PARTITIONING WILD BEE AND HOVERFLY CONTRIBUTIONS TO PLANT–POLLINATOR NETWORK STRUCTURE IN FRAGMENTED HABITATS

Frank Jauker (iD), Birgit Jauker, Ingo Grass, Ingolf Steffan-Dewenter, and Volkmar Wolters

Study Description

In complex plant–pollinator networks, distantly related taxa spanning a great trait diversity shape network architecture. We were interested in whether this functional diversity buffers against habitat loss and quantified contributions of wild bees and hoverflies to network structure in 32 calcareous grassland fragments near Göttingen, Germany. Species richness of both pollinator taxa declined with habitat loss. The associated loss of 80% of interactions resulted in small, tightly connected, and less specialized networks. Because wild bee and hoverfly loss contributed similarly to declining network specialization, we conclude that trait diversity among pollinators does not necessarily provide insurance during habitat loss.

Photo 1: Pollination services to a plant species may be provided by phylogenetically distant flower visitors, such as hymenopteran *Lasioglossum* sweat bees (lower left) or dipteran *Helophilus* hoverflies (lower right) visiting *Centaurea jacea*. When sampled by a phylogenetically even more distant researcher (above) in many habitat fragments, contributions to the structure of plant–pollinator networks can be partitioned among various flower visitor guilds across a habitat size gradient. Photo credit: Frank Jauker.

These photographs illustrate the article "Partitioning wild bee and hoverfly contributions to plant–pollinator network structure in fragmented habitats" by Frank Jauker, Birgit Jauker, Ingo Grass, Ingolf Steffan-Dewenter, and Volkmar Wolters published in *Ecology*. https://doi.org/10.1002/ecy.2569