Dwarf Hoplo (*Lepthoplosternum pectorale*)

Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, July 2017
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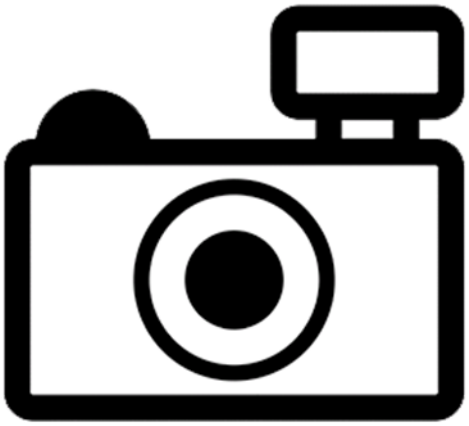

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2017):

"South America: Paraguay River basin. [The basin includes the countries of Argentina, Brazil, Bolivia, Paraguay and Uruguay]"

From Zarucki et al. (2010):

"We report the presence of *Leporinus lacustris*, *Lepthoplosternum pectorale*, and *Apistogramma borellii* registered from the middle Paraná River (Casciotta et al. 2005) in the middle and lower Uruguay River [in Uruguay]."

Status in the United States

This catfish species has not been reported in the United States. There is no indication that this species is in trade in the U.S.

Means of Introductions in the United States

Lepthoplosternum pectorale has not been reported as introduced in the United States.

Remarks

From ScotCat (2005):

"One look at the photograph of this species and you will realise that this [i.e., *Lepthoplosternum pectorale*] is, or used to be, *Hoplosternum pectorale*. The above has been moved into a new genus along with *Hoplosternum thoracatum* (now *Megalechis thoracata*) with *Hoplosternum littorale* staying put. The Brazilian ichthyologist Roberto E.Reis [*sic*] completely revised this family in 1996 and erected a new genus for *pectorale*."

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

From ITIS (2017):

"Kingdom Animalia
Subkingdom Bilateria
Infrakingdom Deuterostomia
Phylum Chordata
Subphylum Vertebrata
Infraphylum Gnathostomata
Superclass Actinopterygii
Class Teleostei
Superorder Ostariophysi
Order Siluriformes
Family Callichthyidae
Subfamily Callichthyinae
Genus Lepthoplosternum
Species *Lepthoplosternum pectorale* (Boulenger, 1895)"

"Current standing: valid"

Size, Weight, and Age Range

From Froese and Pauly (2017):

"Max length : 6.0 cm [Reis 2003]."

Environment

From Froese and Pauly (2017):

"Freshwater; demersal; pH range: 5.8 - 7.8"

"20°C - 22°C [Baensch and Riehl 1985; this temperature range is assumed to be aquarium water temperatures]"

From Esguícero and Arcifa (2017):

"[…] three species, all recognized as tolerant to environments with low concentrations of oxygen (Petry et al., 2013), two representatives of the Family Callichthyidae (*Lepthoplosternum pectorale* and *Hoplosternum littorale*) and one of the Family Gymnotidae (*Gymnotus* aff. *carapo*)."

From Fernandes et al. (2010):

"[…] occur in shallow areas with a maximum depth of 25 cm."

Climate/Range

From Froese and Pauly (2017):

"Subtropical [Baensch and Riehl 1985]."

Distribution Outside the United States

Native

From Froese and Pauly (2017):

"South America: Paraguay River basin. [The basin includes the countries of Argentina, Brazil, Bolivia, Paraguay and Uruguay]"

From Zarucki et al. (2010):

"We report the presence of […] *Lepthoplosternum pectorale* […] registered from the middle Paraná River (Casciotta et al. 2005) in the middle and lower Uruguay River [in Uruguay]."

Introduced

From Júlio Júnior et al. (2009):

"[…] appeared in the upper Paraná [Brazil] catches just recently."

Means of Introduction Outside the United States

From Júlio Júnior et al. (2009):

"The functioning of a fish pass (Canal de Piracema) connecting the region just downstream from Itaipu Dam to the Itaipu Reservoir and concluded in late 2002 may be responsible for these introductions (Graça & Pavanelli, 2007*)."*

Short Description

From ScotCat (2005):

"Body dark brown with small blackish spots. Fin rays dark brown, those in the caudal with black spots. On some specimens lighter bands are visible on the head."

"The males can be identified as having a thicker leading ray to the pectoral fins and the rest of the fin can be a milky opaque colour while the females is clear. You can identify this species from *M.thoracata* and *H.littorale* by the shape of its caudal fin, it being slightly rounded while *M.thoracata* is truncate (square) and *H.littorale*'s caudal fin is forked."

From Reis and Kaefer (2005):

"Body comparatively narrow (cleithral width 25.9-28.0% SL); maxillary barbel reaching lower series lateral plate 16-17; dorsal lateral series of plates 25-26"

Biology

From Froese and Pauly (2017):

"Builds a bubblenest."

From Ribeiro et al. (2016):

"[…] sedentary species associated with reduced flow in submerged grasses along stream banks […]"

From ScotCat (2005):

"This is a bubble-nester, where the female deposits her eggs in floating plant material […]"

Human Uses

Lepthoplosternum pectorale is present in the aquarium trade.

From ScotCat (2005):

"[…] *L. pectorale* is a dwarf species (8.5cm.) and as such is a good addition to any community tank which doesn't house any aggressive species."

From AngelFins (2018):

"DWARF HOPLOSTERNUM (*LEPTHOPLOSTERNUM PECTORALE*) […] Price : $6.00"

AngelFins is based in Guelph, Ontario, Canada.

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

Eiras et al. (2016) report that *L. pectorale* is a host to *Eustrongylides* sp. (larva), a fish-infecting nematode with zoonotic potential.

Threat to Humans
From Froese and Pauly (2017):

"Harmless"

Eiras et al. (2016) report that *L. pectorale* is a host to *Eustrongylides* sp. (larva), a fish-infecting nematode with zoonotic potential.

3 Impacts of Introductions
No information available.

4 Global Distribution

Figure 1. Known global distribution of *Lepthoplosternum pectoral*. Map from GBIF Secretariat (2017). Occurrences shown outside the Paraguay River basin do not represent established populations and were not included in the climate matching analysis. The Paraguay River Basin lies within the countries of Argentina, Brazil, Bolivia, Paraguay and Uruguay, but georeferenced occurrences were not available for all of these countries.

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 to high within the state of Florida with scores dropping when distance from the coast increased. The majority of the contiguous U.S. was a low climate match, with the climate match increasing in the Southeast closer to the Gulf and Atlantic coasts. Climate 6 score indicated a medium climate match for the contiguous U.S. Scores between 0.005 and 0.103 are classified as medium match. Climate 6 score for *Lepthoplosternum* was 0.032, a medium match.

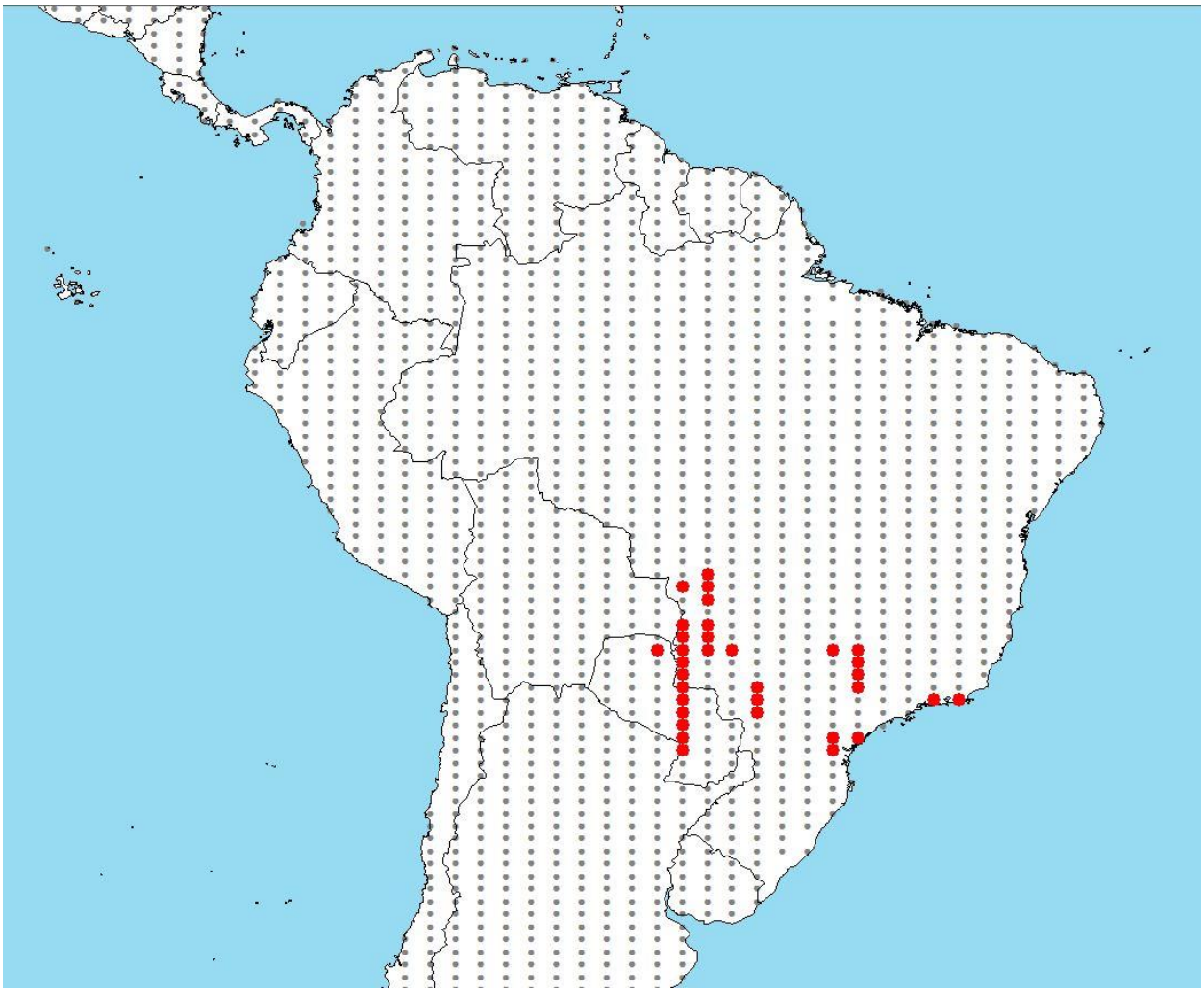

Figure 2. RAMP (Sanders et al. 2014) source map showing weather stations in South America as source locations (red; Brazil, Paraguay) and non-source locations (gray) for *Lepthoplosternum pectorale* climate matching. Source locations from GBIF Secretariat (2017).

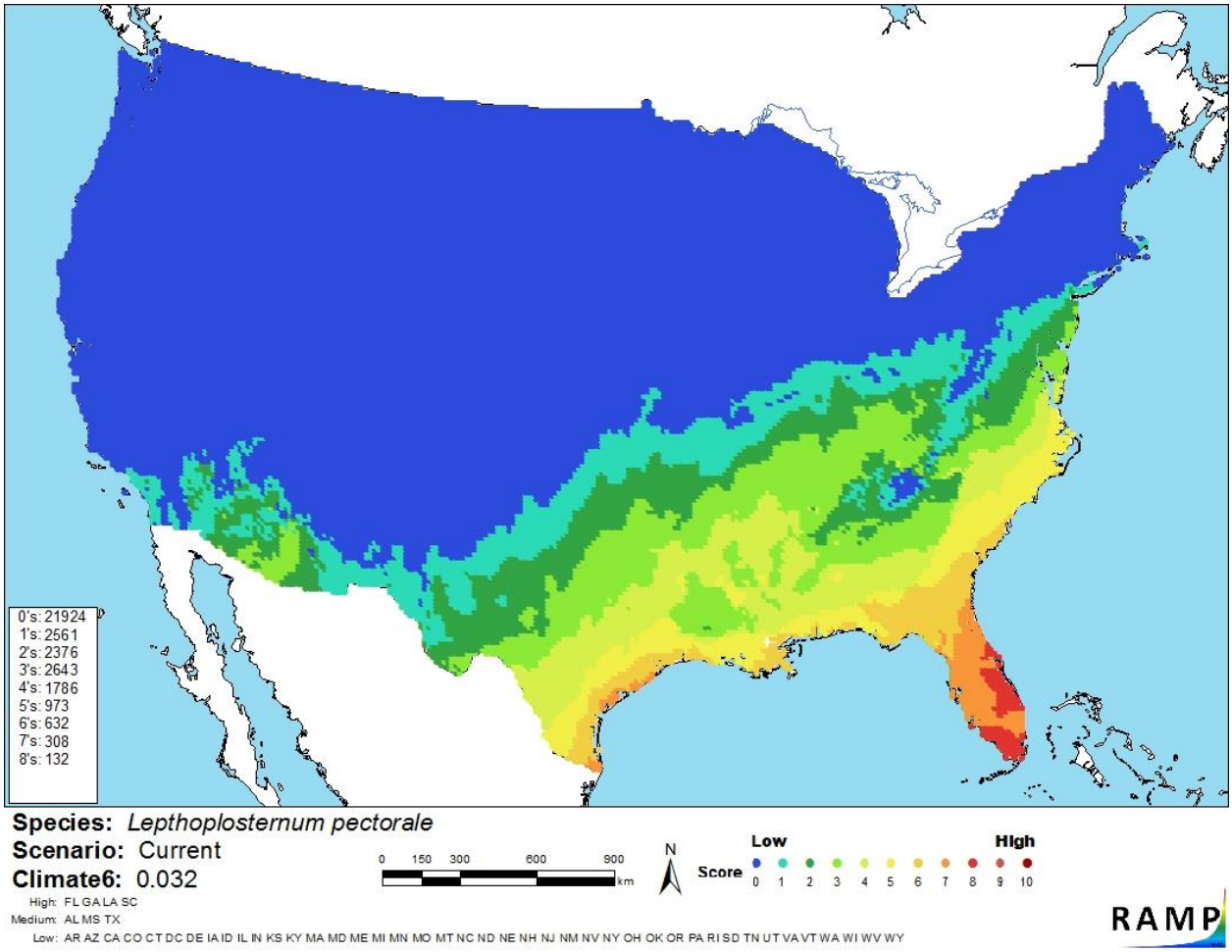

Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *Lepthoplosternum pectorale* in the contiguous United States based on source locations reported by GBIF Secretariat (2017). 0= Lowest match, 10= Highest match.

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≤X≤0.005	Low
0.005<X<0.103	Medium
≥0.103	High

7 Certainty of Assessment

Somewhat limited information on the biology and ecology of *Lepthoplosternum pectorale* is available. There is only one mention of *Lepthoplosternum pectorale* occurring outside its native range, with no information on impacts. Predicting the potential impacts on the U.S. environment is unachievable with the lack of information. Certainty of this assessment is low.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Lepthoplosternum pectorale is a small catfish native to the Paraguay River basin in Argentina, Uruguay, Paraguay, Brazil and Bolivia. It is used in the aquarium trade in North America and is reported to be a host to *Eustrongylides* sp. (larva), a fish-infecting nematode with zoonotic potential. L. *pectorale* has a medium climate match in the United States, with high matches in Florida and patches along the coast from South Carolina to Texas. Only one source reported occurrence of *L. pectorale* outside its native range; the species appears to have undergone a range expansion as a result of a fish passage construction project. No information concerning impacts of this range expansion have been reported. The potential impacts of *Lepthoplosternum pectorale* in the contiguous U.S. are unknown. The overall risk of this species is uncertain.

Assessment Elements

- **History of Invasiveness (Sec. 3): None Documented**
- **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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Zarucki, M., I. González-Bergonzoni, F. Teixeira-de-Mello, A. Duarte, S. Serra, F. Quintans, and M. Loureiro. 2010. New records of freshwater fish for Uruguay. Check List 6(2):191-194.

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.

Baensch, H. A., and R. Riehl. 1985. Aquarien atlas, volume 2. Mergus, Verlag für Natur-und Heimtierkunde GmbH, Melle, Germany.

Casciotta, J., A. Almirón, and J. Bechara. 2005. Peces del Iberá-habitat y diversidad. Corrientes: Fundación Ecos, Corrientes, Argentina.

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