

A sunny afternoon at the Cary Institute

By Carola Lott

Although it had snowed during the night, by Sunday afternoon the sun was shining brightly which made the air seem almost warm. Fifty-three people including some twenty children gathered in the Cary Institute's parking lot for a winter ecology walk. The idea was to find creatures that have not only survived but have actually thrived during this very cold winter.

We set off two groups. Cary naturalist, Barry Haydasz, led the adults while the children followed two Cary Institute teachers, Megan McLean and Jennifer Rubbo. Almost at once it was clear that the deep snow would make for hard going. Although it was possible to take a few careful steps on top of the snow, before very long one foot or often both would break through, leaving people floundering about in snow over their boots. Fortunately we made frequent stops which gave us a chance to catch our breath and regain a little of our composure.

As for the children, their group leader Megan McLean said the deep snow showed them "what it meant to be a quadruped," which of course only added to their enjoyment.

There were many interesting things to see. At an oak tree we learned about marcescence, a term that refers to deciduous trees that retain leaves throughout the winter. It is believed that trees with marcescent leaves, which include Oaks, Beeches and Hornbeams, have developed this trait to protect them from the deer that would normally feast on their tender twigs and buds. Apparently, because dead dry leaves taste exactly the way you would expect them to, even hungry deer won't touch them. Score one for marcescence.

We also found a number of insects. Wherever a boot had left its imprint, there were snow fleas, which look like tiny seeds scattered on the snow. These fleas are a species of springtail, so called, because of the way they spring about on warmish days. Probably everyone has seen these little creatures and mistaken them for grains of dirt sprinkled on the surface of the snow.

We also saw stoneflies whose presence in a stream is a sign of good water quality. Well known to fishermen, these creatures have more to them than their ability to attract trout. In order to withstand cold temperatures, stoneflies are able to cool their bodies to extremely low temperatures without actually freezing—perhaps by increasing the anti-freeze compounds in their body fluids. Stoneflies also walk on tiptoe to keep ice crystals from invading their bodies through their feet.

By studying the mechanisms that allow certain creatures to survive in freezing conditions, scientists may come up with some practical applications for medicine – especially for operations that require organs to be kept at very low temperatures. We have much to learn from creatures that we either ignore or know little about.

I must confess that after forty minutes of thrashing about in the deep snow, I called it quits and lurched back to my car. Nonetheless it was nice being outside on a sunny afternoon and learning something new.