

USDA

Operating on a female cockroach to stop production of sex attractant.

ENTOMOLOGY

A Durable Hazard

The cockroach, a health hazard as well as a nuisance, continues to outwit nature and man after at least 280 million years.

by Faye Marley

Cockroaches, so far, seem to hold the world's record for durability. They may, according to some scientists, be among the few survivors of a world wiped out by thermonuclear holocaust.

Since cockroach fossils have been discovered in ancient rocks dating back to the Carboniferous period—about 280 million years ago—and the bugs have begun to resist present-day pesticides that are lethal to other insects, it is difficult to imagine any brave new world of the future without the pests.

In spite of hormone research, delicate surgery to remove endocrine glands and other efforts to find ways to prevent mating and proliferation of the ubiquitous roach, the overpopulated world of the 2000s will probably still have a large quota of today's 3,500 cockroach species.

The cockroach's psychology may be a factor; he would rather mate than eat.

Scientists have found that rats prefer water, food and sex in that order, and if they are without water, especially, they have no sex drive. The cockroach, on the other hand, is apparently a more racially persistent species than

the rat. If he were following an individualistic drive he would place food first, but following a species drive he places sex first and that is probably the psychology behind the insect's long persistence, Dr. Robert T. Yamamoto says.

Dr. Yamamoto (now at the N.C. State University, Raleigh) while he was at the Insect Physiology Laboratory, Beltsville, Md., tried surgical removal of the female roach's endocrine glands to stop the production of sex attractant. But neither he nor other researchers who have tried have yet come up with a biological answer to the roach of the kind that has worked on some other insects.

Some progress, however, has been achieved experimentally with use of de-attractants on males, to counteract females' lures.

Dr. Yamamoto says that although he is now working on the behavior of the tobacco moth (*manduca*), he hasn't forgotten the cockroach; he is persuading a graduate student in psychology to write a thesis on the subject, "Is Sex or Food the Primary Drive in a Cockroach?"

Once thought to be a harmless pest, roaches, creeping into night-dark kitchens and flour bins, hospitals and industries, contaminating foods and crawling on human faces, are now known to be causing allergies including asthma and skin eruptions.

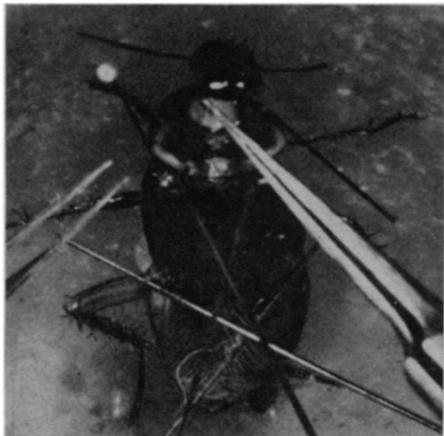
Two Washington, D.C., allergists, Drs. Halla Brown and Harry S. Bernston, who have studied the American cockroach *Periplanta americana* and the oriental species, *Blatta orientalis*, as well as the German cockroach, *Blattella germanica*, say that 7.5 percent of a group of normal persons tested showed positive skin tests with a specially prepared extract of cockroaches, as compared with 28 percent of a group of allergic patients.

And tests by the allergist, Dr. E. Hellreich, reported in a recent British study, have shown that in testing 60 allergic patients with 10 insect extracts including that of a cockroach, 10 patients gave a moderate to marked reaction and four patients an even stronger reaction with the cockroach allergen.

So important is the study of cock-

roaches and other allergy-causing insects becoming that the John A. Hartford Foundation of New York has given a grant of nearly a quarter of a million dollars to George Washington University in Washington, D.C., to be spent in insect allergy studies headed by Dr. Brown, with Dr. Bernton as consultant. Dr. Brown has become famous for her work on the bee, wasp and other Hymenoptera, but Dr. Bernton has pioneered in the early research on suspected cockroach allergy.

These two allergists have been encouraged in their approach to desensitization by research recently reported in Puerto Rico. They gave Dr. A. M. Marchand a sample of their German



USDA

Examining a cockroach's brain.

cockroach extract, and for the first time in that country, he used it to desensitize 125 patients, with dramatic results in some cases.

The Washington allergists also are using cockroach desensitization in their clinics when they discover that patients have allergy to this insect. Sometimes it is combined with other materials for asthmatics.

"Cockroaches are omniverous," the Washington researchers point out. "They feed on many materials which man eats, wears, or otherwise uses and discards. To allergists the most significant phase of their activity is the contamination of food not adequately protected. This contamination, consisting of feces, vomitus, and dead insects, involves dishes and surfaces used in the preparation of food.

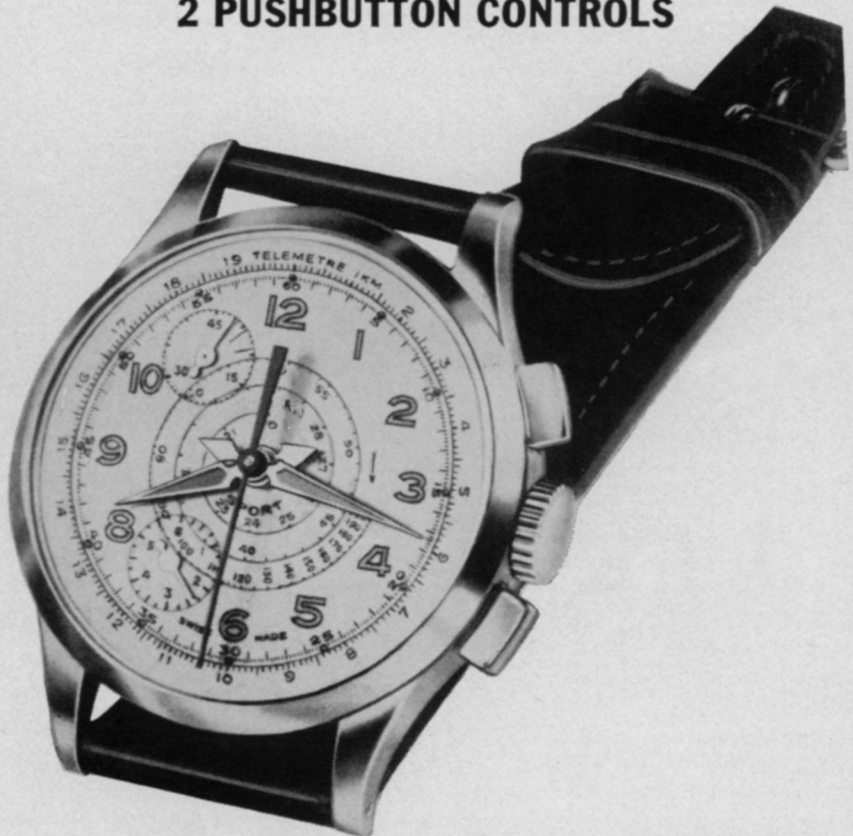
"In a previous investigation we have shown that cockroach allergen is present in food partially consumed by the insects, and that it is not affected by a temperature of 100 degrees C. for one hour." This means its allergy-causing properties will survive normal cooking or sterilization processes.

A Real Jewel Among Swiss-made Watches

WORLD FAMOUS

Pilot's Chronograph - \$12⁹⁵

COMPLETE WITH 6 DIALS, 5 HANDS AND
2 PUSHBUTTON CONTROLS



- Measure Distance ● Use As Regular Stop Watch
- Check Production Figures ● Register Speed
- Time Athletic Contests ● Check Parking Meters

This is a gem, first made famous by World War II pilots who found it not only an absolutely accurate timepiece, but a piece of equipment more valuable than a boxful of instruments — and it still is. Whether you like to fly, or drive sports cars, record your average speed per mile, or time the number of beers consumed in an hour, this will do the job. All 5 hands are machine-calibrated in Switzerland where the complete works are neatly turned out in two different factories, then assembled in a third. It is shock-resistant, antimagnetic, has an unbreakable mainspring, big sweep second hand, luminous dial and hands, golden-finished die-cast case, and a leather strap. No matter how you look at it, that's a big hunk of watch for only \$12.95 plus 65¢ postage and handling. And it's fully guaranteed for 1 year! In every way, a solid buy!

Madison House, Dept. SN 9-23, 488 Madison Ave., New York, N.Y. 10022

© C.D., 1967

USE MONEY-BACK COUPON TODAY!

MADISON HOUSE, Dept. S 9-23, 488 Madison Avenue, New York 10022

Rush me _____ Pilot's Chronograph Watches @ \$12.95 plus 65¢ postage and handling.

I understand that if I am not completely satisfied, I can return it for a full refund.

Enclosed is check or m.o. for \$ _____

NAME _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____