

Wasp Female digging nest & Dead Male: Cicada Killing Wasp, July 9, 2020
[Photos - Nancy Taylor]

Female is about twice the size of the male (Est. 3+ inches) [Photos - Nancy Taylor]



Green tree stem in front is 4 inches tall; leaf is 3 inches long

When I first saw her noticeable behavior pattern, I went quickly to get my camera. She kept digging, moving out small clumps of dirt, then backing out. I watched as she repeated the process.





When she was finished, the area was undistinguishable. One would have never known what lay beneath. And she was gone.

Typical nest site = this ground-burrowing wasp found well-drained, loose clay, lightly mulched, with: some grass, near my "tree nursery" flower beds next to shrubs, ground cover, and concrete stepping stones; the area is surrounded by a raised sidewalk, driveway, and porch slab. Nest was made in area in the full sun where vegetation is sparse: just like the on-line information described. Also has a nearby water source from down spout.



On the porch I found the Dead Male - MUCH smaller than Female!
From his size, I estimated the Female to be about 3+ inches [Photos - Nancy Taylor]



Still have specimen

On-Line species information:

Sphecius speciosus, often simply referred to as the **cicada killer**, is a large digger wasp species; solitary **wasps** in the family **Crabronidae**. The name may be applied to any species of crabronid which preys on **cicadas**, though in **North America** it is typically applied to a single **species**, *S. speciosus*. However, since there are multiple species of related wasps, it is more appropriate to call it the **eastern cicada killer**. This species occurs in the eastern and midwest U.S. and southwards into **Mexico** and **Central America**. They are so named because **they hunt cicadas and provision their nests with them**. Male eggs are laid on a single cicada, but female eggs are given two or sometimes three cicadas; this is because the **female wasp is twice as large as the male** and must have more food. **Cicada killers exert a measure of natural control on cicada populations and thus may directly benefit the deciduous trees upon which their cicada feed.**

Their size can make them look especially intimidating, but these **wasps** are known to some as **gentle giants**. Female **cicada killer wasps** have large stingers, and their **sting** can be very painful, but they **rarely sting humans**. Unlike other **stinging** insects, **these wasps don't even have nest protecting instincts**.

Adult eastern cicada-killer wasps are large, 1.5 to 5.0 centimetres (0.6 to 2.0 in) long, robust wasps with hairy, reddish and black areas on the thorax (middle part), and are black to reddish brown marked with light yellow stripes on the abdominal (rear) segments. The wings are brownish. Coloration superficially resembles that of some **yellowjacket** and hornet species. The females are somewhat larger than the males, and both are among the largest wasps seen in the Eastern United States, their unusual size giving them a uniquely fearsome appearance. **Males are smaller than the females** because only the females must carry the cicadas they have killed to a burrow for nesting.

Solitary wasps (such as the **eastern cicada killer**) are very different in their **behavior from the social wasps** (hornets, yellowjackets, and **paper wasps**). Cicada killer females **sting to paralyze their prey (cicadas) rather than to defend their nests**; unlike most social wasps and bees, they do not attempt to sting unless handled roughly. Adults feed on flower **nectar** and other plant **sap** exudates.

Adults emerge in summer, typically beginning around late June or early July and die off in September or October. They are present in a given area for 60 to 75 days, usually until mid-September. The large females are commonly seen skimming around lawns seeking good sites to dig burrows and searching for cicadas in trees and taller shrubs.

The males are more often seen in groups, vigorously challenging one another for position on the breeding aggregation from which they emerged, and generally investigate anything that moves or flies near them. It is not unusual to see two or three male wasps locked together in apparent midair combat, the aggregate adopting an erratic flight path until one of the wasps breaks away. The male wasp's aggressive behavior is similar to that of another robust insect of the area, the male **carpenter bee**. In both cases, while the males' vigorous territorial defense can be frightening and **intimidating to human passersby, the males pose no danger whatsoever. Males only grapple with other insects, have no stinger, and cannot sting.**

More On-line info/photos: Behavior

Cicada killer infestation: the reddish brown patches are cicada killer burrows.



This **ground-burrowing wasp may be found** in well-drained, sandy soils to loose clay in bare or grass-covered banks, berms and hills as well, **next to raised sidewalks, driveways and patio slabs**. Females may share a burrow, digging their own nest cells off the main tunnel. A typical burrow is 25–50 centimeters (10–20 in) deep and about 1.5 cm (0.59 in) wide. **In digging a burrow, the female dislodges the soil with her jaws and, using her hind legs, pushes loose soil behind her as she backs out of the burrow.**

Her hind legs are equipped with special spines that help her push the dirt behind her.^[4] The excess soil pushed out of the burrow forms a mound with a trench through it at the burrow entrance. Cicada killers may nest in planters, window boxes, flower beds or under shrubs, ground cover, etc. **Nests often are made in the full sun where vegetation is sparse.**

After digging a nest chamber in the burrow, female cicada killers capture cicadas, paralyzing them with a sting. After paralyzing a cicada, the female wasp holds it upside down beneath her and takes off toward her burrow; this return flight to the burrow is difficult for the wasp because the cicada is often more than twice her weight. A wasp will often lug its prey up into the nearest tree, to gain altitude for the flight to the burrow. After putting one or more cicadas in her nest cell, the female deposits an egg on a cicada and closes the cell with dirt. Male eggs are laid on a single cicada but female eggs are given two or sometimes three cicadas; this is because the **female wasp is twice as large as the male and must have more food**. New nest cells are dug as necessary off of the main burrow tunnel and a single burrow may eventually have 10 or more nest cells. The egg hatches in one or two days, and the cicadas serve as food for the grub. **The larvae complete their development in about 2 weeks. Overwintering occurs as a mature larva within an earth-coated cocoon. Pupation occurs in the nest cell in the spring and lasts 25 to 30 days.** There is only one generation per year and no adults overwinter.



Cicada-killer hauling 2 paralyzed mating cicadas vertically up the side of a fencepost
Another view hauling two paralyzed cicadas up the fencepost

This wasp is frequently attacked by the parasitic "velvet ant" wasp, *Dasymutilla occidentalis*, also known as the "cow-killer" wasp. It lays an egg in the nest cell of the cicada killer, and when the cicada killer larva pupates, the parasitoid larva consumes that pupa.



Interaction with humans[[edit](#)]



A male eastern cicada killer guarding its territory and looking for females with which to mate



An urban-dwelling cicada killer in an apartment-front garden

Although cicada killers are large, **female cicada-killer wasps are not aggressive** and rarely sting unless they are grasped roughly, stepped upon with bare feet, or caught in clothing. One author who has been stung indicates that, for him, the stings are not much more than a "pinprick".^[5]

Males aggressively defend their perching areas on nesting sites against rival males but they **have no stinger**. Although they appear to attack anything that moves near their territories, male cicada killers are actually investigating anything that might be a female cicada killer ready to mate. Such close inspection appears to many people to be an attack, but male and female cicada killers do not land on people with the intent to sting. If handled roughly, females will sting, and males will jab with a sharp spine on the tip of their abdomen.

Both sexes are well equipped to bite, as they **have large jaws, but they do not appear to grasp human skin and bite**. They are generally not aggressive towards humans and usually fly away when swatted at, rather than attacking.