

EDENext

Biology and control of vector-borne infections in Europe

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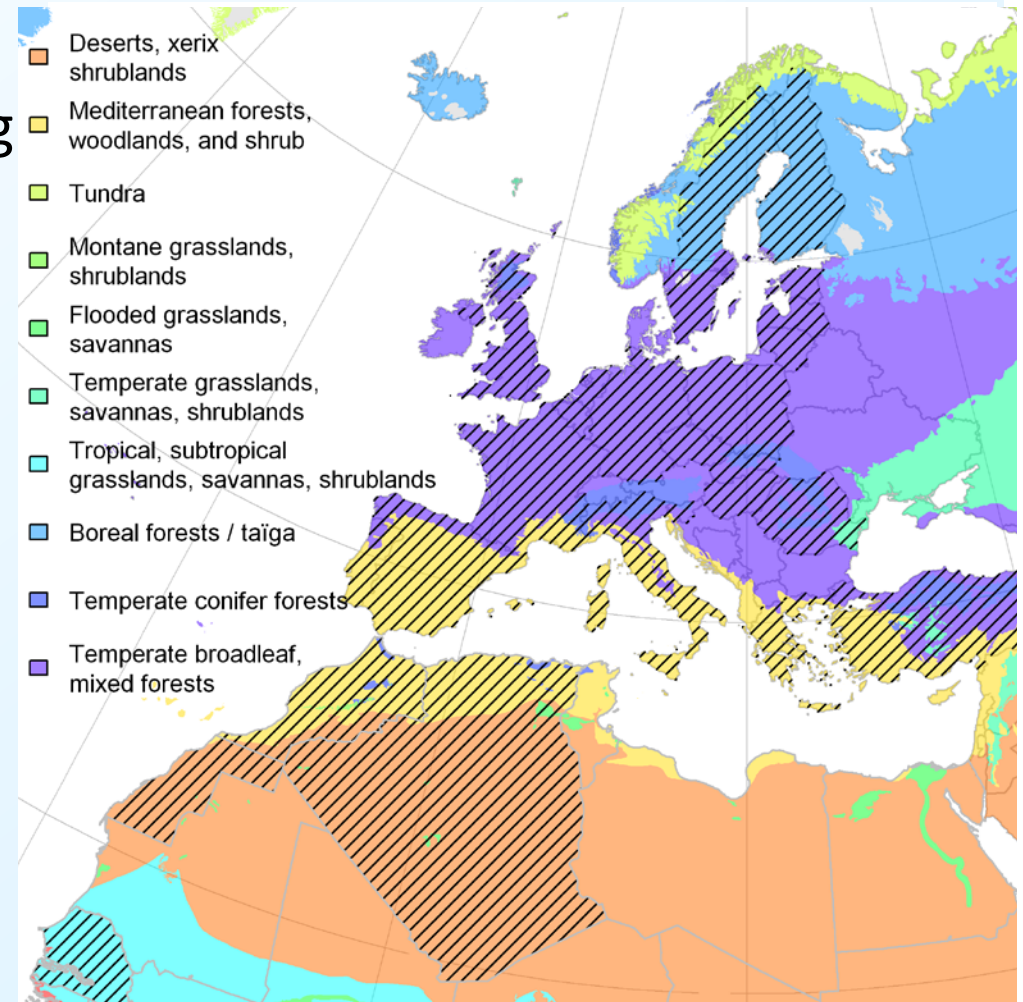
EDEN

- Emerging vector-borne diseases in a changing European environment
 - Funded by FP6, 11.5 M€
 - 49 partners, 24 countries
 - 2005-2010



EDEN research questions

- How to disentangle the complex nexus of interacting factors responsible for the upsurge of an emerging, vector-borne disease?
- What are the main biomes exposed at high risk of emerging, vector-borne disease?



Biomes: Olson et al., 2001. *BioScience*, 51: 933-938.

EDEN results

- Scientific advances recently presented at the EDEN conference
- Training: 60 PhD students supported by EDEN, or using EDEN data, PhD meeting and PhD network Publications
- Dissemination
 - > 200 scientific publications in peer-reviewed journals
 - EDEN Information system
 - Internal use for the benefit of partners
 - International public-health agencies like the ECDC.
 - EDEN international conference
- Networking and expertise
 - Mobilization of EDEN partners to conduct expertises such as VBorn (ECDC) → action plan to improve the surveillance and control of vectors and vector-borne diseases.
 - VBORNET: European network of entomological and public health specialists



EDEN take-home message

- Emergence of VBD is a complex phenomenon that cannot be reduced to a single cause
- Socio-economic changes and human behavior are often much more important than climate or other environmental changes to explain VBD upsurge



- Long-term field work and good public health data are essential to elucidate the important driving forces

From EDEN To EDENext

- Strong interest of the Commission
- Emergence of a European network on VBD
 - Research
 - Training (PhD network, workshops, academic courses...)
 - Expertise: VBorne
- Decision to launch a complementary project
 - More **basic research** on vectors and disease transmission
 - **Translational research** on vector control

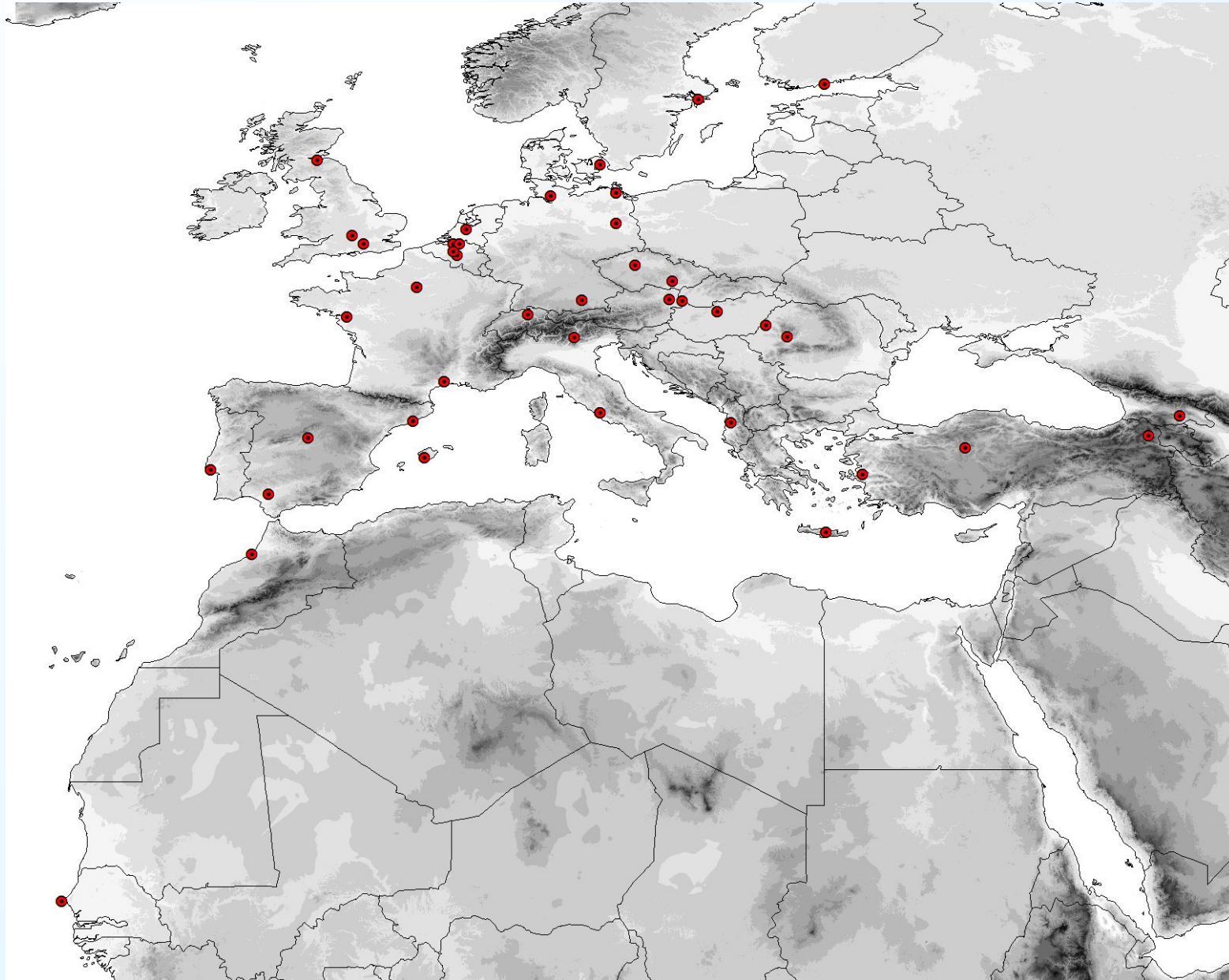


EDENext

- Biology and control of vector-borne infections in Europe
 - Funded by FP7, 12.0 M€
 - 46 partners, 22 countries
 - 20011-2014



EDENext partners



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EDENext goals

- Understand and explain the biological, ecological and epidemiological processes to develop methods and tools to improve prevention, surveillance and control of vector populations, and vector-borne **human and animal** diseases.
 - explain and model the processes leading to the **introduction, establishment**, and **spread** of vectors and/or vector-borne diseases
 - assess the possible **control strategies** to break the epidemiological cycles of vector-borne diseases.

EDENext: vector groups and diseases

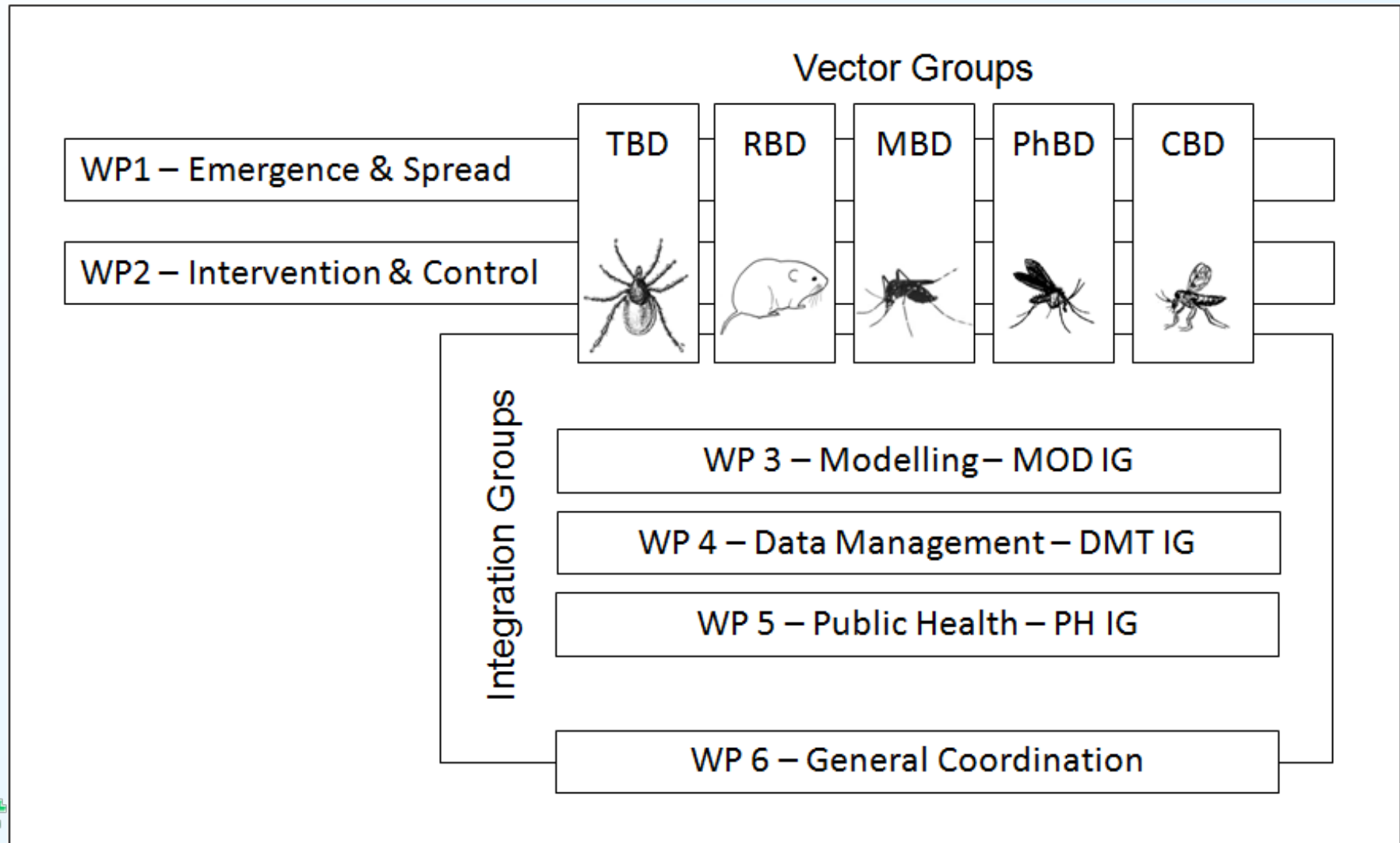
- Vector groups rather than specific diseases to allow flexibility / reactivity in case of unexpected disease emergence
- Diseases
 - insufficient epidemiological knowledge or control measures to produce efficient intervention programmes,
 - priority diseases for human and veterinary PH agencies

EDENext: vector groups and diseases

- Ticks
 - *Hyalomma* / CCHF, *Ixodes* / “new” pathogens
- Rodents
 - Hantaviruses, rodents as hosts for TBD
- Mosquitoes
 - *Culex* / West Nile
 - *Ae. albopictus* / dengue – chik (Roma, Albania)
- Sandflies
 - Leishmaniasis
 - Phleboviruses
- Culicoids
 - Invasive species (*C. imicola*) / endemic species
 - Bluetongue and African horse sickness



EDENext: general structure



EDENext and other VBD projects

- Complementarities / links
 - Research projects
 - Africa
 - Large scale project on malaria “hitting the vector”
 - Water-related vector-borne diseases
 - Europe
 - New project on CCHF / DEN / CHIK (medical)
 - New project on West Nile (medical)
 - Networks
 - ArboZooNet, MedReoNet, EUBTNet...
 - VborNet

