

Southern Appalachian Creature Feature Podcasts

Didymo

Good morning and welcome to the Southern Appalachian Creature Feature. This week, we'll look at algae that's becoming the scourge of western trout anglers and is knocking on the door of the Southern Appalachians.

Unless you're an angler or a biologist, you may not even know what a mayfly is. It's a harmless insect that spends most of its life living in water. Anglers know the mayfly because it's an important fish food and therefore the inspiration of numerous lures. The rest of us should be interested in them because they require clean water, so their presence or absence is an indicator of water quality.

Most Southern Appalachian mayflies spend their time climbing on or under the cobble and gravel on the bottom of a clean, clear river, along with a host of other aquatic insects. Imagine what would happen to mayflies if that clean, gravelly stream bottom was all of a sudden covered in thick mat of algae several inches thick.

Some people call it snout algae, though it's more commonly called didymo, short for its scientific name *Didymosphenia geminata*. The algae is native to the northern reaches of the northern hemisphere, having been documented in Canada and Northern Europe for decades, and it's generally considered an algae of cold, nutrient-poor streams.

The problem is that didymo is turning up in places where it has never been seen before, including New Zealand. In 2005 it was discovered in the Tennessee River basin below Watauga and South Holston Dams in Northeastern Tennessee.

When didymo blooms, it forms thick mats that are compared to brown shag carpet and these mats worry biologists. Much of a stream's food chain is found here among the rocks on the stream bottom - the decomposers, leaf shredders, tiny predators fed upon by larger predators. When the algae's dense blooms cover a stream bottom, they completely change the habitat where all these stream insects, crayfish, and other bottom dwellers live.

The recent aggressive spread of this North American native has scientists scratching their head. Was there a genetic change in the algae that allowed it to spread more aggressively? Have changes in the rivers made them better habitat for the algae? Is it simply that in an increasingly mobile world, far more people are moving boats, waders, and other equipment between rivers without cleaning them or giving them a chance to thoroughly dry? Is it a combination of factors?

The East Tennessee discoveries were made just below dams, where cold water passes through the dams from the bottom of the reservoir above. Let's hope that the algae's preference for colder waters help keep it contained to such isolated places in the southern Appalachians, but recent analysis by the Environmental Protection Agency shows that most of the streams in our region are susceptible.

The spread of didymo is a reminder to be responsible river users - to clean our waders, boats, and other equipment, or to let them completely dry in the sun before using them in another river.

For WNCW and the U.S. Fish & Wildlife Service, this is Gary Peeples.