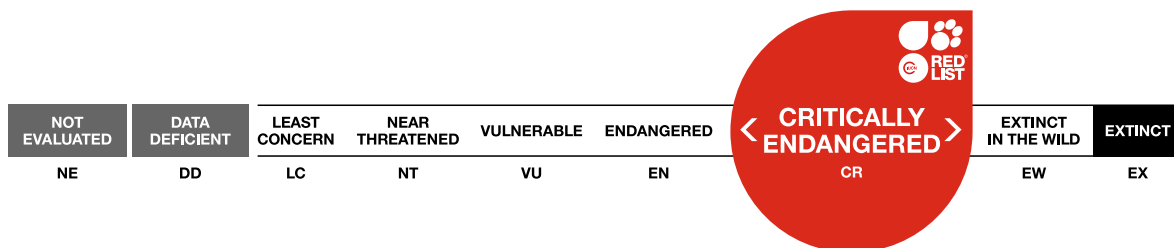


Austrolebias toba

Assessment by: Alonso, F.



View on www.iucnredlist.org

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Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Chordata	Actinopterygii	Cyprinodontiformes	Rivulidae

Scientific Name: *Austrolebias toba* Calviño, 2006

Taxonomic Source(s):

Fricke, R., Eschmeyer, W.N. and Van der Laan, R. (eds). 2020. Eschmeyer's Catalog of Fishes: genera, species, references. Updated 04 May 2020. Available at: <http://researcharchive.calacademy.org/research/ichthyology/catalog/fishcatmain.asp>.

Assessment Information

Red List Category & Criteria: Critically Endangered (Possibly Extinct) B2ab(iii) [ver 3.1](#)

Year Published: 2022

Date Assessed: December 17, 2020

Justification:

Austrolebias toba is considered as Critically Endangered (Possibly Extinct). This species has not been recorded again since its description in 2005 despite several efforts and intensive samplings in the region where it is known. If still extant it has a maximum area of occupancy (AOO) of 4 km². Seasonal killifish are very vulnerable to agricultural expansion and many subpopulations disappear as those seasonal ponds are commonly dried or filled with soil for agriculture. Also, herbicides and pesticides and other chemicals from near crops end up in those ponds that are in the lower portions of the terrain resulting in severe negative impacts of these activities in this group of fish. If still extant there would be at most one threat-based location. There is an inferred continuing decline in habitat.

Date last seen: 2005

Geographic Range

Range Description:

This species is only known from its type locality "temporary ponds on Route 11, north to Río de Oro, Chaco province" (Calviño 2005), but there is no certainty on the exact locality it was collected from and it has never been collected again after its original description despite several samplings in the area.

This species may also be distributed in Paraguay, north to Asuncion, as several pictures from aquarium enthusiasts have been taken in that area of specimens that present a colour pattern compatible with the description and pictures of *A. toba* from the original description (F. Alonso pers. obs. 2020) but no official records are available for this species in Paraguay. Future scientific samplings in that area could extend the known distribution of this species.

Country Occurrence:

Native, Possibly Extinct: Argentina (Chaco)

Native, Presence Uncertain: Paraguay

Population

No data on the population trend of this species are available. The only known locality of this species seems to not exist anymore although pictures from the aquarium trade indicate it could be present in Paraguay.

Current Population Trend: Decreasing

Habitat and Ecology (see Appendix for additional information)

This species is only known from its type locality and has not been collected again since 2005 despite numerous attempts in the area. This region is severely impacted by intensive agriculture and many seasonal environments have disappeared due to canalization and deforestation.

Systems: Freshwater (=Inland waters)

Use and Trade

This species is an object of the aquarium trade and wildlife trafficking.

Threats (see Appendix for additional information)

Seasonal killifish are very vulnerable to agricultural expansion and many subpopulations disappear as those seasonal ponds are commonly dried or filled with soil for agriculture. Also, herbicides and pesticides and other chemicals from near crops end up in those ponds that are in the lower portions of the terrain resulting in severe negative impacts of these activities in this group of fish. This species has not been collected again since its description and may be extinct from this area.

Conservation Actions (see Appendix for additional information)

No conservation actions are directed towards this species.

Credits

Assessor(s): Alonso, F.

Reviewer(s): Serra, W.S.

Bibliography

Calviño, P. 2005. *Austrolebias toba* (Cyprinodontiformes: Rivulidae), una especie nueva de pez anual de la Argentina. *Revista del Museo Argentino de Ciencias Naturales nueva serie* 7(2): 183-190.

IUCN. 2022. The IUCN Red List of Threatened Species. Version 2022-2. Available at: www.iucnredlist.org. (Accessed: 08 December 2022).

Citation

Alonso, F. 2022. *Austrolebias toba*. *The IUCN Red List of Threatened Species* 2022: e.T176514970A176515205. <https://dx.doi.org/10.2305/IUCN.UK.2022-2.RLTS.T176514970A176515205.en>

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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) -> 5.8. Wetlands (inland) - Seasonal/Intermittent Freshwater Marshes/Pools (under 8ha)	-	Suitable	-

Use and Trade

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

End Use	Local	National	International
13. Pets/display animals, horticulture	No	Yes	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 -> 2.1.2. Small-holder farming	Ongoing	-	-	Low impact: 3
2. Agriculture & aquaculture -> 2.1. Annual & perennial non-timber crops -> 2.1.3. Agro-industry farming	Ongoing	-	-	Low impact: 3
2. Agriculture & aquaculture -> 2.3. Livestock farming & ranching -> 2.3.2. Small-holder grazing, ranching or farming	Ongoing	-	-	Low impact: 3
2. Agriculture & aquaculture -> 2.3. Livestock farming & ranching -> 2.3.3. Agro-industry grazing, ranching or farming	Ongoing	-	-	Low impact: 3
4. Transportation & service corridors -> 4.1. Roads & railroads	Ongoing	-	-	Low impact: 3
4. Transportation & service corridors -> 4.2. Utility & service lines	Ongoing	-	-	Low impact: 3
5. Biological resource use -> 5.4. Fishing & harvesting aquatic resources -> 5.4.1. Intentional use: (subsistence/small scale) [harvest]	Ongoing	-	-	Low impact: 3
7. Natural system modifications -> 7.1. Fire & fire suppression -> 7.1.1. Increase in fire frequency/intensity	Ongoing	-	-	Low impact: 3

7. Natural system modifications -> 7.2. Dams & water management/use -> 7.2.3. Abstraction of surface water (agricultural use)	Ongoing	-	-	Low impact: 3
7. Natural system modifications -> 7.2. Dams & water management/use -> 7.2.7. Abstraction of ground water (agricultural use)	Ongoing	-	-	Low impact: 3
7. Natural system modifications -> 7.3. Other ecosystem modifications	Ongoing	-	-	Low impact: 3
9. Pollution -> 9.3. Agricultural & forestry effluents -> 9.3.1. Nutrient loads	Ongoing	-	-	Low impact: 3
9. Pollution -> 9.3. Agricultural & forestry effluents -> 9.3.2. Soil erosion, sedimentation	Ongoing	-	-	Low impact: 3
9. Pollution -> 9.3. Agricultural & forestry effluents -> 9.3.3. Herbicides and pesticides	Ongoing	-	-	Low impact: 3
11. Climate change & severe weather -> 11.1. Habitat shifting & alteration	Ongoing	-	-	Low impact: 3
11. Climate change & severe weather -> 11.2. Droughts	Ongoing	-	-	Low impact: 3
11. Climate change & severe weather -> 11.3. Temperature extremes	Ongoing	-	-	Low impact: 3

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
Percentage of population protected by PAs: 0
Area based regional management plan: No
Occurs in at least one protected area: No
Invasive species control or prevention: Not Applicable
In-place species management
Harvest management plan: No
Successfully reintroduced or introduced benignly: No
Subject to ex-situ conservation: No

Conservation Action in Place
In-place education
Subject to recent education and awareness programmes: No
Included in international legislation: No
Subject to any international management / trade controls: No

Conservation Actions Needed

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

Conservation Action Needed
1. Land/water protection -> 1.1. Site/area protection
1. Land/water protection -> 1.2. Resource & habitat protection
2. Land/water management -> 2.1. Site/area management
2. Land/water management -> 2.3. Habitat & natural process restoration
3. Species management -> 3.1. Species management -> 3.1.1. Harvest management
3. Species management -> 3.1. Species management -> 3.1.2. Trade management
3. Species management -> 3.2. Species recovery
3. Species management -> 3.3. Species re-introduction -> 3.3.1. Reintroduction
3. Species management -> 3.3. Species re-introduction -> 3.3.2. Benign introduction
3. Species management -> 3.4. Ex-situ conservation -> 3.4.1. Captive breeding/artificial propagation
3. Species management -> 3.4. Ex-situ conservation -> 3.4.2. Genome resource bank
4. Education & awareness -> 4.1. Formal education
4. Education & awareness -> 4.2. Training
4. Education & awareness -> 4.3. Awareness & communications

Research Needed

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

Research Needed
1. Research -> 1.1. Taxonomy
1. Research -> 1.2. Population size, distribution & trends
1. Research -> 1.3. Life history & ecology
1. Research -> 1.4. Harvest, use & livelihoods
1. Research -> 1.5. Threats

Research Needed
1. Research -> 1.6. Actions
2. Conservation Planning -> 2.1. Species Action/Recovery Plan
2. Conservation Planning -> 2.2. Area-based Management Plan
2. Conservation Planning -> 2.3. Harvest & Trade Management Plan
3. Monitoring -> 3.1. Population trends
3. Monitoring -> 3.2. Harvest level trends
3. Monitoring -> 3.3. Trade trends
3. Monitoring -> 3.4. Habitat trends

Additional Data Fields

Distribution
Estimated area of occupancy (AOO) (km ²): 0-4
Number of Locations: 0-1
Lower elevation limit (m): 31
Upper elevation limit (m): 31
Population
No. of subpopulations: 1
All individuals in one subpopulation: Yes
Habitats and Ecology
Continuing decline in area, extent and/or quality of habitat: Yes
Generation Length (years): 1
Movement patterns: Not a Migrant

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