

EXPERIMENTS ON THE DEMOGRAPHY OF THE NINE-SPOTTED MOTH (*Amata Phegea*) IN BÜKK NATIONAL PARK

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Amata phegea, commonly known as the 'nine-spotted moth,' is a prominent Erebidae species widely distributed in Europe. Recognized by its distinctive blue-black or green-black wings adorned with white spots and a metallic sheen, *A. phegea* plays essential ecological roles as a polyphagous moth and an effective pollinator. Despite its ecological significance, there is still limited published studies on its demography, especially in natural conditions. This research addresses this gap by conducting a mark-release-recapture method in Bükk National Park, Hungary. Over four days, 125 moths were marked and tracked across three distinct areas. The best-performing model indicates a constant survival rate (Φ) of 0.75. The overall detection probability (p) of 0.67 is influenced by time, with the second day exhibiting the highest frequency of captures and recaptures. The recruiting rate (ρ) of 0.22 per day is influenced by sex, where male moths are being captured and recaptured more than female moths. *A. phegea* show a very restricted home-range in Area 1, significantly different from Area 2 (ANOVA $P < 2.2e-16$). Fundamental studies such as this is also very important, as if from this the ecological role of *A. phegea* known to be very important, this study can serve as a basis for future conservation policy-making.