Crop and urban systems

Biological control of the common vole (*Microtus arvalis*) in Castilla y León: an innovative approach with weasels (*Mustela nivalis*)

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The common vole (*Microtus arvalis*) is a rodent that regularly causes significant damage to crops and public health issues in Castilla y León (Spain). As an alternative to chemical methods and other measures that can be harmful to biodiversity, a biological control project has been implemented based on the promotion of the natural predators of this rodent. This initiative has worked successfully in experimental projects with nest boxes for raptors. However, there are areas that can serve as reservoirs for the common vole where the vegetation is dense, limiting the effectiveness of predatory birds. Therefore, we started studying the potential of using weasels (*Mustela nivalis*) as complementary predators by installing shelter boxes for them in three different areas of Castilla y León. The purpose was to assess the suitability of the shelter's design for these mustelids and to monitor their behaviour in order to evaluate their potential in pest control.

Preliminary results show a positive response of the weasels to the shelter-boxes and an increase in their activity in areas with high vole density. However, further studies are needed to optimize the design of the shelters and to assess the feasibility of releasing specimens from captive breeding programs. This project represents a significant advance in integrated pest management and opens new perspectives for the conservation of biodiversity in agroecosystems.