

Pseudis paradoxa (Paradoxical Frog)

Family: Hylidae (Tree Frogs)

Order: Anura (Frogs and Toads)

Class: Amphibia (Amphibians)



Fig. 1. Paradoxical frog, *Pseudis paradoxa*.

[http://cdn-1.itsnature.org/wp-content/uploads/2010/06/14707595_437312.jpg, downloaded 29 March 2015]

TRAITS. The adults' heads are small compared to their bodies which are short and plump. Round and short snouts are also seen. Their eyes are yellow with a transverse brown bar, and are in a dorsolateral position on their heads. The fingers are free but the toes are webbed. Colour: Dorsal surface is green all through the anterior section of the body and brown along the back end of the body with dark spots (Fig. 1). The ventral surface has a whitish appearance with brown spots. There are also about three or four brown lines that connect near the thighs (Lescure and Marty 2000). Their croak sounds similar to a pig's oink (Curious Creatures 2010). The tadpoles of the species are approximately 25cm long (Fig. 2) and the adults shrink to about 6.5-7.5cm

(Emerson 1988; Lescure and Marty 2000). This reduction of size from the tadpole to the sexually mature adult (Fig. 3) is how the species received its name. Tadpoles early in their lifecycle have a vertical stripe pattern along their bulk that helps in predator avoidance. They lose this striping as they grow (Sergeant 2011).

DISTRIBUTION. It is found in some of the South American countries (Fig. 4) such as Argentina, the Pantanal and the Amazon in Brazil and the Guianas. It is also found in Trinidad but not Tobago. Additionally it has a distinct distribution in the Magdalena River watershed in Colombia (Wikipedia 2015). These frogs do not inhabit areas with big seasonal changes in temperature (Emerson 1988).

HABITAT AND ACTIVITY. Inhabits ponds, lakes and lagoons, mostly areas where the water is stagnant and has abundant vegetation. Also found in flooded plains and at the edges of ponds, swamps, frequently in mildly brackish water (IUCN 2015). They are active both in the day and the night and float on the surface of the water at night (Lescure and Marty 2000). Even though these frogs are very common and can live in almost any water type, they are hardly ever seen due to their exceptional camouflage (Fig. 1). Due to this it is more likely that they would be heard rather than seen. They have a very distinct sounding croak that is similar to a pig's oink. The paradoxical frog spends most of its life in the water where it rests, feeds and copulates. This is unlike other frogs that only use the water for breeding (Its Nature 2011). They are also nocturnal. These frogs hide quickly at even the slightest sense of danger making them difficult to be observed.

FOOD AND FEEDING. From studies of the contents of the stomachs of adult paradoxical frogs, it was seen that they capture prey over a wide size and taxonomic range. This included organisms of the orders Diptera (flies), Coleoptera (beetles), Hemiptera (bugs), Homoptera (plantsuckers), Lepidoptera (butterflies and moths) and Odonata (dragonflies), and crabs. The tadpoles eat only vegetation (Its Nature 2011). More food is required than the adult frog at this stage in the lifecycle as the tadpoles are still growing. Using their teeth, they pick algae off rocks and weeds (Its Nature 2011).

POPULATION ECOLOGY. The paradoxical frog is abundant in the areas that it is found. It has a maximum longevity of 11 years in captivity. No information is yet known about their aging process (AnAge 2015).

REPRODUCTION. The paradoxical frog copulates in a similar manner as other frogs. When it is time to mate, the males assemble at a body of water and call females to the site. The males then mount the female and fertilize the eggs as the females release them. The female lays the eggs among water plants and they develop into tadpoles (Wikipedia 2015). The mating of these frogs however seems to be linked to abrupt rainfall or changes in the seasons. The eggs that are laid have a greenish frothy appearance. The tadpoles that then hatch have a greenish colour as a result and they keep this colour for several days (Dixon et al. 1995). They then grow at an extraordinary rate and obtain a size about 25cm which is about four times the size of the adult (Its Nature 2011).

BEHAVIOUR. The males call the females to mate while floating on the surface of the water and hidden among the aquatic vegetation. The call of the males is strong and they contain 8-11 pulse group sequence (Bosch et al. 1996). When these frogs are threatened, they use their strong toes which have an extra joint to dig into the mud at the bottom of the lakes and hide. They also use this method to find food at lake and pond beds (Wikipedia 2015).

APPLIED ECOLOGY. The species is listed by the IUCN. There are currently no major threats to the species. The species are however affected by loss of their habitat as a result of human activity. A species that was thought to be the *Pseudis paradoxa* is harvested for the international pet trade in Paraguay. This trade however is not at a level that would threaten the species (IUCN 2015).

REFERENCES

- AnAge (2015). The Animal Ageing and Longevity Database. Paradox Frog (*Pseudis Paradoxa*) Longevity, Ageing, and Life History. http://genomics.senescence.info/species/entry.php?species=Pseudis_paradoxa. Accessed March 31st, 2015.
- Bosch, J., De la Riva, I., and Márquez, R. (1996). "The calling behavior of *Lysapsus limellus* and *Pseudis paradoxa* (Amphibia:Anura:Pseudidae)." *Folia Zoologica*, 45(1), 49-55.
- Curious Creatures (2010). Paradoxical Frog. <https://curiouscreatures.wordpress.com/2010/06/03/paradoxical-frog/>. Accessed March 31st, 2015.
- Dixon, J. R., Mercolli, C. and Yanosky, A. A. (1995). "Some aspects of the ecology of *Pseudis paradoxa* form Northeastern Argentina." *Herpetological Review*, 26(4), 183-185
- Emerson, S. B. (1988). "The giant tadpole of *Pseudis paradoxa*." *Biological Journal of the Linnean Society*, 34(2), 93-104.
- Its Nature (2011). Paradoxical Frog – *Pseudis Paradoxus*. <http://www.itsnature.org/sea/other/paradoxical-frog>. Accessed March 31st, 2015.
- IUCN (2015). Red List of Threatened Species. *Pseudis Paradoxa*. <http://www.iucnredlist.org/details/55904/0>. Accessed March 31st, 2015.
- Lescure, J. and Marty, C. (2000). *Atlas Des Amphibiens De Guyane*. Muséum National D'Histoire Naturelle, Paris.
- Sergeant, E. (2011). "Behaviour, Growth Rate, and Escape Responses of *Pseudis Paradoxa* Tadpoles." University of Glasgow Exploration Society Trinidad Expedition Report 2011, January 1, 2011. Accessed March 31st, 2015.
- Wikipedia. (2015). *Pseudis Paradoxa*. http://en.wikipedia.org/wiki/Pseudis_paradoxa. Accessed March 31st, 2015.

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Posted online: 2015



Fig. 2. Tadpole of paradoxical frog.

[<https://quantumbiologist.wordpress.com/2010/10/07/big-baby/>, downloaded 24 April 2015]



Fig. 3. Adult and tadpole of paradoxical frog, *Pseudis paradoxa*.

[<https://curiouscreatures.files.wordpress.com/2010/06/paradoxicalfrog.jpg?w=470>, downloaded 29 March 2015]



Fig. 4. Distribution of paradoxical frog.

[<http://maps.iucnredlist.org/map.html?id=55904>, downloaded 29 March 2015]

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