Pipa Pipa (Suriname Toad)

Family: Pipidae (Tongueless Frogs)
Order: Anura (Frogs and Toads)
Class: Amphibia (Amphibians)

Fig. 1. Suriname toad, *Pipa pipa.*

[http://carnivoraforum.com/topic/10047105/1/, downloaded 28 April 2015]

TRAITS. Female Suriname toads are 105-171mm long while the males are 106-154mm long (Wandzel, 1999). The toad's body is flat and is sometimes described as looking like a road kill. When the toads are ready to breed, the females are identified from the males by a ring shaped swelling at the cloaca (reproductive, genital opening) which is visible only when they are ready to breed. The toads have minute, black, bead-like eyes and their skin is verrucose (warty) with darker brown spots on their backs and they also tend to have large hind feet (Fig. 1). Star shaped organs at the end of the web-less fingers distinguish *Pipa pipa* from other species however it should be stated that the toes (hind feet) are webbed (Wandzel, 1999). *Pipa pipa* are broad and have triangular shaped, depressed heads. Evenly distributed tubercles are dorsally and ventrally located on the skin (Murphy, 1997). This toad does not sit up on its hind front limbs as other amphibian species do, instead they remain in a fixed splayed body posture.

DISTRIBUTION. Pipa pipa is native to South America and has an Amazonian distribution in Bolivia, Brazil, Colombia, Ecuador, French Guiana, Guyana, Peru, Suriname and Venezuela. It is

also native to the southern and eastern parts of Trinidad. They can be found mostly in the Nariva Swamp, Rio Claro, Mayaro and Cedros environs (Murphy, 1997).

HABITAT AND ACTIVITY. The Suriname toad is aquatic and can be found in muddy, slow moving streams, marshes and swamp forests. The toad prefers to cover its' body with leaf litter and hardly goes onto the land. They exhibit both diurnal and nocturnal.

FOOD AND FEEDING. *Pipa pipa* are omnivorous, aquatic toads. The adults eats worms, insects, crustaceans and small fishes whereas the young ones feed on invertebrates such as *Tubifex, Daphnia* and worms. They use their sensitive, long-digited forelimbs to look for food on the bottom of ponds and since they lack tongues and teeth, their forelimbs are also used to put food into their mouths (Wandzel, 1999). They also use 'suction feeding', when a fish or another animal swims at the front of them, they open their mouths quickly and they generate a suction that pulls the animal inside.

POPULATION ECOLOGY. The social organization of *Pipa pipa* is of a solitary amphibian. Once the female's young have emerged from her back, the toads begin a solitary life again. The average lifespan for the toads is 7.7 years in captivity, and it was observed that it took 105 days for metamorphosis to occur.

REPRODUCTION. The male Suriname toad makes a clicking call in the water to attract the female. The male then grasps the female from above, around the lower part of her body. The skin of her back begins to thicken as the blood flow is increased. While she is doing somersaults in the water, the male holds on to the female. The somersaulting may last for more than 24 hours and during each arc, the female releases one egg at a time, which the male fertilizes. The female can end up having over 100 eggs embedded in the skin of her back (Fig. 2). The skin continues to get thicker around each egg so that the eggs are embedded within her skin, forming an irregular honeycomb shape after a few days. The stages of development from larva (tadpole) to juvenile occur inside her skin and eventually the froglets emerge from her back by squeezing out through the pore like openings in her skin (Fig. 3). When all the tiny froglets have emerged from within her back skin, the female sheds the extra thickened layer of her skin and continues living her solitary life.

BEHAVIOUR. The male makes a clicking call to let the female know where he is and that he is ready to mate. *Pipa pipa* it must be noted lacks vocal abilities however the males use their hyoid bone, which is located in them throat region hence producing a clicking sound to attract the females whereas the females tend to remain silent.This clicking sound when made once by the male toad is heard during fights when he wishes to challenge his territory. In an enclosed environment, it was observed that the male toads 'bite', kick and head bump each other. It was also observed in the Suriname female toads that they exhibit parental care until the froglets emerge from beneath her skin. In an experiment a group of young froglets were left in the same tank as the mother toad and after a two month period, the mother didn't attempt to eat them. The juveniles upon hatching from their mothers' back are only visible when they surface to the top of the water to gulp air before following the adults into hiding under leaf litter.

APPLIED ECOLOGY. According to the IUCN Red list of Threatened Species**,** *Pipa pipa* is ranked least concern in view of its wide distribution and its large population size. The population of toads are also unlikely to be (IUCN, 2006).

REFERENCES

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Fig. 2. Eggs becoming implanted in the back of a female *Pipa pipa* after mating.

[http://www.nhm.ku.edu/rbrown/PastHerpsOMonth.htm, downloaded 28 April 2015]

Fig. 3. Froglets emerging from the back of the female Suriname toad, *Pipa pipa*.
[http://upload.wikimedia.org/wikipedia/commons/8/8d/Pipa_pipa_whole_body.jpg, downloaded 2 April 2015]