

Explore the Watershed Net-Spinner Caddisfly

We're in the fourth year of the drought, and the creek is breaking up into a series of pools separated by small rivulets. Dimond Canyon is starting to favor organisms that can stand the extreme conditions of hot, dry days and cool nights. Mosquitoes do well in these conditions, and there are organisms that count on that and snack on the mosquito larvae. But the aquatic insects that favor cool, clear water have retreated to Joaquin Miller Park.

This caddisfly larva has been roused from its den. Check out the frilly gills on its abdomen. It's small, 8-15 mm, and looks delicate. But it is a predator for some of its life cycle.



Class: Insecta
Order: Trichoptera (caddisfly)
Family: Hydropsychidae (net-spinner caddisfly)

And here's how it hunts. We pulled this out of the water to photograph it.



It's the caddisfly's hunting gear—a net made of silk, placed across a section of the creek where the water is still flowing. Caddisflies are related to butterflies and moths (Class Lepidoptera), and they can spin silk

like their relatives. The net catches small organisms and detritus swept along by the current, and the caddisfly larva rushes out, sometimes aided by a strand of silk used as a sort of rappel line, grabs its prey or bit of trash, and dives back to its den to have dinner. The den is a messy amalgam of twigs and debris located on nearby rocks.

Caddisflies undergo complete metamorphosis: egg, larva, pupa, adult. The larva pupates and emerges as a winged adult. The image below is from www.troutnut.com (as I don't have any good photos) but is pretty typical of an adult caddisfly. The wings are rougher than moths and butterflies, and their hairy appearance gives the order its name: "tricos" is the Greek root for hair and "ptera" is the Greek root for wing.



Sometimes you can turn over rocks and find net-spinner caddisflies, but they are really well camouflaged. Trout like to snack on the pupa and adult forms.

The net-spinners are an important part of the creek ecosystem, and with a tolerance value of 4 (on a scale of 0-10, with 0 indicating very intolerant of pollution and 10 indicating strong tolerance for pollution) they do pretty well in the creek. We usually find them in greater numbers above Highway 13 in Joaquin Miller Park. When there are large numbers of larvae, it can be an indication of organic pollution.

--Kathleen Harris