



A Bifid Tail in a Northern House Gecko, *Hemidactylus flaviviridis* Rüppell 1835, in Gujarat, India

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Smith (1935) stated that the native range of the Northern House Gecko (*Hemidactylus flaviviridis*) in India was restricted to northern parts of the country. Anderson (1999) indicated that populations of these geckos found elsewhere are the result of a westward anthropogenic distribution along trade routes. Today, the global distribution of this species includes Afghanistan, Bahrein, Bangladesh, Egypt, China, India, Iran, Iraq, Japan, Kuwait, Nepal, Oman, Pakistan, Qatar, Saudi Arabia, Somalia, Sudan, United Arab Emirates, and Yemen (Uetz et al. 2020). The Northern House Gecko is the most abundant and widely distributed gecko in Gujarat, India, where it inhabits both natural environments and human-modified areas (Patel and Vyas 2019).

On 27 July 2020, we encountered an unusual gecko in a hut in Sindhrot, Vadodara District, Gujarat, India (22°19'49.03"N; 73°03'52.48"E). It was a large adult female Northern House Gecko (SVL ~8.5 cm) with two regenerated tails, one in the normal position and a second emerging at a right angle from the base of the tail (Fig. 1). The gecko had a number of scars on the head, neck, and anterior dorsum, and the fourth finger on the right forelimb was missing. The scars are indications of bites, presumably the result of mating with a particularly aggressive male or fighting with other

geckos. Because a bifurcated tail typically occurs when damage is incurred without complete tail loss (Arnold 1988), we suspect that the same factors that led to the scars were responsible for the regenerated tails. Although the female appeared to be healthy, the presence of multiple tails in an individual can negatively affect fitness by limiting activities such as foraging, mating, and the ability to escape from predators (Passos et al. 2014).

Previous accounts of tail abnormalities in Northern House Geckos are in Woodland (1920), Das (1932), Singh Sood (1939), Kumbar et al. (2011), Bhattarai et al. (2020), and possibly in Vyas (2016), who described a bifid tail in a *Hemidactylus* sp. from The Dangs District of Gujarat. We present this additional report only because of the unusual configuration of the bifid tail in this individual.

Literature Cited

- Anderson, S.C. 1999. *The Lizards of Iran*. SSAR Contributions to Herpetology Volume 15. Society for the Study of Amphibians and Reptiles, Ithaca, New York, USA.
- Arnold, E. 1988. Caudal autotomy as a defense, pp. 235–273. In: C. Gans and R.B. Huey (eds.), *Biology of the Reptilia. Volume 16, Ecology B. Defense and Life History*. Alan R. Liss, Inc., New York, New York, USA.
- Bhattarai, S., B.R. Lamichhane, and N. Subedi. 2020. Tail bifurcation in a Yellow-bellied House Gecko, *Hemidactylus flaviviridis* Rüppell 1835, in Chitwan, Nepal. *Reptiles & Amphibians* 27: 48–49.



Fig. 1. A Northern House Gecko (*Hemidactylus flaviviridis*) with a bifid tail at Sindhrot, Vadodara, Gujarat, India. Note the number of scars and areas of damaged skin on the head, neck, and anterior dorsum. Photograph by Kartik Upadhyay.

- Das, G.M. 1932. Observations on the trifid tails in two specimens of *Hemidactylus flaviviridis*, Rüppel, with a note on the artificial regeneration of double and triple tails of the “Tokhak” Lizard, *Gecko verticillatus*, Laurenti. *Journal of the Bombay Natural History Society* 35: 657–662.
- Kumbar, S.M., A.B. Ghadage, and V.M. Shendage. 2011. *Hemidactylus flaviviridis* (House Gecko). Bifurcation. *Herpetological Review* 42: 94.
- Passos, D., L. Pinheiro, C. Galdino, and C. Rocha. 2014. *Tropidurus semitaeniatus* (Calango de Lagedo). Tail bifurcation. *Herpetological Review* 45: 138.
- Patel, H. and R. Vyas. 2019. Reptiles of Gujarat, India: Updated checklist, distribution, and conservation status. *Herpetology Notes* 12: 765–777.
- Singh Sood, M. 1939. A peculiar case of caudal abnormality in *Hemidactylus flaviviridis* Rüppel. *Proceedings of the Indian Academy of Sciences - Section B* 9: 316–322.
- Smith, M.A. 1935. *The Fauna of British India, Including Ceylon and Burma. Reptilia and Amphibia. Vol. II—Sauria*. Taylor & Francis Ltd., London, UK.
- Vyas, R. 2016. Bifid tails in two Indian lizards. *Reptiles & Amphibians* 23: 14–26.
- Uetz, P., P. Freed, and J. Hošek (eds.). 2020. The Reptile Database. <<http://www.reptile-database.org>>.
- Woodland, W.N.F. 1920. Some observations on caudal autotomy and regeneration in the gecko (*Hemidactylus flaviviridis*, Rüppel), with notes on the tails of *Sphenodon* and *Pygopus*. *Quarterly Journal of Microscopical Science, New Series* 65: 63–100.