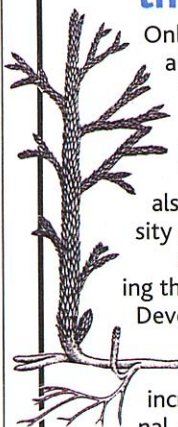
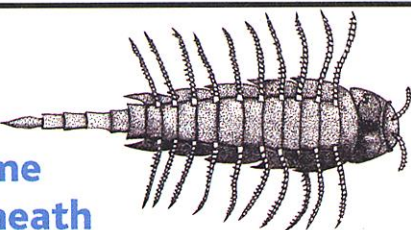


EDUCATION

They Came From Beneath the Sea



Only about 400 million years ago did plants and animals leave the water and settle on dry land. The Rhynie Chert, a formation near Aberdeen in northeastern Scotland, holds a trove of well-preserved fossils from the days shortly after that milestone in the history of life. The chert also stars in a Web site[†] sponsored by the University of Aberdeen and aimed at university students.

A geology primer gets you oriented by explaining the formation of the chert at the beginning of the Devonian period. Because the organisms were cloaked by silica from nearby hot springs shortly after their death, fossils preserve incredible detail—sometimes, even the internal structures of cells are visible. Several well-illustrated sections let you meet some of the plants and wee beasties that inhabited the land and adjacent ponds. *Asteroxylon* (left), a leafless relative of modern club mosses, is one of the first terrestrial plants and had a vascular system for transporting water and sugars. Arthropods fixed in the chert include spiderlike predators, mites, centipedes, and *Heterocrania* (pictured here), a bottom-dwelling, freshwater creature about 15 millimeters long.

Another nice overview of the Rhynie Chert can be found at this site in Germany.[†]

^{*}www.abdn.ac.uk/geology/profiles/rhynie
[†]www.uni-muenster.de/GeoPalaeontologie/Palaeo/Palbot/erhynie.html



RESOURCES

Acronyms Explained PDQ

Do the letters ZGMMV mean anything to you? How about CVAAS? If you don't recognize the call letters of the zucchini green mottle mosaic virus and cold-vapor atomic absorption spectrometry, try one of these two handy acronym finders. The site from Brandeis and Tufts universities in Massachusetts spells out the "long forms" for some 120,000 biomedical acronyms, each linked to pertinent PubMed abstracts. Chemists can dissolve their confusion with this basic listing of chemical acronyms from Indiana University, Bloomington.[†]

^{*}medstract.org/acro1.0/main3.htm
[†]129.79.137.107/cfdocs/libchem/searchu.html

TOOLS

Finding the Fly's Switches

If you've fumbled for the light switch in a dark room, you know how molecular biologists feel when they search for enhancers, small stretches of DNA that control genes. These regulatory regions, which bind proteins called transcription factors, are not always where you'd expect them to be—adjacent to the genes they flick on. The 2-month-old Fly Enhancer Web site makes it easier to find these elusive sequences in the *Drosophila* genome.

University of Chicago graduate student Michele Markstein designed the site with her parents, who are computer scientists, and colleague Ka-Ping Yee. Conventional genome-scanning tools such as BLAST often overlook these snippets of DNA, says Markstein, but Fly Enhancer can simultaneously search for up to 10 different sequences as small as four nucleotides each. The output specifies each potential enhancer's location and the identities of nearby genes that it might regulate. Markstein says the site had been up for only a few hours when she got the first request for a version to screen the genomes of other model organisms. She plans to post similar search tools for the nematode and for *Arabidopsis*.

flyenhancer.org

EXHIBITS

Trouble in Paradise

Like so many other visitors to Hawaii, Jackson's chameleon (right), a lizard native to East Africa, couldn't bid the islands aloha. A population that began as a few released pets in an Oahu yard in the 1970s has spread to four islands. Although invasive species such as this lizard are roiling ecosystems the world over, the problem is dire in Hawaii. Invaders jeopardize many of the unique species that evolved during the archipelago's eons of isolation and are costing the state millions of dollars in damage to forests, crops, and buildings. Find out more at Hawaiian Ecosystems at Risk, a U.S. Geological Survey clearinghouse of information on animal, plant, and microbiological interlopers.

Aimed mainly at resource managers and the public, the site offers a partial catalog of the state's damaging immigrants, with resources such as distribution maps, fact sheets, images, and links to organizations battling invasive species. For some economically important species—such as the pushy Argentine ant and the fast-spreading pampas grass—you can read detailed reports that cover biology, history of colonization, ecological and economic impact, and control measures.

www.hear.org



Send great Web site suggestions to netwatch@aaas.org