

Pupa: Pupation takes place in hard chitinous puparium, which is found sticking to the side of pod or in the groove eaten into the grain by the larva. It is cylindrical with broadly rounded ends. Fresh pupa is yellowish white, but becomes darker subsequently.

Adult: It is slightly bigger than the male. Its wings are also slightly broader. Colour of a newly emerged adult is dull-white and smoky patches at places, but gradually it acquires the normal black colour with slight bright greenish tinge. Abdomen is glossy black, but in some cases it is slight bronzy, while in other cases it has a greenish-blue background.

#### **9. Stem fly, *Ophiomyia phaseoli*, Agromyzidae, Diptera**

Symptom of damage: Drooping of the tender leaves and yellowing characterize serious damage of young plants. The sites where maggot and pupae are present become swollen and start rotting. Older plants show stunting but are not usually killed.

Nature of damage: Maggot is the damaging stage. It mines sub-epidermally through the leaves. Plants are most seriously affected at the seedling stage, where stem is tunneled.

Egg: Eggs are laid inserted under the epidermis on the under surface of the leaves. Eggs are elongate, oval and white in colour with a smooth and transparent surface.

Maggot: Light yellow-coloured maggot moves in the leaf and then bores deeper into the stem. It travels downwards in the young plants. In older plants, the maggots do not move much. It cuts an exit hole in the stem for the adult before pupation.

Pupa: Pupation takes place in the underground portion in the young plants, whereas in the older plants, it is usually in the main stem or branches.

Adult: Light brown when freshly emerged, but fully developed adult is metallic-bluish or greenish-black in colour with light brown eyes. Wings are transparent. Female is slightly bigger than the male.

### **FLOWER FEEDER**

#### **10. Blister beetle, *Mylabris pustulata*, Meloidae, Coleoptera**

Symptom of damage: Presence of blister beetles on the flowers. The adult beetles feed on flowers, leaves and tender panicles, thus preventing grain formation.

Nature of damage: These beetles are diurnal and general feeders.

Egg: Eggs laid on the ground or in the soil.

Larva: First stage larva is 'triungulins' (long-legged) and actively searches for the host. They moult to become eruciform or caraboid. (Hypermetamorphosis)

Pupa: Pupates in the soil.

Adult: Medium sized, 12.5-25.0 mm long. Conspicuous in appearance and are moderately robustly built. Beetles are bright metallic blue, green, black and yellow or brown in colour.