

# Culicoides population activity in Corsica in 2014

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## Abstract

We present the diversity and population dynamics of *Culicoides* in 2014 in Corsica, the only remaining area of Metropolitan France that is not Bluetongue-free and which is monitored for *Culicoides*.

## Keywords

Entomological monitoring, *Culicoide*, Corsica, Bluetongue

## Résumé

**L'activité des populations de *Culicoides* en Corse en 2014**  
Nous présentons la diversité et la dynamique des populations de *Culicoides* observées en 2014 en Corse, seule partie du territoire métropolitain non-indemne de fièvre catarrhale ovine et concernée par la surveillance entomologique des populations de *Culicoides*.

## Mots-clés

Surveillance entomologique, *Culicoides*, Corse, fièvre catarrhale ovine

Mainland France regained its Bluetongue-free status in 2012. Since 2013, monitoring of *Culicoides* populations has only concerned Corsica, using two traps per *département*. Trapping is carried out every two weeks, under the responsibility of the DDecPPs, respectively by the technicians of the DDecPP of Corse-du-Sud and of the GDS of Haute-Corse. The samples caught are sent to the Cirad in Montpellier, for identification and enumeration of the *Culicoides* collected.

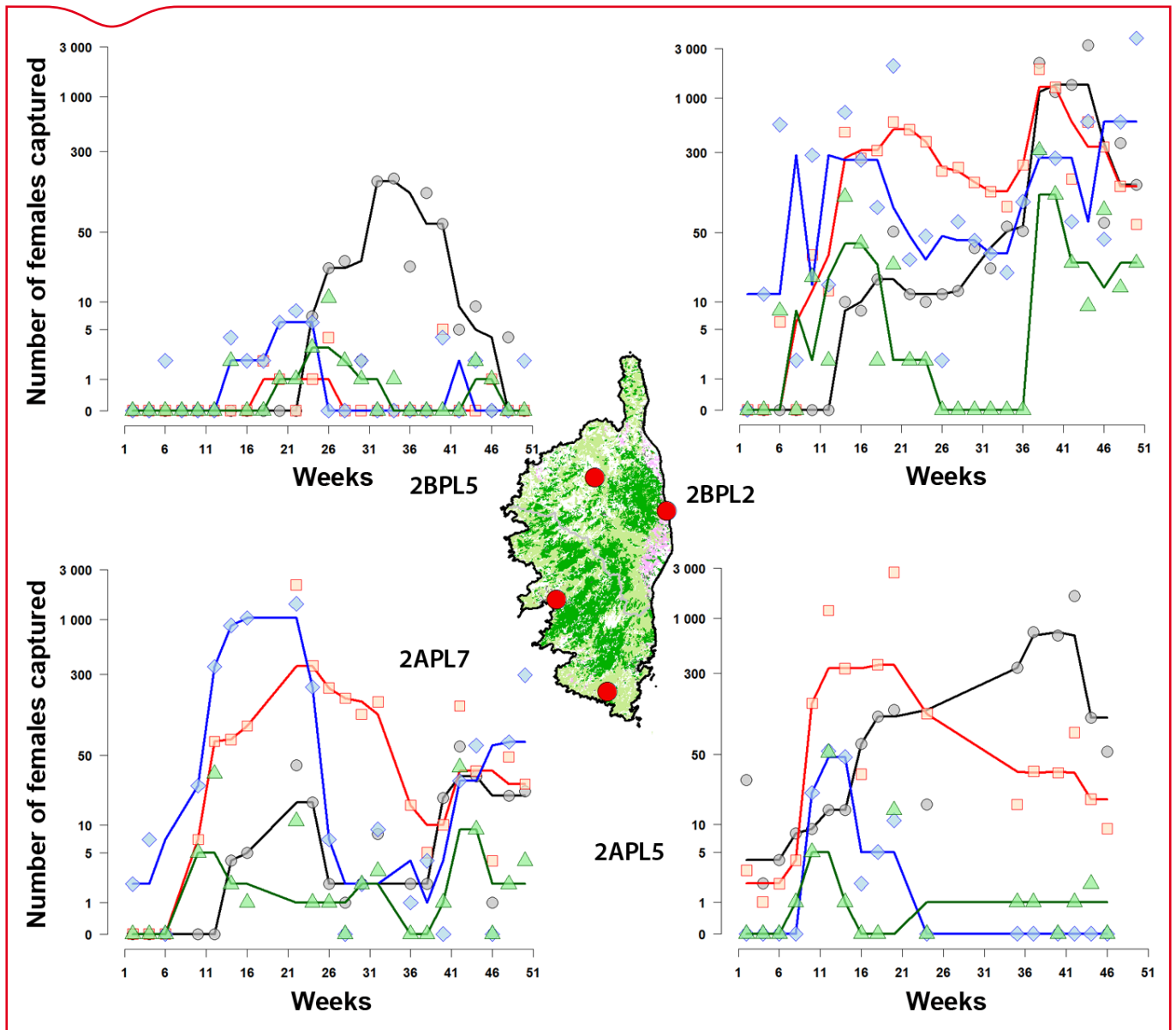
In all, 88 trapping operations were carried out in 2014, i.e. 88% of the number planned. About 50,000 *Culicoides* belonging to at least 37 species were captured, the majority in Corse-du-Sud (30,000 individuals compared with 20,000 for Haute-Corse). The main species caught were *Culicoides newsteadi* (34.0% of individuals captured), *Culicoides obsoletus/Culicoides scoticus* (29.3%), and *Culicoides imicola* (27.7%). Besides these main species, only *Culicoides pulicaris* and *Culicoides punctatus* were relatively abundant, with more than 1%, i.e. 2.0% and 1.9% respectively. All of these species accounted for 94.9% of catches. In the south-east of the island (site 2APL5 in Figure 1), *C. imicola* (41.0%) and *C. newsteadi* (52.5%) largely dominated catches, while *C. obsoletus/C. scoticus* remained rare (1.4% of catches). In traps near the coast in the centre and the north of the island (sites 2APL7 and 2BPL2), the *C. obsoletus/C. scoticus* species became as abundant (48.0 and 33.5%) as *C. newsteadi* (40.4 and 27.0%) and as *C. imicola* at the site 2BPL2 (30.0%) – this last species was rare at site 2APL7 (2.6%). It

is not possible to interpret the diversity observed in the north-centre of the island (2BPL5), because only 975 *Culicoides* specimens were captured. These results, both globally and per site, were quite similar to those observed in 2013, demonstrating broad stability in the diversity of the most abundant species from one year to the next.

In January, the number of *Culicoides* captured remained low, with five to eight parous females/trap-night, but was still above the regulatory “vector activity” threshold. From mid-February, the number of captured *Culicoides* became significant with a maximum of around 200 parous females/trap-night. The abundance of *C. newsteadi* and *C. obsoletus/C. scoticus* species was at its highest in the first part of the year, it then decreased during the summer, before reaching a second peak in the autumn. The populations of *C. newsteadi* seemed to remain more abundant during the summer than those of the *C. obsoletus/C. scoticus* species. Conversely, the populations of *C. imicola* gradually increased in abundance over the year, to reach a peak in September. The populations remained highly abundant at the end of the year: as many as 1,156 parous females/trap-night in early December in the eastern part of the island.

## Acknowledgements

We warmly thank all those involved in trapping activities (DDecPP and GDS personnel, as well as livestock farmers).



**Figure 1.** Population dynamics of *Culicoides imicola* (black), *Culicoides newsteadii* (red), *Culicoides obsoletus/Culicoides scoticus* (blue) and *Culicoides pulicaris* (green) in Corsica in 2014. The symbols (circle, square, diamond or triangle) correspond to the values actually observed; the curves to an extrapolation (calculation based on the mobile medians) of these specific data. In the interests of readability, only the four most abundant taxa are shown.