

PRELIMINARY STUDIES ON OVIPOSITION SITE PREFERENCES OF *CULICOIDES IMICOLA*

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■ VECTOR SURVEILLANCE

Light trap collections have shown that *Culicoides imicola*, considered a vector of both African horse sickness and bluetongue viruses is the most widespread and abundant livestock-associated *Culicoides* species in South Africa. Despite this, relatively little is known about the biology of this *Culicoides* species. A laboratory study was undertaken to clarify the oviposition preference of *C. imicola*. Field collected midges were fed on defibrinated ovine blood. Blood engorged females were offered a choice of differently treated oviposition surfaces. The artificial oviposition device consisted of a plastic Petri dish (35 mm diameter) with a double layer of filter paper on top of tamped-down moist cotton-wool at the bottom of the holding container. This provided an even surface on which eggs could be laid. Salt (sodium chloride) concentrations varying from 0.003 to 3.0 g/10 mL and infusions

of sheep, horse, zebra and bovine dung were compared. In an additional treatment, engorged females were given a choice between oviposition surfaces heated to 22°C and 25°C. All treatments were done in duplicate. Flies were kept at 23.5°C and the first eggs were usually deposited after three days. Results showed that *C. imicola* preferred oviposition sites with a salt concentration below 0.06 g/10 mL. Extracts of horse dung were preferred and increased the notion that horses are the preferred host of *C. imicola*. It was also found that there was a preference for the 25°C surface, which supports the idea that *C. imicola* will rather oviposit in areas heated by direct sunlight than in shaded areas.

KEYWORDS: AFRICAN HORSE SICKNESS – BLUETONGUE VIRUS – OVIPOSITION – *CULICOIDES IMICOLA* – SOUTH AFRICA.

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