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## Abstract book



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## ***NOSEMA CERANAE* DETECTION IN YELLOW-LEGGED HORNET, *VESPA VELUTINA NIGRITHORAX*, IN NORWEST OF SPAIN**

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### **Abstract**

The *Vespa velutina nigrithorax* is an invasive hornet from Asia that is causing significant concern for its impact on the European beekeeping sector. Its high adaptability and reproductive capacity have enabled the registration of over 50,000 nests in Galicia (northwest Spain) in 2023. It has been estimated that more than 20,000 individuals may emerge from each colony. This hornet consumes large quantities of honey bees in apiaries to satisfy the protein needs of its larvae. It has been demonstrated that this hornet can contain various pollinator pathogens after consuming its preys. The microsporidium *Nosema* provides a useful illustration of this. *N. ceranae* is a pathogen that causes a disease called nosemosis, which infects adult honey bees and contributes to colony depopulation. The presence of *N. ceranae* in *V. velutina* could have an impact on the dynamics of native host pathogens and contribute to the spread of this parasite. Therefore, there is a need for further knowledge on the presence of *N. ceranae* in *V. velutina*.

A total of 62 individuals of *V. velutina* were collected from 11 apiaries located in different municipalities of Galicia to analyze the presence of *N. ceranae*. After DNA extraction, *N. ceranae* was determined in the *V. velutina* specimens by PCR amplification. *N. ceranae* was detected in five of the 11 apiaries (Culleredo, San Sadurniño, Gondomar, Fonsagrada, and Sergude). In these apiaries, nine hornets were found to be positive for *N. ceranae*. The results of this study provide information on the presence of *N. ceranae* in *V. velutina*, which is likely to have been acquired from honey bee consumption. This study suggests that *V. velutina* may contribute to the spread of this pathogen, which could represent a potential long-term risk for apiaries.

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