**Observations in Nature – A Year in the Life of Spring Creek - November**

Winter has come to Wyoming. Spring Creek is a small waterway that cuts through the southern edge of Laramie, Wyoming, USA. It originates east of town and terminates when it confluences with the Laramie River. This series of articles will follow the microenvironment over the course of a year. For a complete description of the area of observation, see the October issue of this publication.

The Spring Creek channel. Observations are being made from the concrete box culvert at the top of the photo to a distance of seventeen feet beyond.

My observations were made on November 5, 2022, at 11:55 a.m. Mountain Daylight time. The air temperature was 40° Fahrenheit (F), 4.44° Celsius (C). The wind was blowing from 39 to 48 miles per hour out of the west-southwest (WSW). (Just an aside, our highest recorded windspeed that day was 81 miles per hour. No, that is not a typo.)

Along with the air temperature, the water temperature had cooled considerably as well. It was 45.68° F or 7.6°C. This was over ten degrees colder than last month. I also noted a large chunk of ice built up along the south side of the waterfall. This area does not receive as much sun as the north side of the creek, as it is partially shaded by the channel bank.

A chunk of ice has built up on the south side of a small waterfall in Spring Creek.

I was surprised to find a few macroinvertebrates. These included two scuds, which are members of a bottom-dwelling class called *Malacostraca.* They have a comma-like body shape, two pairs of antennae, and seven pairs of legs. They are between 5 to 20 mm long. Many people refer to them as freshwater shrimp. Scuds are omnivores that most commonly eat detritus. There were numerous dead leaves present in the water. I did not observe any scuds last month, but did observe a number of caddis flies. None of the latter were present in the observation area this time.

A scud, present in the center of the photo, was found clinging to the underside of a rock. It was collected for further study this winter.

Last month when I measured the water speed, I used the shells of horse chestnuts. This time I used fallen leaves from those trees. I did three trials of a seventeen-foot (5.183 meters) section. The resulting speeds were 7.37 seconds, 7.91 seconds, and 8.83 seconds, for an average of 8.036 seconds/17 feet, or 5.183 meters. These figures worked out to 2.12 feet/second, or 0.645 meters/second. This is slower than in October but could be attributed to different materials being used to measure the speed. The leaves had a greater surface area than the chestnut shells.

Leeches, (*Hirudinea*) were still present, and a few of these were also collected for future studies this winter.

Leeches on the underside of a rock. A few of these were collected for further study, as was a slug-like animal that I have not identified yet.

The green plants, which I have identified with reasonable confidence as watercress were still present in the water and were just that, still green. I was interested to see its official name is *Nasturtium officinale.* As a side note – I remember my grandmother gathering watercress and making it into sandwiches. I have also been to restaurants where Nasturtium flowers were used as an edible garnish on the plate.

It will be interesting to see what I find in December. I am predicting that I will not find any invertebrates, however I thought the same thing this month. Nature is full of surprises.

By Jennie Lawrence, email missjennae AT yahoo DOT com All photos by the author.

Published in the October 2022 issue of *Micscape* magazine.

www.micscape.org