

ENTOMOLOGY  
**NATURE RAMBLINGS**



**The Bumblebee's Sleep**

➤ A LITTLE later in emerging from winter quarters than their smaller kindred, the bumblebees should be in evidence by now.

Why bumblebees fare forth later than their semi-domestic cousins, the honey-bees, cannot be stated definitely. It may be because the bumblebee's best food plants have not yet developed their flowers, or it may be simply because the big insect, being a ground-dweller, is not warmed up as early as the hive-inhabiting honey-bees.

The bumblebee is a semi-solitary insect to begin with. New colonies are founded by solitary females that fly away from the parent hive in autumn. The female bees then proceed to dig themselves in, though winter is still remote. They sleep in their little burrows more than half-way round the calendar. While the weather is still warm, they do not sink into the deep and death-like slumber of true hibernation from which they are now emerging. After the

first frost, however, the female bumblebees remain profoundly unconscious until spring warmth arouses them.

This deep sleep of hibernation is quite probably a matter of physical economy, for the bee must depend on the food stored in her own body tissues, plus a gorged crop from a last drink at the honey pots of the home nest.

About now, the bee fares forth to find some nectar on which to feed, then proceeds to hunt a new homesite—frequently in an abandoned burrow of some other animal or a natural crack. There she digs out a chamber more commodious than her winter bedroom, and on the floor of this sets up waxen household pots, which she stocks with food.

Unlike the honey-bee queen, she is, at this stage of her existence, very much a worker; the honey-bee queen is simply a maternal mechanism, and cannot work at all—can scarcely even feed herself.

Having got the nucleus of a home started, the bumblebee queen lays her first few eggs, and when the hungry little grubs hatch from them, she becomes an even more zealous worker than before. Only when she has this first small squad of workers brought up and ready to go forth and seek the community bread and honey does she retire like a lady, and thenceforth devote herself strictly to the business of being an ancestor.

At one time it was thought that only bumblebees could pollinate red clover. Scientists have now found, however, that this is not the case. Although the honey-bee does not have the equipment to get at red clover's nectar, when gathering pollen it serves as an effective means of pollinating this crop. And a good thing, too, for the giant bumblebee grows more scarce each year.

Science News Letter, April 16, 1955

MEDICINE

**Seek Cancer Blood Test**

➤ DISCOVERY OF a potential basis for developing a blood test to detect early cancer was announced by Dr. Jack G. Makari of Texas Medical Center, Houston, at the meeting of the American Association of Pathologists and Bacteriologists in Houston, Tex.

Dr. Makari cautioned that the method he used is not yet a diagnostic test for cancer.

The test reaction is based on the body's ability to react to and destroy bacteria and foreign protein invaders. These foreign agents are called antigens, while the body's own destructive agents are referred to as antibodies.

Cancers produce these antigens, which provoke a reaction in the body in the form of specific reacting antibodies. A major problem in devising a suitable diagnostic test has been to separate cancer antigens from other type antigens in the body.

Dr. Makari sensitized virgin female guinea pig tissues to cancer antigens. By a

special method he then desensitized the same tissues to similar but non-cancer types of antigens so that the response was only to the cancer type. Testing the sensitized tissues on human blood plasma, he found that the plasma of cancer patients produced a positive reaction.

Like many biological tests, Dr. Makari pointed out, this has a number of pitfalls which should be carefully avoided to obtain the best results. Under the best conditions yet found, where the serum or plasma is used fresh or platelet free and where the sensitizing antigen is of small particle size, this test has given a high degree of specificity and sensitivity. It is positive in 96.8% of proven, untreated carcinoma cases and 4.8% of patients with other diseases, and in 5% of presumed normals.

Science News Letter, April 16, 1955

Deer *antlers* are made of solid bone and are shed annually.

PSYCHOLOGY

**Children, Like Papa, Want Their Dividends**

➤ CHILDREN, LIKE their elders, want dividends. And while Papa may watch the stock market to see where his are coming from, the children will watch his moods to see how to get theirs.

Failure to understand that children work on a dividend basis, though with less plan and finesse than grown-ups, may cause a lot of emotional turmoil in the home and lead to maladjustment in a child, Dr. John G. Young, pediatrician of Dallas, Tex., told members of the American Academy of General Practice in Los Angeles.

The day wears on mother and children and by 5 p.m. the "American home goes to pot," Dr. Young also said.

Temper tantrums, he said, are "dividend getters." The dividend is attention from mother, nurse or father or all three. Recognizing this and failing to give the dividend usually stops the tantrum.

Healthy babies, even as young as four weeks, may cry for the dividend. If they get it repeatedly, they may go on crying. The child is then called "spoiled." But, said Dr. Young, he is "a well educated individual using the means at his command to get his dividend."

Science News Letter, April 16, 1955

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