ribeira de Iguape) at Juquiá, São Paulo State, Brazil. This species was originally included in the genus *Eremophilus* Humboldt (Trichomycterinae) by Miranda-Ribeiro (1957), based on the absence of pelvic fin and girdle. Later, de Pinna (1988) demonstrated that *E. camposi* is, in fact, related to the Glanapteryginae rather than to *E. mutisii* Humboldt, and described the genus *Listrura* to accommodate that species plus the newly described *L. nematopteryx* de Pinna.”

From Eschmeyer et al. (2017):

“Name originally appeared as *camposi*, but named after a lady, Antonia Amoral Campos, therefore mandatory correction to *camposae* (Name changed by Ron Fricke, Jan. 2016).”

From Reis and Lima (2009):

“Assessed as Vulnerable as it only exists at two locations. Current and detailed data on threats are still lacking, but it is certain that the species inhabits a very restricted and uncommon habitat type. There is some information indicating that the species may be threatened by habitat degradation but this requires further research to determine the extent to which *L. camposi* may be affected.”

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	Ostariophysi
Order	Siluriformes
Family	Trichomycteridae
Subfamily	Glanapteryginae
Genus	<i>Listrura</i>
Species	<i>Listrura camposi</i> (Miranda Ribeiro, 1957)

From Eschmeyer et al. (2017):

“Valid as *Listrura camposae* (Miranda Ribeiro 1957).”

Size, Weight, and Age Range

From Froese and Pauly (2016):

“Max length : 3.9 cm SL male/unsexed; [de Pínna and Wosiacki 2003]”

Environment

From Froese and Pauly (2016):

“Freshwater; benthopelagic.”

From Villa-Verde et al. (2013):

“Species of the genus are interstitial inhabitants of marginal environments, usually with very small water volume and near underground sources. Few or no other fish species occur in the same microhabitat.”

Climate/Range

From Froese and Pauly (2016):

“Tropical, preferred ?”

Distribution Outside the United States

Native

From Froese and Pauly (2016):

“South America: Poço Grande River, tributary of the Juquiá River, São Paulo and Ribeirão da Ilha, Florianópolis, Santa Catarina, Brazil.”

From Villa-Verde et al. (2013):

“*Listrura camposi* is known to occur in two small streams tributaries to rio Juquiá, rio Ribeira de Iguape basin, São Paulo State: ribeirão Poço Grande, município de Juquiá (type locality), and a tributary to rio Itariri, município de Pedro de Toledo [...] Approximately 37 km separate the two localities. However, the area of the type locality is presently much degraded, due to intense human activity in the region (O.T. Oyakawa, pers. comm.; M CCP, pers. obs.), and there seems to be little hope of any surviving populations of *L. camposi* there.”

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 Froese and Pauly (2016):

“Vertebrae: 54 - 56. Differs from congeners in having three pectoral fin ray and 54-56 vertebrae. Pectoral, dorsal and anal fin rays unbranched; 31-35 dorsal procurent caudal fin rays, 28-32 ventral procurent caudal fin rays; 14-19 premaxillary teeth; 13-18 dentary teeth [Landim and Costa 2002].”

Biology

From Villa-Verde et al. (2013):

“The specimens of *Listrura camposi* from the tributary to the rio Itariri were collected in a narrow (about 1 m wide) and shallow (about 10 cm deep) clear-water pool contiguous to the stream, covered with a dense layer of leaf litter on bottom [...] and crossing under a small road before joining the rio Itariri. Although the mountain slope is covered with dense Atlantic forest, a great portion of the stream in the lowland plain area, where most of the *L. camposi* specimens were caught, is devoid of riparian protection. Individuals were concentrated on the stretch immediately below the steep-slope portion of the stream. The species seems to be restricted to the interface between the fast-flowing, high energy sector and the lowland slow-current portion of the stream. Some specimens were captured in a small pool just within the fast-flowing sector, in a dense layer of leaf litter, but none in similar pools further upstream. Specimens were captured mostly in leaf litter in shaded areas and amidst roots of emerging vegetation in sand-clay substrate, in sun-exposed areas.”

“*Listrura camposi* specimens are locally abundant, although their area of occupancy is extremely restricted, with the stream and the contiguous pool in this stretch not exceeding 50 m². *Gymnotus pantherinus* (Steindachner), *Hollandichthys multifasciatus* (Eigenmann & Norris), and *Atlantirivulus santensis* (Köhler) were the only fishes collected with *L. camposi*. Copepods, insect larvae and mites were found on stomach contents of some CS specimens, as previously observed for *L. tetradactyla* by Landim & Costa (2002).”

Human Uses

No information available.

Diseases

No information available.

Threat to Humans

From Froese and Pauly (2016):

“Harmless”

3 Impacts of Introductions

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 [...]

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4 Global Distribution



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

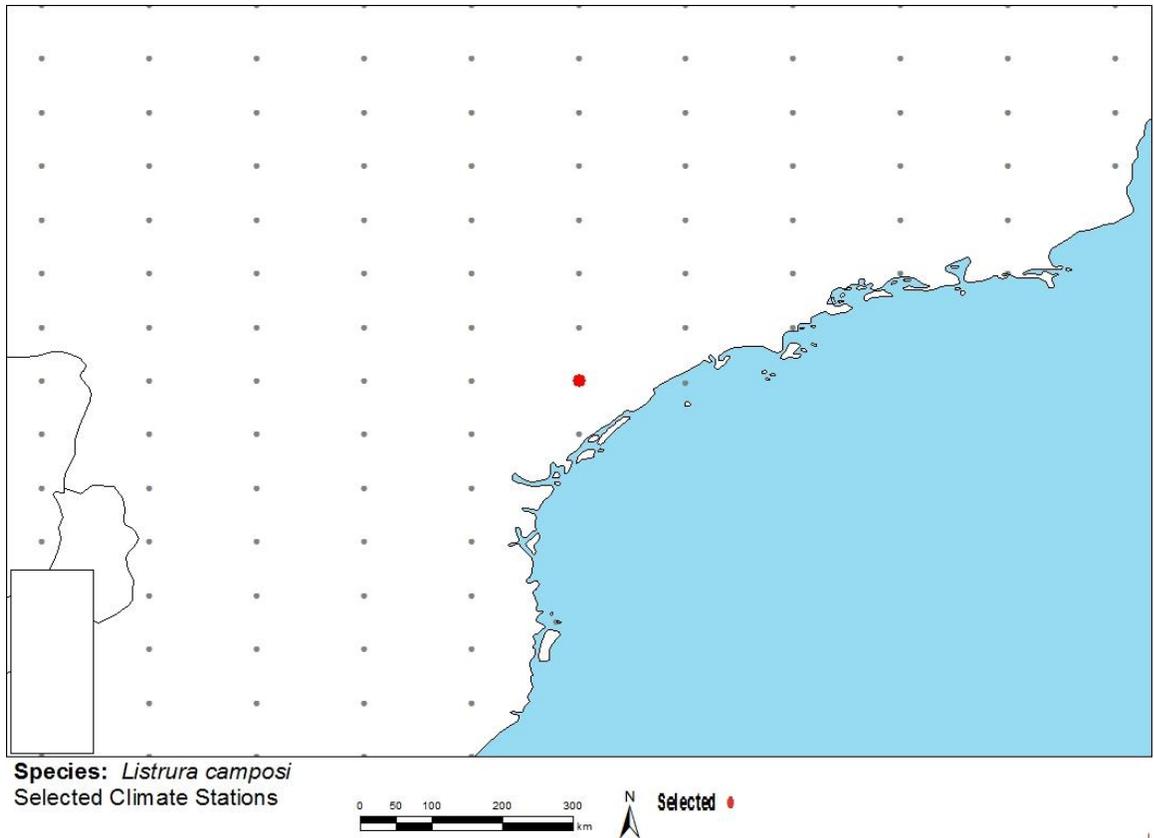
5 Distribution Within the United States

This species has not been reported in the United States.

6 Climate Matching

Summary of Climate Matching Analysis

The Climate 6 score (Sanders et al. 2014; 16 climate variables; Euclidean Distance) was medium in peninsular Florida and along the Gulf of Mexico and Atlantic Ocean coastlines from eastern Texas to southern North Carolina. The climate match was low throughout the rest of the contiguous U.S. The Climate 6 proportion indicated a medium climate match for the contiguous U.S. overall. The Climate 6 proportions indicating a medium climate match are those greater than 0.005 and less than 0.103; the Climate 6 proportion for *L. camposae* was 0.012.



RAMP

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

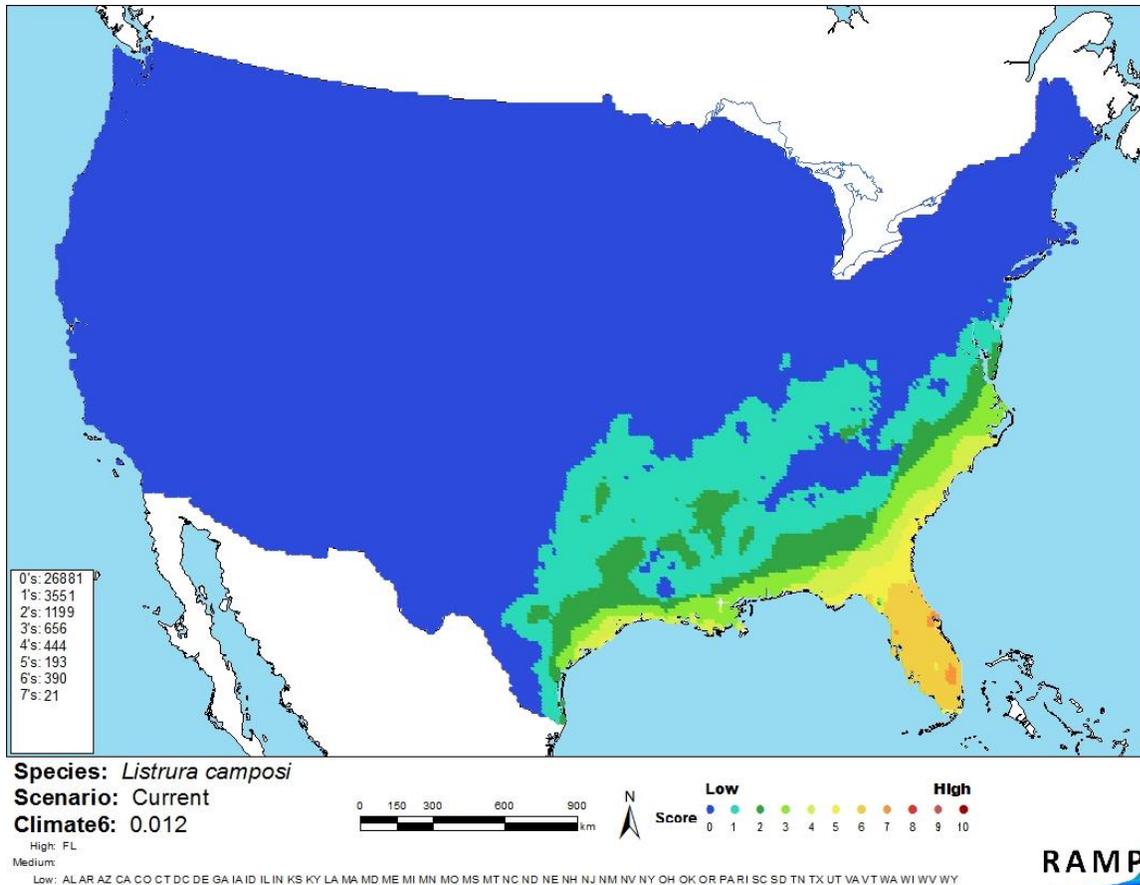


Figure 2. Map of RAMP (Sanders et al. 2014) climate matches for *Listrura camposae* in the contiguous United States based on source locations reported by GBIF (2016). 0=Lowest match, 10=Highest match. Counts of climate match scores are tabulated on the left.

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 camposae*. Potential impacts of an introduction are unknown because the species has yet to be 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 camposae is a rare trichomycterid catfish native to southern Brazil. Very little is known about its biology, and it has not been reported as introduced outside its native range, so impacts of introduction are unknown. Climate match to the contiguous U.S. is medium. Overall risk posed by *L. camposae* is uncertain.

Assessment Elements

- **History of Invasiveness (Sec. 3): Uncertain**
- **Climate Match (Sec. 6): Medium**
- **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.

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Villa-Verde, L., S. M. Q. Lima, P. H. Carvalho, and M. C. C. de Pinna. 2013. Rediscovery, taxonomic and conservation status of the threatened catfish *Listrura camposi* (Miranda-Ribiero) (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. 1988. A new genus of trichomycterid catfish (Siluroidei, Glanapteryginae), with comments on its phylogenetic relationships. *Revue Suisse de Zoologie* 95:113-128.

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.

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Miranda-Ribeiro, P. 1957. Notas para estudo dos Pygidiidae brasileiros (Pisces - Pygidiidae) VI. Papeis Avulsos do Departamento de Zoologia da Secretaria de Agricultura de São Paulo 13:71-73.