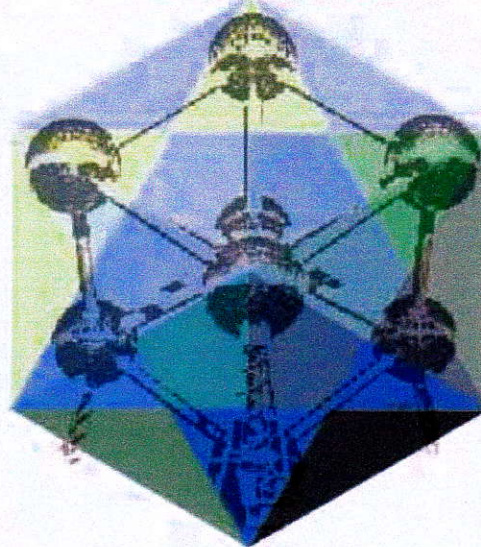


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ABSTRACTS

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A13- POSTER: Are bogs reservoirs for emerging disease vectors? Evaluation of Culicoides populations in the Hautes Fagnes Nature Reserve (Belgium)

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Several species of *Culicoides* (Diptera: Ceratopogonidae) biting midges serve as biological vectors for the bluetongue virus (BTV) and the recently described Schmallenberg virus in northern Europe. Since their recent emergence in this part of the continent, these diseases have caused considerable economic losses to the sheep and cattle industries. Much data is now available that describe the distribution, population dynamics, and feeding habits of these insects. However, little is known regarding the presence of *Culicoides* in unusual habitats such as peaty marshes, nor their potential vector capacity.

This study evaluated *Culicoides* biting midges present in the bogs of a Belgian nature reserve compared to those residing at a nearby cattle farm. *Culicoides* were trapped in 2011 at four different sites (broadleaved and coniferous forested areas, open environments, and at a scientific station) located in the Hautes Fagnes Nature Reserve (Belgium). An additional light trap was operated on a nearby cattle farm. High numbers of biting midges were captured in the marshy area and most of them were *Culicoides impunctatus*, a potential vector of BTV and other pathogens. In addition, fewer numbers of *C. obsoletus*/*C. scoticus* species, *C. chiopterus*, and *C. dewulfi* were observed in the bogs compared to the farm. The wet environment and oligotrophic nature of the soil were probably responsible for these changes in the respective populations. A total of 297,808 *Culicoides* midges belonging to 27 species were identified during this study and 3 of these species (*C. sphagnumensis*, *C. clintoni* and *C. comosioculatus*) were described in Belgium for the first time.

References

Zimmer J.-Y., Smeets F., Simonon G., Fagot J., Haubruge E., Francis F., Losson B. (2013). Are bogs reservoirs for emerging disease vectors? Evaluation of *Culicoides* populations in the Hautes Fagnes Nature Reserve (Belgium). PLoS ONE. doi: 10.1371/journal.pone.0066893 (In Press).