

## *Pteronotus parnellii* (Parnell's Mustached Bat)

Family: Mormoopidae (Ghost-faced Bats)

Order: Chiroptera (Bats)

Class: Mammalia (Mammals)



**Fig. 1.** Parnell's mustached bat, *Pteronotus parnellii*.

[<http://www.pbase.com/brucetaubert/image/141243402>, downloaded 25 April 2016]

**TRAITS.** Parnell's mustached bat, also known as the common mustached bat, has long narrow pointy wings which are larger than most bats (Fig. 1). Its total body length ranges from 73-102mm and is generally dark brown, becoming paler as it ages, developing a brilliant fulvous or orange colour (Herd, 1983). It has no nose-leaf; the main facial features are wrinkled funnel-shape lips, a furless chin, and muzzle with tufts on the sides (Fig. 2). Its ears are short, narrow and pointed. The length of the forearm ranges from 50-65mm, depth of cranium 7.9-10.0mm, length of ear from notch 18-28mm, well-developed hind foot 12-17mm (Herd, 1983). The females are generally smaller than the males. This sexual size difference becomes progressively greater further south in their range, but there is not much difference in their colour (Nowak, 1999).

**DISTRIBUTION.** *Pteronotus parnellii* is a neotropical bat that is widespread in South America, Central America and along the Caribbean coast (Fig. 3). It ranges from Peru, Brazil, Ecuador,

Suriname, and Venezuela to the tropical southern part of Mexico, and is also found in Caribbean islands such as Jamaica, Puerto Rico, St. Vincent, Trinidad and Tobago, Cuba and Haiti (Eisenberg and Redford, 2000).

**HABITAT AND ACTIVITY.** *Pteronotus parnellii* live in habitats ranging from arid to moist, within an elevation range of 0-3000m. The zero elevation is the coastal lowlands. For instance in places like Venezuela these bats have the ability to tolerate dry deciduous tropical forest and tropical evergreen forest. They are also found in disturbed areas of middle elevation (IUCN, 2008). They prefer to roost in the largest chambers of humid caves but still be highly clustered together. Parnell's mustached bat is a nocturnal bat that prefers to roost in mines, large tree hollows and caves during the day. About an hour after sunset these bats leave their roost and remain active for around 5-7 hours as they do not have a night roost so they stay on their wings during their entire hunting period (Herd, 1983). These bats are referred to as fluttering hunters (Nowak, 1999).

**FOOD AND FEEDING.** *Pteronotus parnellii* an insectivore and eats moths, cockroaches, beetles and other insects (Herd, 1983). Parnell's mustached bats have a preference of hunting in non-river habitats because it provides more nutritionally rich foods (Nowak, 1999).

**REPRODUCTION.** These bats are viviparous with their females having an estrous cycle that occurs only once during a single breeding season, which is usually annually. Fertilization of the egg takes place inside the female body. The females' pregnancy period occurs from January to July (Wilson, 1973). In January copulation (sexual intercourse) takes place, then in May the gestation period occurs followed by parturition (birth) in the middle of July. The average number of offspring produced is usually one per year. The babies normally have a weaning period of 2-3 months and lactation in the females continues till the end of October (Herd, 1983).

**BEHAVIOUR.** *Pteronotus parnelli* utilize an advanced echolocation technique (Simmons, 2003). This bat is the only bat that has developed a Doppler-shift compensation behaviour and it shows the greatest degree of frequency specialization of the cochlea (inner ear) in mammals. This helps in processing their calls allowing them to hunt insects (Herd, 1983). This technique enables them to detect, analyze, and obtain information about their surroundings. Male and female Parnell's mustached bats only roost together during the time of mating, but after this period they segregate to different roosts. The pups are usually helpless and immature, their skin is naked, their eyes are closed, but their hearing is good and increases with age. When the forearm length reaches adult size the pups will leave the safety of their birth cave to hunt their food (Wilson, 1973).

**APPLIED ECOLOGY.** *Pteronotus parnellii* is found in many protected areas throughout its neotropical range. With its current high population and lack of threats, the Parnell's mustached bat is listed as stable and has a status of least concern (IUCN, 2008). This bat helps in controlling pest population but can be hazardous to humans as it may carry mites, rabies (which was found in the bats in Mexico), *Scopulariopsis* and *Histoplasma* (fungal pathogens) and bat flies (which were found in the bats in Central America) (Herd, 1983).

**REFERENCES**

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**Fig. 2.** Parnell's mustached bat main facial features.

[<http://www.boldsystems.org/pics/ABVSC/AVB080327-28%2B1207950356.JPG>, downloaded 7 March 2016]



**Fig. 3.** Parnell's mustached bat geographic distribution.

[<http://maps.iucnredlist.org/map.html?id=18708>, downloaded 7 March 2016]

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