



Kangaroo Rat

➤ THE NORWAY rat has done a disservice to the rodents of the world by making himself an impudent nuisance and even sometimes a menace to health and human life. For he has brought into disrepute a host of respectable and even attractive rodents who share the name "rat."

There are, for example, the kangaroo rats. The method of locomotion distinguished by leaping great distances on the hind feet is ordinarily thought to be the province of frogs, grasshoppers and certain Australian marsupials, who carry sidecars in front for their young. But as a matter of fact, there are many animals of other families elsewhere in the world who have discovered for themselves that jumping is the best defense.

When danger threatens, the one good way to escape is simply to leave—preferably by air, as far and as fast as muscles will allow.

That is what the kangaroo rat does. Unlike his larger namesake, who goes leaping across the countryside as an everyday sport, this little animal normally sticks close to terra firma and does not jump about in hops many times his own body length. But when he doesn't like the sound or smell of his environs, he can take off like a startled grasshopper, and no dog or snake can predict where or how far he will jump.

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The kangaroo rat is like the larger kangaroo in that he uses his tail as a support, the third member of a three cornered tripod on which he sits and surveys the world. His muscular tail has a bit of window dressing, in addition. It ends in a bushy tuft of hair which flies out behind its owner whenever he jumps, like a fox-tail on a hopped-up hot rod.

There are several species of kangaroo rats in America, all of them outdoor dwellers. You have no need to fear that some day a household mouse will begin leaping about your furniture. Although there are a number of smaller jumping rodents as well as the rats, these too stick to wide-open fields and woodland. Their common name is "kangaroo mice," obviously.

To balance this borrowing of another animal's title, there are in Australia certain kangaroo-like creatures which are so small that they are usually called "mouse-kangaroos."

Where one family stops and the others start is a nice question. It can best be left to the jumping frog of Calaveras County to decide.

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AGRICULTURE

Worm Threatens Citrus

➤ A MICROSCOPIC worm that moves slowly underground is threatening the heart of the world's richest citrus producing area in central Florida.

The disease, tabbed spreading decline, is caused by a burrowing nematode, a round worm that sucks the juices of plant cells. It is already responsible for attacking an estimated 195,000 trees and the quarantining of 29 citrus tree nurseries.

Dr. H. W. Ford, assistant horticulturist at the University of Florida's Lake Alfred Citrus Station, described the spreading decline as "potentially the most serious disease problem in Florida."

The worm, which attacks trees of any age, burrows into the rootlets. At present, there are no known rootstocks which are naturally resistant to its attack.

Because the worm moves underground, and is not visible to the naked eye, the detection can only be made scientifically.

A healthy tree one day can easily show signs of infection the next. When a tree has been attacked, production begins to fall, the leaves lighten in color, the fruit becomes smaller, and the foliage becomes thinner. This does not happen overnight. It may take some time before a grower realizes that his grove has been infested.

Once a grove is infested with burrowing nematodes, it can depreciate in value from as much as \$1,500 an acre to \$350 an acre.

There is no known insecticide that will cope with the nematodes in the rootlets.

As a stop-gap control to gain additional time for research, the citrus tree experts are recommending two costly methods of combating the disease.

Questions

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One method is to build fumigant barriers, eight feet wide, around an infected tree to stop the nematode from moving on to healthier trees in the grove. It is estimated that the nematode is capable of moving 50 feet a year in any direction.

These barriers must be continually fumigated and deepened. The worm has been found as far down as 14 feet below the surface of the ground.

The second method of control means that a grower must pull and burn approximately 64 trees surrounding the infested tree, whether the other trees are healthy or not. Then the land must be fumigated and new trees planted.

Science News Letter, October 2, 1954

GENERAL SCIENCE

Nation's Research And Development

➤ THE NATION'S military research and development program, together with the portions of the atomic energy program related to military use, now constitutes about half the research and development effort of the country.

Donald A. Quarles, assistant secretary of defense for research and development, in making this estimate explained that the support provided by Congress for new weapons development and other investigations for military purposes is about \$1,200,000,000. This continues the peak Korean war level for this purpose.

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