



MEDREONET: "Surveillance network of Reoviruses, Bluetongue and African Horse Sickness, in the Mediterranean Basin and Europe"

WP 2: Regional surveillance of vectors

Strasbourg, the 17th March 2009



- **Welcome words of Pr. Lude (Dean of Medicine Faculty) and Pr. Candolfi (Head of IPPTS)**

- **Introduction words of M. Miranda (WP2 leader)**

- **General objective:**

To develop an identification tool to facilitate the morphological identification of Palearctic *Culicoides* species

- **Specific objectives:**

To define consensually the taxonomic units (groups, complexes, sibling species)

To present the first draft of the identification key (currently on French fauna)

To discuss and validate the diagnostic characters for the main Palearctic species



-Taxonomic and systematic issues within the genus *Culicoides* (from Meiswinkel and Garros *et al.*)

- 1. Phylogenetic relationships between and within subgenera are unknown**
- 2. Lack of uniformity in taxonomic categories**
- 3. Species exhibit large amount of variations, which could be intra- or interspecific variations (examples from De Deken *et al.* and Pages *et al.*). *Various species-groups have not yet investigated on a worldwide basis***



- Recommendations

**1. Publication of a first systematic review of the genus *Culicoides* ;
Recommendations in the final report to deal with *Culicoides* literature ;
Enhance collaborations between teams for large sampling populations**

2. Adopt a consensual nomenclature for group and complex:

- **species group** is a grouping of phylogenetically closely related species
- **species complex** is a grouping of phylogenetically closely related species for which no morphological characters are known to differentiate them

Males and females? Or only females?

For example, Obsoletus complex need to be discussed in the light of presentation from Nielsen *et al.*

- **capitalize first letter for the “complex” or “group” or not?**

3. Start a barcoding database based on accurate and reliable identification of voucher specimens



- **Importance of using new communication tools for people networking to help actors of surveillance and research (from Carpenter)**

- **To develop morphological tools: from dichotomic to multi-access identification key (Delécolle, and Mathieu *et al.*)**

- **Need to improve first version of the morphological key**
 - Clearly define characters and states of characters
 - Show illustrations for each possible state of character
 - Need of an optimization process
 - Possibility to include your own picture library

- **For this improvement, we need to discuss the reliability of the morphological characters**