

Nyctinomops lacticaudatus (Broad-eared Bat)

Family: Molossidae (Free-tailed Bats)

Order: Chiroptera (Bats)

Class: Mammalia (Mammals)



Fig. 1. Broad-eared bat, *Nyctinomops lacticaudatus*.

[<https://www.flickr.com/photos/svaldvard/8707810178>, downloaded 7 March 2016]

TRAITS. The distinguishing feature of *Nyctinomops lacticaudatus* is its broad ears, which are rounded and joined over the forehead. The broad-eared bat is dark chocolate-brown in colour, lighter on the ventral side (belly). The muzzle is pointed and turned upwards and the upper lip is deeply wrinkled with vertical folds that hang over the lower lip (Fig. 1) (Science.Smith, 2002). The wing membranes are semi-transparent and entirely free of hair (Fig. 2). While taking into consideration sexual and geographic, the broad-eared bat is on average 102mm in length, of which 40mm is the tail, and it has 18mm long ears (Animaldiversity, 2004). The skull of the broad-eared bat is strong and has a sagittal crest on top that can range from poorly to reasonably developed (Fig. 3). Male broad-eared bats found in South America weighed on average 14.6g while females weighed 13.8g (Nowak, 1999).

DISTRIBUTION. *Nyctinomops lacticaudatus* is mainly found in subtropical and tropical areas of Central and South America, including Mexico, Argentina, Colombia, Belize, Venezuela,

Panama, Cuba, and Trinidad and Tobago (IUCN, 2015). They are found at elevations up to 1700m above sea level, but mostly below 500m (Science.Smith, 2002).

HABITAT AND ACTIVITY. Broad-eared bats are found in evergreen tropical forests, deciduous tropical forest, thorn subtropical forests with mangrove and coconut trees, subtropical moist forests, cloud forests, xerophyllous (dry) scrub, swampy chacoan vegetation of palms with low brush, xerophyllous savannah or cerrado vegetation and temperate pine-oak forest (Science.Smith, 2002). In addition to these usual habitats, these bats can also be found roosting in cracks on rocky cliffs, in crevices of man-made structures and amid rocks (Animaldiversity, 2004). However, these bats have also been captured in urban and disturbed areas (IUCN, 2015). The most probable factor that generates activity in these bats is sunset, hence, they are considered nocturnal. Activity may then occur from 20 minutes after sunset (SciELO.br, 2012).

FOOD AND FEEDING. *Nyctinomops lacticaudatus* normally feed on insects, making them carnivores or more specifically insectivores. They appear to be a species of bat that are exclusively insectivorous, predominantly coleopterans (beetles) and lepidopterans (moths). Insects are often taken while the broad-eared bat is in flight (Animaldiversity, 2004).

POPULATION ECOLOGY. Resident colonies may be formed throughout the year and may have stable numbers. It is unclear as to the average number of individuals that make up these colonies (Science.Smith, 2002). They often form large colonies during the breeding season (SciELO.br, 2012), though individual bats often do not return to the same or original home area.

REPRODUCTION. The broad-eared bats breed once per year and produce on average one offspring. They usually breed in the rainy season, but this can vary with location. Each female will enter its reproductive cycle (estrous) once per year. A female once fertilized carries only one embryo. After parturition (birth), which is synchronous among the colony, new-borns are naked with numerous bristles on the muzzle and feet (Science.Smith, 2002). Female broad-eared bats usually give birth between June and July in the northern regions of its range and later in the year further south. A new born broad-eared bat is well developed, it is often capable of opening its eyes, moving its ears and moving around on even surfaces, all within a few hours after birth. New-borns normally weigh approximately 3g which is about 25% of their mother's weight (Natural History, 2016). The females carry out the main role in parental care and nurse the offspring.

BEHAVIOUR. Broad-eared bats are able to make audible chirps, which is thought to be used when roosting. Males often perform structured, complex songs which are believed to be territorial warning calls. They perform songs with a sequence of three to nine compound chirps. (Scitation, 2016). If bothered while in the roost they will crawl backwards into a deeper, narrow space in order to avoid the disturbance. During roosting, the bats chirp to each other and pack closely together (Naturalhistory, 2016). Broad-eared bats use visual, chemical and tactile forms of communication, particularly when in the roost (EOL.org, 2016).

APPLIED ECOLOGY. Broad-eared bats use some insect species as food, hence these bats are useful in maintaining the structure of local insect populations. Broad-eared bats are themselves food, and eaten by at least two species of owls, sparrow hawks and snakes. Broad-eared bats can be found in protected areas, although they are rare and infrequent throughout their natural range

(EOL.org, 2016). Broad-eared bats are able to be infected with rabies. These bats also host several species of flea, mites and chiggers. They may harbour endoparasitic worms in the gut, such as trematodes, cestodes and nematodes (Science.Smith, 2002).

REFERENCES

- Animaldiversity. (2004). *Nyctinomops laticaudatus* broad-eared bat. http://animaldiversity.org/accounts/Nyctinomops_laticaudatus/, downloaded 5 March 2016.
- EOL.org. (2016). *Nyctinomops laticaudatus* Broad-eared Bat. <http://eol.org/pages/328837/details>, downloaded 7 March 2016.
- IUCN. (2015). *Nyctinomops laticaudatus*. Red List. <http://www.iucnredlist.org/details/14995/0>, downloaded 6 March 2016.
- Naturalhistory. (2016). *Nyctinomops laticaudatus* Broad-eared Free-tailed Bat. http://naturalhistory.si.edu/mna/image_info.cfm?species_id=483, downloaded 6 March 2016.
- Nowak, R.M. (1999). Walker's Mammals of the World, sixth edition, volume 1 (Chiroptera). Baltimore and London: The John's Hopkins University Press.
- SciELO.br. (2012). *Falco sparverius* (Aves: Falconiformes) preying upon *Nyctinomops laticaudatus* (Chiroptera: Molossidae). http://www.scielo.br/scielo.php?script=sci_arttext&pid=S1984-46702012000200011&lng=en&nrm=iso, downloaded 7 March 2016.
- Science.Smith. (2002). *Nyctinomops laticaudatus*. http://www.science.smith.edu/msi/pdf/697_Nyctinomops_laticaudatus.pdf, downloaded 6 March 2016.
- Scitation.aip. (2016). Territorial calls analysis in the broad tailed bat (*Nyctinomops laticaudatus*). <http://scitation.aip.org/content/asa/journal/jasa/138/3/10.1121/1.4934092>, downloaded 6 March 2016.

Author: Jhanquie Isaac

Posted online: 2016



Fig. 2. Wings of broad-eared bat, *Nyctinomops laticaudatus*.

[<http://morcegosedobrasil.blogspot.com/2013/05/nyctinomops-laticaudatus.html>, downloaded 21 February 2016]

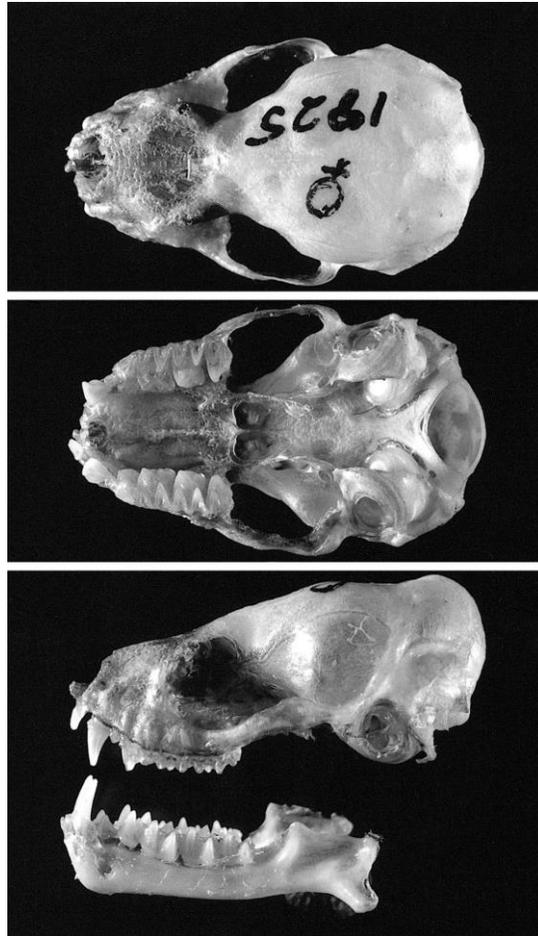


Fig. 3. Dorsal, ventral and lateral views of the mandible and cranium of an adult female *Nyctinomops laticaudatus*.

[http://www.science.smith.edu/msi/pdf/697_Nyctinomops_laticaudatus.pdf, downloaded 7 March 2016]

For educational use only - copyright of images remains with original source