

WILD BEE (INSECTA: HYMENOPTERA: ANTHOPHILA) SPECIES DIVERSITY AND POLLINATION EFFECTIVENESS IN MASS FLOWERING CROPS OF OILSEED RAPE IN CENTRAL BULGARIA

TOSHKO LJUBOMIROV¹,*, VLADA PENEVA¹

1 – Institute of Biodiversity and Ecosystem Research, Bulgarian Academy of Sciences, Sofia, Bulgaria

***Corresponding author:** *toskoljubomirov@gmail.com*

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Insect-mediated pollen transfer in massflowering Brassica napus crops by the wild bees can contribute significantly to pollination. The pollination of oilseed rape occurs through a combination of wind and insect vectors with considerable autogamy apparent. In addition, the abundance of wild bees visiting flowers plays also a role on gene flow and cross-pollination within and between crop fields. In the present study the sampling of wild bees has been conducted in ten crop fields of Brassica napus in Central Bulgaria as well as in neighbor seminatural grasslands by the way of sweeping by entomological net on a particular route (transect) and by the way of a day-long exposition of five series of three-colored Moericke traps. Based on material of 800 individuals (including 120 honeybees) both in the crop fields and seminatural grasslands are established wild bees of the families Andrenidae, Apidae, Colletidae, Halictidae and Megachilidae. Most abundant specimen/species representatives are for the bee genera Andrena, Eucera and Lasoglossum. The variety of wild bees that visit oilseed flowers, and their potential impact on crop production can be divided into four groups: (1): short-tongued bees of small to big size, mostly hairless and transporting the pollen swallowed, females; (2): long-tongued bees with small to medium sized body and transporting structures developed on the legs or the ventral metasomal surface, females, worker-females; (3): long-tongued bees of big sized body and transporting structures developed on the legs or the ventral metasomal surface, females, worker-females; (4): long or short-tongued free-living or parasitic bees of any kind of size and with no specialized pollen collecting areas on its body, males. The open and accessible nature of oilseed flowers suggests that they are visited by a diverse pollinators and the functional importance of the pollinator activity between the four groups is small, however significant enough to be delimited. It is the most effective for the group 2 and in descending order for the groups 3, 4, and 1, respectively.