

Birds' migratory success a complex process

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Magnetic orientation is critical to many birds' migratory success but recent research suggests birds' orientation powers may be more complex than thought.

By studying the influence of light on the ability of migratory birds to orient to magnetic signals, researchers have found clues suggesting birds may be able to interpret magnetic signals by more than one mechanism.

Researchers Thorsten Ritz of the University of California-Irvine and Wolfgang and Roswitha Wiltschko of the University of Frankfurt, Germany, analyzed the orientation behavior of European robins under turquoise light and discovered increasing the intensity of the light changed the birds' orientation significantly, in comparison to dimmer light levels.

The researchers found in dim turquoise light, similar to that found about 33 minutes after sunset, the birds showed normal migratory orientation, with the seasonal shift between southerly directions in autumn and northerly directions in spring.

However, the researchers also found that under brighter turquoise light, corresponding to light levels found 20 minutes after sunset, the birds still orient by the magnetic field, but they no longer show the seasonal change between spring and autumn and, instead, head north in both seasons.

The work is reported in *Current Biology*.

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