

## Lazing away the summer: Some dormice start their hibernation early

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Edible dormouse (*Glis glis*) in a tree. Credit: © Claudia Bieber/Vetmeduni Vienna

Edible dormice (*Glis glis*) spend about eight months on average in hibernation. Wildlife biologists from the Research Institute of Wildlife Ecology of the Vetmeduni Vienna have shown for the first time that these animals can hibernate for up to 11.4 months. "This may be a world record," says Claudia Bieber, co-author of the study. "Dormice in our climate zone don't just spend the winter months underground, they sometimes begin hibernating in summer."

The [animals](#) do not hibernate for so long every year, but only in years when beech trees produce few beechnuts. Successful reproduction and rearing of offspring depends on high-energy nutrition such as beechnuts. If seeds are not plentiful, some animals choose early [hibernation](#). A possible explanation of this behaviour is the increased probability to survive during hibernation. Well hidden in underground hibernation-burrows the animals are safe and avoid being caught by predators such as owls. However, not all animals of a population start their hibernation so early. Only animals that have accumulated rather large fat reserves can afford to do so. If they have not accumulated sufficient fat reserves, the animals keep foraging actively or spend shorter summer periods in a state of torpor.

## **Hibernation instead of reproduction**

"This discovery is important since it changes our view on the use of hibernation completely. So far hibernation has been seen strictly a strategy to decrease energy expenditure under unfavourable weather conditions and periods with little food availability. We show that dormice can also hibernate during mild weather periods, provided that they have accumulated sufficient fat reserves. If they can't reproduce, they decide to hibernate. The chances for successful reproduction might be better next year," explains Bieber.

This means that the ability to hibernate is used in more diverse ways than

researchers have presumed so far. Dormice, who can reach the ripe old age of twelve years, may get so old because of this prolonged hibernation. Not only does hibernation help them to avoid being caught by predators, but it is also a physiological adaptation that favours cell-repair mechanisms. "We want to continue our research and find out how dormice manage to keep fit and stay healthy for such a long time. The role of hibernation in aging is one of our principal research interests," says Bieber.

**More information:** How to spend the summer? Free-living dormice (*Glis glis*) can hibernate for 11 months in non-reproductive years, by Franz Hoelzl, Claudia Bieber, Jessica S. Cornils, Hanno Gerritsmann, Gabrielle L. Stalder, Chris Walzer and Thomas Ruf was published in the *Journal of Comparative Physiology B*. [DOI: 10.1007/s00360-015-0929-1](https://doi.org/10.1007/s00360-015-0929-1)

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