

Frozen Turtles

“Hath the rain a father? or who hath begotten the drops of dew? Out of whose womb came the ice? and the hoary frost of heaven, who hath gendered it?” Job 38:28-29.



Reptiles are cold-blooded and like to live in warm places. However, there are exceptions to every rule. Turtles are reptiles but live in places like the northern United States where temperatures drop far below freezing.

Some creatures hibernate while others burrow deeply into the ground to survive the cold winters, but research has shown that at least some turtles actually freeze during the winter. Studies on the painted turtle, common in the northern United States, show that this species can survive being frozen. The turtles can actually be in water that freezes solid. As long as less than about 54 percent of the water in their bodies freezes solid, they can thaw out and survive quite nicely. How does the turtle get away with this?

First of all, blood sugar levels in the turtles nearly triple when they are frozen, and there is a sharp increase in certain amino acids which act as antifreeze. In addition, glycerol, another antifreeze, triples. Researchers point out that while these changes supply some answers, they don't completely explain the turtle's survival.

Scientists are trying to find out just how painted turtles live through being frozen. They hope to learn how to preserve human organs longer for later transplantation. In effect, they are trying to find out how God enables the painted turtle to survive freezing so they can copy His method....

Notes:

“These Turtles Freeze, But that's Okay.” Science News, vol. 134, p. 382.

To read this article in its entirety, go to:

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