Hemidactylus mabouia (African House Gecko)

Family: Gekkonidae (Geckos)
Order: Squamata (Lizards and Snakes)
Class: Reptilia (Reptiles)

Fig. 1. African house gecko, *Hemidactylus mabouia.*

[http://www.californiaherps.com/noncal/misc/misclizards/, downloaded 11 November 2012]

TRAITS. The average adult can grow to a maximium of approximately 70 mm (Censky et al., 2003). Adult females usually have a head-body length between 61-70mm, whereas the male is shorter in length growing to between 58-67mm (Dixon and Soini, 1986). They are of a slender body type and have a flattened head which is considerably wider than the neck width (Rose, 1950). These lizards have a pointed snout from above and have small oval openings as ears (Murphy, 1997). Dorsal scales or the upper surface scales (on the organism's back) are very small and granular. They are interspersed with spike-like scales called tubercles which are positioned in longitudinal rows (Censky et al., 2003). Below the fingers and toes are a layer-like pattern of modified scales or lamellae. Lamellae help the lizard to cling on to any vertical surface e.g. a tree trunk (Murphy, 1997). The tail is at least 20 mm of the head-body length and it is studded with granular scales and small tubercles. This species has exposed claws with toe pads. It is able to change colour according to light intensity and temperature. Colours range from dark

brown to greyish white or light brown. The tail is moderately colour banded (Murphy, 1997). The entire body is masked in black/brown V-shaped bands. Eggs can be seen through the ventral skin of females. The African house gecko is also known by local vernacular names originally applied to the native house gecko, *Thecadactylus rapicauda* (Murphy, 1997).

ECOLOGY. This species is a good colonizer. It has spread throughout the Lesser Antilles, eastern South America from Uruguay to the Orinoco Delta and the Amazon Basin. Less records of this species have been made in Florida and the Greater Antilles (Censky et al., 2003). This sub-tropical species originated from Africa and Madagascar and is found in islands of the Mozambique Channel (Murphy, 1997). It is commonly found in environments such as on the bark of trees, and human habitations like wooden picnic tables, household walls, fences or near insect-attracting lights (Censky et al., 2003).

ACTIVITY. The lizard is primarily nocturnal however some individuals may explore during the day (Dixon and Soini, 1986). Of the diurnal (daylight) explorers most stay under trees or stones and in cool and shaded regions like behind tables (Censky et al., 2003). Lizards are highly active during the heat of the evening where there is maximum sunlight and warm temperatures. Activity decreases as night progresses and environmental temperatures decrease (Censky et al., 2003). Lizards avoid excess exposure by diverting from routes across open expanses of land.

FORAGING BEHAVIOUR. African house geckos are insectivorous and forage in far off dark corners of buildings during the day (Dixon and Soini, 1986). During the evening the lizards feed on mainly moths, flies and mosquitoes which are caught in close proximity to light bulbs on the wall (Pianka and Vitt, 2003). Non-urban populations are generalists and opportunistic, they feed on any range of insects that are available to them. Lizards practice the ‘sit and wait’ mechanism of capturing their prey. They prefer to feed on agile moving insects such as flies and spiders as opposed to sluggish prey like insect larvae and termites (Balestrin et al., 2006). A quick and steady tongue extrusion grasps the prey into the lizard’s mouth where it is then swallowed.

COMMUNICATION. Lizards display signal interaction by acoustic, visual and chemosensory behavior. Males may engage in multiple chirping calls to warn other males about intrusion of territorial boundaries. In chemosensory communication, opposite sexes recognize each other by tongue flicking. With a conspecific i.e. the same species, of a different sex, lizards would display courtship, rejection or copulation characteristics (Regalado, 2003). With a conspecific of similar sex the lizard would display agonistic behavior (rivalry) such as fighting. Visual signals are made during fighting between male conspecifics. Back-arching, biting and threatening are associated events of battling males. Losing lizards eventually withdraw and subdue to the winning opponent (Regalado, 2003). The greater the leg extension and arching of the back of a male lizard indicates his strength and fierce ability to other contenders. This physical appearance allows the receiving male to decide whether to pursue or to retreat and avoid conflict (Regalado, 2003).

SEXUAL BEHAVIOUR. Acoustic signals are used by males to attract females by pursuing multiple chirping calls in any male to female encounter. An interested female will accordingly display a receptive position, whereas an uninterested female will reflect rejection (Regalado, 2003). Females lay calcified eggs that are water-loss resistant. Eggs are small, white, soft and

sticky which allow for gluing to shady surfaces such as in the cracks of walls, tree barks or table legs (Rose, 1950). Eggs are approximately 8.5 × 10mm in size. Gravid (egg-carrying) females lay eggs one at a time at daily intervals (Dixon and Soini, 1986). Females practice communal oviposition (nesting) and a nursery usually contains over fifty (50) eggs. Communal nesting causes a larger combined clutch size (i.e. number of offspring produced). Larger aggregations of eggs provide protection and thermoregulation for the eggs (Gurgel de Sousa and Freire, 2010) Nesting frequencies are influenced by air temperature and female dietary intake. Females reproduce year round. However due the lack of literature on the time between copulation events, the approximate time of fertilization and breeding is unknown (Hooper et al., 2003).

JUVENILE BEHAVIOUR. There is not an abundance of literature provided for knowledge of juvenile behavior in this species. However it is known that younger lizards venture out less frequently than adults. Juveniles stay in close proximity to shelter and low ground (Censky et al., 2003).

ANTI-PREDATORY BEHAVIOUR. Lizard species uses the ability of rapid running to escape predators. Species may become stationary and camouflage into the background by crypsis. This is to avoid detection by predators (Galdina et al., 2006). The tender and breakable skin of these lizards is used to escape the clutch of predators such as cats, larger- sized lizards and nocturnal birds. On the tearing of their skin, the lizards are freed and then able to seek refuge under a covered area. Tail fragments are easily severed from the body when the lizard is caught by a predator. The tail end writhes and wriggles actively and distracts the predator's original focus from the lizard (Censky et al., 2003). An escape opportunity is then presented to the ensnared reptile.

REFERENCES

Balestrin, Rafael L., Bonfiglio F. and Lize Helena Capellari.2006.*"Diet of Hemidactylus mabouia(SAURIA,GEKKONIDAE) in Urban area of Southern Brazil."* Volume 14: 107-111.

Censky,Ellen J.,Karim V. D. Hodge and Robert Powell.2003. *" The Reptiles and Amphibians of Anguilla British West Indies: Species Accounts – Lizards"*.Anguilla National Trust.

Dixon,James R. and Pekka Soini.1986. *"The Reptiles of the Upper Amazon Basin, Iquitos Region, Peru: Part 1: Lizards and Amphisbaenians."* Milwaukee Public Museum.

Galdina, Corado A B., Emiliane G. Pereira, Angelica F. Fontes and Monique Van Sluys.2006.*"Defense Behaviour and Tail loss In the Endemic Lizard Eurolophosaurus nanuzae (Squamata Tropiduridae) from South Eastern Brazil."* Departemento de Cuncas Biologicas. Phllomedusa 5 (1):25-30.

Gurgel de Sousa,Pablo A. and Eliza Maria Xavier Freire.2010.*"Communal nests of Hemidactylus mabouia(Moreau de Jonnes, 1818)Squamata: Gekkonidae in a remnant of Atlantic Forest in northeastern Brazil."* Biotemas 23 (3): 231-234

Hooper, Nichole A., Kenneth L. Krysko and Coleman M.Sheehy.2003.*"Interspecific Communal Oviposition and Reproduction of four species of lizards (Sauria:Gekkonidae) in the Lower Florida Keys."* Florida Museum of Natural History. Division of Hepatology, University of Florida.

Murphy, John C.1997. *"Amphibians and Reptiles of Trinidad and Tobago.Kreiger Publishing Company: Part4-Reptilia Species Accounts."* Kreiger Drive, Malabar, Florida.

Pianka,Eric R. and Laurie J. Vitt.2003. *"Lizards-Windows to Evolution and Diversity"* University of California Press.

Regalado, Ruben. 2003. *"Roles of Visual, Acoustic and Chemical Signals in Social interactions of the tropical Gecko(Hemidactylus mabouia)."* Caribbean Journal of Science.University of Puerto Rico, Magabez.

Rose,Walter. 1950. *"The Reptiles and Amphibians of South Africa: General Characteristics of Reptiles."* The Standard Press Ltd.

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Fig. 2. Eggs of *Hemidactylus mabouia*.

[http://www.herpetology.us/field_trips/2008/turks_caicos_islands_salt_k/hemidactylus_mabouia_tropic.html, downloaded 3 December 2012]