

## Markus and Steff – Ibex Research in the Hohe Tauern National Park and the Swiss National Park

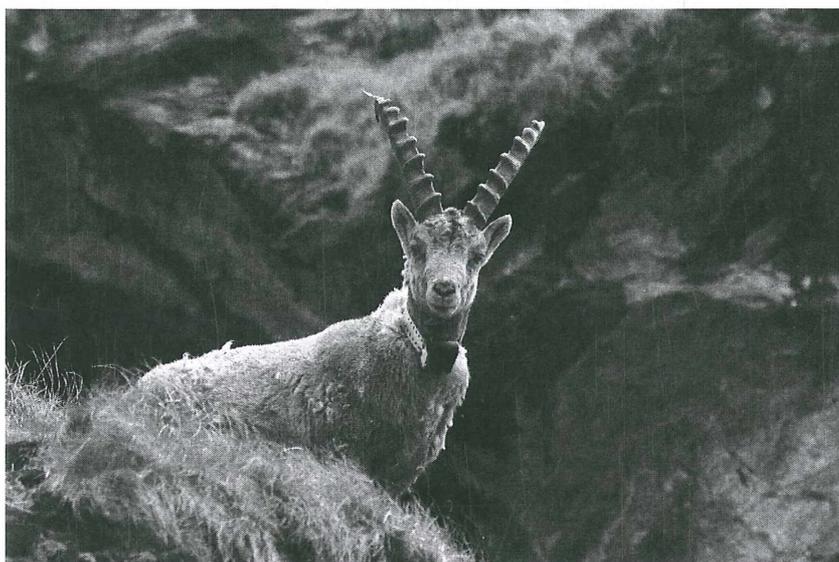
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### Summary

Ibex have been radio tracked in the Swiss National Park and the Hohe Tauern National Park. The scientific interest was mainly to get data about the using of habitat, but also to find out whether there are differences in the utilisation of natural habitats lying in different alpine areas with different climatic conditions. At the moment there are approximately 1,000 ibex living within and close to the park-borderlines of the Hohe Tauern National Park and another 300 animals within the Swiss National Park. It can be said that ibex preferably use mountainsides facing south or south-west in the Hohe Tauern Region as well as in the Swiss National Park. The area of activity is larger in the Hohe Tauern but migrations before the mating season are done by older males in the Swiss Park. Future scientific research will discuss the question whether different categories of nature conservation and/or population structures are responsible for this different behaviour.

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### Key words

ibex, habitat use, migration, Swiss National Park, Hohe Tauern National Park

### Area of study and methods

Ibex have been radio-tracked in the Swiss National Park since 2003 as well as in the Hohe Tauern National Park since 2005. The climate and the weather conditions in the Swiss National Park can be characterized as an „inner alpine dry zone“ while the total annual precipitation in the Hohe Tauern range is much higher especially in the northern parts of the park. In order to document the migrations of individual animals and also the connections between meta-populations, ibexes in both areas were equipped with GPS-GSM transmitters which deliver periodically the geographical

position of every single animal every four hours via mobile communications network to different institutes, where these data are collected and scientifically discussed.

## Results

As the first results show, the areas of activity of males range from 2,000 to 13,600 hectares in the Hohe Tauern and is on average of larger size than in the Swiss National Park (analysis via MCP) where areas between 1,960 and 3,590 hectares could be identified. What also could be seen so far is that in both national parks mostly young males are exploring their home ranges by covering great distances. Significant translocations take place especially before winter and summer. Before the rutting season some males move around over wide distances. In this case interestingly the males in the Swiss National Park in average are older than the males in the Hohe Tauern National Park. This difference may be caused in the dissimilar age structure of the populations.

In the Hohe Tauern National Park also a male could have been radio tracked before its release. Another male was captured two years after its release. Both males have been born in a zoo. In comparison to ibex born in the wilderness these two males show much smaller home ranges. It seems that the largeness of their home range is growing up with the length of their living in wilderness. As the data show, probably traditions built up near to the release place are playing a big role for these animals. So the home range of the male released with the transmitter represents only an area of 300 hectares in the first six months. But these area was already affected by a migration which takes one week. The rest of the time the male remained always near the release place. The two released males are sometimes also remain in different, lower seated altitudes than other ibex. It seems that this fact is also influenced through the site of the release place.

## Discussion

Not only the deviant behaviour of male ibex, also the analysis of a maybe different use of habitats situated in nature reserves of different categories is of great scientific interest. The Swiss National Park is listed as IUCN-Kategorie I (Wilderness) without any human influence while the Hohe Tauern National Park is IUCN-Kategorie II, which means that human influence is possible and also takes place in The Hohe Tauern (especially alpine livestock farming). Does human activity have any impact on the use of habitats by ibex? The upcoming research work will focus on this topic. One reason for the behaviour of the ibex in The Hohe Tauern Range, namely that there is a competition between ibex and livestock, cannot be excluded so far. Therefore detailed investigations concerning the questions which habitats are used by ibex and which by livestock are necessary. The basis therefore is a standardized surveying and mapping of habitats, which already exists spatially inclusive and comprehensive.

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