

Learning to Love Wasps

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A side view of a paper wasp nest reveals the many layers of chewed plant material that make up each of the cells. FWNC&R Staff Photo.

If you visit the Hardwicke Interpretive Center, you have a good chance of seeing one of our many resident wasps, whether you are inside or outside the building. One species that often makes its way indoors is the metallic blue mud dauber. What these wasps are doing inside is known only to them, but they come in frequently enough that they seem like an ordinary part of life to those who work in the building. Next time you see one, take a closer look. Don't worry; they aren't interested in picking a fight with you. If the wasp is male, it doesn't even have the ability to sting since that weapon is solely in the female's possession. The "stinger" is actually her ovipositor, a sharp tube used for laying eggs and hunting.



This wasp has paralyzed what appears to be a crab spider. She drags it away to her nest to become larva food. FWNC&R Staff Photo.

Anyone who has been a parent to a picky child might feel some sympathy for these iridescent and industrious wasps. Like a young parent on a budget, the female metallic blue mud dauber makes use of abandoned black and yellow mud dauber nests for her brood. Look for nests with different-colored patches and admire the expert repair job. The female forages for the preferred baby food of her species—the black widow spider. Other spiders will suffice, but every child has its favorite food, so black widows are hunted if

available. The mother wasp stings the spider, which paralyzes but doesn't kill it. The paralyzed spider is then stuffed into a mud chamber with other similarly stung spiders. A single wasp egg is laid inside the chamber. When the voracious larva hatches, it devours the preserved spiders. Only the spider's legs are left behind. The larva pupates and waits out the winter until it can emerge as an adult in the spring. Interestingly, adult wasps are nectar eaters.

Metallic blue mud daubers are far from the only wasps you might encounter in North Texas. In fact, there are hundreds of different species, each with its own life story. Only a few are truly aggressive. Social wasps, such as the common paper wasp, have numbers on their side. They can stand to lose a few individuals in a fight with a large predator if it means keeping their nest safe. The entire nest is essentially made of sawdust and wasp spit.

One species with a more impressive sting than the social wasp doesn't even look like a wasp, earning the common name "velvet ant." The wingless females spotted at the Nature Center have a thick coating of red fuzz, but other species in this group may sport different colors. This wasp has another



This nest originally made by a black and yellow dirt dauber has been patched and reused by a metallic blue mud dauber. FWNC&R Staff Photo.

nickname—“cow killer”—which gives you an idea of how painful the female’s sting is. The males look like typical winged wasps and do not sting. Their presence may actually be a good sign since many of these types of wasps are parasites to ground nesting bees. Bee diversity is promoted at the Nature Center, with 39 different native species recorded during a recent study conducted by the Jha Lab at the University of Texas at Austin. If we didn’t have the bees, we also might not have the wasps.



*These developing red oak galls, triggered by a wasp laying her eggs inside the tree, are a common sight at the Nature Center
FWNC&R Staff Photo.*

Some wasps are so tiny and easy to overlook that we notice only what they leave behind. Two common tree galls found at the Nature Center are the work of wasps. The female lays her eggs in the rapidly growing parts of the tree, and the tree’s immune system responds with an explosion of cell growth around the developing larva. In live oaks, this looks like a solid round growth on the twigs, perhaps with a tiny hole if the young wasp has already emerged. In red oaks, the gall is a papery balloon that

is bright red when it first forms. In the majority of cases, these galls don’t actually harm the tree, but it is interesting to note that some trees seem to be favorites of these tiny wasps and have many more galls than others of the same species. Are these particularly healthy trees with active immune systems or declining trees coming to the end of their lifespan? Is it just a coincidence?

This is only a small sampling of the many wasps you may meet in North Texas, all of which play an important role in the ecosystem. For a good adventure story, look up the reproductive habits of the tarantula hawk wasp or the cicada killer. If you love to garden, you might learn more about braconid wasps, which lay their eggs inside hornworms so their larvae can eat the caterpillar from the inside out. Next time you see a wasp, try to figure out what kind it is, and you may discover that wasps are better friends than foes.