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Record of *Henosepilachna septima* Dieke on organic bitter gourd on terrace urban, Bengaluru, India

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Several forays to cucurbit fields in and around Bengaluru as part of fruit fly surveys in the last one decade, have never led to the sighting of the Epilachna beetle, *Henosepilachna septima* Dieke (Subfamily: Epilachninae, Family: Coccinellidae, Order: Coleoptera). Katakura *et al.*, 2001 reported *H. septima* specialized to bitter-melon (*Momordica charantia*) and to "wild bitter cucumber" *M. subangulata*. There are also records of serious pest status in Pakistan on bitter gourd (Falak and Mian, 2013).

The cucurbit seeds sown are invariably treated with insecticides and from germination farmers resort to sprays, and *H. septima* being very vulnerable to any spray, seemed rare. But they have found a new haven in organic bitter gourds grown in urban homesteads and terraces, thanks to the demand for organic bitter gourd leaf juice, widely trumpeted as a health booster, especially for diabetics. Many urbanites therefore grow bitter gourds at homes in Bangalore (12.9716° N, 77.5946° E). In November 2021 we found potted bitter gourd leaves with extensive skeletonising in

several terrace gardens in the city of Bangalore, India.

The beetle, both adults and grubs were found skeletonising the leaves and causing great debilitation to the gourds throughout the growth stages. The pest is normally active during warmer part of the cropping season and is recorded from end of January to beginning of April. The population was recorded to be at peak during the first to third week of March (Uikey *et al.*, 2016).

The total life cycle of the beetle varies from 22-26 days according to the temperature and relative humidity. Freshly laid eggs are cigar shaped and yellow in colour with circular depression like markings on their surface. The eggs are laid in clusters, usually on under surface of leaves (Fig.1). Incubation period varies from 4-6 days, and newly hatched grubs are yellow in colour and campodeiform in shape. Dorsal surface of body is clothed with long tri-forked processes arranged in longitudinal rows on thoracic and abdominal segments with 12-15 days larval period (Uikey

et al., 2016) (Fig.2). Pupa is anteriorly rounded and posteriorly tapered, shining yellow with brownish white markings on its dorsum (Fig.3) with 3-4 days pupal period. Adult beetles (Fig.4) are oval in shape with highly convex body, elytra dark brown each with 12 black spots. Beetle has a longevity of 16-25 days (Uikey *et al.*, 2016).

The population of *Epilachna* beetle was positively correlated with maximum temperature and wind direction and negatively correlated with minimum temperature, rainfall, relative humidity and wind speed (Mawtham *et*

al., 2020, Tushar *et al.* 2014). But its sighting in November does not agree with these findings. Perhaps in an urban scenario or with adaptation to cooler regimes, the beetle in this case was found in November, 2021.

We dare not recommend any sprays - even a safe neem- for neem bitters would add on to the bitter of the bitter gourd, and may distaste the leafy concoction which health fads drink. So, in infested terrace gardens we just picked each beetle and allowed them to fly off. The eggs and grubs were just brushed off with a Camlin paint brush.



Fig. 1. *Henosepilachna septima* egg mass



Fig. 2 *Henosepilachna septima* grubs



Fig. 3 *Henosepilachna septima* pupae



Fig. 4 *Henosepilachna septima* adult

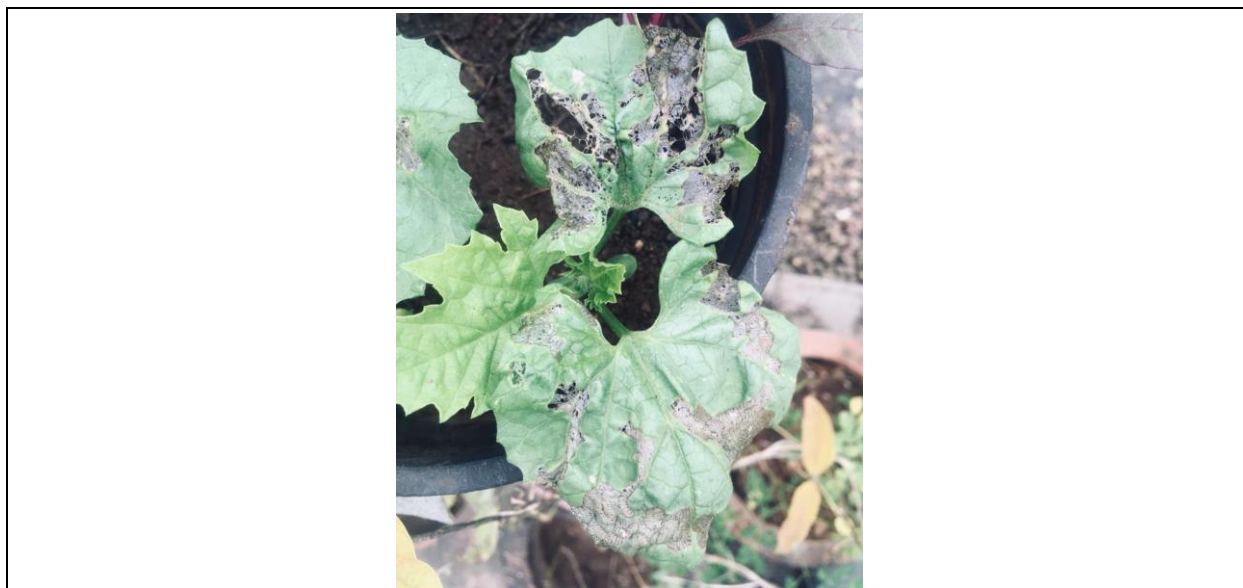


Fig. 5 *Henosepilachna septima* damage symptoms (PC: Abraham Verghese)

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References

- Katakura, S., Nakano, S. Kahana, I., Abbas and K. Nakamura, 2001. *Epilachnine* ladybird Beetles (Coleoptera, Coccinellidae) of Sumatra and Java, *Tropics*, **10 (3)**: 325-352.
- Falak Naz. and Mian Inayatullah, 2013, *Henosepilachna septima* Dieke (Coccinellidae; Coleoptera); A New Record for Pakistan along with Notes on its Taxonomy, Host Plants and Distribution, *Sarhad J. Agric.* **29(2)**: 235-238.
- Uikey. B. L., Bhupendrakumar, T. M. Ghule, S. Jha and R. K. Kecti, 2016. Incidence pattern and biology of *Epilachna* beetle, *Henosepilachna septima* Dieke on Bottle Gourd in Gangetic new alluvial zone of West Bengal, *Journal of Insect Science*, **29(1)**: 63-66.
- Mawtham., C. Gailce Leo Justin., S. Sheeba Joyce Roseleen. and M. Chandrasekaran, 2020. Correlation of Weather Factors on the Incidence of *Epilachna* Beetle *Henosepilachna septima* Dieke and its Natural Enemy, *Int. J. Curr. Microbiol. App. Sci.*, **9(6)**: 2637-2642.
- Tushar M. Ghule, Bhajan Lal Uikey, Pranab Barma. and S. Jha 2014. Incidence studies on some important insect pests of cucumber (*Cucumis sativus* L.) *The Ecoscan*, **8 (1&2)**: 177-180.

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