



# The Ferrum Nature Society Bulletin

*Dedicated to the appreciation and conservation of our natural world*

Editors: Todd Fredericksen [tfredericksen@ferrum.edu](mailto:tfredericksen@ferrum.edu)  
Nell Fredericksen [nfredericksen@ferrum.edu](mailto:nfredericksen@ferrum.edu)

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## Nature's Events:

**Mushrooms** - This month is often the peak of the chanterelle season. Look for these choice edibles to emerge a few days following heavy summer rains.



**Hurricane season—** A few large storms are likely to occur during August and their remnants often travel inland reaching Virginia where they bring strong winds and heavy rains.



## Sky calendar:

**Full moon** - August 11—the green corn moon.

**Perseid meteor shower** - peaks Aug. 11

**Jupiter** - is near the moon this month. Venus and Saturn are morning stars this month.

## The adventures of the eastern box turtle

Todd Fredericksen  
Ken Graves

It is difficult not to like box turtles. These peaceful and colorful land turtles are commonly encountered along forested trails, roadways, and backyards throughout eastern North America. Although quite common, many people may be surprised at some of the amazing adaptations of these hard-shelled critters and how forest fragmentation and urban sprawl is threatening box turtle populations.

Box turtles are named for their ability to fully enclose themselves within their shells composed of an upper shell (carapace) and lower shell (plastron). The shell is fused with their backbone and it affords turtles protection against predators as well as harsh environmental conditions. The bony shell is covered with plates called scutes made of a waterproofing material called keratin. A box turtle encloses itself in its shell essentially by tucking its head and tail into an "S" position. It exhales air from its lungs upon executing the tuck, making a hissing sound in the process.

Box turtles spend most of their time in forests. They will often venture into openings, however, in search of food, basking locations, and nesting locations. During periods of hot weather, we have often seen box turtles resting within streams in an attempt to beat the heat. Turtles tend to be more active when humidity levels rise and are especially active following summer rain events. Young box turtles spend most of their days in thick vegetation where they may receive greater protection against predators.



Newly hatched box turtles have thinner shells which make them vulnerable to their predators, such as raccoons, various canids, skunks, and opossums. Their secretive lifestyle explains why young box turtles are less often seen compared to adults.

As for food habits, these turtles are versatile omnivores, eating a wide range of foods including fruits, foliage, invertebrates, carrion, and fungi. Favorite foods of box turtles include earthworms, blackberries, and wild strawberries.

Box turtles spend a large amount of their time in depressions called forms. These are depressions that box turtles make in the soil or in leaf litter while they are at rest. Their wanderings are not completely random, however, and turtles seem to recognize their home range upon which they imprint as young turtles. Home ranges are usually less than 2 acres. Turtles are not territorial; they are not aggressive to other turtles in any part of their home range, but they are not very sociable either, except during mating. Turtle mating encounters appear to be random. Males can be differentiated from females by their more elongated carapace, fiery orange eyes, and an indentation in their plastron that facilitates mounting on top of the female carapace. Females lay an average of 2-3 eggs in mid-summer, and then cover them with soil. The eggs hatch after about two months,

## A shiny beetle indeed!

Todd Fredericksen

Break apart any large decaying log in the summer and you might find something brilliant shining back at you. The patent leather beetle, also called the horned passalus (*Odontotaenius disjunctus*) is a large (1-1.5") wood-eating beetle common in our area. Their shiny, black exoskeleton exhibits the reflective sheen of patent leather, hence their more popular common name. They have clubbed antennae and as well as a short horn on their heads which is characteristic of the bessbug family (Passalidae). The beetle has a small head with chewing mouthparts, a square middle section called a pronotum, and a long hind section called the elytra, which covers the wings.

Patent leather beetles feed on decaying wood, preferring hardwood species, such as oaks. They also lay their eggs in it, creating a labyrinth of galleries that facilitate the decomposition of the fallen log. The white grub-like larvae hatch from eggs and are fed a mash of chewed wood pulp and feces by the adult beetles. The feces allow the transfer of intestinal protozoans and bacteria that enable the larvae to digest cellulose. After a year, the larvae will pupate and later emerge as adult beetles. These beetles are active from about May until October

One can often hear patent leather beetles before seeing them because they make squeaking noises by rubbing their wings on their abdomen. This noise is often used as a warning signal or during courtship. Beetles are fed upon by many birds and mammals and their larvae are a delicacy for mice, salamanders, and lizards.



Patent leather beetles exposed by lifting a fallen log.

## One of our pond-dwelling vegetarians

John Peak

Common near the Ferrum College ponds, the muskrat (*Ondatra zibthicus*) lives in lodges or burrows with the entrances are under the water. These shelters usually have multiple compartments to raise their young



and keep warm. They usually like to live in sloughs, marshes, oxbow lakes, streams, levees, dikes, and small lakes and ponds. Muskrats do not venture far from their homes when they go out to forage. They tend to stay within 45 feet of their lodges although they may venture out further if food is scarce or to seek mates. Muskrats are basically vegetarian, but they may occasionally eat fish, crustaceans, dead birds, and frogs. Their favorite foods include cattails, bulrush, sedges, pondweed, pickerelweed, spikerush, panicgrass, willows, and acorns.

The muskrat has to be careful when venturing out from their lodge or burrow because of its many predators. Humans trap them for their pelt and minks, raccoons, bobcats, house cats, dogs, coyotes, red foxes, barn owls, barred owls, great horned owls, bald eagles, eastern cottonmouths, snapping turtles, and largemouth bass all eat them. Muskrats seek cover among dense aquatic and shoreline vegetation.

Water levels and velocities affect muskrat habitat. If water levels are low, food abundance will also be low. This is evident when the water levels are low in winter allowing freezing, killing food that the muskrat usually feeds upon. Fluctuation of water levels, however, is good for muskrat habitat because it promotes regeneration of emergent vegetation, although a rise of more than 2 feet will drive muskrats out of their burrows and lodges.