

## *Diclidurus albus* (Northern Ghost Bat)

Family: Emballonuridae (Sheath-tail and Sac-winged Bats)

Order: Chiroptera (Bats)

Class: Mammalia (Mammals)



**Fig. 1.** Northern ghost bat, *Diclidurus albus*.

[<http://www.koryoswrites.com/nonfiction/creepy-creatures-1-ghost-bats/>, downloaded 16 November 2014]

**TRAITS.** *Diclidurus albus* is called the northern ghost bat because of its white coloured, soft fur, this is also why it is sometimes referred to as the “jumbie” bat. *Diclidurus albus* weighs between 17-24g with a length from head to body between 86-103 mm, however in some regions the female ghost bat has a longer length (Engstom and Lim, 1999). The tail of the bat is short, about 18-22 mm in length. The tail punctures the uropatagium, the membrane of skin between the thighs of the bat including the tail, resulting in the tail pointing dorsally. The uropatagium is noticeably large and covers one third of the tail while two thirds is covered in hair and the membrane goes beyond

the hind feet. Although *D. albus* is white in colour, it is also observed to be ashy grey because of the grey colour sometimes found at the proximate ends of the hair. The patagia, the membrane folds between the forelimbs and hind limbs on each side of a bat, are translucent and pink. The face of the bat has little to no fur and the ears are short and yellow, this species of bat has no nose leaf or wing sac. However they possess a unique triangular gland on their uropatagium, although the function is not known it was observed that it is larger in males and become more noticeable during the mating season (Jones and Hood, 1993).

**ECOLOGY.** *Diclidurus albus* are found in the region of Mexico to eastern Brazil, and on the Caribbean Island of Trinidad. The only migration pattern found on the *Diclidurus albus* suggest that the bats move to the south from May to October, this suggestion was made since the bats were not observed during the given time frame of May to October in Mexico (Hernandez et al., 1985). *Diclidurus albus* can be found in tropical rainforest and riparian (on river banks) rainforest. There can be found in plantation fields, other man-made forests and old mining areas. *Diclidurus albus* are usually found roosting under cacao trees as well as coconut and coquito palm. They are sometimes spotted in old villages, clearings and evergreen and deciduous forests, (Eisenberg and Redford, 1999). These bats are said to roost singly in the day time. Finally these bats are found predominantly in humid habitats.

**SOCIAL BEHAVIOUR.** The *Diclidurus albus* bats don't interact with each other or form colonies unless it is mating season, after which they resume their solitary behaviour. These bats are nocturnal and are found roosting under palm and cacao trees (Ceballos and Medellin, 1988; Eisenberg and Redford, 1999) during the day. Individual northern ghost bats are found to occupy a single segment of the leaf close to the rachis. Roosting sites found range in a height between 2-2.5m. The northern ghost bats resemble the nest of paper wasp as their hang upside down from the leaves. *Diclidurus albus* bats are observed to fly high and in a relatively straight line (Engstrom and Lim, 1999).

**REPRODUCTIVE BEHAVIOUR.** *Diclidurus albus* is known to be solitary however it was observed that during mating season small groups of the ghost bat is seen roosting together (Ceballos and Medellin, 1988) and the groups can be found 5-10cm away from each other (Fig. 2). The group is called a cloud or colony. The mating season of *Diclidurus albus* was found to be during the months of January to June, with the copulation period between January and February and occurs when the male and females are closely roosting. This observation was made because females that were pregnant were observed between the months of January to June (Hernandez et al., 1985). The female is smaller than the male. The group formed by these bats during mating season is made up of four to seven individuals, which consist of one male and multiple females. It was as found that the triangular gland on the uropatagium becomes larger during the mating season for the males and so it is suggested that it is this part of the body that the male uses to attract the female (Ceballos and Medellin, 1988; Jones and Hood, 1993). The large the sac on the male will tell the female bat that the male is ready to mate, it is also suggested that this sac will tell the female which male bat will bring about successful fertilization. Therefore it can be said that males with the largest gland gets the wider group of females and will produce more offspring that year. *Diclidurus albus* only reproduce once a year and each female can only carry one embryo.

**PARENTAL CARE.** Female *Diclidurus albus* bat give birth to a single pup (baby bat) in the months of May or June. In the month of May well developed embryos have been noted, these embryos are usually sized between 18-19mm. During this time it was found that the females move away from the males and give birth in caves usually around other females of the same species. The new born pup (baby bat) has a body length of 2.38cm and a mass of 0.51g. The female *Diclidurus albus*, like most other bats, protect and nurse the young bats themselves. The pups are seen attached to their mothers as she travels, the pups are seen on her back as the mother flies, however as the mother rest the pups move to her front or stomach area. These young bats were observed to mature within a few months of birth and become independent of their mothers (Ceballos and Medellin, 1988).

**COMMUNICATION.** Like other bats, *Diclidurus albus* uses the echo of sounds to find predators, prey and for navigation. These bats can create and release sound at a frequency of 22-25 kHz while hunting. Communication between the bats was suggested to be chemical and can also include the usage of the triangular gland secretion by the males this is usually during mating season (Zorpette, 1999).

**FEEDING BEHAVIOUR.** *Diclidurus albus* is carnivorous, feeding mostly on insects. It was found after examining the stomach contents of a ghost bat that there was a large proportion of moths. Therefore it can be concluded that the ghost bat feeds mainly on moths (Eisenberg and Redford, 1999; Engstom and Lim, 1999). The northern ghost bat feed during the night, feeding is done while the bats are in flight. The bats feed at high flight ranges usually above forest canopy and at a relatively straight course. The foraging height is suggested to be between 3-135m, the northern bats are also seen chasing insects close to the street lights of village roads. The northern bats use low calls with long pulse intervals, these intervals is usually to listen for return sounds that bounce of the prey or object in front of them. If a prey is in front of the bat the call starts to alternate as the bat approaches its prey, when the prey is close enough the bat bites it drawing it into its mouth.

**ANTIPREDATORY BEHAVIOUR.** There are no recorded predators of *Diclidurus albus*. This can be because the bats are solitary and nocturnal these factors are said to protect the bats from predators. The northern ghost bats are roosting during the day and come out in the night to feed usually during this time most animals such as birds, the common predator for bats, are sleeping. So the northern ghost bats have no predators to hunt them at night.

**CONSERVATION.** There is little research done on this bat (Ceballos and Medellin, 1988), however this is not a result of the bat being on the list for extinction since they are said to be widespread in their range (Chiroptera Specialist Group, 2004), and are of least concern and lower risk conservation status.

#### REFERENCES

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**Fig. 2.** Group of northern ghost bats.

[<http://raazebaghaa.ir/imagecenter/images/hiv23m5w2o32ens1o0f.jpg>, downloaded 1 December 2014]

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