Global Positioning System for Turtles

Written by Administrator Tuesday, 29 January 2013 05:21 -

Global positioning system for turtles reported in *Nature*, vol. 428, p90, 29 April 2004. Migrating animals are known to use a variety of environmental cues such as stars, sun position, polarisation of light and earth's magnetism to keep themselves orientated towards their goal as they travel, but they must also have some kind of internal map memory to know where they are heading. Marine turtles are able to travel to the same strip of cost after very long migrations and after being displaced. But how do they do it? A team of scientists from University of North Carolina and University of Central Florida captured green sea turtles from their normal feeding grounds off the Florida coast and placed them is a large tank of water where they were tethered but able to swim. This enabled the scientists to monitor the direction they were trying to move in. The tank was surrounded by a coil system that enabled the scientists to change the magnetic field surrounding the turtles. The scientists changed the magnetic field so that it mimicked the magnetic field of two different locations hundreds of kilometres away from the turtles feeding ground. In each of the simulated magnetic environments the turtles orientated themselves so that they would have travelled to their normal feeding ground had they really been in the place that was being simulated. The scientists concluded that turtles "have a magnetic map sense that helps them navigate to specific targets" but are still unsure of the exact magnetic features turtles use to construct and use the map.

Editorial Comment: Navigation using a map and compass requires creative intelligence – first to make the map and the compass, and then to put together the information provided by each. The fact that these turtles have an inbuilt map and compass is good evidence that turtles were created by an intelligent designer. (Ref. turtles, navigation, design)