RANDOM SAMPLES

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Physics Journals Cost Study Ruled Fair

Two U.S. physics societies are celebrating victory in a long-running court battle over whether their journals are a better bargain than a competitor's. A federal judge in Manhattan ruled last month that the American Physical Society (APS) and the American Institute of Physics (AIP) did not advertise falsely when they planned to send a study to librarians lauding the relative value of their journals. The analysis, the court held, was fair.

The study in question was published in 1988 by physicist Henry Barschall in AIP's *Physics Today* and the APS's *Bulletin*. Barschall, who died early this year, ranked the "cost-effectiveness" of some 200 physics journals by comparing the number of characters per issue and how often they were cited. AIP and APS journals ranked among the best buys, while several journals published by the Swiss-based Gordon & Breach (G&B) Publishing Group fell near the bottom. G&B then sued. In 1994, U.S. District Judge Leonard Sand found that First Amendment protections allowed the societies to publish the articles (*Science*, 2 September 1994, p. 1358).

In the latest decision, issued on 26 August, Sand threw out claims that APS and AIP were guilty of false advertising when they planned to promote the articles in mailings to librarians. After a 7-day trial in June, Sand concluded the study showed "reliably" that by the standards Barschall used, the APS and AIP journals "are substantially more cost-effective than those published by plaintiffs."

G&B plans to appeal; CEO Marvin Gordon maintains the analysis was flawed, partly because it compared "niche" journals with those for a broader audience. Related lawsuits are pending in France and Switzerland.

Home for Scientific Whistleblowers

Whistleblowers who accuse their peers of scientific misconduct may soon get some full-time support—from a Michigan-based group calling itself Whistleblowers for Integrity in Science and Education (WISE). The outfit, an informal concept until now, may get a regular office and staff this year, thanks to funds promised by Carolyn Phinney, a psychologist formerly at the University of Michigan (UM), Ann Arbor.

This summer Phinney won $1.67 million in a Michigan state court judgment against UM and two senior researchers in gerontology whom Phinney had accused of using her data without authorization. Phinney asked the university to intervene in 1988. Dissatisfied with the school's response, Phinney filed suit, deliberately avoiding the cumbersome federal system for punishing misconduct, she says. She won a jury trial in 1993 and was upheld when UM appealed to a higher state court. In July, UM decided not to pursue the case further and wrote a check to Phinney.

Phinney says she and psychologist Robert Sprague of the University of Illinois, Urbana, conceived of WISE several years ago. Sprague was also involved in a long-running battle after accusing a colleague of scientific misconduct; both would like to help others avoid the experience. So Phinney plans to use some of her settlement money on WISE to offer counseling, form a network of informed lawyers, and provide access to a database on misconduct cases maintained by Sprague.

Why Mendel's Peas Came Up Short

More than a century after a monk named Gregor Mendel laid the foundation for genetics with experiments on pea plants, two research teams have cloned one of Mendel's genes—for tall and dwarf plants—and unraveled how this gene works.

Mendel studied seven traits, from flower color to seed shape, and showed that the contributions from each parent shape the appearance of their progeny. One famous gene, *Le*, was for stem length, which determines plant height. Molecular biologist Diane Lester and colleagues at Australia's University of Tasmania, Hobart, report in the 26 August *The Plant Cell* that *Le* codes for an enzyme that attaches a hydroxyl group to a precursor of a plant hormone called GA1. GA1, one of a class of hormones called gibberellins, stimulates plant stem cells to grow.

In dwarf plants, the scientists found, the enzyme differs at one amino acid and, as a result, produces GA1 at 1/20 the rate in tall plants. To verify they had *Le*, they fingerprinted the DNA of crossbred tall and short pea plants and showed their *Le* alleles occur, as Mendel found, in a 1:2:1 ratio. "Mendel didn't leave a little packet that said, 'This is my seed,' " says Peter Davies of Cornell, who worked with the Tasmanians. "But we're pretty sure this was the gene Mendel was working on."

Mendel

JANE BURRELL

Another group, led by David Martin at Oregon State University in Corvallis, has also just sequenced *Le*'s product, according to a report in the 5 August *Proceedings of the National Academy of Sciences*. "If you take these papers together, there's no doubt about the relationship between the structural gene and the [dwarf] phenotype," says pea geneticist Noel Ellis of the John Innes Center in Norwich, England.

TOM EISNER

Femme fatale. Female firefly wolfs down male of another species for his predator-repelling compounds.

Firefly Seductresses Steal Chemical Defense

For some female insects, males make a tasty treat after mating. Now, scientists have found that in one species of firefly, females seduce males of closely related species for another reason: to steal predator-repelling toxins.

When fireflies court, males and females exchange flashes in patterns unique to their species. Years ago, researchers noticed that females of the genus *Photuris* could lure a meal of males of another genus, *Photinus*, by faking their females' blinking patterns. The blood of *Photuris* fireflies contains only about one-third as much of predator-repelling chemicals, called lucibufagens, as *Photinus*. That imbalance led Tom Eisner, an ecologist at Cornell University, to suspect that *Photuris* was stealing its protection from the gullible *Photinus* males.

To test the idea, Eisner's team raised larvae of the species *Photuris versicolor* in petri dishes. Without any other fireflies to devour, the female *Photuris* larvae grew into adults that contained no lucibufagens and were promptly eaten when fed to hungry jumping spiders, Eisner reports in the 2 September *Proceedings of the National Academy of Sciences*. But after a meal of *Photinus* males, other captive females had high levels of lucibufagens and were rejected by the spiders.

This self-defense ruse might be quite widespread, as there are species of *Photuris* across the Americas in which females lure and eat males of other firefly species. "Now we'll have to go back and look at our records" to find out if devoured males contained lucibufagens, says Jim Lloyd, an entomologist at the University of Florida, Gainesville.