



# Jornada Enfermedades compartidas entre ganadería extensiva y fauna silvestre

*23 de octubre de 2024, Calamocha*

Lengua Azul, Virus Schmallenberg, Enfermedad Hemorrágica Epizootica,...  
¿Cuál será la próxima?

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Facultad de Veterinaria  
**Universidad Zaragoza**



# Jejenes

(Diptera: Ceratopogonidae : Culicoides)



Tamaño entre 1,5 y 3 mm

Aparato bucal cortador chupador



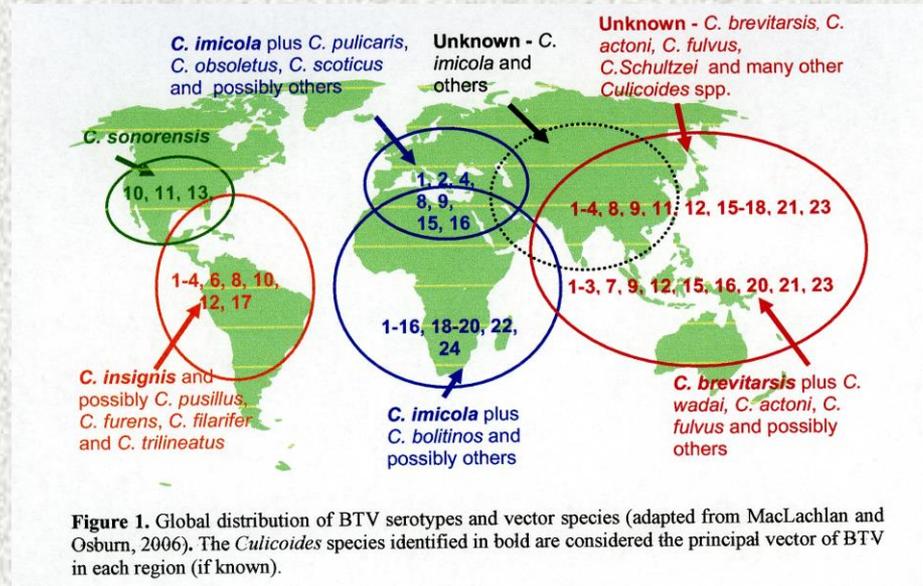
# LENGUA AZUL

Producida por un virus de la Familia

Reoviridae y Género Orbivirus

Se conocen en el momento actual 30

serotipos distintos.



EFSA. AHAW panel,  
2007



# ESPECIES DE CULICOIDES VECTORES DE LENGUA AZUL PRESENTES EN ESPAÑA

## Subgénero Avaritia

*Culicoides imicola*

*Culicoides obsoletus s.l.*

*Culicoides obsoletus s.s.*

*Culicoides scoticus*

*Culicoides dewulfi*

## Subgénero Culicoides

*Culicoides pullicaris*

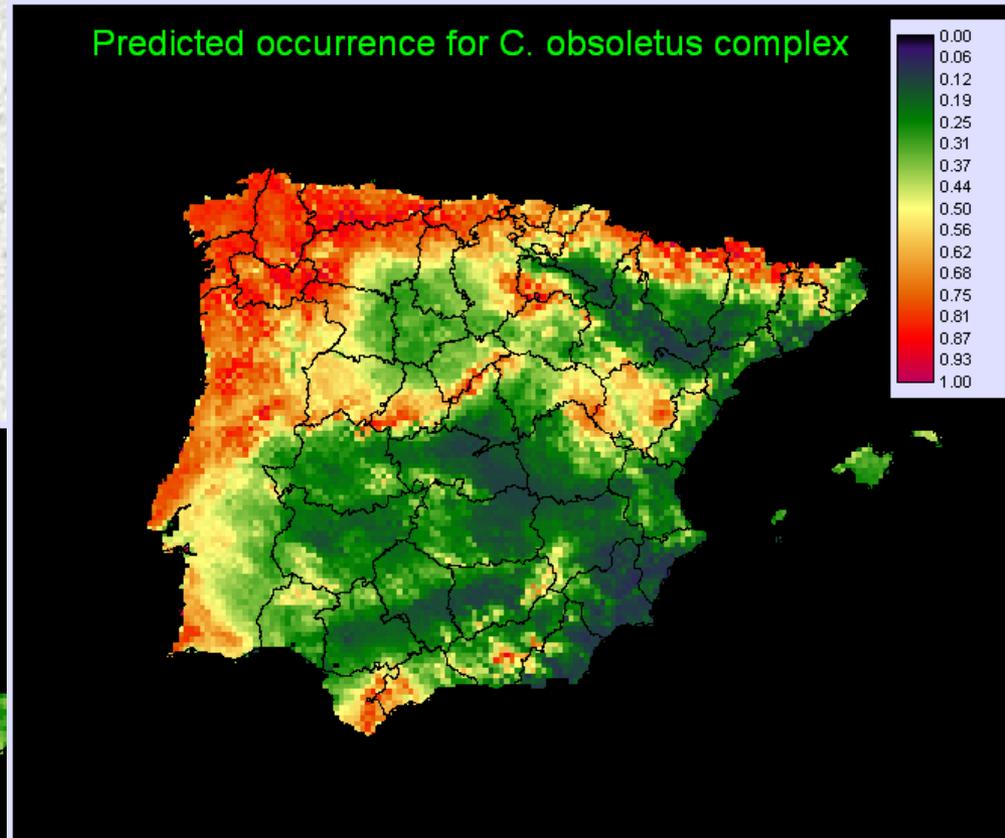




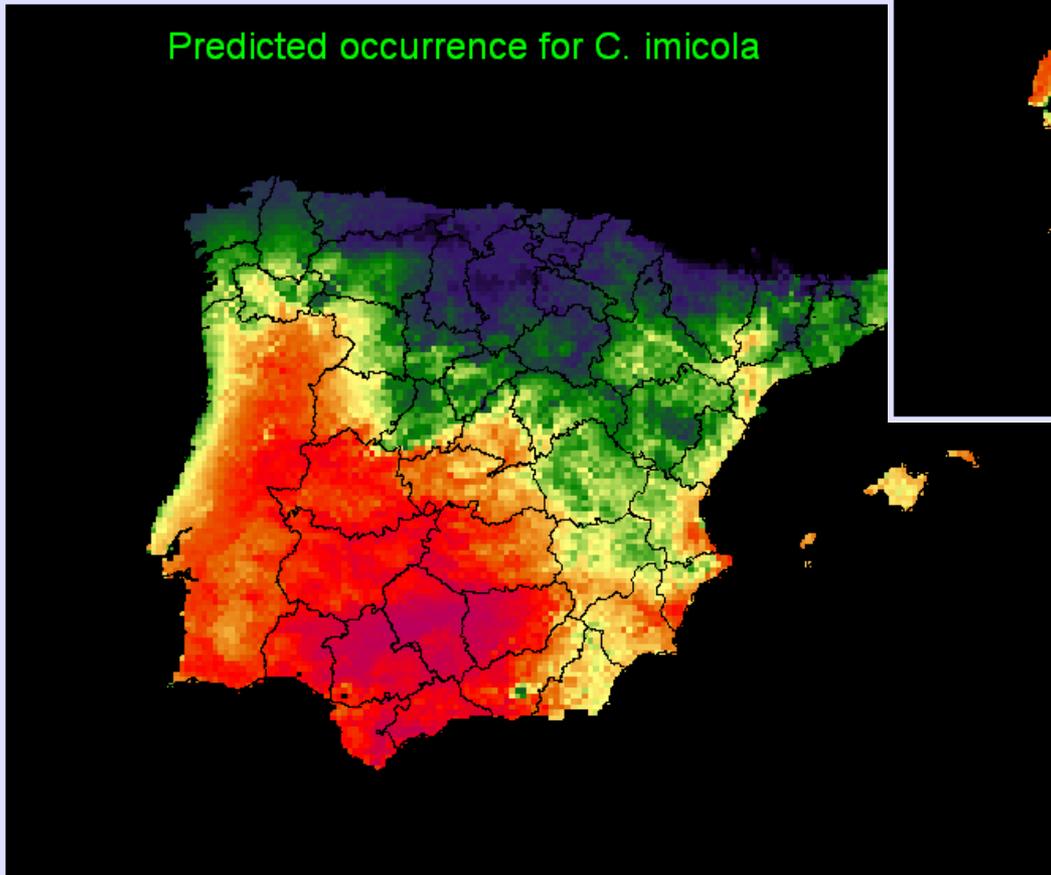


[www.inecol.edu.mx](http://www.inecol.edu.mx)

Predicted occurrence for *C. obsolete* complex

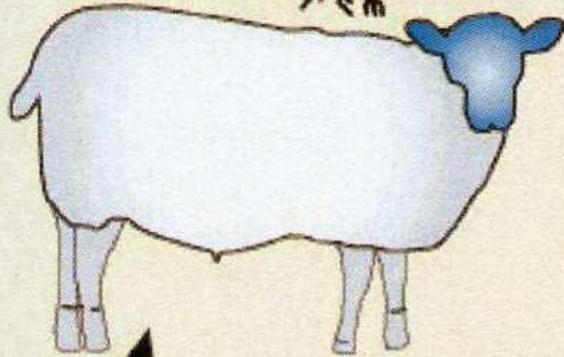


Predicted occurrence for *C. imicola*



Sánchez-Matamoros et al. RCCV 2028

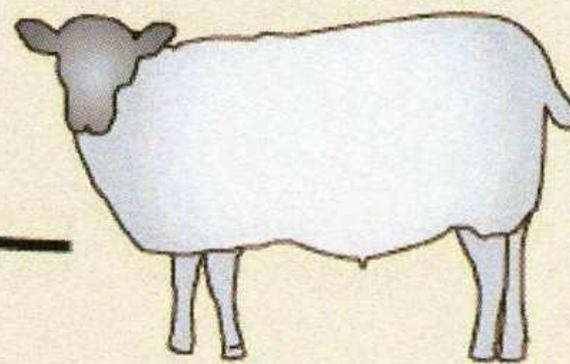
Hembra *Culicoides* adulta  
(no infectada)



Hospedador virémico  
(infectivo)

### Ciclo de transmisión de la LA

Hembra *Culicoides* adulta  
(infectada)

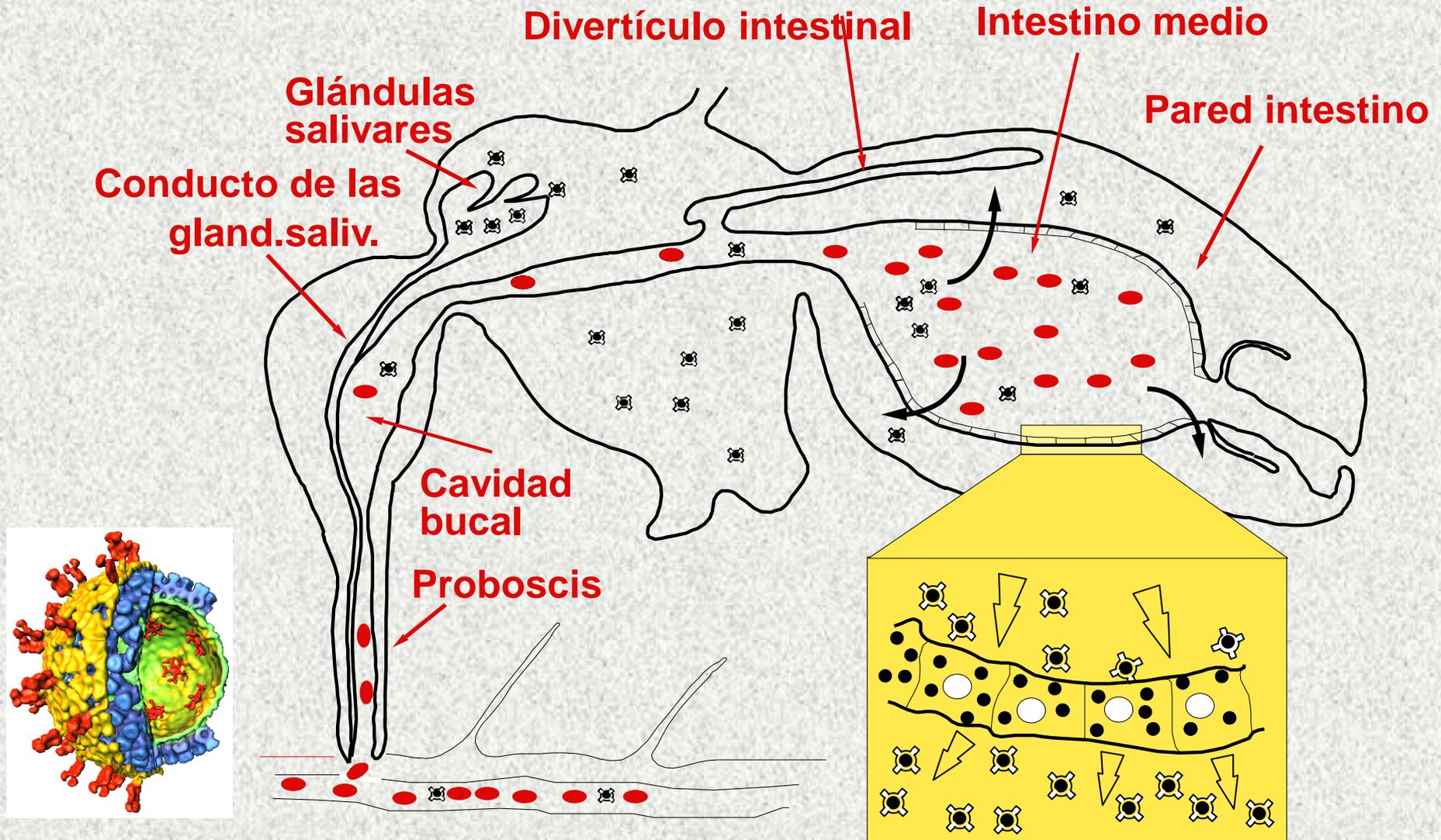


Hospedador  
susceptible  
(no infectado)

Periodo de incubación  
extrínseco

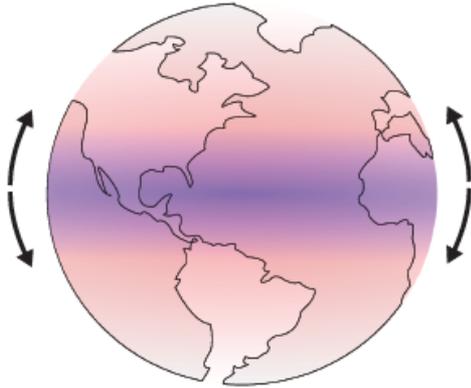
Periodo  
de latencia

# CICLO DE REPLICACION DEL VIRUS DE LA EN CULICOIDES

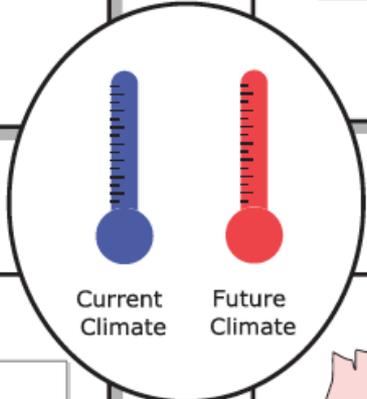
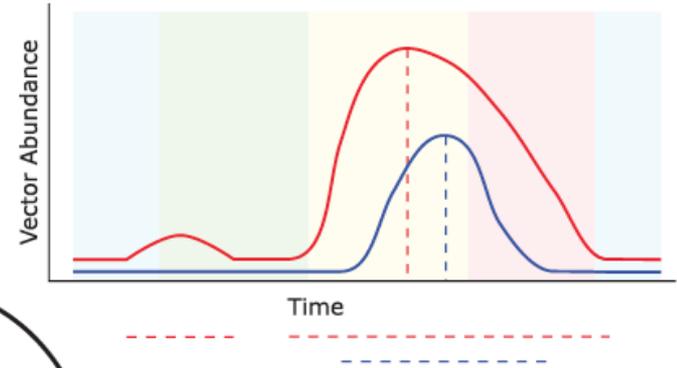


# Efecto del Cambio Climático

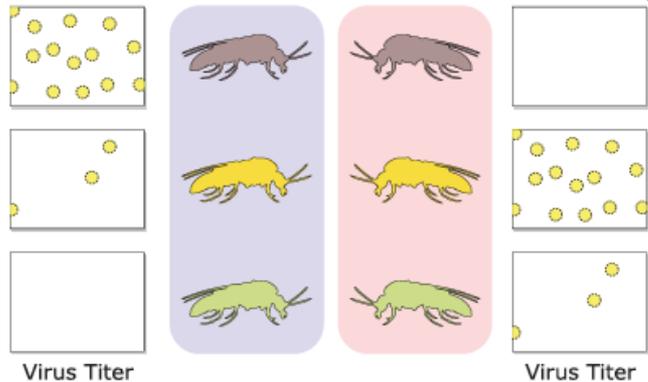
### Poleward Disease Shift



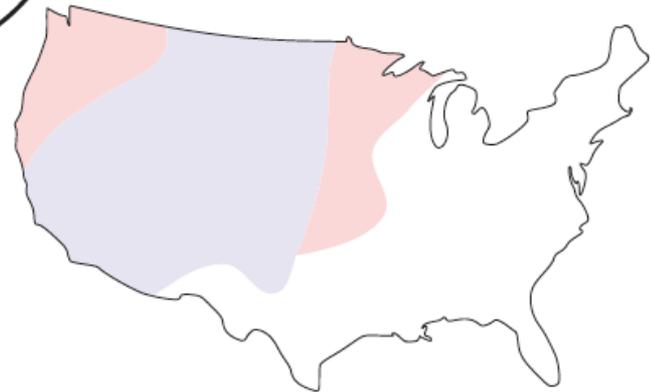
### Seasonal Transmission Shift



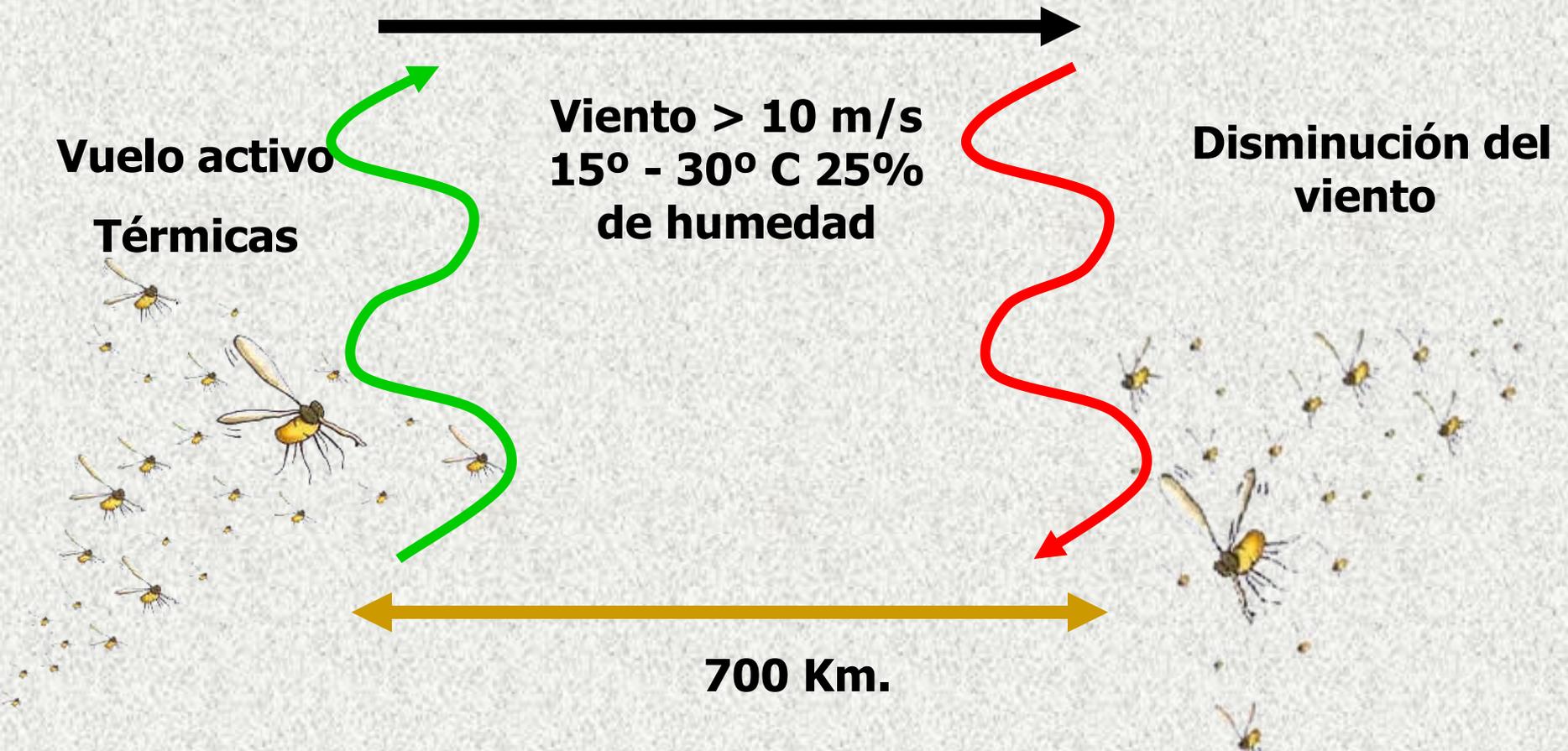
### Shift in Vector Competency



### Shift in Vector Distribution



# Dispersión por el aire



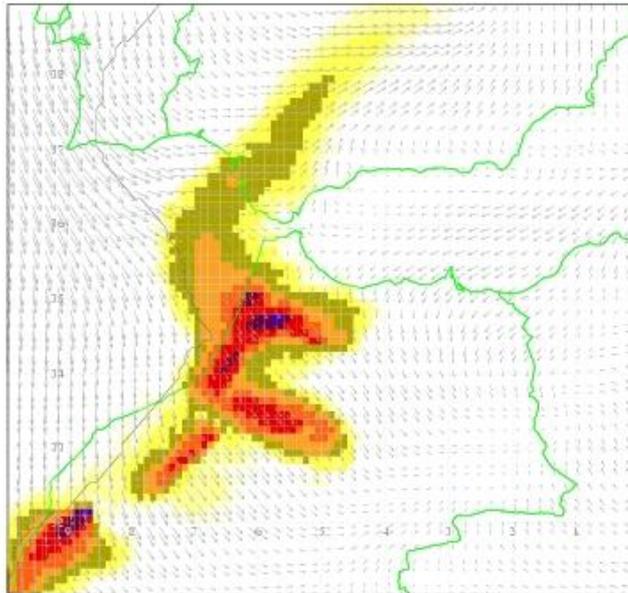
NAME version 8.11

1800UTC\_10/09/2004 to 0600UTC\_11/09/2004

Boundary layer Dosage



Valid at 1800UTC 11/09/2004



Maximum value = 1.56e+00 g/m<sup>3</sup>



Start of release: 1800UTC\_10/09/2004

End of release: 0600UTC\_11/09/2004

Release rate: multiple sources

Release location: multiple sources

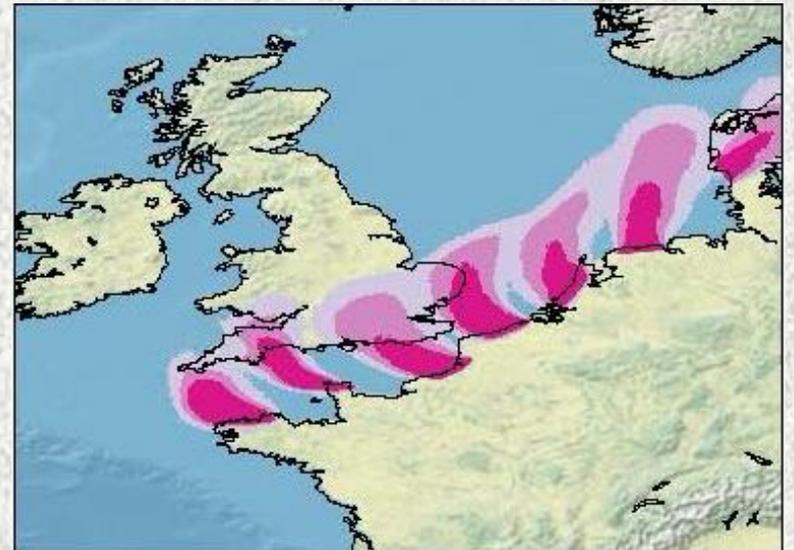
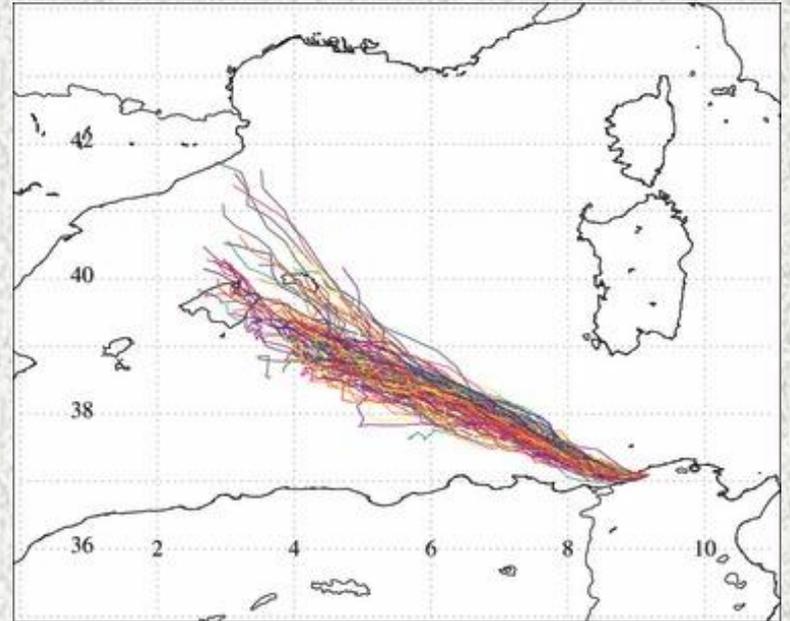
Release heights: 0 to 200m agl

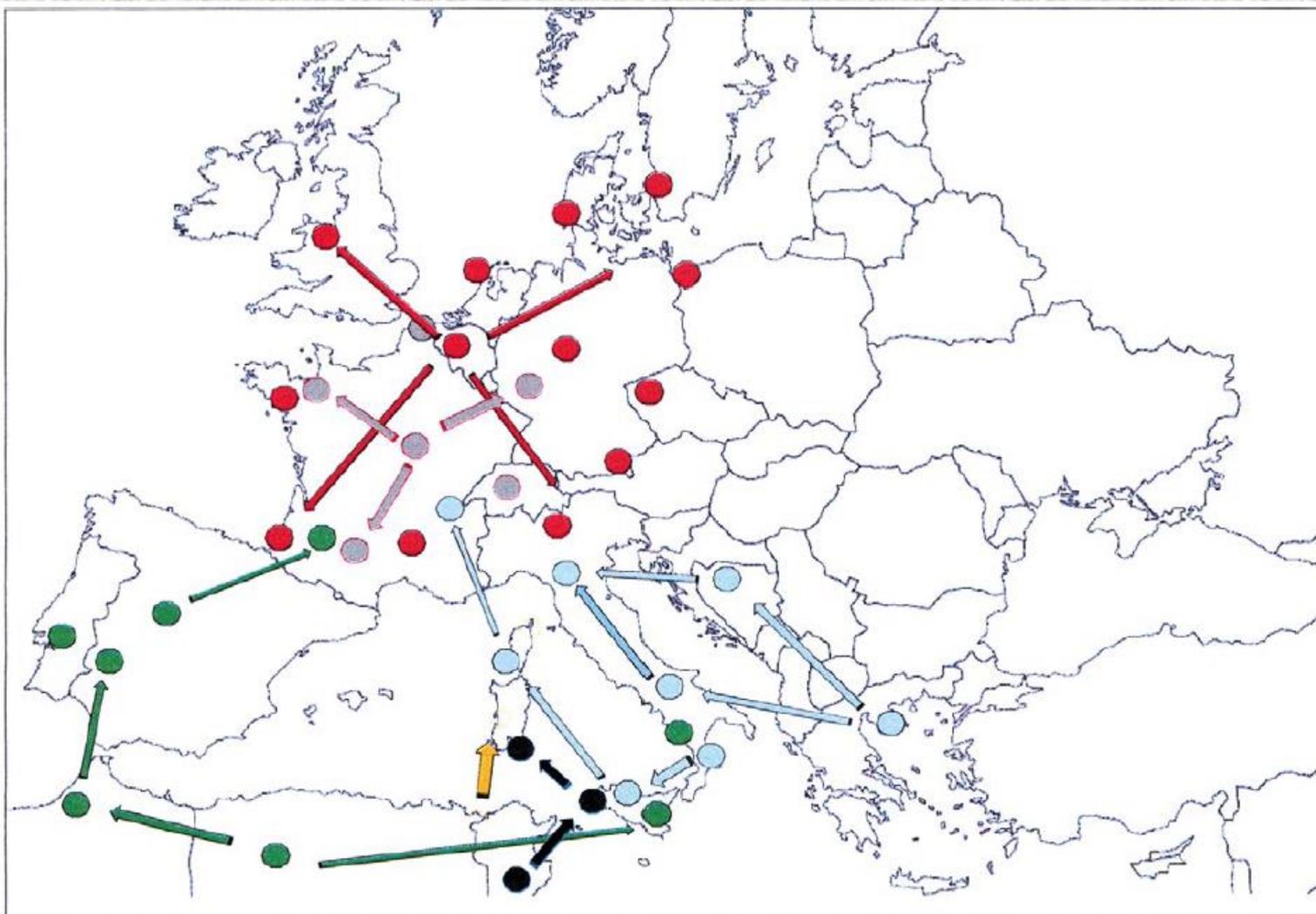
Pollutant: INERT-TRACER

Met data: Regional

Runtime: 1034UTC 21/10/2004

Met Office (GMRE) Crown copyright





**Fig. 1. BTV spread from 2006 to 2019. Occurrence of BTV serotypes and strains during the period indicated in brackets**

# Prevalencia en Fauna Silvestre en el Parque Nacional de Doñana

## **Lengua Azul**

97 % de los ciervos

64,7 % de los Gamos

★ Aislado en 4 ciervos el virus del serotipo 4

## **Virus Schmallenberg**

16,8 % de los ciervos

23,5 % de los gamos

Tanto en escenarios con vacuno vacunado como no vacunado

# ESPECIES DE CULICOIDES VECTORES PRESENTES EN ESPAÑA

*Culicoides imicola*

*Culicoides obsoletus s.l.*

*Culicoides obsoletus s.s.*

*Culicoides scoticus*

*Culicoides dewulfi*

*Culicoides pullicaris*

## OTRAS ESPECIES DE CULICOIDES POTENCIALES VECTORES

*Culicoides festivipennis*

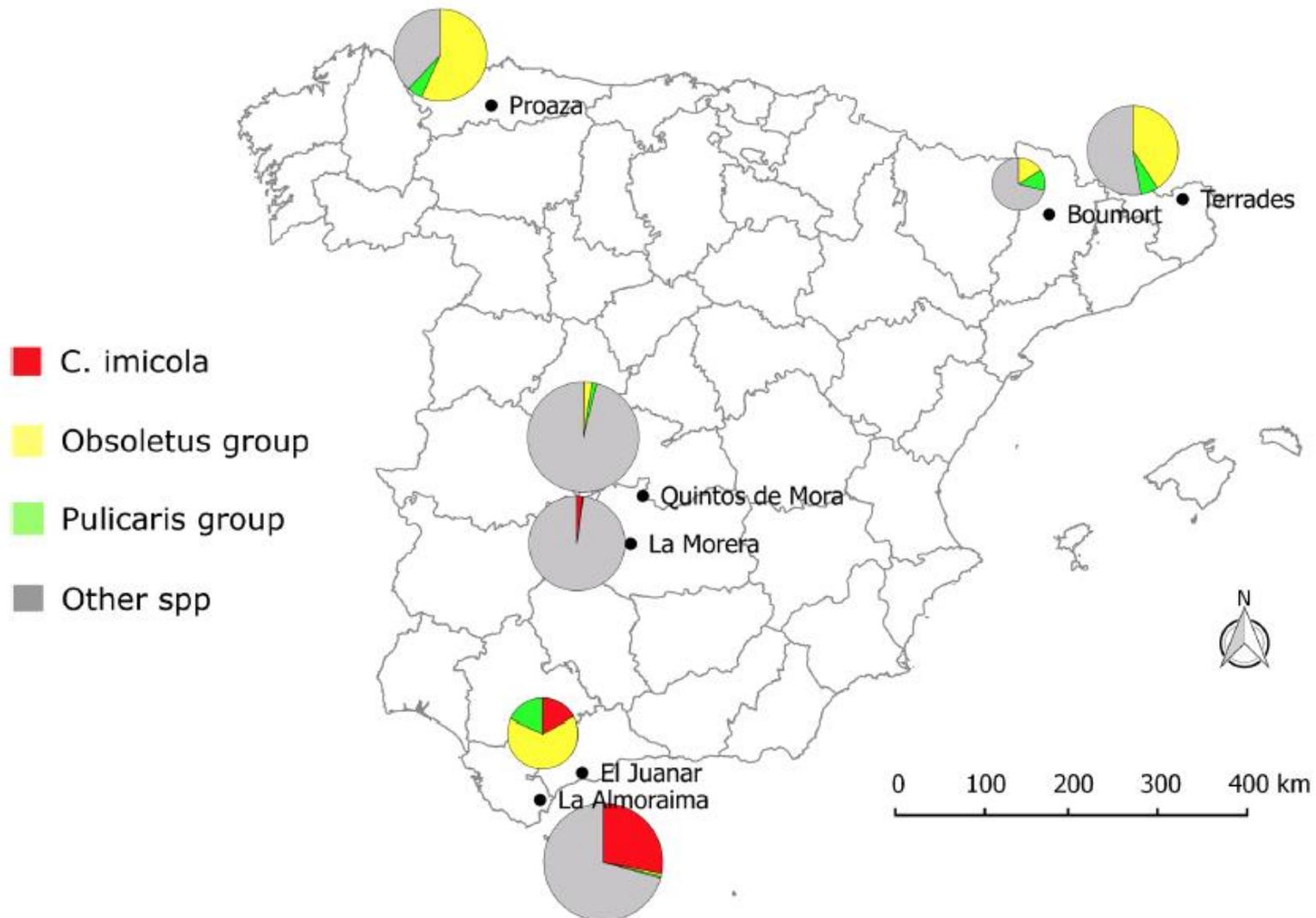
*Culicoides punctatus*

*Culicoides newsteadi*

*Culicoides nubeculosus*

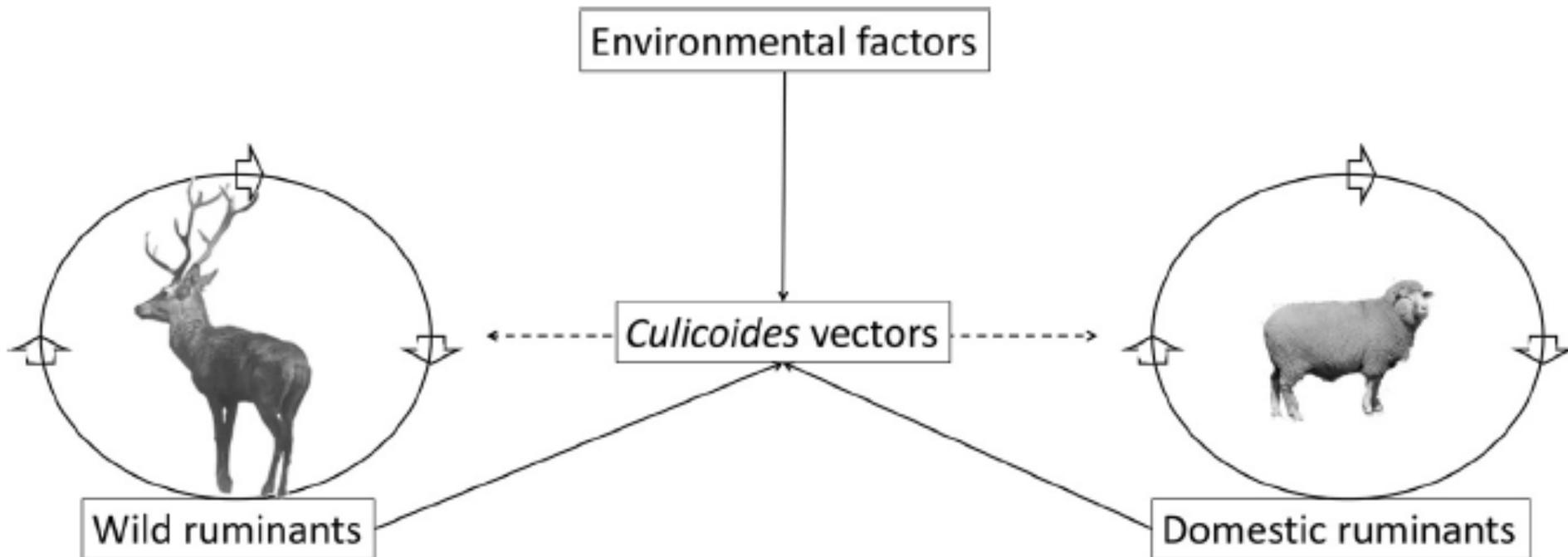
*Culicoides lupicaris*





**Fig 4. Map showing the relative abundance of the main vector species of BTV and SBV in the sampling sites.**

doi:10.1371/journal.pone.0141667.g004



Mediterranean Europe:

High red deer densities  
*Culicoides imicola* abundant  
Warmer temperatures  
BTV still circulating

Central and northern Europe:

Low red deer densities  
*Culicoides imicola* absent or scarce  
Cooler temperatures  
BTV eradicated

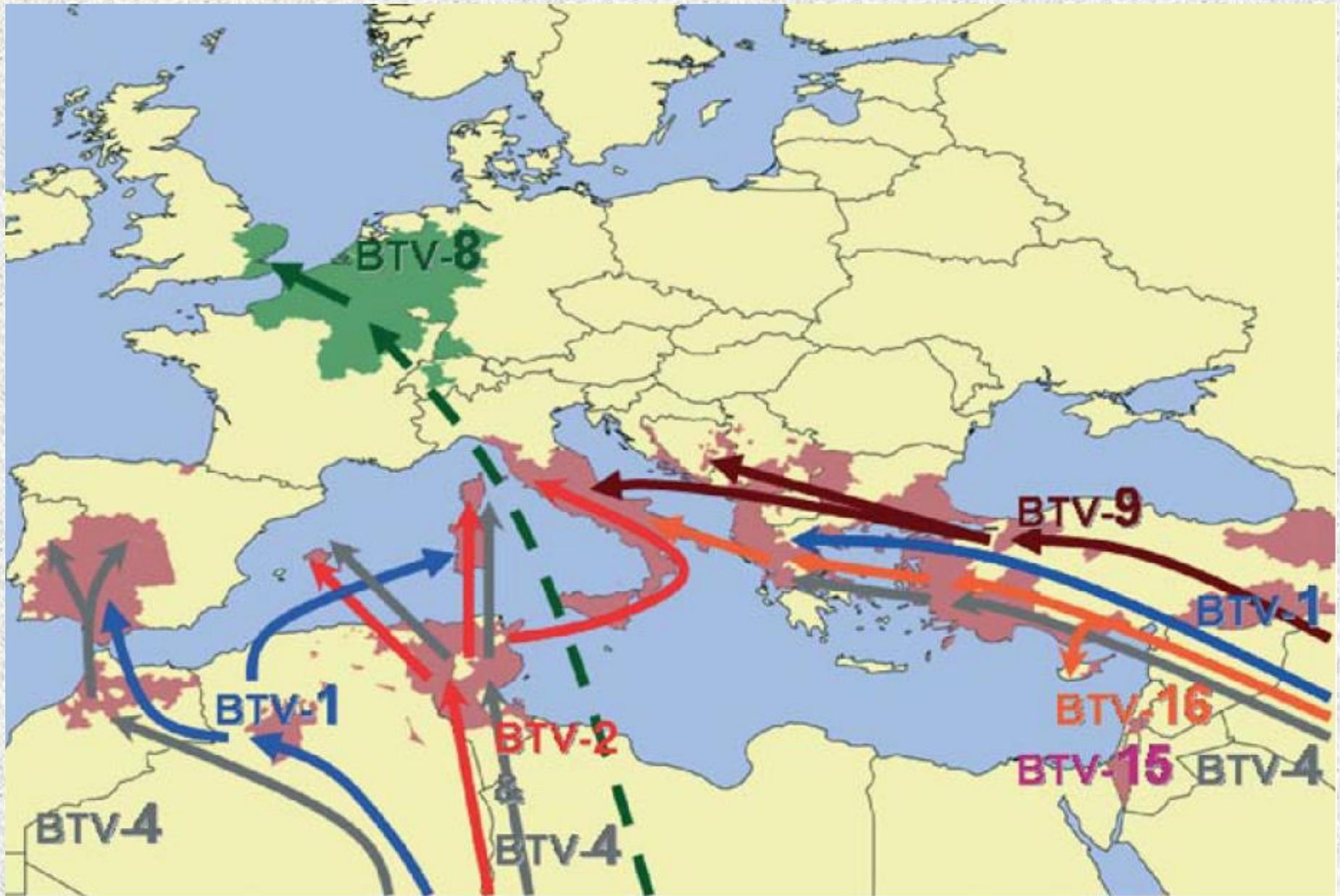




Foto EID Bruno Matthieu

***GRACIAS POR SU ATENCIÓN***