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Cover Photo by Parixit Kafley of *Balinta octonotata*

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FIRST RECORD OF *DIARRHEGMA MODESTUM* (FABRICIUS, 1805) (DIPTERA: TEPHRITIDAE) FROM ODISHA, INDIA

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Abstract

The paper reports *Diarrhagma modestum* (Fabricius) as a new state record for Odisha, India, based on photographic records.

Keywords: New record, fruitfly, *Moringa oleifera*.

Introduction

Fruit flies (Diptera: Tephritidae) represent one of the largest families of Diptera, with about 4,500 species in 500 genera under six subfamilies (Blepharoneurinae, Dacinae, Phyltalmiinae, Tachiniscinae, Tephritinae and Trypetinae) known worldwide. The Indian fauna is represented by 243 species in 79 genera under four subfamilies, Dacinae, Phyltalmiinae, Tephritinae and Trypetinae (David and Ramani, 2011). The genus *Diarrhagma* Bezzi, 1913, belongs to the tribe Acanthonevrini under the subfamily Phyltalmiinae. The species under the tribe Acanthonevrini are mostly known to utilize decaying matter as larval hosts (Hancock and Drew, 1994).

Diarrhagma modestum (Fabricius, 1805) has been recorded to breed in decaying wood (Bezzi, 1913) and is widespread throughout the Oriental Region: India, Philippines, South East Asia and Indonesia (Hardy, 1986). Hancock and Drew (1994) reported this species, breeding on the pods of drumstick, but it was not known if the drumstick pods were fresh or decaying. The earlier records of this species are from West Bengal, Karnataka and Tamil Nadu in India (David and Ramani, 2011). Recently Masroor et al. (2019) have reported this species in mango and guava plantations from Bihar. Hossain and Khan

(2013) also reported it from a field with cucurbits, viz. *Cucurbita maxima*, *Trichosanthus cucumerina* and *Luffa acutangula*, along with a considerable amount of drumstick (*Moringa oleifera*) in Bangladesh.

Material and Methods

The records of *D. modestum* were from a backyard garden in Cuttack District, Odisha (Location: 20°26'52.0"N 85°31'03.9"E) from December 2020 to January 2021. The photographs of previously damaged drumstick trunk, adult, maggots, puparium and ovipositing female are provided in Figs. 1a-e.

Observations

Diarrhagma modestum adults were found visiting a drumstick plant (*Moringa oleifera*). Although the plant was live, there was some damage to the decomposing trunk. On close observation, the adults of the fruit fly species were found ovipositing on the decomposing trunk. Maggots and pupae were also observed on the same decomposing region of the drumstick plant. Some puparium were collected, and adult flies were found to emerge at about three weeks from the date of collection. A video was also recorded on the ovipositing behaviour, which can be accessed by the link-

<https://www.youtube.com/watch?v=V167SyRoyy8>.

Conclusion

This observation is the first record of this fruit fly species from Odisha. This study will provide preliminary information for further studies on its biology, host range and larval habitat, which is not well known.

Acknowledgement

The author is thankful to Dr David KJ, Scientist (Entomology) at ICAR- National Bureau of Agricultural Insect Resources (NBAIR), for his help in the identification of the fruit fly species.

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Fig. 1. *Diarrhagma modestum*: a) Previously damaged drumstick trunk b) Adult fruit fly c) Oviposting female d) Maggots e) Puparium.