Stenolicmus sarmientoi (a catfish, no common name)
Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, December 2016
Revised, March 2017
Web Version, 7/3/2018

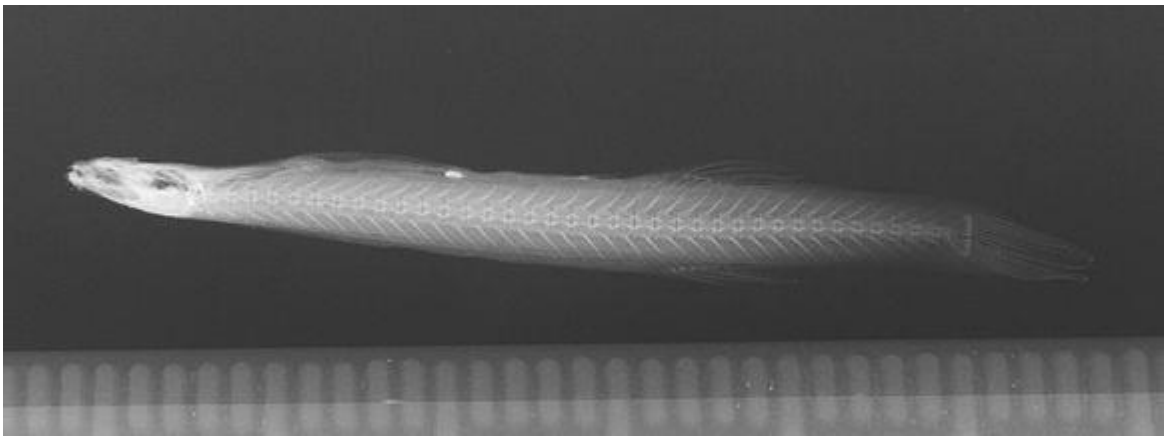

Photo: Smithsonian Institution, National Museum of Natural History, Department of Vertebrate Zoology, Division of Fishes. Licensed under CC BY-NC-SA. Available: http://eol.org/data_objects/18158883. (March 2017).

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2016):

"South America: upper Apere River basin in Bolivia."

From Carvajal et al. (2016):

"This species occurs in the Mamoré river basin in the Amazon river basin in Bolivia (Carvajal-Vallejos and Zeballos Fernández 2011). It is known from only 4 specimens from the type locality in the Matos River, a tributary of the Apere River, 48 kilometers east of San Borja, Ballivian Province, Beni Department, Bolivia (14°55'S, 66°17'W) (de Pinna and Starnes 1990)."

Status in the United States

This species has not been reported as introduced or established in the U.S.

The parasitic catfish, *Stenolicmus sarmientoi*, is a prohibited nonnative species in Florida. According to the FFWCC (2017), "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."

Means of Introductions in the United States

This species has not been reported as introduced or established in the U.S.

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 Bleeker, 1858
Subfamily Sarcoglanidinae
Genus *Stenolicmus*
Species *Stenolicmus sarmientoi* de Pinna and Starnes, 1990"

"Current Standing: valid"

Size, Weight, and Age Range

From Froese and Pauly (2016):

"Max length : 29.5 cm NG male/unsexed; [de Pinna and Wosiacki 2003]"

Environment

From Froese and Pauly (2016):

"Freshwater; benthopelagic."

From Carvajal et al. (2016):

"This species is known from a permanent river of slow flowing waters and lives among submerged logs and vegetation."

From Wosiacki et al. (2011):

"[…] occurs in whitewater […]"

Climate/Range

From Froese and Pauly (2016):

"Tropical, preferred ?"

From Carvajal et al. (2016):

"The elevation in the type locality is approximately 175 m."

Distribution Outside the United States

Native

From Froese and Pauly (2016):

"South America: upper Apere River basin in Bolivia."

From Carvajal et al. (2016):

"This species occurs in the Mamoré river basin in the Amazon river basin in Bolivia (Carvajal-Vallejos and Zeballos Fernández 2011). It is known from only 4 specimens from the type locality in the Matos River, a tributary of the Apere River, 48 kilometers east of San Borja, Ballivian Province, Beni Department, Bolivia (14°55'S, 66°17'W) (de Pinna and Starnes 1990)."

Introduced

This species has not been reported as introduced or established outside of its native range.

Means of Introduction Outside the United States

This species has not been reported as introduced or established outside of its native range.

Short Description

From Zuanon et al. (2006):

"Eyes are small in […] *Stenolicmus sarmientoi* de Pinna & Starnes (*cf.* de Pinna & Starnes, 1990) […]"

From de Pinna and Starnes (1990):

"It can be distinguished from all other sarcoglanidines by: five-rayed pectoral fin; elongate body shape (HL about 15% of SL); absence of fontanelles on cranial roof; well-developed patches of opercular and interopercular odontodes (five or six on each bone); numerous accessory caudal-fin rays (13 dorsal and 11 ventral); and presence of extensive dark pigmentation on the surface of the body."

Biology

From Zuanon et al. (2006):

"Small or lacking eyes are usual among fishes that live in confined spaces with scarce or absent light […]"

From Wosiacki et al. (2011):

"[…] species of Sarcoglanidinae are difficult to find in nature due to their diaphanous condition, small body size and sand-dwelling behavior."

Human Uses

From Carvajal et al. (2016):

"This species is not used"

Diseases

No information available. No OIE-reportable diseases have been documented for this species.

Threat to Humans

From Froese and Pauly (2016):

"Harmless"

3 Impacts of Introductions

This species has not been reported as introduced or established outside of its native range.

The parasitic catfish, *Stenolicmus sarmientoi*, is a prohibited nonnative species in Florida. According to the FFWCC (2017), "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."

4 Global Distribution

Figure 1. Known global established location of *Stenolicmus sarmientoi* in Bolivia. Map from GBIF (2016).

5 Distribution Within the United States

This species has not been reported as introduced or established in the U.S.

6 Climate Matching

Summary of Climate Matching Analysis

The climate match (Sanders et al. 2014; 16 climate variables; Euclidean Distance) was medium in peninsular Florida and low elsewhere in the contiguous United States. Climate 6 proportion indicated that the contiguous U.S. has a low climate match overall. Proportions less than or equal to 0.005 indicate a low climate match; the Climate 6 proportion of *Stenolicmus sarmientoi* was 0.004.

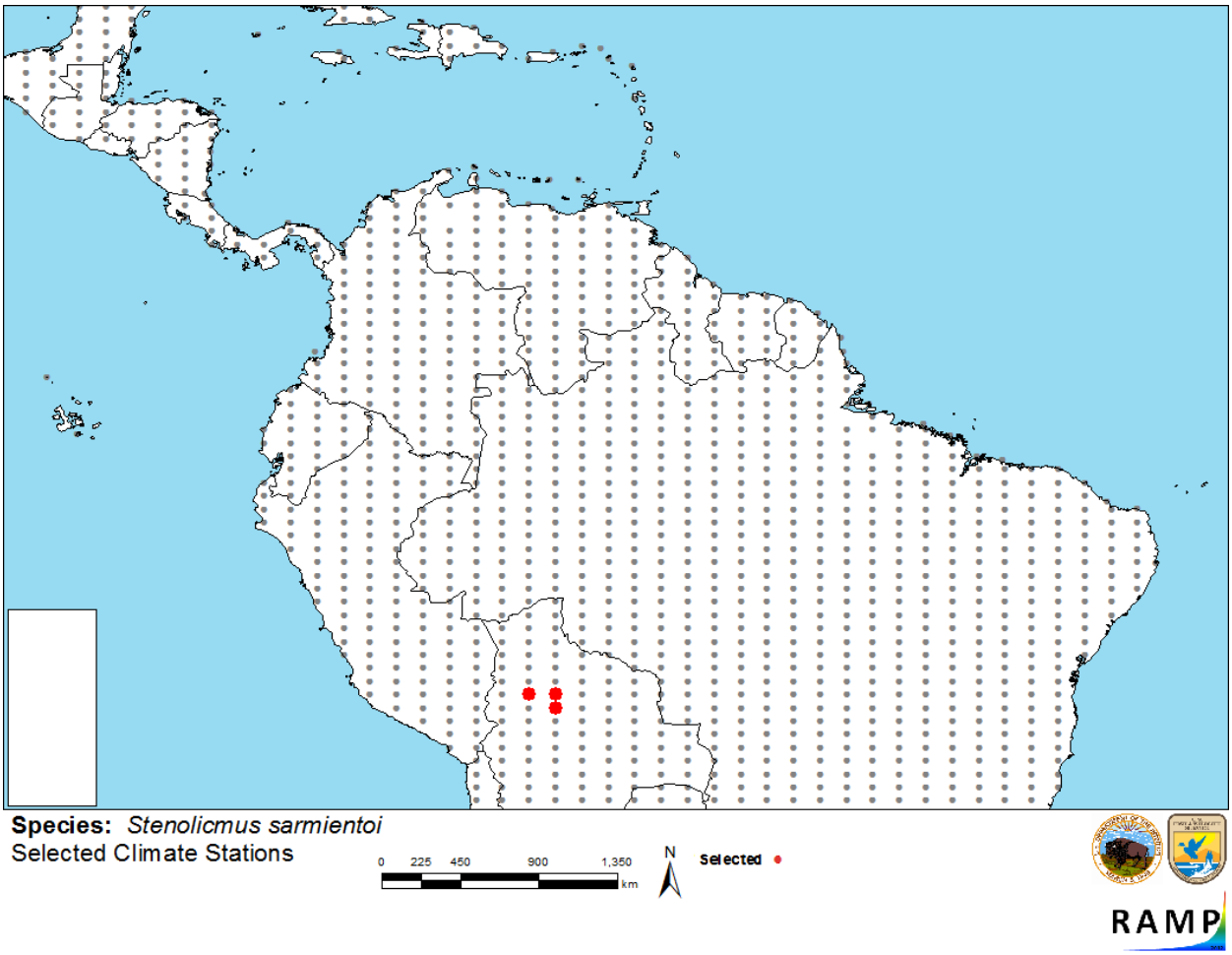

Figure 2. RAMP (Sanders et al. 2014) source map showing weather stations in South America selected as source locations (red; Bolivia) and non-source locations (gray) for *Stenolicmus sarmientoi* climate matching. Source locations from GBIF (2016).

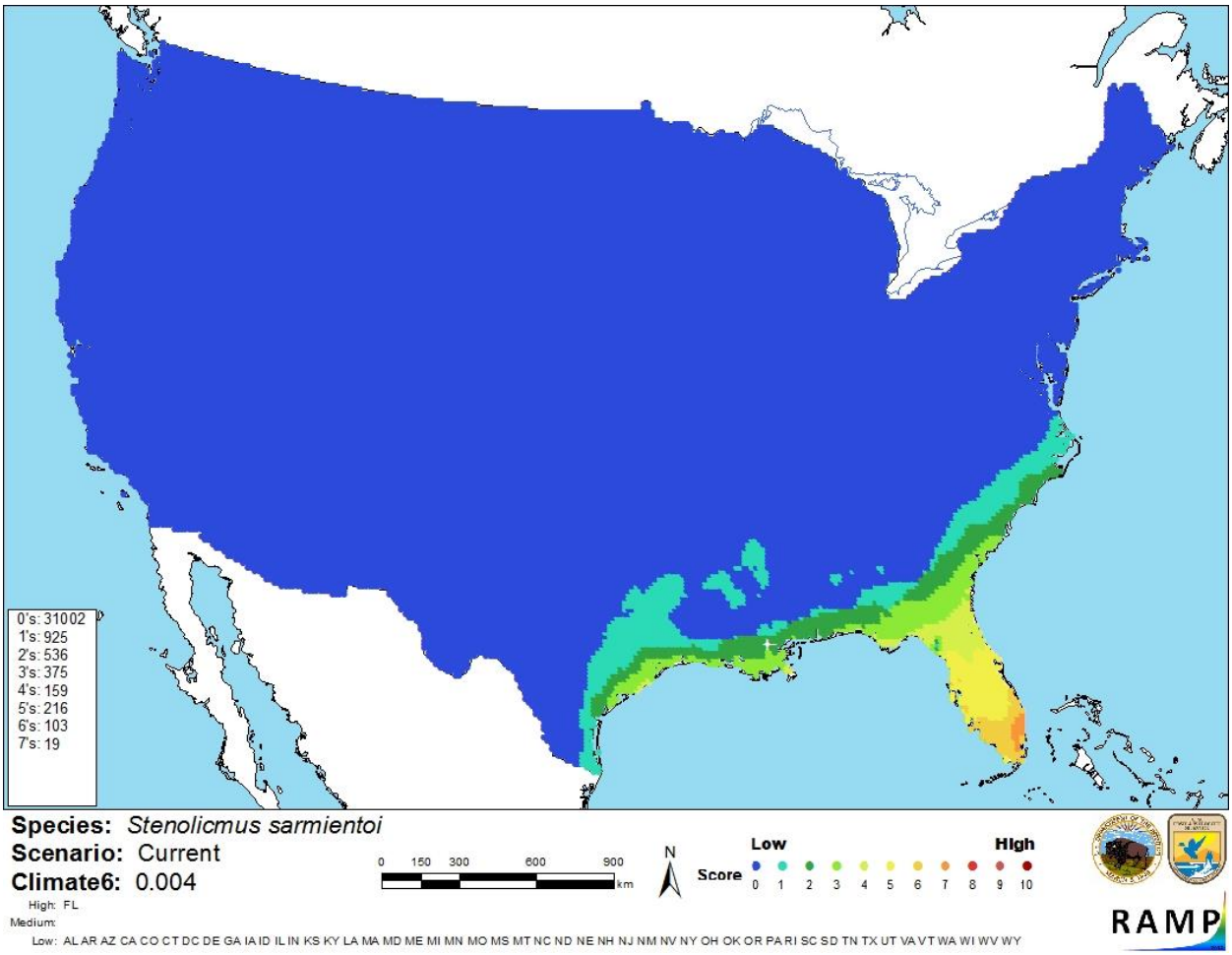

Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *Stenolicmus sarmientoi* in the contiguous United States based on source locations reported by GBIF (2016). 0= Lowest match, 10=Highest match. Counts of climate match scores are tabulated on the left.

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 little information available on *S. sarmientoi* besides a detailed account of its physical description. Further information on this species is needed to evaluate the risk it poses if introduced to the United States. Certainty of this assessment is low.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Stenolicmus sarmientoi is a small freshwater catfish native to the upper Apere River basin in the Amazon River basin in South America. *S. sarmientoi* has a low climate match with the contiguous U.S. There is little information available on the biology of this species, and it has no documented history of introduction. Because of this, overall risk assessment category for this species 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.

Carvajal, F., M. Maldonado, and J. Sarmiento. 2016. *Stenolicmus sarmientoi*. The IUCN Red List of Threatened Species 2016. Available: http://www.iucnredlist.org/details/49830070/0. (December 2016).

de Pinna, M. C. C., and W. C. Starnes. 1990. A new genus and species of Sarcoglanidinae from the Río Mamoré, Amazon Basin, with comments on subfamilial phylogeny (Teleostei, Trichomycteridae). Journal of Zoology 222(1):75-88.

FFWCC (Florida Fish and Wildlife Conservation Commission). 2017. Prohibited species list. Florida Fish and Wildlife Conservation Commission, Tallahassee, Florida. Available: http://myfwc.com/wildlifehabitats/nonnatives/regulations/prohibited/#Stenolicmus. (March 2017).

Froese, R., and D. Pauly, editors. 2016. *Stenolicmus sarmientoi* de Pinna & Starnes, 1990. FishBase. Available: http://www.fishbase.org/summary/58371. (December 2016).

GBIF (Global Biodiversity Information Facility). 2016. GBIF backbone taxonomy: *Stenolicmus sarmientoi*, de Pinna & Starnes, 1990. Global Biodiversity Information Facility, Copenhagen. Available: http://www.gbif.org/species/2343262. (December 2016).

ITIS (Integrated Taxonomic Information System). 2016. *Stenolicmus sarmientoi* de Pinna & Starnes, 1990. Integrated Taxonomic Information System, Reston, Virginia. Available: https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=682170#null. (December 2016).

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

Wosiacki, W. B., D. P. Coutinho, and L. F. A. Montag. 2011. Description of a new species of sand-dwelling catfish of the genus *Stenolicmus* (Siluriformes; Trichomycteridae). Zootaxa 2752: 62-68.

Zuanon, J., F. A. Bockmann, and I. Sazima. 2006. A remarkable sand-dwelling fish assemblage from central Amazonia, with comments on the evolution of psammophily in South American freshwater fishes. Neotropical Ichthyology 4(1):107-118.

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.

Carvajal-Vallejos, F. M. and A. J. Zeballos Fernández. 2011. Diversidad y distribución de los peces de la Amazonía boliviana. In: P. A. Van Damme, F. Carvajal, and J. Molina, editors. Los peces de la Amazonía boliviana: hábitats, potencialidades y amenazas. INIA, Cochabamba, Bolivia.

de Pínna, M. C. C. and W. Wosiacki. 2003. Trichomycteridae (pencil or parasitic catfishes). p. 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.