BIOLOGY

NATURE RAMBLINGS

by Frank Thone

Winter Patrol

WE ARE accustomed to thinking of winter as a time of terrible hardship for all kinds of animal life. The poor creatures of the outdoor world must die, or hibernate, or flee to warmer climates.

But there are compensations, at least for the insects and spiders that hibernate, lurking through the long cold in crevices, or under dead leaves, or beneath logs and stones. If they are chilled into seeming dead dormancy, so also are most of their enemies.

For the most murderous enemies of the lesser world that creeps are to be found in their own ranks. Almost all insects have reason to dread spiders, that spread their nets to snare them as they fly, or stalk them like leopards as they crawl.

Spiders in their turn have cause to fear those sleek hawks of the insect world, the wasps, that take them as well as caterpillars and many adult forms. And if mosquitoes and like-sized insects could tell you what dragonflies mean to them, they might well suggest that the name ought to be inverted to flying dragons.

Deadly, too, are those lesser wasps that manage to lay their eggs in or on caterpillars and other insect larvae, later to hatch and eat their unhappy hosts hollow from within. No less fatal are the plagues of fungi and bacteria that beset many species with sweeping epidemics.

All these harvesters of death work unceasingly as long as the weather is warm. But with the coming of the first frost these predators and parasites, being cold-blooded themselves, must die or go into winter quarters. Through the long cold a white truce stills the otherwise unending civil war in the entomological world.

One group alone that preys on insects needs have no heed for the truce of the frost. Birds, like mammals, are warm-blooded. They remain active throughout the winter, and with food always scarce the feathered species that eat insects redouble the closeness of their search.

Little detectives of the tree-trunks, like chickadees and brown creepers, go over unmeasured yards—perhaps miles—of bark fissures day after day. Their slender sharp beaks reach in like forceps to drag out and devour any lurking spider, any torpid insect, any pupating caterpillar, even any egg mass that they can find. These small feathered Davids slay their tens of thousands, mostly unheralded and unpraised, but greatly to the benefit of orchards and forests.

Science News Letter, November 30, 1940

MEDICINE

Radioactive Phosphorus Is Aid Against Chronic Lukemia

"QUITE encouraging" results in treating 16 patients suffering from chronic leukemia, malignant and fatal blood disease, with "cocktails" of radioactive phosphorus were announced by Dr. J. H. Laurence, Dr. L. A. Erf and Dr. L. W. Tuttle, of the University of California, at the Conference on Applied Nuclear Physics sponsored by the American Institute of Physics and the Massachusetts Institute of Technology.

Eleven of the 16 patients are still living. Of the five who died, three were dying at the beginning of the treatment. None of the 16 had previously had any other form of treatment and they were given the radio-phosphorus only during the past two years.

Advantages of the treatment are: 1. It is a simple method of giving irradiation treatment to certain structures—bone, blood and bone marrow—all over the body with a single cocktail or injection into the veins; 2. There are no reactions to the irradiation, such as sometimes follow X-ray treatments.

Altogether about 200 patients have been given this treatment. Some were suffering from leukemia and others had Hodgkins' disease, various forms of cancer, and a blood disease characterized by too many red blood cells.

Science News Letter, November 30, 1940

Neutron Ray for Cancer

HEALING of cancers by treatment with fast neutron rays from the cyclotron given to 47 cancer patients who were too far advanced to be helped by X-rays, radium or surgery was reported by Dr. Robert S. Stone and Dr. John C. Larkin, of the University of California.

The cancers themselves, both primary and those that had spread from the original one to other parts of the body, regressed. The primary cancers that ulcerated under the treatment "healed remarkably well," the California doctors reported. Whether or not the patients can be considered cured or whether the cancer will come back cannot be told yet, as it is only two years since the first patients in the group began treatment.

Better results are predicted when the method of giving the treatment can be improved.

Normal tissues are apparently not damaged irreparably by the doses of fast neutron rays necessary to produce regression of the tumors.

Science News Letter, November 30, 1940