

## SPECIES

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## Author Affiliation:

<sup>1</sup>Shashawat Apartment, BPC-Haveli Road, Nr. Splatter Studio, Alakapuri, Vadodara – 390007, Gujarat, India  
Email: [razoovyas@hotmail.com](mailto:razoovyas@hotmail.com)

<sup>2</sup>1/101 Avni Residence, Near Bansal Super Market, Gotri Vasna Road, Vadodara, Gujarat, India  
Email: [kartik\\_upadhyay35@yahoo.com](mailto:kartik_upadhyay35@yahoo.com)

## \*Corresponding Author

Shashawat Apartment, BPC-Haveli Road, Nr. Splatter Studio, Alakapuri, Vadodara – 390007, Gujarat, India  
Email: [razoovyas@hotmail.com](mailto:razoovyas@hotmail.com)

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# Review on Vertebrates Preying by Common Garden Lizard *Calotes cf. versicolor* (Daudin, 1802)

Raju Vyas<sup>1\*</sup>, Vedant K Upadhyay<sup>2</sup>, Kartik Upadhyay<sup>2</sup>

## ABSTRACT

The Common Garden lizard (*Calotes cf. versicolor* (Daudin, 1802)) is one of the most commonly inhabiting an urban garden. The lizard naturally preys on annelids, insects, myriapods, arachnids and crustaceans. In the rare case, the species prey on a few small vertebrates (amphibians, reptiles, birds and mammals). Here, we present a review of vertebrates' diet in the menu of the species and a record of a common garden lizard predating on the fledgling Purple Sunbird (*Cinnyris asiaticus*) from its nest.

**Keywords:** Garden lizard, vertebrates' diet, *Calotes versicolor* (Daudin, 1802)

## 1. INTRODUCTION

Common Garden Lizard or Oriental Garden Lizard *Calotes versicolor* (Daudin, 1802) is a widespread species occurring in most of southern Asia, with records of introduced populations in parts of Africa and North America (Uetz et al., 2023). This most widely distributes Agamids species, *Calotes versicolor* is a species complex (Zug et al., 2006) and Gowande et al., (2021) further try to resolve this species' complex issues. The western and central Indian population of *Calotes versicolor* is reassessment and considered as *Calotes vultuosus* (Harlan, 1825). The most southern population is *Calotes versicolor* based on a molecular study (Gowande et al., 2021). However, this species group is known to be an ambush predator for its versatile camouflage abilities (Smith, 1943). This widespread diurnal and arboreal lizard inhabit anthropogenic habitats, including home gardens, parks, plantations and cities (Somaweera and Somaweera, 2009). The species is found in Gujarat and is the same as in the anthropogenic habitat of urban (Figure 1) Vadodara City (Patel and Vyas, 2019).



**Figure 1** An adult male Common Garden lizard (*Calotes cf. versicolor*) grows up to 22-30 cm long and is capable of hunting smaller size birds (Photo Credit: Raju Vyas)

## 2. DISCUSSION

The published literature show (Sharma, 1982; Sharma, 1998; Daniel, 1983; Sudasinghe and Somaweera, 2015; Khandakar et al., 2020; Deshpande et al., 2020) that the diet of *Calotes cf. versicolor* feeding on a wide range of invertebrates and vertebrates including plants matter, too. Plant matter such as leaves, twigs, flowers, seeds and shoots were found in the gut contents of *C. versicolor* (Bhatti et al., 1987), as were numerous stone particles in some cases. Various nematodes infested sampled specimens and maggots in the gut suggest that the species also feed on carrion (Sharma, 1982). In addition, it was found to feed on annelids, insects, myriapods, arachnids, crustaceans and rarely smaller vertebrates (Sudasinghe and Somaweera, 2015). The literature shows that garden lizards can prey on smaller vertebrates, including amphibians, reptiles, birds and mammals of a manageable size (Smith, 1943; Daniel, 1983; Sudasinghe and Somaweera, 2015). Worm-blooded animals in the diet of *C. versicolor* are rare reports, but they do feed on bird eggs, nestlings and adult birds (Daniel, 1983). There were records of feeding eggs, nestlings and adults of Baya Weaver (*Ploceus philippinus*) and the same bird species predated young lizards as reciprocal predation (Dhindsa and Toor, 1983). Paralkar, (1995) noted garden lizard feeding on House Sparrow (*Passer domesticus*). Thite and Nerekar, (2012) recorded a garden lizard preying on a juvenile Checkered keelback water snake (*Fowela piscator*).

A recent report shows the garden lizard was preying on the nestling of the Purple Sunbird *Cinnyris asiatica* (Upadhyay et al., 2023). An adult lizard somehow reached an overhanging nest of a Purple Sunbird and was able to catch it (Figure 2, 3). Usually, a sunbird selects a safe site and constructs an overhanging nest that predators cannot reach. But here, this garden lizard somehow got the nest and was able to predate a chick. This is an unusual prey item and a remarkable hunting tactic for a garden lizard. Present opportunistic observation shows Sunbird's chick is also on the diet menu of the *Calotes cf. versicolor*. The literature survey shows there are smaller vertebrates in the diets of Garden lizards.





**Figure 2** Common Garden lizard (*Calotes cf. versicolor*) able to catch a chick of Sunbird. (Photo Credit: Vedant Upadhyay)



**Figure 3** Common Garden lizard (*Calotes cf. versicolor*) preying on chick of Sunbird. (Photo Credit: Vedant Upadhyay)

#### Informed consent

Not applicable.

#### Ethical approval

The Animal regulations belong to Sayaji Baug Zoo, Vadodara, Gujarat are followed in the study for species observation, identification & experimentation. As per the Animal (Vertebrates) ethical guidelines, the first author - Raju Vyas was observed & recorded the Common Garden lizard (*Calotes cf. versicolor* (Daudin, 1802) Preying a Purple Sunbird (*Cinnyris asiaticus*), dated on 23 April 2022.

**Conflicts of interests**

The authors declare that there are no conflicts of interests.

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**Data and materials availability**

All data associated with this study are present in the paper.

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