

Barcoding Life

10 February 2005

Biologists meeting in London made a strong pitch yesterday for adopting DNA-based standards for classifying all forms of animal life. More than 200 taxonomists from 46 countries convened at London's Natural History Museum to hammer out protocols for a massive DNA "barcoding" effort--a move to collect specific gene tags from every organism on Earth. Many speakers predicted the effort will revolutionize how species are identified and classed. In addition, several said that the new technology will rejuvenate taxonomy and natural history museums by focusing more on identifying new species than on debating the identity of those already found.



Code of life. Barcoding will help sort out subtly different species and help keep track of specimens.

CREDIT: Chip Clark/NMNH

Richard Lane, director of science at London's Natural History Museum, claimed that barcode proponents have already demonstrated a "proof of principle" of their technique. Lane claimed that two recently released studies--a survey of North American birds and another of fish in the Atlantic Ocean--have shown that a single mitochondrial gene (COI) can be used to distinguish one species from another. The results, according to Lane and others, are entirely consistent with those from traditional methods that rely mainly on characterization of physical traits.

In addition, a group of plant taxonomists led by botanist John Kress of the Smithsonian Institution in Washington, D.C., announced that they have identified a new barcoding tag for plants--a space between two genes on the chloroplast genome--that can reliably discriminate species. It worked well in a

pilot test in Washington, D.C., and an international consortium has been organized for a large-scale trial in Costa Rica. The new project is a joint effort by researchers in Costa Rica, the University of Pennsylvania, the Smithsonian, and Kew Gardens in the United Kingdom.

At a similar meeting 2 years ago, the discussion cantered on all the things that would make DNA barcoding difficult to carry out, said David Schindel, the executive secretary of the Consortium for the Barcode of Life and a Smithsonian staffer. This time, he said, "everyone was talking about solutions: The difference was huge." The consortium, a group of advocates backed mainly by private charities, now aims to sell its vision to government funding agencies. The cost to barcode all life on the planet, according to Lane, would be "relatively cheap" as big science projects go-- about \$1 billion.

--ELIOT MARSHALL

Related sites

[Consortium for the Barcoding of Life](#)

[International Conference for the Barcoding of Life](#)