Assembling the Tree of Life - Europe (ATOL)

Executive Summary from a Meeting held at
Royal Botanic Gardens, Kew on 14th and 15th October, 2002

Assembling the Tree of Life - Europe (ATOL) is an Integrated Project seeking funding in EC FP6. ATOL will produce an interactive taxonomic and phylogenetic resource for biological research in biodiversity and ecosystems, genomics and health: a Tree of Life (ToL) database.

A meeting was held at the Royal Botanic Gardens Kew, UK, on the 14th and 15th October to formulate core scientific and management strategy. 60 people attended from 15 European countries. Also present were the Program Director of the USA NSF Tree of Life initiative and EC funding advisors from Imperial College, London.

The scientific strategy for ATOL is clear. New data will be generated on a massive, integrated scale linking European taxonomic expertise and Biodiversity collections to molecular and bioinformatic expertise. A core Team will establish the backbone for the global ToL in collaboration with USA NSF and other global initiatives. Further Teams will conduct detailed studies on target taxa with high impact on society and the environment. A network of specialist laboratory centres will be set up across Europe to integrate research and training.

A key goal of ATOL will be to establish a European Phyloinformatics Centre: a high-prestige, visitor-driven research centre to curate the ToL database, to develop analytical tools for reconstructing the ToL, and to promote its use by biological and other end-users. A working draft of the Tree of Life will be online by 2008. A strong training program and interaction with the data collection teams will be core functions of the Centre. A Phyloinformatics Team is working on a fully operational plan for late Jan 2003.

ATOL offers enormous potential for innovation. Small-Medium Enterprises (SME) will be set up to offer i) a DNA taxonomy/identification service for agriculture, forensic and other users, ii) a Phylogenome service generating genome data for non-model organisms, e.g. pests, invasive species, soil biota etc. iii) a Phyloinformatics service using phylogenetic data to identify candidate genes for drug development, gene-networks etc. Detailed plans will be completed by Feb 2003 in consultation with potential end-users.

ATOL will train a generation of workers to be fluent in the tools of systematics, phylo-genomics, and phyloinformatics. Emphasis will be on mobility among countries and disciplines. The Phyloinformatics Centre will host interdisciplinary visitor programs at all levels from graduate students to professors and scientific managers. Lab centres will focus on providing resources and training for workers in countries with biodiversity expertise/resources but lacking phylogenomic infrastructure.

ATOL is led by a Project Management Committee of senior scientists, administrators, and researchers representing the full range of countries and expertise in the network. The Natural History Museum, the Royal Botanic Gardens Kew, and Imperial College, London will form a host consortium for the project, with one of them as host institution.

ATOL will be an integrated effort by diverse team members across Europe. By applying recent technology in genomics and bioinformatics to a single large project, ATOL will greatly enhance smaller-scale national efforts and place Europe at the forefront of global initiatives.