



First Documented Observation of Regurgitation by a Bengal Monitor, *Varanus bengalensis* (Daudin 1802), in Pakistan

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Predator-prey interactions are a primary force shaping natural selection, population dynamics, food-web structure, community composition, and ecosystem processes (Valdez 2020; Junaid et al. 2025). Knowledge of a predator's diet, hunting strategies, and prey preferences is crucial for evaluating its role in shaping prey ecology, behavior, and distribution within ecosystems (Nordberg et al. 2018). Lizards inhabit most terrestrial ecosystems and contribute to food-web complexity by acting as both predators and prey (Zeng et al. 2014; Bels et al. 2019) and thus serve as excellent model organisms for examining the dynamics of predation (Nordberg et al. 2018).

The Bengal Monitor (*Varanus bengalensis*), listed as Near Threatened (NT) on the IUCN Red List (Cota et al. 2021), ranges from Iran through southern and into southeastern Asia (Patawang et al. 2017; Oraie et al. 2024). It is a diurnally active and highly adaptable species that occupies diverse habitats including forests, agricultural lands, woodlands, grasslands, scrublands, and areas near human settlements (Karunaratna et al. 2017; Cota et al. 2021; Oraie et al. 2024). Although primarily omnivorous, Jaman et al. (2024) suggested that it can function as a top predator in many ecosystems, preying on a wide variety of taxa that includes insects, spiders, snails, crabs, frogs, lizards, snakes, birds, and small mammals (e.g., Losos and Greene 1988; Bennett 1998; Jolley and Meek 2006; Hashmi et al. 2013; Cota et al. 2021; Zdunek 2024).

At 1229 h on 19 July 2025, during a herpetofauna survey, I observed a subadult *V. bengalensis* moving near the edge of an agricultural area in District Jhelum, Punjab Province, Pakistan (32.87994, 73.30802; WGS 84). After a short distance, it stopped and regurgitated an adult Indus Valley Toad (*Firouzophrynus stomaticus*) (Fig. 1). The toad was nearly intact, suggesting it likely had been ingested that day. Indus Valley Toads are common in southern Asia, where they occupy diverse habitats that include agricultural lands, forests, grasslands, open plains, scrublands, and human settlements (IUCN SSC Amphibian Specialist Group 2023). To the best of my knowledge, this is the first documented observation of regurgitation in *V. bengalensis* in Pakistan.

Varanids are known to exhibit an aversion to toads, and population declines of monitor lizards have been reported in Australia as a result of consuming toads (Doody et al. 2009; Ward-Fear et al. 2016; Pettit et al. 2020; Pettit et al. 2021). However, some species such as the Bangon Monitor (*Varanus bangonorum*) are capable of consuming toxic toads without experiencing harmful effects (Zdunek and Webb 2023).

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Figure 1. A subadult Bengal Monitor (*Varanus bengalensis*) regurgitating an adult Indus Valley Toad (*Firouzophrynus stomaticus*). Photographs by Ahmed Junaid.

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