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# LIVING

# Music of the night

Few animals in nature are so aptly named as the spring peeper. Not only does the name tell us when the frog starts calling, but it also provides a close approximation of the actual sound it makes. The name is also fittingly poetic for an animal whose song is among the first signs of spring, usually while snow still lingers in our forests and ice remains on our larger lakes.



**OUR  
CHANGING  
SEASONS**  
Drew Monkman

As frogs go, the spring peeper is one of the smallest, reaching an adult length of little more than two and a half centimetres. Another diagnostic feature is the presence of dorsal marks forming an indistinct X on the frog's back. In fact, the peeper's scientific name, *Pseudacris crucifer*, refers to this cross-like marking. The frog's coloration, a variation of brown, gray, or green, provides excellent camouflage against the dead spring grasses. Like other treefrogs, spring peepers also have sticky, round toepads that they use to climb and cling to twigs and bark. However, unlike the high-climbing grey treefrog, peepers rarely ascend above knee-level.

Spring peepers breed from April until early June. They come out of hibernation with the onset of the first warm rains. Amazingly, they begin singing their hearts out more or less immediately, despite having had nothing to eat for five months and having spent the winter frozen under a blanket of snow on the forest floor.

The peeper's call is a surprisingly powerful series of high-pitched, piercing, bird-like peeps that are repeated about once per second. They are sometimes accelerated to form a short trill. Because the call note is so high-pitched, people often mistake this vocalization for the chirp of a cricket. However, crickets don't start calling until at least mid-summer.

Spring peepers normally sing in trios. If you listen carefully, you will notice that the male who starts each round of song is usually the deepest voiced. When there are large numbers of peepers calling at close range, the chorus is almost physically painful to the ears. It is a sound that will ring in your head for hours afterwards. A chorus heard at a distance sounds remarkably like the tinkling of sleigh bells.

The best conditions for hearing a full spring peeper chorus are mild, damp, windless nights that follow a period of rain. The calling is loudest during the first few hours of darkness, but tends to fall off after midnight. The males call out from perches on shrubs and trees in or around the water. They will also climb a short way up grasses and sedges to reach a better venue from which to sing. Some peepers also call sporadically in the daytime in summer, especially when there are light rains or the weather is damp and cloudy. In fact, the occasional calling of a spring peeper is also characteristic of the warm, muggy days of early fall. If you are not familiar with the spring peeper's song, go to <http://www.naturesound.com/frogs/pages/peeper.html>.

In order to make such a loud sound, the peeper uses a vocal sac, located under its chin. The frog fills the sac with air until it looks like a full balloon, and then pushes the air out. This produces two peeping sounds - one sound when the air goes in — "peep in" — and a second sound when the air goes out — "peep out."

In response to the male's calls, the females come down to the breeding ponds, ditches and marshes where they will select a mate. The faster and louder a male sings, the more likely he is to attract a female. The male climbs onto the female's back and fertilizes the 800 to 1000 eggs as they are voided from her body. The eggs are laid singly on twigs, stems and leaf litter at the pond bot-

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Tim Dyson, special to The Examiner

The X-shaped marking on the back of this peeper is clearly visible in the above photo. Below, a spring peeper on a bed of moss.

tom. They hatch within six to 12 days, and the tadpoles develop rapidly on a diet of algae and other tiny organisms. Peeper tadpoles are actually bigger than the adult peepers. Depending on when the eggs were laid, most tadpoles will have transformed into adults by mid-summer.

Peepers live in wooded habitats where there are permanent or temporarily flooded ponds and swamps. They only use the wetland sites in the spring, however. The rest of the year they can be found in more upland areas. Being nocturnal, they are most active at night, when they come out to look for food on the forest floor or by climbing low shrubs. Although they are good climbers, peepers seem to prefer to be on the ground or hiding in leaf litter. The young of the year are fairly easy to find on the forest floor from mid-summer through early fall.

Spring peepers, like all amphibians, are cold-blooded. This means that their body temperature changes according to the outside temperature. In late October, with the onset of cold weather, the peeper takes refuge in the leaf litter of the forest floor or under logs and loose bark. When temperatures drop to freezing, the peeper's body also drops to freezing. However, only some body parts actually freeze. This is accomplished through the production of glucose, a sugar-based antifreeze, in the frog's liver. The glucose is then circulated to the cells of the entire body. Ice forms in the body cavities outside of the cells, but never in the cells, tissues and organs themselves. In this way, the ice does not do any harm to the frog. In fact, these little blocks of frozen frog, or "peepsicles," quickly soon become active again if brought inside from the cold.

Although peepers can be hard to actually see, it certainly is possible. Put on a pair of rubber boots, take along a strong flashlight and slowly walk in the direction of the frogs' peeps. If the calling ceases when you get near, stop and wait quietly until they start up again. Sometimes you can get them going again by whistling your own peeps. Pinpoint



Mike Oldham, special to The Examiner

one frog's calling and shine your flashlight in that direction. The light won't bother him. Look for the shiny, throat "bubble" moving in and out with every peep. You can then move in slowly and quietly for a closer look and maybe even a photograph.

Even though peepers are still plentiful, amphibians in general are experiencing unprecedented declines and extinctions throughout the world. They are highly susceptible to surface water runoff, which often carries chemicals, pesticides, or silt that can

kill adults, eggs, or tadpoles. Good soil erosion practices and the careful application of pesticides and fertilizers is extremely important. Let's hope we'll always be able to open a window on a warm spring night and gently drift off to sleep, serenaded by the jingling bells of a chorus of spring peepers.

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