The Tree of Life Project: A Digital Library of Biodiversity Information

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Collections Track

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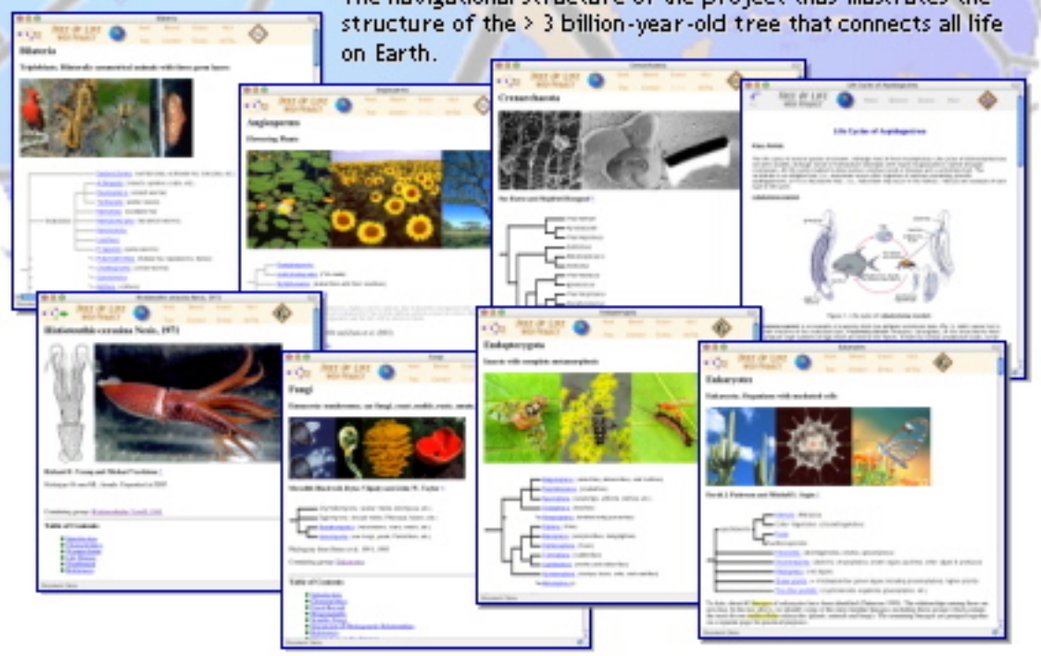
http://tolweb.org

The Tree of Life Project is an open-access, database-driven system providing information over the Internet about biodiversity and the phylogeny of all organisms.

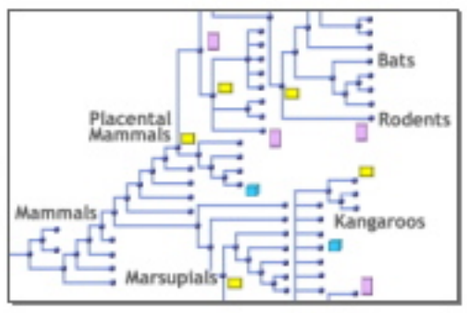
The project currently provides over 3000 web pages with scientific content to about 50,000 visitors per week. Each page contains information about one particular group of organisms, and the pages are linked together hierarchically, in the form of the evolutionary tree of life.

The navigational structure of the project thus illustrates the structure of the > 3 billion-year-old tree that connects all life on Earth.



Content for the Tree of Life web site is compiled collaboratively by more than 350 expert researchers from over 20 different countries. Administration of the project follows a hierarchical, community-based model, with work on a particular branch coordinated by experts on those organisms.

The information architecture of the Tree of Life project follows a node-based schema with objects (e.g., text, names, images, etc.) attached to phylogenetic branching points that represent different groups in the hierarchy of life. This approach allows for the retrieval of data that are organized according to the phylogenetic history of organismal lineages. Data structured in this way can then be used to illustrate and analyze patterns of biological diversity (see handout "*Information Architecture of the Tree of Life Project*").



Originally designed as a tool for biological research, the Tree of Life Project is widening its scope in response to feedback from K-16 students, science educators, and the general public. Future project development will put greater emphasis on the collection of materials aimed at diverse, non-specialist audiences.

Tree of Life Project goals for the next two years:

Improve core scientific content of the Tree of Life collection, focusing on important groups that include model organisms, species of economic significance, and creatures of special interest to K-16 learners.

Five groups are targeted for development during 2004/2005:

Initiate collection of content specifically aimed at K-16 learners, including:

- Exercises and quizzes
- Instructional games and simulations
- Scientist's biographies
- Materials contributed by teachers and students
- Organisms in the news features
- Stories about adventures and discoveries
- Media (images, videos, sound files, etc.)

Develop and implement robust policies pertaining to the administrative structure of the Tree of Life Project:

- Rights and responsibilities of project participants
- Procedures for selection, resignation, and revocation of contributors
- Editorial policies concerning publication, revision, and archiving
- Guidelines for formal peer-review of scientific contributions
- Intellectual property issues and liability

Implement new technical features, with a focus on the needs of users from the education and research communities.

1. Modify the Tree of Life data entry system to allow submission of materials by teachers and students.
2. Establish interoperability with other databases and collections.

3. Build a customization system and interface that allows visitors to personalize views of site content, with emphasis on accessibility and educational use.

1. Design tools that facilitate interaction within and between Tree of Life contributor and user communities:
   - Online discussion forums for
     All visitors: Initiate threaded discussions on any Tree of Life page
     Teachers: ToL Education Exchange
     Scientists: ToL Relationships Forum
   - User rating/recommendation system
   - Collaborative content development projects connecting K-12 classrooms and after-school projects in different parts of the country/world.