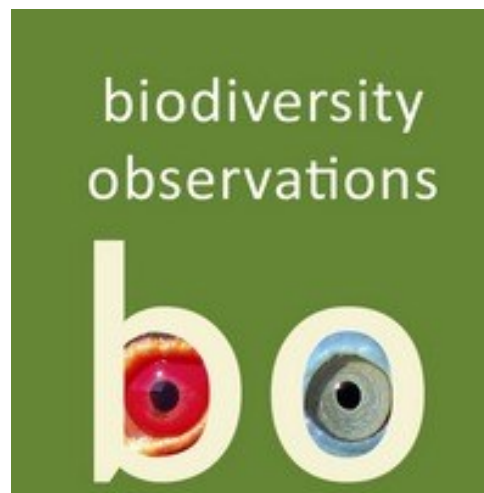


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Raju Vyas



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Avian predators of the Indian Chameleon *Chamaeleo zeylanicus*

Raju Vyas

1-Shashwat Apartment, 23 Anandnagar Society, BPC Road,
Alkapuri, Vadodara 390007, Gujarat, India.

e-mail: razoovyas@hotmail.com

Abstract

This paper presents the seven known records of avian predation on the Indian Chameleon *Chamaeleo zeylanicus* in India and Sri Lanka. There were four observations in which the predator was the Crested Serpent Eagle *Spilornis cheela*, with single predation events being made by Greater Coucal *Centropus sinensis*, Rufous Treepie *Dendrocitta vagabunda* and Malabar Pied Hornbill *Anthraceroceros coronatus*.

Introduction

The Indian Chameleon *Chamaeleo zeylanicus* is a medium-sized lizard that seldom grows longer than 30 cm, measured from the snout to the tip of the tail; the largest specimen recorded is 37.5 cm (Daniel 2002). It is a wide-ranging species distributed throughout India, southeast Pakistan and Sri Lanka, the only chameleon in the region (Glaw 2015). The Indian Chameleon is a diurnal, cryptic, arboreal lizard, and is well known for its mastery of camouflage (Daniel 2002). It is generally challenging to find them in nature due to their ability to match their colour according to the greens and yellows of their

arboreal environment (Daniel 2002, Tolley & Herrel 2014). It is well-known for its anti-predator tactics such as body postures and colours (Stuart-Fox et al. 2006). Birds and snakes are the main predators of chameleons and are likely to exert strong selection pressure on chameleon anti-predator responses (Branch 1998). Though reptiles are common prey species for many animals, predation of arboreal reptile species is difficult to observe, especially for members of the family Chameleontidae.

Little information is available on the predation and predators of chameleons, especially Indian species. The predators of some chameleon species in various life stages were reviewed by Measey et al. (2014). A study in Madagascar revealed 28 species which were chameleon predators, and these included birds (19 species belonging to seven families), snakes, anurans and primates (Jenkins et al. 2009).

Suranjan Karunarathna et al. (2009) stated that Indian Chameleons are preyed by domestic animals such as dogs and cats, as a result of deforestation and human encroachments in Sri Lanka. It has been noted that the Indian Chameleon was devoured by domestic dogs, cats, and the Jungle Crow *Corvus culminates*; however, in all these cases, the chameleons were road-kills in and around protected areas of Central Gujarat, including Jambughoda, Ratanmahal and Shoolpaneshwar Wildlife Sanctuary. Here, we present records of Indian Chameleon predation by birds species, based on direct observation, literature and photographic records from the social media.

Review of observations

Vyas & Bhatt (2021) recorded an observation of predation on an Indian Chameleon from Janbughoda Wildlife Sanctuary, Gujarat, India. On 31 May 2019, they were at the Bhat eco-tourism campsite (22.4096°N, 73.6237°W) and saw a Rufous Treepie *Dendrocitta vagabunda*, a corvid, flying with a dead lizard. The Rufous Treepie settled on the upper canopy of a large Paltaform tree *Acacia paltaform*, and the bird tried to devour a medium-sized green lizard. Finally, the prey was identified as an Indian Chameleon (Figure 1).



Figure 1: Rufous Treepie *Dendrocitta vagabunda* with its prey Indian Chameleon *Chamaeleo zeylanicus* at Janbughoda Wildlife Sanctuary, Gujarat, India (Photo: Rahul Bhatt).

We observed that the bird took 22 minutes to devour the entire lizard. We do not whether the chameleon was caught in dense vegetation or on open ground. This observation is probably the third record of predation of the Indian Chameleon by an avian species in India. Earlier records show that an Indian Chameleon was predated by a Crested Serpent Eagle *Spilornis cheela* from Kolli Hills, Tamil Nadu (Gokula 2012), and by a Greater Coucal *Centropus sinensis* in Gandhidham, Kutch (Joshi 2018) (Table 1).

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Table 1: Bird species predator of Indian Chameleon *Chamaeleo zeylanicus*

No	Observation date	Location	Bird species	Family	Source
1		Kolli Hills, Tamil Nadu, India	Crested Serpent Eagle <i>Spilornis cheela</i>	Accipitridae	Gokula 2012
2	22 April 2018	Bhadreshwar, Gandhidham, Kutch, India	Greater Coucal <i>Centropus sinensis</i>	Cuculidae	Joshi 2018
3	31 May 2019	Bhat, Janbughoda Wildlife Sanctuary, Gujarat, India	Rufous Treepie <i>Dendrocitta vagabunda</i>	Corvidae	Vyas & Bhatt 2021
4	19 October 2020	Wilpattu National Park, Sri Lanka	Crested Serpent Eagle <i>Spilornis cheela</i>	Accipitridae	Pimula 2020
5	26 October 2020	Wilpattu National Park	Malabar Paid Hornbill <i>Anthraceroceros coronatus</i>	Bucerotidae	Senarachchi 2020
6	19 August 2023	Wilpattu National Park	Crested Serpent Eagle <i>Spilornis cheela</i>	Accipitridae	Dilshan 2023
7	15 September 2023	Wilpattu National Park	Crested Serpent Eagle <i>Spilornis cheela</i>	Accipitridae	Joseph 2023

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