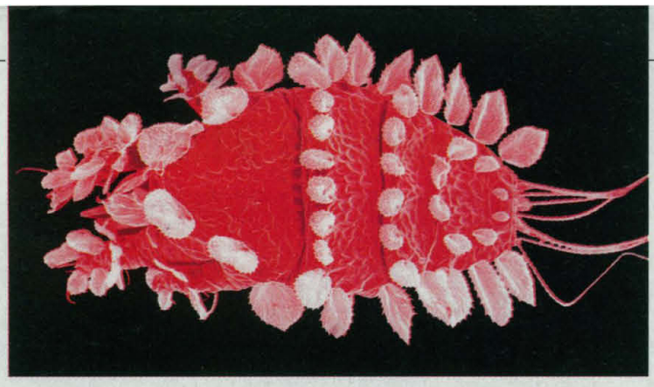

CREDIT: (TOP) D. E. WALTER AND C. MEACHAM

COOL IMAGES

Mad About Mites

This creature, called an ornate false spider mite, is an Australian mite species that feeds on twigs. The stringy growths trailing behind it likely help it ride wind currents, but the purpose of the leaflike protrusions is still unknown. If you thought all mites look alike, you're in for a surprise: At this mite gallery,* you'll find a dazzling array of species—from a giant (7-millimeter-long) red velvet mite to the basket mite, which camouflages itself by toting around soil in an exoskeletal structure on its back.

University of Queensland acarologist, or mite expert, David Walter hopes the site will attract students to his specialty, which is losing practitioners despite its importance in ecology and agriculture. What converted him from beetles to mites, he says, "was realizing that a handful of forest humus could have—literally—100 different species of mites going about their business. I couldn't understand how so many different kinds of animals could co-exist in such a small and seemingly homogeneous area. Once I started paying more attention to these tiny wonders, I was hooked."

* www.uq.edu.au/entomology/mite/mitetxt.html

NET NEWS

Bonanza of Cancer Gene Data

A database of genes that make normal cells go awry and turn cancerous was formally unveiled this week by the National Center for Biotechnology Information (NCBI). SAGEmap, as it's called, is the first of several gene expression databases in the works.

Watching genes blink on and off is a red-hot research area for studying everything from strawberry ripening to how viruses cause disease (*Science*, 15 October, p. 444). But researchers are still sorting out how to share their data. Now one effort, the Cancer Genome Anatomy Project, has launched the "first truly public gene expression database," where researchers can both contribute and download data,* says Duke geneticist Greg Riggins, whose team describes the project in the 1 November issue of *Cancer Research*. Using a cDNA sequencing technology called SAGE, team members have found, for example, 471 genes that are expressed differently in brain tumors and normal brain cells. You can also type in a gene name to get a "digital northern": data for how that gene is expressed in the cells SAGEmap has studied.

Scientists are struggling to assemble gene expression databases for all techniques, particularly DNA chips. One obstacle is that unlike SAGE, these methods tell you how much a gene is expressed relative to other genes, so it will be hard to compare results across experiments. To find out how experts will solve this problem, keep an eye on NCBI's page for its Gene Expression Omnibus,† to open next spring; and on a plan being crafted by the European Bioinformatics Institute.‡

* www.ncbi.nlm.nih.gov/SAGE
† www.ncbi.nlm.nih.gov/geo
‡ www.ebi.ac.uk/arrayexpress

NETWATCH

edited by JOCELYN KAISER

SITE VISITS

Plastic World

From Teflon pans to polypropylene socks, vinyl siding to silicone O-rings, polymers are the stitching that holds together modern life. The Web offers loads of info on these chains of molecules, including two great educational sites.

Macrogalleria, a site for schoolchildren, introduces polymers using 3D pictures of molecules and movies of reactions.* It gives you the lowdown on how to make nylon or polyurethane, or analyze polymers with infrared spectroscopy and chromatography. Also graphics-rich but aimed at freshman chemistry students is Polymers & Liquid Crystals,† a huge virtual textbook that's searchable, which makes it useful as a reference. At the site's virtual lab, interactive applets let you test the viscosity of a polymer solution, or the birefringence (light-bending properties) of a material. You can also learn how the liquid crystal display (LCD) in your wristwatch works: A twisted array of oriented molecules straightens in response to an electric field, which keeps light from bouncing off a mirror and makes the numbers look dark.

These two sites list other good polymer links, ranging from an industry page on plastics recycling to a brief history called People and Polymers. Scientists first suspected these macromolecules existed back in 1861, when they found that dissolved cellulose and starches clogged fine filters.

* www.psrc.usm.edu/macrog/index.htm
† plc.cwru.edu/tutorial/enhanced/main.htm

HOT PICKS

Astrolode. Over 1.5 million astronomy and physics references can be searched at the Astrophysics Data System, a free bibliographic database on the Internet since 1993. Includes links to data and citations, as well as scanned full text of two dozen journals as far back as the 1800s. adswww.harvard.edu

Digital world. *National Geographic* has just unveiled its latest world atlas, souped up with a Web site where you can download free customized maps. Specify details such as geologic fault lines and weather data at www.nationalgeographic.com/mapmachine

Science ONLINE

For researchers with a head for business, *Science*'s Next Wave starting today explores careers in university technology transfer offices. Scientists discuss how they made the transition from the lab to moving university discoveries to the marketplace. www.nextwave.org

Send Internet news and great Web site suggestions to netwatch@aaas.org