



Centurion
UNIVERSITY

Insect pests of Castor

CASTOR SEMILOOPER

Achaea janata, *Paralellia algira*

Noctuidae: Lepidoptera

MARKS OF IDENTIFICATION

- ✓ *A. janata* is a pale reddish brown moth, stoutly built with black hindwings having white band medially and three large white spots on the outer margins.
- ✓ *P. algira* is also stoutly built moth. In forewings and hindwings, there are two whitish lines which are parallel and continuous lines.
- ✓ Caterpillar is a semilooper, long, smooth, greyish brown in colour. Two pair of prolegs (3rd & 4th) are reduced and as such a semilooper. Caterpillar possess red or whitish side stripes.

Achaea janata



Paralellia algira



Achaea janata (L.)



LIFE HISTORY

- A single female moth lays about 450 blue green rounded and ridged eggs singly @ 1 to 6 eggs per leaf
- Egg period is 2 to 5 days
- Full grown larva has black head, a red spot on the black loop and red anal tubercles and measures 60-70 mm in length, larval period is 11- 15 days.
- Pupation takes place in the soil or among fallen leaves. Pupal period is 10-14 days during warm weather, few months in cold weather



NATURE OF DAMAGE

The caterpillar feeds sparingly at first and feeds voraciously during later stages leaving only mid rib and veins.

SYMPTOMS OF DAMAGE

- Defoliated leaves,
- in severe cases only mid rib and veins of the leaves

MANAGEMENT

- The larvae may be handpicked and destroyed.
- *Telenomus and Tetrastichus* sp. Parasitize the eggs.
- Braconid parasite: *Micropletis ophiusae* acts as larval parasite whose cocoons may be seen attached to the ventral aspect of the posterior end of the host caterpillar



2. Feed on the leaves and defoliate the plants causing reduction in assimilative leaf area and thus hinder growth

Eg : 1.Semilooper caterpillar, *Achaea janata* on castor

- Erection of bird perches @ 10 / ha
- Application of neem oil 5 ml/l or *B.t* 1 g/l
- Foliar spray with methyl parathion 2 ml/l or thiodicarb 1g/l or spinosad @ 0.33ml/l.

CASTOR SHOOT AND CAPSULE BORER

Conogethis punctiferalis

Pyralidae: Lepidoptera

APPEARANCE

- ✓ Moth is medium sized having bright orange yellow coloured wings with numerous black dots or spots. The body length is about 10 mm while the wingspan is 22 mm.

LIFE HISTORY

- Female moth lays pinkish oval, flat eggs singly or in groups on tender parts of plant and developing capsules
- Egg period is 6 to 7 days



NATURE OF DAMAGE

- Larvae bore into the shoots as well as capsules and destroy them. Occasionally the larva is found at the junction of the petiole with the lamina and rarely in thick mid rib

SYMPTOMS OF DAMAGE

- Frassy matter at the bored shoots
- Webbed seed capsules covered with dark excreta.

MANAGEMENT

- Collection of infested shoots and capsules and their destruction.
- Sprayings should be commenced from the time of formation of inflorescence and again after 20 days. Insecticides like dimethoate 2ml/l, methyl demeton 2ml/l, monocrotophos 2ml/l are recommended



TOBACCO CATERPILLAR

Spodoptera litura (Fabricius)

Noctuidae: Lepidoptera

APPEARANCE

- ✓ Moth is medium sized and stout bodied with forewings pale grey to dark brown in colour having wavy white cross markings.
- ✓ Hind wings are whitish with brown patches along the margin of wing. Pest breeds throughout the year. Moths are active at night.
- ✓ Caterpillar measures 35-40 mm in length, when full grown. It is velvety, black with yellowish – green dorsal stripes and lateral white bands with incomplete ring – like dark band on anterior and posterior end of the body.



LIFE CYCLE

- Female lays about 300 eggs in clusters.
- The eggs are covered over by brown hairs and they hatch in about 3-5 days.
- It passes through 6 instars. Larval stage lasts 15-30 days
- Pupation takes place inside the soil, pupal stage lasts 7-15 days.
- Adults live for 7-10 days. Total life cycle takes 32-60 days. There are eight generations in a year.



NATURE OF DAMAGE

_In early stages, the caterpillars are gregarious and scrape the chlorophyll content of leaf lamina giving it a papery white appearance.

- Later they become voracious feeders making irregular holes on the leaves and finally leaving only veins and petioles.
- During flowering and boll formation stage, the caterpillars also feed on the internal contents of bolls causing irregular holes.
- ETL 1 egg mass/10 plants.

SYMPTOMS OF DAMAGE

- Irregular holes on leaves initially and later skeletonisation -----
leaving only veins and petioles
- Heavy defoliation.
- Presence of bored bolls.

MANAGEMENT

- Collection and destruction of the infested material from the field.
- Plucking of leaves harboring egg masses / gregarious larvae and destroying. ·
- Setting up light traps for adults.
- Setting up of pheromone traps @ 12/ha

- Spraying NPV @ 250LE/ha.
- Release of egg parasitoid *Trichogramma* @ 50,000/ha/week four times · ETL: one egg mass / 10 plants.
- Foliar spraying with endosulfan 2ml/l or thiodicarb 2ml/l or quinalphos 2.5ml/l.
- Baiting with rice bran 12kg + jaggery 2.5kg+carbaryl 50WP1kg in 7.5lt water/ha during evening hours to attract and kill the caterpillars

LEAF HOPPERS

Amrasca biguttula biguttula

Cicadellidae: Hemiptera

- Light green or greenish yellow nymphs and **adults suck sap from undersurface of leaf**. As a result, the margins of leaf turn pale initially, later become yellowish and **cause hopperburn or drying of leaves and showing brown necrotic patches in severe cases**.
- Plants lose vigor and yield is affected. The other hosts are brinjal, mesta, cotton, bottle gourd etc.,

Management

- Seed treatment with imidacloprid 5g/kg seed or thiamethoxam 4g/kg seed, foliar spray with monocrotophos 1.6ml/l or dimethoate 2 ml/l have been found effective



CASTOR BUTTERFLY/ SPINY CATERPILLAR

Ergolis merione

Nymphalidae: Lepidoptera

- It is specific pest on castor. The larva is long green with short branching hairs in groups all over the body. The larva feeds on the upper surface of leaves and scrapes the chlorophyll content.
- Collection and destruction of the larvae and foliar spray with quinolphos 2ml/l or chlorpyrifos 2.5 ml/l are effective.



Photos of Prashanth Bhat



CASTOR WHITEFLY

Trialeurodes rara, *Trialeurodes ricini*

Aleurodidae: Hemiptera

- The yellowish nymphs with waxy filaments are found in large numbers on leaves.
- Nymphs and adults suck sap causing yellowing and drying of leaves in severe infestations.
- Application of methyl demeton 2ml/l or monocrotophos 2 ml/l or triazophos 2 ml/l



CASTOR THRIPS

Retithrips syriacus, Scirtothrips dorsalis

Thripidae: Thysanoptera

- Both the nymphs and adults lacerate and suck oozing out sap from the plant tissues.
- The plant loses its vitality. Terminal leaves turn crinkled and silvery white.
- Spray application of methyl demeton 2 ml/l or dimethoate 2 ml/l.

CASTOR SLUG

Latoia (Parasa) lepida

Limacodidae: Lepidoptera

- It is a sporadic pest of castor. It also attacks coconut, mango, Palmyra, citrus, wood apple *etc.*
- Larvae feed on the leaves leaving the mid rib and veins.
- Foliar spray with chlorpyrifos 2 ml/l or monocrotophos 2 ml/l



MITE

Eutetranychus sp., Tetranychus telarius

Tetranychidae: Acarina

- Nymphs and adults of the red spider mites suck sap from the under surface of leaves by constructing silken galleries.
- In severe infestations white blotches are formed on the upper surface of leaf. In severe attack, mites are also seen on upper surface of the leaves.
- Dusting of fine sulphur and spraying with dicofol 5 ml/l or profenophos 2 ml/l are effective

THANK U....