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NOTE

A NEW RECORD OF THE EMERALD STRIPED SPREADWING LESTES VIRIDULUS RAMBUR, 1842 (ZYGOPTERA: LESTIDAE) FROM NEPAL

Manoj Sharma

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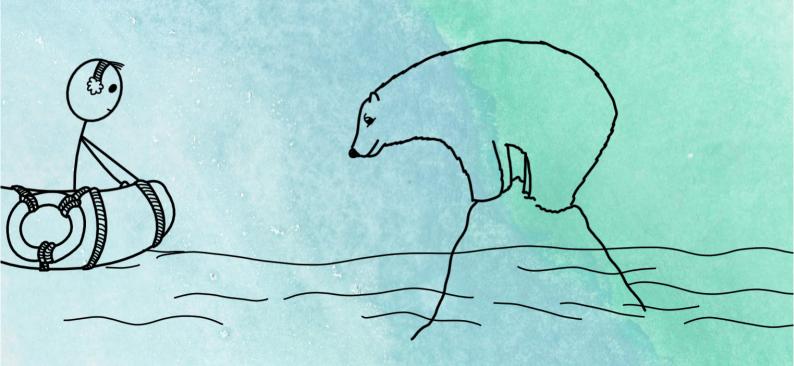
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A new record of the Emerald Striped Spreadwing Lestes viridulus Rambur, 1842 (Zygoptera: Lestidae) from Nepal

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Dragonflies and Damselflies are amphibiotic insects found almost all over the world in subtropical to temperate regions depending on freshwater ecosystems. Globally, 6,332 species are reported (Schorr & Paulson 2020) of which 178 species are so far reported from Nepal (Kalkman et al. 2020). Including the recently recorded Ishnura nursei and Agriocnemes femina (Aryal 2019; Conniff et al. 2020). Lestes is represented by only two species in Nepal, L. dorothea Fraser, 1924 and L. praemorsus (Vick 1989; Thapa 2015). Nepal, however, has many regions and locations which have not yet been surveyed for odonate fauna.

Study area: The survey was carried out in Swathi (27.650 N & 83.657 E, 132 m), a region under Sunwal municipality of Nawalparasi, situated in the southern Terai of central Nepal (Figure 1). The average monthly temperature and rainfall (September 2020) was 28°C and 112mm.

Data collection: The odonatological survey was carried out mainly in the rice fields and their edges 20-23 September 2019. Observations were undertaken between 0800–1700 h. The specimens were photographed with a camera (Nikon D3400 with EOS 18–55 mm lens) and the GPS location was recorded. The species were identified using standard literature (Fraser

1933; Subramanian 2009; Nair 2011). Only one male specimen of Lestes viridulus was collected, for further laboratory investigation to confirm its identification. The next three days were reserved for observation in the same site and it was carried out to confirm and search for other possible habitats of Lestes viridulus.

Lestes viridulus Rambur, 1842 (Image 1 A-E)

The medium-sized damselfly has been reported and described for the first time from Nepal on the basis of its morphological features. Both male and female were observed and photographed. The abundance was high at dusk as the species is crepuscular in nature. Females were found in the paddy fields and only two males were seen basking on a blade of grass on the edge of an artificial pond around the paddy field. The occurrence of Lestes viridulus is not surprising in Nepal as it has been well recorded from neighboring countries of India, China, and Bangladesh.

Early distribution range: Lestes viridulus Rambur, 1842 is confined to peninsular India (Fraser 1933). This species has been recorded from agricultural fields and temporary water bodies in tropical regions (Payra & Tiple 2019) and has been reported from India (Bihar, Chandigarh, Himachal Pradesh, Madhya Pradesh,

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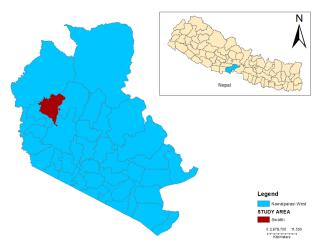


Image 1. Location of the study area- Swathi.



Image 1 A–E. Emerald-Striped Spreadwing *Lestes viridulus*: A—female | B—female | C—male | D—male anal appendages | E—thorax. © Manoi Sharma

Maharashtra, Punjab, and Uttar Pradesh), Bangladesh (Biswas et al. 1990), and Thailand (Hamalainen & Pinratana 1999).

Agriocnemis femina (Brauer, 1868) (Image 1 F-I)

Both the male and female of Agriocnemis femina were observed at the study site. An immature male was chasing a mature male of the same species at an irrigation canal while a female (red form-heteromorph) was perching on the stem of an aquatic plant. A green form female was perching on a leaf blade of a plant. Abundance and distribution was high at irrigation in the low lands of tropical areas (Nair 2011; Joshi & Kunte 2014). Both mature and immature males were observed in a mating wheel position. Non-contact guarding by males was observed during oviposition on leaves of aquatic plants. This species shows various morphological forms in different stages. The female shows red (heteromorph) and green form (androchrome) and the male is greenish-blue at an immature stage and with maturity gains a bluish-white pruinescence (Nair 2011). This is the record of A. femina in a new distribution area.

Early distributional range: Australia, Bangladesh, Bhutan, Brunei, China, Guam, Hong Kong, India, Indonesia, Japan, Laos, Malaysia, Micronesia, Myanmar, northern Mariana Island, Palau, Philippines, Singapore, Solomon Island, Sri Lanka, Thailand, Timor-Leste, and Vietnam. In Nepal it was reported from Parsa Wildlife Reserve, the Terai region of central Nepal and Haldi Bari, Jhapa district, eastern Nepal (Conniff et al. 2020).

Ischnura nursei (Morton, 1907) (Image 1J)

The distribution region of *Ischnura nursei* in Nepal has been extended to Swathi, in central Nepal. Eight male individuals of *I. nursei* were photographed while they were basking on a blade of grass in the edge of a local pond (27.559 N & 83.657 E). Females were not seen. The presence of *I. nursei* in this location denotes that it is common in the tropical regions of central Nepal.

Early distributional range: India, Pakistan, Iran, the U.A.E., Bangladesh, Oman, and Nepal (Dumont et al. 2011; Nair 2011; Zia et al. 2011; Feulner & Judas 2013; Kunz 2015; Aryal 2019). In Nepal it was recorded from Jagadishpur lake and Baanganga river of Kapilvastu district (Aryal 2019).

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Image 1 F-I. Pruinosed Dartlet Agriocnemis femina: F-immature male | G-mature male | H-mature female | I-copulation. © Manoj Sharma



Image 1 J. Ischnura nursei male. © Manoj Sharma

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