Cicada Killer Wasp
Helpline Happening – September 2023



"Cicada Killer carrying cicada"
Photo Credit: Carolyn Wojciechowicz

Imagine my surprise last week while eating lunch on the porch to be bopped on the back by a Cicada Killer wasp straddling and hugging a cicada twice its size the two of them belly to belly. Then to have it wobble, sort of in flight, around my side and land on the ground near my feet. I tried to "help" the poor thing to move its catch and carried the pair to the grass - surely that's where it wanted to go to get to its burrow in the ground. Unexpectedly, it hoisted its heavy load back up onto the porch floor and dragged it to the wall of the house. As I watched, in amazement, it scurried (fast) up the wall to the second story and made a leap and a glide to the nearby tree. From there it hopped branch to branch and then dropped back down to the ground. It made me curious. Such effort and odd transport. What is there to know about the Cicada Killer? We have been fielding many questions about it on Helpline this month. So, I did a little digging……

IDENTIFICATION:

- *Specius speciosus*, the Cicada Killer, is found throughout eastern North America, cousins are found elsewhere within the US.
- It is a solitary large wasp, about 1" - 2" long, with rust colored head, legs, and wings and a black pointy abdomen with three distinctive yellow stripes.
- Unlike most other wasps, it holds its wings straight out when at rest not folding them along its body.

LIFE CYCLE:

- Females emerge in July, after males, and will dig a 1.5" wide oblique-angled tunnel in the ground.
- The burrow can be 12" long or longer and end in numerous oval chambers that each can fit a cicada; this whole structure forms a nursery to raise cicada killer wasps.
- Favorable sites for burrows are in bare spots in lawns, gardens, golf courses, athletic fields, embankments, picnic areas; large piles of soil surrounding an angled hole are the telltale sign for a nest location.
- The female's ovipositor is also used to sting and paralyze the cicada prey. The wasp puts a cicada in each nest chamber, deposits an egg on its immobilized body, and seals it in place.
- Larva hatch in 2-3 days and penetrate through the exoskeleton of the immobilized cicada where they feed on the internal tissue.
- The mature larva builds a cocoon in the nest and overwinters there pupating in June.
- The mature adult emerges from the ground in July and feeds on tree sap and flower nectar.
- After mating and provisioning the nest, all adults die by September or October.

MANAGEMENT:

- Because they are not threatening and perform a beneficial role in the environment, management is not necessary.
- If it is desired to have fewer Cicada Killer wasps, putting down grass seed in bare spots in the lawn and mulch in open spots in the garden beds should make the landscape less inviting and the wasp’s nest elsewhere.

CONCERNS:

- The male has no stinger so it cannot sting. It is usually the adult male found patrolling the nest area dive-bombing and hovering. It is an act to intimidate aggressors and to protect the female and nest.
- The female is not aggressive and will not defend the nest. She will only sting if mishandled, like getting caught inside a t-shirt or swatted on a leg. The sting is very mild to humans; but it is paralyzing to cicadas.

FUN FACTS:

- The cicada is merely paralyzed not killed by the female's sting and it remains alive in the nest while being devoured by the larva. Admittedly, only for so long.
- Most captured cicadas are female and female cicadas don't make the characteristic cicada buzzing sounds so it is believed the Cicada Killer wasp hunts by sight and not sound.
- Because the cicada is up to twice the size of the wasp, the Cicada Killer can't simply fly to bring the prey back to the nest. Retrieval involves climbing buildings, trees, and shrubs to get elevation and glide down to the area of the nest.
- A Cicada Killer is considered a beneficial insect because it helps to control cicada populations particularly in the years when the cyclical cicadas emerge - every 17 years here in NJ. Cicada larva can cause damage when feeding on tree root sap and adults to tree branches when laying eggs.

ADDITIONAL INFORMATION: There are several insects seen in our area that are often confused for Cicada Killers. Please see below:

European Hornet



"European hornets - girdled tree"
Photo Credit: **extension.umd.edu/resource/european-hornets**

European Hornet (*Vespa crabro*) is a NJ non-native true hornet measuring about 1" long with red, black, and yellow colorings. Features distinguishing the European Hornet from the Cicada Killer are it holds its wings alongside its body at rest; creates tan paper nests in concealed places in buildings, hollow trees, and abandoned beehives that contain 200-400 workers in a social lifestyle; has black anterior on its abdomen, yellow stripes to the posterior; and feeds on insects - yellowjackets, butterflies, bees - and tree sap often girdling twigs and branches in the process.

Yellowjacket



Photo credit: extension.psu.edu/eastern-yellowjacket

Yellowjacket (*Vespula maculifrons*) is a native wasp species in NJ measuring 1/2" in length. It holds its wings alongside the body at rest and has a fully yellow and black striped abdomen and yellow around the eye area. It nests in the ground and will aggressively defend the nest against pedestrians, lawnmowers, dogs chasing balls, and any other vibrations or disturbances. It releases pheromones when threatened to call other yellowjackets to defend against the attack. They can sting repeatedly so pose a risk to a passerby. They nest in lawns, forest floors, rock walls, even buildings and are considered beneficial.

Baldfaced Hornet



Photo credit: extension.psu.edu/baldfaced-hornet photo

Baldfaced Hornet (*Vespula maculate)* is not a hornet but a yellowjacket wasp that is 1/2" - 3/4" long and entirely black and white, primarily with white markings on the face and end of the abdomen. It is a NJ native social insect; considered beneficial because it feeds on pest insects notably other yellowjackets; and builds large, beautiful gray, brown, and green paper nests in trees and shrubs containing 100-400 workers.



"Baldfaced Hornet nest"
Photo credit: Carolyn Wojciechowicz

Additional references:

https://njaes.rutgers.edu/fs040/

https://entomology.rutgers.edu/insects.html

https://blogs.cornell.edu/nysipm/2014/08/05/dog-day-cicadas-and-the-wasps-that-do-them-in/

https://blogs.cornell.edu/nysipm/2020/08/04/cicadas-and-cicada-killers-subtitled-is-this-a-murder-hornet/

https://extension.umd.edu/resource/cicada-killer-wasps

https://extension.entm.purdue.edu/publications/E-254/E-254.html

https://extension.psu.edu/european-hornet

https://extension.psu.edu/eastern-yellowjacket

https://extension.umd.edu/resource/yellowjackets

https://extension.psu.edu/baldfaced-hornet