CAES
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ANNUAL CICADA (*Neotibicen* sp.)

Summary:

- Cicadas are large insects that are active high in tree canopies in the summer.
- They are well-known for their loud high-pitched singing during summer days.
- Cicadas feed on, but don't cause damage to trees or plants.
- No management of cicadas is needed.
- The shed shells of cicadas are sometimes found clinging to trees and other surfaces.

Annual, or 'dog-day' cicadas, are a frequently heard but infrequently seen summertime insect. The high-pitched droning or rattling sounds of cicadas in trees and New England forests is inherently familiar and often associated with high summer and hot temperatures.

Fig. 1: Annual Cicada

Annual cicadas are large robust insects that are 1 to 1.5 inches long. They have a greenish to dark gray colored body, black markings, and four long green-veined membranous wings that extend past the abdomen (Fig. 1).

Although they are called 'annual' cicadas, these insects actually have unsynchronized two to five-year life cycles, with adults emerging every summer.

Fig. 2: Empty nymphal exoskeleton – note the split running down the back.

Between June and August, mature nymphs will create mud tubes as they emerge from the ground. As their emergence is not synchronized, they rarely appear in noticeably large numbers. The mature nymph climbs up a nearby vertical surface, usually a tree but sometimes man-made objects. The nymph then clings and completes its final molt. The adult cicada emerges, pumps out its wings, and heads up into the tree canopy, leaving its shed nymphal exoskeleton behind. These exoskeletons or 'exuvia' are frequently discovered by people

long after the cicada has departed and are often a source of curiosity (Fig. 2).

Cicadas cannot bite or sting. They have a straw-like mouthpart that they use to tap into the vascular tissue (xylem) of plants. Any feeding that occurs is minor; cicadas are not a significant cause of tree damage, nor do they require control or management.

Male cicadas produce loud high-pitched 'songs' by vibrating specialized abdominal membranes known as tymbals. Some male cicada songs can exceed 100 dB. Damage to human hearing starts at 90 – 95 dB. The singing is primarily for attracting mates but may also help deter predators. Females do not sing. Individual species can be identified by their distinctive song patterns.

Fig. 3: Cicada egg-laying damage on oak twig

After mating, female cicadas cut slits into twigs in tree canopies to lay their eggs (Fig. 3). This will occasionally result in minor 'flagging' damage, where a twig will become girdled and hang down loosely from its branch. When the eggs hatch, the nymphs drop down to the ground and burrow underground. The nymphs feed by tapping into the roots of mature trees, feeding on the xylem of tree roots. Development is slow and damage to trees is minimal. Full development may take two to five years depending on the species.

Fig. 4: Cicada Killer Wasp with prey

Annual cicadas are preyed upon by many generalist predators such as birds, spiders, and mammals. Its most well-known predator is the cicada killer wasp. Many people's first sight of a cicada is seeing this large solitary wasp dragging one, paralyzed, back to its burrow (Fig. 4).

Annual cicadas should not be mistaken for periodical cicadas (genus *Magicicada*), which emerge in massive synchronized broods once every 13 or 17 years. The next projected *Magicicada* emergence in Connecticut will occur in 2030.

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