

# MOLECULAR IDENTIFICATION OF PALAEARCTIC *CULICOIDES* BLOOD MEALS FROM DIFFERENT LOCALITIES IN FRANCE

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*Culicoides* are small biting midges involved worldwide in bluetongue and African horse sickness transmission. Feeding behaviour as well as spatial and temporal dynamics of trophic behaviour of *Culicoides* is unknown at the specific level for Palaearctic species. Multiplex allele-specific polymerase chain reaction (PCR) assays were used to identify the blood meal source of five main Palaearctic species. Species-specific primers of potential hosts (cow, goat, sheep, human, cat, dog, horse) were derived from vertebrate mitochondrial cytochrome *b*. Two different multiplex assays served to identify blood meals from livestock or domestic fauna, and to determine whether multiple blood meals

had been taken (gonotrophic concordance). Moreover, this method helped to identify specimens at the specific level. The first results highlight the interest of this valuable tool combined with species identification assays, and suggest that *Culicoides* species may have an opportunistic behaviour regarding host distribution and density. Future studies will focus on the temporal dynamics of trophic behaviour.

**KEYWORDS:** *CULICOIDES* – BLUETONGUE – BLOOD MEAL – IDENTIFICATION.

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