NETWATCH

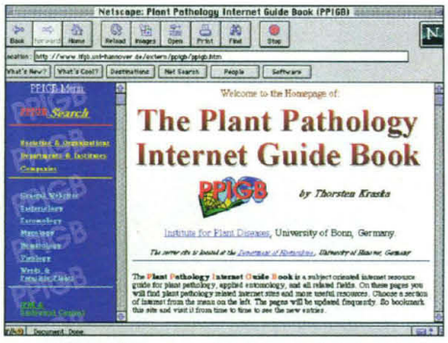
edited by JOCELYN KAISER

The Science of Sick Plants

SITE VISIT

Like medical doctors, plant pathologists need to keep a wide range of sciences in their little black bags—everything from molecular biology to entomology. A good way to keep track of all this expertise is to consult The Plant Pathology Internet Guide Book (PPIGB), a directory that describes and rates thousands of sites related to plant diseases and their treatments.

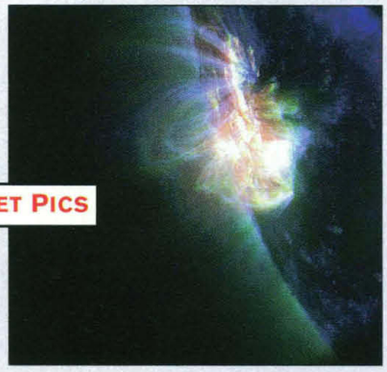
The 3000 links range from home pages on gypsy moths to primers on Karnal bunt fungus and databases of herbicide-resistant weeds. Thorsten Kraska of the University of Bonn in Germany, who created PPIGB (hosted at the University of Hannover), annotates each site and marks the best with a special symbol. They're sorted into 25 sections, including disciplines (such as bacteriology, nematology, and mycology), topics (integrated pest management, for example), and resources (meetings, jobs, journals, and education). There's a page where new entries are noted, a search function, and even a "lost NOT found" that notes broken links.



www.ifgb.uni-hannover.de/extern/ppigb/ppigb.htm

Attesting to its popularity, PPIGB has mirrors sponsored by phytopathology societies in Australia, the United Kingdom, and the United States. A search engine could find many of the listed sites, of course. But as plant pathologist James MacDonald of the University of California, Davis, says, "It's nice to go to a place where there's been a presorting."

NET PICS



Sundance. Loops of million-degree plasma tethered by magnetic fields leap from the sun's surface in this false-color image taken in late April by NASA's Transition Region and Coronal Explorer (TRACE) spacecraft, launched on 1 April. Posted on Lockheed Martin's TRACE Web site,* the image was made in ultraviolet light and shows unprecedented detail in the loops (red marks the hottest ones, about 1.8 million °C). On a fast computer, one can also watch black-and-white movies of a small "magnetic reconnection" on 8 May, an event in which tightly wound fields snap and link up with neighboring fields. Magnetic reconnection releases energy that can trigger a solar flare and, ultimately, disrupt power systems on Earth. The site also has links to TRACE data centers. In a new development for NASA, the project is releasing data hours after it's taken instead of waiting a year so that investigators can publish.

*** vestige.lmsal.com/TRACE/**

HOT PICKS

Geekspeak glossary. Ever heard of an extranet? If not, never fear: You'll find definitions for this and other Internet-related terms—from proxy server to TCP/IP to cyberpunk—at this site, as well as a guide to how the Internet works. **whatis.com**

Neutrino hunt. Hundreds of physicists around the world are trying to catch and weigh neutrinos, the mysterious subatomic particles that may help account for the universe's missing mass (see p. 1689). For links to all these neutrino experiments as well as historical background, go to **www.hep.anl.gov/ndk/hypertext/nu_industry.html**

Far West rattlings. Click on earthquakes displayed on a map of California and Nevada and get up-to-the-minute positions, magnitudes, and other numbers. The site includes links to other quake info. **quake.wr.usgs.gov/recenteqs/**

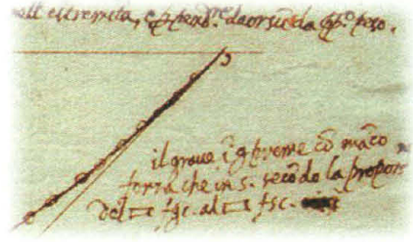
Galileo's Notes See Light of Cyberspace

NEWS

Very few historians of science have ever had the opportunity to study Galileo Galilei's "Notes on Motion." Despite its historical significance, the material, which is kept safe at the National Library in Florence, Italy, has never been published—until now. Last month, in a joint project by the library, the Institute and Museum for the History of Science in Florence, and the Max Planck Institute for the History of Science in Berlin, some 270 pages were posted on the Web for perusal by anyone interested in the history of physics (**www.mpiwg-berlin.mpg.de/Galileo_Prototype/**).

The manuscript, a chaotic collection of Latin and Italian texts, tables, calculations, proofs, and drawings, served as the raw material for Galileo's monumental *Discorsi* (1638), which laid the foundation for classical mechanics. Max Planck science historian Jürgen Renn first proposed publishing the Notes in print a decade ago. But the Internet proved a much better medium, Renn says, both because dissemination is easy and because of how complex material could be organized: Hyperlinks guide visitors from images of the yellowed pages of the manuscript to the transcribed and translated text, or to the corresponding proof in the *Discorsi*.

"It really opens up new possibilities for presenting the results of our scholarly work," says Renn. His institute and collaborators at Tufts University near Boston plan to put more mechanics manuscripts on the Net.



NATIONAL LIBRARY, FLORENCE

Galileo goes digital. Detail from folio 43r of "Notes on Motion."

"Basically, we want to do the same with every source from antiquity to the early modern period," says Renn.

SCIENCE ONLINE

We all know that our brains don't work normally when we're under pressure. The Enhanced Research Commentary (p. 1711) by Arnsten explains how stress causes dysfunction of the prefrontal lobe, which controls our ability to plan and screen out distractions—while enhancing memory of emotional events. Go online for links to a reconstruction of the brain, background on posttraumatic stress and attention deficit disorders, and more. **www.sciencemag.org/cgi/content/full/280/5370/1711**

Send Internet news and great Web site suggestions to netwatch@aaas.org