

BOTANY

# Trees Grow on Stilts In Great Smoky Mountains

VISITORS to Great Smoky Mountains National Park are often puzzled by finding, along moist slopes bathed in almost perennial mist, birch trees that seem to stand on stilts. Instead of having their roots embedded in the earth in orthodox tree fashion, these birches are apt to be standing up, as though on tip-toe, on anywhere from three to half-a-dozen roots that lift the base of the trunk a foot or more clear of the earth. Some of the trees look almost like gigantic insects, spraddling along over fallen logs and other obstacles.

The factor responsible for this strange tree behavior is the perpetual mist of the Great Smokies, that gives the mountains their name, explains Dr. Stanley A. Cain, research associate of the Waterman Institute of Indiana University. By keeping everything always moist, it makes possible the germination of seeds on fallen logs, on top of mossy rocks, and in many other places that would be too dry in ordinary woods, where the precipitation is lower and the evaporating power of the air greater.

The seedlings thus started send their roots down the moist sides of their supports. These roots take hold in the soil. Eventually the original supporting log decays and disappears, leaving the young tree literally "up in the air," supported only by the multiple "false trunks" formed by its roots.

These birches of the Great Smokies are emulating the behavior of the famous banyan trees of the Orient, and the strangling-fig vines of the tropics generally. The banyan is not a tree, properly speaking, but a sprawling vine. It gets its start in the branches of a tree of some other species, and sends long roots down to

take hold in the soil.

Finally it smothers or strangles its supporting tree. But by this time its numerous dangling roots have become solidly established as pillar-like false trunks. The banyan then goes on indefinitely, spreading in all directions and sending down scores of new supporting roots, until it is a veritable one-tree grove.

*Science News Letter, August 24, 1935*

ENTOMOLOGY

## Female Katydid's Lisp Faint Answers to Males

KATYDIDS, shrilly shouting their interminable arguments over an imaginary Katy's responsibility or lack of it for some unknown deed, are all males. Their noise is really a lovesong, intended for the charming of some coy, green-winged damsel of their own kind.

But the female katydid is "not so dumb after all," reports Dr. B. B. Fulton, of North Carolina State College.

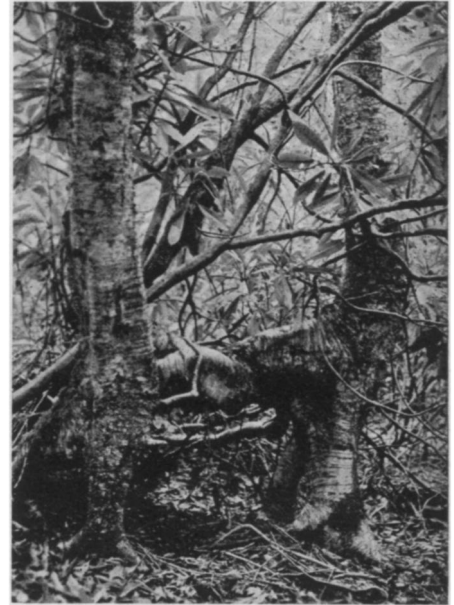
"It has often been supposed that the female was so charmed by the musical efforts of the male that she sought out his leafy abode," he says. "But there is now evidence to show that in some species at least she stays at home and merely sends out a katydid code signal meaning 'here I am if you want me.'"

Dr. Fulton was led to his discovery of the female katydid's ability to speak for herself when the time comes, by hearing very faint responses on the part of unmated females when males were raising a disturbance in the neighborhood. These were tiny lisping sounds, no doubt the katydid equivalents of a shy "yeth, thir."

They must have required extraordinary hearing abilities on the part of the males, Dr. Fulton comments. But they sufficed. The ardent suitors sought and found their waiting mates.

Female katydids make their very faint responses by rubbing special surfaces on their wings together, just as the males do. Only the file-teeth used for the purpose are much smaller than those on the males' wings. Dr. Fulton examined a large number of katydid specimens in his collection, and found that in many species some kind or other of these file-toothed voice-organs on the wings were present.

*Science News Letter, August 24, 1935*



BANYAN BIRCHES

*A log once lay between their straddling roots, but has long since decayed and vanished.*

ENTOMOLOGY

## Wasps Squeeze 'Balloon Eggs' Through Very Narrow Tube

WASPS that lay "balloon eggs" through an opening only one-twelfth their diameter, and that build "sippers" like soda straws to obtain food which they have never seen are the extraordinary insects described by Dr. B. B. Fulton of North Carolina State College.

The insects are tiny wasp-like creatures that lay their eggs on the larvae of the grain moth, a destructive pest of corn. The smaller wasp larvae feed on the grain-moth larvae, destroying them and thus unconsciously doing the human race a good turn.

But to get the egg to the moth larva is no easy task for the female wasplet. First she must drill a hole through the grain in which the larva is feeding. This she does with her ovipositor, which is a combination of drill, probe, sting, and egg-laying device.

Having reached the larva's lair, she stings it into a paralytic state. Then the egg-laying process begins. The egg is squeezed, shell and all, through the channel of the ovipositor, although it is a dozen times the diameter of this tiny tube. It bulges out like a small balloon as it emerges from the end.

The egg is so large that part of it must still be in the insect's body while the other end is being squeezed out of the tube. Dr. Fulton offers the opinion that it "must

## RADIO

Tuesday, August 27, 3:30 p. m., E.S.T.  
BEFORE COLUMBUS CAME, by Dr. H. J. Spinden, Curator of Prehistoric and Primitive Art, Brooklyn Museum.

Tuesday, September 3, 3:30 P. M., E.S.T.  
OUR HIGHWAYS, ARTERIES OF THE NATION, by Dr. S. S. Steinberg, University of Maryland.

In the Science Service series of radio addresses given by eminent scientists over the Columbia Broadcasting System.