Factors governing flower visitation patterns and quality of pollination services delivered by social and solitary bee species to coffee in central Uganda.

Théodore Munyuli

First published: 07 August 2011


Abstract: In Uganda, information on visitation frequency of pollinator species visiting coffee flowers is absent, although such information is critical for the stability of coffee yield through the enhancement of pollination services. This study was conducted to understand the role played by local and environmental factors on the visitation intensity of coffee flowers by different bee species. Stepwise multiple regressions were used to investigate the effects of light intensity, distance to forest, foraging time of the day, coffee blooming season and abundance of coffee floral resources on the flower visitation frequency of different bee species. Results indicated contrasting responses of different bee species. The most important factors for social bees included forest distance, light intensity and the time of the day, whereas most determinant factors for solitary bee species were the length of the flowering season and the abundance of coffee floral resources. There is a need for developing habitat and landscape management strategies for the conservation of frequent native species in the vicinity of coffee fields to increase the delivery of pollination services to coffee. It is recommended to farmers to grow their coffee farms in the adjacent of forest habitats and related semi-natural habitats to receive high bee visitations.