

Coendou prehensilis (Tree Porcupine or Brazilian Porcupine)

Family: Erethizontidae (New World Porcupines)

Order: Rodentia (Rodents)

Class: Mammalia (Mammals)



Fig. 1. Brazilian porcupine, *Coendou prehensilis*.

[http://animaldiversity.ummz.umich.edu/site/resources/pablo_goncalves/Coendou2a.jpg/view.html,
downloaded 22 November 2011]

TRAITS. *Coendou prehensilis*, the Brazilian porcupine, is a mid-sized rodent with evolutionarily modified body hair. This modified hair exists as keratin-toughened, needle-like, semi-hollow quills or spines that grow to approximately 6.5cm in length. Like all New World porcupines, spines grow singly out of the skin and possess minute barbs at the end of the shaft. These spines cover the entire body, except for its fleshy nose, its belly and a large portion of its prehensile tail, and are usually light in colour (white to burnished yellow); there are also darker brown to black (soft/ unmodified) hairs interspersed along the body. It has small round eyes; and, a rounded yet flattened snout. The snout is covered with very short and very fine hairs and has several long whiskers. The porcupine has two long incisors and the front of its mouth that grows continuously during life and lacks canine teeth. At adult weight, this porcupine can range from 2kg to 5kg (Roberts et al., 1984). The average length of an adult Brazilian porcupine is approximately 90cm with its tail contributing about half of that length. *Coendou* also has modified padded feet with four long clawed toes. At birth, the infants are approximately 50cm head to tail, 0.415kg, are covered in reddish brown hair and have soft natal quills about 1.5cm in length that harden a few days after it is born. There is only one offspring per female gestation.

The Brazilian porcupine is considered to have reached minimum adult weight at the age of 24 weeks (Roberts, 1984) but adulthood is reached shortly after weaning at 11 weeks (Allen et al., 2005).

ECOLOGY. The *Coendou prehensilis* exists over a large geographical range, including much of northern South America and Trinidad and Tobago. It is adaptable to changes in its habitat and lives in tropical and sub tropical forests. *Coendou prehensilis* has been consistently ranked least concerned of the animal conservation status (Marinho-Filho, 2011). The Brazilian Porcupine is highly adapted to an arboreal existence, making extensive use of its prehensile tail and long grasping claws; unlike the North American New World porcupines and the Old World porcupines which are terrestrial and do not possess these adaptations. *Coendou* spends most of its time in trees and only travels to the forest floor only when searching for food or to relieve its bowels. This porcupine is herbivorous and lives mainly off of seeds and fruit but also feeds on roots, leaves, barks, flowers and stems. It is active in the late evening and during the night; and, it roosts in trees during the greater portion of the day, therefore, it is considered a nocturnal species. Males and females produce an oily, strongly-scented secretion to mark domain.

SOCIAL ORGANIZATION. The porcupine is not, for the most part, a social animal. Although not aggressive, the *Coendou* spends most of its social time in pairs or it lives solitarily. These porcupines will aggregate in small groups sometimes to sleep but they do not live in a pack or large family setting (Allen et al., 2005). Parents with young live together but sleep at some distance from each other and the young. Parents forage and care for young and tolerate a juvenile even after the birth of another. However, the parents are not protective of young porcupines nor do they take safety precautions.

ACTIVITY. The Brazilian porcupine is not strictly nocturnal like Hystricidae, becoming active in the later part of the afternoon. There is a climax level of activity a couple hours before sunset, at approximately 4pm, and then again at 2am. There is little difference in male and female activity but young *Coendou* do not move about as the adults do although at birth it possesses a strong prehensile tail and long grasping toes. Although, the porcupine may leave the canopy to forage for food, the majority of all activity is arboreal; up to 85% of its time is spent in trees (Roberts et al., 1984). *Coendou* uses its prehensile tail to help it get around from tree to tree and to hang from branches. The long toes and padding of its feet help it to grasp branches and small items almost as efficiently as would an organism with an opposable thumb.

FORAGING BEHAVIOUR. Foraging is done by both males and females and occurs during the later part of the day, upon waking. Most of the foraging of fruits, seeds, leaves, bark etc is done from the roosting tree and the surrounding trees. The porcupine may raid trees from nearby homes, farms and plantations. Primarily arboreal, the *Coendou prehensilis* will also descend to the forest floor to forage for food. Foraging is also done by the adults, the young staying in the perch.

COMMUNICATION. Most interactions of the *Coendou* are with others of the same species. While there were long, loud high pitched moans which act as signals to individuals a far way off, most of the sounds were of high frequency during close friendly interactions. Grunts, growls,

hisses and sounds made from the rattling of spines were made as threats or warnings in aggressive interactions (Roberts et al., 1984).

SEXUAL BEHAVIOUR. Female porcupines come into sexual maturity as early as 19 weeks, nine weeks after weaning; male sexual maturity is approximately at 19 weeks as well. They begin to mate promptly upon coming of age, however little is recorded about the mating activities of the *Coendou*. It is known, however, that females mate and produce young consistently throughout life and begin copulating as early as three days after giving birth; the gestation period for a fetus is approximately 203 days (Roberts et al., 1984). Males are noted to urinate on females prior to mating as well as on both females and their newborn offspring. There is no apparent mating season.

JUVENILE BEHAVIOUR. Young *Coendou prehensilis* do not move from the roost for the first 2-3 weeks after birth even though it is capable of moving and will do so if disturbed. It is suckles from the mother every 4-6 hours and it is the mother who initiates and ends the feeding. Young Brazilian porcupines with engage in long hours of play with each other or a parent, usually the father.

ANTIPREDATOR BEHAVIOUR. *Coendou prehensilis* is not a major target of predation and is usually non-aggressive when faced with an opponent or potential threat. It may try to retreat or curl up to protect its belly and simultaneously present its quills to the attacker. When startled, it may shake causing its spines to rattle, as well as grunt or stomp, as a form of warning. Aggressive antipredator behaviour is highly successful. The porcupine will at times, charge the predator quickly while its spines are raised. If contact is made the quills will be released into the skin of the predator (Allen et al., 2005). The barbs at the end of the spines, ensure that the embedded quill remains lodged within the skin of the attacker, and will actually cause the spine to move deeper into the flesh as the attacker moves. This may lead to the infection and likely death of the attacker.

REFERENCES

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- Roberts, M., Brand, S., Maliniak, E., "The Biology of Captive Prehensile Tailed Porcupine: *Coendou Prehensilis*" Department of Zoological Research, National Zoological Park, Washington DC, 1984. <http://nationalzoo.si.edu/scbi/SpotlightonVetMedicine/The%20Biology%20of%20Prehensile-tailed%20Porcupines.pdf>

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