

You're four miles offshore, coasting along in the warm sunshine. The lake is mirror calm, with a light wind blowing about 5 knots. It's time to relax, enjoy the peace, and catch a few rays! What could possibly ruin a picture-perfect day on Lake Ontario?

The Flying Bloodsuckers

Alan & Margaret Gibson

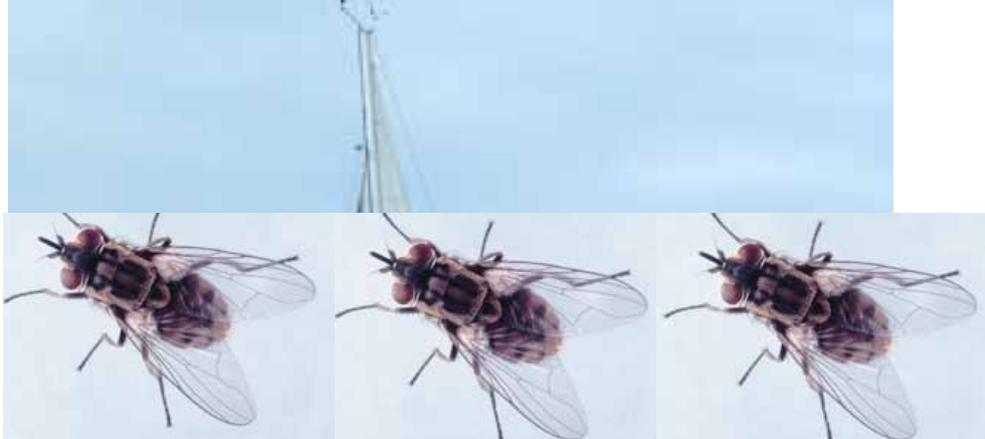
You idly notice some new arrivals on board. First one or two, then a few more innocuous little flies, and settle. You check them out; they resemble miniature house flies. Suddenly you find yourself under relentless biting attack from hordes of them. They seem to rise out of the water, and cover the deck of the boat. These are clearly not deerflies, mosquitoes or black flies. What are they? Where do they come from?

They don't simply bite; they suck blood, a lot of blood, and it hurts. Once they have bitten, they will return for more. The calm of your blissful day on the water is shattered; you are now at war with the flies.

Well, they are not little house flies; they are *Stomoxys Calcitrans*, a vicious biter with piercing sucking mouthparts. Common names for this vampire are stable fly, barn fly, dog fly...or simply biting house-fly.

Both males and females search for blood and suck up to three times their own body weight, twice a day.

These guys evolved long ago to bite through to the skin of horses and cattle, and draw blood. Their sharp, long proboscis enables them to cut through the tough coats of horses, so biting through your socks or light summer clothing is a breeze for them.



They are a serious threat to domestic animals and can drive them so intensely mad they will stop eating and drinking.

How do these flies get to the middle of the lake? Stable flies breed in rotting vegetable matter along the shore line and can fly up to 70 miles. Reaching mid-lake is no challenge.

They live about three weeks in summertime; females can deposit 50 eggs a time and can do this four or five times in a lifetime.

Stable Fly

Other than the pain of the dagger-like bite few people have reactions, not

even itching or swelling. No known human disease uses these nasties as a vector. The only risk seems to be from scratching or otherwise infecting the bites.

What to Do?

There are dozens of remedies suggested for this pest, and over the years we have found a few that work.

The most effective is the use of insect repellent using more than 20% DEET by volume. Repellents containing DEET range from volumes of 3% to 30%. These products often have very similar labels, and less than 20% DEET is not very effective against

stable flies.

We have found that anything above 25% gives a good 4 hours of protection, and several research articles support this observation.

DEET concentrations up to 40% may be applied directly to skin and most clothing but the other stuff contained in such repellants makes them very unpredictable in terms of what they will eat up or irritate. For example, DEET gobbles up some plastics and polyesters, especially sunglasses, so you have to be careful. Many products also contain both alcohol and butane making them very flammable.

It is essential to read the label before use, to determine the DEET concentrations, and whatever else might be included. To complicate matters, there are a number of synonyms for DEET, most of them fairly unpronounceable. These include Benzamide, N,N-diethyl-3-methyl-; DEET; m-Toluamide, N,N-diethyl-; N,N-Diethyl-meta-toluamide; N,N-Diethyl-m-toluamide.

This year, for the first time, we tried Life Insect Repellent from Shopper's Drug Mart. This is SKU5780021451 at \$6.99 for a 100ml pump spray bottle, containing about 30% DEET.

On a biting fly day in early June 2012 we sprayed it on both skin and clothing. This was a pleasant surprise, as the product had none of the terrible chemical odor of most DEET based repellents; it smelled fresh, and was just as effective as the stinky stuff. Hopefully, this product will stay on the market.

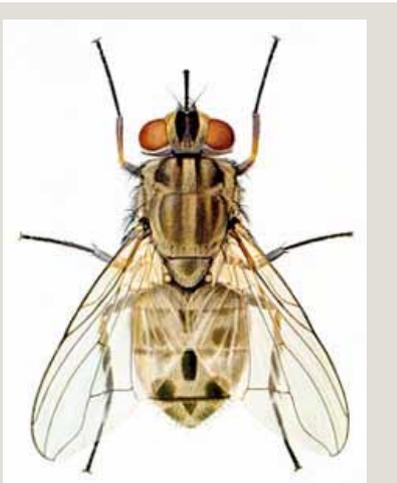
Another method of repelling stable flies is the use of a 50/50 white vinegar/water solution in a spray bottle. However, you have to keep damp, and while it can be effective, you end up smelling like pickles! Because we carry vinegar onboard for

clean up and mildew control, it is a handy back-up.

Friends have mentioned that Dawn dishwashing liquid (the original blue) works for a while. The drawback is that it needs to stay damp also, and leaves you soapy.

Other solutions to deal with stable flies have been suggested by fellow sailors, and while we've tried a couple, including dryer sheets and citronella we have not found them effective. Research performed by responsible organizations confirms this finding.

There are some products that combine sunblock and DEET repellent, but these never contain enough DEET to be of use against stable flies. In general you should put sunblock on exposed skin first then when it is dry put on the repellent.



Stomoxys calcitrans

is commonly called the stable fly, barn fly, biting house fly, dog fly, or power mower fly. Unusually for a member of the family Muscidae, but like other members of the genus, *Stomoxys calcitrans* sucks blood from mammals. Four dark stripes on their thorax back and a checkerboard-like pattern on the top of their abdomen with dark spots and 5-8mm long.

Wikipedia University of Florida

Stable flies are not unique to Lake Ontario. The infestation of Lakes Erie and Michigan is significant, affecting fishermen as well as sailors.

There are some fishermen's internet sites that recommend a butane catalytic heater with an odorless chemical repellent that is vaporized by the heater. The system sells for about \$35.00 and requires a refill kit at about \$7.00. A kit will run 12 hours. The manufacturer claims it is for mosquitoes. Other sites say it does not work against black flies. In our experience, stuff that works for mosquitoes and not for black flies doesn't work for stable flies either.

In the end, we've found the best defense is heavy clothing, DEET on the exposed parts and light clothing, plus a good fly swatter to get even.

The best overall description that we have been able to find on this pest is at these links:

http://www.ag.ndsu.nodak.edu/aginfo/entomology/entupdates/Indoor_pest/stable_fly.htm

<http://edis.ifas.ufl.edu/ig133>

A study published in May 2009 by the UNITED STATES ENVIRONMENTAL PROTECTION AGENCY on 20% picaridin /icaridin creams and sprays produced very satisfactory results of about 5 hours protection specifically against stable fly biting. It is a synthetic molecule related to piperine (pepper). Technical grade Picaridin/Icaridin has low acute oral, dermal and inhalation toxicity. This stuff does not dissolve plastics like DEET. We have not been able to find and test products with this level of ingredient in them.

Over the past 24 years, Alan & Margaret Gibson have sailed their Dehler 34, GRIFFWN, (in photo) more than 32,000 miles on Lake Ontario and have encountered their fair share of stable flies.