

# Cuckoo wasps

family *Chrysididae*

By Shane Sater

The tiny wasp shimmered between my fingertips, its hard exoskeleton glittering green and blue under the strong summer sun. I had seen the season's first cuckoo wasps in early June near a western Montana grassland stream, crawling across the ground and visiting flowers amid the profusion of early summer vegetation.

The wasps, roughly the size of rice grains, varied somewhat in appearance. But all were striking. Also known as emerald wasps, they ranged from an iridescent bright green to a deep blue-green. Some shone coppery red in the light. Back home at my computer, I learned about these tiny, often-overlooked insects and found them to be as interesting as they are beautiful.



## NAMES

“Cuckoo” refers to the nest-robbing nature of these insects. (Cuckoo birds are notorious for laying an egg in another bird’s nest.) Chrysididae, the scientific name of the family, refers to their shiny bodies and is derived from the Greek *chrysis* for “gold vessel.”

## IDENTIFICATION

Look for compact, iridescent green wasps that often play dead when disturbed, rolling into a ball. Their bodies usually have a pitted appearance, and many have a series of small “teeth” projecting from the rear of the abdomen. The veins in their forewings form a few box-like cells. Several other wasps and sweat bees are also bright green, but those species don’t roll into a ball.

## SPECIES DIVERSITY

The dozens of cuckoo wasp species in Montana are an impressively diverse group, each with a different life history. For more than 100 years, they were hardly known to scientists here (though they may have been familiar to Indigenous people for millennia). But over the past few decades, Mike Ivie, curator of the Montana Entomology Collection in Bozeman, and his entomologist colleagues have identified 71 different cuckoo wasp species.

Some are relatively large; others are as small as a mosquito. Details of the wing venation, facial ridges and indentations, and

the structures at the rear of the abdomen can help distinguish different species.

## HABITAT

Look for different cuckoo wasps in a variety of habitats, from forests to grasslands. Sometimes they visit flowers, such as cowparsnip and goldenrod. But it’s more typical to spot them on the ground. “Where I see them most is on dead wood,” Ivie says.

In forested settings, it’s common to find cuckoo wasps crawling along downed branches, large or small. Others frequent areas of bare ground.



## LIFE HISTORY

Montana’s cuckoo wasps are parasitoids—part of a diverse group of insects whose immature stages develop either within or attached to the outside of other invertebrates. When they crawl around, they are actually hunting for hosts—wasp and bee species that nest in the ground or in wood.

A female cuckoo wasp sneaks into the nest of her host and lays an egg there. When her young larva hatches, it will devour the host and whatever food is in the nest cell. The next summer, the new cuckoo wasp emerges from the stolen nest as an adult.

## KNOWLEDGE GAPS

In Montana, entomologists are still figuring out how many species of cuckoo wasps live here. Little is known about these species, their hosts, and how their populations may be faring. The 71 (and counting!) species of green metallic creatures shimmering in the summer sun are great reminders of how much we still don’t know about Montana’s natural world. The next time you’re outside this summer, look down at the ground and see if you can find one of these gorgeous little nest-stealers. 🐝

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