

Barcode initiative nets all fish

A new DNA barcoding initiative aiming to record all of the world's fish will be launched at the International Conference for the Barcoding of Life, at the Natural History Museum, London on Thursday 10 February 2005.

The research project, Fish-BOL, undertaken by the Census of Marine Life, USA, and members of the Consortium for the Barcode of Life, will gather genetic barcodes for all fish species in the world - currently thought to be 15,000 marine and 8,000 freshwater species. It will take five years and the analysis of some 500,000 fish to assemble the information.

The world's fish face increasing threats, including over-exploitation from commercial fish farming and collection for the aquarium trade. There is also growing evidence of consumer fraud, with low-value fish being substituted for more valuable species. Barcoding offers a simple, quick and cheap way to identify not only whole fish, but also fragments, eggs and larvae, supporting sustainable fisheries and increasing consumer confidence.

Taxonomists can identify whole adult fish, but they can't be certain when identifying fillets, processed products and immature stages. A global barcode library of fish will make these tasks quick and simple, especially when used together with existing taxonomic information.

Early results suggest that this initiative could increase the known fish species in our waters by more than 10 per cent. The great genetic differences between in-shore species across large geographic distances, suggests there are many undescribed species.

Researchers will gather together comprehensive collections of fish from various geographic areas. These will be stored in major natural history collections at Museums and institutions around the world. Each specimen will be photographed and its location and other relevant information recorded. Tissue samples will be used for barcode analysis and a sample of DNA will be frozen for future analysis. All data gathered by Fish-BOL will be deposited in GenBank*, where the information will be available for anyone to use.

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Commenting on the Fish-BOL project Paul Hebert, from University of Guelph, Ontario, said 'DNA barcoding could be used for conservation,

enabling us to monitor quotas and bycatch and provide a more detailed understanding of fish and their ecological relationships’.

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.

Participants in the Fish-BOL initiative include:
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