Culicoides.NET: an Online Database for Insect Vector Taxonomy

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In addition to being of considerable nuisance value, biting midges (genus *Culicoides*) transmit economically important viruses affecting sheep, cattle and horses. One such virus – bluetongue virus – recently expanded its range into Northern Europe, where it has caused hundreds of millions of euros of damage, and reached the United Kingdom for the first time in 2007. Other viruses transmitted by *Culicoides* include African horse sickness virus, which causes the most lethal infectious disease of equids. Expertise in *Culicoides* taxonomy and biology is a crucial element in responding appropriately and effectively to the threat presented by these diseases. Although a large body of research on *Culicoides* taxonomy and biology exists, much of it is not readily accessible by the international community at present. In this respect it is not alone: the House of Lords Science and Technology Committee recently identified taxonomy in general as a field which, although critically important to our understanding of the natural world, is in decline, and suggested that Internet-based taxonomic resources are likely to play a crucial role in stabilising and revitalising the field.

We aim to develop a database of existing information on the taxonomy and biology of *Culicoides*. Based on consultation with taxonomists and biologists, we are identifying the key requirements for a useful and useable online service, and are developing a database to meet these requirements. The database will be populated with information obtained from taxonomic experts and via literature search, and integrated into the existing website www.*culicoides*.net, where it will support the national *Culicoides* reference laboratories established in many European countries as a result of recent European Commission's legislation, as well as future international research on *Culicoides*. Future plans may include the addition of geographic information system (GIS) functionality to generate distribution maps, and improvements to the associated bibliographic database, as well as the application of this database approach to other vector complexes.

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