

## *Molossus pretiosus* (Miller's Mastiff Bat)

Family: Molossidae (Free-tailed Bats)

Order: Chiroptera (Bats)

Class: Mammalia (Mammals)



**Fig. 1.** Miller's mastiff bat, *Molossus pretiosus*.

[<http://morcegosedobrasil.blogspot.com/2013/10/molossus-pretiosus.html>, downloaded 28 February 2017]

**TRAITS.** *Molossus pretiosus* has a mastiff-like appearance, with a powerfully built body (broad body frame), thick jaws (mandibles are thicker than other bats) and narrow wing tips. The fur ranges from black to reddish in colour (Fig. 1) while the ears and wing membranes are black. The chest is spotted with whitish hairs. Sexual dimorphism is observed in this species where males are larger than females. The molars have a distinguishing cusp shape pattern and this species lack a third premolar (Fig. 2). A fully-grown Miller's mastiff bat can weigh up to 28g. This family of bats possesses a "free" tail that projects from the end of the patagium (the wing membrane between the hind legs).

**DISTRIBUTION.** The distribution of this species is disjointed, in two separate regions of South America and Central America, Trinidad (Fig. 3). In South America, it is found in Colombia, Guyana and Venezuela (Jennings et al., 2000). In Central America, populations are found in Nicaragua and Costa Rica (IUCN, 2017). Trinidad is the only Caribbean island to have a population of this species, due to its relative close proximity to South America.

**HABITAT AND ACTIVITY.** This species is typically found in open areas such as grassland, dry woodlands or scrub habitats (Jennings et al., 2000). *Molossus pretiosus* have not been observed living in forests. They also occupy caves and have been found to make dwellings in roofs. The dwellings of this species are usually close to water sources such as rivers, lakes or watering holes. These nocturnal hunters leave their roost at dusk and head out in single-file flight formation (Reid, 2009). They can fly rapidly (Jennings et al., 2000). The ability to stretch or retract their tail membrane due to its “free” nature grants the bat greater flight manoeuvrability (Gardner, 2010). These bats usually form small colonies wherever they roost (Jennings et al., 2000). The colonies would have a higher ratio of females to males. A colony captured in Jaiba consisted of one male, one reproductively inactive female and three pregnant females (Nogueira et al., 2008).

**FOOD AND FEEDING.** *Molossus pretiosus* begins hunting during the peak activity hours of its prey. This species is capable of eating hard insects and as such can feed on beetles. *Molossus pretiosus* is primarily insectivorous and its diet consists mainly of beetles and moths which become active at night. Echolocation is utilized to help detect and track its prey. Foraging usually occurs around water sources as the bats have been observed to spend a lot of time flying around these areas (Nogueira et al., 2008).

**REPRODUCTION.** This species follows a specific mating pattern where a single male copulates with several females from the group, forming a polygynous breeding system. The mating season seems to correlate with the wet season (Nogueira et al., 2008). The females are impregnated around the same time. The females typically carry one embryo at a time (Nogueira et al., 2008). This species give birth to young which are usually around 25% of the adult mass (Jennings et al., 2000). When attracting mates, the males would perform special flight displays and vocalizations (Neuweiler and Covey, 2006).

**BEHAVIOUR.** During the reproductive period, several males and females can be found in the roost. *Molossus pretiosus* become active at night. During flight, ultrasonic sounds are produced by the bat that allow it to perceive its environment at night. Based on the availability of food, ambient temperature and the reproductive conditions, these bats may enter a state of torpor (Neuweiler and Covey, 2006).

**APPLIED ECOLOGY.** This species is not threatened or under any significant stress and therefore as such is listed as Least Concern (IUCN, 2017). It has not been linked to any pest problem, or to being a vector of any human diseases.

## REFERENCES

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Author: Kwasi Pierre

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**Fig. 2.** *Molossus pretiosus* unique molar pattern.

[[http://www.biokids.umich.edu/critters/Molossus\\_pretiosus/](http://www.biokids.umich.edu/critters/Molossus_pretiosus/), downloaded 20 February 2017]



**Fig. 3.** *Molossus pretiosus* geographic distribution, by country.

[<http://www.maphill.com/search/>, downloaded 18 February 2017]

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