

# ***HEMIDACTYLUS MACULATUS HUNAE* (REPTILIA: GEKKONIDAE) PREYS ON *BANDICOTA BENGALENSIS* (MAMMALIA: RODENTIA) IN THE GALOYA NATIONAL PARK, SRI LANKA**

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**Abstract:** The Spotted giant gecko, *Hemidactylus maculatus hunae*, is the largest gecko recorded in Sri Lanka and it is considered to be endemic of the island. There are few records of geckos feeding on vertebrates, and this is the first record of a gecko feeding on a rat species. More research is needed about the behaviour and other aspects of the biology of *H. m. hunae*.

**Key words:** Spotted giant gecko, mole rat, predation, feeding behaviour, Sauria, lizard.

**Resumen:** D.M.S. S. Karunaratna y A.A. T. Amarasinghe. “*Hemidactylus maculatus hunae* (Reptilia: Gekkonidae) depreda sobre *Bandicota bengalensis* (Mammalia: Rodentia) en el Parque Nacional Galoya, Sri Lanka”. El gecko gigante manchado, *Hemidactylus maculatus hunae*, es el gecko de mayor tamaño registrado en Sri Lanka y es considerado endémico de la isla. Hay pocos registros de geckos que se alimentan de vertebrados, y este es el primer registro de un gecko alimentándose de una especie de rata. Se necesita más investigación acerca del comportamiento y otros aspectos de la biología de *H. m. hunae*.

**Palabras Clave:** Gecko gigante manchado, rata topo, depredación, comportamiento alimentario, Sauria, lagarto.

## INTRODUCTION

Forty two species or subspecies belonging to eight genera of geckos, family Gekkonidae, have been recognized from Sri Lanka and 31 (71%) of them are endemic to the island (Amarasinghe *et al.* 2009; Somaweera and Somaweera 2009). The gecko genus *Hemidactylus* comprises eight species or subspecies and the spotted giant gecko, *Hemidactylus maculatus hunae*, is an arboreal species found on granite caves, rock-out boulders, anthropogenic habitats and trees in the shaded areas in the dry and intermediate zones of Sri Lanka (Das and de Silva 2005, de Silva *et al.* 2004a).

*Hemidactylus maculatus hunae* is the largest gecko in the country (Deraniyagala 1953). It is locally known as “*Daventha Thith Hoonā*” (de Silva *et al.* 2004b) or “*Thalagoi Hoonā*” (in Sinhala language) and attains a snout-vent length of over 120 mm and tail lengths of over 140 mm. This subspecies is considered endemic to Sri Lanka (Wickramasinghe and Somaweera 2008) and may be a distinct species (Amarasinghe *et al.* 2009). *Hemidactylus m. hunae* is often observed during the period 19:00-23:00 h and is exclusively nocturnal. Males, females and juveniles live in the same habitats. *Hemidactylus m. hunae* is highly carnivorous and mainly feeds on invertebrates, especially insects. However, *H. m. maculatus* actively preys on small vertebrates such as geckos, skinks, agamid lizards,

small birds and small mammals (“All these records are from India”; Daniel 2002). Here we report, with photographic evidence, the feeding habit of *H. m. hunae*, while predating on a pest rat species.

## OBSERVATION

Observations were made on 8 of August 2009 in the ‘Makarae’ (=Dragon Mouth), Galoya National Park (112 m elevation; 07°11’44.88”N, 81°26’13.81”E, Fig. 1) in Monaragala District of Uva Province, Sri Lanka. Observations were made without disturbing the gecko. A mature male *H. m. hunae* (approx. 300 mm in total length) was observed from a distance of 2 m at 22:10 h on a large rock boulder (4 m height and 6 m wide). It then moved slowly to the forest floor where there were two small rat holes nearby, one belonging to an antelope rat (*Tatera indica*) and the other to a mole rat (*Bandicota bengalensis*). After about 20 minutes, we heard a small noise – ‘*crivk crivk crivk*’.

At this time the gecko quickly came out of the mole rat hole with a juvenile mole rat (5 cm long) in its mouth (Fig. 2). Then the gecko dashed the prey three times on the granite rock wall and repeated this action eight to ten times. It then swallowed the prey head first at about 22:45 h. After five minutes, the gecko immediately retreated

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**Fig. 1.** Habitat of the spotted giant gecko in Galoya National Park, Sri Lanka.  
*Hábitat del gecko gigante manchado en el Parque Nacional Galoya, Sri Lanka.*

back to a fracture of the rock boulder. No additional observations of predation on this rat species by *Hemidactylus maculatus hunae* were recorded. However, Dattarti (1984), Kannan and Krishnaraj (1988), Somaweera (2005) and Sumithran (1982) reported *Hemidactylus leschenaultii* preying on a rat, gecko, skink and a colubrid snake.

In most cases, *Bandicota bengalensis* is considered a pest species in croplands and home gardens and it also causes public health problems in Sri Lanka. This rat species has successfully adapted to the urban habitat in many countries, including India, Pakistan, Indonesia, Thailand and Malaysia (Groves 1984).

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#### REFERENCES

**Amarasinghe, A.A.T., A.M. Bauer, I. Ineich, J. Rudge, M.M. Bahir and D.E. Gabadage. 2009.** The original descriptions and figures of Sri Lankan gekkonid lizards (Squamata: Gekkonidae) of the 18<sup>th</sup>, 19<sup>th</sup> and 20<sup>th</sup> centuries. *Taprobanica* 1(2):83-106.

**Batuwita, S. and M.M. Bahir. 2005.** Description of five new species of *Cyrtodactylus* (Reptilia: Gekkonidae) from Sri Lanka. *Raffles Bulletin of Zoology, Supplement* 12:351-380.

**Daniel, J.C. 2002.** *The Book of Indian Reptiles and Amphibians.* Bombay Natural History Society and Oxford University Press, Oxford.

**Das, I. and A. de Silva. 2005.** A photographic guide to the snakes and other reptiles of Sri Lanka. New Holland Publishers (UK) Ltd., London.

**Dattarti, S. 1984.** Predation on a sympatric species by *Hemidactylus leschenaultii* (Sauria: Gekkonidae). *Journal of Bombay Natural History Society* 81(2):484.

**Deraniyagala, P.E.P. 1953.** A Colored Atlas of Some Vertebrates from Ceylon. Tetrapod Reptilia. Vol. 2. National Museums of Sri Lanka, Colombo.

**de Silva, A. 2006.** Current status of the reptiles of Sri Lanka. Pp. 134-163. *In:* C.N.B. Bambaradeniya (ed.). *Fauna of Sri Lanka: Status of Taxonomy, Research and Conservation.* IUCN Sri Lanka, Colombo.

**de Silva, A., R.P.V.J. Rajapakse, A.M. Bauer, W.M.J. de Silva, C.C. Austin, S. Goonewardene, Z. Hawke, V. Vanneck, A.**



**Fig. 2.** The spotted giant gecko preys on juvenile mole rat.  
*El gecko gigante manchado depreda una rata topo juvenil.*

- Drion and M.M. Goonasekera. 2004a.** First report of parasites of *Hemidactylus maculatus hunae* and *Calodactylodes illingworthorum* (Reptilia: Gekkonidae) inhabiting the Nilgala Fire Savannah, Sri Lanka. *Lyriocephalus* 5(1-2):199-205.
- de Silva, A., A. Bauer, C.C. Austin, S. Goonewardene, Z. Hawke, V. Vanneck, A. Drion, P. De Silva, B.J.K. Perera, R.L. Jayaratne and M.M. Goonasekera. 2004b.** The Diversity of Nilgala Forest, Sri Lanka, with special reference to its herpetofauna. *Lyriocephalus* 5(1-2):164-182.
- Groves, C.P. 1984.** Of mice and men and pigs in the Indo-Australian archipelago. *Canberra Anthropology* 7:1-19.
- Kannan, R. and R. Krishnaraj. 1988.** An incidence of a gecko (*Hemidactylus* sp.) feeding on a skink. *Journal of Bombay Natural History Society* 85(1):198-199.
- Somaweera, R. and N. Somaweera. 2009.** Lizards of Sri Lanka: A colour guide with field keys. Edition Chimaira, Frankfurt am Main, Germany.
- Somaweera, R. 2005.** A Bark gecko (*Hemidactylus leschenaultii*) preying on a Wolf Snake (*Lycodon striatus sinhaleyus*). *Gekko* 4(2):8-10.
- Sumithran, S. 1982.** Gecko feeding on mouse. *Journal of Bombay Natural History Society* 79(3):691-692.
- Wickramasinghe, M. and R. Somaweera. 2008.** Changes in the distribution ranges of the Sri Lankan *Hemidactylus* species. *Gekko* 5(2):44-60.