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Short communication

Thrips, *Dichromothrips nakahari* Mound (Thysanoptera: Thripidae) infesting the orchids in India - A new report

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Infestation of thrips, *Dichromothrips nakahari* Mound (Thysanoptera: Thripidae) was recorded on leaves, flower buds and flowers, causing damage to the orchid *Cymbidium* and many orchids species round the year under mid altitude Sikkim Himalayas. At this location, temperature ranged from 19^0 to 29^0C and relative humidity 65 to 80 per cent. Newly emerged nymphs and adult crash the epidermis of leaves and suck the cell sap, causes silvery leaves, which turn brown to black colour with time, leaves dried and plant growth deteriorated (Fig. 1). As a result of feeding, flower buds gets weakened, deformed and could not open normal. Thrips attack on open blossoms are usually recognized by feeding damage, which characterized by white streaks on petals and sepals occurring as small, irregular transparent lines, blotches and finally withered. *D. nakahari* is pale yellow to brown in colour, cylindrical shape, wingless, about 0.5 to 1 mm in length during their nymphal stages and adults measuring about 1.5 to 2.0 mm in length, black coloured, reddish marking between metathorax and abdomen having narrow strap like wings furnished with long hairs on hind margins (Fig. 2). This thrips was initially shown as widespread on Orchidaceae in the Old World tropics from Africa to New Zealand (Mound, 5).

Orchid collection of more than 100 *Cymbidium* hybrids and 400 species is maintained at National Research Centre for Orchids, Pakyong, Sikkim under polyhouse and partial shade conditions. *Cymbidium* is one of the most important cut flower for its size, shape, colour and longevity of blooms (Barman *et al*., 2). Out of 200 plants of *Cymbidium* hybrid, "Winter Beach Sea Green" maintained under open polyhouse (UV stabilized polysheet make), 182 plants (91% infestation) were found significantly damaged having its average population density 25 thrips/leaf. Almost all flowers of *Dendrobium* species (7-8 thrips/flower) were severely infested with the thrips. In absence of control measures, flower production got drastically reduced. *D. nakahari* was also observed to infest the four species of *Cymbidium, viz*., *Cymbidium aloifolium, C. elegans, C. hookerianum, C. lowianum* and six other hybrids like *Cymbidium* Soul Hunt, Showgirl, HC Aurora, Forest King, Red Star and Golden Girl. In addition, 19 species under 8 genera of other orchids were also found vulnerable to the thrips. These are *Calanthe masuca, Coelogyne flaccida*, *C. nitida*, *C. barbata*, *C. elata*, *Dendrobium nobile*, *D. densiflorum*, *D. moschatum*, *D. adundum*, *D. fimbriatum*, *D. chrysanthum*, *D. aphyllum*, *D. gibsonii* and *Dendrobium* hybrid Emma White, *Luisia filiformis*, *Phalaenopsis parishii*, *Pholidota articulate*, *Thunia marshelina* and *Vanda cristata.* Kumari and Lyla (4) reported flower thrips, *Megalurothrips distalis* as one of the insect, causing severe damage to buds and flowers of *Dendrobium* at Trichur, Kerala. In Australia, the few species of thrips have been reported on orchids include the onion thrips (*Thrips tabaci* Lindemann), the plague thrips (*Thrips imagines* Bagnall) and citrus thrips (*Pezothrips kellyanus* Bagnall) (APPD, 1). Two more species of thrips, *viz*., *Dichromothrips spiranthidis* (Bagnall) and *D. australiae* Mound were also recorded as endemic and feeding on the flowers of ground orchids (Mound and Calder, 7). *Dichromothrips corbetti* (Priesner), a recent South East Asian introduction has been recorded on vandaceous flowers in the Northern Territory (Mound, 6). Other thrips species, *Thrips palmi* Karny, *Frankliniella* sp. and *Limothrips cerealium* (Haliday) now also established in Australia (APPD, 1). In addition, *Helionothrips errans* has also been recorded recently on the leaves of *Cymbidium*, *Cattleya*, *Cattleya* hybrids, *Dendrobium*, *Dockrillia*, *Sarcochilus* and *Bulbophyllum* in Australia (Gillespie, 3). However, there is no record especially of *Dichromothrips nakahari* occurrence and infestation on orchid in India and also elsewhere in the world and thus this is first report from India.

Management of thrips on orchids is very difficult owing to their small size and almost all stages of this insect are found inside flowers. Careful examination of orchid plants by regular monitoring is effective to detect the initial infestation. Infested plant parts (leaf/ flower bud/ flower) should be removed, destroyed and should be isolated from other orchid and treated for this pest.

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Fig. 1. Thrips infested plant of *Cymbidium* "Winter Beach Sea Green".

Fig. 2. Thrips, *Dichromothrips nakahari* (adult).

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