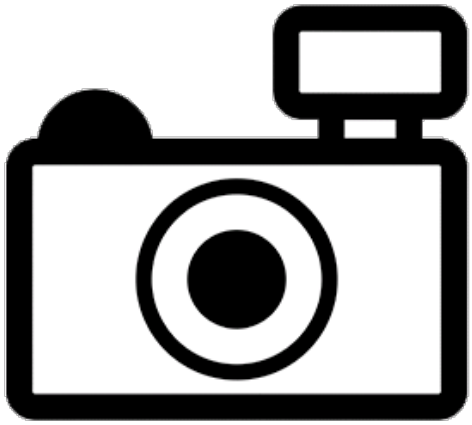
Synodontis acanthoperca (a catfish, no common name)

Ecological Risk Screening Summary

U.S. Fish & Wildlife Service, December 2012
Revised, December 2018, January 2019
Web Version, 9/17/2021

Organism Type: Fish
Overall Risk Assessment Category: Uncertain



1 Native Range and Status in the United States

Native Range

From Froese and Pauly (2018):

"Africa: endemic to the upper Ogowe River in Gabon [Friel and Vigoliotta 2005; Fermon et al. 2007]."

From Moelants (2010):

"A Lower Guinea endemic, known from the type locality the Rapids of Massoukou (Masuku) on the Ogowe River and a second population in the rapids on the Louétsi River near Bongolo, in Gabon."

Status in the United States
No records of *Synodontis acanthoperca* in the wild or in trade in the United States were found.

Means of Introductions in the United States
No records of *Synodontis acanthoperca* in the wild in the United States were found.

Remarks
No additional remarks.

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing
According to Fricke et al. (2018), *Synodontis acanthoperca* Friel and Vigliotta, 2006 is the current valid and original name of this species.

From Bailly (2017):

"Biota > Animalia (Kingdom) > Chordata (Phylum) > Vertebrata (Subphylum) > Gnathostomata (Superclass) > […] Actinopterygii (Class) > Siluriformes (Order) > Mochokidae (Family) > Mochokinae (Subfamily) > *Synodontis* (Genus) > *Synodontis acanthoperca* (Species)"

Size, Weight, and Age Range
From Froese and Pauly (2018):

"Max length : 4.6 cm SL male/unsexed; [Friel and Vigliotta 2006]"

Environment
From Froese and Pauly (2018):

"Freshwater; benthopelagic."

Climate
From Froese and Pauly (2018):

"Temperate"

Distribution Outside the United States
Native
From Froese and Pauly (2018):

"Africa: endemic to the upper Ogowe River in Gabon [Friel and Vigoliotta 2005; Fermon et al. 2007]."

From Moelants (2010):

"A Lower Guinea endemic, known from the type locality the Rapids of Massoukou (Masuku) on the Ogowe River and a second population in the rapids on the Louétsi River near Bongolo, in Gabon."

Introduced

No records of introductions of *Synodontis acanthoperca* were found.

Means of Introduction Outside the United States

No records of introductions of *Synodontis acanthoperca* were found.

Short Description

From Froese and Pauly (2018):

"Dorsal spines (total): 2; Dorsal soft rays (total): 7; Anal spines: 3; Anal soft rays: 8; Vertebrae: 35. Diagnosis: relatively small species, with a maximum standard length below 50 mm [Friel and Vigliotta 2006]. Distinctive color pattern including a pair of dark patches on the caudal fin, one patch in the middle of each lobe; posterior margin of opercle with a bony spine (small in females, elongate in males) [Friel and Vigliotta 2006; Fermon et al. 2007]. Dorsal spine only serrated along posterior edge [Fermon et al. 2007]."

From Friel and Vigliotta (2006):

"Body compressed. Predorsal profile gently convex; postdorsal body sloping gently ventrally. Preanal profile horizontal. Anus and urogenital opening located at vertical though origin of adipose fin. Skin on body smooth without any enlarged tubercles, lateral line complete and midlateral along side of body."

"Head depressed and broad, rounded when viewed laterally with a rounded snout margin when viewed dorsally. Gill opening restricted to lateral aspect of head from level of the base of pectoral spine dorsally to level of the ventral margin of the eye. Gill membranes broadly united to, and attached across the isthmus, supported by 6 branchiostegal rays. Bony elements of skull roof lack any superficial ornamentation. Skin covering skull roof with numerous small unculiferous tubercles. Occipital-nuchal shield large and terminating posteriorly with two rounded processes on each side of dorsal fin."

"Each opercle with a single posterolaterally directed spine variously developed depending on gender and size of specimen. In male specimens >30 mm SL, the spine is hypertrophied and ranges from 2.0–2.5 mm long […]. In adult female specimens it measures <1 mm long, but is usually visible protruding from the skin surface […]. In immature specimens of both sexes <30 mm SL the opercular spine may not be distinguishable beneath the overlying skin."

"Barbels in three pairs. Maxillary barbel long, slender and unbranched, extending to just beyond base of last pectoral-fin ray. No basal membrane present on maxillary barbel. Mandibular barbels

originate immediately posterior to lower lip in a transverse row; with primary branches; secondary branches absent. Inner mandibular barbels origin close to midline, extending to just beyond anterior margin of pectoral girdle; with 2–5 paired branches proximally and 2–4 longer unpaired branches distally. Outer mandibular barbels originate lateral to inner mandibular barbels, extending to posterior margin of pectoral girdle; with 4–6 elongate unpaired branches."

"Eyes large and ovoid, horizontal axis longest; approximately two thirds of interorbital distance. Orbit with a free margin. Anterior nostrils slightly closer together than posterior nostrils. Anterior nostrils tubular with a short raised rim. Posterior nostrils with elevated flaps along anterior margin."

"Mouth inferior and crescent shaped; lips plicate. All teeth unicuspid. Premaxillae tooth plate wide with broad ventral shelf. Primary, secondary and tertiary premaxillary teeth discrete. Primary teeth 15–17 in a single row. Secondary teeth 37–49 in irregular rows. Tertiary teeth 16–18 in a single row. Mandibular teeth 14–16, in a single row; concentrated at midline; strongly recurved."

"Dorsal fin located at anterior third of body. Dorsal fin with spinelet, spine and 7 rays; fin membrane not adnate with body. Dorsal-fin spine long and slightly curved; smooth along anterior margin; small serrations on posterior margin. Adipose fin well developed; margin convex. Caudal fin forked, count i,7,8,i. Procurrent caudal-fin rays symmetrical and extend only slightly anterior to fin base. Anal-fin base located ventral to adipose fin; margin convex. Anal-fin count iii, 8. Pelvic-fin origin at vertical ventral to posterior end of dorsal fin base. Pelvic-fin margins convex, tip of appressed fin just reaches anal-fin origin. Pelvic-fin count i,5–6. Pectoral-fin count I,7–8. Pectoral fin with slightly curved, stout spine bearing large serrations. Anterior spine margin with 8–17 distally directed serrations along entire length of spine. Posterior spine margin with 8–13 proximally directed serrations along the entire length."

"Cleithral process elongated, narrow with a distinct lateral ridge, terminating in a sharp point. Surface concave dorsal to its lateral ridge, without bony ornamentation on its surface. Slit-like axillary pore present just ventral to cleithral process."

Biology

No information on the biology of *Synodontis acanthoperca* was found.

Human Uses

No information on human uses of *Synodontis acanthoperca* was found.

Diseases

No information on diseases of *Synodontis acanthoperca* was found. **No records of OIE-reportable diseases (OIE 2021) were found for *S. acanthoperca.***

Threat to Humans

From Froese and Pauly (2018):

"Harmless"

3 Impacts of Introductions

No records of introductions of *Synodontis acanthoperca* were found.

4 History of Invasiveness

No records of introductions of *Synodontis acanthoperca* were found, so the history of invasiveness is classified as No Known Nonnative Population.

5 Global Distribution

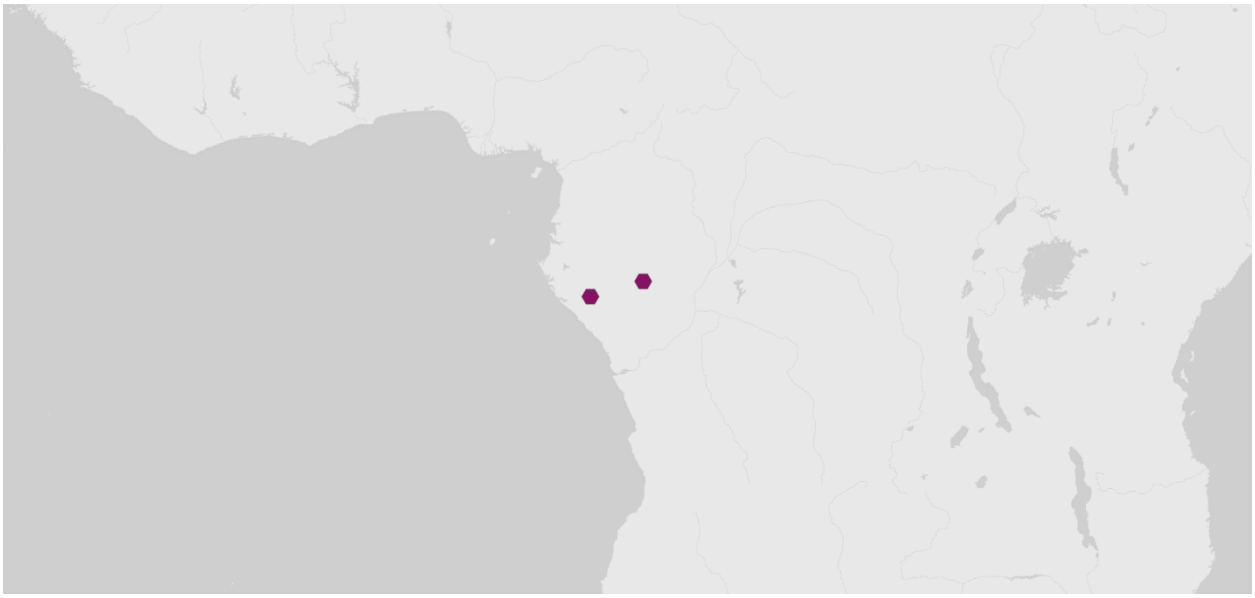


Figure 1. Known global distribution of *Synodontis acanthoperca.* Locations are in Gabon. Map from GBIF Secretariat (2018).

6 Distribution Within the United States

No records of *Synodontis acanthoperca* in the wild in the United States were found.

7 Climate Matching

Summary of Climate Matching Analysis

The climate match for *Synodontis acanthoperca* was low for the majority of the United States with a small patch of medium match in southern Florida. There were no areas of high match. The overall Climate 6 score (Sanders et al. 2018; 16 climate variables; Euclidean distance) for the contiguous United States was 0.000, low (scores between 0.000 and 0.005, inclusive, are classified as low). All States had low individual Climate 6 scores.

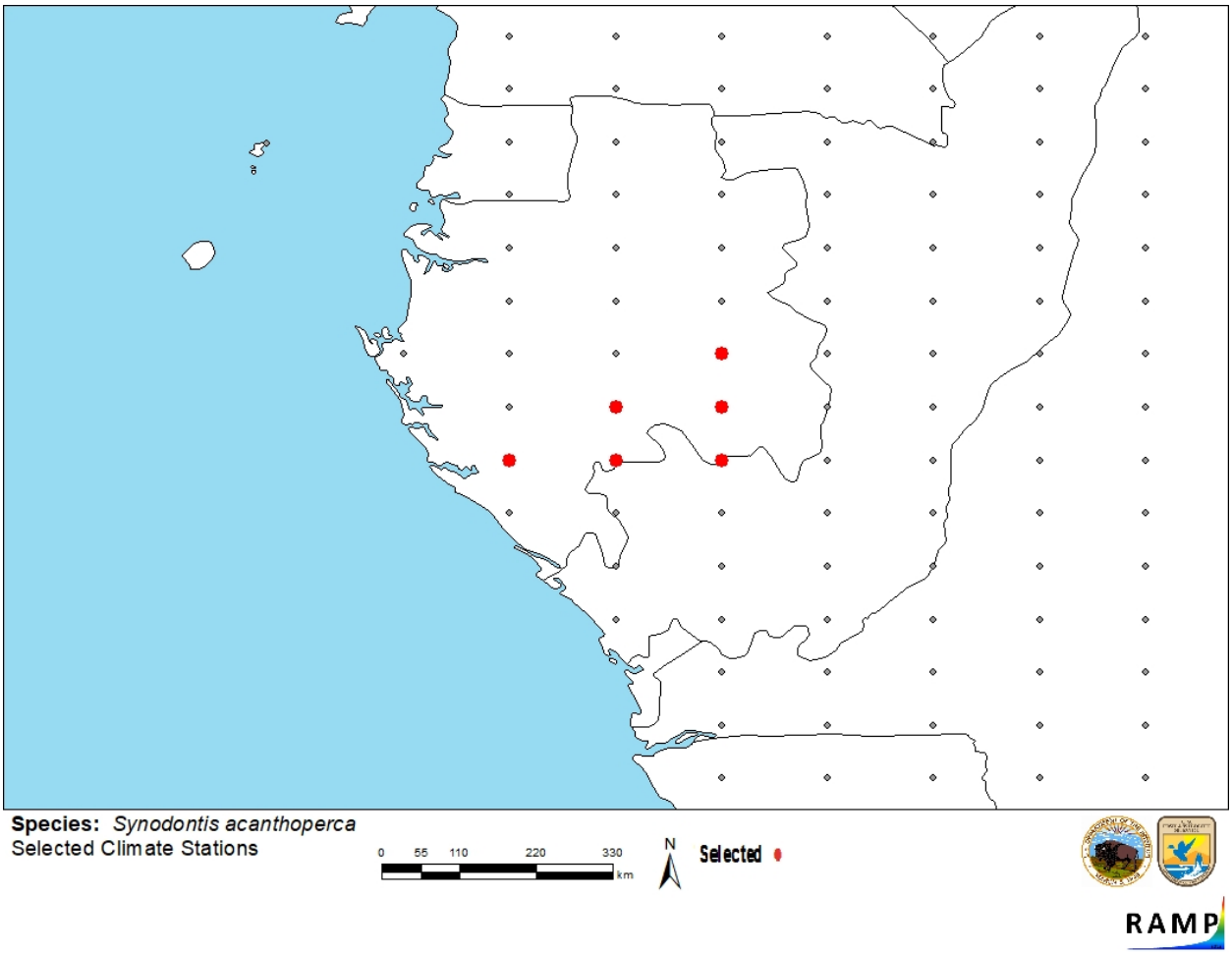


Figure 2. RAMP (Sanders et al. 2018) source map showing weather stations in western Africa selected as source locations (red; Gabon) and non-source locations (gray) for *Synodontis acanthoperca* climate matching. Source locations from GBIF Secretariat (2018). Selected source locations are within 100 km of one or more species occurrences, and do not necessarily represent the locations of occurrences themselves.

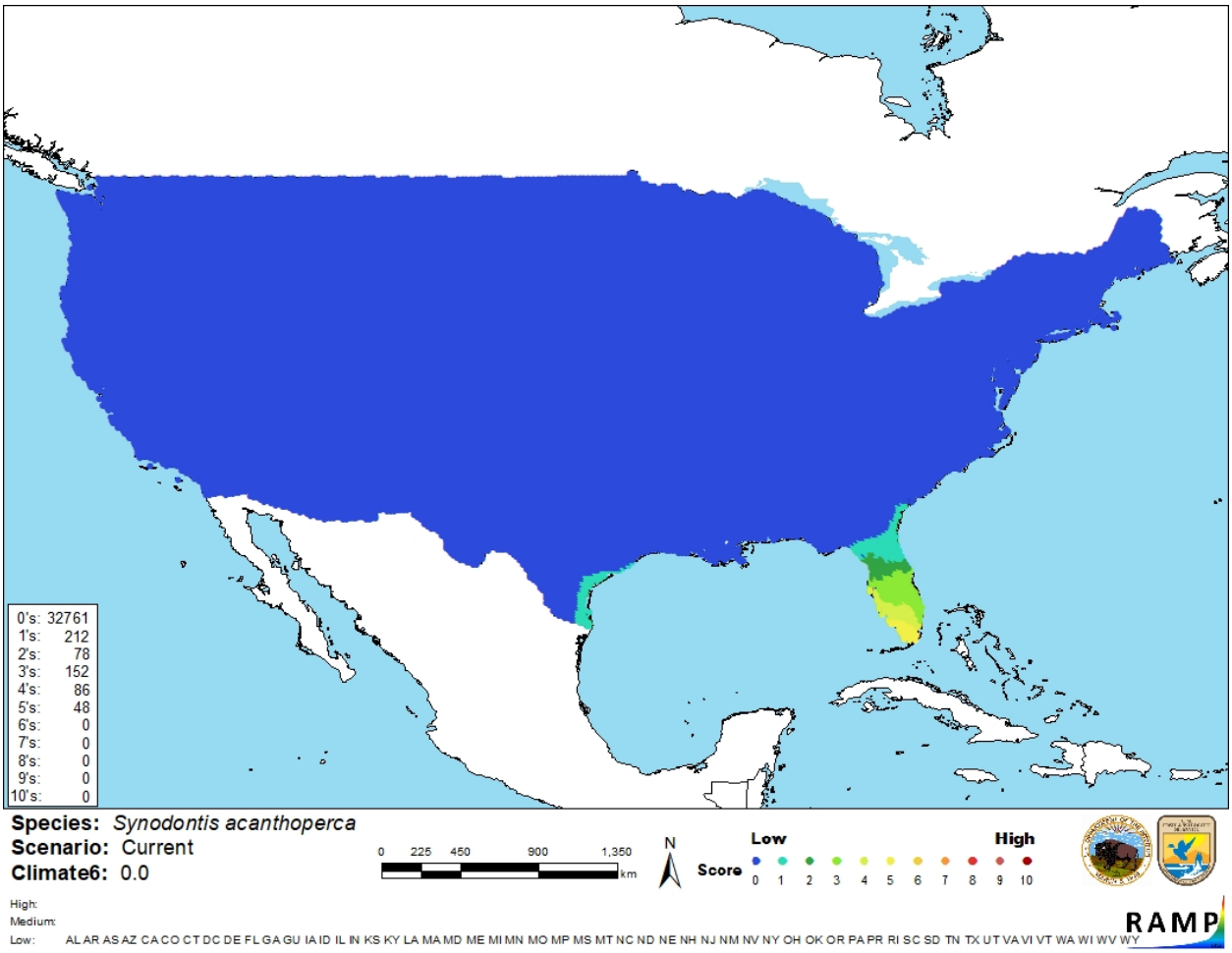


Figure 3. Map of RAMP (Sanders et al. 2018) climate matches for *Synodontis acanthoperca* in the contiguous United States based on source locations reported from GBIF Secretariat (2018). Counts of climate match scores are tabulated on the left. 0/Blue = Lowest match, 10/Red = Highest match.

The High, Medium, and Low Climate match Categories are based on the following table:

Climate 6: (Count of target points with climate scores 6-10)/ (Count of all target points)	Overall Climate Match Category
0.000≤X≤0.005	Low
0.005<X<0.103	Medium
≥0.103	High

8 Certainty of Assessment

The certainty of assessment for *Synodontis acanthoperca* is low. There is minimal information available for this species. No information on introductions of *Synodontis acanthoperca* was found.

9 Risk Assessment

Summary of Risk to the Contiguous United States

Synodontis acanthoperca is an African catfish native to Gabon. Minimal information was available for this species. The history of invasiveness is classified as No Known Nonnative Population. It has not been reported as introduced or established anywhere in the world. The overall climate match for the contiguous United States was low. There was a small area of medium match in southern Florida. The certainty of assessment is low due to the lack of information. The overall risk assessment category is uncertain.

Assessment Elements

- **History of Invasiveness (Sec. 3): No Known Nonnative Population**
- **Overall Climate Match (Sec. 6): Low**
- **Certainty of Assessment (Sec. 7): Low**
- **Remarks/Important additional information:** No additional information.
- **Overall Risk Assessment Category: Uncertain**

10 Literature Cited

Note: The following references were accessed for this ERSS. References cited within quoted text but not accessed are included below in Section 11.

Bailly N. 2017. *Synodontis acanthoperca.* In World Register of Marine Species. Available: http://www.marinespecies.org/aphia.php?p=taxdetails&id=1009027 (December 2018).

Fricke R, Eschmeyer WN, van der Laan R, editors. 2018. Catalog of fishes: genera, species, references. California Academy of Science. Available: http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp (December 2018).

Friel JP, Vigliotta TR. 2006. *Synodontis acanthoperca*, a new species from the Ogôoué River system, Gabon with comments on spiny ornamentation and sexual dimorphism in mochokid catfishes (Siluriformes: Mochokidae). Zootaxa 1125:45–56.

Froese R, Pauly D, editors. 2018. *Synodontis acanthoperca* Friel & Vigliotta, 2006. FishBase. Available: http://www.fishbase.org/summary/Synodontis-acanthoperca.html (December 2018).

GBIF Secretariat. 2018. GBIF backbone taxonomy: *Synodontis acanthoperca* (Friel & Vigliotta, 2006). Copenhagen: Global Biodiversity Information Facility. Available: https://www.gbif.org/species/2344301 (December 2018).

Moelants T. 2010. *Synodontis acanthoperca*. The IUCN Red List of Threatened Species 2010: e.T182163A7820334. Available: https://www.iucnredlist.org/species/182163/7820334 (December 2018).

[OIE] World Organisation for Animal Health. 2021. Animal diseases. Available: https://www.oie.int/en/what-we-do/animal-health-and-welfare/animal-diseases/ (September 2021).

Sanders S, Castiglione C, Hoff M. 2018. Risk Assessment Mapping Program: RAMP. Version 3.1. U.S. Fish and Wildlife Service.

11 Literature Cited in Quoted Material

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.

Fermon Y, Friel J, Ng HH, De Weirdt D. 2007. Mochokidae. Pages 698–752 in Stiassny MLJ, Teugels GG, Hopkins CD, editors. The fresh and brackish water fishes of Lower Guinea, West-Central Africa. Volume I. Collection Faune et Flore tropicales 42. Paris: Institut de Recherche pour le Développement and Muséum National d'Histoire Naturelle; Tervuren, Belgium: Musée Royal de l'Afrique Centrale.