

RECORD OF SOME HEMIPTERAN INSECT PESTS OF *LITCHI CHINENSIS* FROM JAMMU DISTRICT (J&K), INDIA.

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ABSTRACT: Litchi occupies an important place among the fruits grown in Jammu district. Therefore keeping in view, the dietary and economic importance of litchi, the work was initiated in Jammu district to study the diversity of different insect pests attacking litchi plantations. Of the various insect pests recorded, pentatomid bugs belonging to order Hemiptera and family Pentatomidae causing serious damage to the litchi plantations. Adults and nymphs both cause damage to the trees by sucking sap from the tender leaves and cause damage on fruits by hard brownish punctures or black spots. These punctures affect the fruit's edible quality and lower its market value.

KEY WORDS: Litchi, pentatomid bugs, damage, Jammu.

Litchi (*Litchi chinensis* Sonn.) is one of the important subtropical fruit crops known for its delicious fragrant, juicy and quality fruits contributing significantly to the nation's economy. Among many factors affecting production and productivity, insect pests and post-harvest losses are a major constraint. Litchi crop suffers heavy damage due to large number of insect pests in the present area under investigation. Stink bugs (Hemiptera : Pentatomidae) are important economic pests of many agricultural crops and have become one of the most difficult pest complexes to control in field crops, vegetables and fruit trees (McPherson & McPherson, 2000). The paper deals with morphology and mode of damage to *Litchi chinensis* in Jammu district by pentatomid bugs.

MATERIAL AND METHODS

The field investigations were carried out during December 2012 to July 2013 in district Jammu of J&K state where litchi plantations were grown. The insects along with their immature stages were collected from the various methods such as handpicking, stem beating and also with the help of entomological nets. Later, collected specimens, eggs, larvae, pupae and adults were preserved by traditional methods for further studies. General morphological studies were made under different magnifications of the stereoscope microscope. Photographs have been taken with Canon Power shot, Digital Still Camera with 8x optical zoom having 16.0 effective mega pixels with inbuilt macro function for extreme close up.

OBSERVATIONS AND DISCUSSIONS

During the period of observation, a total of 05 insect pests belonging to family Pentatomidae were recorded by the investigator from the Jammu district of J&K state. These insects were found to be sap suckers. A general description of each insect species along with their damage pattern is discussed below:

1) *Halys dentatus* Fabricius, 1803

Distribution: It is distributed throughout Pakistan (Yasmin et al; 1991) and India (Yousuf & Gaur, 1993).

Description: Body coarse, darkly punctate, 21mm long and 9mm wide between pronotal angles. Antennae 5 segmented, antennal segments uniformly cylindrical. Head longer than pronotum; rostrum extends beyond the fifth abdominal segment. Compound eyes dark brown; thorax brown with black spots; scutellum brown with dark spots; wing membrane dark brown from where basal vein of the membrane arises; femur with dark brown spots.

Damage: The insects were seen sucking sap from leaves and fruits. Thereby causing severe damage to the plantation.

2) *Dolycoris baccarum* Linnaeus, 1758

Distribution: From India recorded from Tamil Nadu, Bihar, and Kolkata; besides India also recorded from Denmark, Ireland, England, USSR, Poland and Italy.

Description: Body large, distinctive oval, shield shaped, long hairs with a length of about 10-12mm. Head roughly triangular, closely punctate. Compound eyes large, bulged, laterally placed lying between the postero lateral margin of the head and anterolateral margin of the pronotum. Ocelli present, oval, inwardly directed, located at the base of the head. Antennae 5 segmented, longer than the head. Scutellum very prominent, convex and punctate. Elytra broader anteriorly, narrow and slightly pointed posteriorly, longer than the abdomen. Legs distinctly hairy; hind legs long; tibia cylindrical; claws thin; tarsi 3 segmented.

Damage: Adult bugs were found feeding on the shoots, leaves and flowers.

3) *Nezara viridula* Linnaeus, 1758

Distribution: Distributed in tropical and subtropical regions of the America, Africa and Asia. Also reported from West Bengal, Assam and Himachal Pradesh.

Description: Body light green, spotless and shield shaped. Head closely punctate. Antennae 5 segmented, ventrally located. Compound eyes large and bulged. Stink gland pores short and broad located on sternum between meso and meta leg. Scutellum with black dot in each basal corner. Femora with a single blunt spine at its distal end. Tibia cylindrical and posterior angle of each abdominal segments have black dots.

Damage: The bugs feed by piercing plant tissue with needle like stylets. Young fruit growth is retarded and it often withers and drops from the plant.

4) *Halyomorpha picus* Fabricius, 1794

Distribution: Oriental region and Formosa (Miyamoto, 1965).

Description: Body light brown with dark brown punctate spots. Head freely movable not fused with the thorax. Compound eyes large bulged and laterally placed. Antennae 5 segmented and filiform. Scutellum large and convex. Legs unequal; meta legs are longer than meso legs. Tarsi 3 segmented. Abdominal margins slightly visible dorsally through the wings.

Damage: The pest is a sap sucker found feeding on leaves and twigs. The insect was also found damaging the fruit there by causing the rotting of fruits.

5) *Eusacocoris ventralis* Westwood, 1837

Distribution: India, Japan, Pakistan, Cuttack, Bankura (Bishnpur), Medinipur (Digha).

Description: Body 5 to 7 mm in length. Body colour faint brown like the milk tea, dorsal surface dark chocolate brown. Head small and triangular in shape. Compound eyes large bulged, laterally placed lying between the posterolateral margin of the head and anterolateral margin of the pronotum. Antennae 5 segmented, hairy and dull brown in colour. Legs simple creamish yellow with dark brown spots scattered all over the legs. Tarsi 3 segmented and thin claws present.

Damage: Bugs cause significant damage by piercing plant tissue and removing plant juice. Damaged leaves sometimes become pale yellow, dry, shrivelled and fall out prematurely.

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Table 1. Description of insect pests on *Litchi chinensis*.

S.no.	Scientific name	Order	Family	Pest status
1	<i>Halys dentatus</i>	Hemiptera	Pentatomidae	Abundance
2	<i>Dolycoris baccarum</i>			Less
3	<i>Nezara viridula</i>			Abundance
4	<i>Halyomorpha picus</i>			Abundance
5	<i>Eusacoris ventralis</i>			Less