

breeding facility at the University of California at Riverside. Puzzled over the costly losses (the roaches had been valued at about \$75,000), entomologists Michael Rust and Edwin Archbold turned some dying roaches over to microbiologist Kathy Atkinson. Her investigations revealed a yeast in the blood of sick roaches that appears somewhat similar to the soil fungus *Metarhizium*.

This yeast does not appear to produce a killing toxin. Instead, it proliferates in a cockroach's blood over a period of weeks. Apparently, Rust says, "the yeast just saps off all of the nutrition and the cockroach starves." As with hydramethylnon, its long latency may prove a benefit. It may provide infected bugs time to go home and share the plague. And infected roaches don't reproduce well, Rust notes. Before long, unable to replace its losses, an infected colony dies off. Rust and Archbold, who hope to harness this yeasty blight, believe it may be most effective as a complement to other controls, weakening the bug so that it succumbs more readily to other chemicals or stresses.



Archbold/JUC-Riverside

Blood from dying cockroach harbors 8-micron-long parasitic yeast cells.

Despite the inroads humans have made in controlling roaches, Koehler warns against complacency: "It's my experience that for every technological advance we make, cockroaches come up with some way to overcome it."

Which helps explain "superroach." The ARS/University of Florida researchers brought back roaches from Washington, D.C., when congressmen complained about sharing their cramped quarters with the pests. The insects had evolved a resistance to so many pesticides that they defied control. "When we found they lacked carbamate resistance, we crossed them with a Florida strain that is highly resistant to carbamate [pesticides]," Koehler says. The result, he says, is "a cockroach that is virtually impossible to kill."

At a minimum, the superroach makes a great research tool, since any pesticide that kills it is unlikely to fail—at least initially—in the field. But it may also serve a more important purpose, Koehler jokes: With the Gramm-Rudman-Hollings deficit-reduction bill making federal research money tight, "we figured we could threaten to turn them loose if we didn't get funded. We have a quarter million of them." □

Books

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Biophilia — Edward O. Wilson. Biophilia is here defined as the innate tendency to focus on life and lifelike processes. Wilson makes the case that to explore and affiliate with life is a deep and complicated process in mental development. The descriptions of nature he includes are vivid and fascinating. Wilson concludes that "to the degree that we come to understand other organisms, we will place a greater value on them, and on ourselves." Originally published in hardback in 1984. Harvard U Pr, 1986, 157 p., paper, \$6.95.

Multimind — Robert Ornstein. This psychologist here presents his view of the mind and its relationship to behavior. "Instead of a single, intellectual entity that can judge many different kinds of events equally, the mind," says the author, "is diverse and complex. It contains a changeable conglomeration of different kinds of 'small minds' — fixed reactions, talents, flexible thinking — and these different entities are temporarily employed . . . and then usually discarded, returned to their place, after use." HM, 1986, 206 p., illus., \$16.95.

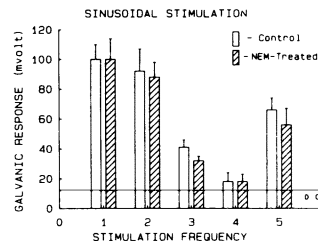
Pioneering the Space Frontier: The Report of the National Commission on Space — U.S. National Commission on Space. Proposes a civilian space agenda projected through the next 50 years with three major thrusts: advancing our understanding of our planet, our solar system and the universe; exploring, prospecting and settling the solar system; and stimulating space enterprises for the direct benefit of the people on earth. To accomplish these goals economically, the commission asserts that the nation must make a long-range commitment to advancing technology across a broad spectrum to assure timely availability of critical capabilities, as well as a commitment to creating and operating systems and institutions to provide low-cost access to the space frontier. This volume contains the text of the report with sidebars that explain the scientific terms used. Beautifully illustrated. (See SN: 5/31/86, p.342.) Bantam, 1986, 211 p., color illus., paper, \$14.95.

The Star Guide: A Unique System for Identifying the Brightest Stars in the Night Sky — Steven L. Beyer. A fascinating approach for beginning and amateur astronomers, this book introduces over 100 of the brightest stars, each star to be viewed on a specific night during the year when it is visible in the eastern sky during the evening. The stars' characteristics are described, as are nearby astronomical features. After a few weeks of observations, the bright stars will serve as reference points to guide the reader in aligning the book's constellation maps. Well illustrated. Little, 1986, 404 p., illus., \$22.95. paper, \$11.95.

Your Healthy Heart: The Family Guide to Staying Healthy & Living Longer — Christiaan Barnard and Peter Evans. Tells how the heart works, what can go wrong with it and how heart disease and defects are treated. Coping with stress, care over diet and weight, regular exercise, abstinence from smoking and caution with alcohol are the ways, the authors feel, to keep your heart healthy. Practical suggestions are given in all these areas, including actual exercises and a plan to stop smoking. McGraw, 1985, 224 p., color/b&w illus., \$18.95.

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