



First Evidential Record of Predation by an Ornate Flying Snake, *Chrysopelea ornata* (Shaw 1802), on an Insectivorous Bat in the Central Western Ghats, Karnataka, India

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The Ornate Flying Snake, *Chrysopelea ornata* (Shaw 1802), grows up to 100–120 cm in length and has a slightly greenish body with a dorsum covered in a row of red, black, and orange spots. It has the spectacular ability to glide through the air from higher areas in the forest canopy to lower ones. *Chrysopelea ornata* is diurnal and predominantly arboreal, and its diet consists of small vertebrate animals including rodents, frogs, lizards, and bats (Babu et al. 2018; Indian Snakes 2022). The majority of the forests of India are home to this species, which is widely distributed in all northeastern Indian states, parts of the Eastern Ghats to the entire east (Odisha and West Bengal), and the Western Ghats (Maharashtra to Kerala and Tamil Nadu) (Melvinsevan and Nibedita 2016; Ahmed et al. 2020).

Bat predation is well recorded in species like the Indian Ratsnake (*Ptyas mucosa*) and members of the family Boidae from India (Esbérard and Vrcibradic 2007; Mallick et al. 2021). However, predation on small mammals like bats by *C. ornata* has been rarely documented with evidence.

Herein we report an opportunistic observation of predation of an insectivorous bat in the genus *Pipistrellus* (Kaup 1829) by a *C. ornata* during a field study on non-human primates in the Agumbe Ghats of Someshwara Wildlife Sanctuary, Karnataka, India. At 1427 h on 19 September 2022, at 13.4964 N, 75.0804 E, we came across a road-killed *C. ornata* on SH1, a highway connecting Shivamogga to Udupi that passes through Agumbe Ghat and the Someshwara Wildlife Sanctuary. Upon closer inspection, we noticed a bat in its mouth (Fig. 1).

The bat was identified as a member of the genus *Pipistrellus* using external morphology; further identification was not possible due to the extent of damage. *Pipistrellus* are vespertilionid bats, a family that includes most of the insectivorous bats. This genus is geographically



Figure 1. A road-killed Ornate Flying Snake (*Chrysopelea ornata*) in the Agumbe Ghats of Someshwara Wildlife Sanctuary, Karnataka, India, with a bat (*Pipistrellus* sp.) in its mouth. Photographs by Joel Correa.

widespread and occurs in a range of habitats from lowlying tropical forests to highland areas. Diurnal roosts include holes in trees, hollow branches, caves, and wells and they are also frequently encountered in villages and urban environments near forests (Paul and David 1997; Korad et al. 2007). The feeding behavior of *C. ornata* involves catching its prey and crushing it by coiling in mid-air while the snake remains suspended by its tail from a branch (Malcolm 1943; Jena et al. 2021). We believe that during the feeding process it might have fallen on the road and been run over by a vehicle. This is the first evidential record of bat predation by *C. ornata*.

The leading non-natural cause of vertebrate deaths is thought to be road mortality (Chittaragi and Hosetti 2014). India has the second-largest road network in the world, spanning about 1.6 million km (Ministry of Road Transport and Highways 2022). These roads pass through numerous protected and unprotected areas with forest habitat, increasing the risk of animals getting killed by vehicular traffic. Various studies on roadkill mortality in India have reported that it has an impact on a wide range of taxa including mammals, birds, herpetofauna, and soil invertebrates. When compared to mammals, snakes have a higher risk of mortality on roads because of their slower movements and activities like basking on the roads and chasing prey (Vijayakumar et al. 2001; Hatti and Mubeen 2019; Prakash and Karthik 2021).

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