

The Outside Story



Deerflies

By: Declan McCabe

My students and I were conducting research in the Winooski River floodplain at Saint Michael's College last week when the buzzing became particularly intense. A brisk walk is enough to outdistance mosquitoes, but deerflies combine fighter jet speed with helicopter maneuverability. And a slap that might incapacitate a mosquito seems to have little effect on these relentless pests.

Deerfly season 2017 started slowly, but by late July there were enough to carry off small children. On trails between wetlands and farm fields, we were dive-bombed by countless, persistent, little winged vampires. Insect repellent did little to repel them. We slapped, fainted, grabbed at thin air, and usually came up empty. It was like Caddyshack, but with flies rather than gophers.

The horsefly family *Tabanidae* includes deerflies, along with larger Alaskan “mooseflies,” and the greenheads that ruin many a trip to New England’s beaches. Iridescent green eyes that make up most of the fly’s head give them their common name. Far more impressive is their bite: they truly hurt. Because greenheads emerge only from saltmarshes, we know they travel up to two miles in search of blood.

Deerflies and their relatives risk getting hand-slapped and tail-flicked because humans and other mammals offer a high-protein food source they need to develop eggs. The gamble pays off; they are still here. Finding deerflies near water makes perfect sense, as ponds are especially important deerfly habitats. As is true for other tabanids, deerfly larvae prey on aquatic invertebrates. They complete their aquatic phase as pupae before emerging as adults.

Both genders consume nectar and pollen, but only the females enrich their diet with blood. Whether the males of the species lack initiative to bite mammals we can’t guess, but they certainly lack the equipment. The female’s sharp blade-like mouth parts inflict painful wounds that make mosquito bites look genteel.

Biting flies elicit questions like: What good are they? Or more thoughtfully, what is their role in nature? And also, could we get rid of just this one species? The disconcerting answer to the latter question is yes; molecular biologists have discovered how to eliminate a species by inserting harmful genes that can be spread through an entire population. Although we have accidentally driven many species extinct, to my knowledge, the only deliberate extinction thus far has been smallpox.

Having discussed the important role that insects play in an ecosystem's food web and satisfied ourselves that driving deerflies from the planet was beyond our purview, my students and I resorted to a more local and fiendishly satisfying solution. We bought deerfly patches: double-sided sticky pads worn on our hats. When deerflies choose one of us as their next meal ticket they search for exposed skin. Does a deerfly patch look like human skin? You'll have to ask a deerfly. I won't question why they land on the patch, but I will take this opportunity to thank each and every one of them that takes that one-way trip and ceases orbiting my head.

To test drive the patch I parked near a campus pond. A deerfly landed on the side mirror – game on! Typically, I'd be swarmed in the field and at least one deerfly 'guest' would join me for the car ride home. But this day would not be typical. I came forearmed. I had read the reviews; gawked in amazement at the online photographs of patches coated with innumerable flies stuck like so many direwolves in a tarpit.

I emerged from the car, hat and patch on head, and took a 15-minute walk between several ponds. During my walk I received one deerfly bite and swept another off my neck. I felt the familiar thuds of flies hitting my hat, but less orbital annoyance, it seemed to me. Wishful thinking? Time would tell.

The moment of truth: safely in my metal and glass cocoon, I removed the hat. Sure enough, the patch was emblazoned with 15 deerflies, a single stray mosquito . . . and no gophers. I rarely endorse products, and indeed a good friend tells me that a loop of duct tape is just as good. Whatever solution you choose, at

least deerflies need not force you to choose the indoors.

Declan McCabe teaches biology at Saint Michael's College. 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 New Hampshire Charitable Foundation: wellborn@nhcf.org.

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PO Box 471, Corinth, Vermont 05039
Tel. 802.439.6292 Fax 802.439.6296
www.northernwoodlands.org

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