



Mortality of a Common House Gecko, *Hemidactylus frenatus* (Duméril and Bibron 1836), Due to Multiple Asian Honeybee (*Apis cerana*) Stings in Balasore, Odisha, India

Shreya Pandey¹, Aurobindo Samal², and Niladri Bhusan Kar³

¹Ecology and Genetics Unit, University of Oulu, 90014, Finland (shreya.pandey@oulu.fi [corresponding author])

²Earth Crusaders Organisation (ECO), Bhubaneswar, Odisha-751019, India (aurobindo.cse@gmail.com)

³FM University, Balasore, Odisha-756019, India (niladri.kar@gmail.com)

Human activities have led to the introduction of several species of *Hemidactylus* beyond their native habitats. Of these, at least nine species have successfully adapted to living alongside humans, demonstrating an effective commensal relationship with human populations (Bauer et al. 2010). The Common House Gecko (*Hemidactylus frenatus*; Duméril and Bibron 1836), native to southern and southeastern Asia and the Australian Archipelago (Bauer 1994), has been introduced

extensively into tropical and subtropical areas, resulting in a current distribution that includes eastern Africa, Madagascar, numerous South Pacific islands, Hawaii, Mexico, Central America, and the United States (Case et al. 1994; Vences et al. 2004).

At about 1300 h on 31 December 2023, during a regular field survey in Balasore, Odisha, India (21.550944, 86.774250), we noticed a dead Common House Gecko



Figure 1. A Common House Gecko (*Hemidactylus frenatus*) found dead, in Balasore, Odisha, India, likely the result of multiple Asian Honeybee (*Apis cerana*) stings observed as white outgrowths (left); the apiary next to which the dead gecko was found (right). Photographs by Aurobindo Samal.

among bushes around an apiary (Fig. 1). Upon closer examination, we observed white outgrowths on the back of the gecko, indicating the presence of barbed stingers connected to venom sacs. When honeybees sting, the barbs on their stingers get entangled in the target's skin. As the bee pulls away, the stinger is torn from its abdomen, leading to the bee's death. The venom sac remains attached to the stinger, continuously pumping venom into the target. The multiple honeybee stings in the form of these white outgrowths were almost certainly responsible for the demise of the gecko. The honeybees involved in this incident were *Apis cerana* (Fabricius 1793). The toxicity of honeybee venom, composed primarily of peptides and enzymes, triggers an adverse reaction that disrupts the physiological equilibrium of the victim. A similar report of honeybee stings killing a Common Bronze-backed Snake (*Dendrelaphis tristis*) was recorded in Odisha, India (Samal et al. 2021).

From our on-site research and discussions with beekeepers at the apiary, we noted that, although beekeepers are familiar with such incidents, they are rarely documented in the scientific literature. Reptiles often are attracted to bee boxes due to the thermoregulatory advantages provided by the consistent temperature range of 32–36 °C, which is maintained by the bees and which offers a conducive environment for reptiles seeking shelter (Samal et al. 2021) — and often leads to bee attacks. Asian Honeybees typically exhibit tolerance toward disturbances (Theisen-Jones and Bienefeld 2016). However, when trapped or provoked, they will resort to stinging. Similar to other honeybee species, *A. cerana* workers emit alarm pheromones that trigger defensive reactions, including an attack on perceived threats (Bortolotti and Costa 2014).

This recent instance involving the Common House Gecko presents a unique puzzle as we have yet to identify the rationale behind honeybees targeting this species. This unreported fatality raises intriguing questions about the possible cause behind this unusual behavior.

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