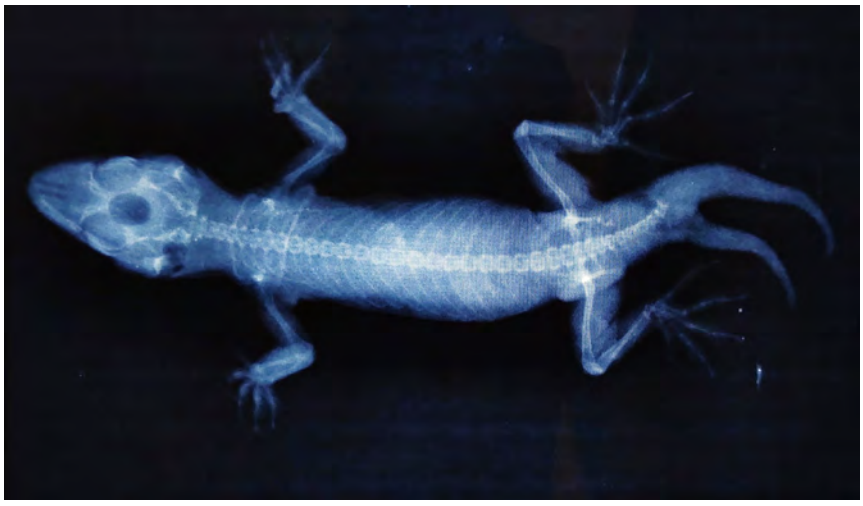
First record of tail bifurcation in the Indian House Gecko *Hemidactylus flaviviridis* from Odisha

Lizards across several groups utilise caudal autotomy, the ability to deliberately severe off the tail, to escape from predation (Bateman & Fleming 2009). The detached tail often continues to wriggle vigorously, distracting predators and giving the lizard a chance to escape. After successful autotomy, the lizard regenerates its tail within a few weeks (Clause & Capaldi 2006). The regrown tail usually replaces the autotomized tail; however, sometimes there are complications. Indeed, there are frequent sightings of bifurcated tails in lizards (Hayes et al. 2012; Tamar et al. 2013; Walker 2013; Kolenda et al. 2017; Koleska et al. 2017). These abnormalities likely result from incomplete autotomy, where the tail

Tail bifurcation in *Hemidactylus flaviviridis*. © Swarup Fullonton.



X-Ray of *Hemidactylus flaviviridis*. © Swarup Fullonton.

doesn't fully detach but breaks enough to still spur tail regrowth. Even though lizards are arguably the most comprehensively studied reptilian family, and there are several studies on caudal autotomy in this taxon (Kaiser & Mushinsky 1994; Tyler et al. 2016), there is no single published record of tail bifurcation in house geckos *Hemidactylus* spp. from Odisha, India. Therefore, here we report an observation of tail bifurcation in the *Hemidactylus flaviviridis* and the first report from Talcher, Odisha State of India.

On 16 October 2023 at 1230h, one of the authors found a *Hemidactylus flaviviridis* with two tails perched on the upper part of the house in Talcher (21.1419 N & 85.1582 E). Body pale greyish-brown type with length 16 cm, digits with sub digital lamellae, one or two basal lamellae single rest divided, digit 1 of manus is bit more than half the length of digit 2, scales are granular on back, 11–14 lamellae under fourth toe, 5–7 pores on each side (Lajmi & Karanth 2020). It was seen that the bifurcation was from the same base of the original tail, that to the second tail appearing to have grown by the side of the original tail.

The regenerated tail was equal as the length of the original tail, which appeared same as the original, main tail was 4.2 cm and second 3.8 cm with girth 3.2 cm and 2.9 cm. For detail analysis we did an X-ray of the lizard specimen, from that it was quite clear that the internal, regenerated tail appears to be less intricately structured, with vertebrae and highly organised muscles in the original tail replaced by rigid cartilage and loosely connected muscle bundles. Another interesting observation was that this individual was particularly easy to capture and did not attempt to escape. Multiple tails in lizards currently remain unknown, as previous studies have only addressed the costs and fitness impacts associated with caudal autotomy and tail regrowth of single tails (Bateman & Fleming 2009). Further studies are required to understand comprehensive physiological examinations of the breakage planes and signals triggering caudal autotomy.

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