

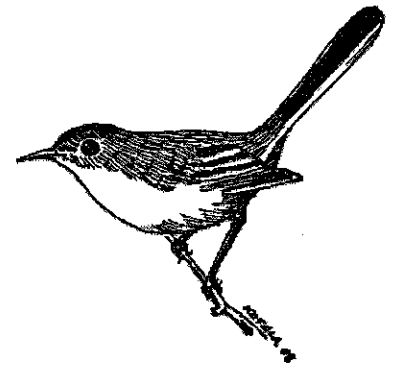
The Gnatcatcher

Newsletter of Juniata Valley Audubon

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Join Us on Tuesday, April 19 for the Annual JVAS Spring Banquet

6:00 p.m., with dining to commence at 6:30.

Banquet room at Hoss's Steak & Sea House, 170 Patchway Road, Duncansville (right off Old Rt. 220).

We shall have the full room this time! Dining will be *a la carte*.

Our banquet program, "Farms, Charcoal, Wildfire, and Props," by Sandy Smith, will cover the major forest history highlights from the nineteenth century. Sandy's PowerPoint presentation will focus specifically on central Pennsylvania and the impacts of agriculture, charcoal iron, wildfires, and mine prop harvests on the forests and wildlife in the 1800s. It will include a discussion on the fascinating lives of the men (colliers) who made the charcoal and the process they used to do this. Sandy will dress as a collier and will have interesting artifacts from the 1800s. Sanford "Sandy" Smith is a Penn State Cooperative Extension natural resources and youth-education specialist in the School of Forest Resources. Sandy has worked at the county, state, and international level (Poland and Nepal) over his 29-year Extension career. He received his B.S. degree from the University of Maine, and his M.S. and Ph.D. degrees from Penn State. He and his wife, Patricia, reside in State College, where they raised three sons. They now are enjoying the fun and blessings of daughters-in-law and grandchildren.

A "silent auction" also will be held to raise funds for JVAS conservation efforts. Members are asked to bring new or gently used nature-related items to donate for the silent auction. Books, artwork, pottery, native plants — anything related to nature will be auctioned. Bring your checkbook or cash to support our only fund-raiser!

Anyone may attend our banquet — you don't have to be a member of the chapter (though we encourage everyone to become a chapter-only or a National Audubon member).

By April 15, contact JVAS Vice-president Laura Jackson by phone at 814 652-9268
or by e-mail at mljackson2@embarqmail.com to advise her of the total number in your party.

JVAS THANKS ITS CORPORATE SPONSORS

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Mike and Laura Jackson
8621 Black Valley Road
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Siren Song

Heidi Mullendore

They emerged from their hiding places, moist noses sniffing for direction in the dark while bulging eyes carefully scanned for predators. Their bodies, covered in moist skin, were difficult to see, so the creatures emitted strange clucking noises to communicate their desires.

This may sound like something from the sci-fi channel, but the annual awakening of the anurans, the frogs, is one of the most familiar and welcome signs of spring and has been occurring for millennia throughout Pennsylvania.

In late winter, most of us feel a little desperate and closed in – the result of spring fever. On the days nature tantalizes us with warm spells we eagerly and usually pre-emptively shed layers and get outdoors in short sleeves or shorts, braving the mud and muck for a taste of spring.

As days pass from March into April, the temperatures edge up above freezing and the ground begins to thaw. Snow retreats, revealing the land, and ice disappears from lakes. Hepatica and spring beauty unfurl petals to the sun and with the warm days emerge a host of creatures, welcoming the spring. However, none are as delightful as the wood frog in all its vernal charm.

Each spring I am compelled to follow their siren song to the seasonal pools and marshes. This early April day was still and warm – greens were poking through the duff and I in my shirt-sleeves was doing an Elmer Fudd style military crawl through cold muck to sneak unseen to the little vernal pool where each year come hundreds of wood frogs.

Vernal pools and marshes are the preferred breeding grounds for many species of frogs. Because the pools dry up, fish cannot live there and the frogs' progeny is protected from predatory fish. However, the anurans that utilize these pools come to breed early and breed quickly, leaving enough time for their young to develop and emerge as adults.

The wood frog is the first to call in spring. This comic little frog, *Rana sylvatica*, sounds distinctly like a duck chuckling. Wood frogs confirm my belief that Mother Nature has a distinct sense of humor. Wood frogs are beautiful, with a golden brown body, deep chocolate robber's mask, and gold highlights on eyes and lips. Smaller than a cell phone, they emerge from the leaf litter of the forest and flock to their natal pools

and marshes in a breeding frenzy that lasts only a short time each spring.

Evolved to blend in, wood frogs look like fallen leaves, relying on camouflage to stay alive in their woodland habitat. Blending in, however, doesn't work well when trying to find love. As such, they utilize their voices to attract a mate, calling noisily in large groups, attracting females to mate. Of course, when trying to blend in, yelling is not the best practice. As such, the frogs are a suspicious lot, excellent at detecting motion; thus my ridiculous military crawl through the muck to the edge of their pool.

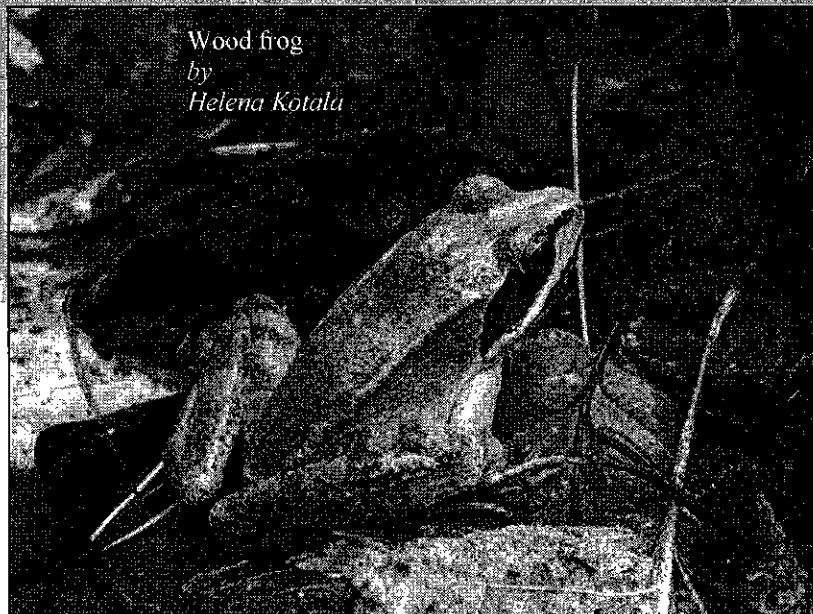
Stealthily I creep nearer, although why I bother I'm not sure, as no matter how low a profile I keep, the wonderful barking/quacking turns off suddenly and I am left in mid-crawl, feeling sheepish. I give up the charade, separate my knees and hands from the muck and walk to the little seasonal pool to plunk myself down against a tree to begin the inevitable wait.

The wood frogs that dove into the mud and leaves at the bottom of the pool begin to quietly surface after a few minutes, but do not resume calling. They are crafty, eyes and noses appearing among the leaves, looking like more flotsam in the pool, until I notice the round spots have pupils

and can make out legs and body among the leaves. The frogs are poker-faced, giving nothing away until a mate calls, his sound and ripple giving away his position. Finally, after what seems an eternal length of time another of the males tentatively quacks. Silence again, then a few minutes later another and then a few more. As long as I don't move the frogs resume the dangerous business of calling for a mate.

Spring has certainly begun, but food reserves are still low, and wood frogs have been in hibernation all winter – frozen solid, amazingly enough. *R. sylvatica* survive sub-freezing temperatures by using a natural antifreeze in their cells – during winter they are frozen with all bodily processes at a halt. In humans, any medical doctor would determine us clinically dead. Despite their 'death state' the wood frogs thaw themselves in spring, their hearts start pumping and they head for their spring breeding grounds, depending upon energy stores retained through the winter.

As the males gather first (how they find their way is still a mystery), they set up breeding territories and begin calling to



welcome the females. While making these calls, the frogs' metabolic rate can increase ten to twenty times, an exhaustive process, as they've not eaten since fall.

The pool I was watching soon vibrated with the calls of just twenty males that I could see, although I'm sure with their excellent camouflage many more remained unseen. The frogs are especially vociferous at dusk as darkness keeps them safe. At this time they amp up the love songs to a roar.

Years ago while residing in southwestern New York, I'd found a huge marsh bisected by a road. The bowl-shaped glacial valley was enormous, and on a warm and humid spring night the calls of hundreds of thousands of frogs was a deafening cacophony, like nothing I'd ever heard.

The spring breeding season is always frantic. The frogs must migrate, set up territories, attract a mate and fertilize eggs in time for the young to hatch and make it through the larval tadpole stage and then into adults, before vernal pools dry up in summer. As such competition is fierce and loud.

Frogs utilize pouches in the throat or behind their ears which help amplify sound coming from the throat. Frogs can extend the length of their calls by forcing air into the pouches. Wood frogs make the laughable but charming quacking calls while the peepers who begin calling soon after emit the high peep-peep-peep distinctive of their nickname. Wood frogs and peepers soon give way to the long snoring calls of the spotted pickerel frogs. Then the American toads join in, their lovely trill heard soaring in marshes, ponds and rivers where they prefer to breed.

Of course, what a female fancies in a mate varies by species. Female peepers are attracted to the vigor of the male's call - its volume and frequency. Gray tree frogs prefer long vigorous calls while female green frogs like mates who have selected good habitat. Female bullfrogs go for a deep voice; a loud voice means a big brute who can defend his territory.

The herpetologists who study frogs have found evidence that females show preference in a variety of ways. However, it seemed each spring as I stood at the edge of a marsh with flashlight in hand that the frenetic males were not relinquishing to the preferences of the more selective females. On the contrary, male frogs are so desperate to mate that they'll grab on to anything that moves. Often a female is beset with several males, clinging to her legs in various positions. Frogs have

often been found clinging to salamanders, males or females of other species, even males of their own species. The various clusters of glassy-eyed mating frogs I see each spring show that indeed the male frogs hadn't read the scientific studies to know that the females were searching for just the right male.

At the onset of the breeding season, the male wood frogs' thumbs actually swell and the webbing of their hind feet expands to help them maintain their grip on the larger female during mating. While in amplexus, the male wraps his forearms around her neck and won't let go until after mating. As the female lays eggs the male releases sperm over them. The eggs then absorb water, swelling to form a large slick ball often clustered around a twig or stem in the water. Once the eggs are laid, the frogs leave the pool and return to their woodland habitat, finally able to eat for the first time in six or more months.

The eggs are left to hatch and the tiny tadpoles grow quickly, consuming algae and insects. They themselves are a crucial part of the vernal pool ecosystem, being food for salamanders, insects, other frogs, birds, snakes etc. As such, only a small percentage of tadpoles live to absorb their tails and sprout legs to emerge from the pool and travel away from their natal pools.

These wood frogs will return in two years, when sexually mature, in order to join the spring breeding frenzy. Since wood frogs only live three years, it is likely that the adult frogs return only once before dying. And yet, somehow the frogs know how to get back to their place of birth when it is time.

Each April I follow the calls of the wood frogs to marshes and vernal pools if only to get a glimpse of these beautiful sirens who welcome in the spring with their love songs. The breeding season is short for most species, but marks with definite and riotous joy the arrival of spring and new life.



MARCH PROGRAM

March 15 — "Local Waterways and Watersheds"

Watershed specialist for the Blair County Conservation District, **Jim Eckenrode**, will share his expertise on the importance of clean water and how a healthy watershed results in a great biodiversity of wild-life. Jim will share some practical tips on improving watersheds.

MARCH/APRIL FIELD TRIPS

Saturday, March 19 — **Hike Above the Horseshoe Curve.** Come enjoy the early signs of spring as we view an area where an abandoned strip-mining town once stood. Meet at the Horseshoe Curve at 10 a.m. For more information, contact trip leader Deb Tencer at naturehikergal@gmail.com.

Saturday, April 9 — **Timberdoodles at Canoe Creek State Park.** The park has a variety of wetlands and old fields that provide ideal habitat for woodcocks. Observe the fascinating and unique flight of the timberdoodle. Meet at Pavilion 1 at 7:30 p.m. For more information, contact trip leader Dr. Stan Kotala at 814 946-8840 or at ccwiba@keyconn.net.

Sunday, April 10 — **Early wildflower drive.** Dave and Marcia Bonta will lead a driving tour of some prime wildflower spots in our area to look for hepatica, bloodroot, trout lily, and twinleaf. Meet at 10 a.m. at Advance Auto Parts, Rt. 22, Huntingdon. Pack a lunch. Contact the Bontas at 686-7274 with any questions.

Saturday, April 16 — **Nature hike along the Lower Trail.** Meet Deb Tencer at the Water Street Flea Market at 10 a.m. and hike a couple miles up the river. The area is known for its red trilliums and Dutchman's breeches. For more information, contact trip leader Deb Tencer at naturehikergal@gmail.com.

Saturday, April 30 — **Lower Trail wildflower walk.** Dr. Alice Kotala will lead an hour-long wildflower walk in the area around the Flowing Springs Trailhead. Bring a wildflower guide book, if you have one. Meet at the Flowing Springs Trailhead at 2 p.m. Contact Alice at 814 946-8840 for more details.

ABOUT JVAS PROGRAMS: Programs are presented on the *third Tuesday of each month, September through May (except December)*. They begin at 7 PM in the **BELLWOOD-ANTIS PUBLIC LIBRARY**. Take the Bellwood Exit off I-99, go straight thru the traffic light at the Sheetz intersection, proceed about 4 blocks and turn right just before crossing the railroad overpass. Turn left at the next intersection, another 2 blocks and the library is on the right.

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