

# Comparing methods to detect Garden Dormice (*Elomys quercinus*) in mountainous forest habitats

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## Abstract

Garden Dormouse populations show a severe and ongoing decline all over Europe. The drivers for this process are still unknown, as well as the exact distribution of the remaining populations. An evaluation of the occupied habitats could give information on important habitat parameters. Therefore, it is essential to improve detection methods and to evaluate the efficiency of available techniques. In this study, three different methods were tested on ten transects in the Fichtel Mountains, Germany. On each transect we installed two camera traps (CT), one autonomous sound recording unit (AudioMoth, AM) and 25 footprint tunnels (FT), which were checked weekly from the beginning of June until the end of October. AMs did not record a single call, FT detected Garden Dormice in seven and CT detected them in all ten transects. FT worked best during July, when they provided evidence of Garden Dormouse on six transects. CT worked best in August and September, confirming Garden Dormice in all ten transects. In every month, CT outperformed FT in the number of positive findings, and in the time interval until initial detection. CT worked most efficiently in this type of habitat, whereas FT produced false absence data. As Garden Dormice inhabit a variety of different habitats, this study should be repeated to see if the results are transferable.

## Keywords

In Search of the Garden Dormouse, camera traps, footprint tunnels, acoustic monitoring, Gliridae

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## **Conflicts of interest**