

ENTOMOLOGY

Weird Life Discovered

Strange creatures brought back from Pacific island of Kusaie include spiders that walk on water, crickets that can swim under water and fungi that glow blue-white.

► GIANT SPIDERS that walk on water, glowing fungi that grow on river banks and serve as guides to those who travel the jungle at night, and tiny crickets that live underwater are among the unusual things found on Kusaie, an island south of the atomic atolls, Eniwetok and Bikini.

These weird things were reported by J. F. Gates Clarke, U. S. Department of Agriculture entomologist now working at the Smithsonian Institution. He collected between 50,000 and 60,000 specimens on a recent visit there.

Between 800 and 900 distinct insect species have already been found by scientists studying Clarke's collection.

One of the strange creatures Mr. Clarke picked up is a giant spider, grayish-brown and four inches long, which wears "rubbers." These are bristle groupings on his feet that let him run swiftly over the surface of the jungle streams, probably without even getting his feet wet.

A ghostly blue-white light marks the banks of the rivers of Kusaie. The faint light is caused by an unidentified fungus. Mr. Clarke reports wading with his native guide through neck-deep streams in the jungle at night. Always on both sides of the stream was the glow of the fungi to guide them.

Living on rocks in, and along side of, the streams were black crickets about an inch

long. The insects, almost invisible in the dim jungle light, chirp continuously. When frightened, the crickets dove into the streams and swam underwater where they cannot be seen.

Walking sticks, seven to nine inches long with two-inch legs, were found in the trees. These blue-green insects walk in a hand-over-hand fashion.

Only one type of tick and three varieties of butterfly were discovered on the island. The majority of insects were found to be harmless to man or animals because they feed on dead or decaying vegetable matter.

In fact, none of the animals inhabiting Kusaie caused Mr. Clarke much trouble. The great danger came in climbing over the slippery, steep terrain of the volcanic isle.

The entomologist's exploration of the 43 square miles of Kusaie, which took three and a half months, was one part of a survey of Micronesia, a large area of islands in the South Pacific.

Papers reporting the surveys of Kusaie and other islands will be published in Honolulu under the auspices of the Bishop Museum. The surveys were under the sponsorship of the Office of Naval Research and the Pacific Science Board of the National Academy of Sciences-National Research Council.

Science News Letter, August 21, 1954

METEOROLOGY

Drought Relief in 1955

► THE PRESENT severe drought, which really started in 1951 and 1952, may last another year, but the chances are that there will be more rain over the middle part of the country in 1955 than there was in 1954.

I. R. Tannehill of the U. S. Weather Bureau bases this hopeful outlook on the fact that, over the last 60 or 70 years, most droughts have not lasted much longer than the present one.

The driest year ever experienced for the United States as a whole, he said, was 1910, and 1917 was the second driest. Even two such dry years, however, did not make for as serious a drought situation as this country now faces, since plenty of rain fell in some of the in-between years.

From 1893 to 1895, Mr. Tannehill said, there was a drought period of about the same intensity as the present one. There was not as much land under cultivation at that time nor was water usage anything like it is now, so the effects were not as

severely felt by as many people as at the present time.

Probably the worst long drought in Weather Bureau records is that of the 30's over the middle section of the country. From 1930 to 1934, adequate rain fell in only one year: 1932. Speaking relatively, Mr. Tannehill said, 1935 was wet, 1936 dry, 1937 dry, 1938 rather dry, and 1939 dry.

Even though abnormally wet and abnormally dry years seem to run about two or three years at a time, meteorologists have not yet reached the point where they can accurately predict whether the coming year will be wet or dry. All they can do is look at past records and foresee, as Mr. Tannehill did, that the chances are better than even that the next year or two will be wetter than this one.

Science News Letter, August 21, 1954

Picking dead *flowers* from plants prevents seed production which exhausts plants.

• RADIO

Saturday, August 28, 1954, 3:15-3:30 p.m. EDT
"Adventures in Science" with Watson Davis, director of Science Service, over the CBS Radio Network. Check your local CBS station.

Dr. Frank Lorimer, professor of sociology, American University, Washington, D. C., and administrative director of the International Union for the Scientific Study of Population, will discuss "World Population Problems."

TECHNOLOGY

Hay Pellets Reduce Storage Space 80%

► LONG AND chopped hay compressed into pellets can be stored in one-fifth the space needed for present hay storage.

Smaller storage barns will result if the hay pellets go into wide use, H. D. Bruhn, University of Wisconsin farm engineer has predicted. The University is conducting feeding tests to discover the cow's reaction to the pellets. Several farm machine companies are interested in the results.

The machine press and the pellet's size are the researchers' greatest problems, Mr. Bruhn believes. The press he uses to make experimental pellets is slow and stationary. A commercial farm machine would have to be a fast machine designed for field use.

The pellets must be a size the cows like and can easily chew. Small pellets, Mr. Bruhn reported, will be swallowed whole by the cow and poorly digested.

Science News Letter, August 21, 1954

ENTOMOLOGY

Alien Khapra Beetles Invade United States

► THE KHAPRA beetle, a stored-grain destroyer native to India, Ceylon and Malaya, has invaded the United States. Entomologists at the U. S. Department of Agriculture have reported infestations in grain warehouses in 11 counties in California, Arizona and New Mexico.

The beetles were first discovered in southern California in November, 1953. Since then, entomologist sleuths have conducted a hunt that has already covered 11 western states.

There is danger the invader may spread throughout the states on railway box cars that carry or have carried infested seed, feed or grain. Re-using grain and feed sacks may further distribute the insect.

Research work has been started at the U.S.D.A. to find ways of killing Khapra beetles in grain or empty storage areas. Grain damage is done by yellowish-brown larvae. The diet of the larvae includes bread, crackers, noodles, soybeans, peanuts and castor beans, as well as grains and seeds.

The larvae can live for three years without food. However, with ample food and favorable temperatures, the pests can produce 12 generations in a single year.

Science News Letter, August 21, 1954