

GLASS FROGS

Support Proposal to include all species of glass frogs (family Centrolenidae) in Appendix II.

The IUCN Red List often underestimates the role of trade as an additional threat.

Glass frogs are highly sought after in the international pet trade due to their transparent skin and tiny size (most are about the size of a human fingernail). These traits have made glass frogs desirable to private collectors, dealers, and breeders around the world, despite laws in many range states outlawing their trade. This proposal is for listing 12 species of threatened glass frogs, but it proposes all 158 species in the family of Centrolenidae for listing on Appendix II at CoP19 due to similarities in appearance across the family.

Proponents of Listing

Argentina, Brazil, Costa Rica, Côte d'Ivoire, Dominican Republic, Ecuador, El Salvador, Gabon, Guinea, Niger, Panama, Peru, Togo, and the United States.

Distribution and Habitat

The glass frog family, Centrolenidae, is endemic to the south of Mexico to South America. Species range states extend from southern Mexico to northern Argentina, through the Andes from Venezuela to Bolivia, and include Trinidad and Tobago in the Caribbean. Glass frogs are nocturnal and arboreal and they depend on habitats with running water and riverine vegetation. They are found in tropical moist lowland and montane forests, cloud forest and paramo, with most species tolerating only low levels of habitat disturbance.

At Risk of Extinction in the Wild

Nearly 50% of glass frog species evaluated by the International Union for the Conservation of Nature (IUCN) Red List of Threatened Species are threatened with extinction. Glass frogs are affected by widespread habitat loss, climate change, and emerging infectious diseases. Seventy-one percent of evaluated glass frog species are declining in the wild, including 10 of the 12 glass frog genera (IUCN Amphibian Specialist Group 2020).

Many glass frog species have small ranges and are threatened by ongoing habitat fragmentation, climate change, introduction of exotic species, chain extinctions, as well as other threats.



Hoyos 2020

COMMON NAME: Glass Frog

FAMILY: Centrolenidae

IUCN STATUS: ~50% of glass frog species threatened with extinction

MAJOR THREATS: Pet trade, habitat loss, climate change, disease

RANGE : The south of Mexico to South America

Pet Trade

Glass frogs have become increasingly popular in the international pet trade. Although there are some permits for glass frog export, much of the trade happens illegally. Glass frogs are often discovered in shipments of animals trafficked from Central America to Europe. Traders in various countries such as Germany, the Netherlands, Spain, and the United States (U.S.) often advertise these frogs for sale on the Internet (Altherr & Lameter 2020).

A review of U.S. trade data (USFWS LEMIS, 2022) and online advertisements indicated that at least 12 species of glass frogs are traded internationally. However, since specimens in trade are not generally identified at the species level (E.g., LEMIS data contains examples of glass frogs listed as Centrolenidae spp), it is likely that many more species have entered trade in violation of national laws and without documentation, including specimens claimed to have been bred in captivity. Due to the multitude of environmental pressures and pathogens already causing declines in glass frog species, any amount of unregulated trade could be detrimental to wild populations.





GLASS FROG
FAMILY: CENTROLENIDAE
RANGE: THE SOUTH OF MEXICO TO SOUTH AMERICA

THREATS:

- PET TRADE** (Icon: Cat)
- CLIMATE CHANGE** (Icon: Thermometer)
- HABITAT LOSS** (Icon: Saw)
- INFECTIOUS DISEASE** (Icon: Virus)

SPECIES PROPOSED FOR LISTING:

Article II paragraph 2 (a) of the Convention and satisfying Criterion B in Annex 2a of Resolution Conf. 9.24 (Rev. CoP17).

Cochranella euknemios (Savage & Starnett, 1967)
Cochranella granulosa (Taylor, 1949)
Espadarana prosoblepon (Boettger, 1882)
Hyalinobatrachium aureoguttatum (Barrera-Rodríguez & Ruiz-Carranza, 1989)
Hyalinobatrachium fleischmanni (Boettger, 1893)
Hyalinobatrachium valerioi (Dunn, 1931)
Hyalinobatrachium ispidiense (Ayarzagüena, 1992)
Hyalinobatrachium mondolfii (Señaris & Ayarzagüena, 2001)
Sachatamia albomaculata (Taylor, 1949)
Sachatamia tex (Savage, 1967)
Teratohyla pulverata (Peters, 1873)
Teratohyla spinosa (Taylor, 1949)

A2. Inclusion of all additional species in the Family *Centrolenidae* (Taylor, 1951) in Appendix II in accordance with Article II paragraph 2 (b) of the Convention and satisfying Criterion A in Annex 2b of Resolution Conf. 9.24 (Rev. CoP17). As of March 2022, this family contains a total of 158 described species in the following 12 genera:

Celsiella (2 spp.)
Centrolene (24 spp.) and *Centrolene incertae sedis* (6 spp.)
Chirostella (2 spp.)
Cochranella (8 spp.) and *Cochranella incertae sedis* (7 spp.)
Espadarana (5 spp.)
Hyalinobatrachium (33 spp.)
Ikakogi (2 spp.)
Nymphargus (41 spp.)
Rhytmia (3 spp.)
Sachatamia (5 spp.)
Teratohyla (5 spp.)
Vitreorana (10 spp.)

Records of wildlife trade from 2010 to 2021 show that 15,645 live glass frogs were officially imported into the United States (USFWS LEMIS, 2022). Of those that arrived alive from the wild, 87% were imported for commercial purposes, as were 100% of those described as being captive bred. More recent data from the same records (2016-2021) show that imports have surged from 13 individuals in 2016 to 5,744 in 2021, likely driven by increased commercial demand for the species (USFWS LEMIS, 2022).

Illegal Trade in Glass Frogs Threatens Wild Populations

Several range States prohibit capture and commercial sale of glass frogs, yet individuals of such species have been reported in international trade and seizures (AFP 2017; Fendt 2014). Imports of glass frogs into the U.S. and species reported in trade by the EU also raise concerns about the legal origin of the specimens involved. Since they are not listed under the CITES Appendices, many of the animals traded are not identified at the species or even genus level, making it possible that highly threatened species and illegally obtained specimens may be in trade.

Biological Characteristics Make Glass Frogs More Vulnerable to Exploitation

The males of certain species of glass frogs, including some in the genera *Hyalinobatrachium* and *Centrolene*, are known to actively defend their eggs against predators (Vockenhuber et al., 2008), and significantly higher spawn mortality rates can occur if these guardian males are removed (Delia et al., 2017). This renders many of these species especially vulnerable to exploitation.

Conclusion

Effective implementation of a CITES Appendix-II listing for glass frogs will require that all species be listed. This will

prevent both identification difficulties for law enforcement officers (“look-alike problems”) and a shift in trade to still unprotected glass frog species, while also protecting the health and safety of these delicate amphibians by minimizing the amount of handling required to confirm compliance with CITES provisions during inspections. The increase in illegal trafficking of these species adds to additional threats, including climate change, habitat loss, and disease.

References

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