

group and talked about new position in St. Louis. She works to provide resources and training for pollinator habitat management, creation, and restoration to agricultural professionals and land managers across the Midwest. Jennifer has a Master's degree in entomology from the University of Kansas under the guidance of Chip Taylor (Monarch Watch).

At the meeting, we learned that the Xerces Society is the only environmental organization dedicated primarily to the preservation of invertebrates. The society is named after the Xerces Blue, the first butterfly known to have gone extinct when urban sprawl in the San Francisco area eliminated its habitat. Much of the work done by the Society is devoted to prevent further extinctions of other endangered invertebrates.

Jennifer noted that invertebrates as a group tend to be poorly studied and as such little is known about their life histories, distribution and population trends. The problem is that the vast majority of invertebrates are small and inconspicuous and don't draw the attention like other organisms like the charismatic mammals and birds. Because they are not studied as much, invertebrates are underrepresented on the endangered species list. Jennifer estimates that there should be approximately 16,000 invertebrate species on the endangered species list. There are only 183 and greater than 50% of these are butterflies.

During this presentation, Jennifer talked about how valuable invertebrates are. Most invertebrates are the primary food source for many animals. Invertebrates are the primary pollinators of flowers. Many of the foods we eat are produced from insect pollinated flowering plants. It has been estimated that invertebrates were involved in one out of three bites of food people consume. Invertebrates also play a crucial role as decomposers in natural communities.

Despite their utility, protecting invertebrates is something hard to sell to the public. Few people are interested in preserving habitat just for a nondescript little beetle. The Xerces Society uses a multipronged approach to preserve invertebrates. First, the society collaborates with others. For example, if habitat needs to be preserved for a charismatic mammal or bird, the Xerces Society will add invertebrate data showing that several

other species would benefit too. Second, even invertebrates have charismatic species. People are very interested in preserving colorful butterflies. An example of this is the society's ongoing efforts to get the Taylor's Checkerspot on the endangered species list. This butterfly has been found in only 14 sites in Oregon and at each site less than 50 individuals have been found at any one time. In Oregon, there is public support to have the Taylor's Checkerspot listed as an endangered species primarily because it is such a beautiful butterfly. The Xerces Society also takes part in legal proceedings for the benefit of invertebrates. Finally, and this is where Jennifer comes in, the Xerces Society has devoted much of its resources for educational outreach. Jennifer travels around the Midwest providing resources and training to all who are interested in invertebrates.

One of the major areas the Xerces Society has gotten involved in is the Native Pollinator Initiative. With honeybees declining due to colony collapse disorder, there is a great deal of interest for using native bees as pollinators. Native bees may even be better than honeybees because they tend to stick with one flower species at a time. This floral consistency is valuable to farmers growing monoculture crops. The Xerces Society has found that there is a direct correlation between the amount of natural habitat set aside and crop pollination. As a representative of the Xerces Society, Jennifer talks with farmers and farm groups about the benefits of installing pollinator habitat. In addition, she also gives talks about invertebrate conservation to natural history organizations such as the WGNSS entomology group. We in the WGNSS entomology group would like to welcome Jennifer to St. Louis and look forward to working with her in the future.



Hawn State Park – Winter Hiking at its Finest¹

By Ted C. MacRae

Two weekends ago we received another wave in what has been an unusually frequent series of

¹ Reprinted from an article posted February 14, 2010 on the author's website: <http://beetlesinthebush.wordpress.com>.

snow events. I'm sure my northern (and Patagonian) friends are not impressed, but at our middlin' latitudes snow falls rather infrequently and rarely sticks around for long when it does. This winter has been different, with snowfall almost every week, it seems like, and temperatures that have remained cold enough to keep it around for awhile. While this latest snowfall measured only a modest 1-2 inches here in the St. Louis area, a 7-inch blanket (as measured by my hiking stick) fell in the Ozark Highlands just south of here. Coming as it did at the start of the weekend, I welcomed the opportunity to go for a hike — among my favorite wintertime activities — in a landscape that is rarely seen covered in deep, newly-fallen snow. My daughter Madison loves hiking as much as I do ([even in deep snow](#)), so the two of us headed off to perhaps my favorite of Missouri's public areas, [Hawn State Park](#). I have long adored Hawn for its premier hiking, fascinating [geology](#), and unusual [flora](#), and every time I visit I find something new to love about it.



Lamotte sandstone outcrops on the White Oaks Trail.

Such was the case on this visit, when Madison and I decided to explore the White Oaks Trail, a newer trail that I had not yet hiked. I was a little concerned whether we would even be able to get to the park, as the road leading into it had only been partially plowed (and we had already seen one car off the road, causing me to reach down and switch on the 4-wheel drive). Most of the park was snowed in, but we were able to reach the uppermost parking area, leaving our snow-covered trail-finding abilities as the last obstacle to overcome. After studying the trail map and looking at different route options, I asked Madison

if she wanted to hike 2 miles, 4 miles, or 6 miles. She immediately blurted out “6 miles!”, so off we went. I was disappointed to see that we were not the first persons to have the idea, as we entered the trail only to find two sets of footprints (one human, one canid) leading off in front of us. It did, however, make following the trail easier, and in fact I've had enough experience finding trails through the Ozark Highlands that I never felt like I needed the footprints in front of us to point the direction.



Madison next to the root wad of an 83-yr old wind-thrown oak tree.

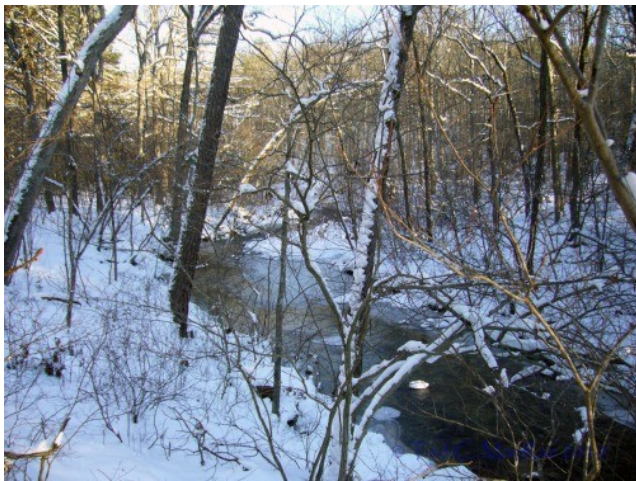
The White Oaks Trail followed nicely up-and-down terrain through mature white oak (*Quercus alba*) (appropriately) upland forest dissected by small riparian valleys before settling into relatively mild terrain through monotonous black oak forest. Just when I thought the trail wouldn't match the splendor of Hawn's Whispering Pines and Pickle Creek Trails, it wrapped around to the south at the far end and passed by a beautiful hoo-doo complex of Lamotte sandstone outcroppings supporting majestic, widely-spaced, mature shortleaf pines (*Pinus echinata*). The rock outcrops provided a perfect spot to break for lunch while looking out on the deep, snow-covered valley in front of us.

After counting a cut, wind-thrown black oak (*Quercus velutinus*) and determining a lifespan of 83 years, we took a connector trail down to the Whispering Pines Trail where it ran alongside the incomparably beautiful Pickle Creek. Our hope was to hike down to the igneous shut-ins, where hard, pink rhyolite channels the creek's clear, spring-fed waters through narrow chutes and



More Lamotte sandstone exposures along Pickle Creek, Whispering Pines Trail.

miniature gorges. Upstream from the shut-ins, Pickle Creek runs lazily through the softer Lamotte sandstones that overlay those ancient rhyolites, combining with the snow cover to create a scene as peaceful and serene as any I've ever witnessed.



Pickle Creek meanders lazily through Whispering Pines Wild Area.

Just above the shut-ins, Pickle Creek bends to the west, carving deeply into the soft sandstone. The porous nature of the rock allows moisture to trickle through and between the strata from the hillside above, creating seep zones that weaken underlying layers and lead to their collapse. The abundant moisture this winter and continuous cycles of daytime thawing and nighttime freezes have resulted in extraordinary ice formations along the bluff face and underneath the overhanging layers, the likes of which are rarely seen in our normally more open winters. Compare the scene in the first photo below with that in the second,



Icicle formations along Pickle Creek, Whispering Pines Trail.



Same place as above in February 2009.

taken at almost exactly the same spot one year ago in February 2009.

Ice rarely forms over the small ponds and lakes that dot the Ozark Highlands, much less its creeks and other moving waters. The scene below of



Pickle Creek along Whispering Pines Trail.

Pickle Creek as it exits the sandstone gorge is a testament to the slowness of its movements and the unusually consistent cold temperatures experienced during the past several weeks. Only a short distance downstream, however, these lazy waters reach the bottommost layers of the erodible sandstones and encounter the hard rhyolite below. These half-a-billion year old layers of igneous rock are much more resistant to the wearing action of water, which rushes noisily through narrowly-carved chutes before fanning out in broad sheets over smooth, steep slopes below.

Sadly, there would not be time to visit the shut-ins. The short February day conspired with our snow-slowed pace to leave us with a too-low-sun by the time we reached the fork in the trail that led to the shut-ins, a mile in one direction, and our car, a mile in the other. Although we (both) had thought to carry flashlights (just in case), the last thing I really wanted to do was find myself stumbling over snow-covered trails through the dark with my 10-yr old daughter. Even had we survived the nighttime winter woods, I might not have survived the inevitable maternal reaction to such an escape.



Arriving back at White Oaks Trailhead with a few minutes to spare.



Do You Have “An Inordinate Fondness”?

By Ted C. MacRae

When asked by an English cleric what his studies of nature’s diversity had taught him about the

Creator, 20th Century British geneticist and noted evolutionary biologist J.B.S. Haldane reportedly quipped, “***He has an inordinate fondness for beetles.***” While there is some uncertainty whether Haldane ever actually spoke these words, no one can argue with their truth.



In fact, nearly half of all insects and one quarter of all described living species are beetles—350,000 and counting. They occur in virtually every habitat imaginable and exhibit innumerable, often brightly colored—

even iridescent—and architecturally elaborate forms. Their impacts on humans are also many, not only as pests and beneficial organisms, but also as cultural symbols and objects of passionate scientific and philatelic interest.

Given their unparalleled diversity and significance, I always found it puzzling that there were no nature blog carnivals¹ devoted to beetles. Nearly all other main divisions of natural history study do - [birds](#), [trees](#), [marine life](#), [plants](#), and recently [herps](#). Even [moths](#), another great insect order, have their own carnival, but the only available outlet for posts dealing with earth’s dominant taxon is within the broadly circumscribed [Circus of the Spineless](#).



All that has changed with my introduction of nature blogging’s newest carnival, [An Inordinate Fondness](#)²—the monthly blog carnival devoted to beetles. The name honors J.B.S. Haldane’s perhaps apocryphal riposte (made even more famous by the

¹ A “blog carnival” is a periodic, themed collection of permalinks to other blog posts – a sort of anthology where the works of multiple authors are compiled and presented to readers in a coordinated fashion.

² <http://aninordinatefondness.wordpress.com>