

Culicoides biting midges in cattle herds

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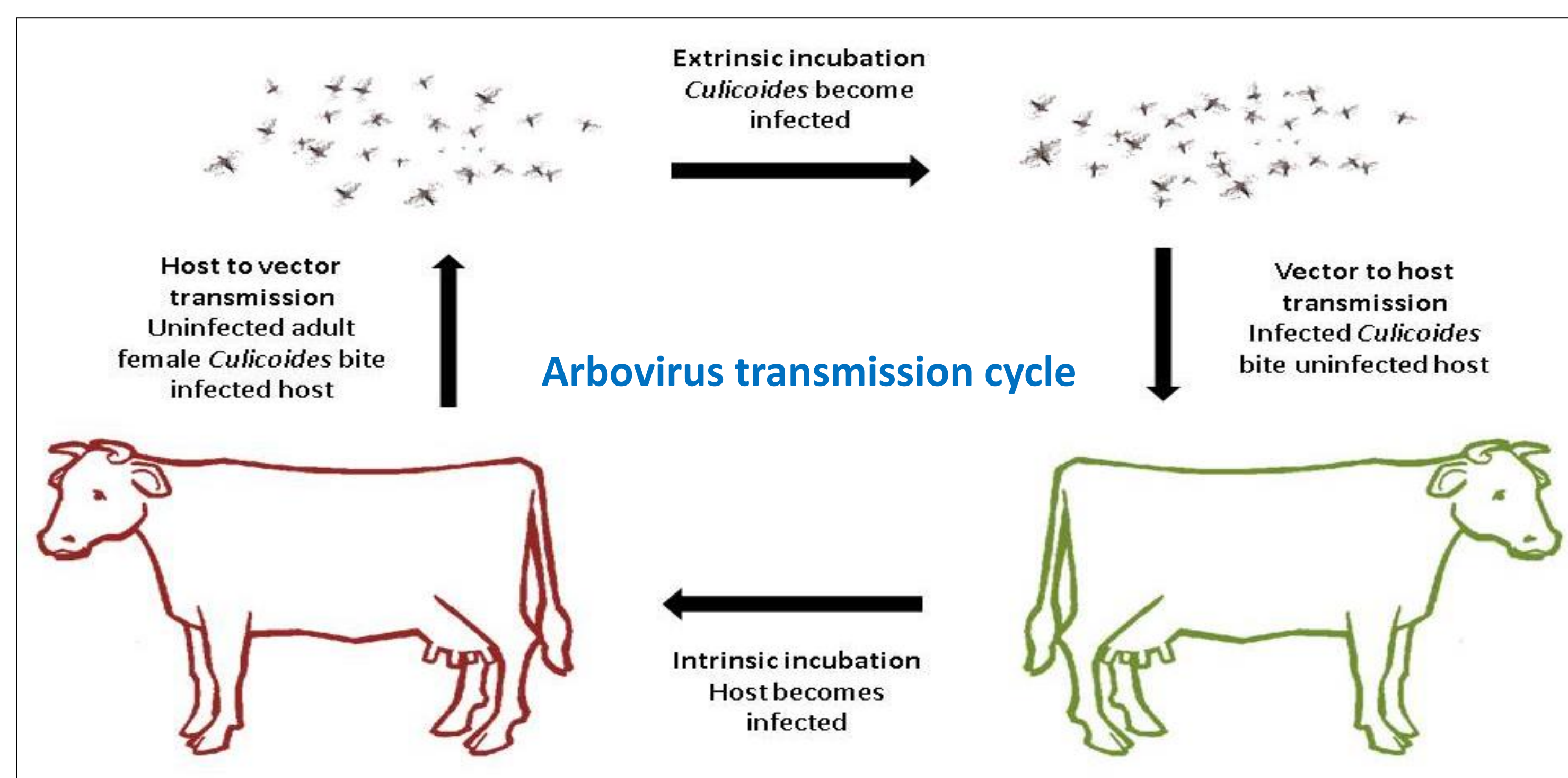
Conclusions

The most abundant *Culicoides* species identified were members of the *Culicoides obsoletus* and *Culicoides pulicaris* groups
These species are the putative vectors of BTV and SBV in Europe and the UK

Introduction

Culicoides biting midges are vectors of over 50 arboviruses worldwide including Bluetongue virus (BTV) and Schmallenberg virus (SBV).

Recent outbreaks of both SBV and BTV in Europe have highlighted the need to understand the distribution of *Culicoides* vectors in affected countries, such as the Republic of Ireland (ROI).

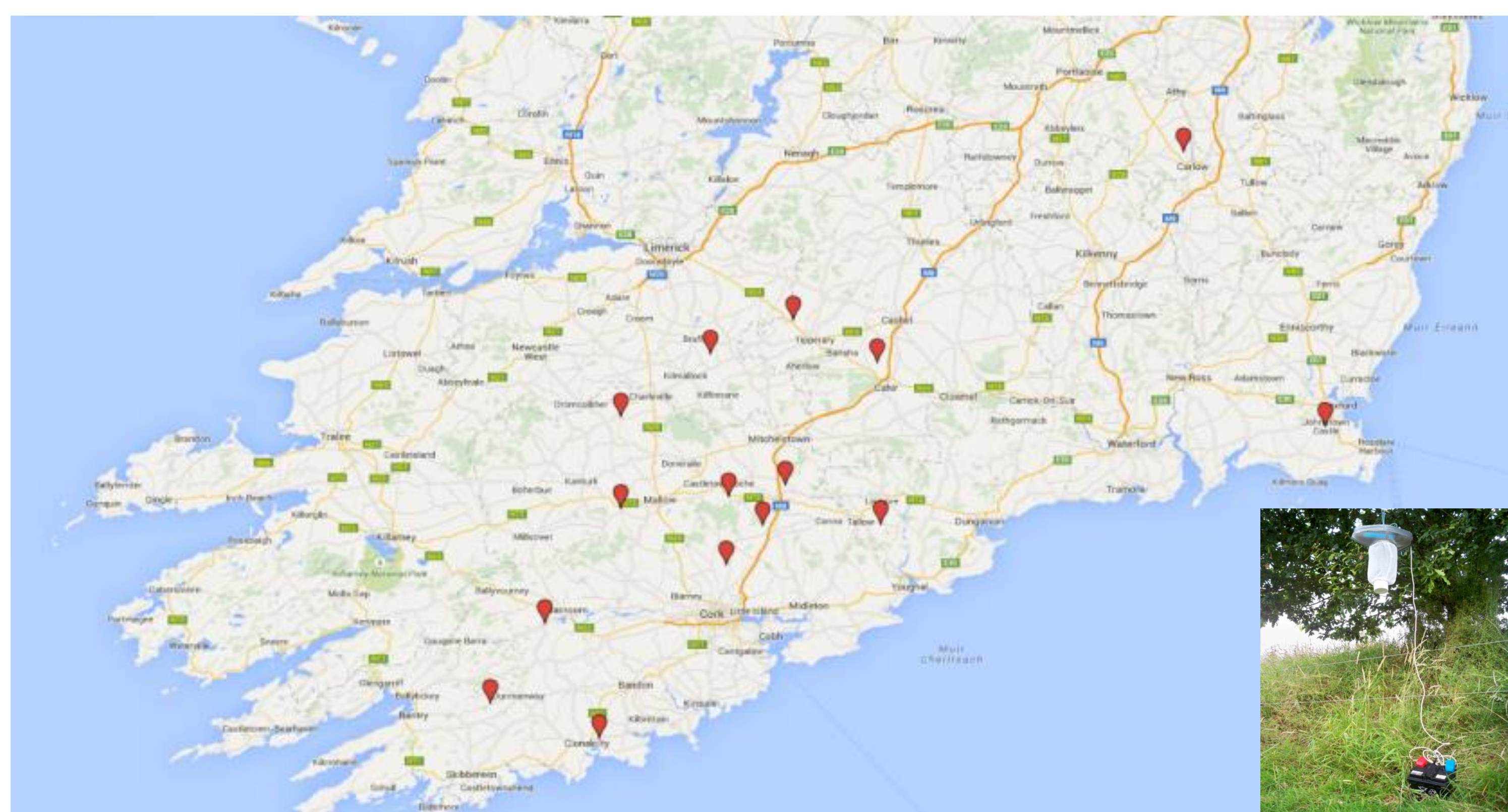


Objective

The aim of this study was to characterise the *Culicoides* biting midge species and their abundance on Irish dairy farms.

Materials and Methods

- Light trapping for *Culicoides* was carried out on 15 dairy farms in the south of the Ireland
- Each site was sampled fortnightly over a period of 16 weeks from 21st July 2014 – 5th November 2014.
- One Onderstepoort Veterinary Institute UV light trap was run overnight (15:00-19:00 to 08:00-10:00) at each site.
- Catches were transferred immediately into 80% ethanol for later morphological identification.

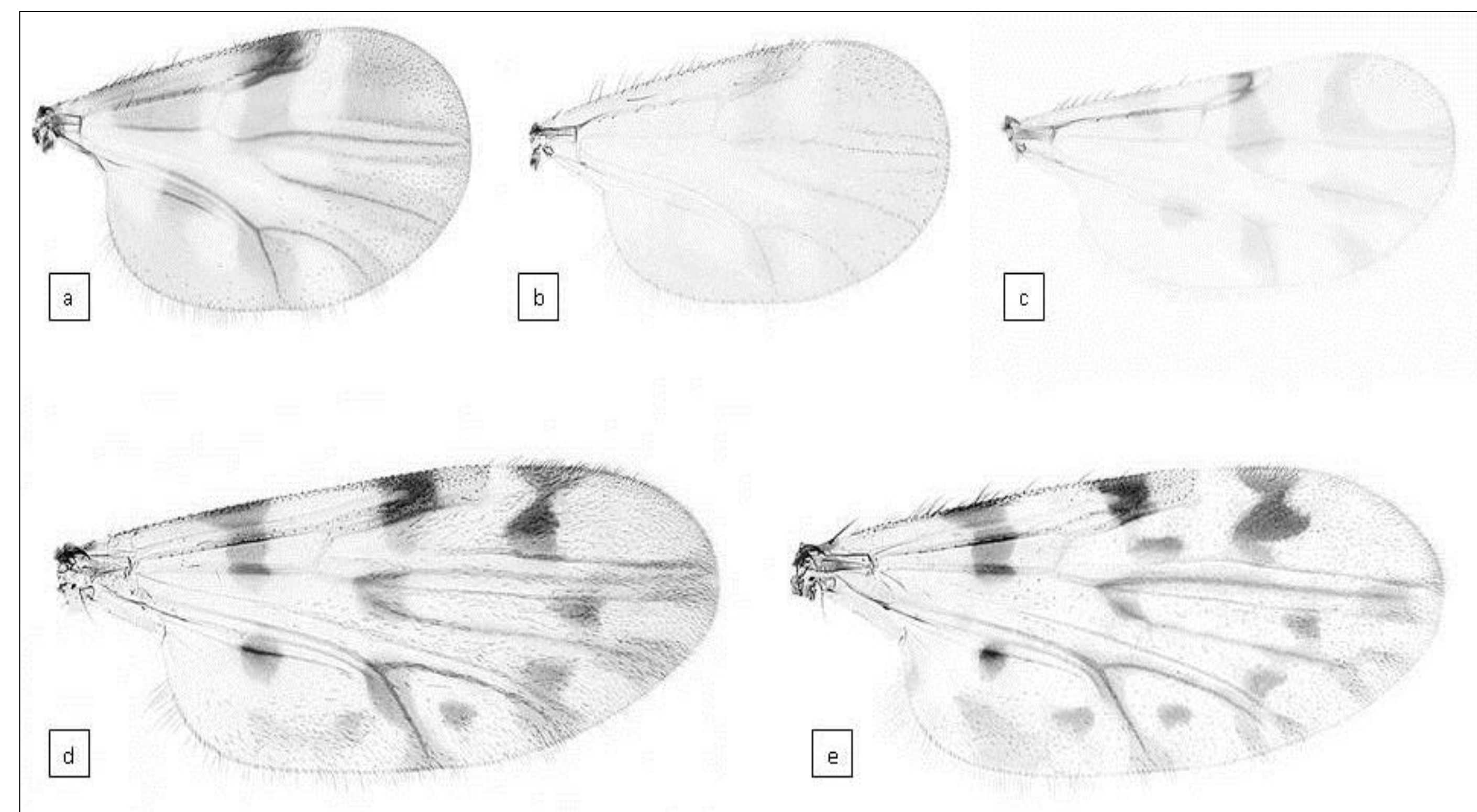


Farm locations: 15 Irish dairy herds (red pins) located in the south of Ireland
Insert photo: Onderspoort Veterinary Institute UV light trap and battery power supply

Results

A total of 112 sample collections were made
Identification is on-going but preliminary results reveal;

- *Culicoides* spp. were present ubiquitously across all 15 dairy farms
- 16 different species of *Culicoides* have been identified to date
- The most abundant species were members of *Culicoides pulicaris* and *Culicoides obsoletus* groups
- Within the *C. pulicaris* group the most abundant species identified were *C. pulicaris* and *C. punctatus*
- All four species of the *C. obsoletus* group (*C. obsoletus*, *C. scoticus*, *C. dewulfi* and *C. chiopterus*) were found to be present



The *C. obsoletus* group consists of four morphologically similar species (a) *C. obsoletus/scoticus*, (b) *C. chiopterus* and (c) *C. dewulfi*. The most abundant species identified in the *C. pulicaris* group were (d) *C. pulicaris* and (e) *C. punctatus*

Discussion

The most abundant species identified in this study were members of the *Culicoides pulicaris* and *Culicoides obsoletus* groups. This is consistent with previous studies carried out on dairy farms in parts of the UK. These species have been implicated in the transmission of BTV and SBV in the UK and in Europe and previously.

These species are likely to have a **role in the transmission of arboviruses** such as SBV, BTV and other vector-borne diseases amongst livestock on dairy farms in Ireland.

Acknowledgements

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