

## HIBERNATION OR AESTIVATION IN *LEPTOCORIS AUGUR* (FABR.) (HETERPTERA-COROIDEA-RHOPALIDAE) AT SAHARANPUR (U.P.), INDIA, IN RELATION TO TEMPERATURE

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**ABSTRACT :** *Leptocoris augur* is a pest of kusum plant, *S. oleosa*. In this insect no true hibernation or aestivation occurs. Under the effect of low temperature, which occurs at Saharanpur, 2<sup>o</sup>C to 16<sup>o</sup> C in winter population count decreases and brachypterous forms develops. Insects move away upto 50 meter from the shadow of host plant to bask Sun and raise body temperature. Active breeding period lasts during summer and rainy months from March to September at an average temperature 25oC ± 5oC. Aggregation clusters of bugs are seen during winter to increase body temperature. Cold temperature induces the production of Juvenile hormone more, which resulted in the production of neotenic forms (brachypterous forms).

**Key words :** Hibernation, *Leptocoris augur*, temperature, population, seasonal occurrence.

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### INTRODUCTION

*Leptocoris augur* (Fabr.) is a bright red coloured bug found in good number at Saharanpur infesting kusum plant, *Schleichera oleosa* Lour. (Sapindaceae), on which best quality of lac is cultivated. The bug population feed gregariously on the sed, tender leaves and bark of this host plant (Shikha *et al*, 2020). Hibernation is a winter sleep when the insects hide under various shelter sources to save themselves by the effect of cold weather as the insects are poikilothermal or cold blood animals on our planet earth. On the otherside, aestivation is summer sleep, which occur during high temperature. The behaviour of hibernation in heteropteran bugs is not widely studied. Dhiman (1980, 1981 and 1983) studied hibernation in *Metacanthus pulchellus*, *Aspongopus janus* and *Cletus signatus*, respectively. Although, different aspects of *L. augur* have been investigated time to time, Malhotra and Dhiman (1983, 1990), Dhiman and Gulati (1987) and Shikha *et al* (2021), yet, so far, no studies are carried out on its hibernation behaviour. Hence, present research work is carried out looking to its pest status.

### MATERIALS AND METHODS

The study was conducted during 2020 to 2021 at HRI and Training center Saharanpur, where the host of *L. augur*, kusum plants are planted in good number. Other accessory host plants are also found nearly it as reported by Dhiman and Gulati (1985). Observations were made throughout the year under the tree for recording hibernation, if any, in this kusum pest. Temperature and R.H. are recorded at regular basis with the help of Field Thermometer and Dial Hygrometer. Population count was made in 2×2 square meter area under the tree and nearby it, as the bugs feed gregariously on the fallen pulpy fruits as well as old decaying fruits.

Neotenic forms were studied in this form under the influence of cold weather by Dhiman (1990). Hence, population of both clate and brachypterous forms as well as of nymphs were keenly studied in the entire area of occurrence. Population count was made randomly in sample area. Data of the observations are recorded on daily basis and concluded after studies.

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