

Aberration on the tail bifurcation of *Hemidactylus platyurus* (Schneider, 1797) in Magpet, North Cotabato, Philippines

Andrie Bon A. FLORES & Gerrie Mae A. FLORES

andriebon.flores@g.msuiit.edu.ph (Flores, A), gerriemae.flores@g.msuiit.edu.ph (Flores, G)

Observers: Andrie Bon A. Flores, Gerrie Mae A. Flores.

Photograph by: Andrie Bon A. Flores.

Subject identified by: Andrie Bon A. Flores.

Location: Barangay Alibayon, Magpet, North Cotabato, Philippines.

Elevation: 228 metres ASL.

Habitat: Residential home.

Date and time: 19 February 2023, 15:25 hrs.

Identity of subject:

Flat-tailed House Gecko, *Hemidactylus platyurus* (Reptilia: Squamata: Gekkonidae).

Description of record:

During a house visit we observed and documented a Flat-tailed House Gecko (*Hemidactylus platyurus*) which exhibited an unusual morphological structure, namely a bifurcated, forked tail (Fig. 1). The gecko was found on the ceiling of a residential house, but there were no other individuals found in the house that exhibited this characteristic.



Figure 1. *Hemidactylus platyurus* on the ceiling of a residential home in Magpet.

© Andrie Bon A. Flores

Remarks:

The identified species is a Flat-tailed House Gecko, *Hemidactylus platyurus*, because it exhibits a grey dorsum with darker colouration and marbling, and has a black streak from shoulder to its eye. (Annandale 1907). In addition, it has a depressed, flat tail with little fringes on each side. *Hemidactylus platyurus* is morphologically distinct from other species because of its cutaneous enlargement from the axilla to the groin, and another bordering the posterior portion of the hind leg on the upper surfaces (Purkayastha 2018). This species is widespread across the Philippines and is commonly found in villages and human habitation (Gojo Cruz 2016; Venturina et al. 2020).

Tail bifurcation in geckoes is not unusual (Gandhla and Srinivasalu 2015) but is a rather well-known aberration in squamates, which is strongly linked to abnormalities in the caudal autotomy process (Alibardi 2010), a mechanism that is frequently used by lizards to defend themselves against predators (Meyer et al. 2002). This feature may be the result of prior wounds (Lynn, 1950) or mechanical damage preventing the tail from being completely lost (Arnold, 1994), permitting the creation of a second tail during the regeneration of the damaged area (e.g. Gogliath et al., 2012). Observations of bifid or bifurcated tails have been documented in other geckos (Kumbar et al. 2011; Gandhla and Srinivasalu, 2015; Koleska, 2018). Apart from this, numerous studies have also discussed tail-bifurcation in other species of lizard (De Andrade et al. 2015; Gogoi et al. 2018; Maria and Al-Razi 2018; Sy and Dalabajan, 2018; Bhattarai et al. 2020; Khandakar and Sultana 2020).

Hemidactylus platyurus is one of the most common of house geckos that is widespread across the country, typically residing in manmade structures and even inside rural homes (Venturina et al. 2020). However, sightings of a two-tailed or bifurcated-tailed *Hemidactylus platyurus* have not yet been documented in the country. As a result, to the best of the authors' knowledge, this is the first instance of this species' tail bifurcation from the Philippines.

References:

- Arnold, E. N. (1994). Investigating the evolutionary effects of one feature on another: does muscle spread suppress caudal autotomy in lizards?. *Journal of Zoology*, 232(3), 505-523.
- Alibardi, L. (2010). Ultrastructural features of the process of wound healing after tail and limb amputation in lizard. *Acta Zoologica*, 91(3), 306-318.
- Annandale, N. (1907). Reports on a Collection of Batrachia, Reptiles and Fish from nepal and the Western Himalayas--Lacertilia. *Records of the Zoological Survey of India*, 1(2), 0151-0155.
- Bhattarai, S., Lamichhane, B. R., & Subedi, N. (2020). Tail bifurcation in a Yellow-bellied House Gecko, *Hemidactylus flaviviridis* Rüppel 1835, in Chitwan, Nepal. *Reptiles & Amphibians*, 27(1), 48-49.
- De Andrade, M. J. M., Lopes, J. R. I., De Sales, R. F. D., & Freire, E. M. X. (2015). *Hemidactylus agrius* (Country leaf-toed gecko): Polydactyly and tail bifurcation. *The Herpetological Bulletin*, 131(2015), 28-29.
- Gandla, C. K. & Srinivasalu, C. (2015). A two-tailed Indian giant leaf-toed Gecko (*Hemidactylus giganteus*). *Taprobanica*. 7(4): 263–265.
- Gogliath, M., Pereira, L. C. M., Nicola, P. A., & Ribeiro, L. B. (2012). *Ameiva ameiva* (giant ameiva). Bifurcation. *Herpetological Review*, 43(1), 129.
- Gogoi, M., Kundu, S., Goswami, J., Saikia, D., & Pandey, N. (2018). First record of tail bifurcation in Tokey Gecko (*Gekko gekko*) from the Kaziranga, Assam, India: a field observation. *International Journal of Experimental Research and Review*, 15, 5-8.
- Gojo Cruz, P. H. P., Afuang, L. E., Gonzales, J. C. T., Tabaranza, D. G. E., Alejandro, M. D., Cajano, M. A. D., & Afuang, D. L. E. (2016). Diversity and distribution of herpetofauna in Balesin Island, Polillo, Quezon, Philippines. *The Technical Journal of Philippine Ecosystems and National Resources*.
- Khandakar, N., & Sultana, I. (2020). A Tale of Two Tails: Tail Bifurcation in the Common House Gecko, *Hemidactylus frenatus* (Duméril and Bibron 1836), in Bangladesh. *Reptiles & Amphibians*, 27(2), 255-256.
- Koleska, D. (2018). First record of tail bifurcation in *Asaccus gallagheri* from the United Arabian Emirates. *Herpetology Notes*, 11, 115-116.
- Kumbar, S. M., Ghadage, A. B., & Shendage, V. M. (2011). *Hemidactylus flaviviridis* (House Gecko). Bifurcation. *Herpetological Review*, 42(1), 94.
- Lynn, W. G. (1950). A case of duplication of the tail in *Plethodon*. *Herpetologica*, 6(3), 81-84.

- Maria, M., & Al-Razi, H. (2018). Observation of tail bifurcation in *Hemidactylus frenatus* (Schlegel, 1836). *Herpetology Notes*, 11, 953-954.
- Meyer, V., Preest, M. R., & Locketto, S. M. (2002). Physiology of original and regenerated lizard tails. *Herpetologica*, 58(1), 75-86.
- Purkayastha, J. (2018). Urban biodiversity: an insight into the terrestrial vertebrate diversity of Guwahati, India. *Journal of Threatened Taxa*, 10(10), 12299-12316.
- Sy E. Y., & Dalabajan A.C. (2018). Tail bifurcation in *Eutropis indeprensa* on Palawan Island, Philippines. *Southeast Asian Vertebrate Records* 2018: 006–007.
- Venturina, R. E. L., Del Prado, Y. L. C., Kamir, R. A. C., Balmores, M. N., & Diesmos, A. C. (2020). A revised checklist of amphibians and reptiles in Camiguin Sur, Misamis Oriental, Mindanao, Philippines. *Asian Herpetological Research*, 11(1), 28-43.