Mosquitoes' Tastes For Food Learned

Entomology

They Like Sweetened Water Better Than Blood

MOST suffering humans have the very natural opinion that mosquitoes do not need any coaxing or compulsion when it comes to eating, but medical entomologists who want to study the ways of the pestiferous insect that carries malaria germs know otherwise.

Anopheles, the malaria mosquito, seems to be quite willing to take an uninvited meal at all sorts of inconvenient times, but turns coy in the laboratory, so that sometimes the malaria patients and uninfected volunteers have to wait for hours before the insect makes up her mind to sink in her bill.

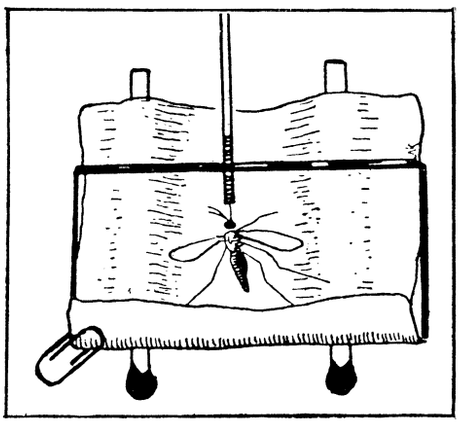
Now, however, two Russian scientists, Drs. N. Kadletz and L. Kusmina, have devised a method for forcibly feeding malaria mosquitoes, so that henceforth much time and many itches may be saved. They report their experiments in the German scientific journal, *Die Umschau.* They imprison a captured mosquito between a slip of thin glass or cellophane and a fold of soft paper, tightly enough to hold her but not so tightly as to break any legs or wings. Then they slip an exceedingly fine glass tube over her proboscis, and by this means feed her on any liquid they wish to try out. In a large percentage of cases the captive mosquito will begin pumping as soon as the liquid comes into contact with her mouthparts.

Can Be Fooled

This forcible feeding method makes it possible to try out many other things besides blood, and thus to study the mosquito's food preferences, her digestive reactions and her susceptibility to various poisons.

One of the first results of the experiments was the interesting discovery that mosquitoes like syrups better than they do blood. In one "run," the insects consented to drink in 90 per cent. of all tries with sweetened water, but took blood in only 48 per cent. This indicates, in the opinion of Drs. Kadletz and Kusmina, that the preferred diet of even female mosquitoes may after all be plant nectars and saps, and that they develop ogreish appetites only on occasion.

Mosquitoes can be fooled, too. Glycerin, which has no food value, apparently tastes sweet to them just as it does to us, for they drink it as though it were a syrup. But when they do, it does not seem to have the same reaction in the digestive tract, for only the crop, or front part of the tube, becomes filled, whereas when blood or a salty bouillon is fed the whole abdomen swells.



How a mosquito is held while being forcibly fed through a capillary tube.

Hibernating Mosquitoes

Tests were made with hibernating mosquitoes. Some of the insects store up fat like bears in summer, and like bears they live on their fat while they doze the winter through. If such hibernating mosquitoes are roused by warming, most of them will refuse to feed, even if their beaks are left in the feeding tube for a long time. But some of them will accept syrup or blood; and this willingness of a few of the hibernators to take a meal may explain the occasional mysterious attacks of malaria that occur in winter when there are supposedly no mosquitoes around.

When offered unknown fluids, mosquitoes react differently, according to the nature of the stuff in the tube. They can be tricked into drinking poisons, such as formalin, quinine and corrosive alkalies, as if they were ordinary water. But they will not take any kind of ethereal oil, even in the smallest quantity. Syrups which the insects had previously drunk with eagerness were flatly refused when a trace of clove oil was added.

Science News-Letter, July 26, 1930

Esperanto Congress

SCIENTISTS and others interested in the development and use of a universal auxiliary language for international correspondence and meetings will soon gather here for the 22nd Universal Congress of Esperanto to be held in connection with an Esperanto Summer University from August 2 to 9.

Language experts from Paris, Liverpool, Rome, and Budapest will lecture at the summer university on evolution of languages, music, European vocabularies, and special attractions at the congress will be a display of national dances and special theatrical performances.

Language

Science News-Letter, July 26, 1930

No Better Milk From Sun-Bathed Cows

Physiology

SUN-BATHS for cows may have advertising value, but experimental evidence shows that milk from sun-bathed cows does not have the power to prevent rickets, which our enthusiastic belief in sunshine might suggest. A group of scientists at the University of Wisconsin report in a recent journal the findings of a series of experiments which show rather conclusively that "daily exposure of cows to sunlight has little if any effect upon the antirachitic potency of milk."

The flavor and general quality of summer-produced butter has suggested to scientists as well as to laymen that there may also be a difference in the vitamin value of milk from cows which have been in sunlight and those which have been kept in a barn all the time.

Vitamin D prevents rickets by promoting the formation of calcium phosphate in bones. Animals, both human and otherwise, obtain vitamin D either from food or from the action of sunlight upon their bodies. The source of the vitamin D which the cow puts into her milk is of greatest importance. It is especially necessary that cows get this particular vitamin, since babies are (*Turn to next page*)