

Hibernators live longer mainly because they escape predators

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(PhysOrg.com) -- Small animals generally live shorter lives than larger animals, but those that hibernate are an exception, primarily because they escape predation during the winter, according to a new study by scientists from Austria. Hibernating animals also reproduce more slowly than non-hibernating animals.

Researcher Christopher Turbill of the Research Institute for Wildlife Ecology in Vienna, said that when animals hibernate they slow their metabolism and thus vastly reduce the energy required for their survival. They also tend to find a safe place in which to hibernate, which means they are less likely to die from predation while hibernating, and the research team believes this is the key to their [longevity](#).

Previous research also suggested that hibernating animals tended to have longer lives, but this was thought to be because they avoid the harsh winter temperatures and the competition for dwindling [food supplies](#).

Hibernation allows the animals to have around a 15 percent higher survival rate but they have fewer [offspring](#) each year than non-hibernating animals. In rodents for example, a non-hibernating species such as a rat weighing around 100 grams has up to 14 offspring a year, has a 17 percent chance of surviving the year, and its maximum lifespan is about 3.9 years. A hibernating [rodent](#) of the same size has only about eight offspring a year, but has a 50 percent chance of surviving and a maximum [lifespan](#) of 5.6 years.

The research, which was based on analyzing previous studies of hibernation, along with new data on the edible dormouse (*Glis glis*), also suggested that hibernation could have been involved in the evolution of slower life-cycles, since hibernating animals tend to mature later than non-hibernating species with shorter lifespans.

Co-author of the paper, Claudia Bieber of the University of Veterinary Medicine in Vienna, said scientists had previously thought hibernation posed a challenge for animals, but their research had shown the animals survive exceptionally well and also have a better chance of surviving the active season than non-hibernating animals. This is particularly true of small species (under 1.5 kg), such as the edible dormouse, which spends half the year in hibernation.

The paper was published this week in the *Proceedings of the Royal Society B: Biological Sciences*.

More information: Hibernation is associated with increased survival and the evolution of slow life histories among mammals, *Proceedings of the Royal Society B: Biological Sciences*, Published online before print March 30, 2011, [doi: 10.1098/rspb.2011.0190](https://doi.org/10.1098/rspb.2011.0190)

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