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Feeding behaviour of *Orthetrum sabina sabina* from Sri Lanka

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Abstract

Odonata species like Green Skimmer (*Orthetrum sabina sabina*) are common species of dragonfly that are widespread in Sri Lanka from degraded open wastelands to marshes, ponds, and streams. *Orthetrum sabina sabina* is a very fierce predator and often preys on butterflies and other odonates, and feeding on a male *Neurothemis tullia tullia* was recorded during a field visit to Kirala Kele Sanctuary in Sri Lanka where harbors diverse numbers of odonatan species in its habitats.

Keywords: Dragonfly, Family Libellulidae, Feeding Behavior, Green Skimmer, Kirala Kele Sanctuary

Introduction

Green Skimmer (*Orthetrum sabina sabina*) is a medium-sized dragonfly (Abdomen: 30-36mm, Hind wing: 30-36mm) widespread species of the family Libellulidae found throughout being found from Meditteranean to southern and eastern Asia, to Australia (Thaokar, 2022). Males and females are similarly coloured and patterned. Its Eyes are green mottled with black while the thorax is black

with green stripes. The abdomen is striped with yellowish-green and black bands. The yellowish-green coloured region of the abdomen gets paler with maturity and in some older individuals, it is almost creamy white Sexual dimorphism in shape and colour pattern of the body is not observed but the gravid females may exhibit a slightly robust abdomen (Manoj, 2011; Sumanapala, 2017). This dragonfly is one of the most common in lowland and submontane regions of Sri Lanka and is a readily seen species, even away from water in gardens; It Perches for a long time on branches, twigs, rocks, or ground. Voracious predator, taking a range of insects and odonates.

In the current note, we focus on the feeding behaviour of *Orthetrum sabina sabina*. This paper is based on the distribution of Odonata species and extensive field surveys conducted in the Kirala Kele sanctuary, Sri Lanka (Sumanapala, 2017).

Martial and methods

"Kirala Kele" sanctuary is a marshy wetland system located 3 km away from the city of Matara in Southern Province, Sri Lanka. It covers an area of 1800 ha and is accessible from Matara-Hakmana and Matara-Akuressa roads. The "Kirala Kele" is an important wetland that preserves a significant number of flora and fauna. A considerable distribution of *Sonneratia Caseolaris* trees can be seen in some locations (Benthotage, et al., 2015; Rathnayake, Janith, Priyadarshana, Gunawardena, & Gunawardena, 2023).

The observation noticed a place covered with marshy bushes and a natural pond nearby during a field survey in Kirala Kale sanctuary, Matara (Lat: 5.976264°, Long: 80.532073°), between 10.00 and 10.30 (Figure 1). Specimens were observed from a relatively distant point to avoid the risks of human-induced interference and were photographed by Nikon D7200.

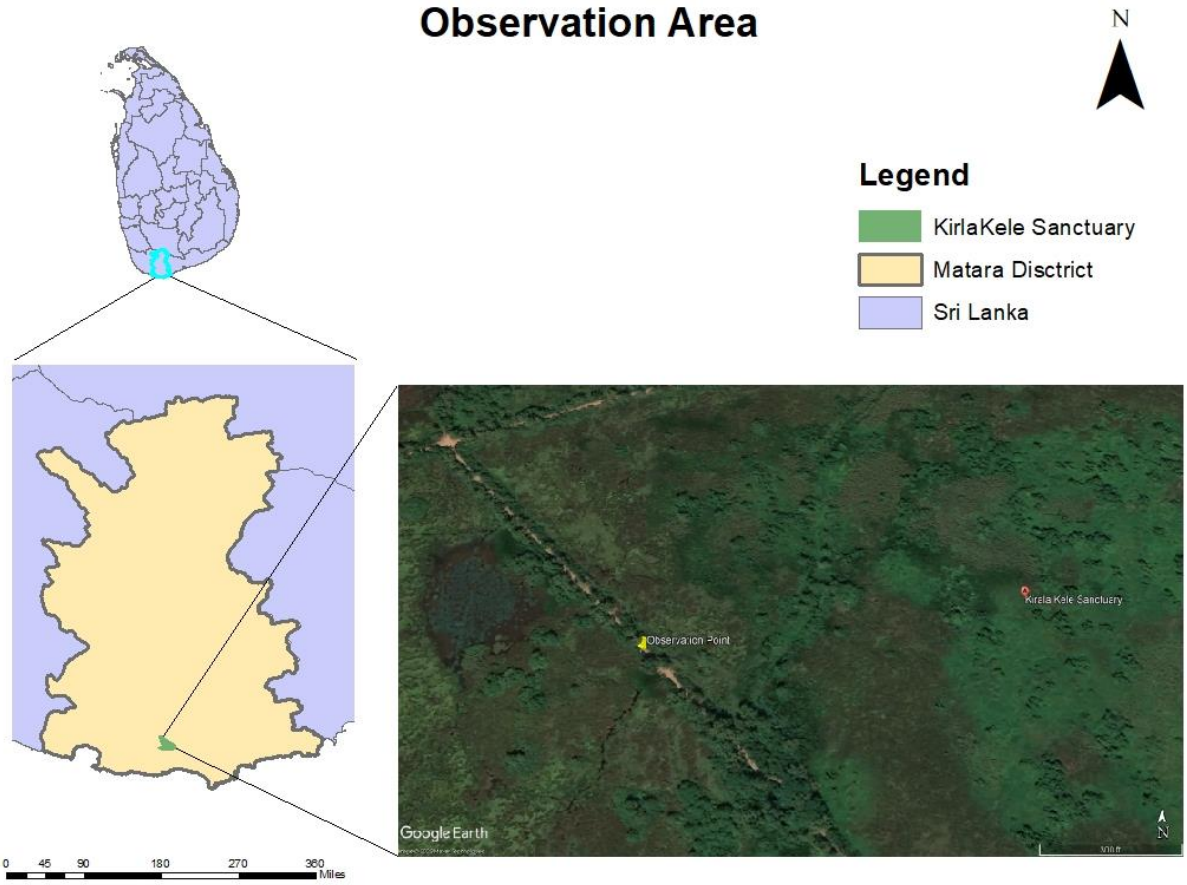

Figure 1. Observation area map

Results and discussion

On 28.05.2022, a male *Orthetrum sabina sabina* was observed while consuming a male Pied Parasol (*Neurothemis tullia tullia*) dragonfly which belongs to the same family (Libellulidae). It was seen chewing the victim head-first with its powerful mandibles and it represented the feeding behaviour for at least 20 minutes (Fig. 2). The *Orthetrum sabina sabina* dragonfly with its hinged jaws that can open as wide as its head is then able to consume the rest of the male *Neurothemis tullia tullia* dragonfly. The feeding behaviours of *Orthetrum sabina sabina* have not been reported properly with evidence in Sri Lanka yet. However, this documentation might enlighten us in understanding the interaction relationship involving a predation process of *Orthetrum sabina sabina* where the subject kills the target in order to eat it or to feed to siblings or offspring.

Figure 1. *Orthetrum sabina sabina* feeding on *Neurothemis tullia tullia.* Photograph by Chathura Priyadarshana

The feeding behavior of the Green Skimmer dragonfly has been studied in detail by Suhling, Sahlén, & Martens (2006). In their study, the researchers found that the dragonflies hunt by perching on a high point, such as a plant stem or rock, and scanning the surrounding area for potential prey items. The green skimmer dragonfly has been observed to be an effective predator, with a high success rate in capturing prey. In a study conducted by Martens, Lencioni, & Romani (2003) the researchers found that the dragonflies were able to capture prey items in flight with a success rate of 68%.

Adult Dragonflies will eat any insect they can catch. While they usually eat mosquitoes and midgets, they'll also eat butterflies, moths, bee flies, and even other dragonflies. Larger dragonflies will eat their own body weight in insect prey every day (County, 2019). Researchers also noted that the dragonflies were opportunistic predators, meaning that they would consume whatever prey items were available to them (Hassall & Thompson, 2011).

Sightings of feeding behaviors of adult dragonflies and records are not found in the literature often. Such records only have been limited to photographic/video evidence provided in most social media accounts and web blogs. This reveals us to believe that sightings are not recorded in the literature such feeding patterns of *Orthetrum sabina sabina* are also should be recorded in a scientific way to study further these creatures and their behaviors.

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