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**TAXONOMY AND NATURAL HISTORY OF BEES IN SELECTED  
AREAS OF SRI LANKA**

A THESIS PRESENTED BY

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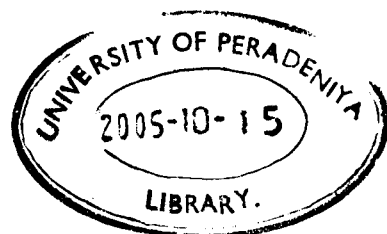
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**ABSTRACT****TAXONOMY AND NATURAL HISTORY OF BEES IN SELECTED AREAS OF SRI LANKA**

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Prior to this study, taxonomic work on bees of Sri Lanka had been conducted entirely by overseas scientists commencing in 1897 and leading to the Smithsonian Surveys (1975-1986). These studies have documented 137 bee species in 27 genera. Information on their natural history is completely lacking and only a few specimens have been deposited in Sri Lanka. In the present study (a) bees collected from several districts, agroecological regions and habitats were identified (b) their floral relationships and nesting habits were recorded, (c) the subfamily Nomiinae was reviewed, (d) and bees diversity was determine in selected sites.

A total of 137 bee species in 35 genera and 3 families were recorded. These included 20 previously unrecorded species and 5 genera and a species new to Science. Based on the location of the 29 collection sites, the Low Country Dry Zone, middle peneplain, and the agricultural habitats harboured the highest number of species. Floral hosts consisted of 167 species in 115 genera and 44 families. Weeds were the most preferred hosts (129 spp.) followed by crops and trees. Flowers of 6 naturalized plant species attracted an unusual number ( $> 20$  species) of bees. According to pollen relationships, 131 bee species are generalists and 7 species are pollen specialists. Twelve species of bees are buzz pollinators of crops whose pollen is concealed in anthers. Pollen from 69 floral hosts in 27 plant families when microscopically examined and grouped into 12 pollen classes.

Several stem nesting (16 spp.), ground nesting (13 spp.) and hive building (4 spp.) bees were recorded. Certain species were recorded only from their nests. Review of the subfamily Nomiinae resulted in 22 species in 11 genera. Sampling in different locations/habitats of the Knuckles Forest Reserve gave the highest Shannon Diversity Index for agricultural habitat in the Semi Evergreen Climatic Zone. Descriptions, identification keys, locality details and floral hosts are given for the 137 bee species recorded.