NETWATCH

edited by MITCH LESLIE

MOVIES

Internet Pandemic

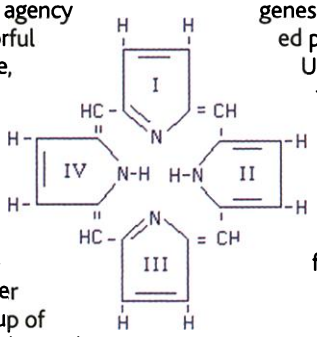
The Code Red computer worm swept across the Internet last month with astonishing speed, disrupting over 359,000 computers within just 14 hours. Researchers at the San Diego Supercomputer Center's CAIDA project, which monitors Internet traffic, have produced an animation showing Code Red's spread from 19 to 20 July. Red circles representing infected computers appear first in the United States, Europe, and East Asia, then mushroom into a mass of red covering much of several continents. The worm's mission was to attack the White House Web site, a plan foiled when the White House changed its server's numeric Internet address. But David Moore of CAIDA calls Code Red "a wake-up call."

www.caida.org/analysis/security/code-red/#animations

RESOURCES

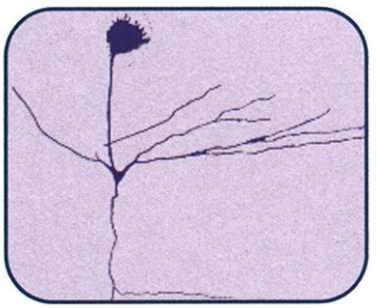
Nature's Palette

Diverse and ubiquitous, the multihued molecules known as porphyrins have been called "the colors of life." They dye your blood crimson, for instance, and make plants green. Porphynet, created by engineer Daniel Dupre of the French science agency CNRS in Paris, introduces this family of colorful molecules that includes chlorophyll and heme, the iron-containing core of hemoglobin.



Offerings include a Web text on iron and heme metabolism, a roundup of porphyrin researchers, and a listing of relevant recent papers. Linked sites investigate possible new applications for porphyrins, such as antirust coatings, components of molecular computers, and light-activated drugs that slay cancer cells. A bevy of links explores porphyrias, a group of diseases marked by faulty porphyrin metabolism. Although rare, porphyrias may have changed history. Some scientists—and the movie *The Madness of King George*—attribute the bizarre behavior of England's King George III to a form of porphyria that can cause disorientation and psychosis.

www.porphyrin.net/Porphynet/_porphyhome.html



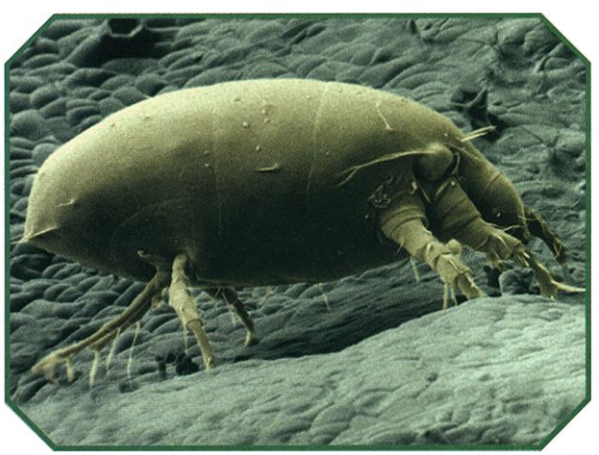
DATABASES

Molecular Biology of Smells

Whether it's the perfume of lilac blossoms or the stench of old gym socks, a smell is a matter of chemistry. Odor molecules wafting through the air dock with olfactory receptors in your nose, triggering nerve impulses that the brain perceives as a smell. SenseLab, a site created by Yale neuroscientists studying the olfactory system and other neural pathways, offers five intertwined Web databases loaded with neural and smell info.

Trawl the olfactory receptors database for gene and amino acid sequences of more than 1600 receptors and related molecules, from species as varied as humans, carp, and koalas. These proteins belong to the G protein–coupled receptors—the largest family of genes in the human genome—and they pop up in some unexpected places, like the skin and the liver, says curator Chiquito Crasto. Users can also search the CellPropDB and NeuroDB databases to uncover the properties of neurons and their parts, such as the threadlike dendrites. Click on Purkinje cell, for example, a kind of neuron found in the cerebellum, and you'll get a list of the receptors studding that cell and the 13 neurotransmitters it emits, such as glycine and dopamine. Another section links to computer models for 11 neurons, and a fifth data bank stores scent molecule structures.

senselab.med.yale.edu/senselab



Mighty Mites

Don't look now, but something is creeping through your eyebrows: tiny mites that even a shower won't dislodge. "There are good mites and there are bad mites," says acarologist Ronald Ochoa of the U.S. Department of Agriculture in Beltsville, Maryland. Although the denizens of your eyebrows are benign, other kinds of mites suck the life out of billions of dollars' worth of crops. And the varroa mite, a recent invader originally from Asia, has devastated beehives across the United States.

Meet some of these destructive arthropods at Ochoa's new Mites and Ticks: A Virtual Introduction. Besides describing agriculturally important groups of mites, the still-growing site showcases images taken with a low-temperature scanning electron microscope, which instantly freezes the mites with liquid nitrogen to capture them in action. This broad mite (above), for instance, was iced just as it was about to tuck into a juicy leaf.

www.sel.barc.usda.gov/acari/index.html

Send great Web site suggestions to netwatch@aaas.org

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