

Trapping the bee and the baddie

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Ground-nesting bees constitute the vast majority of all wild bee species. Although they are the most abundant functional group of wild bees, ground-nesting bees are less studied than cavity nesting bees. The importance of floral resource availability on bees has been studied extensively, whereas findings about their nesting requirements are lacking.

For this, a standardized method to monitor ground-nesting bees is needed. Transect walks or pan traps often only record transitory foragers (“food tourists”), but not bees actually nesting. Emergence traps, collecting recently emerged individuals from the ground, could be used as a standardized method to monitor populations, which is missing so far. The bees collected with this method can be clearly assigned to a specific nesting site and it can be controlled that collected bees have not immigrated from other nesting sites. Thus, conclusions can be drawn e.g. regarding the quality of the nesting site. Therefore, these traps help gaining a better understanding of the biology and ecology of ground-nesting bee.

In our study, the grey-backed mining bee *Andrena vaga* is used as a model species as it is quite common, easily identifiable and forms large nest aggregations. This allows locating as many nesting sites as possible with the help of Citizen Science. 27 nest aggregations within the city of Braunschweig were selected for this study.

With the help of the emergence traps, the parasitism rate of three parasite species was analysed and compared between the aggregations. The aim was to detect differences between the parasite species regarding the influence of landscape characteristics, aggregation size and nesting site characteristics.