



### "Now I Lay Me"

➤ **SOME ANIMALS** escape death in winter by feigning death. For that is what the deeper forms of hibernation amount to, at least so far as appearance is concerned. If you dig up a hibernating ground squirrel, for example, you can shake it, pinch it, drop it on the table, even stick pins in it—and it remains as limp and inert as if its neck were broken. Only a fairly long exposure to warmth will bring it to. Hibernating cold-blooded animals, like toads and bumblebees, seem even "deader".

The physiological processes of animals in deep hibernation seem only a step or two removed from death. Breathing is imperceptible by ordinary means, the pulse slowed down so that you'd think the next heartbeat would be the last. Body temperature of warm-blooded animals drops away below normal — they become almost cold-blooded animals for the time being.

There is a high survival value in this severe banking of the biological fires. A hibernating animal, whether a bumblebee or a bear, gets nothing to eat, nothing to drink, through the long weeks of winter sleep. The flame of life has to be kept going until spring on food stored in the animal's own tissues, usually in the form of fat. Bears are notoriously roly-poly in autumn, lean as bare bedsteads when they emerge from their dens. If life can be reduced to just a few faintly glowing embers, it makes for greater economy in the use of body fuel and hence for better chances to get through until spring.

Hibernation is resorted to by a surprising array of creatures. Big mammals like bears, little ones like groundhogs

and gophers, reptiles like snakes and turtles, amphibia like frogs and salamanders, insects, spiders, crayfish, even worms. Birds don't; they can migrate, so they don't need to. Fish don't; though in the tropics some of them go into a similar state in the dry season. Because that happens in summer it is called aestivation.

There is a great range of degrees in hibernation. Some animals, like the ground squirrels already mentioned, go

the limit and don't wake up until spring. Bears, on the other hand, are apt to wake up during warm spells and come out for a stretch and a sniff of fresh air. The same is true of their insect namesakes, the black-and-orange caterpillars called woolly bears. Some animals, like beavers, sleep a great deal more in winter than they do in summer, but awaken and feed from time to time. That, however, should probably not be classed as hibernation at all.

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