A PRELIMINARY SURVEY OF BEE POLLINATORS OF SIX CUCURBIT VEGETABLE CROPS

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There are several vegetable crops belonging to Family Cucurbitaceae grown in Sri Lanka that need insect pollination for fruit production. Of them bitter-gourd, cucumber, pumpkin, ridged-gourd and snake-gourd are grown on a large scale while zucchini is grown in selected areas. The bees that visit the flowers of these 6 vegetables were studied during 4 seasons. The study was carried out at 8 locations in Agricultural Research Station fields and farmer fields. Thus crops in Angunakolapelessa (pumpkin), Bombuwala (cucumber, ridged gourd), Gannoruwa (bitter gourd, cucumber, pumpkin, ridged gourd, zucchini), Maha Iluppallama (bitter gourd, cucumber, pumpkin, ridged gourd), Meewathura (bitter gourd, cucumber), Nalanda (bitter gourd, cucumber, pumpkin, ridged gourd, snake gourd), Padiwita (cucumber, snake gourd) and Sita Eliya (pumpkin, zucchini) were used for the study.

Bees visiting flowers of the study species were monitored from 6.30 a.m. to 6.30 p.m. (4 to 8 days per site). Using a sweep net, representative specimens of flower visiting bees were collected to identify them to the species level and examine for pollen gathered by them. The identity of bees were confirmed by authorities at the Smithsonian Institution, Washington, D.C. and the US Dept. of Agriculture. Of the 110 species of bees recorded from Sri Lanka, a total of 30 species belonging to 11 genera and 4 families were collected. The majority of bees collected belonged to Family Halictidae (18 spp.) followed by Anthophoridae (4 spp.), Apidae (4 spp.) and Megachilidae (3 spp.). More than 5 species of bees were found to visit and carry pollen from a particular crop. Thus, flowers of bitter-gourd were visited by 16 bee species. cucumber by 15 spp., pumpkin by 07 spp., ridged-gourd by 08 spp., zucchini by 06 spp. while no bees visited snake-gourd. The genus Lasioglossum, represented by 5 species, was found only in Sita Eliya while the genus Trigona, very common elsewhere, was absent at high elevations and Family Megachilidae was common in the low-country dry zone. All the bee species that visited each of the 6 crops were found to carry pollen from several non cucurbit species indicating that they are generalists.

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