

Conservation Corner

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“The river rises, flows over its banks and carries us all away like mayflies floating downstream. They stare at the sun, then all at once there is nothing.”

Ulanapishtim, *The Epic of Gilgamesh*

Did you hear of the knee-deep mass of mayflies that recently caused a bridge closure on the Mississippi River in eastern Iowa? Snow plows were called in to clear and sand the roadway. Last year, a swarm of mayflies made the news when it showed up on weather radar as an approaching rainstorm.

While swarms of mayflies are making the headlines, I believe it is the mayfly's life cycle that is one of the most interesting, if short-lived, stories in nature. Mayflies are aquatic insects in the Order Ephemeroptera, part of an ancient group of insects that includes dragonflies and damselflies that arose over 108 million years ago. They are primitive creatures that still bear many of the traits of Earth's first flying insects such as long tails and wings that do not fold flat over the abdomen. Today over 3,000 mayfly species exist worldwide.

The fascinating life cycle of the mayfly begins with the males forming a swarm above water. The females then fly into the swarm to mate. After copulating in flight, the male releases the female, who descends to the surface of the water, lays her eggs, and then falls, spent, onto the surface where she lies motionless, wings flat on the surface, easy pickings for hungry fish. The males also go off to die on nearby land. Remember, adult mayflies do not have functional mouthparts and cannot feed.

Meanwhile, the mayfly eggs fall to the bottom of the water where they stick to plants and stones. The nymphs hatch a few days to several weeks later and then spend up to two years foraging on the bottom of the pond or river. As they near maturity, the nymphs float to the surface where they shed their skin and transform to a subadult and then adult. They are the only insect to have two different winged adult forms in their life cycle, a dull-colored sub-imago stage that seeks shelter for couple hours after emerging before shedding its skin a second time, and the brightly colored imago or spinner that is the inspiration for many fly-fishing lures.

Some mayfly species exhibit great synchronicity in hatching, a tactic which ensures the survival of the species and generates news headlines. The species *Hexagenia limbata*, for example, hatch in huge numbers from the Mississippi River each year. These swarms may number over 18 trillion, more than 3,000 times the number of people on Earth. And while Americans see mayflies as a nuisance, Africans view them as a gift. Lake Victoria residents gather adult mayflies and midges to make a protein rich patty called Kungu that is an important part of their diet. Think of the feast the people of Savanna and Sabula could have had!

