Hypsiboas crepitans (Emerald-eyed Tree Frog)

Family: Hylidae (Tree Frogs)
Order: Anura (Frogs and Toads)
Class: Amphibia (Amphibians)

Fig. 1. Emerald-eyed tree frog, *Hypsiboas crepitans*.

[http://aprendeenlinea.udea.edu.co/ova/files/Hypsiboas_crepitans1.jpg, downloaded 21 March 2015]

TRAITS. The emerald-eyed tree frog *Hypsiboas crepitans* was previously known as *Hyla crepitans*, and other common names include the Neotropical tree frog and flying frog. They are medium sized tree frogs, and go through various colour changes through their life cycle. A newly metamorphosed would be green in colour. The dorsal (back) skin of the adult *Hypsiboas crepitans* has the ability to change colour from a tan or red brown (Fig. 1) to a milk white, grey brown or light metallic green once it is captured (Murphy, 1997). The dorsal skin is smooth and the ventral skin is granular, they have no webbing between the first two fingers but reduced webbing occurs between the other two fingers, and their toes are heavily webbed (Murphy, 1997). The back is usually with a large, central, dark blotch, often x shaped, and the frog has a metallic green iris which gives its common name (Fig. 1). Females are up to 73mm in snout-vent length (SVL) and males are smaller, up to 61mm (Fig. 2).

DISTRIBUTION. Widespread in central pacific lowlands of Panama southward through Colombia, Venezuela, Trinidad and Tobago (Fig. 3) and the Guianas to Brazil. It is a native species of Trinidad and Tobago and is mostly found in the southern foothills of the Northern Range from Diego Martin to Arima (Kenny, 1969) and the Caroni Plain (Kenny, 1977), and the eastern part of Tobago.

HABITAT AND ACTIVITY. Extremely variable, they are found in terrestrial and freshwater habitats, from humid tropical forests, semiarid environments, grasslands, llanos, intervening habitats, pastures and lower montane forests (La Marca et al., 2010). *H. crepitans* tree frogs are arboreal and nocturnal animals they are found in shrubs, leaves of trees and near watercourses where there is an abundance of leafy vegetation. They use this vegetation to camouflage from their predators in the day as well as keeping cool to prevent desiccation (drying) from the scorching sun.

FOOD AND FEEDING. Very little information has been published about their food and feeding habits however it is noted that they are nocturnal frogs that feed at night. They seem to feed mostly near ponds edges, rivers, shrubs and in trees and in urban areas, they feed on a rich diet of insects such as small crickets, flies and other small insects. As tadpoles they fed on the algae and dead matter that is present in the water. *H. crepitans* is a secondary consumer in its environment, however it is preyed on by lots of animals such as the giant water bugs *Lethocerus americanus,* snakes such as *Leptodeira annulata* and other amphibians such as *Rhinella marina.*

POPULATION ECOLOGY. They are solitary animals. Males only tend to be in groups in the mating season to vocally call for females. After mating occurs with the females the eggs are left in puddles of water or in ponds. There isn't any significant population growth over much of the range of this species with resulting habitat loss (through infrastructure development and water pollution), much of this is localized therefore the total population is stable (La Marca et al., 2010).

REPRODUCTION. Breeding occurs throughout much of the rainy season (Ibanez et al., 1999; Duellman, 2001). Males call from the edges of temporary ponds or flooded grassy areas (Ibanez et al., 1999). They usually call in April at the height of dry season as well as after heavy rains of June and July. Reproduction occurs year round where water is available. However in savanna areas they reproduce only in the rainy season (Murphy, 1997). Females may lay over 1,000 eggs in a single oviposition event (Stebbins and Hendrickson, 1959). The eggs float for 24 hours and then sink. Tadpoles are grey or light brown, and the tail has more yellow undertones (Duellman, 2001). Tadpoles' bodies are ovoid in shape, usually with a long tail that ends in a distinct point, and the upper caudal (tail) fin is much deeper than the lower fin (Duellman, 2001). No parental care occurs in *H. crepitans* after the eggs are fertilized they are left in a pond or puddle of water where they would hatch. Metamorphosis occurs at about 3 months (Kenny, 1969).

BEHAVIOUR. Just like other frogs *H. crepitans* has a distinctive call. These vocal calls enable them to separate from other species of frogs, which may be pitching their calls in the same ponds. This also allows them to vocally communicate with other males and advertise their calls to attract females that are nearby. *H. crepitans* has a rattle-like call, consisting of a series of short, low or medium pitched notes (Ibanez et al., 1999). Juveniles and adult males of this species tend to be found in groups along ponds.

APPLIED ECOLOGY. According to IUCN these species are of least concern on the threatened species list and therefore there is no significant threat to them. They are found to be traded internationally as pets however this is not a major threat to them. As there is a demand for food production the agriculture sector has increased the use of Glyphosate herbicide which aids in killing weeds that could damage and rob crops of their nutrients this however has an negative effect on the development of the embryo and tadpoles of *H. crepitans.*

REFERENCES

Duellman, WE. 2001. The Hylid Frogs of Middle America. Society for the Study of Amphibians and Reptiles, Ithaca, New York, USA

Kenny, J. S. 1969. Amphibia of Trinidad. Studies on the Fauna of Curacao and Other Caribbean Islands *29(54):1*–78.

Kenny, J. S. 1977. The Amphibia of Trinidad–an addendum. Studies on the Fauna of Curacao and Other Caribbean Islands 51:91–95.

Ibañez, R, AS Rand, and CA Jaramillo. 1999. Los anfibios del Monumento Natural Barro Colorado, Parque

La Marca, Enrique,Claudia Azevedo-Ramos, Débora Silvano, Frank Solís, Roberto Ibáñez, César Jaramillo, Querube Fuenmayor, Jerry Hardy (2010.) Hypsiboas crepitans. The IUCN Red List of Threatened Species

Murphy, J.C. (1997). Amphibians and Reptiles of Trinidad and Tobago. Malabar: Krieger Publishing Company.

Stebbins, R. C., and J. R. Hendrickson. 1959. Field studies of amphibians in Colombia, South America. University of California Publications in Zoology 56: 497–540.

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Fig. 2. Sexual dimorphism in *Hypsiboas crepitans.*

[http://aprendeenlinea.udea.edu.co/ova/files/Hypsiboas_crepitans2.jpg, downloaded 21 March 2015]

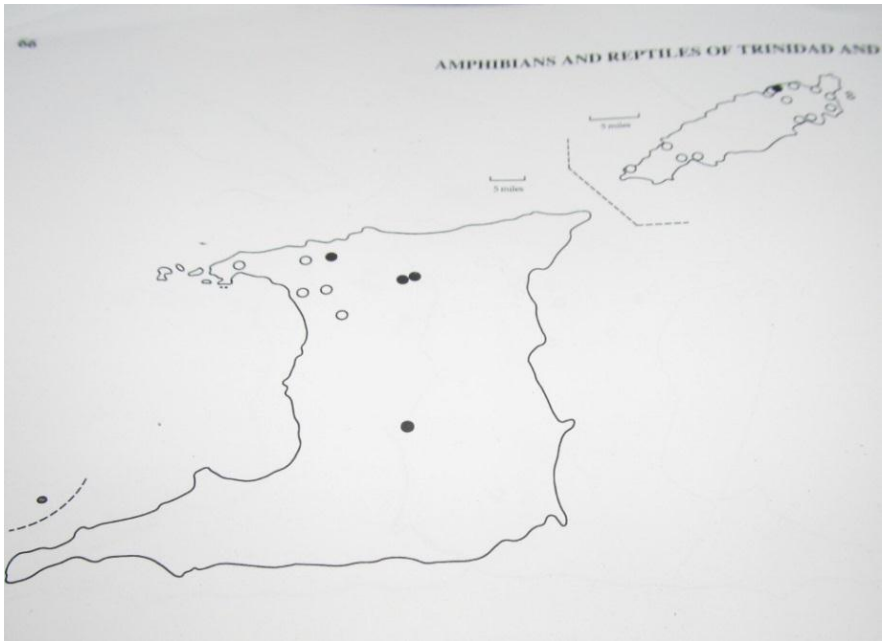

Fig. 3. Distribution of *Hypsiboas crepitans* in Trinidad and Tobago.

[Taken from Murphy (1997), page 66]