

Outbreak of coconut slug caterpillar in Karnataka

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The slug caterpillar is a sporadic outbreak insect pest on coconut which causes up to 50% yield loss during severe infestation. Recently a severe outbreak of the pest has been reported from Ramenahalli and Bommenahalli villages of Kibbanahalli panchayath, Tirpurtur taluk, Tumkur district of Karnataka state. Two farmers (Shanmukappa from Ramenahalli and Shankaralingaih from Bommenahalli) suffered heavy loss (23.143% infested palms and 85% leaf damage) due to the outbreak of slug caterpillar. In their 23 year old coconut garden, out of 612 palms, 154 palms were infested which resulted in a gradual reduction in yield.

First coconut slug caterpillar outbreak in Karnataka was reported at Devanahalli taluk, Bangalore district in 1995. In Andhra Pradesh, incidence of this pest was observed during 2007, 2012, 2013, 2015 and 2016 in coconut gardens of East Godavari and West Godavari districts.

The pest

For effective monitoring and timely management of the pest, correct identification of the pest is required. *Darna nararia* Moore commonly known as coconut slug caterpillar belongs to the Family *Limacodidae* of Order *Lepidoptera*. Its eggs are very tiny, scale like, translucent initially and difficult to locate. Larvae are dark brown dorsally with V-shaped bright greenish yellow markings on both sides and tubercles along lateral margins. Tiny bunches of minute urticating hairs are present on the sides and dorsal area. Larvae may grow up to a length of 1-1.8 cm. The larval period lasts for 22-46 days. They pupate inside a round brownish shell (5-9 mm length) like cocoon attached to the leaves. The shell is covered sparsely by light yellowish brown silk. Pupation lasts for about 9-13 days. Adult moths are small brownish with faint black lines on wings. Females are larger with a filiform type of antennae whereas males are smaller with a bipectinate type of antennae. Female lays about 180-200 eggs in groups on the surface of leaves.

Characteristic damage symptoms

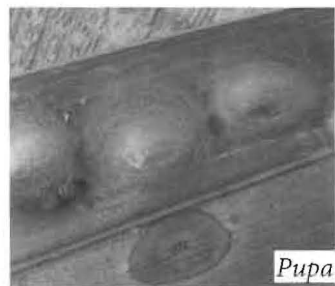
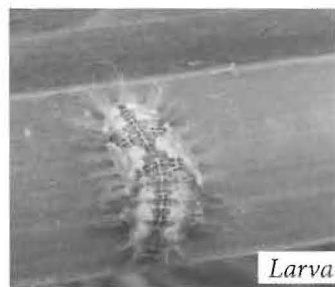
The larva is the destructive stage of the pest. The young larvae feed on the lower epidermis of the leaf. Pest feeding on leaf lamina results in development of necrotic spots in early stage. Later instars feed on whole leaf blade leaving only the midribs. In heavy infestation, the larvae may defoliate the palm. Affected leaf fronds show burnt appearance and in case of severe attack the whole tree looks dry. They can also survive on maize, jowar, arecanut, napier grass, bajra and some weeds.

Measures taken to manage the pest in Ramenahalli and Bommenahalli villages

- Management of slug caterpillar in Ramenahalli was carried out under the supervision of experts from All India Co-ordinated Research Project (AICRP) on Palms centre Arsikere. A team of scientists visited the slug caterpillar infested areas and took initial observations. Later, AICRP centre Arsikere conducted roving survey in the entire district of Tumkur to identify the extent of damage. They created awareness among the farmers regarding slug caterpillar and its management.

- A team of Scientists from ICAR-Central Plantation Crops Research Institute

Different stages of *D. nararia*.



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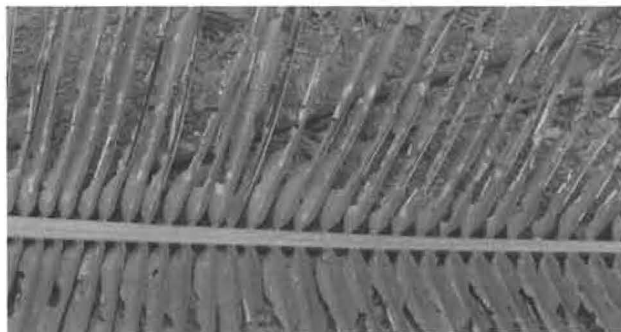
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Dr. A. K. Singh, Chairman, Coconut Development Board chairing the session on Advancement in technologies and studies for proactive responses to future threat during the 47th Cocotech meeting held at Bali, Indonesia during 26-30 September 2016



Visit of scientists to slug caterpillar infested garden at Ramenahalli



Infested frond

(CPCRI), Regional station- Kayamkulam visited the slug caterpillar infested field at Bommenahally and suggested to install 4-5 light traps/ha and spraying of Bt formulations 1g/l to suppress the pest population.

- A field trial was conducted at Ramenahalli for the management of slug caterpillar by installing light traps (mercury vapor bulb) and spraying of Bt formulations which resulted in drastic reduction of pest population from 23% to 2%.

- Studies on biology of *D. nararia* and different bioassay studies were carried out at Entomology laboratory, HRIS, Arsikere center.

- Importance should be given to conservation of natural enemies in the field, so that the pest population can be maintained below economic threshold level. ■



Moth trapping using light trap



Moths trapped by mercury vapor bulb of 260 watt