Caluromys philander (Bare-tailed Woolly Opossum)

Family: Didelphidae (Opossums)
Order: Didelphimorphia (American Marsupials)
Class: Mammalia (Mammals)

Fig.1. Bare-tailed woolly opossum, *Caluromys philander*.

[http://www.redorbit.com/media/uploads/2004/10/42_1f4e9ec461f023d8859e6f5c2ebb6972.jpg
downloaded 12 November, 2012]

TRAITS. The bare-tailed woolly opossum (*Caluromys philander*), which is also referred to as the white-eared opossum, is a medium sized, Neotropical marsupial. It ranges from 140-390 g in weight with the females being about half the size of the male. Their length from head to the base of their tail can range from 160-270 mm. Their forepaws appear almost handlike with thumbs that are slightly opposable. Its pointy ear is between 30-40 mm. This mammalian species has very soft but thick woolly fur which is usually blackish brown in colour with grey markings along their flanks. The underside of the opossum is a yellow orange colour which is accompanied by a grey head with three stripes that are dark brown in colour. The stripes are very prominent as one runs directly down the bridge of the muzzle from head to nose, whereas the other two stripes originate from a dark brown ring around the large yellowish eyes. This causes a very distinct contrasting mask. The tail of *Caluromys philander* is usually longer than its body and ranges from 250-405 mm in length. The tail is fully prehensile according to Eisenberg and

Redford (1999) and can be used to grip the branches of trees. The tails are furred for 1/3 rd. of its length followed by the furless part of the tail which is distinctively marked off. The tail ranges in colour from dark brown/dark grey with a few brown or white spots.

ECOLOGY. The habitat of *C. philander* ranges from the interior of the rainforests of South America, the Venezuelan Andes, North Central Brazil and Trinidad. The species has arboreal adaptations that allow it to mainly dwell in moist tropical forests (Eisenberg and Redford, 1999). Thus they are capable of thriving and establishing populations within primary as well as secondary forests. They exist in canopies with an elevation of 1800 m and are very infrequently discovered on the ground although they are terrestrial organisms. The opossum demonstrates preference for dense canopies as a method of masking itself from predators and other threats (Eisenberg, 1989). *C.philander* is an omnivorous marsupial that has a mixed diet that comprises of mainly fruits, nectar and tree sap as well as small invertebrates, vertebrates and arthropods including beetles and butterflies which comprise 75% and 25% of the diet respectively. Studies done by Julien-Laferrier and Alramentowicz (1990) has shown that the bare-tailed woolly opossum obtained fruit from *Symphonia globulufera* and *Eperu falcate* trees mainly.

SOCIAL ORGANIZATION. The bare-tailed woolly opossum has not been deemed as a territorial species, as the territories are weakly defended by the dominant males. According Eisenberg (1989), male territory has been seen overlapping with female territory. Further studies have proven that the territory of an individual is dependent upon the size and sex of the opossum as well as the degree of available resources (Julien-Laferriere, 1995). Studies done in French Guiana demonstrate 51 opossums per square kilometer in the primary forests and a maximum of 151 in the secondary forests. The habitats house a social hierarchy that is very inconspicuous and is based upon the range of sizes, as the largest opossum in the range is dominant.

These marsupials are solitary except when mating and are nocturnal as they execute a high degree of activity during the new moon that is most appropriate to the full moon (Julien-Laferriere, 1999). The home range of *C. philander* ranges from 1.3-8.9 hectares. Adults reside within an average plot of 3.1 hectares. The ranges are not occupied by just one opossum but instead studies have shown that the home ranges overlap. *C. philander* has an opportunistic use of space which allows them to colonize a wide variety of geographical regions based on food availability and energy needs of the individual. The juveniles as well as the adults disperse very far from their territory of origin. The maximum period of residence may range from 7.7-21 months (Eisenberg, 1989). It was revealed by Julien-Laferriere (1995) that females occupy larger home ranges than males and adults more than juveniles. The bare-tailed woolly opossum may also urinate on branches to identify their home ranges, but this is not a territorial act.

FORAGING BEHAVIOUR. Most foraging activity done by *C. philander* occurs at night. Its duration is approximately 72.2 minutes per night. Ground censuses proved that the bare-tailed woolly opossum exploited flowers as well as fruits during its foraging period. However, the species of plants chosen were based on their abundance as well as seasonal availability. The mammals choose fruits based upon the extent of accessibility to the edible parts. The feeding bouts are positively correlated to the food productivity. Julien-Laferrier (1999) says that *C. philander* has shorter feeding bouts compared to *Potos flavus.*

COMMUNICATION. The communicative channels adopted by the bare-tailed woolly opossum are visual, acoustic, chemical and tactile. This can be proven as they communicate very silently as they move through the branches of trees. However, most acoustic communication takes place during intraspecific encounters. This form of communication is usually represented as hissing sounds. The female adults produce clicking sounds while suckling their young which can be represented as a tool for bonding between the mother and her young. If attacked or threatened by a predator, loud alarming noises are produced by *C. philander* (Emmons and Freer, 1997).

SEXUAL BEHAVIOUR. The mating procedure of the bare-tailed woolly Opossum is not very well understood. However during the breeding season, calling may include weak calls by the adult male, which is followed by an aggressive call of distress expressed by both adult male and female. The sounds can range from weak hisses to loud staccato calling sounds that can be heard for a very wide range that may go up to 200 m. Though the bare-tailed woolly opossum is solitary, they do not express these solitary attributes upon mating. Upon an encounter of both sexes courtship may occur. The mammal may have a maximum of 3 litters per year which is dependent on the availability of resources. Julien-Laferriere (1995) proved that the mating season existed in the month of September which correlated with the increase in food availability. Breeding season is also dependent on the mass and age of the female opossum. *C. philander* have a very brief gestation periods of 24 days but contrastingly they have very long periods of parental caretaking (120 days) in which the females house their young in their pouch that is only present when with young (Alrametowincz, 1995).

JUVENILE BEHAVIOUR. The female opossum takes the role of caretaker of the juvenile opossum after its days of gestation. The young usually weigh less than 200 mg and have a maximum length of 10 mm. The fact that the gestation period is short and hence the time spent for development in the utero of the female *C. philander* is short, there is an extended time in which the juvenile stays in the pouch of the female. There are two distinct periods that occurs in the pouch, the first lasting for 1-92 days when the juvenile remains attached to the teat and the second period is the weaning period during which the young attempts to make very small external trips after day 92. The established nest by the female is used to house the juvenile after weaning has taken place for approximately 30-45 days. The young then leaves its mother. It is very important for the young to leave the nest of its mother as if not, studies have shown that the mother may cannibalize it. Sexual maturity is reached in females at 270 days of age whereas the sexual maturity for the males is unknown but it is induced by the direct contact of a female with a male. This induction is caused by the existence of feedback from pheromonal cues from the male (Altramentowicz, 1992).

ANTIPREDATORY BEHAVIOUR. Due to the small size of *C. philander*, they tend to become prey for a wide variety of species which may include margay cats (*Leopardus wiedii)*, crested eagles (*Morphnus guianesis*) and owls (Strigiformes)**.** Initially upon attack the first response of the bare-tailed woolly opossum, which is common to most opossums, is to run away and climb trees as a form of escape. However when they are incapable of outrunning its predator which are usually faster than they are they have to resort to other defences. The bare-tailed woolly opossum may bare its teeth as well as produce much drooling behaviour to ward off their predators. Another very well-known anti predatory behavior adapted by the opossum is its tendency to fake its death this is also known as the “playing possum.” This mechanism involves the stationary and motionless appearance of the opossum while it lies on its side with a ventrally

curved tail, paws partially closed and eyes and mouth widely opened. The immobility is accompanied by anal secretions which make it smell like a corpse. This behavior may last for up to six hours.

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Author: Afeya Jeffrey

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Fig.2. *Caluromys philander* and its adaptation to canopy life.

[http://www.nationalgeographicstock.com/comp/MI/001/1152739.jpg downloaded 12 November 2012]

Fig.3. Bare-tailed woolly opossum baring its teeth as a defense mechanism.

[https://encrypted-tbn2.gstatic.com/images?q=tbn:ANd9GcSjgIL7hcQFHWIwqG-DfQ8-xrvUS-sUcxEQlJ6jsxdMgvvG0B5C downloaded 12 November 2012]

Fig. 4. Female *Caluromys philander* carrying her young on her back.

[http://www.livt.net/Clt/Ani/Cho/Mam/Mar/Did/did004.jpg downloaded 12 November 2012]