

Species identification may be sped up by a "DNA barcode" scanner

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Paul Hebert, a Canadian zoologist, is hoping that there will one day be a handheld DNA scanner that will allow scientists to quickly identify species out in the field. By examining the mitochondrial DNA in cells and testing its unique "DNA barcode" against a database of known species, this scanner would allow scientists and taxonomists to either recognize species or quickly learn that they have discovered a new species. Scientists are hoping that this scanner will be available in 10 years.

Overview:

- If Paul Hebert gets his way, in about ten years all you'll need to do is feed a fragment of the flattened bug into your handheld scanner for analysis.
- Moments later, the little machine will identify the species with a photo and description, allowing you to determine if you are at risk.
- Hebert, a zoologist at the University of Guelph in Ontario, Canada, is the father of an idea known as DNA bar coding.
- The notion holds that just about every plant and animal species on the planet can be identified by quickly analyzing a short stretch of DNA---in much the same way that scanner reads bar codes in a store.
- "The technology will be so simple to use that anyone can identify any organism they encounter," he said.
- ? anyone could wander into the backyard and learn about its flora and fauna.
- DNA "bar codes" also promise to expedite the discovery of new species, according to David Schindel, executive secretary of the Consortium for the Barcode of Life.
- To date, taxonomists have identified about two million of the estimated ten million species of plants and animals thought to live on Earth.
- There, they'll discuss progress in DNA-bar-coding science and kick-start international collaborations to create a bar code database for Earth's estimated ten million species.
- To make the bar code database an economical, effective, and useful tool, the consortium is focused on a portion of a single gene common to all life, known as CO1, or cytochrome c oxidase 1.
- The CO1 gene is also simple to isolate in a variety of animals, and a broad range of animal life has been shown to have distinct CO1 sequences, Hebert said.

Source:

http://news.nationalgeographic.com/news/2005/01/0126_050126_dnabarcode.html