Scientific Note

A note on the rediscovery of the Redspot butterfly *Zesius chrysomallus* Hübner, 1819 (Lepidoptera: Lycaenidae: Theclinae) from Uttar Pradesh State, with a new larval host plant record for India

Nota sobre el redescubrimiento de la mariposa de puntos rojos *Zesius chrysomallus* Hübner, 1819 (Lepidoptera: Lycaenidae: Theclinae) en el Estado de Uttar Pradesh, con un nuevo registro de planta hospedante para la India

Priyanka Kumari[1] and Taslima Sheikh[2*]

[1]*Sir Vithaldas Thackersey College of Home Science, S.N.D.T. Women's University, Juhu Tara Road, Santacruz (W) 400049, Mumbai, Maharashtra, India.* [2*]*Baba Ghulam Shah Badshah University, Dhanore, Rajouri - 185234, Jammu & Kashmir, India.* **sheikhtass@gmail.com*

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Abstract. *Zesius chrysomallus* Hübner, 1819 – The Redspot – is rediscovered from Varanasi area in Uttar Pradesh State after 108 years. *Cordia dichotoma* G. Forst, 1786 of Boraginaceae family is new addition to list of larval host plants from India.

Key words: Ant; caterpillar; *Cordia dichotoma*; *Oecophylla smaragdina*; Varanasi.

Resumen. La mariposa de puntos rojos *Zesius chrysomallus* Hübner, 1819 es redescubierta en el área de Varanasi en el Estado de Uttar Pradesh después de 108 años. *Cordia dichotoma* G. Forst, 1786 es una nueva incorporación a la lista de plantas hospedantes de la India.

Palabras clave: *Cordia dicotoma*; hormiga; *Oecophylla smaragdina*; oruga; Varanasi.

The butterfly Redspot *Zesius chrysomallus* Hübner, 1819 is a monotypic lycaenid species endemic to Indian sub-continent (Anonymous 2021). This species is rare in Himalayas, up to 750 m, found in Garhwal area of Uttarakhand and Terai region of Nepal and in Champaran district of North Bihar (Gasse 2018). Commonly widespread in Sri Lanka up to 900 m and uncommon in Western Ghats up to 600 m, found in Kerala and West of Tamil Nadu North through West of Karnataka, Goa, Western Maharashtra to Southeast of Gujarat and East of Satpura range in Northern part of Chhatishgarh in Korba area, in Southeastern Ghats in Southeast Karnataka and also in Northeastern Ghats in Odhisa, Jharkhand and South and Central West Bengal and in Southwest and Northwest Bangladesh (Gasse 2018). An old sighting of this species has been mentioned in Singh (2005) where a female of this species (wingspan 37 mm; dated: November 12, 1913) was collected from Gonda district of Uttar Pradesh State. There are no further records available from the state of Uttar Pradesh since then. According to Indian Foundation for Butterflies website, this species is distributed in Maharashtra, Kerala, Karnataka, Odhisa, Uttarakhand, Madhya Pradesh, Tamil Nadu, West Bengal, Gujarat, Goa, Andhra Pradesh, Chhatishgarh (Valappil *et al.* 2021).

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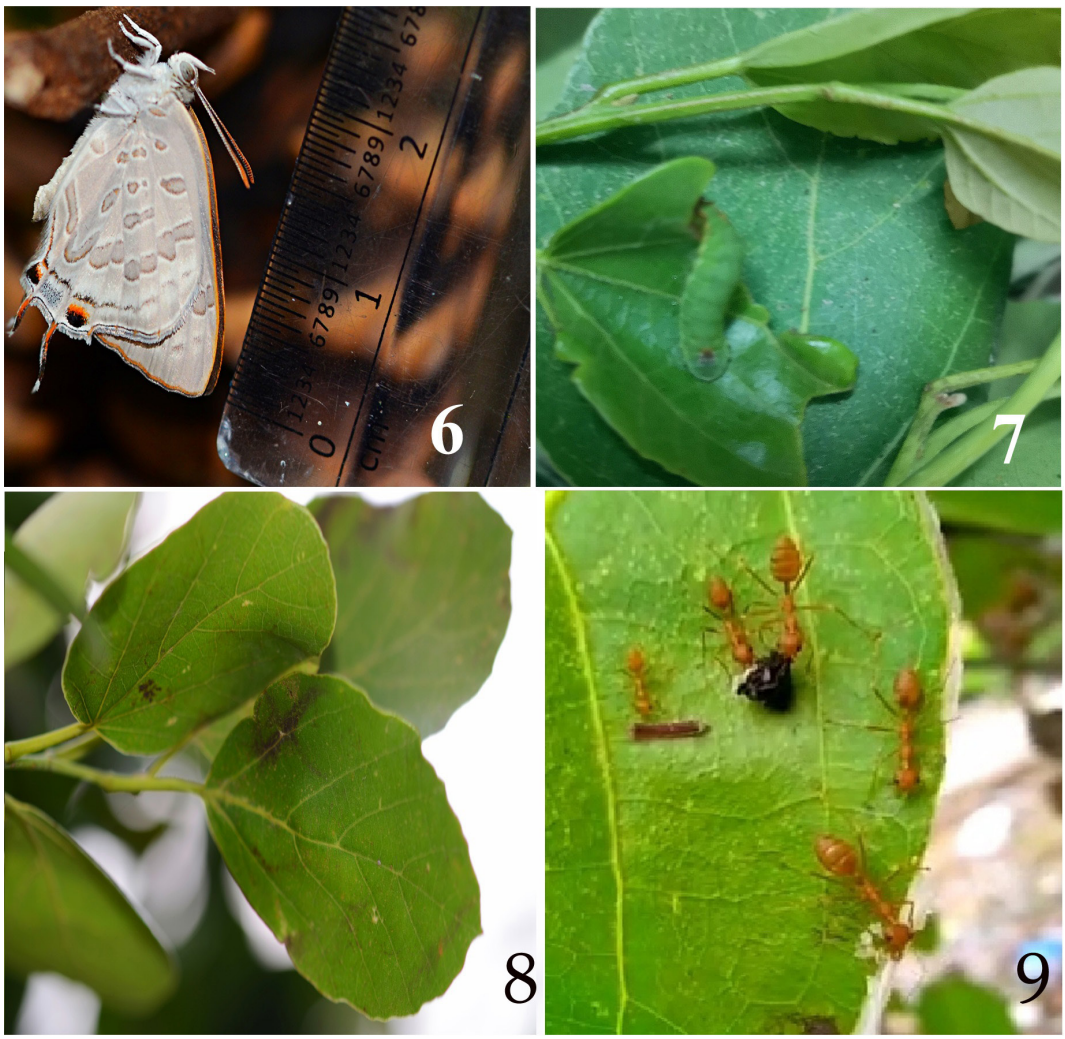
Figures 1-5. 1. Egg of *Zesius chrysomallus* Hübner. 2. Caterpillar. 3. Pupa. 4-5. Underwing and open wing of *Zesius chrysomallus* Hübner (female) / 1. Huevo de *Zesius chrysomallus* Hübner. 2. Oruga. 3. Pupa. 4-5. *Zesius chrysomallus* Hübner (hembra) con alas cerradas y abiertas.

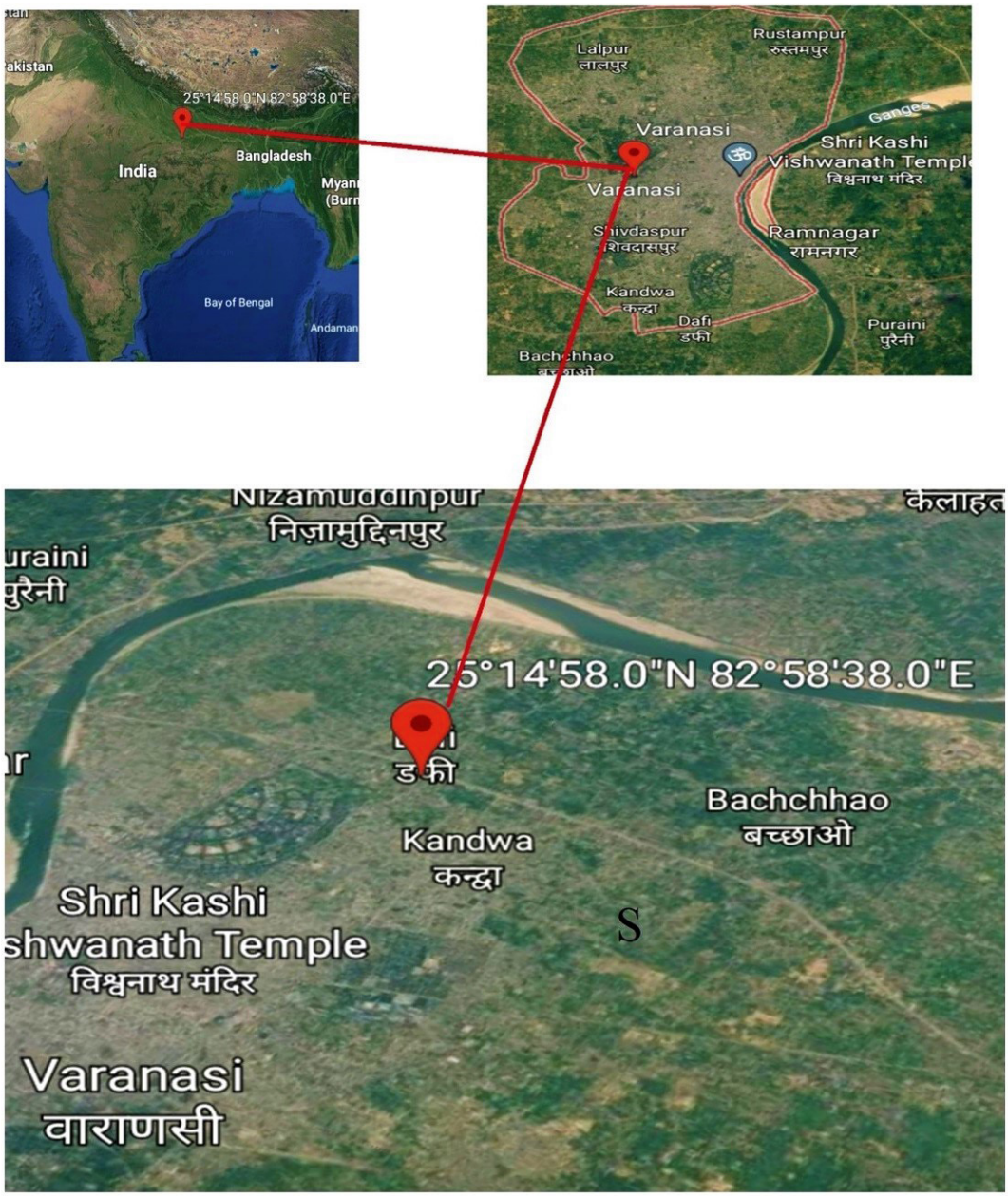
Previous works available in India has records of *Z. chrysomallus* larval host plant of from Kerala state in Western Ghats where *Terminalia catappa* Linnaues (Combretaceae), a large tree and *Smilax zeylanica* Linnaeus (Smilacaeae), a climber in coastal forests from Thiruvananthapuram district, was reported as new host plants for the species. Red ants *Oecophylla smaragdina* Fabricius was seen attending to the larvae while they fed on the leaves of these plants and pupated inside ant shelters (Kalesh & Prakash 2007). Later

Cassia fistula Linnaeus (Fabaceae), a medium sized tree was recorded as its host plant in Thiruvananthapuram (Kalesh & Prakash 2015). The known host plants of this species from Indian region are *Anacardium occidentale* Linnaeus (Wynter-Blyth 1957) (Anacardiaceae), *Terminalia* sp. (Robinson *et al*. 2010), *Terminalia alata* Heyne ex Roth (Wynter-Blyth 1957; Kunte 2000), *Terminalia catappa* Linnaeus (Kalesh & Prakash 2007), *Terminalia paniculata* Roth (Davidson & Aitken 1890; Davidson *et al.* 1896; Bell 1919; Wynter-Blyth 1957; Robinson *et al*. 2010), *Terminalia tomentosa* Wight & Arn (Robinson *et al*. 2010) (Combretaceae), *Dioscorea* sp. (Bell 1919) (Dioscoreaceae), *Cassia fistula* Linnaeus (Kalesh & Prakash 2015), *Pterocarpus marsupium* Roxb (Bell 1919; Wynter-Blyth 1957), *Xylia xylocarpa* Roxb (Wynter-Blyth 1957; Kunte 2000; Robinson *et al.* 2010) (Fabaceae). Loranthaceae (Wynter-Blyth 1957), *Psidium guajava* Linnaeus (Wynter-Blyth 1957) (Myrtaceae), *Averrhoa carambola* Linnaeus (Valappil *et al*. 2021) (Oxalidaceae), *Smilax zeylanica* Linnaeus (Kalesh & Prakash 2007) (Smilacaceae), *Averrhoa occidentale* Linnaeus (Wynter-Blyth 1957) (Oxalidaceae) (Nitin *et al*. 2018).



Figures 6-9. 6. Wingspan (40 mm). 7. *Cordia dichotoma* leaves eaten by caterpillar of *Zesius chrysomallus*. 8. *Cordia dichotoma* leaves. 9. *Oecophylla smaragdina* / 6. Envergadura alar (40 mm). 7. Hojas de *Cordia dichotoma* comidas por la oruga de *Zesius chrysomallus*. 8. Hojas de *Cordia dichotoma*. 9. *Oecophylla smaragdina*.

First author surveyed butterflies at Varanasi area (Fig. 10) of Uttar Pradesh State (25°14′58″ N, 82°58′38″ E) from April 18, 2021, to May 20, 2021. The area is near Banaras Hindu University which has good butterfly diversity. Climate of the area is similar to Gangetic plains *i.e.,* dry in summer as it was May month, and the temperature was 44 °C. The area had many shrubs and trees, some were common for example– *Ziziphus* sp., *Capparis* sp., *Cordia dichotoma* G. Forst, *Murraya paniculata* Linnaeus.



10 **Source: Google Maps**

Figure 10. Map of the Varanasi area in Uttar Pradesh, India. / Mapa del área de Varanasi en Uttar Pradesh, India.

On May 14, 2021, in morning approximately at 08:00 hours while surveying the area first author observed and photographed an egg, a caterpillar and a pupa of a lycaenid butterfly (Figs. 1-3) on *Cordia dichotoma* (Figs. 7-8). On further investigation caterpillars were seen feeding on the young leaves of this tree, which contained an *Oecophylla smaragdina* Fabricius, 1775 (Fig. 9) colony as well. The caterpillars were photographed with the help of Nikon digital SLR camera (Nikon D7000). The female butterfly emerged from pupa on May 20, 2021 (Fig. 6). The specimen (Figs. 4-5) was identified as *Z. chrysomallus* with the help of available literature (Evans 1932; Wynter-Blyth 1957; Kehimkar 2016; Smetacek 2018).

Analysis of available literature revealed that the species *Cordia dichotoma* of Boraginaceae is not a known larval host for *Z. chrysomallus* in India. Later, on May 26, 2021, first author again observed more larvae on the same plant and *O. smaragdina* (Fig. 9) ants were attending these caterpillars.

Since 1913, where no records of this species and hence our finding is a rediscovery of this species for the state of Uttar Pradesh. In addition, the plant *C. dichotoma* commonly called as Lasoda in Varanasi, was recorded as a new larval host, an addition to its larval food plants in India.

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