

FLORAL RESOURCES AND FORAGING ECOLOGY OF WILD BEES IN QUEENSBERRY ESTATE OF NAWALAPITIYA, SRI LANKA

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Wild bees use nectar and pollen as food sources; therefore, availability of floral resources is a crucial fact for the existence of bees. Plants' flowering patterns vary from species to species. This study was therefore conducted to assess the floristic pattern of plants and their abundance, as well as the diversity and abundance of bees in the Queensberry estate, East division, Sri Lanka. Ten plots by 10m x 10m were randomly selected for this study representing tea lands and *Rilagala* conserved forest. The plant species in the selected plots were monitored at one-week intervals for the presence or absence of flowering from February to March 2021 by observing each plant species for 10 minutes at two times (8 -11 am and 12 – 15 pm) per day to record number of bees visited in each plant species. The flowering calendar for the Queensberry estate was developed using the data collected over the two months period. A total of 66 plant species belonging to 40 families were recorded during the study. Among those, mostly recorded families were, Asteraceae and Myrtaceae. *Tropaeolum majus* was the most prominent plant species among bees, followed by *Ageratina riparia* and *Eupatorium perfoliatum*. As the bee diversity, five types of bees belonging to Genus *Amegilla*, *ceratina*, *Xylocopa*, *Apis* and *Sphecodes* were discovered in the area. The highest diversity of bees was recorded in plot 6 located in the tea field ($H' = 0.3341$), followed by plot 10 located in the forest ($H' = 0.30758$) and, plot 2 located in the flower garden ($H' = 0.29395$) respectively. The abundance of bees was significantly different ($p < 0.05$) among the studied plots.

Keywords: Diversity indices, Ecosystem diversity, Floristic pattern