



Leaf Beetle *Platypria erinaceus* (Fabricius, 1801) First Record from Rajasthan, India

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Abstract

The leaf beetle *Platypria erinaceus* is reported for the new addition to the fauna of Rajasthan state, India. Although it is also distributed from other parts of Asia, including India. Globally, *Platypria erinaceus* has garnered attention for its reported potential as a biological control agent against *Ziziphus mauritiana*, an invasive plant species in certain parts of the world. However, within India, there have been no documented observations or research indicating the species' role or application as a biological control agent. This study confirms the beetle's presence in Chhalwa village, Udaipur district, Rajasthan, significantly expanding its known distribution within the country.

Introduction

The *P. erinaceus* is a little-known beetle that belongs to the family Cerambycidae. Beetles of this family are commonly known as leaf beetles. Four species of the genus *Platypria*, namely *P. erinaceus*, *P. chiroptera*, *P. echidna*, and *P. hystrix*, have been recorded in India (Basu, 1999). These species have a characteristic thorny appearance due to convergent evolution in their morphology. Many plant species have been recorded as food sources for *P. erinaceus* larvae worldwide. These include *Desmodium gangeticum*, *Pueraria tuberosa*, *Oryza sativa*, *Saccharum sp.* and *Ziziphus spp.* (Ranade *et. al.*, 2021).

The leaf beetle, *P. erinaceus*, widely distributed across the Asia region, including parts of India (Basu, 1999), Sri Lanka, Burma, Bangladesh, Bhutan, China, Indonesia, Japan, Laos, Malaysia, Myanmar, Nepal, New Guinea, Pakistan, Philippines, Thailand, and Vietnam also (Würmli, 1978). So far, its presence has been recorded in 16 Indian states, including

Assam, Bihar, Chhattisgarh, Goa, Gujarat, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Pondicherry, Punjab, Sikkim, Tamil Nadu, Uttar Pradesh and West Bengal (Basu, 1999; Ranade *et. al.*, 2021). Before this study, there were no documented records of *P. erinaceus* in Rajasthan.

Methodology

On May 10, 2023, during an ecological health monitoring study, we observed five adult *P. erinaceus* beetles in a pasture land in Chalawa village, Sayara tehsil, Udaipur, Rajasthan, India (N 24.803891, E 73.485788). The beetles were observed on the extremities of the Indian jujube plant (*Ziziphus nummularia*) (Fig. 2). Each specimen was meticulously examined and photographed using a Canon Mark III camera equipped with a Canon 100mm fixed lens. After the photographs were taken, all the beetles were released back into their natural habitat. Identification was confirmed by using the taxonomic key provided by Ranade *et al.* (2021).

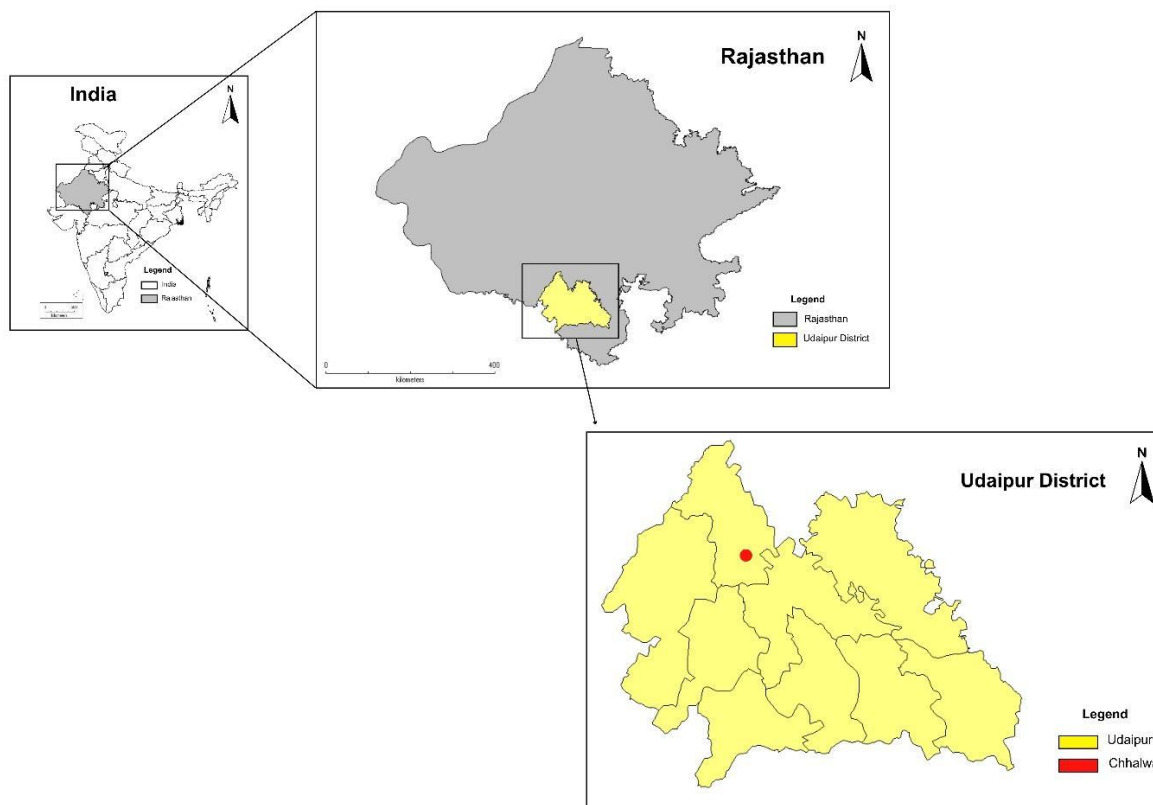


Fig. 1: Location of occurrence of the leaf beetle (*P. erinaceus*) in Udaipur district, Rajasthan.

The habitat of grassland is dominated by the perennial grasses like Karad (*Dichanthium annulatum*), Seran (*Sehima nervosum*), Kali Lanp (*Heteropogon contortus*) and Phuladi (*Chrysopogon fulvus*).

The plant species are Khair (*Acacia catechu*), Kanker (*Flacourtia indica*), Mahua (*Madhuca indica*), Siras (*Albizia odoratissima*), Ber (*Ziziphus mauritiana*), Chan ber (*Ziziphus nummularia*), Khirani (*Wrightia tinctoria*), Khirna (*Wrightia tomentosa*), Godal (*Lannea*

coromandelica), Kanthar (*Capparis sepiaria*), Jungle Jalebi (*Pithecellobium dulce*), Khejra (*Acacia leucophloea*), Khankra (*Butea monosperma*) and Hiran dudi (*Wattakaka volubilis*) growing in scattered form.

Results & Discussion

This is the first report of *P. erinaceus* from Rajasthan, hence worth placing in the records. The record of *P. erinaceus* in Rajasthan extends its known range in India considerably westward. Previous records for the species in India were primarily from

the southern, northern and eastern regions of India.

The larvae of *Platypria* species are known to create distinctive blotch mines within the leaves of their host plants. The species *P. erinaceus* exhibits a remarkably narrow range of documented larval host plants. These include *Desmodium gangeticum*, *Erythrina* species, *Pueraria tuberosa* (Beeson 1941), *Oryza sativa* (Anand 1989), *Saccharum* species (Maulik, 1937), *Ziziphus mauritiana* (Nair 1986; Zaka-Ur-Rab 1991; Balikai 1999; Kalaichelvan and Verma 2005) and *Z. nummularia* (Ranade et al., 2021).

Despite its specialized feeding behavior, *Platypria erinaceus* has not been reported to cause crop damage in India (Ranade et al., 2021). This holds true even with recent first records of *P. erinaceus* from Rajasthan, suggesting that its presence in new areas within India may not inherently lead to pest issues. However, its host

specificity has been strategically utilized in other regions. Interestingly, *Z. mauritiana* has become an invasive species in Australia (Grice, 2009). To combat its spread in Australia, *P. erinaceus* has been effectively used as a biological control agent to manage outbreaks of *Z. mauritiana* (Dhileepan 2017). This highlights the potential of this insect, despite its limited host range and apparent lack of pest status in India, to be a valuable tool in integrated pest management strategies, particularly against invasive plant species.



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Fig 2. *Platypria erinaceus* observed on *Z. nummularia* in Udaipur district, Rajasthan.

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