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Four years of nationwide monitoring of *Culicoides* (Diptera: Ceratopogonidae) on livestock farms in Germany, 2019-2022

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Biting midges of the genus *Culicoides* are vectors of economically important livestock arboviruses, including bluetongue virus (BTV) and Schmallenberg virus (SBV). Repeated outbreaks of bluetongue disease and ongoing SBV circulation in Central Europe highlight the need for long-term surveillance. To address this, a Germany-wide monitoring programme was conducted on livestock farms, collecting year-round data on *Culicoides* activity from 2019 to 2022. UV-light traps were operated weekly for 24 hours in, or close to, livestock housing. Over 1.44 million biting midges were collected and morphologically identified. With 76% of all individuals collected, potential vectors of the Obsoletus Group dominated across all years. *Culicoides* specimens were captured in all months, with low numbers from December to March. Seasonal activity began in early April, followed by consistently high capture rates from late May to July and a secondary rise in September and October. Peak activities varied across years and sites, reflecting weather-related and local factors. Notably, the year 2021 contributed 43% of the total catch. Across all years, blood-fed females were mainly found from April to October, with almost none in January and February. These findings provide a comprehensive baseline for *Culicoides* occurrence and activity in German livestock holdings and highlight the importance of multi-year, multi-site monitoring to determine seasonal dynamics under changing environmental conditions.

Keywords

Culicoides, Monitoring, Germany, Vector

Registration ID

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Professional Status of the Speaker

PhD Student

Junior Scientist Status

Yes, I am a Junior Scientist.

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