

# COMPARISON OF THE EFFICACY OF FOUR LIGHT TRAP MODELS FOR THE COLLECTION OF *CULICOIDES* BITING MIDGES IN GERMANY

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Biting midges of the genus *Culicoides* are vectors of bluetongue disease, an OIE-listed animal disease which has recently led to severe economic losses in susceptible livestock species in Europe. Therefore, several affected countries conduct monitoring programmes for *Culicoides* spp. To compare the number and species composition of *Culicoides* obtained, the efficacy of various traps used to collect biting midges needs to be assessed. Four aspiration black light traps were thus compared: the Onderstepoort, John W. Hock, Riebt, and Biogents. One of the traps was operated from the 1st of April 2009 to determine the onset of increased *Culicoides* activity and thus the best time to start the study. The comparison was carried out from May 16th until September 26th. The traps were set up at four different sites on pastures of the Friedrich-Loeffler-Institut where cattle, sheep and goats were present. The comparison was carried out according to the Medreonet protocol in a 4x4 randomized Latin square design with one night of activity for each trap at each site.

The highest number of *Culicoides* specimens was captured by the Onderstepoort (1245), followed by the Biogents (365), the Hock (30) and the Riebt (4) traps. The majority of midges caught was classified as belonging to the *Obsoletus* complex (1399), including *C. obsoletus* s.s., *C. scoticus* and *C. chiopterus*. Other encountered species were *C. punctatus* s.s. (87), *C. albicans* (78) and *C. riethi* (50). Most biting midges were collected in May (594) and June (575). In September only one *Culicoides* specimen was caught. The results show that the trap model has a great impact on the number of *Culicoides* caught. *Culicoides* monitoring programmes should be harmonised by using the same type of trap everywhere or by adjusting the numbers of collected biting midges using a trap factor. The trap model should be taken into consideration in the decision to declare the seasonally-determined vector-free periods.

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