

tube, during pollinator visits. Both species were suitable for agricultural cultivation under Mediterranean climates, however, *M. oleifera* was preferred as an oil and protein crop, since it produced significantly higher annual seed and oil yields and in a more uniform and predictable manner. We propose interbreeding, to incorporate elevated yields with resistance to local diseases.

Urban Pollination

URBAN NECTAR SOURCES: A LONG-TERM STUDY ON POLLEN ANALYSIS OF BERLIN HONEY

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Honey is a natural product with a high variability in aroma and color. The plants the bees collected the nectar from are determining its composition. While the bees are sucking the nectar, pollen grains of the visited plant get into the honey sac. Therefore, the botanical origin of honey is analyzed by microscopic identification of the pollen grains extracted from honey. Consequently, a collection of honey pollen spectra of a certain area provides information about nectar sources and pollination of the plants of this area. A long-term observation compensates different weather conditions and flowering periods, locations and beekeepers practice and leads to a typical pollen profile of a region. The first profile was developed for the urban area of Berlin over a period of 7 years (2005-2011) and followed by a second observation period from 2012-17. The pollen spectrum of Berlin honey is divided in three seasonal categories: springtime, early summer and summer. The main nectar sources in Berlin are trees. The pollen diversity is high. Within 13 years, pollen grains of more than 250 different plants are found. Honey from each category contains pollen from *Myosotis*. Compared to the countryside, the fraction of rape pollen is very low.

PLANTS VISITED BY A SMALL STINGLESS BEE (*Plebeia* aff. *flavocincta*) IN AN URBAN AREA OF NORTHEAST BRAZIL

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Plebeia aff. *flavocincta* is a small stingless bee known as ‘mosquito’ in Northeast Brazil. According to previous surveys, it occurs in rural areas (being abundant in the past, but quite scarce nowadays) and in urban areas, as in Petrolina (Pernambuco). In December 2017 and January 2018, two natural nests of this species located in *Prosopis juliflora* trees at a central square of the town were investigated. Worker bees carrying pollen were collected when arriving at nest entrance, and their pollen loads were obtained for pollen analysis (acetolysis). Temperature and relative humidity were measured. Plants and their pollen grains were collected in a range of 1.000m, for comparison and identification of the pollen collected by the bees. In approximately 12h of work, 388 pollen loads were obtained. The results showed that temperature varied from 25-31.1oC and the relative humidity from 26-56%. The pollen analysis showed that the bees visited 22 plant species distributed in 11 botanical families (mostly Fabaceae). They visited mainly *Senna spectabilis* (57% of the samples), a native species. Other plants with less than 10% of representation were: *Azadirachta indica* (referred to be toxic for *Apis mellifera* larvae), *Croton* sp., *Momordica charantia* and a species not identified of Verbenaceae.