

Providing Leadership in Environmental Entomology

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PERIODICAL CICADAS

In 2011, parts of South Carolina will experience a major emergence of 13-year periodical cicadas. These are the longest-lived insects in North America. In the 1985 emergence, the adults began to emerge around April 21 in Saluda and Abbeville counties. Cold weather delayed emergence in 1998 and it was less spectacular than in 1985. Since 1998 the young cicadas have been below ground sucking sap from roots. We expect emergence in late April and early May.

The 13-year cicada is a southern form while the 17-year cicada tends to be a northern form. Two distinct broods of both forms occur in South Carolina. The 13-year cicadas emerging in 2011 are the most widely distributed brood. We show the known and suspected distribution in South Carolina in Figure 1. Emergence of large broods, as expected in 2011, is a striking event. Thousands of cicadas appear overnight and begin singing at dawn.

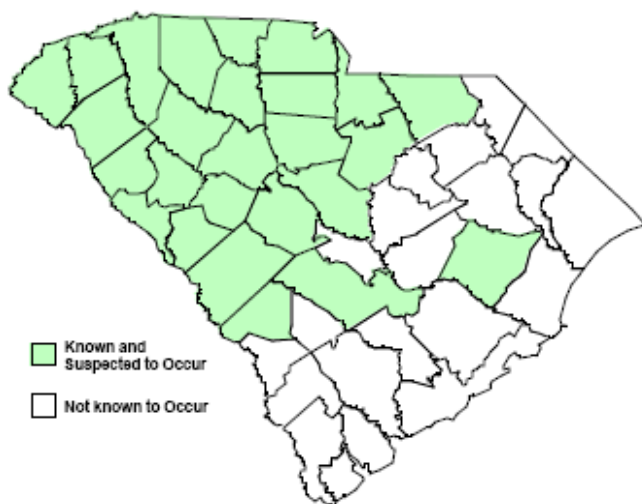


Figure 1. Distribution of Brood XIX 13-year cicada in South Carolina.

The adult cicada is about 1½ inch long. It has a stout black body with clear, membranous wings extending well beyond the body when at rest. The eyes, legs and

wing veins are a reddish orange color (Fig. 2.). The wingless immature cicada (nymph) emerges from the soil at night, climbs a tree trunk or other vertical surface and sheds its skin (Fig 3.). A new winged adult leaves the hard, empty shell behind (Fig. 4.). By morning the wings have expanded and hardened and the cicada is free to move about. As many as 20,000 to 40,000 cicadas may emerge from the soil beneath one large tree.



Figure 2. A 13-year periodical cicada showing the distinct eyes and leg color.

Photo Credit: C. S. Gorsuch, Clemson University Entomology Department.

Emergence usually takes place over a one to two week period. The adults can live for three weeks. Adult cicadas do not feed on the leaves, but may suck sap from tender twigs. The female's egg laying activity produces injury to trees and shrubs. The female's egg laying apparatus (ovipositor) is chisel-like. She uses it to cut through the bark of twigs and make two rows of slits. They insert the eggs into these slits. In the process, they splinter the sapwood. Each slit will contain 24 to 48 eggs. Each female will make up to 20 of these slits and lay as many as 600 eggs during her life. The eggs hatch in six to seven weeks. The tiny ant-like young drop to the ground and burrow down to the roots where they remain for the next 13 years.

About 75 trees, shrubs and herbaceous plants are used for egg laying. Oak is a preferred host with hickory, apple, sweet gum highly favored. They can



Figure 3. A newly emerged adult resting by the empty nymphal skin.

Photo Credit: C. S. Gorsuch, Clemson University Entomology Department.



Figure 4. Empty nymphal skins attached to tree leaves.

Photo Credit: C. S. Gorsuch, Clemson University Entomology Department.

damage dogwood, blueberries, and azaleas as well. The leaves on damaged branches turn brown and the branch eventually falls to the ground. Smaller trees and shrubs can be severely damaged.

When populations are high, protecting trees and shrubs is difficult. Small trees and shrubs can be covered with cheese cloth or other fine netting that is securely fastened around the trunk. Carbaryl (Sevin) is an effective insecticide. Carbaryl should be mixed with water, according to label directions, and sprayed on the tree or shrub. Repeated applications will be needed. Follow all label instructions on number and frequency of applications allowed on the particular plant.

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