

VIRUS RECOVERY RATES IN ORALLY-INFECTED *CULICOIDES IMICOLA* IN SOUTH AFRICA

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VECTOR SURVEILLANCE

Bluetongue (BT) is an infectious disease that is spreading northwards in Europe. Knowing the infection rates of the different virus serotypes present in a region and of those that have the potential to enter that region is critical to respond adequately to the disease and set up preventive measures such as vaccination. The present study shows that wild-caught South African *Culicoides imicola* Kieffer (Diptera: Ceratopogonidae) can become infected with and permit the replication of the different strains of BT virus serotypes detected and isolated in Spain (BTV-1, 2, 4 and 8). Virus replication was measured over time by assaying individual midges on

baby hamster kidney (BHK)-21 cells using a microtitration procedure. The mean prevalence of BTV infection after 10 days' extrinsic incubation (DEI) at 23.5°C was lower than 1% in all four serotypes. The virus concentration of individual *C. imicola* infected with BTV ranged from 1.4 to 3.9 TCID₅₀. BTV titres higher than 2.5 log₁₀ TCID₅₀ found in individual *C. imicola* suggest that this species may be able to transmit that viral strain to susceptible hosts.

KEYWORDS: *CULICOIDES* – *BLUETONGUE VIRUS* – VIRAL REPLICATION – DISEASE TRANSMISSION – VECTOR-BORNE DISEASE.

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