

BIOLOGY

Extract for the Allergic

Shots of whole insect extract give more protection to those allergic to insect bites than extracts from venom sacs alone, some doctors claim—By Faye Marley

► WITH THE SEASON of stinging insects upon the land, shots to prevent sometimes fatal reactions are advised for the allergic. But extracts from venom sacs alone may not protect some of those who are stung by bees, wasps and yellow jackets.

Dr. Claude Langlois of the State University of New York at Buffalo told SCIENCE SERVICE at Atlantic City, N. J., that until more studies are done he favors use of the commercial "whole insect" extract instead of that produced and advised by Dr. Mary H. Loveless of Cornell University School of Medicine, New York.

Dr. Loveless and Dr. Halla Brown, a former co-worker now at George Washington University, Washington, D.C., believe that the whole body extract contains proteins, or antigens, not necessary for the allergic patient. In fact, they see actual harm in grinding up whole bodies to immunize such persons.

But Dr. Langlois told the Federation of American Societies for Experimental Biology meeting that he and co-workers had found three to four different types of antigens in the venom of insects and two or three of the same antigens in the bodies of these insects. This means, he said, that some patients would not be protected by venom sacs alone.

The argument over what causes reactions to insect stings is long-standing. Previously, researchers believed that possibly pollen carried by the insects did the harm, or that protein found in the venom only was the culprit.

A few years ago the pollen theory was discarded, leaving the question of whether it was the specific protein, or antigen, in the venom or in the body, or different proteins.

Dr. Langlois and his collaborators, who plan further research, extracted venom sacs under microscopes, and prepared extracts of venom sacs and of insect bodies that were without venom sacs, which had been removed. They also ground up whole insects with venom sacs intact.

They then immunized rabbits with all three types of extract. They found specific antigens localized in the venom that could not be found in the body. But also antigens similar to those in venom were found in the body.

Studies with blood serum from patients allergic to insect stings indicated the presence of antibodies against these insects, and the wasp and yellow jacket particularly showed that they contained common offenders.

Dr. Langlois told this reporter that he hopes eventually to identify chemically and physiologically the fraction or fractions responsible for allergic reaction so that one

specific treatment to prevent these reactions can be produced.

At present, allergic persons need year-round treatment and a variety of treatments in the spring, Dr. Langlois said, referring to the separate compounds produced commercially for each of the various insect stings.

In wasps, he explained, there are 10 to 13 different antigens, and the Buffalo group is trying to find a purified fraction for all of them.

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Breast Cancer Control

► CONTROL of breast cancer could result from discovery of chemicals in the brain that control prolactin, the hormone that stimulates breast growth and milk production.

The chemicals also control growth hormone, which in excessive amounts makes growing youth abnormally tall, or if deficient can cause dwarfism.

Dr. Joseph Meites of Michigan State University, East Lansing, described experiments in which he and graduate students, Roger R. Deuben and Dr. P. K. Talwalker, kept animal pituitary glands alive in the laboratory in dishes containing blood plasma and other nutrients at the Federation of

American Societies for Experimental Biology meeting at Atlantic City, N. J.

It is the pituitary, at the base of the brain, which makes both hormones. The controlling chemicals were extracted from the hypothalamus, just above the pituitary, and related both to the nervous system and to the endocrine, or hormone-producing system. When the investigators "fed" the substance to pituitary glands, they slowed down their production of prolactin and increased their production of growth hormones.

In addition to helping to explain how the brain controls various body functions, the research has direct medical significance, Dr. Meites said.

The chemical that inhibits prolactin, he speculated, might someday be used to decrease prolactin production in women who have or are particularly susceptible to breast cancer.

"While prolactin does not cause cancer, it appears to be involved," he pointed out.

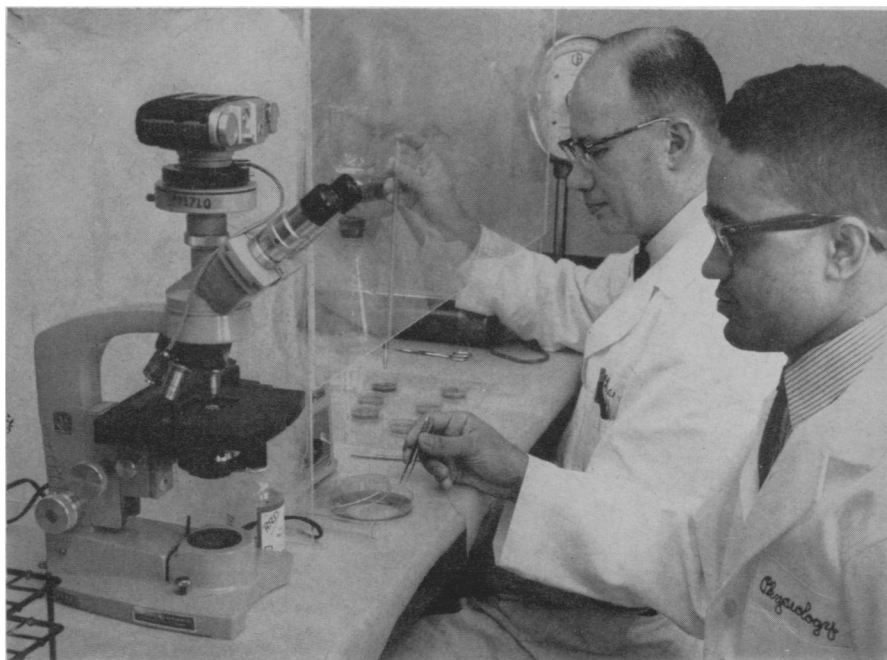
"We have good evidence from experiments with laboratory animals that prolactin production increases in females when they become old and that this increase is associated with breast cancer."

If growth hormone were available, Dr. Meites continued, it could be used by physicians to enable postoperative and other debilitated patients to retain and renew depleted supplies of body protein.

Unlike many other hormones, he noted, the growth hormone of humans is different from that of animals, except monkeys, and thereby difficult to obtain in quantity.

It might be possible to overcome this supply problem, Dr. Meites believes, by stimulating the patient's pituitary gland to produce growth hormone.

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Michigan State University

HORMONE STUDIES—Dr. Joseph Meites of Michigan State University, left, places fluid, used to keep the pituitary glands alive, in a laboratory dish with a pipette. He is aided by graduate assistant, Dr. P. K. Talwalker.