

Ichneumon Wasps

by Lloyd Eighme, retired entomologist

Some important insects have never been given user-friendly, common names. This is one of them. Pronounce it any way you want to, but it looks as bad as Chrysanthemum or rhododendron until you get accustomed to it. A recent book on American insects states that there are over 5,000 species of ichneumon wasps in the U.S. and Canada, none of them with common names, and they are difficult to identify. Why do we even bother with them? They are all parasites of other insects and play an important role in biological control of insect pests, especially caterpillars. They frighten many gardeners who see them flying around their plants, seemingly looking for someone to attack with their long "stingers". How many good gardeners have stomped them or even sprayed potent pesticides to kill them?

These ichneumon wasps of the family Ichneumonidae are well represented in Skagit County. They vary greatly in size, shape and colors. The longer ones with bodies one half to one inch in length are the ones we most often notice. The smaller ones, less than three eighths inch in length are much more abundant, but rarely noticed. There is likely no species of moth in Skagit County whose caterpillar is not parasitized by an ichneumon wasp and the wasps are mostly host specific, which means each species of caterpillar is attacked by at least one species of ichneumon wasp. Why aren't the caterpillars completely eliminated by the wasps? The chances of the wasps finding every caterpillar of their particular host species are very slim. Besides, if they came anywhere near that, their food supply would be so difficult to find they would face extinction themselves. This is a good example of the so-called balance of nature or better termed the dynamic equilibrium, since it never achieves a perfect balance. As the caterpillars increase, the wasps increase because of the more abundant food supply. As the wasps increase they destroy more of their food supply and as food becomes more difficult to find the wasps decrease, letting the caterpillars multiply again. That explains the fluctuating populations we see of insects like tent caterpillars.

A very spectacular ichneumon wasp has been brought to Clinic and I have also found one of the same in my own yard. It is three and one half inches long including the stinger-like ovipositor. It might frighten you, but if you could watch it long enough you would be amazed at what it does. It lands on the bark of a tree and crawls up and down, tapping with its long antennae, obviously searching for something. Eventually it finds the spot it is looking for and begins to drill into the bark with its long needle-like ovipositor. It has detected the larva of a horntail wasp chewing its tunnel in the wood an inch or more below the surface of the bark. The ovipositor is made up of three stiff threads, hardened by minerals, that fit together with a groove in the center. Vibrating those sharp-pointed threads forces them into the bark and sapwood of the tree to contact the

horntail grub in its tunnel. An egg is forced down the ovipositor to parasitize the grub. If the ichneumon parasite larva killed its host, they would both die, trapped in the solid wood which the parasite is unable to chew. It only feeds on the non-vital organs like the fat body until its host has nearly completed its life cycle and has chewed its way out near the surface of the bark. Then it kills and consumes its host grub and completes its own life cycle to emerge as another giant ichneumon wasp in the genus Megarhyssa (mega=large; rhyssa=tail) to start over again. You can see both Megarhyssa and its horntail wasp host in the MG collection.

People often ask if the ichneumon wasps will sting them with their needle-like ovipositors. The wasps are interested only in laying eggs in caterpillars or other insects, but if you handle a live one it may try to sting you in self-defense. Small ones could not likely penetrate your skin, but larger ones might be able to. If any ichneumon wasp comes flying around you, just shoo it away and tell it to go find a caterpillar.



A common ichneumon wasp seen in our gardens. Body length 1 inch.



Ichneumon wasps are of many shapes, sizes and colors.