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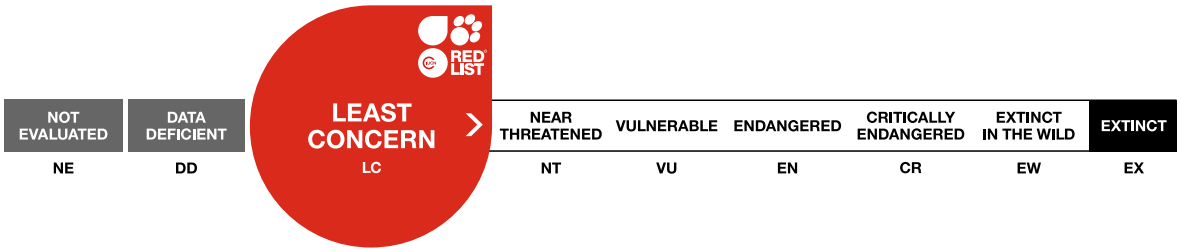
Geotria macrostoma, Lamprea

Assessment by: Cussac, V.



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Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Chordata	Cephalaspidomorphi	Petromyzontiformes	Petromyzontidae

Scientific Name: *Geotria macrostoma* (Burmeister, 1868)

Synonym(s):

- *Petromyzon macrostomus* Burmeister, 1868

Common Name(s):

- Spanish; Castilian: Lamprea

Taxonomic Source(s):

Fricke, R., Eschmeyer, W.N. and Van der Laan, R. (eds). 2020. Eschmeyer's Catalog of Fishes: genera, species, references. Updated 02 June 2020. Available at: http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp.

Taxonomic Notes:

The Argentinian Pouched Lamprey, classified as *Petromyzon macrostomus* Burmeister, 1868 was first described in 1867 in De La Plata River, in Buenos Aires, Argentina, and subsequently recorded in several rivers from Patagonia. It was considered a junior synonym of *Geotria australis* Gray, 1851. The taxonomic status of *Geotria* from across the "species" range was evaluated using both molecular analysis and examination of morphological characteristics by Riva-Rossi *et al.* (2020) and *Geotria macrostoma* (Burmeister, 1868) is now considered a valid species.

Assessment Information

Red List Category & Criteria: Least Concern ver 3.1

Year Published: 2022

Date Assessed: May 6, 2022

Justification:

This species has a widespread distribution in Uruguay, Argentina and Chile. Therefore, it is assessed as Least Concern. However, it should be noted that the population is considered to be in decline, with some parts of the distribution now considered Possibly Extinct after the construction of hydroelectric dams.

Geographic Range

Range Description:

This species occurs in De la Plata River, Uruguay; de la Plata River to Tierra del Fuego, Argentina; and Malvinas (Falkland) Islands, South Georgia. There is an isolated record of a spawning adult collected at the San Juan River (53˚S), at the Chilean side of the Magellan Strait (Riva-Rossi *et al.* 2020).

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Country Occurrence:

Native, Extant (resident): Argentina (Buenos Aires, Chubut, Entre Ríos, Neuquén, Rio Negro, Santa Cruz, Santa Fé, Tierra del Fuego); Chile (Magellanes); Falkland Islands (Malvinas); Uruguay

Distribution Map

Legend

- EXTANT (RESIDENT)
- POSSIBLY EXTINCT

Compiled by:

IUCN (International Union for Conservation of Nature) 2020

The boundaries and names shown and the designations used on this map do not imply any official endorsement, acceptance or opinion by IUCN.

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Population

The population trend is considered to be decreasing.

Current Population Trend: Decreasing

Habitat and Ecology (see Appendix for additional information)

The life cycle of anadromous lampreys, those that migrate to the ocean to feed and return to freshwater to breed, begins in freshwater with a larval phase; these larval lampreys are filter-feeders and live buried in the silt and sand within rivers. At the end of the larval period (3 to 4 years), the larvae metamorphose and become downstream-migrating juveniles and migrate to the ocean where they feed parasitically on fishes blood and body tissues. When the young adults are fully grown at sea, they cease feeding and return to freshwater as sub-adults (3 to 4 years), where they become sexually mature, spawn and then die (Riva-Rossi *et al*. 2020).

Systems: Freshwater (=Inland waters), Marine

Use and Trade (see Appendix for additional information)

There is no use or trade information for this species.

Threats (see Appendix for additional information)

In two of the largest basins of Patagonia, the Negro and Chubut, hydroelectric dams, channelization of waterways, water abstraction, and land use modification through agriculture may have caused possible adverse impacts on the distribution, abundance and the population status of *G. macrostoma*. In the Santa Cruz River, one of the last large free flowing rivers of Patagonia, the Pouched Lamprey remains unimpacted by human activities but the imminent construction of two high-head hydroelectric dams on the main river channel (70 meter high Condor Cliff Dam and 40 meter high La Barrancosa Dam) could severely impact the lamprey population distribution and abundance. A similar pattern could have happened in the upper Negro River where no lampreys have been recorded after dam construction, being albeit present downstream of the dams (Riva Rossi *et al.* 2020).

Conservation Actions (see Appendix for additional information)

Capture is forbidden in national parks of Argentina.

Credits

Assessor(s): Cussac, V.

Reviewer(s): Lyons, T.J.

Partner(s) and Institution(s): ABQ BioPark

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Bibliography

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Riva-Rossi, C., Barrasso, D.A., Baker, C., Quiroga, A.P., Baigun, C. and Basso, N.G. 2020. Revalidation of the Argentinian pouched lamprey *Geotria macrostoma* (Burmeister, 1868) with molecular and morphological evidence. *PLoS ONE* 15(5): e0233792.

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External Resources

For Supplementary Material, and for Images and External Links to Additional Information, please see the Red List website.

Appendix

Habitats

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Habitat	Season	Suitability	Major Importance?
5. Wetlands (inland) -> 5.1. Wetlands (inland) - Permanent Rivers/Streams/Creeks (includes waterfalls)	Resident	Suitable	Yes
5. Wetlands (inland) -> 5.5. Wetlands (inland) - Permanent Freshwater Lakes (over 8ha)	Resident	Suitable	Yes

Threats

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Threat	Timing	Scope	Severity	Impact Score
2. Agriculture & aquaculture -> 2.1. Annual & perennial non-timber crops -> 2.1.4. Scale Unknown/Unrecorded	Ongoing	-	-	Low impact: 3
3. Energy production & mining -> 3.3. Renewable energy	Ongoing	-	-	Low impact: 3
7. Natural system modifications -> 7.2. Dams & water management/use -> 7.2.10. Large dams	Ongoing	Majority (50-90%)	Rapid declines	Medium impact: 7
	Stresses:	1. Ecosystem stresses -> 1.3. Indirect ecosystem effects 2. Species Stresses -> 2.2. Species disturbance 2. Species Stresses -> 2.3. Indirect species effects -> 2.3.7. Reduced reproductive success		

Conservation Actions in Place

(http://www.iucnredlist.org/technical-documents/classification-schemes)

Conservation Action in Place
In-place research and monitoring
Action Recovery Plan: No
Systematic monitoring scheme: No
In-place land/water protection
Conservation sites identified: No
Area based regional management plan: No
Occurs in at least one protected area: Yes
Invasive species control or prevention: No

Conservation Action in Place
In-place species management
Harvest management plan: No
Successfully reintroduced or introduced benignly: No
Subject to ex-situ conservation: No
In-place education
Subject to recent education and awareness programmes: No
Included in international legislation: No
Subject to any international management / trade controls: No

Additional Data Fields

Distribution
Continuing decline in area of occupancy (AOO): Yes
Estimated extent of occurrence (EOO) (km²): 4244786
Continuing decline in extent of occurrence (EOO): Yes
Continuing decline in number of locations: Yes
Lower elevation limit (m): 0
Upper elevation limit (m): 700
Habitats and Ecology
Movement patterns: Full Migrant
Congregatory: Congregatory (and dispersive)

The IUCN Red List Partnership

The IUCN Red List of Threatened Species™ is produced and managed by the IUCN Global Species Programme, the IUCN Species Survival Commission (SSC) and The IUCN Red List Partnership.

The IUCN Red List Partners are: ABQ BioPark; Arizona State University; BirdLife International; Botanic Gardens Conservation International; Conservation International; Missouri Botanical Garden; NatureServe; Re:wild; Royal Botanic Gardens, Kew; Sapienza University of Rome; Texas A&M University; and Zoological Society of London.