

Larva: The caterpillar is yellow with red stripes and an orange head. Tufts of hairs are found all over, of which two in the anterior region and one in the posterior region are prominent.

Pupa: Pupation is in a yellowish cocoon of hairs on the leaves.

Adult: Moth is light yellow with bipectinate antenna.

7. Grass hoppers : *Hieroglyphus banian* (Large grasshopper)

Oxya nitidula (Small grasshopper) : Acrididae: Orthoptera

Symptom of attack: The nymphs and adults nibble leaves and also earheads in the early stages.

Nature of damage: Both the adults and nymphs feed on the leaf and in severe cases the entire leaf may be eaten away. It is capable of causing severe damage. In the earhead stage the adults nibble at the tender florets or grain or into the base of the stalks causing white ears.

Life stages *H. banian* has only one brood in a year. *O. nitidula* breeds throughout the year. Egg: It lays eggs in the wet sandy soil during October to November at a depth of about 2" especially in the side of bunds. The eggs are laid in batches of 30-40, hatch only in June to July on receipt of the monsoon rains. Eggs are yellowish and covered with gummy substrate that hardens into a waterproof coating.

Nymphs: The nymphs feed on the grasses or paddy

Adult: They grow into adults by August to September. *H. banian* measures about 1½ inches long. There are three transverse dark lines on the prothorax, which is helpful for identifying the pest. *O. nitidula* is about one inch long and has a longitudinal brown streak on either side of the thorax.

8. Spiny beetle/ Rice hispa: *Dicladispa armigera*: Chrysomelidae: Coleoptera

Symptom of attack: The mining of the grubs will be clearly seen on the leaves. White parallel line will be clear on the leaves.

Nature of damage: The grub mines into the leaf blade and feed on the green tissue between the veins. Adults also feed in the green tissue; they scrape the green matter of the tender leaves. Generally the plants are affected in the young stage.

Egg: Eggs are laid inside minute slits on the tender leaves generally toward the tip.

Grub: The grub is whitish yellow and flattened. It feeds inside the leaf tissue by mining. It pupates inside.

Adult: The adult beetle is somewhat square shaped about 1/6 to 1/8" in length and width. Dark blue or blackish in colour with spines all over the body.

9. Whorl maggot: *Hydrellia sasakii*: Ephydriidae: Diptera

Symptoms of attack: Presence of feeding lesions in the lines and the infested plants become stunted.

Nature of damage: The maggots are found to feed on the unopened leaves and to nibble the inner margins of the leaves, which showed conspicuous feeding lesions in the lines. Damaged leaves became distorted and broke-off in the wind. Infested plants are stunted. It cause damage to the boot leaf and developing panicles, which resulted in