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Visit of *Apis mellifera* Linne (Hymenoptera: Apidae) on the flowers of *Justicia secunda* (Acanthaceae), *Persicaria maculosa* (Polygonaceae), *Salvia leucantha* (Lamiaceae) and *Tithonia diversifolia* (Asteraceae) in urban areas of Ngaoundere (Cameroon)

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1 ABSTRACT

At Ngaoundéré (Adamaoua, Cameroon), from March to February 2016 and 2017, the foraging activity of *Apis mellifera* (Hymenoptera : Apidae), was studied on the flowers of four plant species : *Justicia secunda* (Acanthaceae), *Persicaria maculosa* (Polygonaceae), *Salvia leucantha* (Lamiaceae) et *Tithonia diversifolia* (Asteraceae). The flowers of each plant species were observed two days per week (Thursday and Sunday), between 07 am and 18 pm, with three daily time brackets : 07 - 11 am, 11 - 15 pm and 15 - 18 pm, for recording the pollen and / or nectar foraging behaviour of the honeybees. The main objective of this research was to assess the apicultural value of each plants species, for its possible use in the development of beekeeping in the Adamaoua Region. Results showed that all this plants studied (*Justicia secunda*, *Salvia leucantha*, *Persicaria maculosa* and *Tithonia diversifolia*), were visited slightly for pollen and highly for nectar. The mean duration of a visit per flower for nectar collection varied from 1.14 sec for *P. maculosa* to 13.28 sec for *J. secunda* (2016/2017. The mean duration of a flower visit for harvesting the pollen varies from 1.17 sec for *P. maculosa* and *T. diversifolia* (2017/2018) to 4.29 sec for *S.leucantha* (2016/2017). The average duration of a visit per flower slightly varied from one year to another. The highest number of workers foraging simultaneously per flower was one for each plant species. the abundance by 1000 flowers were 80 to 610 for *J. secunda*, from 20 to 170 for *P. maculosa*, from 20 to 120 for *S. leucantha* and from 20 to 449 for *T. diversifolia*. Abundance per plant varied from 8 to 232 for *J. secunda*, from 2 to 35 for *P. maculosa*, from 2 to 52 for *S. leucantha* and 8 to 214 for *T. diversifolia*. The mean concentration in total sugar of *J. secunda* was 37.90 % in 2016/2017 and 30.90 % in 2017/2018. The mean concentration in total sugars of *P. maculosa* was 25.02 % in 2016/2017 and 25.04 % in 2017/2018. The mean concentration in total sugars of *T. diversifolia* was 40.82 % in 2016/2017 and 41.10 % in 2017/2018. All the plant species studied could be preserved for the nutrition and the maintenance of honeybee colonies. On each plant species, *A. mellifera* workers carried pollen frequently from flower to flower and can thus be considered as pollinators.