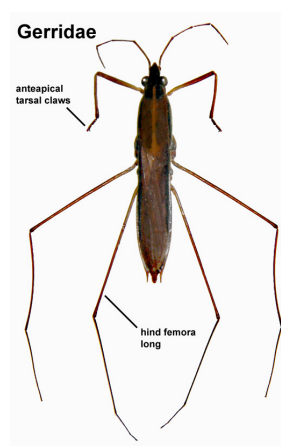


## Creature Feature: Winter 2009

By W. Scott Douglas

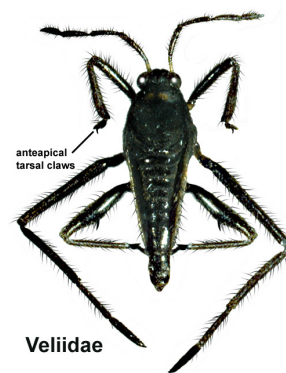
# Water Strider



Water striders are a common site on almost any body of water in our Watershed. Their characteristic habit of “rowing” across the surface of the water, at sometimes amazing speeds, makes them perhaps the most readily recognized aquatic insect. Curiously, they aren’t actually aquatic in the strictest sense, because they don’t live under water. They are able to ride on the water surface for two reasons: one is that they are very light, and the surface tension is strong enough to hold them (this is true of many insects). More importantly, strider’s legs are modified with tiny hairs that are positioned to prevent their feet from getting wet, and slipping beneath the surface. Some species’ have hairs that are quite elaborate, resembling flowers more than hairs. A few, specially positioned hairs will penetrate the surface just enough to get “traction”. Water striders have wings, but not all individuals in a population are able to fly. If conditions become

unfavorable, these “chosen few” will fly off to find a new location, and start up a new population. The others just have to tough it out, I guess.

Water striders are members of the order Hemiptera, or true bugs. They have piercing and sucking mouthparts, which they use to suck the body liquids out of their prey. The front legs are typically modified for catching and holding prey. Although some Hemiptera are large enough to bite humans, water striders are not. There are two distinct groups of water striders, belonging to the Families Gerridae and Veliidae. Gerridae are the larger, and more recognized group, with middle and hind legs that are much longer than their bodies. Gerrids can vary in size from a few millimeters to 3 centimeters. Veliidae, otherwise known as riffle bugs, are smaller, often no larger than 5 millimeters or so, and although their legs are long too, they are not nearly as long as those of Gerrids, and they are typically more “hairy”. Both kinds are voracious predators of any insect that falls on, or rises to, the surface. They detect prey by feeling the vibrations of their victims through the water. Scientists have even shown that striders use the surface of the water to communicate with each other by tapping out messages with their front legs. In many ways, water striders are much like aquatic spiders!



Both kinds of water striders are not particularly sensitive to water quality, since they are not in direct contact with it. However, as top predators they are indirectly affected as insect populations drop, or if their prey has accumulated chemicals. Scientists have shown that water striders can be used as indicators of pollution from chemicals that biomagnify in the food chain, such as mercury or certain pesticides. Fortunately, you should have no trouble finding all sorts of water striders in the Cooks Creek; all you need is a sweep net to run over the water's surface in quiet pools (for Gerrids) or at the bottom of riffle areas (for Veliids). Bring a magnifying glass to check out the fascinating structures on their legs that have allowed them to become the lions of the water's surface.