Insect Pests of Miding and Paku – Pakis

By
Megir Gumbek

Pest infestation on edible ferns *miding* and *paku pakis* in the wild and semi-wild is seldom heard of. However, when they are grown as a monocrop and an intensive system, it is expected that the insect pests would emerge. Such example is the outbreak of a scarring beetle, on a five hectare miding farm at Kuala Baram, Miri in December 2009. This farm was established in 2006. Since then, it had been free of insect pest infestation until the pest problem in 2009. This scarring beetle defoliated about one fifth of the farm. When the semi-wild miding is cultivated, chicken manure is applied to promote plant growth resulting in more succulent growth. This would attract the insect pests which are feeding on the surrounding jungle shrubs and weeds.

The common insect pests of miding are the scarring beetle and stem borer, while the blister beetle and leaf folder are more common on paku-pakis. The use of insecticides is not recommended, unless during an outbreak. The affected plant parts should be removed and destroyed and the plants would recover after a while.

Scarring beetle

The beetle is about 3 mm long and shiny metallic black in colour. The eggs are laid in the soil and the larvae feed on the roots, while the adults feed on the stems and leaves. The adults normally come out during late evening to feed and hide among the roots during the day.

Adult

Close-up of beetle

Feeding damage on the stems is characterised by numerous chewing and scarring marks and on the leaves numerous small holes and scarified patches, hence the pest is named scarring beetle. The infested plot appeared burnt and plants were devoid of new shoots and leaves. During the outbreak in Dec 2009, this beetle also fed on the surrounding shrubs and weeds. A crop loss of 25 percent was reported then. It took at least three months for the re-growth of the new shoots after the pruning of the affected stems and leaves.

Spraying of deltamethrin was effective in reducing the pest population. Prior to spraying of the insecticide, the affected stems and leaves were pruned and destroyed. This affected plot was left to fallow. This removal of the upper canopy was to facilitate the penetration of the chemical spraying.

Damaged stems

Damaged leaves

Infested miding plot

Blister beetle

The adult has a red head and black elytra and when touched, it produces a vesicant substance, which causes blister. The adult is a polyphagous leaf feeder. The larva feeds on the eggs of the grasshopper such as the *Valanga* spp., which are laid in the soil. In this way, this beetle is also a beneficial insect.

Adult

Damaged leaves

Stem borer

It is the larva of a small moth, which bores in the stem resulting in stem dieback. The adult exit hole on the damaged stem is another obvious symptom of damage.

Larva

Adult moth

Damaged stem

Leaf roller

It is the larva of a moth, which feeds on the young leaves. The larva usually hides inside the leaf roll, especially during the hot time of the day. The leaf rolls are the obvious symptom of damage.

Larva

Adult

Damaged leaves

Article contributed by Megir Gumbek, Agriculture Research Centre, Semongok (megirg@sarawak.gov.my)