VBORNET annual general meeting
Riga, 7-10 May 2012

WP3: tick distribution maps

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Tick distribution data reporting

Historical maps provided by georeferencing Morel's presence data (*)

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UPDATE PRESENCE DATA FOR THE CURRENT PERIOD

- Bibliographic data : any scientific paper in entomology, epidemiology and pathogen detection from the 10 last years
- Unpublished datasets: EFSA dataset compiling historical and recent data from tick collection, personal datasets, ICTTD dataset… + UK tick database (J.M. Medlock)

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COMPLETED BY ABSENCE DATA, AND NO AVAILABLE DATA (GAPS)

- Expert opinion survey: a large panel of experts commented available maps and indicated tick absence in currently known areas or gap data if no study has been conducted

**** Morel P.C. (1969). The ticks from Africa and the Mediterranean Basin. CDROM edited by CIRAD in 2003***

UPDATING PRESENCE DATA FOR THE CURRENT PERIOD

Bibliographic data

- **539 scientific publications** from the 10 last years

- 3,421 presence data for 6 tick species (or groups of species) with **1,934 data uploaded in Vbornet** distribution tool (after validation process)

- From **49 European countries**

An MS Access database has been created to collect and validate bibliographic data

Scientific literature is monitored every 3 months to update the database; data are then uploaded to the Vbornet vector distribution tool

UPDATING PRESENCE DATA FOR THE CURRENT PERIOD

Non published data

- EFSA database: more than **8,000 presence data for 6 tick species**

Literature presence data + collection data + report and expert data:

- Half of them are redundant → **~ 4,000 data**
- A second half are coming from literature (similar to previous database) → **~ 2,000 data**

To be uploaded during the next period

- UK database: **1,566 presence data for *I. ricinus*** from 1900 to 2000, provided by J.M. Medlock

To be uploaded during the next period

COMPLETING BY ABSENCE DATA AND NO DATA INDICATING GAPS

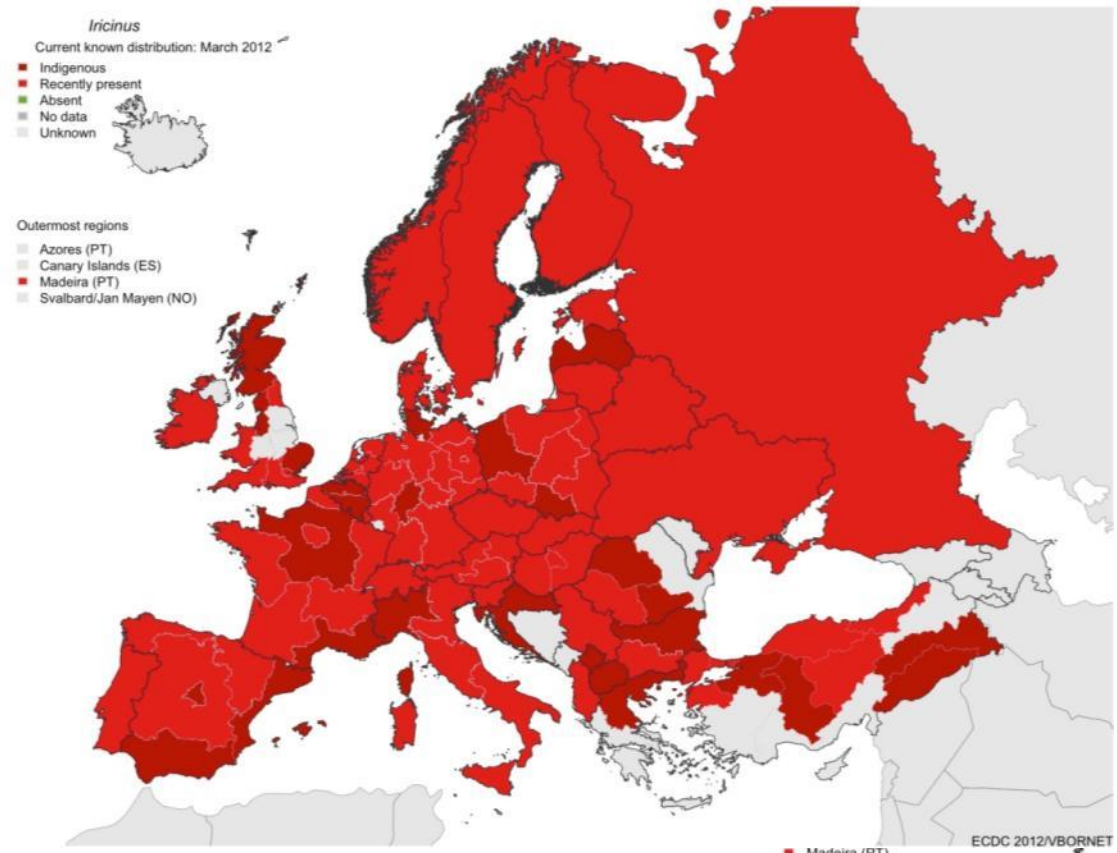
Expert opinion survey

- **A large expert list** based on monitoring recent scientific literature and indicating main authors regularly publishing on ticks or tick-borne pathogens

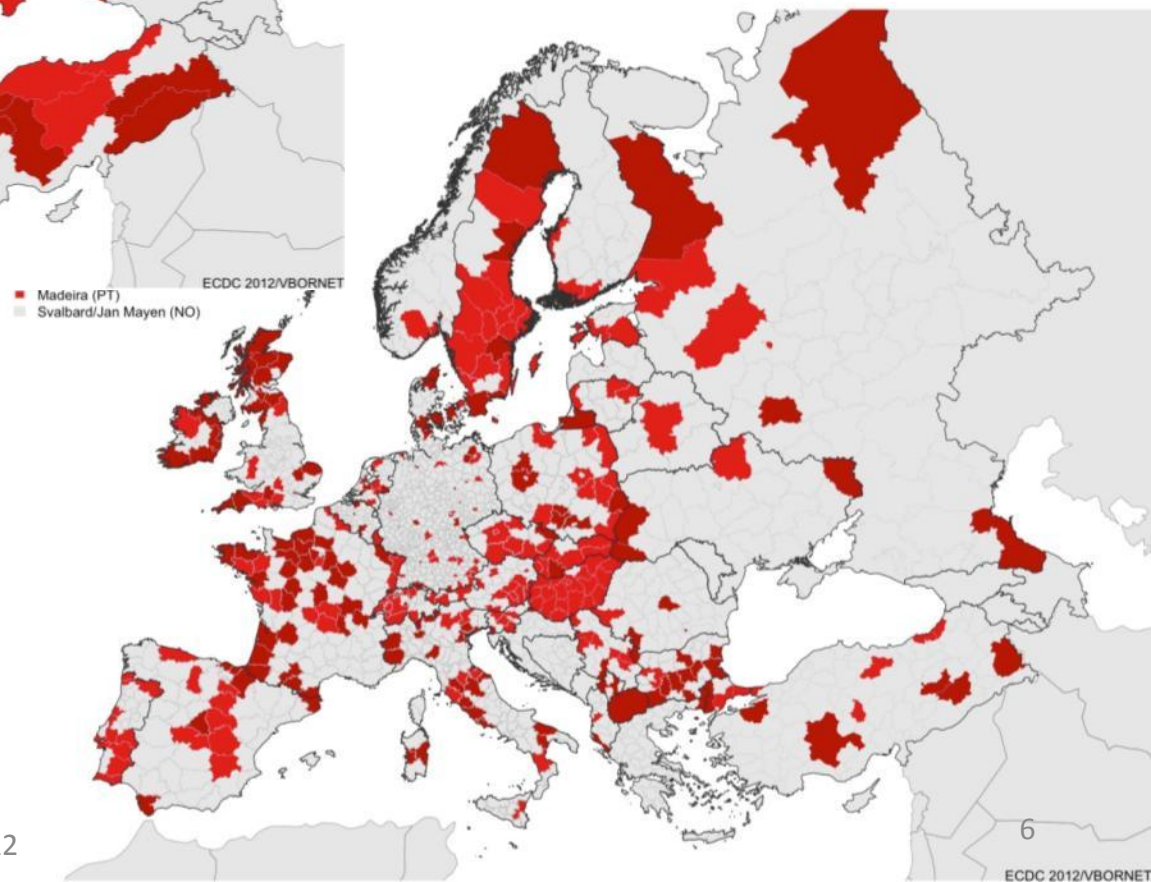
- With **a large geographical range of experts** in any European countries

- Experts contacted individually by mail by the tick focal point who:
  - Explained the process to obtain the current tick maps
  - Encouraged the experts to join the Vbornet network
  - Asked the experts to comment and improve the maps

- 206 experts contacted, only 2 replies and no new tick data uploaded 3 months after

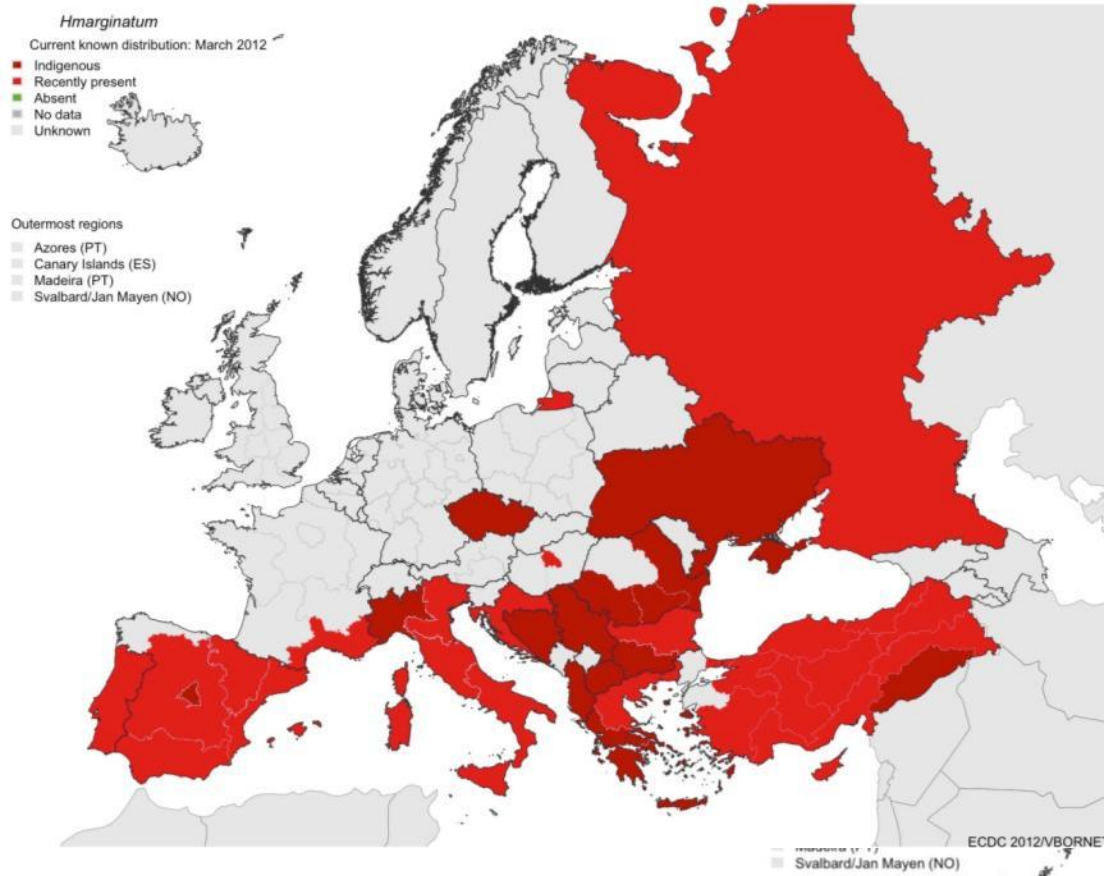


Ixodes ricinus
NUTS1 & NUTS3



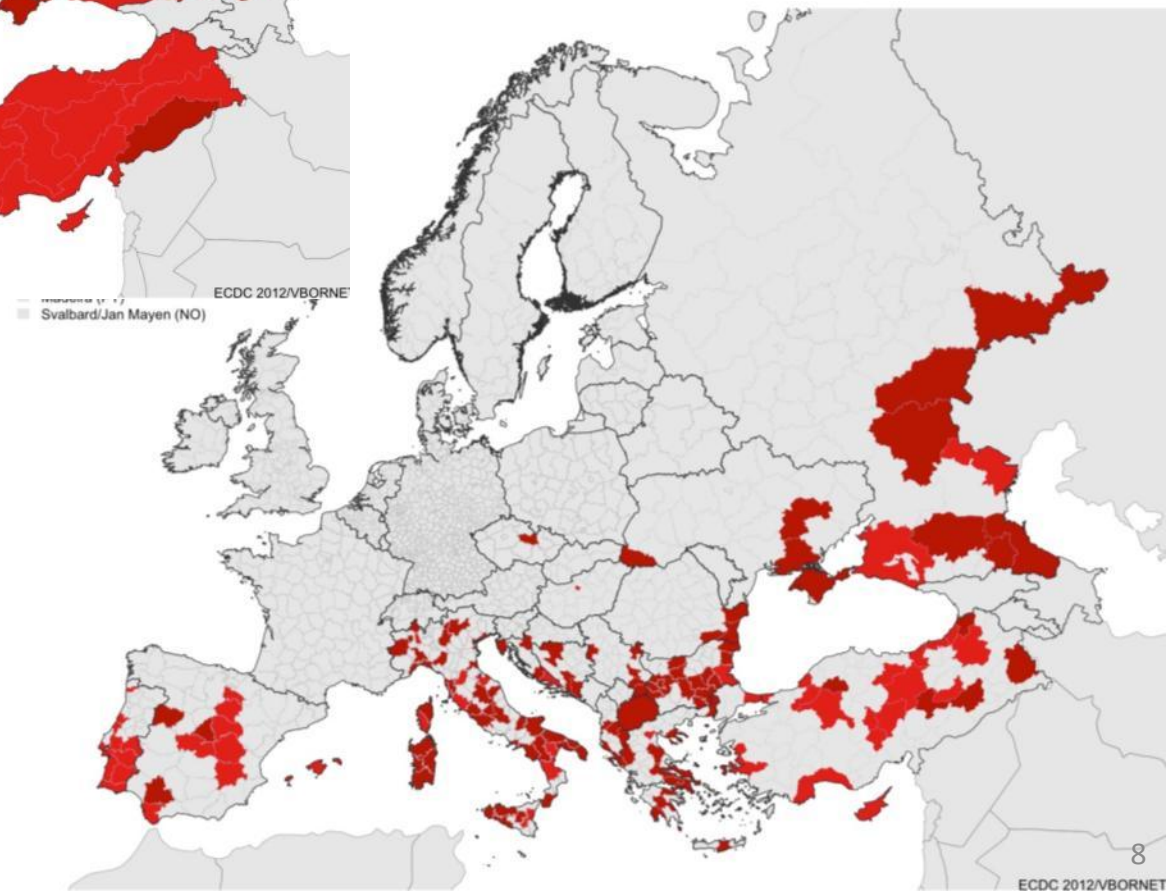
Ixodes persulcatus

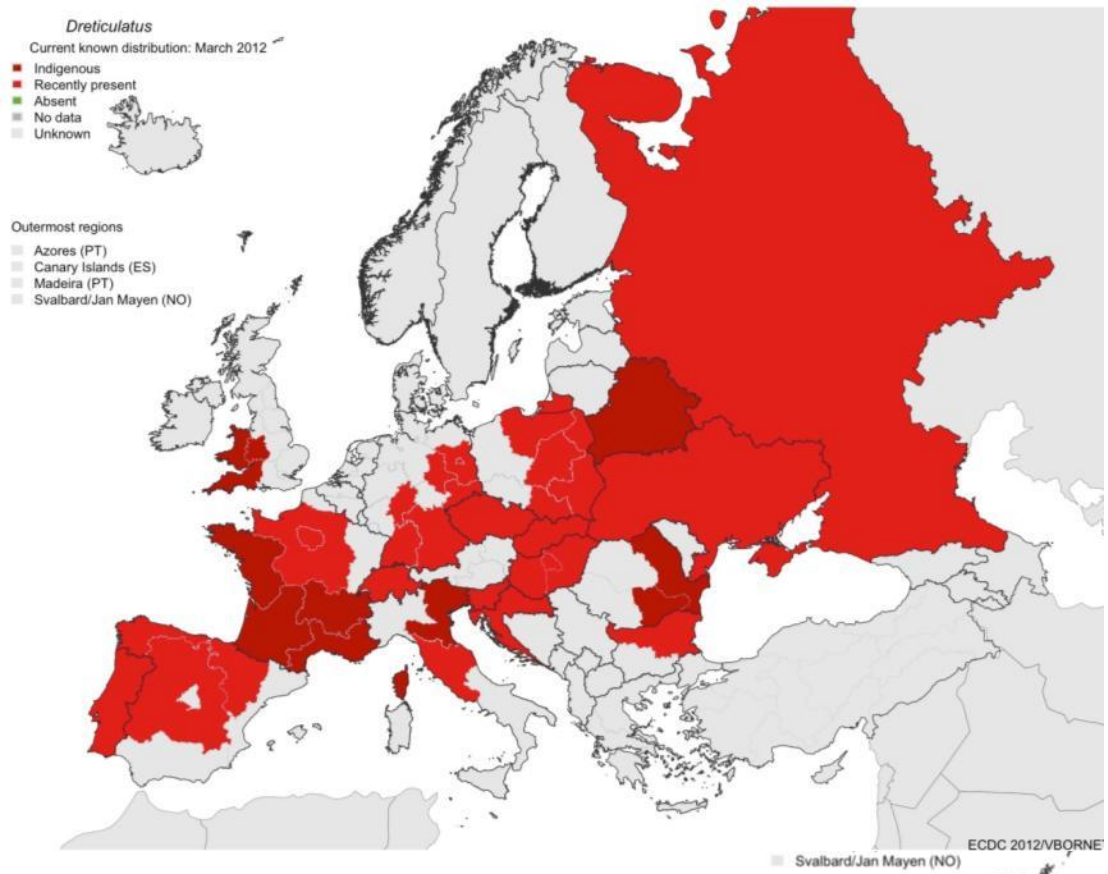
NUTS1 & NUTS3



Hyalomma marginatum marginatum

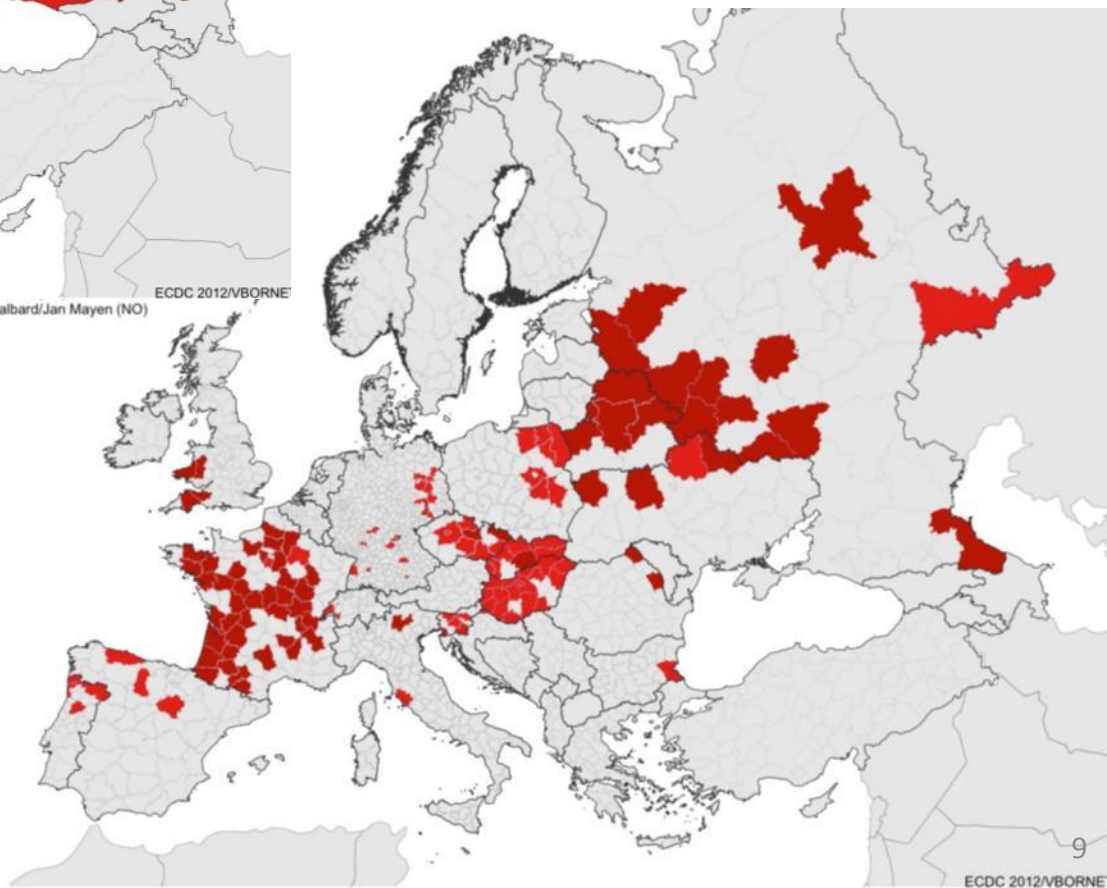
NUTS1 & NUTS3

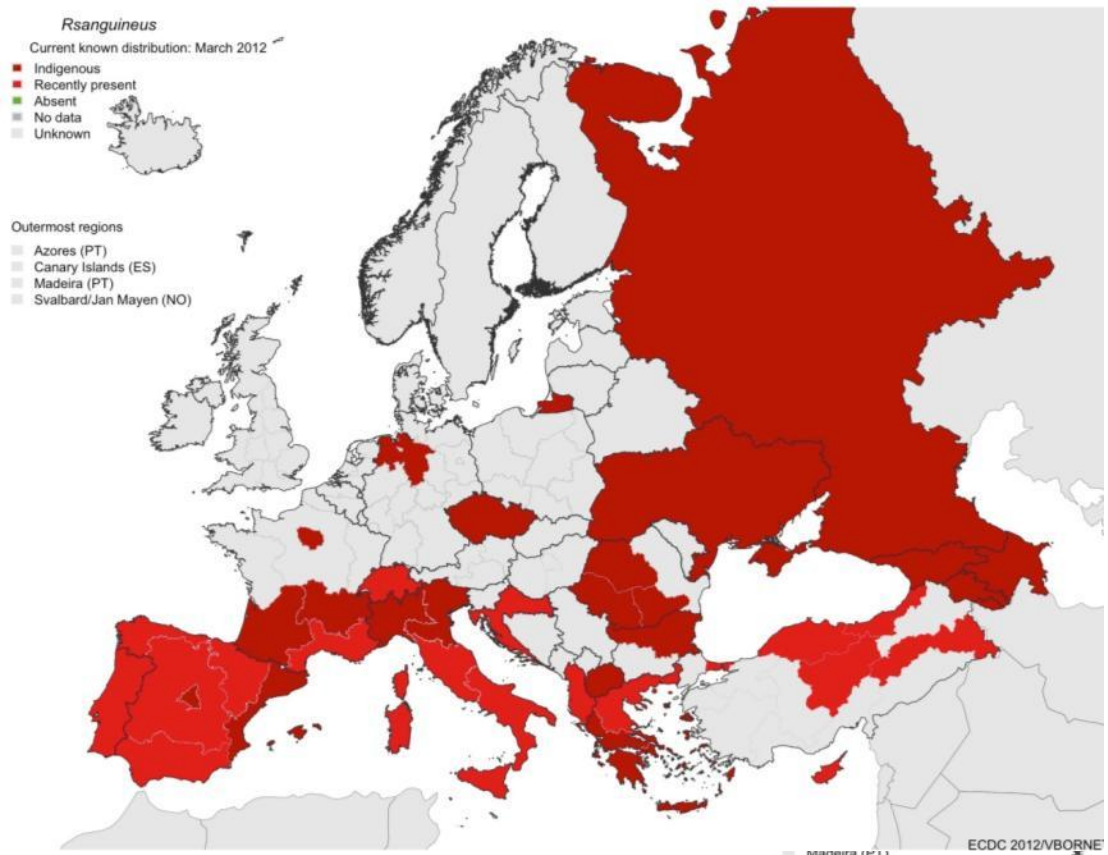




Dermacentor reticulatus

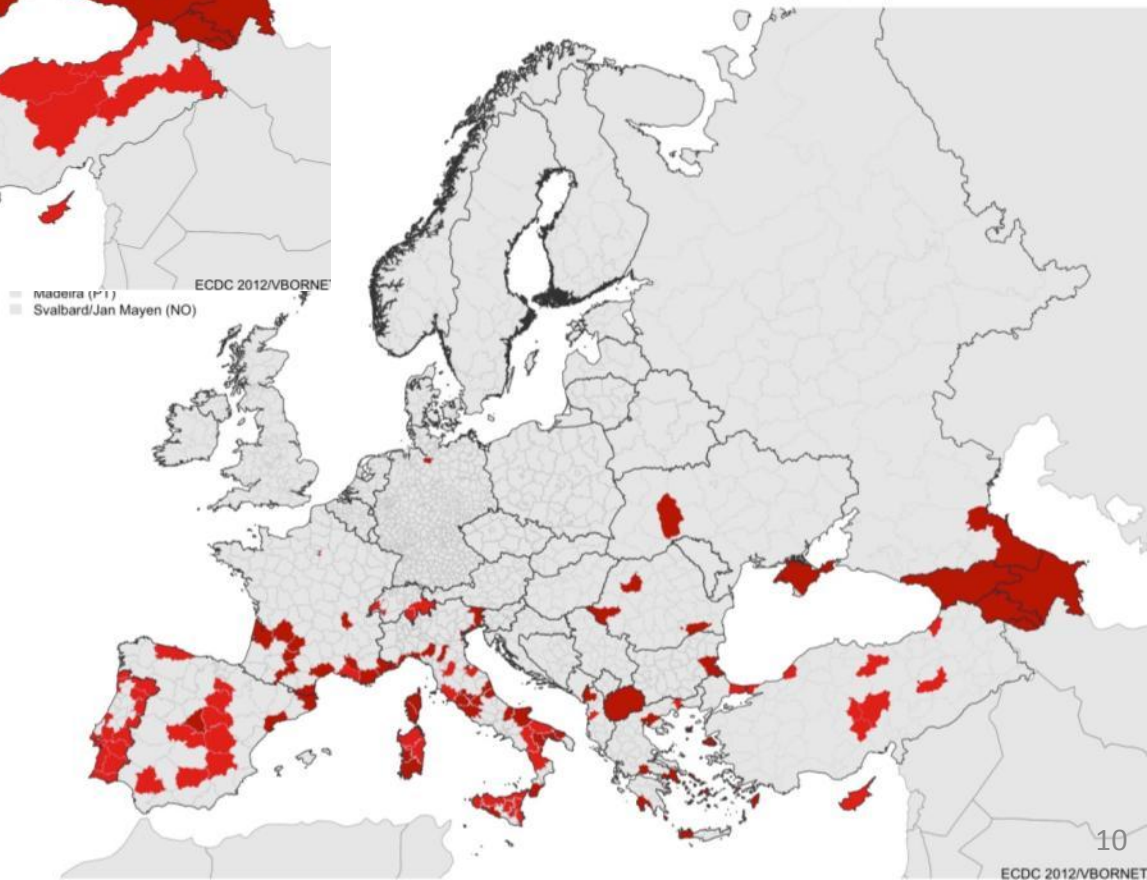
NUTS1 & NUTS3

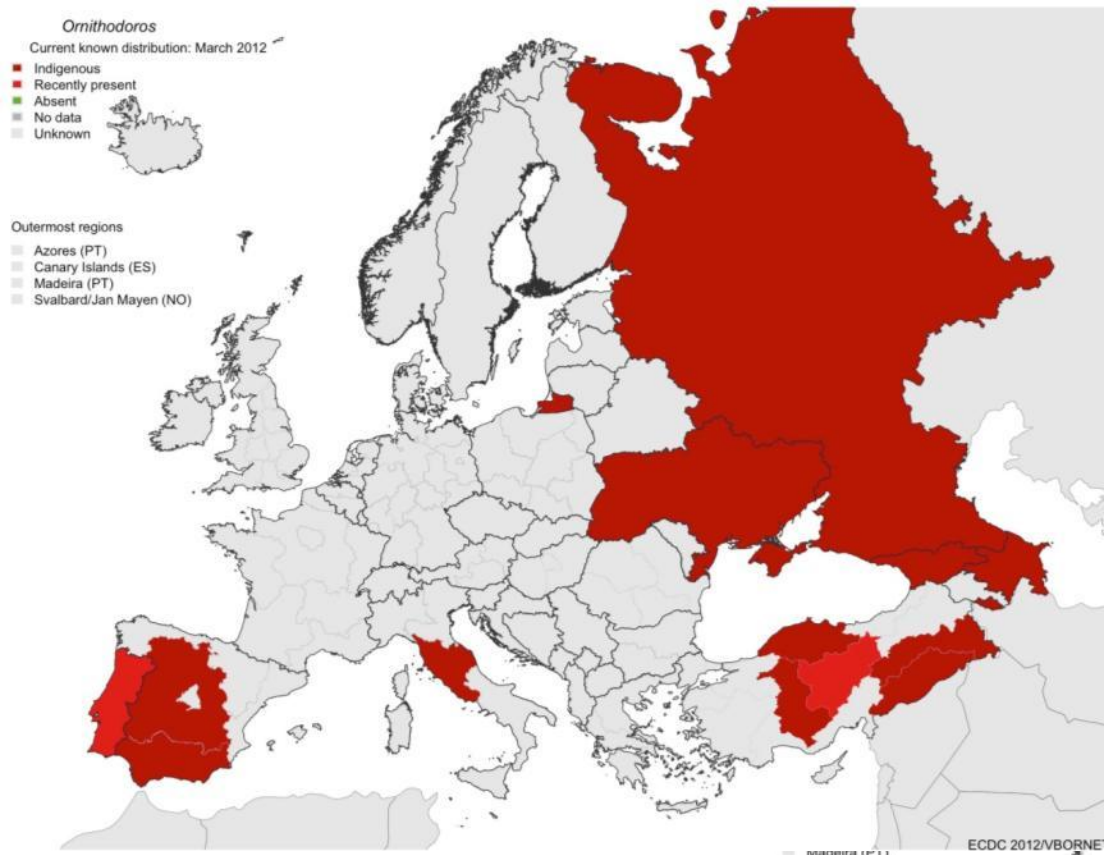




Rhipicephalus sanguineus

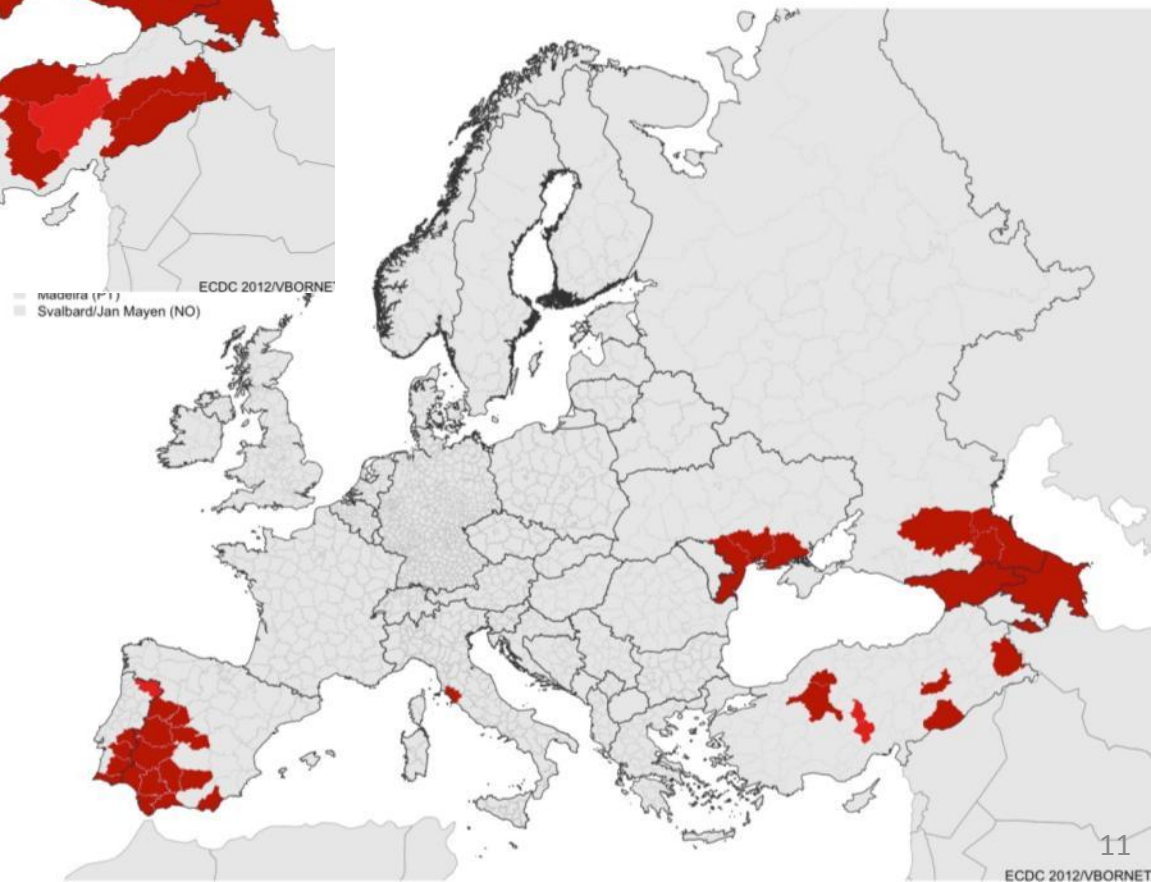
NUTS1 & NUTS3





Ornithodoros species transmitting TBRF

NUTS1 & NUTS3



Tick distribution data validation

The validation process has been improved. Data are removed when:

- **Problems with the data source:**

- The vertebrate host is a bird: birds can disseminate ticks far from their habitat range
- Ticks have been collected in a harbor: ticks may come from a recently imported vertebrate

- **Doubts regarding species identification:**

- Data uploaded by someone without well-known taxonomic expertise
- Tick presence report without details on species identification method: identification key, taxonomy expertise, molecular methods…

- **Insufficient precision regarding location:**

Ambiguous location name: e.g. large areas like mountains, rivers that may cover multiples NUTS or too many synonymous areas

Next steps…

- Upload EFSA and UK data
- Publication of the maps on the ECDC website
- Validation of presence data every 3 months to be included in the maps

Question: How to better encourage experts to deposit their data?