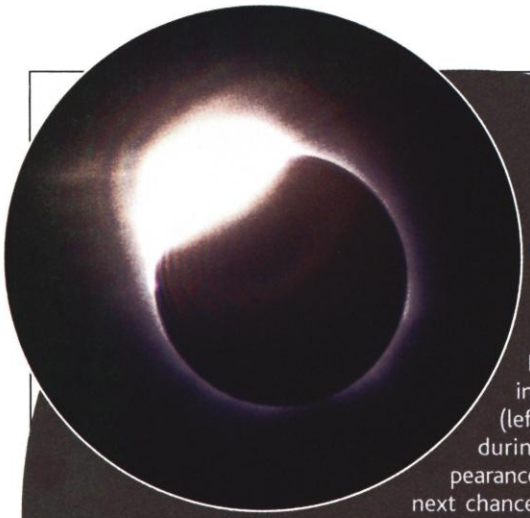
NETWATCH

edited by MITCH LESLIE

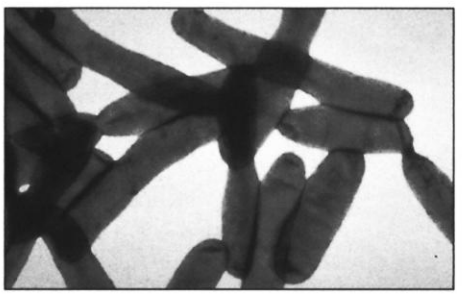


EDUCATION

Chasing Shadows

Known as the diamond ring, this incandescent bulge and faint halo (left) signal the approach of totality during a solar eclipse and the disappearance of the sun behind the moon. The next chance to see a diamond ring in person comes this December, when the moon's shadow will sweep across southern Africa and Australia. To learn more about past or future eclipses, drop by this NASA site created by Fred Espenak, an aficionado who photographed his first eclipse 32 years ago in North Carolina. Maps chart the trajectory of every solar and lunar eclipse since 1951 and provide projected paths for future events through 2050. Other tidbits include a list of historical blackouts, such as the total eclipse in the 12th century B.C.E. that figures in Homer's *Odyssey*. For background on orbital choreography, the site links to a primer that explains the difference between lunar (Earth's shadow obscures the moon) and solar (the moon blocks the sun) eclipses and showcases more than 30 years' worth of Espenak's striking photos.

sunearth.gsfc.nasa.gov/eclipse/eclipse.html



RESOURCES

Aerial Attack

Disease-causing viruses, bacteria, and fungi fly through the air with the greatest of ease, especially inside the closed buildings in which most of us work and live. Aerobiological engineering, the subject of this Web site from Pennsylvania State University, seeks to design buildings and ventilation systems that thwart airborne pathogens. The problem is severe: Studies show that only 1% of your colds come from that miserable guy snuffling and sneezing next to you on the subway, as opposed to nearly half that come from your family and co-workers.

The Web site discusses a dozen topics in aerobiological engineering, such as the spread of fine particles, epidemiology, sampling and identifying microbes, and sick building syndrome. Another section investigates the spread and control of Legionnaire's disease, a form of pneumonia caused by the *Legionella* bacterium (above) that sickened some 200 people at the 1976 American Legion convention in Philadelphia. The bacteria, which adore the warm, wet conditions in spas, showers, and cooling towers, kill more than 1000 people each year. You can also peruse a rogue's gallery of the most common airborne bugs or bone up on antipathogen technologies such as ultraviolet irradiation, filtration, and even indoor plants that may reduce the numbers of nasties in the air.

www.engr.psu.edu/www/dept/arc/server/wjkaerob.html

RESOURCES

The Business of Conservation

This online library from the World Conservation Union (IUCN) is stuffed with papers, case studies, reports, abstracts, and other sources of information on the economics of preserving biodiversity. Organized into six categories—including valuation, incentives, and assessment—the offerings come from the IUCN itself and a range of outside experts and organizations, from the Inter-American Development Bank to the Nature Conservancy. Under the topic of biodiversity valuation, for example, there's an assessment of the costs and benefits of reintroducing lions into Pilanesberg National Park in southern Africa as well as a study of whether ecotourism could promote panda conservation in China. Along with a listing of noteworthy topics, each category also includes a calendar of upcoming events and a collection of useful links.

biodiversityeconomics.org

IMAGES

Fly by Night

Visitors to the Guadalupe Mountains of west Texas might glimpse a handsome zephyr-eyed silk moth (right) hunting for a willow on which to lay her eggs. Moths of North America holds a rich vein of information on the distinguishing marks, life history, and conservation status of these nocturnal insects. Entomologist Paul Opler of the U.S. Geological Survey curates the still-growing guide and helps run a parallel site on butterflies (*Science*, 16 March 2001, p. 2053). Among the handy moth resources are county-by-county range maps, species checklists for the lower 48 states of the United States, and distribution data for northern Mexico. Having trouble identifying a specimen? Illustrated accounts profile more than 100 common species and can help you pin down the name of your catch.

www.npwrc.usgs.gov/resource/distr/lepid/moths/mothsusa.htm

Send great Web site suggestions to netwatch@aaas.org

CREDITS: (TOP LEFT) FRED ESPENAK/NASA; (TOP RIGHT) CDC; (BOTTOM) P. OPLER/U.S. GEOLOGICAL SURVEY