

Darwin wasps (Hymenoptera: Ichneumonidae) – little (known)

fellows in nature conservation

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Abstract

Darwin wasps are one of the most diverse groups in the tree of life constituting nearly 10% of the expected insect species in Switzerland. However, the species record is still far from complete and information about their ecology and conservation status remain sparse. Due to their high trophic level and specialization as parasitoids, it is likely that Darwin wasps react rather sensitive to habitat changes and thus many species are potentially threatened. Empirical studies investigating the conservation status or the effect of conservation efforts on Darwin wasps are still lacking. In a novel study, we investigate whether conservation measures with a focus on vertebrate diversity have a positive co-effect on the species richness of Darwin wasps. This conservation project is carried out in a lowland meadow in the canton Aargau. The project aims to improve the habitat diversity by the construction of new ponds, hedges, deadwood and stone piles, and the change to an extensive land use. The goal of this study is to investigate whether the species richness in Darwin wasps changes with the planned conservation measures. A survey documenting the status before the measures was conducted in May–September 2022 yielding about 1300 specimens of Darwin wasps collected with a Malaise trap. A comparative survey will be conducted in 2024, one year after the conservation measures are completed. We present here the hypotheses and preliminary results based on the partial identification of the material.