

New records of insect and mite pests of spice crops in Andaman Islands, India

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ABSTRACT

Eighteen species of insects and one species of mite are reported for the first time from seven spice crops viz., cinnamon, clove, black pepper, nutmeg, curry leaf, chillies and turmeric, from Andaman and Nicobar Islands, India.

Key words: Andamans, insects, mites, new records, spice crops.

The Andaman and Nicobar Islands are a group of 306 islands situated about 1200 km off the eastern coast of peninsular India. Spice crops were among the early crops to be introduced for cultivation in these islands. However they occupy only 597 ha (Anonymous 1990), a meagre 1.4 per cent of the total cultivated area in these islands. The insect and mite pests of these crops remain largely unknown with the exception of studies on the entomofauna of cinnamon (Bhumannavar *et al.* 1991; Veenakumari & Prashanth Mohanraj 1993) wherein they list 15 insect species damaging the crop. The current study indicates the presence of 18 species of insects and 1 species of mite as potential pests of seven spice crops, viz., cinnamon, nutmeg, clove, black pepper, turmeric, chillies and curry leaf, on these islands.

Potential arthropod pests were collected during irregular visits to the two farms

of Central Agricultural Research Institute (situated at Garacharma and Sippighat). Their status as herbivores was established by rearing the immature stages collected to adulthood in the laboratory on their respective hosts. Specimens of adults collected were sent to Natural History Museum, London, for establishing their identities.

Cinnamon (*Cinnamomum verum* Bercht & Presl.)

Seven species of insects were found attacking cinnamon in addition to those reported earlier (Bhumannavar *et al.* 1991; Veenakumari & Prashanth Mohanraj 1993).

Lepidoptera : *Geometridae*

i) *Fascellina castanea* (Moore) : This looper which appears during October - November is a defoliator. It measures about 2.5 cm and is blackish-brown with three pairs of tubercles on the abdomen.

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The first pair of tubercles are reddish with white spots while the remaining tubercles are blackish. There are two black spots behind the last pair of tubercles. There is a median tubercle towards the anal end. The larva prefers older leaves.

ii) *Hyposidra infixaria* Walker : This is a greenish looper with white markings, and feeds on leaves. It is relatively more abundant in January.

iii) *Cleora alienaria* (Walker) sub sp. *rasanaria* Swinhoe : This sub species which is endemic to the Andamans is a defoliator. The larva is green with a light yellow head with a faint greenish-yellow lateral band confined to the posterior end; the anterior and posterior ends have black markings on the dorsal surface.

Tortricidae

iv) *Lopharcha* sp. : The small green larvae of this moth, measuring 0.5-0.7 cm in length, bore into terminal shoots resulting in wilting of affected parts.

Coleoptera : Chrysomelidae

v) *Dercitina* sp. : These are small black beetles with a brown thorax. Feeding by the adults results in holes in the leaves. They prefer tender leaves and occur in large numbers in December.

Diptera : Agromyzidae

vi) ? *Melanagromyza* sp. : The maggots are leaf miners, making dark brown tunnels in young leaves and occur in December.

Heteroptera : Platyspidae

vii) *Coptosoma variegata* (H.S.) : The green adults and nymphs are found in large numbers during April - May. They suck sap from tender shoots and fruits.

Clove (*Syzygium aromaticum* (L.) Merr. & Perry)

i) Lepidoptera : Noctuidae

Barasa acronycoides Walker : This is a twig borer seen during October. The larva is brownish with a light brown head and black thoracic and anal plates. The larva which measures 1 cm in length bores into and finally pupates within a twig; consequently the shoot dries up.

Scolytidae

ii) *Dryococtiops coffea* (Eggers)

iii) *Hypothenemus birmanus* (Eichoff)

Both adults and larvae of these species are twig borers. The pest infestation results in drying and consequent death of attacked twigs.

Homoptera : Derbidae

iv) *Devadanda* sp. : The nymphs and adults suck sap from tender shoots resulting in loss of vigour of affected plants.

Black pepper (*Piper nigrum* L.)

Homoptera : Aleyrodidae

i) Genus et sp. indet : Adults were found in large numbers on undersurfaces of leaves. Their feeding resulted in white speckles on them.

Nutmeg (*Myristica fragrans* Houtt.)

Homoptera : Coccidae

i) *Mulviscutulus mangiferae* (Green) : Both adults and nymphs suck sap from shoots.

Pseudococcidae

ii) *Pseudococcus* sp. nr. *cryptes* Hempel : This species sucks sap and breeds on shoots.

Curry leaf (*Murraya koenigii* (L.) Spreng.)

Lepidoptera : *Tortricidae*

i) *Adoxophyes moderatana* Walker : The larva webs leaves and feeds from within. It is dirty white with a brownish head.

Homoptera : *Psyllidae*

ii) *Diaphorina citri* Kawayama : Adults and nymphs suck sap from leaves. Adults are brownish. David & Kumaraswami (1978) reported this species from mainland India on curry leaves.

Acarina : *Tetranychidae*

iii) *Eutetranychus* sp. : These reddish brown mites breed on leaves and are found scattered on the upper surface and are sometimes concentrated near the midrib and veins. Feeding results in speckling of leaves; severely affected leaves wither.

Chillies (*Capsicum annum* L.)

Homoptera : *Coccidae*

i) *Pulvinaria* sp. nr. *urbicola* Cockerell : The adults and nymphs are found sucking sap from shoots.

Turmeric (*Curcuma longa* L.)

Lepidoptera : *Hesperiidae*

i) *Notocrypta curvifascia* C. & R. Felder : This hesperid is a leaf roller, the larva of which resides and feeds from within the leaf roll. It is a minor pest seen during November.

None of the pests listed above were serious on the spice crops in the Andaman and Nicobar Islands. It is however possible that with increase in area of cultivation of these crops at least some may attain the status of key pests.

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