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KNOWING RODENTS, BIOLOGIST HELPS FIGHT SPOTTED FEVER

How to catch mice, squirrels, and other rodents and how to prevent spotted fever may seem remote problems, but scientists of the United States Department of Agriculture have found them so closely related that they emphasize anew the importance of wild-life research.

Spotted fever, a dangerous disease of humans, though carried by a tick, would never reach man or domestic animals if it were not for wild mammals, say specialists of the Department. In the brief life history of the wood tick, they explain, there are four distinct stages—egg, larva, nymph, and adult. The female lays her eggs on the ground, sometimes as many as 4,000. After several weeks the eggs hatch and the larval ticks crawl up blades of grass or other low vegetation.

At this point in the tick's life cycle the mammals become an essential source of food. The larvae attach themselves to some passing animal, usually a rodent, feed on it for 3 to 8 days, drop off, and seek shelter. After remaining inactive for several days, they molt and emerge as nymphs. These too attach themselves to rodents or other small mammals, feed for a few days, drop off, molt, and after about two weeks emerge as adults, the familiar wood tick or dog tick. The next season these adults attack larger animals, native and domestic, and man, and if infected they convey spotted fever. [illegible] host. The life cycle is completed in one to three years. Only the adult tick is known to bite man.

Department of Agriculture entomologists studying the wood tick's relation to spotted fever, prevalent for many years in the Rocky Mountain region, and recently occurring in the vicinity of Washington, D.C., thus found it desirable to capture rodents in order to learn what local species are hosts to the larvae or nymphs and also to trace the source of the disease. So far no one knows how many kinds of rodents may carry this dangerous disease--possibly all of them, and perhaps only certain ones. Exact knowledge on this point would give better direction to control work. This called for a special knowledge of wild animals, and in response to a request of the Bureau of Entomology, Vernon Bailey, a veteran naturalist of the Bureau of Biological Survey, demonstrated methods of capturing alive the various species of small rodents that brush the grass and other low vegetation carrying wood-tick larvae and nymphs.

Though simple, the methods used by Mr. Bailey are founded on an intimate knowledge of the rodents' habits. Glass jars buried with the open top level with the surface so that the smaller animals fall into them, inverted glass bowls that drop over the rodents, tin cans with easily made trap doors--these are examples of the many traps Mr. Bailey has devised. Through more than 40 years of specimen collecting he has found it necessary to scheme many ways of capturing animals alive and unhurt. Knowing the animals, he knows what kind of traps to use and, equally important, where and how to set them.

The possibility of using this knowledge in helping prevent spotted fever among human beings, says Paul G. Redington, Chief of the Biological Survey, is a good example of the importance of wild-life research.

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