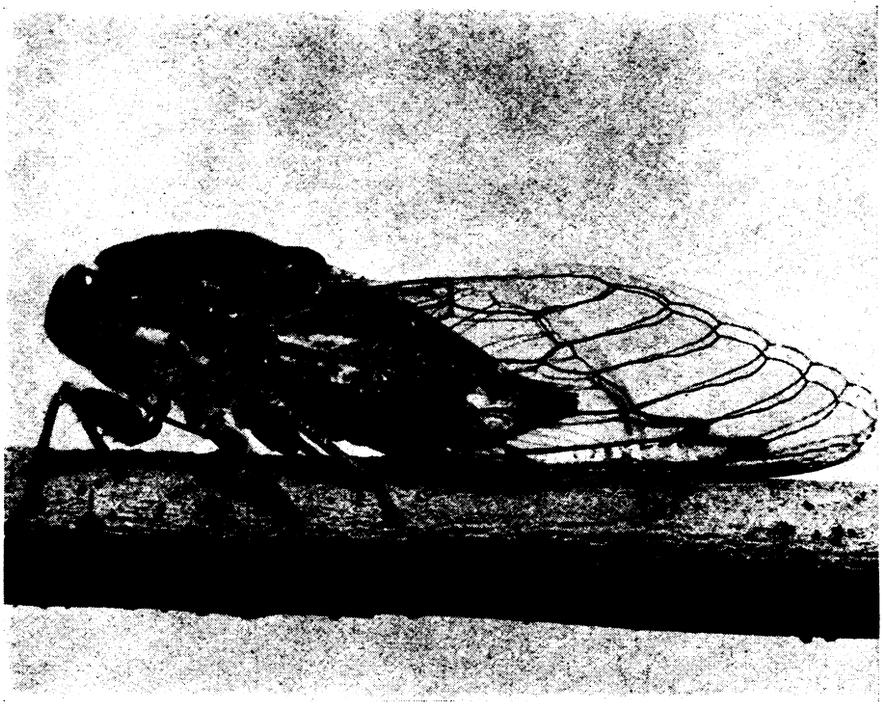
Nature Note



Cicada

Scree—scree—scree—the sad, monotonous buzzing of the cicadas is the haunting sound of late summer and early fall. Beginning softly, rising to a piercing crescendo and then dwindling out, the calls of the cicadas are those of courtship.

It is the male that "sings"—or literally drums. Sound chambers with small pits are located on each side of the insect's abdomen, just under the wings. A membranous material stretched over these pits vibrates when the cicada flexes its muscles. Two plates lying over the pits control the volume of sound, and a folded membrane amplifies it. A different kind of sound or rhythm is produced by different species.

There are about 1,500 species of this insect, member of the Homoptera order. All are vegetarians, and can be devastating to forests, crops and any plant in their path. Many species are periodical—that is, a brood emerges from the ground after a certain number of years according to their life cycle. For instance, there are two-year, five-year and seven-year cicadas,

The 17-year cicada, Magicicada septendecim, has one of the longest life cycles of any insect. Erroneously called the 17-year locust, this cicada takes 17 years to be born, emerge and die. Eggs are inserted by the sharp ovipositer of the female in twigs of trees and shrubs. In order to prevent the twig from sealing or imprisoning the eggs, the mother cicada partially severs the twig, enough to check its growth. The "nests" can be easily located in late summer by the tell-tale browning of the leaves and the drooping branch.

In a few weeks the young nymph emerges from the egg and drops to the ground where it burrows into the soil with powerful shovel-like front feet. For 17 years, this pale wingless grub burrows in the ground, feeding on roots until it is full grown, about an inch long, at which time it works its way to the surface. Once above ground, it climbs the nearest tree for a short distance, fastens its claws into the bark and waits for the next metamorphosis to take place. The skin splits down the back, and the new winged adult wiggles out, leaving its crisp brown casing empty and still attached to the tree. At first the new adult is pale—almost white—with shriveled wings. Within a few hours, the wings stretch and stiffen and the body colors become a brilliant red, green and yellow. This stage of the insect's life is short—in one swift summer it feeds, calls its mate, and at the coming of winter, dies, leaving its offspring to burrow in the dark earth for 17 years and to emerge for its one brief summer in the sunlight.

LETTERS

To the Editor

Bufus Again

Sir:

While the question is fresh in my mind, may I share with Mr. Lee Gebhart, author of the article on the poison in Bufus marinus, my experience with said "helper of the farmer"?

As in Louisiana, Bufus was introduced here to help in the control of sugar-cane insect pests. I can remember them well since 1935 when I had need of using them. As professor in a small private college at the time and up to the middle of the century, I had need to teach all courses in biology, including zoology. Though we always bought Rana catesbiana from the States with injected blood vessels, I used Bufo for many other laboratory exercises, including live reactions. I used to catch the toads myself on the road by blinding them with car head-lights. One pet demonstration to convince girls that they should not be afraid of them was putting toads to sleep. This was invariably accomplished, barring all noises, by making the toads lie on their backs, all the while producing a gentle circular motion of the breast skin. As they became limp the legs were pulled out to desired lengths and positions, gently slowing down motion until it was discontinued entirely.

We always grabbed them from the back, with the forefinger and thumb on each side of the short neck, unavoidably touching the big glands. Everybody said that the secretion from these glands produced warts, a claim that I interpreted as reminiscent of the old "theory of signatures" in plants. Never in the course of my 33 years' experience with students have I had a single report of poisoning or wart "production," and certainly the total number of handlings per student and per class was not too small to be a good sample.

In my travels throughout the Antilles I've never heard of any bad news about Bufus marinus. Since 1950 other members of the Department have also handled them unreservedly. Students have even had cuts with their scalpels while working with the toads but never with ill effects. The effects on dogs and cats are well known here, but never to the extent of killing the mammals and much less transmitting it to humans.

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