Briefings

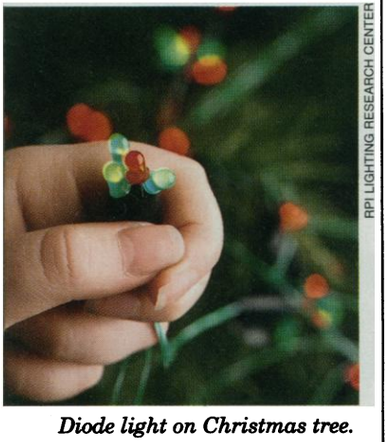
edited by CONSTANCE HOLDEN

Twinkle Twinkle Little LED

A researcher at Rensselaer Polytechnic Institute (RPI) claims that decorating Christmas trees with tiny light-emitting diodes (LEDs) instead of conventional lamps would save a lot of electricity—and they would last much longer, even in harsh outdoor environments.

So far, Carolyn DeCusatis of RPI's Lighting Research Center has tested her idea only on a modest-sized tree at the lab in Troy, New York. But she sees much wider potential. "If the tree at Rockefeller Center were decorated with 20,000 4-bulb clusters of LEDs instead of individual 7-watt bulbs, the tree's hourly electric bill would drop from about $14 to less than 90 cents," says DeCusatis.

The light from LEDs comes



RPI LIGHTING RESEARCH CENTER

Diode light on Christmas tree.

from the exchange of electrons between layers of electron-rich and electron-poor semiconductors. LEDs are already ubiquitous on car dashboards and the panels of VCRs, computers, telephones, and other appliances. But now, with advances in technology enabling big ones to be manufactured inexpensively, DeCusatis says their advantages over incandescent bulbs—they last 50,000 hours, consume about a tenth the energy, come on almost instantly, and are not bothered by vibration—mean they will appear in more and more visible locations. Rear-window brake lights and WALK-WAIT signs are an important LED market, not only because the lights are so efficient but also because their light is directional: It beams straight out toward its target. Of course, that may not be quite what you want on a Christmas tree. Their directional quality, along with the fact that they produce much less light, means that although LEDs may twinkle, they don't light up the branches, much less a living room.

Where HUGOing?

For months it has been an open secret that microbiologist Norton Zinder of Rockefeller University would be the next executive director (chief operating officer) of the international Human Genome Organization (HUGO). Zinder was to replace former National Institutes of Health director James Wyngaarden, who resigned after less than a year. But now HUGO has decided not to hire Zinder—or anyone else. Instead, the position will be done away with.

The post was created about a year ago as a part-time slot so there would be someone with time to do fund raising and help figure out HUGO's mission in life. All HUGO's officials, like president Walter Bodmer of the Imperial Cancer Research Fund in England, have other, full-time jobs. When Wyngaarden left, HUGO was still floundering and strapped for cash, so the officers decided to up the position to full time. They entered into serious and lengthy negotiations with Zinder, who until recently chaired the committee that advises the NIH genome project.

Now, Bodmer explains in a statement released last month, despite Zinder's manifest qualifications, HUGO simply can't afford to hire anyone. The about-face can't help but add to the impression that HUGO is still an organization in disarray.

Invertebrates Need Love Too

THOMAS C. EMMEL

Endangered swallowtail

Pandas and whales are all very fine as emblems for conservation efforts. But the big organisms at the top of the pyramid of life would be nowhere without the teeming multitudes of simpler, often nameless, creatures that constitute the base.

So say the members of XERCES, the society devoted solely to the protection of invertebrates— "the little things that run the world." Peopled by some of the biggest names in biology—including G. Evelyn Hutchinson of Yale and E.O. Wilson of Harvard—the society, founded in 1971, has suddenly mushroomed from a few hundred members in 1986 to, at last count, 3264. XERCES is heavy on butterflies—its mascot and namesake is the Xerces Blue butterfly, said to be the first North American butterfly to be forced into extinction—but its conservation and education projects also extend to less glamorous bugs and grubs. Recently, for example, it bought a small preserve in Costa Rica for ground-nesting bees, according to population biologist Tom Emmel of the University of Florida. It has also launched a project to examine ecosystem requirements for the spectacular and endangered swallowtail butterfly (*Papilio homerus*) in Jamaica.

XERCES owes its new vigor in large part to public dismay with the lack of environmental concern demonstrated by the Reagan and Bush Administrations, says Emmel. The Portland, Oregon-based society is now getting more than $100,000 a year in corporate and foundation donations. Even the big fish, it seems, are starting to realize that little things count.

Open Freezer at NCI

In 14 double-storey walk-in freezers, the National Cancer Institute (NCI) has been storing about 40,000 extracts of plants, fungi, marine protozoa, and other microorganisms in the hope that some of them will eventually prove effective against cancer or AIDS. And now this biological archive is being turned into a lending library.

The Natural Products Repository—the largest of its kind—was started in 1986, when the NCI realized that the natural extracts it was screening for anti-tumor and anti-HIV activity were a valuable resource. Until then, says Gordon M. Cragg, chief of NCI's natural products branch, NCI had thrown out its extracts after screening them, but researchers realized that as new screening techniques are developed, some of the extracts might be worth a second look.

Now, in response to requests by pharmaceutical companies and other research organizations, the institute is inviting scientists to have a go at its samples. Research proposals are required—projects have to be relevant to cancer or AIDS—and will be reviewed by a committee of NCI's division of cancer treatment. The deadline for the first round is 1 March.