



STUDY OF HOST SPECIFICITY AND MIGRATION IN MEALY BUGS AT PAITHAN FROM AURANGABAD DISTRICT, INDIA (M. S.)

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ABSTRACT:

Host specificity and anatomical and morphological adaptations are essential for understanding the variability of life strategies and the evolution of parasitic species. There is a wide list of parasites that are connected with a host via their life cycle. The present communication deals with the host plant range of mealybug and its migration studies from Aurangabad district of Maharashtra, India. Due to its wide host range and adaptability to survive in all environmental condition its invasiveness increasing day by day. The results of this studies revealed that total 08 plants Species observed as host which belongs to 08 families. Among these host plants, 04 plant species belongs to Malvaceae family. The plants like cotton, Dumkane, Jaswand, Lady finger, Money plant, Rose plant, Calotrophus and Abulton were studied.

Key words: - *Mealy bug, migration, Malvaceae, environment.*

INTRODUCTION:

Mealybug is polyphagous sucking insect pest observed on field crops, vegetables, ornamentals, fruit and horticultural crops, weeds (Arif at al 2009). It observed in 35 localities among globe (Ben dov et al, 2004). It was first reported on cotton cultivation field in Texas USA (Fuch et al 1991). It is hemimetabolous insects which life cycle consist of egg, nymph and adult. Due to its wide host range and adaptability to survive in all environmental condition its invasiveness increasing day by day. Non-infected plants can be infected from infected plants as juvenile mealy bugs can crawl from an infected plant to another plant. Small 'crawlers' are readily transported by wind, rain, birds, ants, clothing and vehicle and may settle in cracks and crevices, usually on new plants. The female mealy bug is not active and unable to fly. In fact, humans are great friends helping in transport of mealy bugs. As the infested plant back the colonies of mealy bugs migrate from shoot tips to twigs, branches and finally down the trunk.

MATERIALS AND METHOD:

Study area & sampling of host plants: The field survey carried out in Paithan from Aurangabad district. This survey conducted in cultivation area like. Cotton fields, field borders, road side, water channel & some local gardens and near our house sourrounding. Close monitoring on migration of mealybug throughout the month of Oct-November. Photographs of infested plants were taken. Sample of mealy bug preserved in 70% alcohol & plants parts collected and carried to laboratory for plant identification.

OBSERVATIONS:

Non-infected plants can be infected from infected plants as juvenile mealy bugs can crawl from an infected plant to another plant. Small 'crawlers' are readily transported by wind, rain, birds, ants, clothing and vehicle and may settle in cracks and crevices, usually on new plants. The wax, which sticks to each egg, also facilitates passive transport by equipment, animals or people. The female mealy bug is not active and unable to fly. In fact, humans are great friends helping in transport of mealy bugs. As the infested plant

back the colonies of mealy bugs migrate from shoot tips to twigs, branches and finally down the trunk. Long distance movement is most probable through carrying infested planting material and fresh fruit and vegetables across the country or even from one end of a farm to the other. Ants, attracted by the honeydew, have been seen carrying mealy bugs from plant to plant. Several species of mealy bugs can be pests of greenhouse, nursery, and landscape plants. The most common of these are the citrus mealy bug and long tailed mealy bug though other species including Madeira mealy bug, mescal thus mealy bug, and various root mealy bugs also occur. In general, mealy bugs cause similar damage symptoms and are managed in similar ways. Female mealy bugs are soft oval insects without wings

RESULT AND DISCUSSION:

The migration of host range capacity similar to Ben DOV (2009), Vanilala (2010). Its shows specific diversity of host. Mealy bug females feed on plant sap, normally in roots or other crevices, and in a few cases the bottoms of stored fruit. They attach themselves to the plant and secrete a powdery wax layer (hence the name "mealy" bug) used for protection while they suck the plant juices. In Asia, mango mealy bug is considered a major menace for the mango crop. The males on the other hand are short-lived as they do not feed at all as adults and only live to fertilize the females. Male citrus mealy bugs fly to the females and resemble fluffy gnats.

Some species of mealy bug lay their eggs in the same waxy layer used for protection in quantities of 50–100; other species are born directly from the female. The most serious pests are mealy bugs that feed on citrus; other species damage sugarcane, grapes, pineapple (Jahn et al. 2003), coffee

trees, cassava, ferns, cacti, gardenias, papaya, mulberry, sunflower and orchids. Mealy bugs only tend to be serious pests in the presence of ants because the ants protect them from predators and parasites

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Photograph of Cotton, Abutilon, Calotropus, Dumkane, Jaswand, Lady Finger, Money plant