



Creature Feature: Summer 2009

By W. Scott Douglas

Marbled Salamander (*Ambystoma opacum*)



A couple months ago I had the pleasure of working with Marlin Corn of the Honey Hollow Nature Center. Marlin is an expert herpetologist (scientist of amphibians and reptiles) and he was interested in searching for salamanders in upper Bucks County. I agreed to help him out, along with my good friends Hans Reimann and Francine Schmitt. Salamander hunting during the spring is best done at night, when the salamanders are

migrating to vernal pools to breed. We visited several of these pools during that wet, rainy night, amid the friendly chorus of breeding wood frogs and spring peepers. Marlin was pretty sure we would find spotted salamanders (large black ones with yellow spots), but what we really hoped to find was the larvae of marbled salamanders. As we were wading in a pond off Winding Road in Springfield, Marlin told us to shuffle our feet and look closely for what may look like tadpoles. These would be the larvae of marbled salamanders and would be up to an inch long or so.

Adult marbled salamanders are 3-4 inches long, jet black with distinct white to silver bands across the back. They live in burrows excavated in moist, damp woodlands and forests throughout the eastern U.S. They are voracious predators, feeding on insects, worms, slugs and snails. Marbled salamanders are preyed upon by owls, shrews, weasels, skunks and raccoons. These salamanders are long lived, most living 10 years or more. Unlike other mole salamanders, marbled salamanders migrate to dry ponds and ditches in the fall to mate. The males display for the females and then deposit a sperm filled packet, called a spermatophore, onto a leaf. If the female is interested, she will pick up the spermatophore with her cloaca and fertilize her eggs. She will then lay between 30 and 130 eggs under damp leaves in the dry basin, and guard them until the fall rains come. Once the pool fills with water, the eggs hatch into larvae. The larvae are mostly head and tail, with long feathery external gills. The larvae, like adults are big eaters, feeding on zooplankton, crustaceans and worms, as well as other insects that wander into or fall onto the pond. The larvae mature in 2-8 months, depending on temperature, when they leave the pond.



Finding marbled salamanders is not easy. They spend most of their life underground in moist dark burrows, coming out only on rainy nights to feed. The best time to find them is

in the fall, when they migrate to the sites of vernal pools to breed. Vernal pools are ponds that hold rain and snowmelt in the spring, but dry up in the summer and fall. Many different species use these pools to breed, as they do not have fish which tend to eat the eggs and larvae. Vernal pools are protected as wetlands, and there are restrictions on grading, logging and filling activities around them. However, vernal pools are rapidly being lost to overdevelopment, which lowers groundwater and dries the pools up. Because of this habitat loss, marbled salamanders are a species of special concern in PA. Although there were spotted salamanders a plenty, Marlin and the rest of us did not find any marbled salamander larvae that night, but we are ever hopeful. If you have a vernal pond on your property, or see a marbled salamander, please drop me a line at www.cookscreekpa.org so that we can keep track of these guys.