

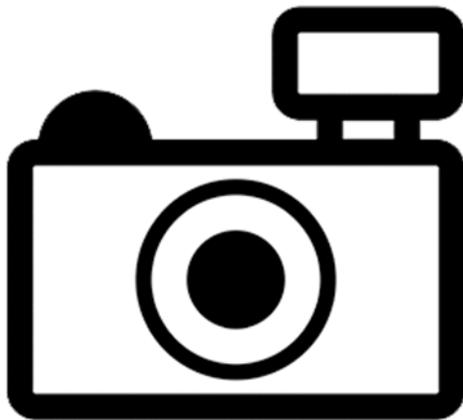
Blackfin Goodeid (*Goodea atripinnis*; a fish)

Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, July 2017

Revised, February 2018

Web Version, 8/16/2018



No Photo Available

1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2017):

“Central America: Lerma River basin and Ayuquila River, Guanajuato, Mexico.”

Status in the United States

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

From Imperial Tropicals (2015):

“Black-Finned Goodeid (*Goodea atripinnis*)

IMPERIAL TROPICALS

[...] Out of stock

Up for sale are Black Finned Goodeids. They can grow upwards of 6" making them much larger than other livebearers.

Goodeids are a unique livebearer from Mexico.

~~\$15.99~~ \$ 10.99”

Means of Introductions in the United States

Goodea atripinnis has not been reported as introduced or established in the United States.

Remarks

From Goodeid Working Group (2017):

“Common Name: Blackfin Goodea”

“Mexican Name: Tiro”

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing

From ITIS (2018):

“Kingdom Animalia
Subkingdom Bilateria
Infrakingdom Deuterostomia
Phylum Chordata
Subphylum Vertebrata
Infraphylum Gnathostomata
Superclass Actinopterygii
Class Teleostei
Superorder Acanthopterygii
Order Cyprinodontiformes
Suborder Cyprinodontoidei
Family Goodeidae
Subfamily Goodeinae
Genus *Goodea*
Species *Goodea atripinnis* (Jordan, 1880)”

“Current Standing: Valid”

Size, Weight, and Age Range

From Froese and Pauly (2017):

“Max length : 13.0 cm TL male/unsexed [Miranda et al. 2009]”

Environment

From Froese and Pauly (2017):

“Freshwater; demersal; pH range: 7.5 - 8.0; [...]”

“[...] 18°C - 24°C [Baensch et al. 1991; assumed to represent recommended aquarium water temperatures]”

From Goodeid Working Group (2017):

“In contrast to all other Goodeids, *Goodea atripinnis* is high tolerant of highly degraded environments [...]

“The habitats are very versatile, including lakes, ponds, streams, springs and outflows. It goes down to 1.7m, but prefers usually depths of less than 0.5m. The water may be clear, turbid or muddy and currents are none to sometimes moderately strong. Different substrates like mud, clay, sand, gravel and rocks occur.”

Climate/Range

From Froese and Pauly (2017):

“Subtropical [...]

Distribution Outside the United States

From Froese and Pauly (2017):

“Central America: Lerma River basin and Ayuquila River, Guanajuato, Mexico.”

From Garcia-Vasquez et al. (2018):

“*Goodea atripinnis* Jordan, 1880 has a broad range of habitats and is the most widespread species of the endemic goodeid fishes, which inhabit the central highlands of Mexico.”

Introduced

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

Means of Introduction Outside the United States

Goodea atripinnis has not been documented outside its native range.

Short Description

From Jordan (1880):

“Body oblong, considerably compressed, [...] back nearly straight, little elevated, caudal peduncle deep. Depth of body 4-4 ¼ in length. Head short, broad, depressed, triangular and rather pointed, when viewed from the side.”

“Mouth quite small, anterior oblique, the lower jaw projecting. [...] Head 4 in length. Eye moderate, directed partly downwards, 3 ½ in head, rather longer than snout and little more than half the width of the very broad interorbital space.”

Biology

From the Goodeid Working Group (2017):

“[...] young occur from the end of January to the midth of July, indicating a long reproductive period. On the other hand, Mendoza (1962) found young in Pátzcuaro lake from June to August, indicating just one brood per year for at least this lake. This is a prolific fish; a very large female (149mm SL) contained 167 (!) embryos ready for birth. These fish generally swim from midwater to bottom, feeding during the day on aufwuchs growing there. It also forms aggregates of stationary fish just off the bottom (Kingston 1979).”

From Nelson (1975):

“The courtship behavior of *G. atripinnis* can be considered in three stages: Orientation, Display and Copulation.”

Human Uses

From Froese and Pauly (2017):

“Fisheries: commercial; aquarium: commercial”

From Goodeid Working Group (2007):

“*Goodea atripinnis* belongs to [a group of] few Goodeids used for human consumption.”

Diseases

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

From Garcia-Vasquez et al. (2018):

“[...] we describe three new species of *Gyrodactylus* collected from *G. atripinnis*, which were characterised morphologically (sclerites of the attachment apparatus) and molecularly (sequences of the internal transcribed spacer region of the rDNA): *Gyrodactylus iunuri* n. sp., *Gyrodactylus katamba* n. sp. and *Gyrodactylus tepari* n. sp. These new species were collected in three different states in the Mexican Highlands: Guanajuato, Jalisco and Quer,taro.”

Threat to Humans

From Froese and Pauly (2017):

“Harmless”

3 Impacts of Introductions

No information available. No introductions of this species have been reported.

4 Global Distribution



Figure 1. Known global distribution of *Goodea atripinnis*, reported from Mexico. Map from GBIF Secretariat (2017).

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 for the Southwest United States and the state of Florida. The majority of the contiguous United States was a low climate match. 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 *Goodea atripinnis* was 0.023, a medium match.

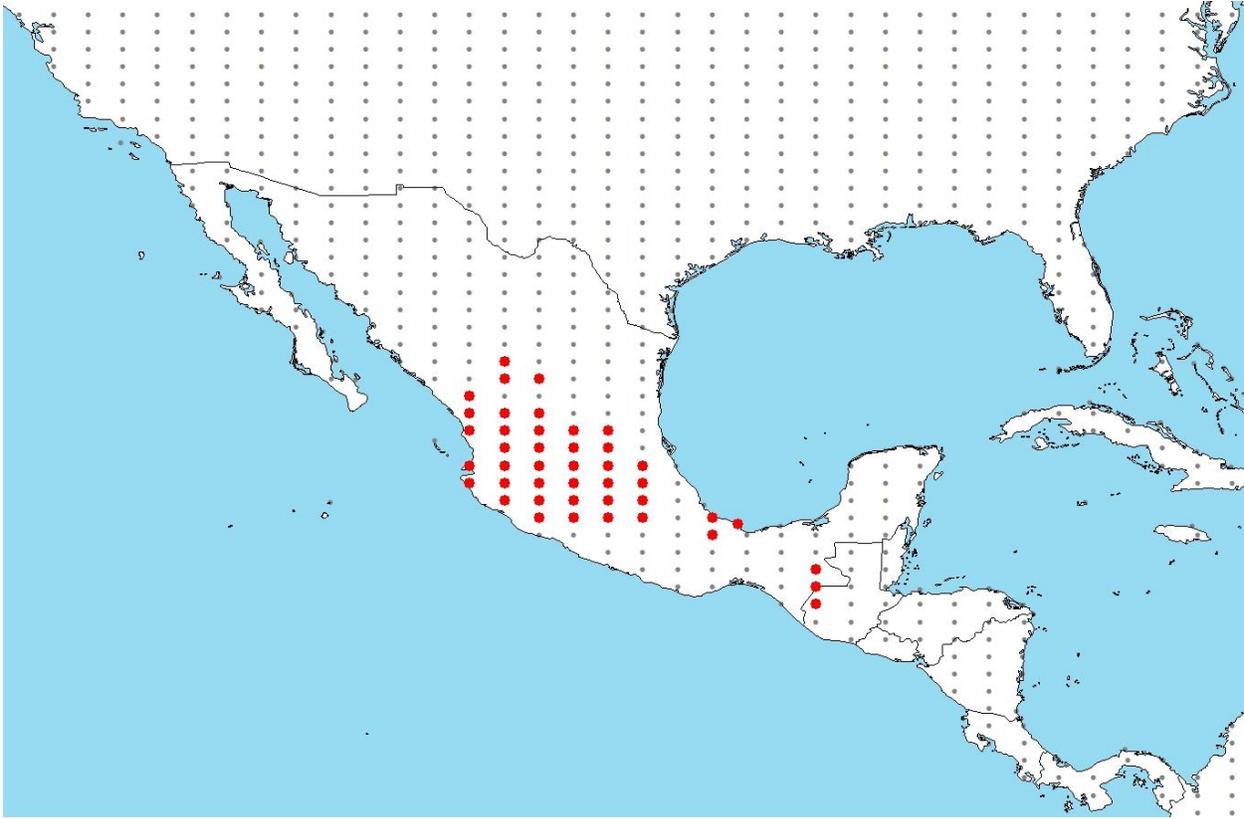


Figure 2. RAMP (Sanders et al. 2014) source map showing weather stations selected as source locations (red; Mexico, Guatemala) and non-source locations (gray) for *Goodea atrinpinnis* climate matching. Source locations from GBIF Secretariat (2017).

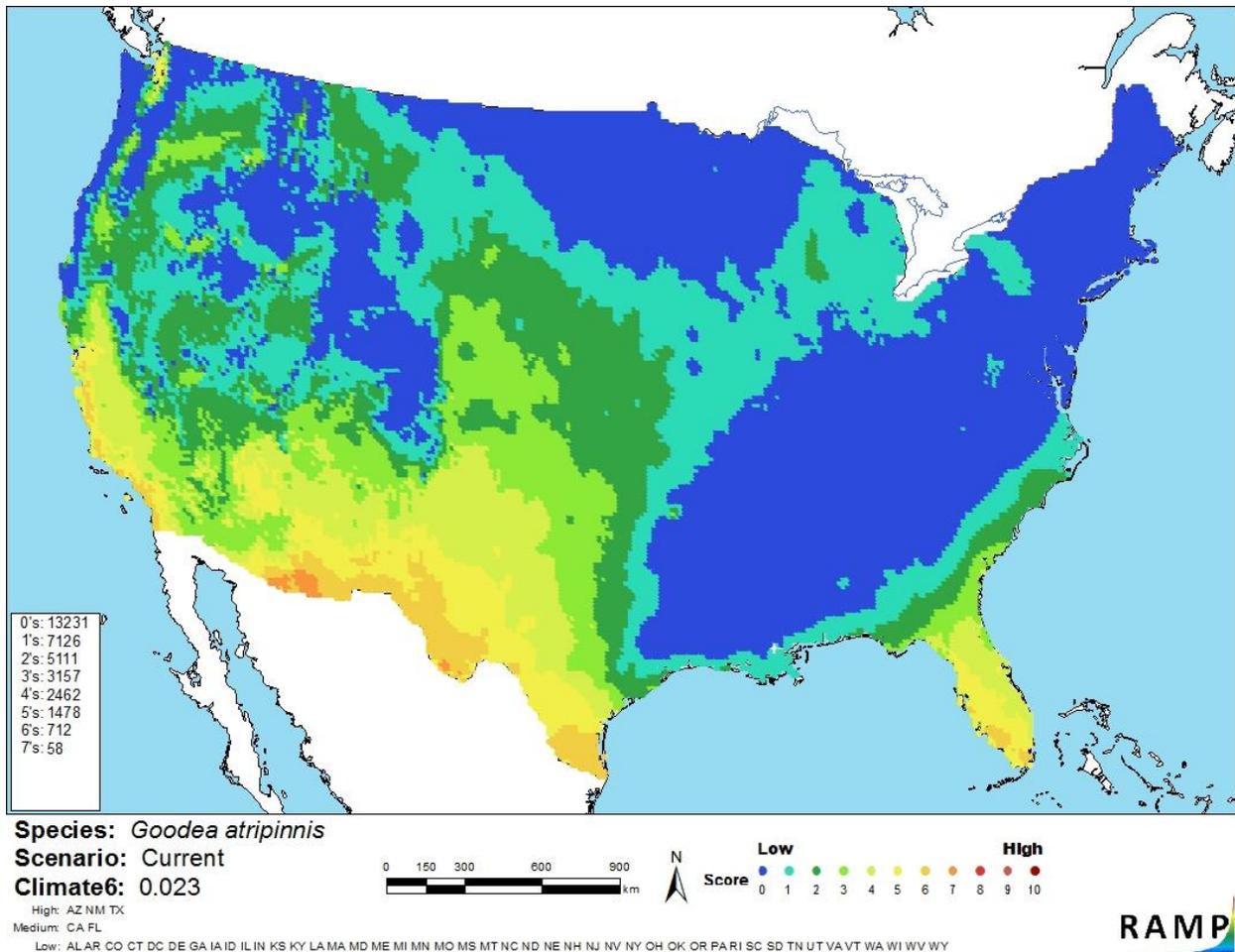


Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *Goodea atripinnis* in the contiguous United States based on source locations reported by GBIF Secretariat (2017). 0= Lowest match, 10=Highest match. Counts of climate match scores are tabulated on the left.

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
$0.000 \leq X < 0.005$	Low
$0.005 < X < 0.103$	Medium
≥ 0.103	High

7 Certainty of Assessment

Limited information on the biology and ecology of *Goodea atripinnis* is available in scholarly articles and found within hobbyist websites. However, little information is available on the potential impacts of *Goodea atripinnis*. Certainty of this assessment is low.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Blackfin goodeid (*Goodea atripinnis*) is a livebearer native to central Mexico and is available in the aquarium trade. A medium climate match within the contiguous United States for the southwest region and the state of Florida indicates survival in these regions may occur if introductions were to take place. No information is present on impacts outside its native range. Therefore, the potential impacts of *Goodea atripinnis* in the contiguous United States are unknown. The overall risk of this species 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.

Froese, R., and D. Pauly, editors. 2017. *Goodea atripinnis* Jordan, 1880. FishBase. Available: <http://www.fishbase.org/summary/Goodea-atripinnis.html>. (July 2017).

Garcia-Vasquez, A., I. Guzman-Valdivieso, U. Razo-Mendivil, and M. Rubio-Godoy. 2018. Three new species of Gyrodactylus von Nordmann, 1832 described from *Goodea atripinnis* (Pisces: Goodeidae), an endemic freshwater fish from the central highlands of Mexico. *Parasitology Research* 117(1):139-150.

GBIF Secretariat. 2017. GBIF backbone taxonomy: *Goodea atripinnis* Jordan, 1880. Global Biodiversity Information Facility, Copenhagen. Available: <http://www.gbif.org/species/5203388>. (July 2017).

Goodeid Working Group. 2017. *Goodea atripinnis*. Available: <http://www.goodeidworkinggroup.com/goodea-atripinnis>. (July 2017.)

Imperial Tropicals. 2015. Black-finned goodeid (*Goodea atripinnis*). Imperial Tropicals, Lakeland, Florida. Available: <https://imperialtropicals.com/products/black-finned-goodeid-goodea-atripinnis>. (August 2018).

ITIS (Integrated Taxonomic Information System). 2018. *Goodea atripinnis*, Jordan, 1880. Integrated Taxonomic Information System, Reston, Virginia. Available: https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=646992#null. (February 2018).

Jordan, D. S. 1880. Notes on a collection of fishes obtained in the streams of Guanajuato and in Chapala Lake, Mexico, by Prof. A. Duges. Proceedings of the United States National Museum 2(94):298-301.

Nelson, G. 1975. Anatomy of the male urogenital organs of *Goodea atripinnis* and *Characodon lateralis* (Atheriniformes: Cyprinodontoidei), and *G. atripinnis* courtship. Copeia 1975(3):475-482.

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

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. 1991. Aquarien atlas, volume 3. Mergus, Verlag für Natur-und Heimtierkunde, Melle, Germany.

Kingston, D. 1979. Behavioral and morphological studies of the goodeid genus *Ilyodon*, and comparative behavior of fishes of the family Goodeidae. Doctoral thesis. University of Michigan, Ann Arbor.

Mendoza, G. 1962. The reproductive cycles of three viviparous teleosts, *Alloophorus robustus*, *Goodea luitpoldi* and *Neophorus diaze*. Biology Bulletin 123(2):351-365.

Miranda, R., D. Galicia, S. Monks and G. Pulido-Flores. 2009. Weight-length relationships of some native freshwater fishes of Hidalgo State, Mexico. Journal of Applied Ichthyology 25:620-621.