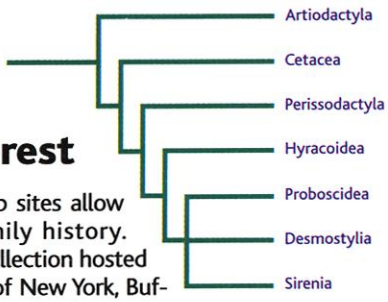



RESOURCES

## Phylogeny Forest

Plenty of genealogy Web sites allow you to trace your family history. TreeBase, a 6-year-old collection hosted by the State University of New York, Buffalo, provides a similar service for evolutionary biologists and other researchers who want to know how organisms are related. Contributors have planted more than 1750 published phylogenetic trees—mainly for plants, vertebrates, and fungi—along with original data. The offerings range from "universal trees," which illustrate the relationships among major lineages of organisms, to intimate studies of individual groups, such as the Hawaiian fruit flies. With software available free from a linked site, you can download, prune, and label the diagrams. You can also transplant trees and data into popular phylogeny programs such as Paup and MacClade to run your own analysis.

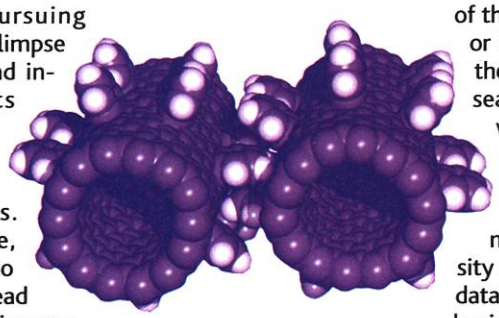
www.treebase.org/treebase

COMMUNITY SITE

## Let's Get Small

Bigger may be better for televisions and football linemen, but nanotechnology researchers covet the tiny. They aim to build dainty computers and minute machines, such as this pair of molecular gears (below), that can improve manufacturing, cleanse polluted water, plumb clogged arteries, and even help us explore space. Immerse yourself in the ever-shrinking world of nanotechnology at this handy portal, which offers a links-rich introduction to the field, up-to-the-minute nano news, a list of the 12 best nanotechnology Web sites, and a fat glossary. You'll also find a rundown of corporate, government, and academic labs pursuing nanotechnology. For a glimpse into the nanofuture, read interviews with experts such as science writer Ed Regis or follow a link to a gallery of possible medical applications. Some day, for instance, dentists might be able to hang up their drills, instead dispatching squads of tiny machines the size of pinheads to patch cavities.

Nanotech-Now.com

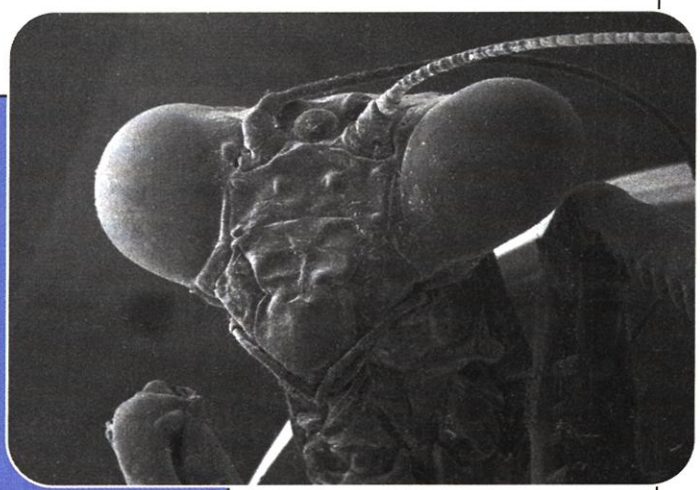


LINKS

## A Haul of How-To's

Whether you need parenting tips on how to rear a brood of embryonic stem cells or directions for measuring the alcohol intake of tipsy rats, BIOVISA.NET teems with practical lab advice. This boon for do-it-yourselfers offers links to some 1750 protocols, all gathered by site users. They read just like recipes: "Cut and discard head to remove neural cells" instructs the protocol for getting mouse embryo fibroblasts. Most of the how-to's fall into the categories of cell and molecular biology and biochemistry, but you can also absorb techniques used in genetics, immunology, development, neuroscience, and biotechnology. Another handy section of the site lists 168 biological and medical journals with free online content.

biovisa.net



IMAGES

## Micro Gallery

This unfriendly visage (right) is the last thing a male praying mantis sees before his treacherous mate munches his head. BIODIC showcases images of this garden monster and more than 1100 other microscopic portraits. Microbiologist Louis De Vos of the Free University of Brussels in Belgium trained his lens on bacteria, fungi, human cells, embryos, pollen, mites, insects, and other tiny creatures, revealing minute structural details. The bumpy, parallel strands of a muscle fiber make it look like an ear of corn, for instance, and the bee-killing varroa mite resembles a hairy Frisbee with crablike legs.

www.ulb.ac.be/sciences/biodic

TOOLS

## Tagging Honeybee Genes

Entomologists are buzzing over the prospect of sequencing the honeybee genome, but the project hasn't taken off. However, you can still explore part of the bee genome with this database of expressed sequence tags, or ESTs, fragments of genes that were fished from the brains of the insects. Up and running for 3 months, the site allows you to search the EST catalog for particular sequences and find out which ESTs match segments of *Drosophila* genes. Using a standard vocabulary of "Gene Ontology" terms, you can hunt for ESTs by their putative function, the biological process they might participate in, or the cellular components they might help build. Neurobiologist Gene Robinson of the University of Illinois, Urbana-Champaign, and colleagues compiled the database to aid studies of the molecular biology of honeybee behavior. The collection will also provide signposts for the eventual sequencing of the entire genome, Robinson says.

titan.biotec.uiuc.edu/bee/honeybee_project.htm

Send great Web site suggestions to netwatch@aaas.org

CREDITS: (RIGHT) L. DE VOS/FREE UNIVERSITY OF BRUSSELS; (BOTTOM) AL GLOBUS/NASA AMES RESEARCH CENTER