



SHORT NOTE

Occurrence of *Thrips palmi* Karny on *Dahlia rosea* Cav. (Asteraceae) in Manipur

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Of about 700 species of thrips known from India (Sen, 1998), only 12 species are of economic concern as pests of various crops (Sithanantham *et al.*, 2007). Among them the melon thrips, *Thrips palmi* Karny, (Thysanoptera: Thripidae) is a notable pest as well as an efficient vector capable of transmitting tospoviruses (Moorse and Hoddle, 2006). It is a polyphagous species inhabiting over 50 plant species belonging to 20 different families (Wang and Chu, 1986). During the course of survey of Thysanopteran fauna of the valley region of Manipur *T. palmi* has been collected for the first time from *Dahlia rosea* (Asteraceae) growing in a garden at Chingamakha, Singjamei, Imphal West District. The present paper reports the host record as well as infestation pattern of *T. palmi* on *D. rosea* in Manipur. In the present study, twenty five plants of *D. rosea* were examined for thrips infestation at the above mentioned site. Five plants were randomly selected for assessing the nature and extent of damage. Five leaves per plant were plucked once a week and the infested foliage (Fig. 1a) was brought to the laboratory in a polythene bag and then screened under the microscope. Different life stages of thrips were isolated and counted during the period of sampling from June to August, 2010. The larvae, pupae and adults were yellowish and were conspicuous to glance on the green leaf surface (Fig. 1b). A few adult thrips were processed for permanent balsm mounting following standard technique (Bhatti, 1990) and the specimens were determined with available keys (Ananthakrishnan and Sen, 1980; Palmer *et al.*, 1989). The specimens were identified based on the following features.

- The position of intercellar setae occur outside ocellar triangle.
- Metanotum with a pair of campaniform sensillae, sculpture converging posteriorly.
- Presence of 4 lateral marginal setae on abdominal tergum II.
- Tergum VIII with a set of complete comb in both the sexes.
- Presence of a transverse gland area on each of the sterna from III – VII.

Observations over a period of three months revealed that thrips population was steadily maintained throughout the study period with the density ranging from 2 to 4 adults and 2 to 6 larvae per leaf. As they lay eggs within the leaf tissue, rain/predator could not significantly influence their density; rather every week new larvae emerged from the eggs. The infested leaves presented an appearance of an inverted boat shaped structure (Fig.1a), which formed a temporary shelter for thrips larvae and pupae. Both the nymphs and adults fed gregariously on the leaves and growing tips of the tender twigs by lacerating and sucking mechanism. Scarring and deformities were observed as a result of extensive feeding. Heavily infested foliage was characterized by silver or bronze appearance with stunted growth. It was also not uncommon to find the movement of thrips on the other parts of the plants. In the present study, the identity of the pest was established as *T. palmi* but the presence of tospovirus was not established but cannot be overruled and needs further investigations. Considering the economic importance of *T. palmi* both as a pest and a vector, it is essential to keep a vigil on the further spread and infestation of other species in the valley region.

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Fig.1a. Normal and thrips infected *Dahlia* plant

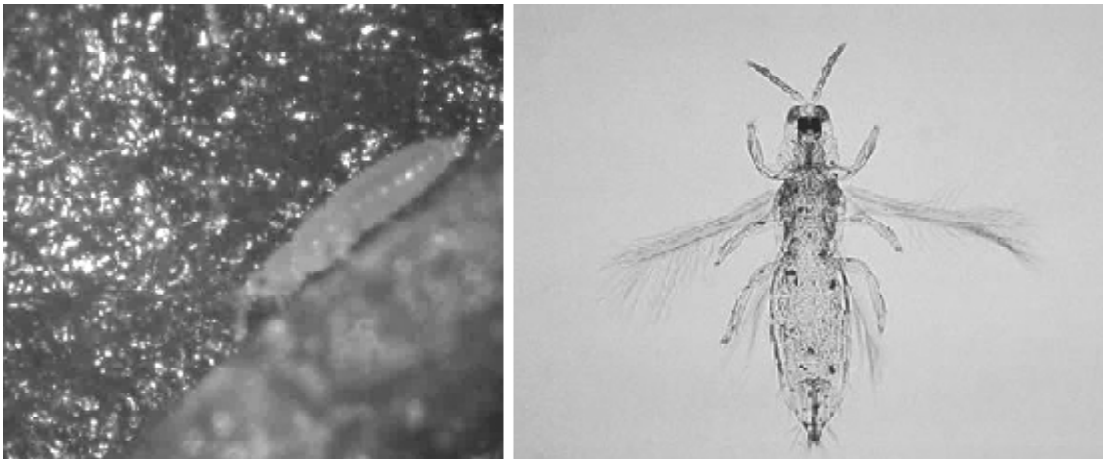


Fig.1b. *Thrips palmi*: II-instar larva and adult

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