

crash boats with television eyes were designated as "Campbells," while the television system for guided bombs was "Roc."

Important future military uses of the new equipment include a combined photo-television communication system. Transmitting 100 words in less than one second, this communication operation would give almost instantaneous copies of television messages by automatic photographing. Photographs or charts could be sent in the same way. This system

could be used up to 20 miles, the Navy said.

In naval operations, pilots on several aircraft carriers could be briefed for missions from one control room, while oral instructions and orders that might be confused in noisy locations can be clearly understood using a television screen.

Future marine surveys, observations of fish life and salvage operations will probably use television equipment, the Navy revealed.

Science News Letter, March 30, 1946

sizes and shapes of their molecules can be determined, and plans can be made for the construction of even longer, curlier and better synthetic molecules.

Science News Letter, March 30, 1946

Crisp light-brown *salted wafers* with a slight cheese and toasted potato flavor may be made from potatoes and skim milk, following a simple method developed by government dairy experts.

"Ladybug prospectors" hunt hidden hordes of hibernating ladybugs for shipment to orchard and garden regions where they are released to feed on such agricultural pests as aphids, red spiders and potato beetle eggs.

ENTOMOLOGY

Insect Fifth Columnists

The female ichneumon fly lays her eggs in the larvae of other insects, and the grubs devour the vitals of their living prey.

► FIFTH columnists of the insect world, that attack other insects by very literal boring-from-within tactics, were described before a special meeting of the Washington Academy of Sciences by Dr. Henry K. Townes of the U. S. Department of Agriculture. At the meeting, the Academy's Awards for Scientific Achievement were presented to Dr. Townes, Dr. Robert Simha of the National Bureau of Standards and Kenneth L. Sherman of the Carnegie Institution of Washington.

The insect allies of the human race studied by Dr. Townes are known as ichneumon flies, though they are more nearly related to wasps than to flies. They are rather small, few of them being more than half an inch long, but their attack on other insects is deadly. The female lays her eggs in the eggs or larvae of other insects, and when the grubs hatch out they devour the vitals of their living prey. A few species prey on spiders—a case of man-bites-dog in the insect world.

Dr. Townes made a new classification of all forms of ichneumon flies known in the United States and Canada. He estimates that in this area there are some 8,000 or 10,000 species in the group, of which only about 2,500 have thus far been named.

Air Electricity

► THERE'S electricity in the air, even when lightning is not flashing, Mr. Sherman told his listeners. A current of something like 2,000 amperes is continuously flowing into the earth, and nobody has yet found an explanation for it.

At the Carnegie Institution's Terrestrial Magnetism Laboratory, Mr. Sherman and his colleagues work constantly at measuring this fair-weather atmospheric electricity, and at developing better methods and improved apparatus for the work. Some of the instruments are of almost incredible delicacy: a vital part may consist of a fiber of spun fused quartz, finer than a cobweb thread yet thinly coated with metal. They are of corresponding sensitiveness; the speaker stated that "as many unit charges flow through an ordinary light bulb in one second as we would accumulate in our conductivity apparatus in 100,000 years."

Molecules in Plastics

► THE STRENGTH and elasticity of synthetic plastics like GR-S rubber and nylon depend on the size and shape of the molecules, Dr. Simha stated. Molecules of these substances are huge, with molecular weights in the tens or hundreds of thousands, as compared with molecular weights in mere tens or hundreds for such simple substances as water and alcohol. These molecules are long and narrow, and normally coil like snakes, which is what gives them their high degree of "stretch and spring."

Since even these big molecules cannot be observed directly, their properties have to be determined by what they do. They are permitted to diffuse through and settle down in liquid media, and the rates measured. They are stirred with instruments that measure their resistance to stirring. In these and other ways the

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