

The Camouflaged Looper

This “inchworm” takes extreme measures to hide itself from predators

Text and photos by Chris Helzer

As an ecologist, I think a lot about the complexity of the natural world. Even so, I am often amazed by the adaptations that animals and plants have developed. I found one particularly surprising example on a summer day near Wood River last year. I was trying to photograph some native bees when I noticed a small movement out of the corner of my eye. A small inchworm was making its way up a purple prairie clover plant. At first, I was impressed by how much the purple spikes on its back looked like prairie clover flowers. As I looked closer, something struck me as odd. I reached out and tugged very gently on one of the spikes. Sure enough, it popped right off. The inchworm’s spikes didn’t just look like prairie clover flowers, they WERE prairie clover flowers!

I photographed the inchworm and e-mailed some friends to see if anyone had ever seen anything like it. Though most were as baffled as I was, I eventually learned that I’d found the larva of *Synchlora aerata*, otherwise known as the

“Camouflaged Looper” or the “Wavy-lined Emerald.” The inchworm and green moth it eventually turns into is one of more than 35,000 species of Geometrid moths found around the world. While most inchworms are well camouflaged, this one takes extreme measures to hide itself from predators.

As I had noticed, the camouflaged looper is named for its incredible ability to disguise itself by attaching pieces of

inchworm bites off pieces of the particular flower it’s feeding on and uses gelatinous “spit” from its mouth to glue the flower pieces to spines on its back. The “spit” also helps stiffen the flower parts and keep them looking fresh. When parts fall off or start to look dried out, they are replaced. When the inchworm begins feeding on a different kind of flower, it discards the previous disguise and replaces it with pieces of the new flower.

I found a great article written by Dr. Miklos Treiber of the University of North Carolina and published in 1979 by *The Journal of the Lepidopterists’ Society*. In his paper, Dr. Treiber described the process by which the inchworm puts on and maintains its costume, but also the methods he used to test the inchworm’s abilities (and patience). He would periodically remove some or all of the flower parts from a captive inchworm’s back to see how quickly they would be replaced. He also moved the inchworms from one type of flower to another to watch them change their disguise. Dr. Treiber reported that while the inchworms were rebuilding their costume, they kept eating. They would alternate between bites of food and bites of costume. On some flowers, the inchworms used different parts of the flower for its disguise than they used for food.

The defense mechanism of the camouflaged looper and other caterpillars is an adaptation probably most useful for hiding from hungry birds. Most caterpillars have some level of camouflage, including some that look like bark, twigs, thorns, and even bird droppings, but very few can alter their appearance over time. Scientists figure the camouflaged looper’s ability to change disguises allows it to have a much more varied diet than other caterpillars because it isn’t restricted to eating only those flowers or plant parts that it resembles in appearance.

The day after I found my first camouflaged looper, I went back to the same spot to see if I could find more. I did find one, but not in the way I expected. This time the one I found was impaled on the beak of a predatory bug! Apparently, their disguise isn’t foolproof.

Invertebrates make up more than 80 percent of all living species on earth. Scientists have discovered and described more than 1.7 million species of insects, but estimate that



Purple prairie clover is a native legume and common wildflower found across much of Nebraska.



A camouflaged looper inches its way up a stem toward the bloom on a purple prairie clover plant. Its back is adorned with prairie clover flower parts it has clipped and attached to its body.

there are still 8 million species waiting to be discovered. It seems incredible that there are that many species we have not yet found. On the other hand, if they are like the camouflaged looper, they could be hiding right under our noses! ■

Also known as spanworms, measuring worms, or loopers, inchworms get their name because of their “looping” gait. This occurs because, unlike many other caterpillars, they are missing “legs” from the middle portion of their body. Instead of rippling evenly along like caterpillars that have a full set of legs, inchworms “inch” along by alternately stretching out and grabbing a stem with their front legs, then bending their bodies and bringing their back legs forward.

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This predatory bug was apparently not fooled by the looper's clever disguise. It appears the looper may have been in the process of replacing its disguise when it was killed.