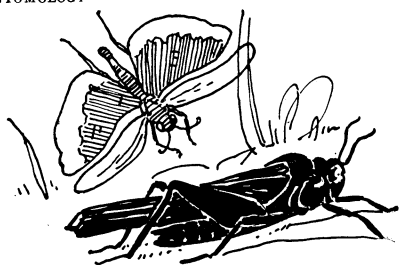


NATURE RAMBLINGS

by Frank Thone

ENTOMOLOGY



Hospitality to 'Hoppers

THAT man's house-pests, like rats and mice, cockroaches and other insect vermin, thrive best where man provides shelter and an abundance of food, is a truism of long standing. None the less striking is the perverseness with which man often provides the most favorable conditions for the enemies of his crops, orchards and forests.

Take grasshoppers, for instance, which this summer have done millions of dollars worth of mischief in the western wheat areas. Unlike many of our crop pests, grasshoppers are natives. They were on the prairies and plains before agriculture came, feeding on the native grasses and other plants.

Then came the white man and his plow, rooting up the hitherto unbroken sod and replacing the native vegetation with new plants that were immigrants like himself; plants which the grasshoppers usually found more toothsome and nourishing than the provender they had been used to. Naturally they fed better, and more of them grew to adult hopperhood, ready to lay their eggs and provide for the next generation.

They found favorable soil for the laying of those abundant crops of eggs in the unplowed strips of land along the roadsides and fences. So long as the eggs got the shelter of a thin layer of soil, preventing their drying out during the winter, they had no need to fear the cold. The only real enemy of grasshopper eggs is through cultivation, which turns them out to the harsh, droughty winter winds.

This combination of a full dinner table and a secure winter nursery, set up by the grasshoppers' own victims, is the picture presented by Dr. J. R. Parker of the U. S. Department of Agricul-

ture. Dr. Parker recognizes the difficulty of getting rid of the grasshopper eggs by plowing them out of their winter quarters. More effective is the standard practice of spreading poisoned baits of sweetened bran mash in the feeding areas of the insects while they are still young. The only drawback to this method, according to Dr. Parker, is the relatively short effective life of the bait, due to its drying out. If this could be overcome, making it good for several days instead of for only a few hours, the control of grasshoppers would be made much easier and cheaper.

Science News Letter, August 26, 1933

MEDICINE

Sleeping Sickness Outbreak Greatest in History

THE PRESENT epidemic of sleeping sickness, *encephalitis lethargica*, raging in and around St. Louis is the worst in the history of the disease, authorities of the U. S. Public Health Service informed Science Service. On August 21 the record showed 129 cases and 12 deaths; and in previous outbreaks elsewhere not more than twenty or thirty cases have been reported in one place. The spread of the malady has been rapid, too: all the cases have been reported since the last day of July.

One thing which is puzzling public health officers is the curious distribution of cases in the present epidemic. Most of the cases and all but one of the deaths so far reported have been in the suburbs, with a total of some 200,000 population, while the city proper, with

METEOROLOGY

Famine Stalks After Floods On Tragic Plains of China

FLOOD, then famine, seems to be the tragic sequence when heavier rains than usual fall on the steep hills of northern China. Especially is this so in the case of the Yellow River, "China's Sorrow" since time immemorial, now reported by the International Famine Relief Commission to be inundating an area of 900 square miles, and to be threatening a sudden return to its ancient channel to the south of the peninsula of Shantung, instead of its present course to the north.

a population of about 800,000, has been much more lightly visited by the scourge.

The U. S. Public Health Service is cooperating actively with local health authorities. Dr. James P. Leake has been on the ground since the earlier stages of the epidemic, and Dr. Charles Armstrong is now on his way to join him. The Public Health Service has authorized the purchase of a supply of monkeys, which will be inoculated with virus obtained from the bodies of persons who have died of the disease, in an endeavor to obtain better scientific knowledge of its nature and with the hope of eventually working out a method of prevention or cure.

As yet, the germ of sleeping sickness has not been found. It seems to be one of the filterable viruses—something apparently alive but too small to be seen with even the most powerful microscopes and able to pass through the pores of a fine porcelain filter which is able to stop all ordinary germs.

It appears to invade the human system through the nose, passing along the path of the olfactory nerves to the brain and thence down the spinal cord. If the resulting illness does not end in death it often leaves the victim mentally deranged.

The sleeping sickness of the temperate zone, *encephalitis lethargica*, is not to be confused with African sleeping sickness. The latter disease is caused by an animal germ that is quite visible under the microscope—a relatively large organism, in fact—and is transmitted from person to person by the bite of the tsetse fly.

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What such a flood can mean in China can be realized by reference to the records of one or two past rampages of the Yellow River. In 1925 a smaller flood, covering only 800 square miles, caused a crop loss estimated at \$20,000,000. The great flood of 1887-1889, which breached an important dike in Honan Province, resulted in the loss of more than 2,000,000 lives from drowning and in the subsequent famine. These figures were gathered by Walter H. Mallory, who at the time he wrote (*Turn Page*)