

Monitoring activity patterns and social interactions of small mammals with an automated event-recording system: wild house mice (*Mus domesticus*) as a case study

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Abstract. We have developed an automated event-recording system based on passive integrated transponder (PIT) technology and have used it to monitor the passage of small mammals in and out of burrows. Rod-shaped antennae were inserted into burrow entrances of wild house mice, *Mus domesticus*, so that an event was recorded when a mouse carrying a PIT tag was active at one of these burrow entrances. Sixteen antennae were used at one time, each linked to a reader unit and data-logger station. The unique identity code of the PIT tag as well as the date, time and duration of each event were recorded. To illustrate the potential uses of this system, we compared the daily timing of mouse activity for males and females and described the use of burrows by individuals over a nine-month period. The system has great potential to be adapted for use with other species and to record events at various focal points of activity. The strengths and weaknesses of the system are reviewed.