

Short term observations of emergence and flight routes of the lesser horseshoe bats (*Rhinolophus hipposideros*) from a summer roost in central Slovenia: implications for conservation

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AIM OF THE STUDY

- To study the emergence and flight routes of a nursery colony of *R. hipposideros* in the church in Ljubljansko barje moor area in central Slovenia.
- To check, whether useful information for conservation can be gathered despite short term study.

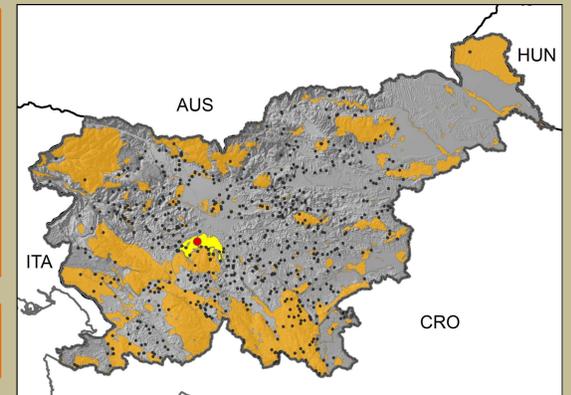
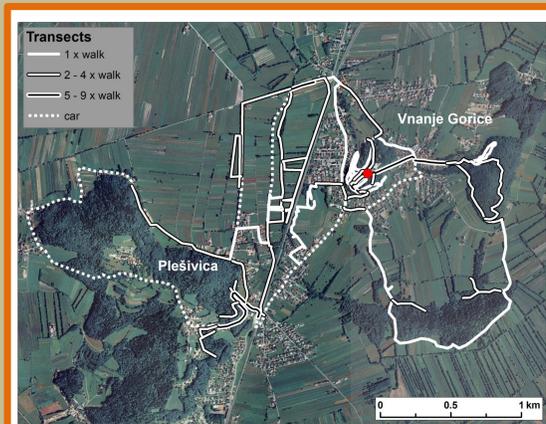
STUDY METHODS:

TIME OF FIELD WORK:

Ten days in August and September 2009.

FIELD METHODS:

- CHECKING THE ROOST
- OBSERVATION OF EMERGENCE BEHAVIOUR
- BAT DETECTOR TRANSECTS

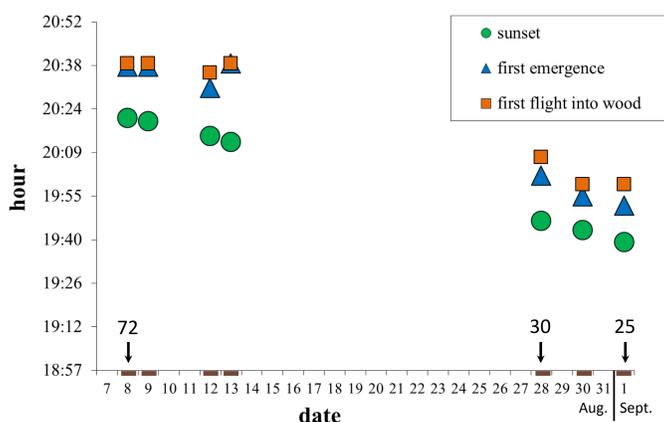


Study site, church Sv. Duh in Vnanje Gorice (red dot), is situated in the Ljubljansko barje moors (yellow), one of the Natura 2000 sites declared according to European Habitats Directive (orange areas). Black dots indicate summer roosts of *R. hipposideros*.

The church Sv. Duh harbors summer colonies of 4 bat species: *R. hipposideros*, *Myotis myotis*, *Eptesicus serotinus* and *Plecotus macrobullaris*. It is one of the most important bat sites in central Slovenia.

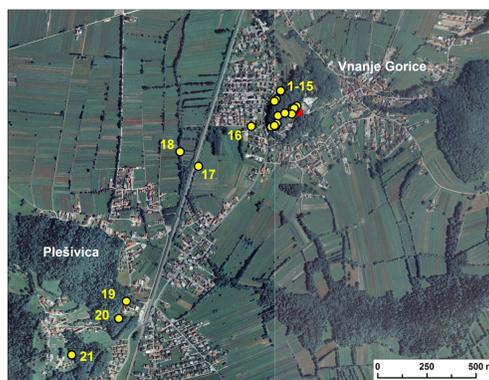
RESULTS:

EMERGENCE BEHAVIOUR

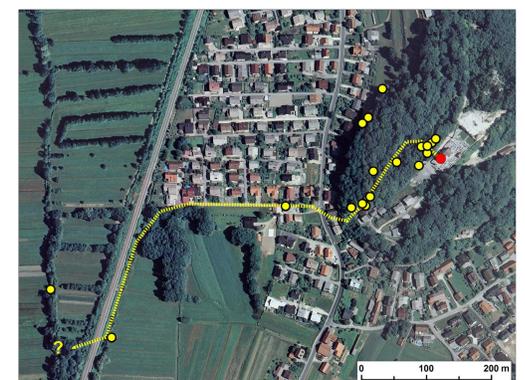


Time of sunset, time of *R. hipposideros* emergence from the roost (with return shortly afterwards), and time of the first bat leaving the roost and flying into the wood next to the church on seven days of observation (brown). Numbers above the arrows indicate the size of the *R. hipposideros* colony.

FLIGHT PATHS



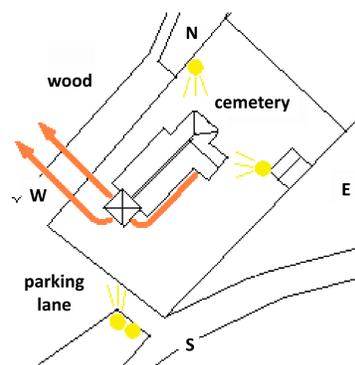
Locations where *R. hipposideros* were observed with bat detectors (yellow dots). Church is marked with red dot.



Very likely flight path of *R. Hipposideros* from the church, crossing the heavy traffic road, railway and meadows.



The scheme of the southeast side of the church.



The tower of the church with marked positions of four reflectors; three of them were lit.



The only flight opening used by *R. hipposideros*, view from the attic.

CONCLUSIONS:

Despite short term study and relatively simple methods **important and first information on the habitat use of the *R. hipposideros* colony were gathered.**

R. hipposideros from the church **cross the lit and traffic roads, railway and open meadow area in the area SW from the church**, continuing toward the south. Crossing traffic road and railway combined with their low flight indicates that they could be occasional casualties of the traffic.

R. hipposideros **flew only few meters above the ground and entered the forest west from the church.**

R. hipposideros were using **only one opening**, that was **in the shadow**, hidden from the lit reflectors.

BAD NEWS:

In 2010 the only flight opening used by *R. hipposideros* was closed and there were no bats of the species observed in the attic. The opening should be re-opened and hopefully bats would return.