**PART B**

## SUMMARY

Taxonomy and Ecology of bees of Sri Lanka

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Prior to this study the bee fauna of Sri Lanka was known from limited collections made by foreign scientists where no details of their natural history were known. This study addressed these shortcomings by recording bees from 13 Districts covering the 7 major agroecological regions and multitude of man made and natural habitats spanning from sea level to 1500m elevation. Bees were collected from flowers and nesting sites using a hand net and trap nests and identified using keys, descriptions, reference collections and help from foreign taxonomists.

A total of 137 species were recorded among which are 5 genera and 16 species new to Sri Lanka and one species new to Science. The number of bee species at higher elevations is less with majority confined to that elevation. At mid and lower elevations higher number of species occurred with only a few showing limited distribution. Bees were collected from 167 species of floral hosts (115 genera and 44 families) among which were five floral species on which 12 bee species were identified as buzz pollinators. Six plant species were attractive to more than 20 bee species. Seven species of bees were found to be pollen specialists in carrying specific pollen types found in Convolvulaceae and Malvaceae. Weeds (129 spp.) formed the major foraging resource of bees. Eggplant in particular was pollinated by four species of bees that buzzed at flowers in order to release pollen from specialized anthers. Nesting habits of 33 species of bees recorded included stem-nesters (16 spp.), ground nesters (13 spp.) and hive builders (4 spp.).

Hourly sampling of bees at selected sites in the Knuckles Reserve was carried out to compare their diversity using two diversity indices. Further collections need to be done specially in the Dry and Arid Zones where bee diversity is known to be high globally. Information gathered on nesting habits and floral hosts of bees need to be effectively used in pollination to increase the quality and quantity of fruits and seeds produced.

The following papers and presentations have been made:

1. Diversity and floral hosts of bees in selected habitats of the Peradeniya University Park. Ceylon Journal of Science (Bio. Sci.) (2002) Vol. 30, 2002, 21-36.
1. Bee fauna and its floral and pollen relationships in a semi-agricultural habitat in Sri Lanka (MS submitted to the journal 'Biodiversity)
2. Flowering plants attractive to many bees. Proceedings of the 22nd Annual Research Sessions, Institute of Biology, Sri Lanka. (2002) p. 48 (Abstract)
3. Diversity of pollen types and bee floral relationships. Proceedings of the Annual Research Sessions, University of Peradeniya. (2002) p. 121 (Abstract)
4. Bees of the Peradeniya University Park: diversity floral and pollen hosts at a selected site. Proceedings of the 58th Annual Research Sessions. SLAAS. (2002) p. 142 (Abstract)
5. Bee pollinators of vegetable crops of the family Solanaceae. Proceedings of the Annual Research Sessions, University of Peradeniya. (2001) p. 109 (Abstract) Bees of the Knuckles Mountain MAB Forest Reserve: a case study from Sri Lanka. (2003) Seminar on Ecological Research In Tropical Rain Forests in Forest Research Institute Malaysia. CFFPR Series. (Poster presentation)