



Flowing Stream, Waters Agleam

By Rachel Lubitz

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“Well, here goes.”

I step into the creek, socks, sneakers, and all. The freezing water shocks my system. The rapid water flows over my feet and past my legs. I use my net with a long wooden pole to steady myself as I edge across uneven rocks and boulders. I reach a particularly strong gush of water that flows over the rocks, and I quickly push down on my net to keep myself from falling. If I can barely keep myself steady from the water, how on Earth do all the little insects keep from flowing away?

Fortunately, evolution has a way of taking care of these problems. Any organism that would be swept away would be unable to live here. The ones that can survive take their place. One such example is heptageniid mayflies (Ephemeroptera). The nymphs have flattened heads to reduce the drag of the current. Strong claws at



Fishing Creek, MD; photo by W. Lamp

the tips of their splayed legs help them hang onto rocks. Diptera are another example of a group adapted to these harsh conditions. These are the true flies, and one of the families, Blephariceridae, takes advantage of life above the rocks. Instead of legs, these larvae use suction cups to stick to the tops of rocks. As water flows over them, they do not get swept away, thanks to their strong attachment to the rock. As a bonus, these larvae avoid predators, as they cannot reach the larvae where they are.

Hydropsychid caddisflies (Trichoptera) use silk to attach themselves to the substrate. Some hang onto the silk with their strong prolegs. Others use the silk to secure their cases. Nature uses a variety of elegant methods to solve tricky problems.

I place my net under the water flowing over the rocks to see if I can catch anything. I disturb the rocks to try to dislodge anything hanging on, but nothing appears in my net. Finally, when my TA whacks the rocks far harder than I was, little crawling creatures appear in my net. It just shows how good these little guys are at hanging on.