

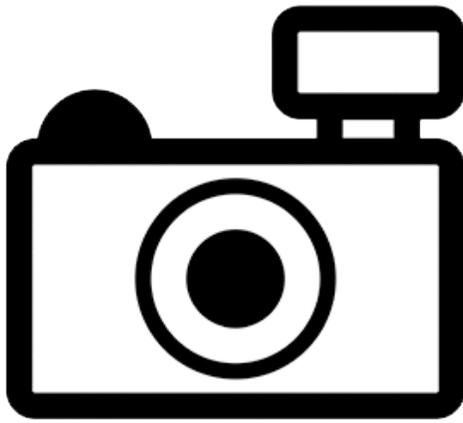
# ***Typhlobelus lundbergi* (a catfish, no common name)**

## **Ecological Risk Screening Summary**

U.S. Fish & Wildlife Service, December 2016

Revised, June 2018

Web Version, 8/30/2019



No Photo Available

## **1 Native Range, and Status in the United States**

---

### **Native Range**

From Froese and Pauly (2018):

“South America: lower Rio Orinoco in Venezuela.”

### **Status in the United States**

*Typhlobelus lundbergi* has not been reported as introduced or established in the United States. No information was found on trade of *T. lundbergi* in the United States.

### **Means of Introductions in the United States**

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

### **Remarks**

*Typhlobelus lundbergi* was first discovered and described to science in 2005 (Schaefer et al. 2005).

## 2 Biology and Ecology

---

### Taxonomic Hierarchy and Taxonomic Standing

From Eschmeyer et al. (2016):

“**Current status:** Valid as *Typhlobelus lundbergi* Schaefer, Provenzano, de Pinna & Baskin 2005.”

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 *Typhlobelus* Myers, 1944”

### Size, Weight, and Age Range

From Froese and Pauly (2018):

“Max length : 3.0 cm SL male/unsexed [Schaefer et al. 2005]”

### Environment

From Froese and Pauly (2018):

“Freshwater; demersal.”

From Schaefer et al. (2005):

“[...] *T. lundbergi* live in white water”

“A psammophilic habit [loose sand] for *Glanapteryx*, *Pygidianops*, and *Typhlobelus* has been presumed on the basis of anecdotal locality information and the extremely reduced morphologies of these species.”

“[...] species of *Pygidianops* and *Typhlobelus* are entirely disassociated from leaf litter, and occupy exclusively clear loose sand.”

## **Climate/Range**

From Froese and Pauly (2018):

“Tropical”

## **Distribution Outside the United States**

Native

From Froese and Pauly (2018):

“South America: lower Rio Orinoco in Venezuela.”

Introduced

*Typhlobelus lundbergi* has not been reported as introduced or established outside of its native range.

## **Means of Introduction Outside the United States**

*Typhlobelus lundbergi* has not been reported as introduced or established outside of its native range.

## **Short description**

From Schaefer et al. (2005):

“Rostrum narrowing gradually from base to tip; margin of rostrum continuous with anterior margin of maxillary barbel; anterior and posterior nares present, separate; four or five branchiostegal rays; one pair of pleural ribs”

“Opercle lacking odontodes; four branchiostegal rays”

“Eye spots absent; 70 vertebrae; dorsal and ventral fin folds on caudal peduncle equally deep”

From de Pinna and Zuanon (2013):

“The unobstructed lateral surface of the swimbladder may be functionally related to the presence of the adjacent tympanic recess. Also related to the auditory region is a previously unrecorded interesting characteristic for *T. lundbergi*. The species has a large and well-ossified tubular bone immediately posterior to the swimbladder capsule opening. It is uncertain whether this represents a modified lateral-line ossicle or a modified and displaced supracleithrum. Regardless of its exact homology, it is a condition not present in any other species of *Typhlobelus* or remaining glanapterygines. If confirmed in additional specimens, it is a particularly conspicuous autapomorphy for *T. lundbergi*.”

## **Biology**

Information was not found regarding the biology of *Typhlobelus lundbergi*.

## **Human uses**

No information available.

## **Diseases**

No information on parasites or pathogens of *Typhlobelus lundbergi* was found. **No OIE-reportable diseases (OIE 2019) 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, so no impacts of introductions are known.

## 4 Global Distribution

---



**Figure 1.** The general location of Orinoco River Basin in Venezuela. Map from Google (2018). *T. lundbergi* range description given by Froese and Pauly (2018).

A single georeferenced location was given in Schaefer et al. (2005). That location was used to select source points for the climate match.

## 5 Distribution within the United States

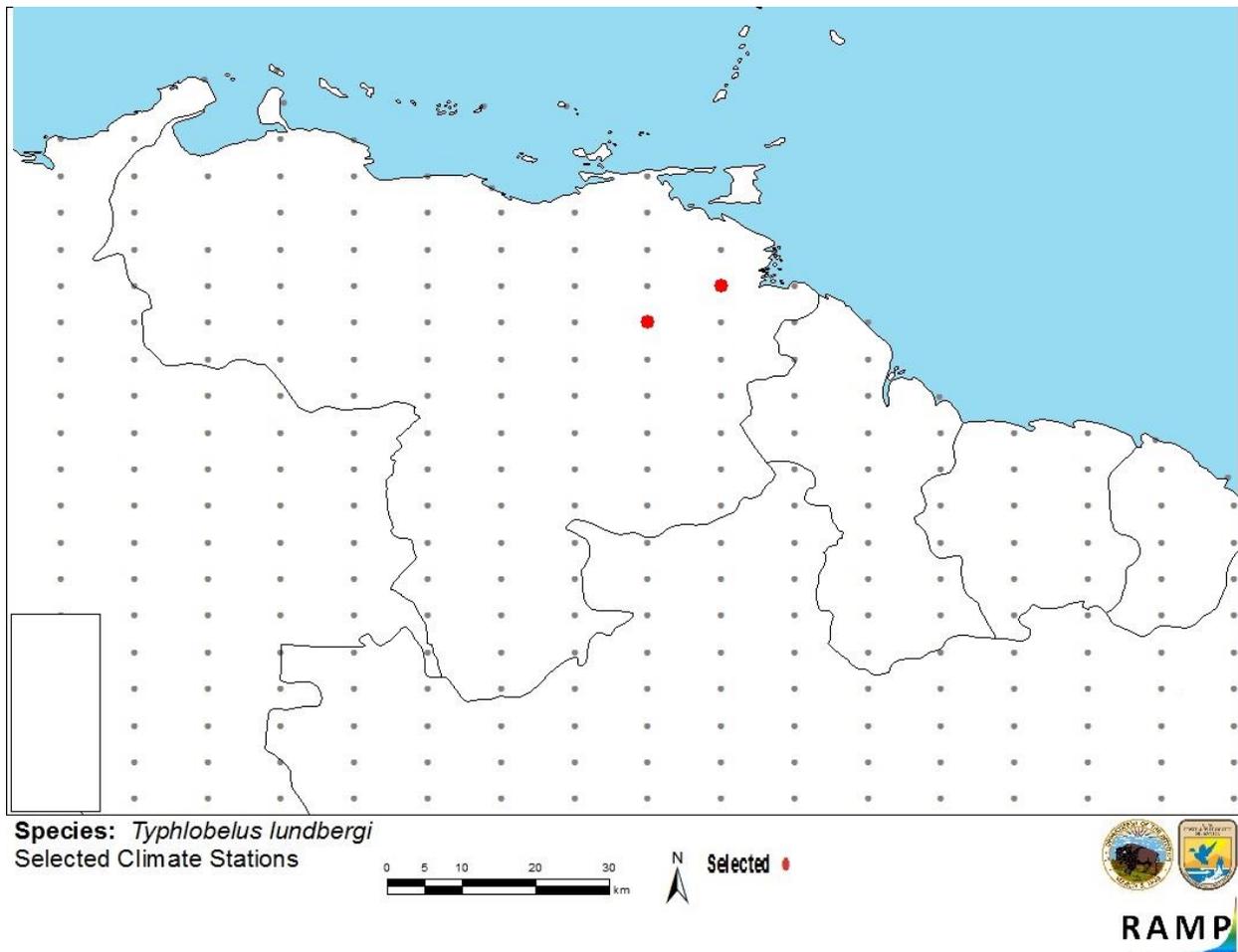
---

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

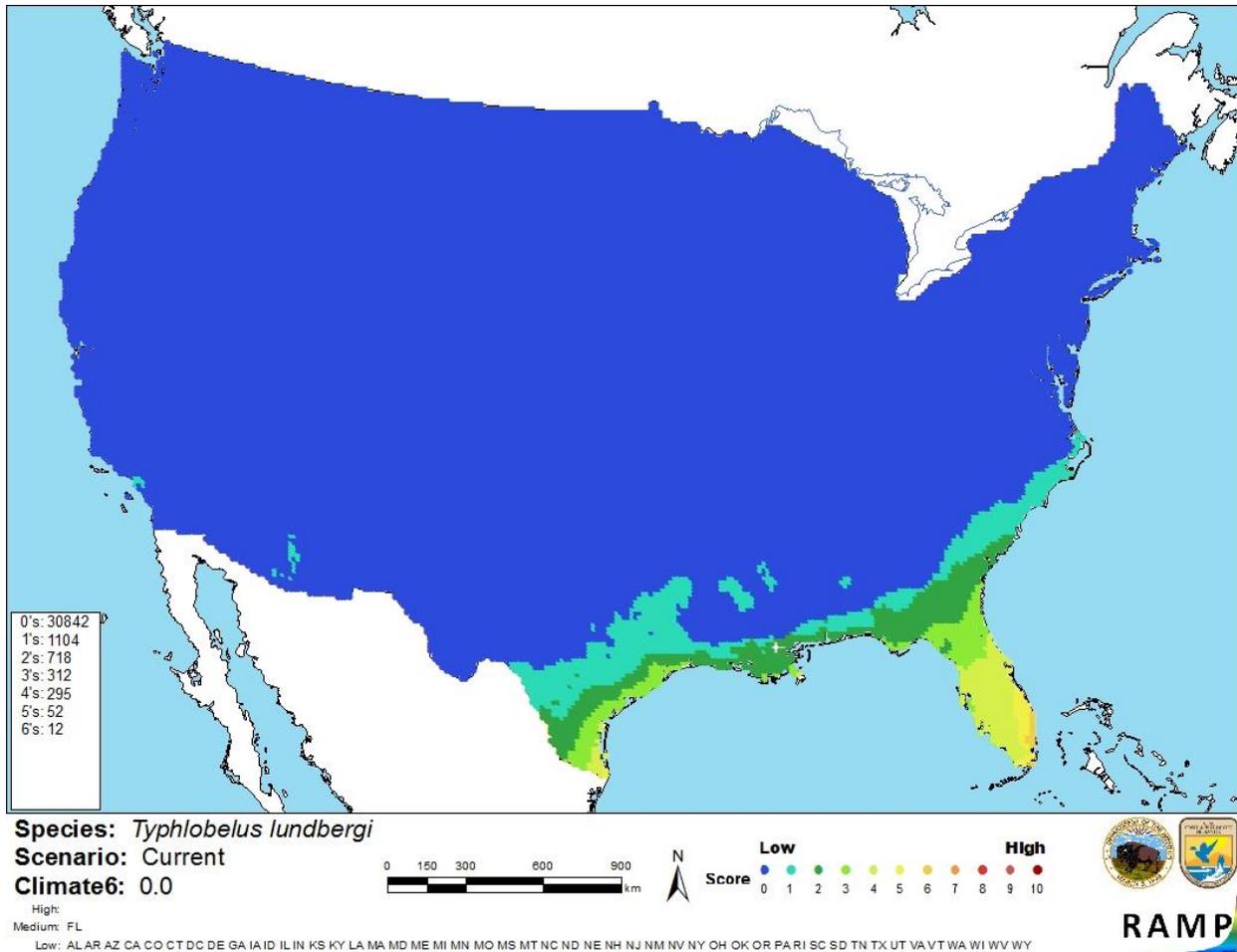
## 6 Climate Matching

### Summary of Climate Matching Analysis

The climate match (Sanders et al. 2014; 16 climate variables; Euclidean Distance) was low throughout most of the contiguous United States, but had medium climate matches in coastal areas of south Texas and a very small patch in southeast Louisiana, as well as the entire southern half of Florida. The Climate 6 score for the contiguous United States was 0.000, low (scores between 0.000 and 0.005, inclusive, are classified as low). The State of Florida had a medium individual Climate 6 score and all other States had low scores.



**Figure 2.** RAMP (Sanders et al. 2014) source map showing weather stations selected as source locations (red; Venezuela) and non-source locations (gray) for *Typhlobelus lundbergi* climate matching. Source locations from Schaefer et al. (2005). 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. 2014) climate matches for *Typhlobelus lundbergi* in the contiguous United States based on source locations reported by Schaefer et al. (2005). 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
$\geq 0.103$	High

## 7 Certainty of Assessment

There is very little information available for the biology and ecology of *Typhlobelus lundbergi*. There are no records showing introductions of this species outside of its native range. Due to lack of information, the certainty of this assessment is low.

## 8 Risk Assessment

---

### Summary of Risk to the Contiguous United States

*Typhlobelus lundbergi* is native to South America and was found in the lower Rio Orinoco in Venezuela. Fish belonging to the genus *Typhlobelus* are psammophilic (loose sand) in preference for habitat. Due to its recent discovery in 2005, there is no information or documentation on introductions outside of its native range; therefore, the history of invasiveness is uncertain. *T. lundbergi* has a low overall climate match within the contiguous United States. There was an area of medium climate match in coastal areas of south Texas and southeast Louisiana, as well as the southern half of Florida. The 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**
- **Remarks/Important additional information: No additional remarks**
- **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 J. Zuanon. 2013. The genus *Typhlobelus*: monophyly and taxonomy, with description of a new species with a unique Pseudotympanic structure (Teleostei: Trichomycteridae). *The American Society of Ichthyologists and Herpetologists* 2013(3):441–453.

Eschmeyer, W. N., R. Fricke, and R. van der Laan, editors. 2016. *Catalog of fishes: genera, species, references*. Available: <http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatget.asp?spid=68890>. (December 2016).

Froese, R., and D. Pauly, editors. 2018. *Typhlobelus lundbergi* Schaefer, Provenzano, de, Pinna & Baskin, 2005. FishBase. Available: <http://www.fishbase.org/summary/62632>. (June 2018).

Google. 2018. Google Maps. Google, Inc.

ITIS (Integrated Taxonomic Information System). 2016. *Typhlobelus* (Myers, 1944). Integrated Taxonomic Information System, Reston, Virginia. Available: [https://www.itis.gov/servlet/SingleRpt/SingleRpt?search\\_topic=TSN&search\\_value=639086#null](https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=639086#null). (December 2016).

OIE (World Organisation for Animal Health). 2019. OIE-listed diseases, infections and infestations in force in 2019. Available: <http://www.oie.int/animal-health-in-the-world/oie-listed-diseases-2019/>. (August 2019).

Sanders, S., C. Castiglione, and M. Hoff. 2014. Risk Assessment Mapping Program: RAMP, version 2.81. U.S. Fish and Wildlife Service.

Schaefer, S. A., F. Provenzano, M. de Pinna, J. N. Baskin. 2005. New and Noteworthy Venezuelan Glanapterygine Catfishes (Siluriformes, Trichomycteridae), with Discussion of their Biogeography and Psammophily. *American Museum Novitates*. 2496: 1–27.

## **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.**

No references in this section.