

Bat activity above 3000 m in the Austrian Alps (Hoher Sonnblick, 3106 m)

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Keywords

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Summary

During the last few years (2013 to 2015) we investigated the migratory behaviour of bats throughout the Alpine Arch. A rather surprising result was that a large number of bats crosses the Alps at an altitude of up to 2500 m. Subsequently, we wanted to know up to which altitude bats can be detected in the Central Alps.

Thus, we investigated bat activity on top of Mt. Sonnblick at an altitude of 3106 m.a.s.l. during the years of 2014 and 2015. This mountain top is located in the South of the province of Salzburg and it is part of the main Alpine Arch. Extreme weather conditions, glaciers and rocks with very rare fragments of vegetation characterize the investigated site and hence, this habitat seemed totally unsuitable for bats.

Bat activity was monitored by automated recording of bat calls (batcorder, ecoObs, Nuremberg) during September and October 2014 and permanently from March to November 2015.

Contrary to our expectations we found bat activity from mid-April to mid-September. There was a little peak of activity in spring, however, the main activity was detectable during August and September. Among the recorded species were all long-distance migrants of Europe, namely *Nyctalus leisleri*, *Nyctalus noctula*, *Pipistrellus nathusii* and *Vespertilio murinus*, but also sedentary species like *Eptesicus nilssonii* and species with more or less unknown migratory behaviour like *Pipistrellus pygmaeus* were found.

Bat activity was strongly linked to milder weather conditions, but activity was still found at relatively high wind speeds up to 11,4 m/s and temperatures as low as $-2,5^{\circ}\text{C}$.

Based on our findings, we strongly emphasize, that bats and their conservation are considered if wind farms are planned at high altitudes and furthermore, that measurements applied at lowlands have to be reconsidered at high altitudes.

References

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