

Occurrence of *Acerophagus papayae* Noyes and Schauff (Hymenoptera: Encyrtidae) on papaya mealybug, *Paracoccus marginatus* Williams and Granara de Willink, in Pune region of Maharashtra state

Papaya (*Carica papaya* L.) is grown over 2300 ha in Maharashtra and almost 50% of the crop is utilized for papain production. Recently, the papaya crop was found to be infested by the invasive papaya mealybug (PMB), *Paracoccus marginatus* Williams and Granara de Willink. The PMB was first noticed in Maharashtra in the papaya orchard at Regional Fruit Research Station (RFRS), Ganeshkhind, Pune on 14th July, 2010 by a survey team of scientists of the All India Co-ordinated Research Programme on Biological Control of Crop Pests and Weeds, Mahatma Phule Krishi Vidyapeeth, College of Agriculture, Pune.

The identity of the mealybug was confirmed at the National Bureau of Agriculturally Important Insects, Bangalore, as *P. marginatus*. The news was published in the daily SAKAL and also in AGRO-ONE, a periodical devoted to news on agriculture in the local language with wide publicity in Maharashtra state to create awareness among farmers.

An extensive survey of PMB was carried out in the western part of the state in the districts of Pune, Satara, Kolhapur, and parts of Dhule and Thane. On the appearance of the pest, a pest alert was published in the newspapers. Papaya growers from other regions like Marathwada and Vidarbha also communicated the occurrence of PMB in their papaya orchards. Based on the observations of papaya growers, it is likely that PMB might have invaded the crop in the month of April, 2010 in the village Sange, Taluka Wada, Dist. Thane. The papaya orchards of RFRS, Ganeshkhind, Pune, IARI Station, Baner, Pune and farmers' orchards at Loni Kand, Loni Kalbhor and Uruli Kanchan, Taluka Haveli, Dist. Pune were frequently visited to record the intensity of PMB and its natural enemies. The farmers grow Taiwan-786 variety of papaya, whereas both the Research stations maintain germplasm of papaya. Almost all the lines of germplasm were found to be invaded by the PMB. The mealybug colonies were observed with enormous population of crawlers and females with large yellow ovisacs on the lower surface of leaves along the veins, buds, flowers, fruits, stem and at ground level. The pest established new colonies on the sprouts developed on papaya stem particularly.

The survey for occurrence of natural enemies was carried out on 23rd August, 2010 and few parasitised mealybugs of PMB were observed at the IARI Regional Station farm, Baner, Pune, on which parasitoids were noticed. This was identified at the National Bureau of Agriculturally Important Insects, Bangalore, as *Acerophagus papayae* Noyes & Schauff. The parasitoid adults were found moving on the lower surface of the leaves and fruits in the mealybug colonies and about 10-12 adults per leaf were recorded. This is the first record of the natural occurrence of this exotic parasitoid in India. Besides, the predators, viz., *Mallada* sp. and *Scymnus* sp. were also observed in the mealybug colonies in papaya orchard located at Uruli Kanchan. The same parasitoid was observed again on 28th August 2010 in the same orchard.

Besides, PMB was recorded on several host plants like congress grass (*Parthenium hysterophorus* L.), neem (*Azadirachta indica* L.), Mexican weed (*Coperonia palustris* L.), shaving brush weed (*Sonchus oleraceus* L.), milk weed (*Euphorbia heterophylla* L.), kena weed or day flower (*Commelina benghalensis* L.), tandulja or pig weed (*Amaranthus dubius* L.), deepmal (*Acalypha indica* L.), math (*Amaranthus* spp.), guava, root stock of sapota (*Khirani*) and *safed Chafa* (*Plumeria alba*) in Maharashtra.

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