

Cicada Killer

Eastern cicada killer, *Sphecius speciosus*, is an insect pest during the summer when the flying adults can be intimidating; however, cicada killers are not harmful. Cicada killers are solitary wasps, unlike social wasps, such as yellow-jackets. This publication provides information on biology, behavior, and management of the cicada killer.

Biology

Cicada killer adults are approximately 2 inches (5 centimeters) long and black with yellow banded markings on the body. The head and transparent wings are red brown (Figures 1 and 2). Adults are active from July through September, live up to 75 days, and feed on flower nectar and plant fluids.

A female cicada killer creates a hole in the soil that is 6 to 10 inches (15.2 to 25.4 centimeters) deep and ½ to 1.5 inches (1.3 to 3.8 centimeters) in diameter in a location exposed to full sun. The female cicada killer establishes a nest inside the hole, which contains three to four cells where larvae develop. A pile of sand or soil typically surrounds the entrance to the hole.

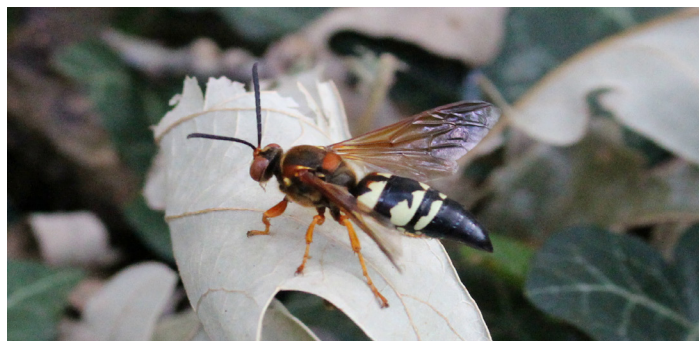


Figure 1. Cicada killer adult (Photo: Raymond Cloyd).



Figure 3. Dog day cicada, *Neotibicen canicularis*, adult (Photo: Raymond Cloyd).

Cicada killer females search for dog day cicada (*Neotibicen canicularis*) adults (Figure 3) on the trunks and lower branches of trees. The female stings an adult cicada using her egg laying device, called an ovipositor, flips the cicada over, straddles the cicada (Figure 4), and transports the paralyzed cicada back to the nesting area (Figure 5).

The paralyzed cicada serves as a food source for cicada killer larvae, which are grub-like and legless. A female lays one egg on the cicada if the egg is unfertilized and two eggs if the eggs are fertilized. Larvae that emerge (eclose) from unfertilized eggs are males and are provided with one cicada. Larvae from fertilized eggs are females and are provided with two cicadas. After laying the eggs, the female seals each cell.

Larvae emerge from eggs in two to three days and feed on the paralyzed cicada(s) for up to 10 days. The female eventually covers the hole, makes another one, and repeats the process. Full grown larvae overwinter inside silken cases in the soil, pupate in the spring, and emerge as adults during the summer. There is one generation per year in Kansas.



Figure 2. Close-up of cicada killer adult (Photo: Raymond Cloyd).

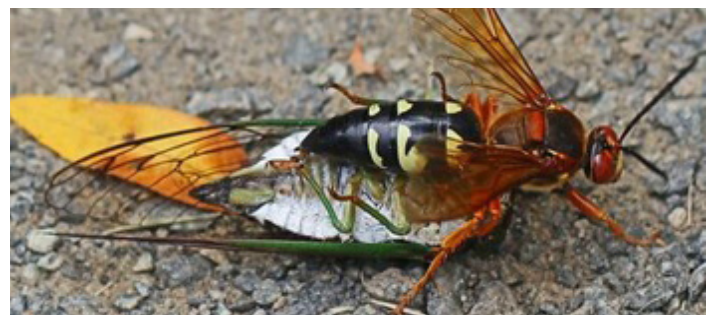


Figure 4. Cicada killer adult female with paralyzed dog day cicada adult (Photo: Raymond Cloyd).

Behavior

Cicada killers are nuisance insect pests, especially when multiple nests are established in bare areas, turfgrass, or near structures. People are concerned because male cicada killers resemble large yellowjackets. Although males can be aggressive, they are not harmful because they cannot sting as they do not have ovipositors. Females are not as aggressive as males and only sting if provoked, stepped on with bare feet, or grabbed with bare hands.

Male cicada killers establish territories near the nesting area and fly around looking for intruders. A male will prevent other males from entering his territory and may confront a person by hovering in front of their face and moving side to side. However, once the male determines the intruder is not a threat, he will leave the person alone. Individuals walking across bare soil, turfgrass, or other areas where cicada killers are nesting may experience the same behavior repeatedly, sometimes encountering up to 20 males in one area. Once females leave the nest, males eventually disperse.



Figure 5. Cicada killer female transporting a paralyzed dog day cicada adult to the nest in the soil (Photo: Raymond Cloyd).

Management

Cicada killers are usually present in areas with bare soil. Therefore, applying mulch, planting ground covers, or installing turfgrass may reduce problems with cicada killer populations. Cicada killers are also common in areas with minimal vegetation or unmaintained turfgrass. In addition, cicada killers can be a problem in areas accessible to or frequented by the public.

Applying an insecticide directly into nest holes will kill cicada killers in golf course sand traps. In residential areas, covering sandboxes with a tarp when not in use can deter cicada killers from building nests. Artificial turfgrass (Figure 6), bark mulch, or shredded tires can be placed below swings sets or playground equipment to discourage female cicada killers from establishing nests.

Managing cicada killers in baseball infields and volleyball courts is more challenging due to the presence of people with bare skin who are diving and sliding onto the sand; hence, using an insecticide is not an option. However, for volleyball courts (Figure 7), placing a geotextile fabric beneath the sand can create a barrier that prevents cicada killers from building nests.



Figure 6. Artificial turfgrass below swing set (Photo: Raymond Cloyd).



Figure 7. Sand volleyball court (Photo: Raymond Cloyd).

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