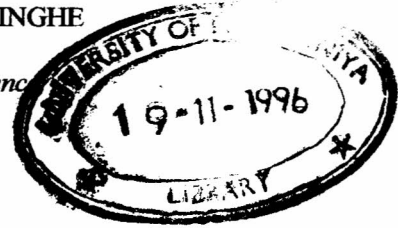


A SURVEY OF APHIDS AND THEIR NATURAL ENEMIES ON ECONOMIC AND OTHER PLANTS

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EXTENDED ABSTRACT

Aphids (Homoptera: Aphididae) are a group of insects that live on plants and feed on the plant sap. Thereby, they are able to transmit viral diseases in plants. Over 4000 species of aphids are known to be present in the world, of which 300 species are potential viral vectors. From neighbouring India, about 1000 species of aphids have been recorded and half of them are endemic to that country. About 72 species of aphids had been reported from Sri Lanka prior to this study and these had been collected either from a few economic crops or insect traps.

The objectives of this study were to carry out a survey to identify the aphid species that are present in the country, record the host plants of these aphids and to identify the natural enemies of the aphid. The survey was carried out in 25 selected areas that came under 6 agro-ecological regions of the country. In each area at several sites, the natural vegetation and the cultivated plants were closely examined for colonies of aphids. A few aphids were collected into 70% alcohol and were later slide mounted and identified. Aphid colonies were further examined for parasitized aphids and insects predatory on aphids. The plants on which aphids were present were examined for probable signs of viral infection.

Over 1000 plant species were examined during the study and aphid were present only in 300 plant species belonging to 72 plant families. A total of 48 species of aphids in 28 genera were collected and identified. Aphid infested plants included vegetable and other food crops; weeds, grasses and non grass weeds, ornamental plants, medicinal plants and forest trees. Amongst them were 15 species of endemic plants. Vegetables and non-grass weeds harboured the largest number of aphid species.

Among the aphids collected were 21 aphid species in 8 genera that had not been recorded from Sri Lanka previously. Among them were three rare species of aphids. Majority of the aphids collected were present on several species of plants (polyphagous), while about 15 aphid species were restricted to one or two plant species. Two of the 7 endemic species of aphids recorded for Sri Lanka were also collected during the survey.

Among the aphids collected were 27 species of aphids that are well known potential viral vectors. Yet, only 40 species of plants infested by 12 species of aphids showed probable signs of viral infection.

Natural enemies of aphids collected consisted of 21 species of predators (*F. Coccinellidae*, *Chrysomelidae*, *Syrphidae* and *Chrysopidae*) and 4 species of parasitoids (*F. Braconidae*). These natural enemies were mostly associated with aphids on vegetables and non-grass weeds.

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