

PLANT–POLLINATOR INTERACTIONS IN RESIDENTIAL GARDENS IN THE KANDY MUNICIPAL COUNCIL AREA

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Residential gardens provide a significant component of urban landscapes, but their relative contribution to pollination remains largely un-quantified. Vegetation in these gardens plays a vital role in conserving pollinators. Hence, the present study aimed to investigate the contribution of garden flora to insect pollinator conservation. Six Grama Niladhari Divisions (GND) were randomly selected in the Kandy Municipal Council area, and a cluster of 10 adjacent residential gardens was selected in each GND (n=60). In each front garden, vegetation was identified. The gardens were visited once a month for three months to quantify floral resources and pollinator visitations. Pearson's correlation analysis was used to investigate the relationship between the abundance of floral resources and pollinators. Data were analyzed using R-studio software. The garden flora belonged to 92 families represented by 321 species. The majority of species belonged to the family Arecaceae (7%), followed by Fabaceae (6%), Poaceae and Asteraceae (5%). Overall, we recorded 3,153 pollinator visits. Among them, bees were dominated (54%), followed by flies (22%) and butterflies (15%). Arecaceae recorded the highest number of plant-pollinator interactions, followed by Asteraceae and Fabaceae. A significant moderate correlation was observed between floral abundance and pollinator abundance ($p < 0.05$; Correlation coefficient $[r] = 0.36$), suggesting that increasing floral abundance could support the attraction of pollinators. Hence, we recommend maintaining residential garden flora with abundant floral resources to support the pollinators. Based on the study, planting designs of the residential gardens could be enriched with the members of the families Arecaceae, Asteraceae and Fabaceae.

Keywords: Floral resources, Garden flora, Plant–pollinator interactions, Pollinator conservation, Residential gardens