

Thecadactylus rapicauda (Turnip-tailed Gecko)

Family: Gekkonidae (Geckos)

Order: Squamata (Lizards and Snakes)

Class: Reptilia (Reptiles)



Fig. 1. Turnip-tailed gecko, *Thecadactylus rapicauda*.

[<http://eol.org/pages/461289/media>, downloaded 7 April 2015]

TRAITS. *Thecadactylus rapicauda* is a fairly large Neotropical gecko with an average body length ranging from 12-22cm from snout to vent. Males are somewhat smaller and less robustly built than females (Benthin, 2004). It possesses a well-defined flattened head and narrow neck (Encyclopedia of life, n.d.) (Fig. 1). Female *T. rapicuda* have a less flattened body compared to the males. The pupils are elliptical in shape and vertical (Wikipedia, 2014), and a white stripe runs from the eye towards the ear (Fig. 2). Capable of changing colour, its ground colour ranges from pale to dark grey and orange, but also allows for the formation of cross band markings (Fig. 3). It has a blue tongue with an orange mouth interior and its lip scales are white with black borders. Turnip tails are the only Neotropical lizards to have no moveable eyelids (Encyclopedia of life, n.d.). The teeth are bluntly pointed in a conical shape, and all teeth are similar in size. The name turnip-tailed gecko is derived from the tail's swollen appearance which has a function in fat storage, and is built to be severed as a defensive mechanism. The anterior region of a regenerated tail is wider than the stump (Benthin, 2004). The gecko has robust limbs with expanded yet flattened digits (toes). Basal webbing connects the toes up to one third the total length. On the ends of each digit extends a double series of large scales, arranged in lamellae (plates), which are used by the gecko as friction pads (Fig. 4). These pads are so efficient that a dead turnip tail may continue to cling to a smooth vertical surface. The tip splits from the dual

lamellae to form a retractile claw, which retracts as the reptile moves over a smooth surface. This claw is approximately 1mm in length and present on each toe, with exception to the first toe of each foot.

DISTRIBUTION. Widely distributed over the area of Mexico (Wikipedia, 2014), spreading southward through Central America into South Americas. The species extends as far as Brazil also occupying regions of the Lesser Antilles namely Trinidad and Tobago, St. Lucia, Grenada, Aruba, Bonair, Curacao and Los Testigos (Benthin, 2004) (Fig. 5). The populations within the Lesser Antilles are similar to that of the continental regions (Kronauer et al., 2005) which indicates a possibility that populations have been introduced via prehistoric humans. However, genetic analysis increases the likelihood that *T. rapicauda* populations in the Lesser Antilles are native (Encyclopedia of life, n.d.).

HABITAT AND ACTIVITY. Found mostly in rainforest and forested areas in trees, or located on the forest floor. Turnip-tails commonly do not exceed a height of 20m on tress and may also be found in human habitats or savannas provided that food supply is sufficient, and an ideal temperature around 25-27°C at 60% humidity (Benthin, 2004). May also be located on mesic highlands, xeric hilltops, within holes of trees, rock piles and bromeliads. Turnip tails are mainly active at night, occasionally may be found in the day, sun basking.

FOOD AND FEEDING. The turnip tailed gecko may be described as an ambush predator. Stomach samples show a variety of insects (Hoogmoed, 1973), which include cockroaches, beetles, grasshoppers, and spiders. The frequency of grasshoppers is low, possibly indicating a diet preference.

POPULATION ECOLOGY. Turnip-tailed geckos are said to live peacefully with other geckos inclusive of its offspring (Benthin, 2004), along with other species of geckos. Observation revealed that several male individuals are able to live together, provided that no females are located in the general area. A parasitic tapeworm is commonly found in the gut of most individuals of this species (Encyclopedia of Life, n.d.).

REPRODUCTION. The mating period occurs between the months of May and September. Upon mating a female may lay a single egg at a time (Encyclopedia of life, n.d.), which has a near round appearance and hardened shell (Fig. 6). Alternating between ovaries for each egg, they are buried by the female in a slightly moist substrate (Benthin, 2004), in which it incubates for 13 days before hatching. Eggs may also be placed in tree trunks or under bark and due to the species' nocturnal nature, eggs are mostly laid during the night (Encyclopedia of Life, n.d.)

BEHAVIOUR. Turnip tails are able to vocalize a series of chirps (Wikipedia, 2004) during its active night periods. These chirps audible by “chacks” or “clicks” are believed to be imitations of insects (Daniells et al., 2008). Communication between individuals may be identified by a succession of 12-25 rapid clicks, which decrease in volume upon succession (Daniells et al., 2008). These vocalized beats are used in establishment and defense of territory (Encyclopedia of Life, n.d.). They are able to use their tails in a variety of ways. Turnip tails use their tails as fat storage, an extra limb and as a defensive or signaling mechanism. Under predator attack, due to the tail's autonomy (loss), it detaches serving as a distraction while the gecko makes an escape or

repositions to attack. Offensively, it may wave its tail (Wikipedia, 2014) as a sign of aggression. When threatened, turnip tails open their mouth, displaying its blue tongue (Benthin, 2004) along with its waving tail. Continued provocation subsequent to warning signals, may result in a fierce though non-poisonous bite from an individual. Further adding to defensive mechanisms, the ability to change its colour is used in camouflage in which they utilize a “mottled grey dorsum” (Treglia, 2006), allowing for blending in among lichens found on the bark of forest trees. Turnip-tails’ ground colour fluctuates greatly from day to night, allowing for a variety of camouflage patterns to better defend itself in the large range of habitats they may be found in. They have a generally slow, ponderous movement (Benthin, 2004), only when under threat they exhibit quick speed bursts. When sleeping, it has been observed that they stay in a coiled position (Kaieteur News, 2010), mimicking a snake, particularly a viper.

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Fig. 2. Pupils and eyelids of *T. rapicauda*.

[<http://eol.org/pages/461289/media>, downloaded 7 April 2015]



Fig. 3. Colour variations in *T. rapicauda*.

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Fig. 4. Feet of *Thecadactylus rapicauda*.

[https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcQTvaRA_tjhSD7ewLsOmSk3ouE332yyIp4LjNP-mlq1WKOogCw3yw, downloaded 7 April 2015]



Fig. 5. Geographic distribution of *Thecadactylus rapicauda*.

[From Kronauer et al. (2005)]



Fig. 6. Eggs of turnip-tailed gecko.

[http://www.lesfruitsdemer.org/wp-content/gallery/naked-boy-hill-02-13-2011/DSC_3267.jpg, downloaded 7 April 2015]

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