

Chiapa de Corzo Cichlid (*Chiapaheros grammodes*)

Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, August 2011
Revised, October 2012 and September 2018
Web Version, 12/19/2018



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1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2018):

“Central America: Atlantic slope, in the Grijalva River basin from the Grande de Chiapa drainage in Mexico to Lagartero River in Guatemala.”

Status in the United States

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

From That Fish Place (2018):

“Sieve Cichlid - *Cichlasoma grammodes* - Small Juvenile [...] \$11.99”

Means of Introductions in the United States

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

Remarks

Both the current valid name for this species, *Chiapaheros grammodes*, and the commonly-used synonym *Cichlasoma grammodes* were used when researching in preparation of this report.

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 Perciformes
Suborder Labroidei
Family Cichlidae
Genus *Cichlasoma*
Species *Cichlasoma grammodes* Taylor and Miller, 1980”

From Fricke et al. (2018):

“Current status: Valid as *Chiapaheros grammodes* (Taylor & Miller 1980). Cichlidae: Cichlinae.”

Size, Weight, and Age Range

From Froese and Pauly (2018):

“Max length : 20.3 cm SL male/unsexed; [Kullander 2003]”

Environment

From Froese and Pauly (2018):

“Freshwater; benthopelagic; pH range: 7.0 - 8.0; dH range: 10 - 33. [...] 24°C - 30°C [Conkel 1993]”

From Taylor and Miller (1980):

“*Cichlasoma hartwegi* is sympatric with *C. grammodes* in the Rio Grande de Chiapa and its tributaries. Most collections were made in the dry season when the water was clear (slightly murky in the main river) and temperatures varied from about 20 to 29° C. Current varied from swift to weak or none; vegetation was usually absent, with only sparse green algae in shallow water; the bottom comprised rocks, sand, silt and mud. Adults were taken in water depths up to 3 m, young in shallow water; stream widths varied from about 3 to nearly 60 m.”

Climate/Range

From Froese and Pauly (2018):

“Tropical [...]”

Distribution Outside the United States

Native

From Froese and Pauly (2018):

“Central America: Atlantic slope, in the Grijalva River basin from the Grande de Chiapa drainage in Mexico to Lagartero River in Guatemala.”

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 Gómez-González et al. (2018):

“*Chiapaheros grammodes* has a series of thin brownish lines across interorbital region, snout and cheeks (the main character to diagnose this monotypic genus); [...]. Additionally, *C. grammodes* differs notably from the genus *Vieja* by the large head and enlarged snout, a large mouth with prognathous lower jaw.”

From Taylor and Miller (1980):

“Study of the 4 syntypes (80-140 mm SL,) shows that *C. mento* differs markedly from *C. grammodes* as follows (measurements are in thousandths of SL, first for *mento* followed by those of 19 *grammodes* of the same size range): head length 356-363 vs. 377-414; snout length 114-136 vs. 137-173; mandible length 142-150 vs. 170-211 ; caudal peduncle length 156-168 vs. 133-157; total gill rakers 10 vs. 11-13; and no lines visible on the anterior part of the head, as diagnostic of *grammodes*.”

Biology

From Froese and Pauly (2018):

“Inhabits lower river to middle river valleys as well as lake. Prefers moderate flowing streams and large rivers with strong currents which are clear, clean and high in oxygen content. Can be found over rocks, sand, silt, or mud. Occurs in most all the habitats available within its small territorial boundaries.”

“Parents care for eggs and larvae. Larvae feed on the thickened skin of the parents. Pairs may stay together for a long time [Stawikowski and Werner 1998].”

From Pease et al. (2012):

“Species with relatively long snouts, larger gapes and relatively short gut lengths [...] including *B. belizanus*, *C. grammodes* and *T. lentiginosus*, tend to feed on macroinvertebrates or other fishes.”

Human Uses

This species is in trade in the U.S.

From That Fish Place (2018):

“Sieve Cichlid - *Cichlasoma grammodes* - Small Juvenile [...] \$11.99”

Diseases

From Suárez-Morales et al. (2010):

“The cyclopoid copepod *Neoergasilus japonicus* (Harada, 1930) is recorded from three endangered or threatened fish species from southeast Mexico: the tailbar cichlid *Vieja hartwegi* (Taylor and Miller, 1980); the Angostura cichlid *V. breidohri* (Werner and Stawikowski, 1987); and the sieve cichlid *C. grammodes* (Taylor and Miller, 1980). This ectoparasitic copepod is considered, together with most other members of *Neoergasilus*, an Eastern Asian form. *N. japonicus* is one of the most widespread parasitic Asian copepods, as it has rapidly invaded Europe and North America, including Mexico.”

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

Threat to Humans

From Froese and Pauly (2018):

“Harmless”

3 Impacts of Introductions

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

4 Global Distribution

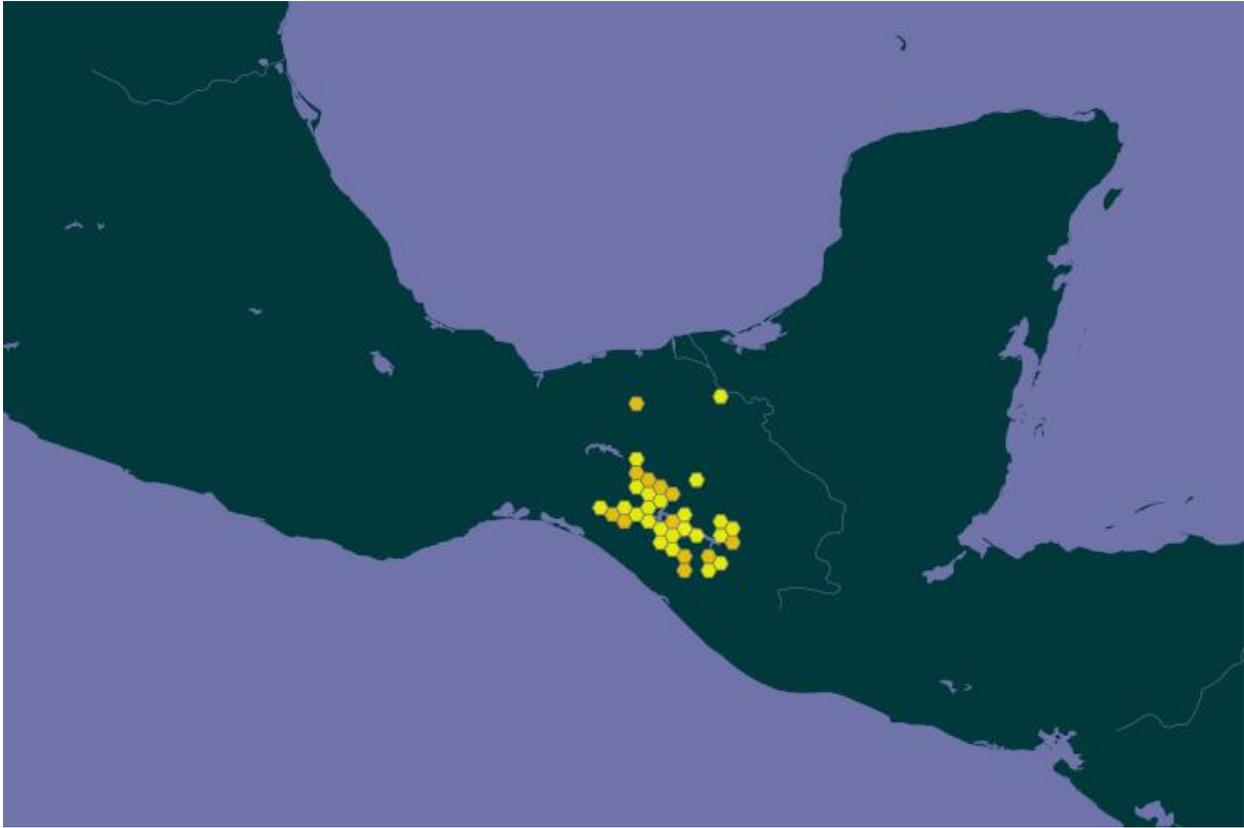


Figure 1. Known global distribution of *Chiapaheros grammodes*, reported from southern Mexico and western Guatemala. Map from GBIF Secretariat (2018).

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 6 score (Sanders et al. 2014; 16 climate variables; Euclidean distance) for the contiguous United States was 0.0, which is a low climate match. A Climate 6 score of 0.005 or less indicates a low climate match. There was a medium match in southern peninsular Florida and the southern tip of Texas, the remainder of the contiguous United States had a low match. The climate score was low in every state in the contiguous United States except for Florida, where it was medium.

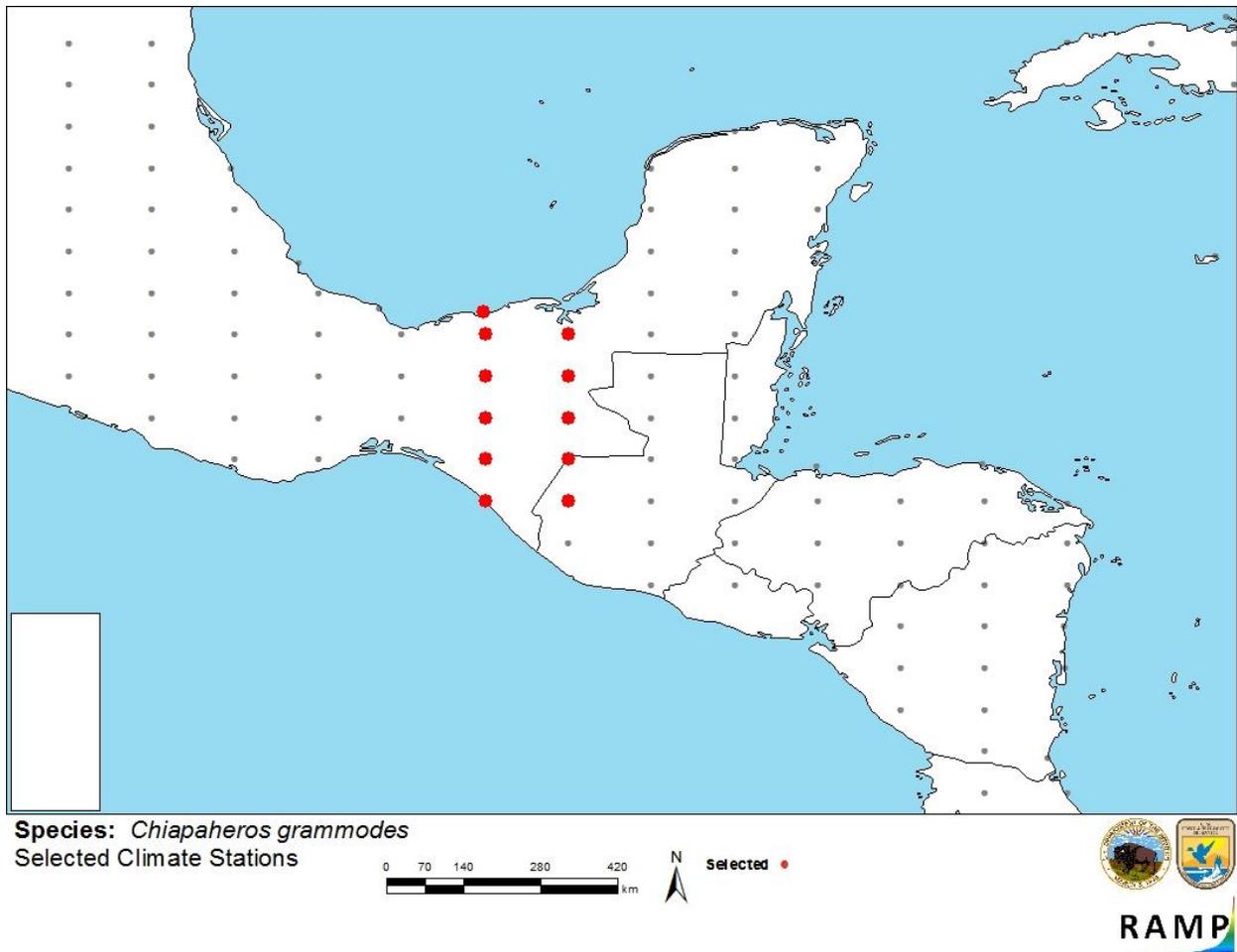


Figure 2. RAMP (Sanders et al. 2014) source map showing weather stations selected as source locations (red; Mexico, Guatemala) and non-source locations (gray) for *Chiapaheros grammodes* climate matching. Source locations from GBIF Secretariat (2018).

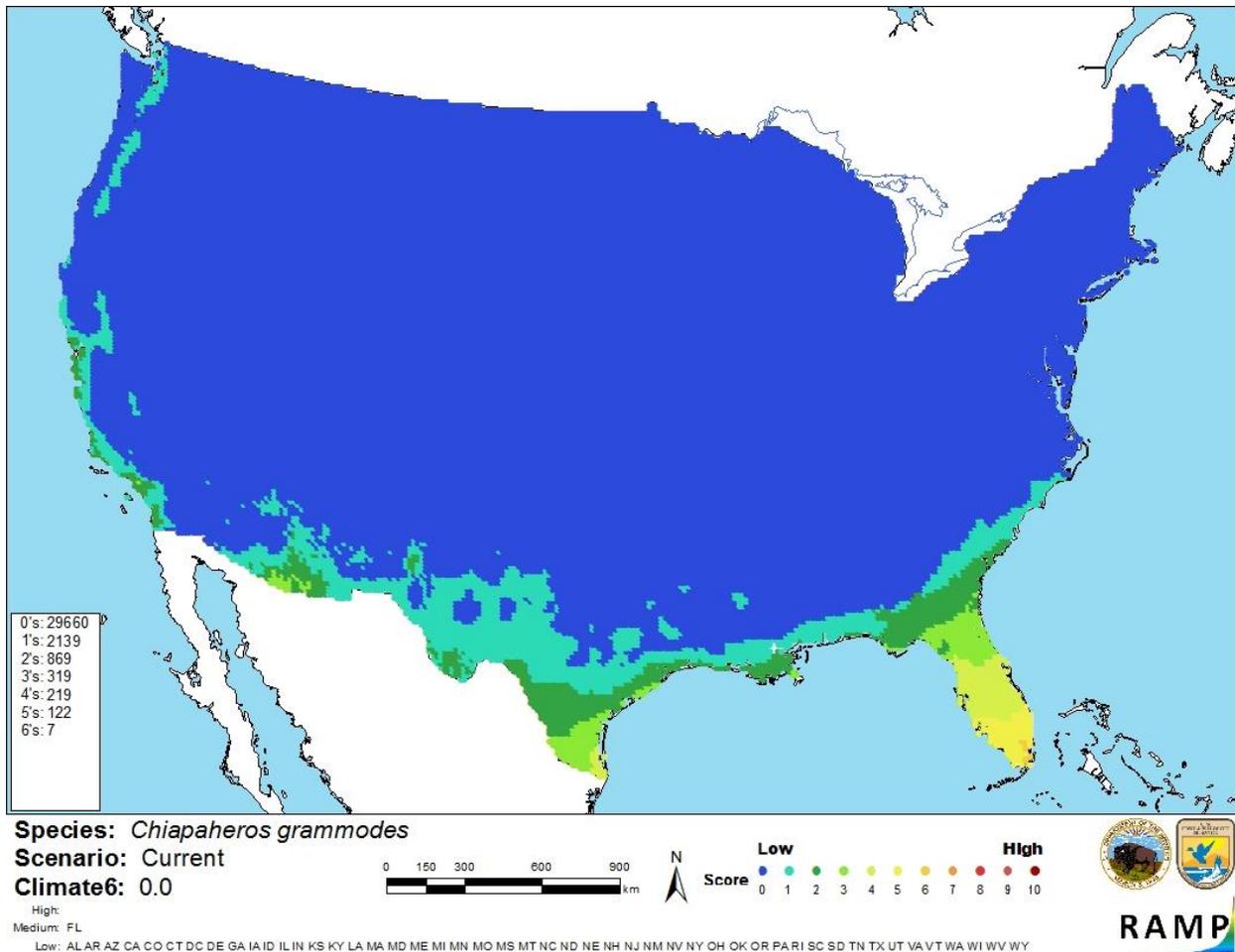


Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *Chiapaheros grammodes* in the contiguous United States based on source locations reported by GBIF Secretariat (2018). 0=Lowest match, 10=Highest match.

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

7 Certainty of Assessment

The biology and distribution of *Chiapaheros grammodes* have been adequately documented. Because this species has not been reported as introduced or established outside of its range, information from which to base an assessment of the invasive potential of this species is lacking. Because of this, the certainty of this assessment is low.

8 Risk Assessment

Summary of Risk to the Contiguous United States

Chiapaheros grammodes, the Chiapa de Corzo Cichlid, is a freshwater fish species native to Guatemala and southern Mexico. This species has never been reported as introduced or established outside of its native range, although it is in trade in the United States as an aquarium fish. History of invasiveness is uncertain. *C. grammodes* has a low climate match with the contiguous United States overall and a medium climate match with southern peninsula Florida and the southern tip of Texas. Certainty of this assessment is low because there is no information about introductions of this species on which to base an assessment of the risk it poses to the United States. The overall risk assessment category 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.

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That Fish Place. 2018. Sieve Cichlid - *Cichlasoma grammodes* - Small Juvenile. Available: <https://www.thatpetplace.com/Cichlasoma-grammodes-sieve-cichlid-208644>. (September 2018).

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.

Conkel, D. 1993. *Cichlids of North and Central America*. T. F. H. Publications, Neptune City, New Jersey.

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Stawikowski, R., and U. Werner. 1998. *Die Buntbarsche Amerikas*, volume 1. Verlag Eugen Ulmer, Stuttgart, Germany.