Embargo: 0.01, Thursday 10 February 2005

Barcoding Life on Earth

The first step towards genetically identifying, or barcoding, every species on Earth will be taken at the International Conference for the Barcoding of Life on Thursday 10 February 2005, as it launches three new world-wide DNA barcoding projects.

Less than a fifth of the Earth's 10 million species of plants and animals have been named. The tasks of identifying and describing all unknown species and documenting known species are vital to a wide variety of scientific research areas. The three ambitious new initiatives aim to gather the DNA barcode sequences of all the world's fish and bird species, and to create a database of information for scientists and people across the world.

The conference, hosted by the Natural History Museum, London, on behalf of the Consortium for the Barcode of Life (CBOL), will bring together experts in plant and animal taxonomy, forensic sequencing, environmental genomics, information management, uses of biodiversity information and related fields.

CBOL represents a group of major natural history museums, universities, zoos, herbaria and others interested in biodiversity. Working together, they will enable the rapid identification of the Earth's fauna and flora, an estimated 10 million species by 2010.

Genetic barcodes can uniquely identify millions of different species. A DNA barcode sequence will make species recognition in the field much easier, particularly where traditional methods with field guides aren't practical. It also allows non-specialists an easy way to make identifications and access to detailed species information. By making identifications more reliable it also contributes to our understanding of life's evolutionary history. The information collected will have many uses, including identifying pathogens and disease vectors, recognising pest species and identifying endangered species whose trade or exploitation is restricted.
Mf...

The three projects to be launched as part of the Consortium for the Barcode of Life are:
The Barcoding Birds of the World initiative, organised by The Rockefeller University, University of Guelph and The Smithsonian Institution. Collecting the DNA barcodes of all the 10,000 known species of birds in the world will further our understanding of the nature and variety of species and help to monitor bird populations and study their behaviour.
Fish-BOL, a network to assemble DNA barcodes for all fish. Fish are the most diverse group of vertebrates and are an important part of people's diet across the globe. This project, co-ordinated by the University of Guelph and CSIRO Marine Science Division will collect 15,000 marine and 8,000 freshwater species over the next five years, a task requiring the analysis of some 500,000 fish specimens.
The Consortium for the Barcode of Life will develop an open archive of standardized DNA sequences from specimens held in major collections. The Consortium is working with the National Centre for Biotechnology Information and GenBank* to enable scientists to transform a collection of individual DNA sequences into a rich source of species information for identification and discovery.

'DNA barcoding will make a huge difference to our knowledge and understanding of the natural world,' said Scott Miller, Chair of CBOL. 'The Barcode of Life initiative aims to complement existing taxonomic practice to build on it and expand its power and use.'

Dr Richard Lane, Director of Science at the Natural History Museum, London commented: 'If we don't know what species we have, how can we know what we're losing and take practical steps to stem the loss of the world's plants and animals? Just as the human genome project inspired new ways of human biological research, we hope that barcoding DNA will lead to new ways of investigating ecology and evolution that can be of use to all.'
-Ends-
Editor notes

***Genbank is an international genetic database. Created in 1982 it contains more than 19,411,770 records, each containing sequences and data including sequence description, source organism, sequence length and references.**

For further information or to arrange an interview or request images, please contact:

Liz Woznicki or Chloe Kembery,
The Natural History Museum Science Communication PR Team
Tel: 020 7942 5278/5880 Email: l.woznicki@nhm.ac.uk