

TAXONOMY, DISTRIBUTION AND HOST PLANT RELATIONSHIPS OF THIRIPS IN SELECTED SITES IN SRI LANKA

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Thrips (Insecta:Thysanoptera) are of economic importance as they cause much damage to plants by feeding on the plant sap and as vectors that transmit plant viruses. In recent times thrips have become key pests of many economic crops such as rice, vegetables, cut flowers and foliage plants. However, in Sri Lanka, information on species present, host plant relationships and damage is lacking. At the commencement of this study, a survey of published literature on thrips in Sri Lanka, dating back to 1913 was carried out that resulted in the publication of a checklist of 78 species in 42 genera. The objectives of the study were to record the species of thrips and their host plants in selected sites of the country, to identify the part(s) of plant they infest and the damage caused. The vegetation in the selected sites was carefully examined for thrips infestations and thrips were hand collected for identification. From the 22 selected study sites in the country (that came under 6 provinces, 9 districts, 12 agroecological regions and 6 different habitats) over 1000 plants were examined for thrips. Of them, 324 plant species in 83 families harboured thrips. A total of 72 species of thrips in 45 genera were recorded. Of the taxa recorded, 19 genera and 24 species of thrips are new records for Sri Lanka. Among the recorded thrips were 42 species of pest thrips and 5 species of potential viral vectors. The thrips infested plants were grouped into 18 plant categories (based on their usage) and the most number of thrips species were found on non graminaceous weeds, followed by woody trees, fruit trees, vegetables, ornamental plants, cut flowers, and medicinal plants. Of the different parts of plants infested by thrips, damage was seen mostly in buds, flowers and leaves resulting in premature bud fall, streaking of flower petals, discolouration and bronzing in leaves, crumpling and gall formation in leaves. None of the thrips infested plants showed any symptoms of viral infection. Thrips

infestations were found to be associated with the host plant species rather than with any particular habitat type. Cultivated and disturbed habitats included more of such plant species resulting in a higher thrips species composition. The largest number of thrips infested plants and thrips species were collected from Angunakolapellassa representing the Low Country Dry Zone. Certain thrips species, *Microcephalothrips abdominalis*, *Thrips palmi* and *Haplothrips gowdeyi* had a wide distribution with respect to study sites. Flower thrips, specially, species belonging to the Subfamily Thripinae were common on flowering plants grown in the Wet and Intermediate Zones. Thrips in the subfamily Panchaetothripinae were common in plants in the Dry Zone. With respect to distribution localities; *Thrips flavus* in particular was abundant in the Up Country Wet Zone. Furthermore, *Thrips simplex* was recorded only from flowers of plants in the Up country Wet Zone. Species identification keys, descriptions of species and their damage, host plant records and reference specimen collections resulting from the study are aids in the identification of thrips and their host plants. The information generated through this study would further the knowledge of this economically important insect order in the country.