

The horse fly (*Tabanid*) can inflict painful bites, especially on the underside of the horse

# SWAT!

## Equine external parasite control

by Dr Barry Coates

**Warm weather and a wet season are perfect conditions in which external parasites thrive. Horses serve as ideal hosts for external parasites – they are large, have relatively thin skin, spend most of their time outdoors, have an easily detectable odour and are often kept close to humans, who by various means also attract a host of external parasites.**

So which external parasites are important and how do we keep them at bay? Midges, nuisance flies, biting flies, mosquitoes, lice, mites, fleas, ticks, blow flies (maggots), bot flies – the list of all the different external parasites (mostly insects) that have a significant effect on horses, is long. The effects range from pure irritation and allergic skin disease, to maggot-infested wounds and the transmission of deadly diseases. I will touch on

what I believe are the most significant external parasites in South Africa in summer, what their significance is and how to control them.

**Biting midges** or *muggies* (*Culicoides* spp), might not be the most common external parasite, but are by far the most significant external parasite in SA, mainly due to the fact that they transmit African Horse Sickness (AHS). In the November 2005 to June 2006

season, there were almost 1 000 reported cases of AHS, of which almost 200 died. This means that if your horse gets AHS, it has an almost one-in-five chance of dying – frightening, isn't it? *Culicoides* midges are also responsible for transmitting the Blue Tongue virus in sheep.

The midges are mainly active at night. High-risk periods are dawn and dusk. The larvae of *Culicoides* spp are found in rivers, wet soil, standing water and the like. The adults normally feed no more than a kilometre from these wet areas (note that strong winds can affect this distribution pattern). Apart from transmitting the deadly AHS, these midges are also responsible for causing an allergic skin reaction known as summer itch, which leads to persistent rubbing and scratching. These areas can become infected (read the April and July 2007 issues of *SA Horseman* to find out all about what makes horses itch!).

**Bot flies** (*Gasterophilus*) lay their eggs around the mouth and on the front legs of the horse. They gain access to the horse's mouth when the horse licks itself. The larvae can cause infection in the gums. Once they make their way to the stomach, they can cause stomach ulcers and gastritis (see the October 2005 issue for information on internal parasites).

There are a large number of different **flies** that cause horses discomfort in some way. The two most common biting flies are *Stomoxys calcitrans* (stable fly) and the Tabanids (horse fly), which can inflict painful bites especially on the underside of the horse on the groin, belly and "arm" pits. These flies bite so that they can suck blood. The larvae of the nasal bot fly (*Gedoelestia*) are deposited on the eyelids and in the eye socket. The larvae then migrate around the eye and along the nerves, causing intense discomfort and gruesome symptoms.

The house fly (*Musca domestica*), which looks like the stable fly, transmits various germs, causes fly worry and also serves as the intermediate host for the internal parasites, *Habronema* spp and *Draschia* spp (see the October 2006 issue). Blow flies or *brommers* cause a level of fly-strike by laying eggs in wounds and cuts. These eggs then hatch into larvae more commonly known as maggots.

There are a number of **ticks** that use the horse as a host. The region that you live in will determine what species of ticks would pose a problem. The ticks that are of particular importance are:

- Ticks with very large mouthparts (*Amblyomma* spp and *Hyalomma* spp) which cause very nasty sores
- Ticks that transmit Biliary (*Babesia equi* and others), of which the red-legged tick is the most significant in South Africa (*Rhipicephalus evertsi evertsi*).

The control of external parasites can be done by applying **the four Cs**. In order for the control programme to be successful, all four Cs must be followed and applied as best as you can.

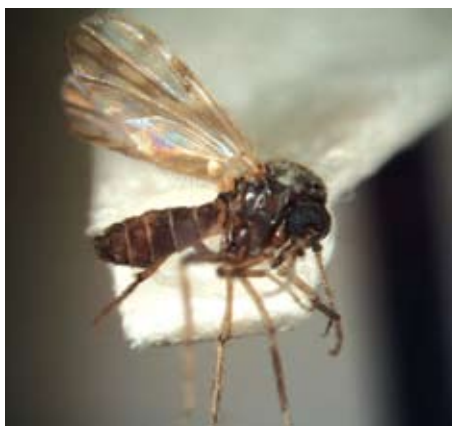
- **Clean** involves mucking out stables and pastures as regularly as possible (daily for stables and at least fortnightly for camps). This will also help to control worms. Remember also that most of these parasites thrive on moisture at some stage of their life-cycle. So it makes sense to keep stables and yards dry by improving the drainage on the property and preventing problems such as leaking pipes. Treating dung heaps with chemicals shouldn't be necessary, because the heat caused by natural composting should kill most immature stages of the external parasites. An interesting concept in reducing the fly population over the long term, is to make use of certain species of a tiny wasp that feeds on the larval and pupal stages of the fly's life-cycle.
- **Capture** refers to using fly traps such as fly bait traps, sticky tape traps and blue light "zappers". Remember to put the bait type traps well away from the yard.
- **Control** can be achieved by covering your horse with a type of netting blanket. Fly fringes and face netting masks are very useful. Another very important method of reducing risk, would be to stable your horses from well before dusk until well after dawn – this is very important in reducing the risk of your horse/s contracting AHS. In high AHS-risk areas, it is a good idea to protect the stable openings (the doors and windows) with mosquito-proof mesh.

- **Chemicals** are used frequently to try and keep bugs at bay. The most widely tested and used insecticides used in equine parasite control, are the pyrethroids – they combine a very effective insect knock-down effect with a very good safety (in mammals) record. There are a large number of products available on the market suitable for external parasite control. Examples of tried and tested pyrethroids, are cypermethrin and deltamethrin. It's also important to note that not all pyrethroids (most insecticide chemicals ending in -thrin) have exactly the same efficacy or effect.

The efficacy of pyrethroids can be enhanced without compromising animal safety, by including a potentiator. An example of a potentiator would be piperonyl butoxide, which improves the killing efficiency of the pyrethroid. The drawback of chemicals is that they are broken down by sweat, rain, dust and sunlight (especially) relatively quickly. So it is of cardinal importance that the insecticide repellent is applied regularly and frequently. Depending on your risk situation, I would recommend at least daily (preferably twice daily – although this would not be necessary in a very dry part of the country during winter, which would represent the lowest risk situation) application of a pyrethroid piperonyl butoxide combination.

The same combination can be used for spot treatment of ticks as well. Various forms of tick grease can also be used as a slightly longer lasting option for areas like fetlocks and pasterns, ears, groin area, "arm" pits (*axillae*) and tail-base. One major disadvantage of tick grease is that it is too messy to use all over the horse's body, and some of the external parasites aren't that fussy as to where they can bite and get a quick meal, and transmit disease while they're at it!

Naturally-based insect repellents such as citronella, can be used as part of a general insect control programme. However, I would not recommend that they be relied on in a high risk AHS situation, for example a high concentration of horses in mid- to late summer in a AHS area which is less than 2 km from standing water.



The dreaded *Culicoides* spp, carrier of the African Horse Sickness virus



The red-legged tick (*Rhipicephalus evertsi evertsi*) is the most important tick that transmits biliary (*Babesia equi*)

If you have any further queries regarding equine external parasites and the control thereof, please feel free to contact the author or Dr Carolyn Chelchinsky at the Intervet head office on 0861 VET VET.

(References available from the author.) SAH