

## A SURVEY OF THE PESTS OF ORCHIDS

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**Abstract:** A survey was conducted on the pests of orchids in Trichur, Ernakulam, Alappuzha and Kottayam districts of Kerala. The grass hopper *Oxya chinensis*, spiralling white fly *Aleurodicus dispersus*, flower thrip *Megalurothrips distalis*, Bihar hairy caterpillar *Diacrisia obliqua*, tobacco caterpillar *Spodoptera litura*, red ant *Monomorium indicum*, beetle pest *Lema* sp. and banded blister beetle *Mylabris pustulata* were the different insect pests collected and studied. Non-insect pests studied were sow bug *Oniscus asellus*, land snail *Ariophanta* sp., black slug *Anon* sp. and grey slug *Umax* sp.

**Key words:** *Aleurodicus dispersus*, *Arion* sp., *Arioplianta* sp., *Lema* sp., *Limax* sp., *Monomorium indicum*, *Oniscus asellus*, orchid pests.

### INTRODUCTION

Orchids are the most loveliest and wondrous among all the flowering plants in the world. With their exotic shapes and hues and the added advantage of longevity these flowers of rare beauty have become increasingly popular. Orchids sometimes get infested with various kinds of pests like scale insects, thrips, spring tails, aphids, beetles, ants, wasps, cockroaches, caterpillars, gnats, snails, slugs, mites and nematodes (Pritchard, 1959; Batchelor, 1982; Newton, 1982 and Leong, 1989). The present paper embodies the results of studies on the pests of orchids in Kerala.

### MATERIALS AND METHODS

A survey was conducted in Trichur, Ernakulam, Alappuzha and Kottayam districts of Kerala and different stages of the pests collected during the survey were reared in the laboratory for biological studies.

### RESULTS AND DISCUSSION

#### *Insect pests*

a. Grass hopper: *Oxya chinensis* (Thunberg) (Acrididae: Orthoptera)

Green coloured, 40 mm in length, with a dark stripe dorsally, running laterally from each eye to the base of the wings. Hind tibiae are bluish with ten black tipped spines including an outer apical spine. Both nymphs and adults cause damage by making elongate, irregular holes on the mature leaves of *Spathoglottis* spp. Nair (1989) has reported the occurrence of *O. chinensis* as a pest of rice in Kerala.

Hence, the occurrence on rice ensures subsistence of the insect throughout the year.

b. Spiralling white fly: *Aleurodicus dispersus* Russell (Aleyrodidae: Hemiptera)

Adults are small, 0.5 mm in length and pale yellow in colour. Both nymphs and adults appear white due to the white powdery wax secretion. Females lay eggs on the underside of the *Spathoglottis* leaves in a loose spiral like finger print impression of wax deposits. Nymphs and adults congregate on the lower surface of the leaves and suck sap. As a result, leaves turn pale and the vitality of the plants get lowered. The pest has been recorded on a number of economically important plants including *Spathoglottis* spp. by Prathapan (1996).

c. Flower thrips: *Megalurothrips distalis* Karny (Thripidae: Thysanoptera)

They are deep black coloured thrips measuring about 1.65 mm in length. Antenna is eight segmented. Both the larvae and adults cause damage in the form of elongated brownish streaks in buds and flowers of *Dendrobium* and *Spathoglottis* spp. They remain hidden in the buds and flowers resulting in distorted and disfigured buds and flowers. Ananthakrishnan (1969) had reported *M. distalis* as one of the common flower thrips causing severe damage to the flowers of *Dolichos lab lab*, *Cajanus cajan*, *Pisum sativum*, *Glycine max*, *Arachis hypogaea* and *Phaseolus mungo*. However, there is no record of this pest infesting orchids.

d. Bihar hairy caterpillar: *Diacrisia obliqua* Walker (Arctiidae: Lepidoptera)

Full-grown caterpillars are profusely covered with long greyish hairs and measure about 40 mm in length. The caterpillars feed on the leaves of *Spathoglottis* spp. leaving the mid-ribs. In case of severe infestation, the plants are completely denuded of leaves. This was found to be a casual feeder of orchids. This pest is reported to have a wide host range including cowpea, groundnut, cotton, sweet potato and lantana (Panwar, 1995).

e. Tobacco caterpillar: *Spodoptera litura* Fabricius (Noctuidae: Lepidoptera)

Full-grown larva is stout, pale greenish brown with dark markings and measures about 35-40 mm in length. The caterpillar feeds gregariously on the flowers of *Spathoglottis* spp. and *Dendrobium* spp. Nair (1989) and Panwar (1995) had reported it on a number of economically important plants.

f. Red ant: *Monomorium indicum* Forel (Formicidae: Hymenoptera)

The ant inhabits soil and damages the plants by feeding on the roots. The record of *M. indicum* as a pest on orchids is reported for the first time.

g. Beetle: *Lema* sp. (Chrysomelidae: Coleoptera)

Adult is a small beetle, pale flavous, measuring about 9 mm in length. The grub is yellowish white with head, thoracic shield and legs black. The abdomen of the larva is swollen and humped. The grub is not easily recognizable in the field because it covers its body with faecal matter, which it carries on its back. Damage is caused by both grubs and adults feeding on the flowers of *Spathoglottis* spp. and *Epidendrum* spp. The beetle appears in the field with the commencement of rains. The perusal of literature revealed that *L. pectoralis* feeds exclusively on orchids in Thailand and Malaysia (Jolivet, 1971).

h. Unidentified curculionid (Curculionidae: Coleoptera)

This is a black weevil, about 8 mm long and 3 mm wide. Grub is creamy white with head chestnut brown in colour. Both the grubs and

adults were found in the pseudobulbs of *Dendrobium* spp. excavating quite a large cavity and incurring considerable damage to the plant.

i. Banded blister beetle: *Mylabris pustulata* (Thunberg) (Meloidae: Coleoptera)

They are black and red striped beetle, measuring 26 mm in length. The beetles cause injury to the flowers of *Spathoglottis* sp. They appeared only as a casual feeder and their population was extremely low for effecting any appreciable damage on the plant. There is no previous record of *M. pustulata* on orchids. But it is recorded as a flower feeder of groundnut, bhindi, cucurbits, cowpea, red gram and black gram (Panwar, 1995).

#### Non-insect pests

a. Sow bug: *Oniscus asellus* L. (Oniscidae: Isopoda)

They are pale to slate-grey coloured, body flat with 13 distinct segments. Terga of the thoracic and abdominal segments project laterally; compound eyes are typically present. Possess a pair of five segmented antennae. The first seven body segments are with a pair of legs. Abdominal segments six, the terminal segment fused with the telson. Adult measures about 5 mm in length and 3 mm in width. They hide in the potting media and feed on the tender roots of *Dendrobium* spp. It cuts the roots and makes a sleeve inside. As a result, the plant remains stunted and later it dries off. The present report is the first record of its occurrence on orchids in Kerala.

b. Land snail: *Ariophanta* sp. (Ariophantidae: Stylommatophora)

This is a snail with a spiral shell. They are active during rainy season and nocturnal in habit. During the day they hide in crevices or under pots with the head and foot withdrawn into the shell. Feed on tender leaves, flowers and also cut down the buds.

c. Black slug: *Arion* sp. (Arionidae: Stylommatophora)

Grey slug: *Limax* sp. (Limacidae: Stylommatophora)

Black slug and grey slug are shell-less and they lubricate their path with a trail of slime. They prefer young leaves and flowers. Metcalf *et al.* (1962) had reported that *L. maximus* attacked ornamental plants, viz., geranium, marigold and snapdragon.

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