

DNA barcoding spots new species

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BY ANALYSING differences in a small sliver of DNA, scientists may have uncovered four new species of birds in North America. The work is one of the first tests of a proposed method for rapidly identifying species known as DNA barcoding (New Scientist, 26 June, p 32).

The "barcode" is actually a 648-base-pair stretch of the gene for cytochrome c oxidase I, chosen because it accumulates small differences as species diverge. Paul Hebert's team at the University of Guelph in Ontario, Canada, has already shown the barcode method can distinguish closely related species with 98 per cent accuracy.

As another test, the group looked at 260 North American bird species to see if regional variations in animals with large geographic ranges blur the genetic divide. The bird species were generally easy to tell apart, they found, with an average of 8 per cent difference in the barcode sequence. The difference between individuals in the same species was just 0.5 per cent, even when pairs were from locations more than a thousand kilometres apart.

But four supposed species, including the eastern meadowlark (below), each appears to be two (Public Library of Science Biology, DOI: 10.1371/journal.pbio.0020312). A few classical taxonomists, who identify species based on anatomy and behaviour, had already suspected as much, Hebert says.

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