

P018*Floral resource competition between honeybees and bumblebees along land-use gradients***Wiebke Kamper**, Nico Bluthgen, Thomas Eltz

For the past decades abundance and diversity of wild pollinator species was declining for reasons mostly unknown. Intensification of land use and competition with domestic honeybees are suspected stressors that have the potential to influence the resource availability for a wide range of flower visitors. We investigated how these two stressors may affect wild bumblebees, *Bombus*, on 46 grassland plots (Swabian Alb, Germany) in the Biodiversity Exploratories project. Plots were chosen to represent a land-use gradient and differed in honeybee abundance. Abundance and floral resource use of bumblebees were measured via two different methods. We conventionally conducted censuses of foraging bees along flower transects. Additionally, we extracted (with hexane) and quantified (by GC/MS) long-chain cuticular hydrocarbon (CHC) deposits ('footprints') of bumblebees on flowers. Such CHCs remain on flowers in near-unchanged quantities for up to 48 hours and thus present a cumulative measure of bumblebee visitation. This method allows collecting large numbers of samples quickly at the end of a day. A first analysis of census data showed a negative correlation between honeybee abundance or land-use intensity and the proportion of visits by bumblebees to bumblebee-attractive plant species. Currently, chemical footprint samples are being analysed, and we will investigate whether CHC footprints lead to similar answers concerning honeybee abundance and land-use intensity. Using both methods will allow us to evaluate and compare the two methods. This will help us to assess the influence the two stressors have on wild pollinators.