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PROGRAM AND ABSTRACT BOOK

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Tackling the spread of yellow-legged hornet in Flanders (northern Belgium): insights from the *Vespa* -Watch citizen science program

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Since the first nest in 2017 the yellow-legged hornet has firmly established in Flanders and spread to the east. The citizen science programme *Vespa* -Watch monitors its expansion and gathers data in support of control. No less than 11,662 people contributed 24,603 records of hornets or their nests to date. Tools for nest detection, which is performed by volunteers, include an app to share locations of bait stations and flight directions and an r shiny application showing a heat map of hornet activity to snitch nests. Based on this, we estimate about 60% of the nests are found (2017-2021). Both applications use observations and management reporting data from *Vespa* -Watch, illustrating the power of open data in invasive species management. The number of nests in Flanders increased from 40 to 1,400 (2018-2022) showing a fivefold increase in the last two years. With nests reported in 1,457 km2 squares the species has invaded 10% of the region (2022). Nest densities are still fairly modest with 1.4 nests per km^2. The species is mostly occurring in urban areas and has not yet invaded more natural areas at large. During the first six years, the region applied intensive area-wide management. In that period, 82% (67%-91%) of all reported nests were successfully destroyed using pyrethroid insecticide. Since 2023, funding is not proportionate to the number of nests anymore. The control campaign has become a patchwork of managed and unmanaged areas. Nest destruction is performed with public funds or on a paid basis and by a variety of operators. A management regulation remains to be adopted. An official certification scheme markedly increased the number of private control operators. A coordinator was appointed to oversee interventions and provide communication. Insufficient evidence of biodiversity impacts and recurring colonization hinder investments in control.

***Vespa velutina* ante porta –Austrian situation and preparation for its arrival**

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As of now, the invasive Asian hornet *Vespa velutina* has not been detected in Austria. However, it is now present in five countries bordering Austria (Italy, Switzerland, Germany, Czech Republic [not officially, yet], Hungary). In Hungary, *V. velutina* was detected in August 2023 in Kimle, approx. 20 km from the border to Austria. Especially this nearby detection predicts a dispersal of *V. velutina* into Austria in the near future. There is even the possibility that the hornet is already in Austria waiting for detection. As fast reaction to the Hungarian detection, our department called for observations and reporting of suspicious insects – distributed via the two Austrian beekeeping organisations and general media. Up to now, 49 reports with suspicious observations were sent in, of which the 40 observations with photo were proven to be false (mostly *V. crabro*, *Scolia* spp.). In the ongoing situation, Austrian beekeepers have shown a high level of self-organization and information transfer through Facebook groups. We, thus, assume a high alert among beekeepers of the border region and a high probability of detection if it is present in that region. As next preparation steps we plan to initiate close networking between the Austrian partners (beekeeping sector, officials of federal states, researchers…) and across the border (especially with Hungary). Similar to other European countries, the control of alien species in Austria lies within the responsibility of the federal states and we want to encourage synergies as well as coordination in *V. velutina* control. In summary, we aim to use the lessons-learned from other European countries to prepare for the hornet's arrival.