

# The Seventeen Year Cicada (periodical Cicada or Magicicada)

## What I find fascinating about them

They emerge at different times, with a life cycle of either thirteen or seventeen years apart, and only between the Midwest and eastern part of North America.

Don't confuse the periodical Cicada with the "dog day" Cicada known as *Tibicen*, which are larger and emerge in much smaller numbers annually between July and August. This variety of Cicada is a dark green color and is much harder to see or catch as their vision and reflexes are much stronger than the periodical Cicada.

There are actually three broods of them: *M. septendecim*, *cassini*, and *septendecula*. Their mating sounds are distinctly different between the species. The Chicago area has the *M. septendecim* species, known as Brood XIII.

There are 1500 species of Cicadas around the world, but only three species in the United States have evolved into the periodicity that we see.

Cicadas have been around for 12,000 years. You can set your calendar to their emergence. They have been tracked by scientists for the last 100 years in the northeastern United States. The broods of 17 year Cicadas are labeled I thru XVII, and the 13 year Cicadas are labeled XVIII thru XXX.

Because the 13-year variety and the 17-year variety will co-emerge every 221 years, their genes will accidentally inter-breed, causing the stronger species to displace the weaker species. The 17 year species has essentially won the breed battle and eventually there will be no 13-year Cicadas.

The Locust is sometimes confused with the Cicada. Locusts are very different, similar to grasshoppers; they swarm in vast numbers and devour wheat and corn. Periodical Cicadas are found only in forests and dense trees and they don't chew anything; they have beaks, and they suck. Basically, they only live to mate, and then die off. The only damage Cicadas do is when the female slits the tips of tree branches to lay its eggs (this is called "flagging"). The slit in the branch causes the end of the branch to die and fall off. This is how its eggs, which grow into nymphs, get to the ground to burrow toward the tree root and continue their life cycle.

Essentially, the nymph Cicadas live on the xylem sap of the roots of trees. The seventeen year variety starts its growth much slower for the first four years of its underground life, as opposed to the thirteen year variety which grows steadily for all of its life underground.

The Magicicada has no natural predator; after all, what species can wait 17 years for its food? However, there is a predator fungus, known as *Massopora cicadina*, that stays viable in soil for 13 or 17 years, that's adapted its routine so perfectly as to invade only the Cicada's abdomen, sterilizing the insect but leaving its thorax and head untouched. The Cicada will then spread the fungus spores to other Cicadas. This fungus will successfully wipe out a localized population of Cicadas every seven generations (119 years) so certain areas of excess abundance will eventually disappear. The periodical Cicada has been found to completely vacate certain areas, probably as a defense against the fungus. This way, the fungus will not pose a real threat to the entire population.

Scientists have yet to figure out why there are three distinct periodical species and what force of nature causes them to emerge essentially all at one time precisely 17 years apart. And the question of "why are there both 13 year and 17 year Cicadas?" remains unanswered.