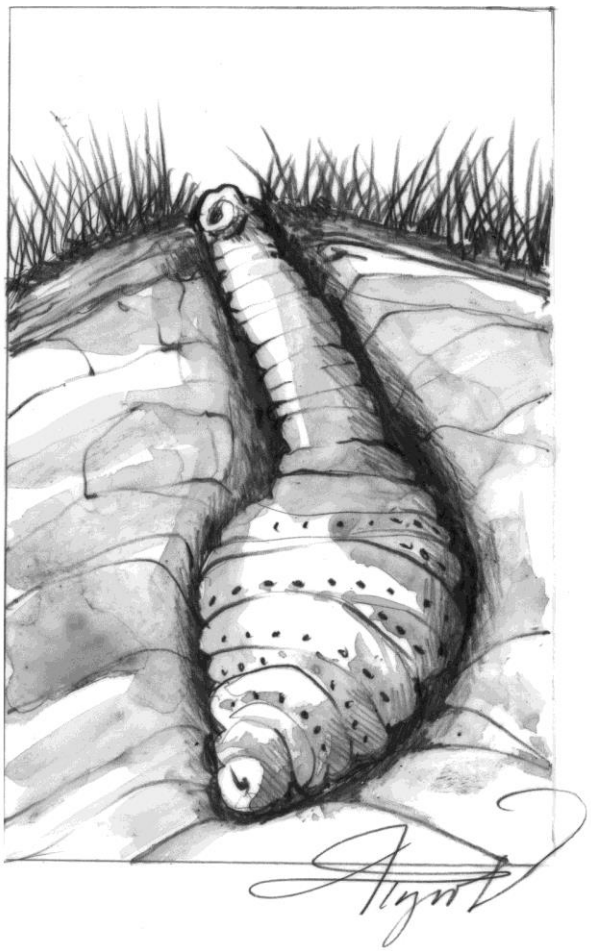
The Outside Story



Don’t Let the Botflies Bother You

By: Dave Mance III

Growing up in a rural town, I was exposed to a lot of the wonders in nature through hunting. Specifically squirrel hunting, which is how many kids get their start. I don’t do much anymore, but I try to get out a few times each autumn on those first cool days. With luck, I can put up enough squirrels for a deer camp stew in November, over which the people in camp can reminisce about being young.

The catch with squirrel hunting in September is that you’ll often find yourself in botfly larvae season. These fat white grubs live in boils that protrude from a squirrel’s skin. (The technical name for the boil is a warble – isn’t it interesting how that one word can sound lovely when applied to a bird’s song and disgusting when applied to a pustule?) There are some 30 botfly species in the U.S. and each has a preferred host. The tree squirrel botfly is called *Cuterebra emasculator* – the story behind that name is that the entomologist who coined it suspected the larvae ate testes. They don’t, but the name stuck.

Squirrel botflies have a year-long, four-stage lifecycle. The adults, which are relatively large flies that look sort of like small bumble bees, emerge in late spring or early summer and mate. Females lay their tiny eggs on twigs or leaves and larvae develop within the eggs. (Note that this is different than a lot of parasitic flies that lay eggs directly on a host, like the horse stomach botflies that horse owners might be familiar with.) When a squirrel comes by, the larvae detect the animal’s body heat or CO_2 from within the egg, then emerge from a door in the egg shell and try to latch on. If they’re successful, they’ll look for an orifice or wound through which to enter the host’s body, at which point they’ll take up residence beneath the hide. They consume lymph fluid (not blood) and grow, molting twice. The squirrel’s body creates the boil that houses the larva, and the larva makes a hole in the boil through which it breathes and excretes waste. After about three or four weeks it backs out of the hole, drops to the ground, crawls into the soil, and pupates. Come spring, an adult fly emerges and the whole cycle starts again.

Fascinating and wicked gross, I know.

Botflies are native to the region. And like most obligate parasites, they need a healthy, living host to complete their life cycle. It’s not in their best interest to seriously harm or kill their host. After a

few weeks, the larva will drop off and the squirrel will resume a healthy, maggot-free existence.

If you're a squirrel hunter who's never seen a botfly larva, you'll likely be a little rattled at first glance. Keep in mind that the parasite you're looking at can't infect you. It only cares about growing and then dropping off and pupating – it's not looking for another host at this point in its life. In theory, if you were crawling around naked in the branches of a tree you could conceivably contract an infectious, just-hatched larva in the first instar, but this is unlikely for a number of reasons. Be thankful you don't live in central or South America, where human botflies are more common. Down there the sneaky flies lay their eggs on mosquito abdomens, which is how they're spread to humans.

Know, too, that botfly grubs don't affect squirrel meat. Most I've ever seen were located on the rib cage and the minor wounding was very localized; the shoulders and hams were perfectly fine to eat. Best butchering practice is to simply cut around the worm and discard that part. If you're exceptionally adventurous you might try eating the larva, something traditional Inuit hunters reportedly do with the botfly grubs they find in caribou. That factoid came from Wikipedia, so may or may not be true. I can vouch firsthand, though, that yellow jackets have a fondness for them. The last squirrel with a botfly that I harvested had been dead for less than two minutes when a yellow jacket made a beeline for the grub. It was clear that it was after the worm, not the squirrel protein, as it paid no attention to the bullet entrance hole. The yellow jacket spent a few minutes trying to pull the grub out of the carcass but wasn't quite strong enough to do it, so I worked it out with a knife, cut it into yellow jacket-sized slivers, and left it as a peace offering.

Dave Mance III is the Editor of Northern Woodlands magazine. The illustration for this column was drawn by Adelaide Tyrol. The Outside Story *is assigned and edited by* Northern Woodlands *magazine (www.northernwoodlands.org) and sponsored by the Wellborn Ecology Fund of the New Hampshire Charitable Foundation (wellborn@nhcf.org).*

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