NETWATCH
edited by JOCELYN KAISER

SITE VISIT

Viral Menagerie

Want to know more about the virus that blighted your tomatoes last summer? Or curious about the bugs that make you sniffle and sneeze—or gravely ill? Try the Universal Virus Database at the Australian National University in Canberra. The official catalogue of the International Committee on Taxonomy of Viruses (ICTV), the site holds info on more than 4500 viruses that haunt all the kingdoms of life.

life.anu.edu.au/viruses/welcome.htm

Web pages for each of about 1500 of the world's tiniest parasites, arranged in a clear tabular format, describe which organism the virus infects, what symptoms it causes, how it is transmitted, and much more. Some entries connect to the virus's genetic sequence in the GenBank genome database; links to SWISS-PROT, the corresponding protein library, are in the works. You'll find electromicrographs or schematic diagrams of some critters. The information is spotty for many viruses, however; plant viruses get the most extensive treatment, including their own database. The site is searchable and points to other viral resources on the Internet. Web master Cornelia Büchen-Osmond, who started the Virus Database in 1991, says it gets about 10,000 hits a day, with visitors ranging from high school students to hard-core virologists. And, hey, if you think you've stumbled across a new viral variety, you'll soon be able to submit it for scrutiny by ICTV experts.

NET NEWS

Villages to Join Internet—Without Wires

Costa Ricans will soon reap the benefits of a research project designed to show that cutting-edge wireless technology can link remote villages to the Internet, at a surprisingly low price. Called Unwiring the World,* the project—sponsored by the Massachusetts Institute of Technology's (MIT's) Media Lab and the Costa Rica Foundation for Sustainable Development—is supplying hardware and satellite linkages that give even mountain dwellers the ability to swap data at 1.5 megabits a second—the equivalent of a T-1 line.

Wireless can bring the Internet to the cyberwilderness, where people have little chance of ever getting a fiber-optic cable line. Academic institutions in Latvia and Mongolia, for example, are trying out wireless Net links. The MIT project, says the Media Lab's Alex Pentland, aims to hook up entire communities by taking advantage of new, cheap technology: Palm Pilot–sized devices that uplink to satellites and cost about $40. The lab, which demonstrated the project with a Costa Rica–Cambridge link last week, plans to equip 25 communities with "digital town centers" consisting of computers and other equipment housed in recycled shipping containers, at a total cost of $50,000. The hope is that communities will use them for everything from checking current crop prices to transmitting a sick patient's vital signs to a distant doctor.

Linking the entire world to the Net—what experts call "100% connectivity"—may be possible using wireless, says David Hughes, who runs a company called Old City Wireless Communications in Colorado Springs. But a key factor, he says, is connection costs. The Costa Rican villages will keep the price to about $3000 per year by buying their own satellite links rather than relying on outside providers who charge by the minute.

* www.media.mit.edu/unwired

HOT PICKS

Course of physics. The American Physical Society is toasting its 100th birthday with a new Web timeline celebrating the past century or so of physics milestones, from the discovery of radioactivity in 1896 through lasers, quarks, and neural networks. Includes multimedia activities for students. timeline.aps.org

Looking for a moon shadow. Europe is gearing up for the 11 August total solar eclipse, which will cruise across the globe in a line from southern England to Bombay, India. This site offers a wealth of info including school projects and links to eclipse sites in many countries, and to a great NASA technical site. www.eso.org/outreach/spec-prog/aol/market/collaboration/eclipse99

Prime prize. Some Netizens donate idle desktop time for projects like finding prime numbers or combing radio data for signals from extraterrestrial life. To encourage even more "cooperative computing," the Electronic Frontier Foundation is offering up to $250,000 to people who find new primes. www.eff.org/coop-awards

COOL IMAGES

Rocks for Microscope Jocks

"Black minerals all look alike," notes University of North Carolina, Chapel Hill, geology professor Allen Glazner. To the naked eye, that is. Pop a thin slice under a microscope bathed in polarized light and you'll see dazzling images like clinopyroxenite (below), formed from igneous minerals called pyroxenes that slowly cooled under pressure and formed coarse crystals. The image comes from an electronic atlas* of igneous and metamorphic rocks (all rocks except sedimentary) created for Glazner's classes by grad student Kent Ratajeski. The 40 or so mineral "microtextures"—from blue threads of muscovite sandwiched between quartz, to red biotite and rainbow-colored talc—show there's much more to rocks than meets the eye.

* www.geolab.unc.edu/Petunia/IgMetAtlas/mainmenu.html

Science ONLINE

How many species can hold out against the relentless peopling of our planet? The Perspective on page 276 examines new findings on the complex relationship between biodiversity and the size of a piece of land. The online article is enhanced with links to a slew of ecology resources on the Web. www.sciencemag.org/cgi/content/full/284/5412/276

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