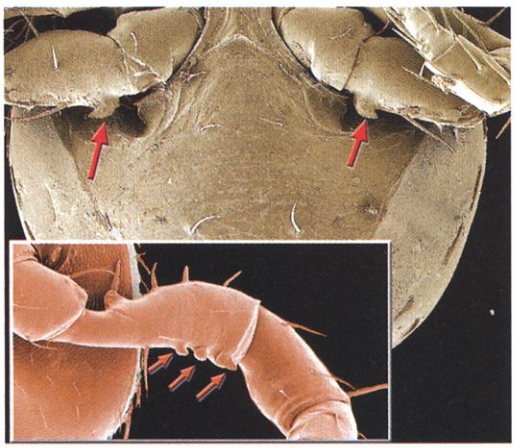
NETWATCH

edited by JOCELYN KAISER



CREDIT: (TOP) D. WALTER/UNIVERSITY OF QUEENSLAND

TOOLS

Name That Bug

To identify an insect, an entomologist will narrow it down by taking close note of the creature's appearance. Two wings means it's some species of fly, for instance; eight legs, an arachnid. A nifty new software plug-in called LucID makes it easy to build taxonomic "keys" on the Web. To see how it works, download a key for parasitiformes mites created by mite expert Dave Walter of the University of Queensland (UQ), Australia. You'll get a list of various body parts—say, sperm organ or stigmata—which lead to pop-up windows showing close-ups of these features.* Choose among images (e.g., barbed legs vs. smooth), and eventually you winnow 46 taxa to just one.

The keys are a big hit among students, Walter says: "The response is fantastic." Indeed, UQ's Centre for Pest Information Technology and Transfer, which is developing LucID, hopes it will prove useful for everyone from biology professors to farmers to doctors identifying tumors. The standard plug-in is free; a builder's version costs US$280.†

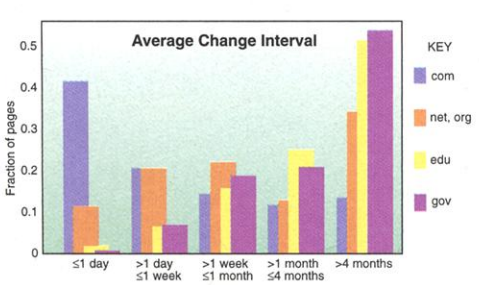
* www.lucidcentral.com/keys/cpitt/public/Mites/Parasitiformes/Default.htm

† www.lucidcentral.com

NET TRENDS

Fresh and Stale on the Web

Frustrated by yet another dusty, neglected Web site with pages "last modified" in 1997? If fresh content is what you're seeking, then forget government and university sites and stick to the dot-coms. That's the upshot of an analysis of 270 popular sites (left). Stanford computer scientists Hector Garcia-Molina and Junghoo Cho checked more than 3000 pages on each site daily for 4 months to gauge how frequently Internet search engines such as AltaVista need to "crawl" the Web to update their databases. Not surprisingly, the dot-com sites were refreshed significantly more often than those run by the nonprofit sector.



www.vldb.org/dblp/db/conf/vldb/ChoG00.html

LINKS

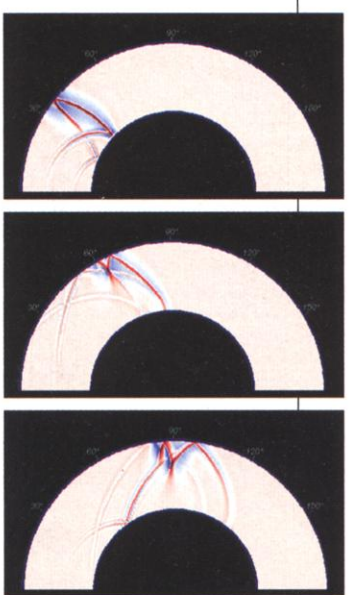
Nuts and Bolts of NMR

Chemists whose trade is the workhorse analytical technique known as nuclear magnetic resonance (NMR) will find a slew of useful info at the NMR Knowledge Base. Run by a German chemistry professor, the site has an up-to-date NMR jobs list, conference links, practical advice (such as tips on filling magnets with nitrogen), online calculators (a spin simulator, for example), and chapters from NMR tutorials. Over 800 links lead to institutes, journals, researchers' home pages, and more.

www.nmr.de

ANIMATIONS

Seismic Film Fest



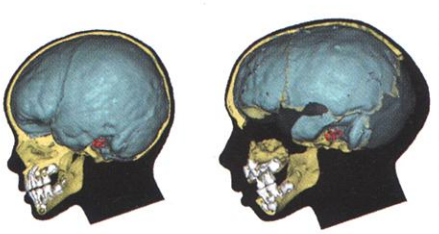
Toppled buildings and fissured roads merely scratch the surface of what happens when tectonic plates slip. Deep underground in Earth's mantle, an earthquake sends out spherical shear waves that break up into many phases after bouncing off the surface, Earth's core, and other interfaces. To help explain this intriguing process to students and the public, seismologists Michael Wysession and Saadia Baqer of Washington University in St. Louis have created a series of animations showing simulated earthquakes moving through a cross section of mantle. The flicks are also available with narration as a VHS video.

epsc.wustl.edu/~saadia/page2.html

EDUCATION

Fleshing Out the Neandertals

Computers have brought new life to fossil studies. Instead of just examining bones, researchers now digitize them, then fill in missing pieces, add flesh, and simulate gait and other features. Neurobiologist Christoph Zollikofer and imaging colleagues at the University of Zürich in Switzerland have created a tutorial describing their ongoing work using computer-assisted paleoanthropology to study Neandertals.



They put fossils through a computed tomography (CT) scan, reconstruct them in 3D, then compare them to modern humans. The site also describes virtual surgery, for example, to help surgeons reconstruct the face of a man mauled by a bear.

www.ifi.unizh.ch/~zolli/Neanderthals.htm

Send great Web site suggestions to netwatch@aaas.org