



RESEARCH NOTE

Rearing of mango stem borer, *Batocera rufomaculata* De Geer (Coleoptera: Cerambycidae) on artificial diet

GUNDAPPA., BALAJI RAJKUMAR., KARISHMA SRIVASTAVA and SHIVSHANKAR SINGH

ICAR-Central Institute for Subtropical Horticulture, Rehmankhura, PO Kakori, Lucknow - 226 101, India

Email: Gundappa@icar.gov.in

ABSTRACT: An artificial diet mainly comprising gram powder, host stem powder and other nutritional components was standardized to rear the larval stage of mango stem borer, *Batocera rufomaculata* De Geer (Coleoptera: Cerambycidae) at ICAR-Central Institute for Subtropical Horticulture, Lucknow, India. The exponential increase was observed in the body weight and length of the grub in artificial diet at fortnightly interval. Adults emerged 10 days after pupation and per cent pupation was 83.3 and adult emergence was 33.3 per cent. Adults were robust and active with a mean body length and width of 4.5 and 1.5 cm respectively.

Keywords: Artificial diet, *Batocera rufomaculata*, mango, rearing

The mango trunk borer, *Batocera rufomaculata* De Geer, (Cerambycidae: Coleoptera) is increasingly becoming a menace in mango orchards across the country. The infestation of this pest is in the range of one to eight percent depending on the region, orchard health, variety and cropping system. Affected trees become unproductive due to die-back and drying of branches (Shivanada *et al.*, 2012). The grub of stem borer remains inside the stem and feeds on tissues and makes galleries. The grub is the damaging stage and has a prolonged period ranging from 6-8 months. In the field, only damaging symptoms are distinctive. Infestation is identified by the frass fallen on the ground or below the damaging site (Krishnamoorthy *et al.*, 2014). The adults of the stem borer are rarely seen in field condition (Reddy *et al.*, 2014). In order to study the species diversity and information on which species attacking can be possible only by artificial rearing. Lack of suitable rearing techniques hampers research on its biology and management as it has extended life cycle. Galford (1969) successfully reared ten Cerambycid species attacking forest trees on artificial diet. In India, Sundrababu (1974) attempted to rear mango stem borer on semi synthetic diet in Tamil Nadu conditions. In this study we have successfully reared stem borer on an artificial diet under Lucknow conditions.

Studies were conducted at ICAR-Central Institute for Subtropical Horticulture, Lucknow, India. Grubs of

mango stem borer were collected from the infested plant after careful dissection of the tunnels. Then grubs were carefully brushed to remove adhered contaminants. Uniform sized grubs were used for the artificial rearing. Grubs were introduced into glass jars containing artificial diet by making the holes in the diet using sterilized forceps. The glass jars were kept in BOD with temperature of $28^{\circ}\pm 2$ and 65% RH. The growth and development of the grubs were observed at fortnightly interval. Artificial diet was prepared by mixing the ingredients viz., Bengal Gram (70g), host stem powder (50 g), Sucrose (50g), Agar powder (15g), yeast extract (10g), multivitamin drops (4 ml), Ascorbic Acid (4g), Para benzene (2g), Formalin (2 ml), Sorbic Acid (1g), Cholesterin (1g), Casein protein (2g) and Aureomycin

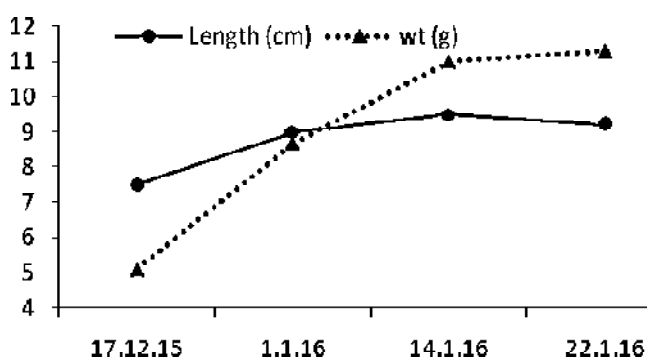


Fig 1. Length and weight of grub in artificial diet