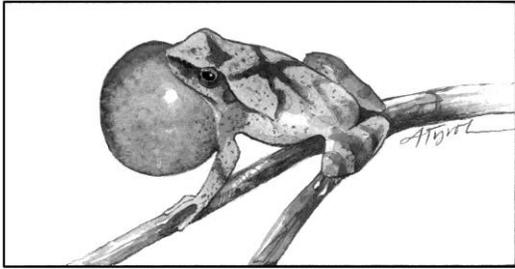


The Outside Story



Fall Peepers

By: Michael J. Caduto

We like to think that everything in nature has its own particular time and place. But nature is fond of throwing us curves. As a naturalist, a common question I'm asked during foliage season is, "why are spring peepers calling in my woods at this time of year?"

Even ardent students of nature can be stumped by the plaintive, autumnal notes of peepers; sounds that we easily recognize in the spring can seem alien when they appear out of context. Jim Andrews, Adjunct Assistant Professor in the Rubenstein School at the University of Vermont, and Vermont's go-to expert on all things herpetological, described how autumn peepers have fooled birders. "They were trying to locate the birds that made these noises in the fall, of course, with no success."

After taking a quiet summer respite, some peepers again find their voice. Their solitary songs resonate from the deep woods, intermingled with the chirps of crickets. Fall peepers can be heard from about late July until well after the leaves have fallen.

"They were calling on December 24th, 2015 at my home in Salisbury," said Andrews, "and were reported calling on the same date from six other towns in Vermont. They appeared to be calling from under the leaf litter."

This isn't the only time he has heard peepers, and other frogs, out of season. "On November 25, 2004, I heard a chorus of peepers. This did not fit the pattern of fall calling at all, since it was an entire chorus and the frogs were all located near a potential breeding site." He has also heard, on a few occasions, northern leopard frogs calling softly from along the edges of their overwintering spots in the fall, and wood frogs calling from the leaf litter in November.

There are several schools of thought as to why peepers and other frogs sing in the fall. One hypothesis: the shorter day length and steeper angle of the sun create conditions of natural light that are similar to those that occur during the vernal mating season. When a stretch of autumn weather arrives that is warm and wet enough for frogs to become active, some of them respond with song to these spring-like environmental cues.

Another theory is that the singing is prompted by physiological changes that occur in autumn. "I think it is primarily this, or possibly both combined," said Andrews. "[Peepers] need to be physiologically prepared for calling and breeding in the spring as soon as they thaw out. If you consider that their body temps may be below freezing when they are in the leaf litter during the winter, they are essentially in cold storage. They have to be ready to breed when they

enter the leaf litter. As far as their bodies are concerned, they are only minutes away from breeding when they shut down in the fall.”

In this heightened state, some frogs begin to sing. Research into the reproduction of the spring peeper, which was published in *Herpetologica*, reveals that although ovulation won't occur until spring arrives, the stage is indeed set in autumn for the next mating season. Male sex organs develop from late June through early September. By the time peepers are ready to hibernate, their sperm has matured. Autumn females have already formed eggs for the next breeding season; these are nearly two thirds the size they will ultimately become in the springtime.

Despite the singing, peepers and other fall singers don't actually mate in autumn. Their calls are just a tease. The real mating dance must wait until spring is really here and warm weather returns in earnest to nurture the next generation of eggs and tadpoles.

Michael J. Caduto is an author, ecologist, and storyteller who lives in Reading, Vermont. The illustration for this column was drawn by Adelaide Tyrol. The Outside Story is assigned and edited by Northern Woodlands magazine: northernwoodlands.org, and sponsored by the Wellborn Ecology Fund of New Hampshire Charitable Foundation: wellborn@nhcf.org

Northern Woodlands

PO Box 471, Corinth, Vermont 05039

Tel. 802.439.6292 Fax 802.439.6296

www.northernwoodlands.org