



THE HARVEST MOUSE (*MICROMYS MINUTUS*) AS FOCAL SPECIES IN THE RISK ASSESSMENT

INTRODUCTION

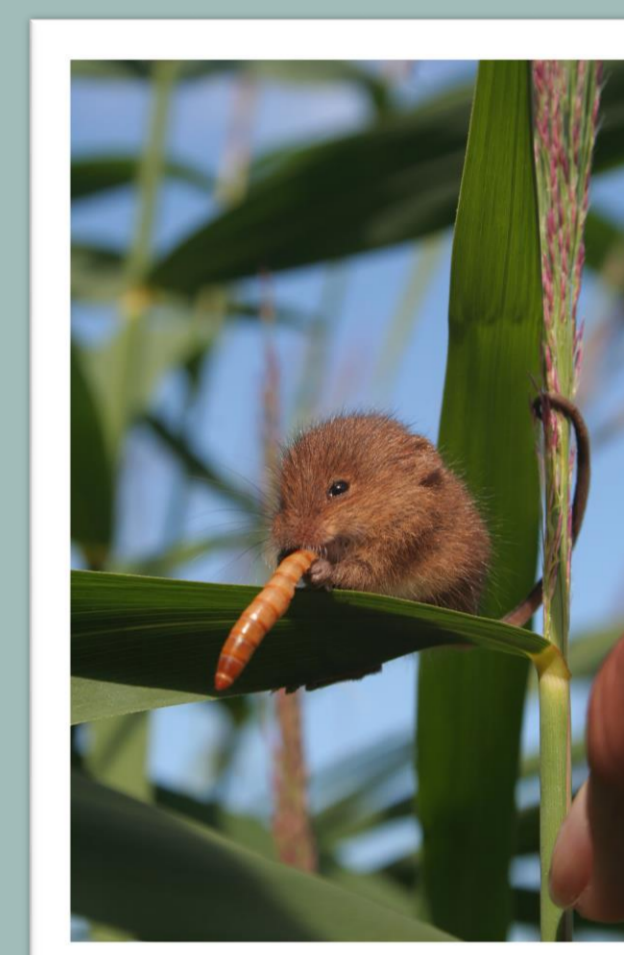
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Hitherto, the in-field risk assessment of birds and mammals to plant protection products was considered protective for off-field populations. The revised EFSA (2023) guidance on birds and mammals, though, underlines the need to consider some small mammal species in the risk assessment that are mainly found in the off-field area. In addition, a small granivorous species of 6 g should be considered in the crops with BBCH > 39. One of the species that is thus becoming the focus of interest is the harvest mouse (*Micromys minutus*).

ECOLOGY OF HARVEST MICE

The granivorous harvest mouse is widespread in Europe and Asia. As highly specialized stalk climbers, their original habitats are in reed beds and high grass fields. Secondly, they occur in cereal and beet fields, shrub-land interspersed with tall grasses and also in orchards. However, harvest mice are not commonly encountered in widespread surveys. They have a very patchy distribution, with 75% of suitable habitat unoccupied with no clear justification for habitat colonization.

Harvest mice are relevant for the new off-field and in some in-field risk assessment (e.g. cereals, sugar beets, alfalfa).



NEST SEARCHES

- Count of elevated nests in tall vegetation not an accurate measure to provide information on actual population size
- Overestimation with harvest mice building several nests for each brood
- Prove of (recent) harvest mice occurrence



Harvest mouse nest

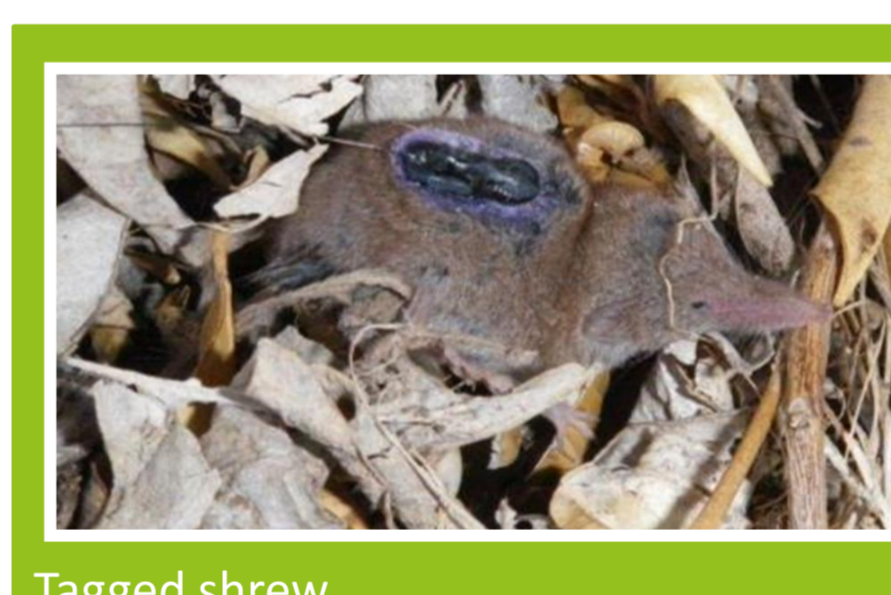
CAMERA TRAPS

- Elevated camera traps
- Food provided to attract and slow down harvest mouse, otherwise possibly too fast for cameras to trigger
- Technology is developing



Camera trap in tunnel box on the ground

TRACKING



Tagged shrew

- Radio or RFID tracking
- In off-field: possible interception by tall grass
- Data gap -> generic studies on micro habitat use to define exposure scenarios

TIMING

- Harvest mouse active day and night → trapped throughout the day
- Highest numbers at morning checks
- More likely to be caught in autumn than in summer

SMALL MAMMAL TRAPS

- Harvest mice usually underrepresented in standard small mammal traps set up on the ground due to three-dimensional habitat use



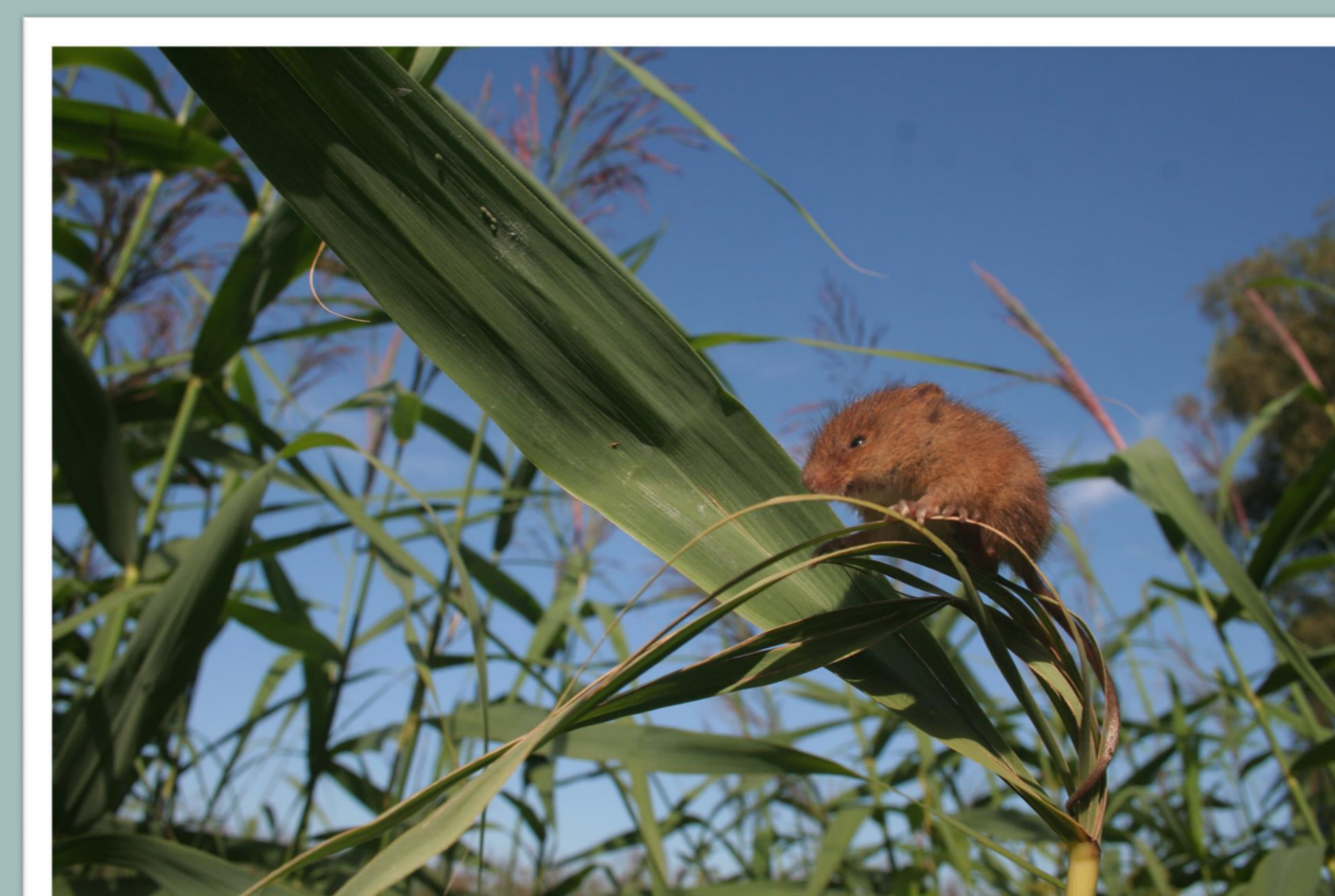
Ugglan trap with bedding

- Traps with mouse excluders (reduced entrance)
- Traps set on poles/platforms in vegetation
- Additional bedding in traps improves welfare of trapped animals

RESULTS

Nest searches can be used to prove harvest mice occurrence but are not suitable for population estimation. Small mammal traps can be designed and positioned to facilitate capture and promote welfare. New camera traps can be positioned to capture harvest mice. Harvest mice can be tagged and tracked with special equipment for e.g. PT studies or generic studies to estimate exposure. Trapping success is likely higher in autumn than in summer. Harvest mice are active and can be trapped throughout the day.

Harvest mice are difficult to trap in large numbers to supply sufficient data for a sound statistical analysis.



LITERATURE

European Food Safety Authority (2023). Guidance Document on Risk Assessment for Birds & Mammals on request from EFSA

Williams 2015, Surrey Harvest Mouse Project, Report for People's Trust for Endangered Species, Surrey Wildlife Trust, School Lane, Pirbright, Woking, Surrey GU24 0JN

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