VESPID TASK FORCE

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PROGRAM AND ABSTRACT BOOK

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Recent results with electric harps: efficient traps to protect hives with limited damage on biodiversity

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19 years ago, human trades caused the biological invasion of *Vespa velutina* in southwest France. A single queen was introduced and since then *V. velutina* spread all over western Europe. In France, the colony's number is estimated to be between 600,000 and possibly twice more, and in Europe few millions may be expected mostly in France, Spain, Portugal and Italy. Yellow-legged hornet eradication attempts failed except in the small island of Mallorca. The hornet predation pressure on beehives leads to severe economic impacts on the beekeepers' activity and native entomofauna captures. Here we present results obtained with a new trapping technique in the vicinity of hives in order to protect them at the end of summer, a critical period for bees during which their wintering success is determined. To avoid side effects on the local entomofauna biodiversity from the traps, we selected interception non attractive traps, so called 'electric harps'. The traps were tested at INRAe Villenave d'Ornon (France) in 2022 and through dual experiments with Universidad de León in 2023. The traps were placed close to hives at the end of summer in order to design an optimal position and the protection to hives was evaluated by comparing the weights of supposed protected vs unprotected hives in the course of time. Our study revealed high efficiency and high selectivity of such traps, thus reducing pressure around the hives. The hive weight losses observed under such high predation pressure was significantly reduced with the electrical traps, and the strength of the colony checked one month later confirmed the improvement.

The fight against *Vespa velutina* in Europe: an assessment of surveillance, management and knowledge transfer across borders

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The yellow-legged hornet *Vespa velutina* has emerged in Europe as a significant concern. Twenty years after its introduction, the presence of this invasive insect affects beekeeping, biodiversity and human health. In response, Member States are developing strategies to slow down its spread and to mitigate impacts in these domains. Despite the listing as a species of European Union concern on the EU Invasive Alien Species (IAS) Regulation, there appears to be little collaboration on surveillance or management across borders. Also, there is no formal mechanism for knowledge exchange. Understanding the complex landscape of perceptions and approaches is key yet has only been partially addressed. We present an online survey designed to assess management strategies and knowledge transfer across administrative borders in Europe. The target group are people responsible for implementing the IAS regulation, project managers and officials in the domains of environment, bee health, agriculture or health. The primary focus is to highlight the diversity of approaches, in terms of the management objectives and methods and techniques applied. We consider management in the broadest sense, covering preventative strategies, nest destruction and the protection of hives. Secondly, we want to get an overview of the surveillance methods, the stakeholders involved in monitoring and the associated dataflows that inform nest removals and management follow-up. Importantly, the survey will assess knowledge gaps, innovations, costs of monitoring and management and perceptions towards impact and effectiveness of mitigation. We hope the questionnaire will provide a representative view of the *V. velutina* situation across the continent. Based on the responses we aim to provide suggestions for improving the approach to tackle this invasive insect. We aim to get suggestions for the survey and to gauge the engagement and support through the Velutina Task Force of the Prevention of Honeybee COlony LOSSes (COLOSS) working group.