THE OIE BLUETONGUE REFERENCE LABORATORY NETWORK

9th OIE seminar on the Veterinary Laboratory Networks and Networking

Rossella Lelli
Madrid, June 19, 2009
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Membership

- OIE Central Bureau
- 5 OIE BT Reference Laboratories
- 3 OIE Collaborating Centers
- Inclusion of NRLs
Meetings

- **1st meeting** (Civitella del Tronto, Italy 12-14 March 2007)
  - Establishment of the network
  - Approval of ToRs and objectives of the network
  - Definition of a working programme

- **2nd meeting** (Torre di Cerrano, Italy 1-2 June 2009)
  - Progress report
PURPOSE OF THE OIE NETWORK OF BT REFERENCE LABORATORIES

1. To support the development of a global BT surveillance network

2. To improve BT control worldwide and facilitate international animal trade

3. To improve the knowledge of BT epidemiological situation
To collect, characterize (antigenically and genetically) and store **BT viruses** representing the global diversity of strains.

To develop **standard protocols** for BTV and **Culicoides** surveillance.

To exchange **diagnostic reference materials** and related information.

To facilitate **training** and **scientific information exchange** on BT surveillance and control activity worldwide.
To identify research need and, where appropriate, develop joint research.

To collect and distribute relevant epidemiological information [including BTV strains sequences].

To collect all relevant data generated by the participants and act as clearing house for the retrieval and exchange of scientific data on worldwide BT epidemiological situation.
SCIENTIFIC & EPIDEMIOLOGICAL INFORMATION EXCHANGE

- Bluetongue surveillance activities in California - N. J. MacLachlan
- Unusual BTV Cases in South Africa - T. Gerdes
- International surveillance of Bluetongue in the European Union - EU Btnet - P. Calistri
- Information dissemination and the UK's response to Bluetongue - C. Oura
- Recent Activities in Diagnosis and Surveillance for BTV in Australia - R. Lunt
- Equine encephalosis in Israel - A. Shimshony
Cross placental transmission of some Bluetongue isolates other than BTV-8 - G. Savini

Recent Bluetongue Activities at the National Veterinary Services (U.S.A.) - E. N. Ostlund

Innovative eLearning system for the agricultural sector of the Mediterranean Countries: recognition, diagnosis, control and prevention of arthropod-borne diseases (eMed) - S. D’Albenzio
A leaflet has been produced to inform Member Countries about the network initiative.
Activity

DEVELOPMENT OF TRAINING SUPPORT

- To National Reference Laboratories
  - Epidemiology
  - Diagnostic methods
  - Entomology
  - GIS
OIE BT LabNet participated in the development of the Bluetongue component (and other diseases) within the E-Med project (E-learning system for the agricultural sector in Mediterranean countries).

- Australia (CSIRO)
- South Africa (OVI)
- France (CIRAD)
- A. Shimshony (Israel)
- USA (NVL-Ames)
- California (UC Davis)
- UK (IAH)
Activities

INTERNATIONAL SURVEILLANCE

- The network is an asset of the OIE WAHIS/WAHID system providing data and analysis that increase the overall efficacy of the system.
**Activity**

**DATA SHARING**

- **THE OIE LABNET WEBSITE:** [www.oiebt.net.izs.it](http://www.oiebt.net.izs.it)

- Presentation of OIE BTLabNet
- Information on diagnostic services and reagents availability
- Web-GIS data collection on BTV occurrence
- Strains database
- BTV Sequences analysis
- Latest news & mailing list
- Document repository
Databases

Updated data on geographical distribution of diseases are fundamental to take any decision about control strategies. This is particularly true for vector-borne diseases like bluetongue for which individual national efforts are not sufficient for assuring the effective surveillance and control of the infection and, therefore, an integrated multi-national approach is required to analyze both regional and global distribution of the infection as well as of the competent Culicoides vectors.

Information on genomic sequences of the virus are also useful for a better comprehensions of the relationships among the viral sub-populations in the different regions of the World.

Map Data: Last update - December 2008
OIE-LABNET Web-GIS

Bluetongue Geographical Distribution

OIE shapefile
ACTIVITY

STRAINS DATABASE

BTV Strains

- Search strains
- Virus Sequences
## Strain Details

<table>
<thead>
<tr>
<th>Country</th>
<th>Laboratory</th>
<th>Species</th>
<th>Serotype</th>
<th>Year</th>
<th>Material</th>
<th>Catalogue</th>
<th>Reference No.</th>
<th>Isolation date</th>
<th>Location</th>
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</thead>
<tbody>
<tr>
<td>ITALY</td>
<td>CESME presso IZSA&amp;M SHEEP</td>
<td>Serotype 2</td>
<td>2000</td>
<td>BLOOD</td>
<td>2000TE2377 Sang 1,2</td>
<td>2000TE12707</td>
<td>06-DEC-2000</td>
<td>L1</td>
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</table>

Records 1 to 10

Next  Last  Count  Query
### Sequences

12 results found, displaying 1 to 10

<table>
<thead>
<tr>
<th>Year</th>
<th>Country</th>
<th>Serotype</th>
<th>Species</th>
<th>Segment</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Serotype 4</td>
<td>SHEEP</td>
<td>Segment 10</td>
</tr>
<tr>
<td>2002</td>
<td>ITALY</td>
<td>Serotype 4</td>
<td>CULICOIDEES app</td>
<td>Segment 10</td>
</tr>
<tr>
<td>2000</td>
<td>ITALY</td>
<td>Serotype 9</td>
<td>SHEEP</td>
<td>Segment 10</td>
</tr>
<tr>
<td>2002</td>
<td>ITALY</td>
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<td>Segment 10</td>
</tr>
<tr>
<td>2001</td>
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<td>Not defined</td>
<td>Segment 10</td>
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<tr>
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<td>Serotype 16</td>
<td>Not defined</td>
<td>Segment 10</td>
</tr>
</tbody>
</table>

**List Selected Sequences**

**Instructions**

Select the sequences you want to compare/analyze. Use the buttons at right corner to view all available sequences. Once selected the sequences of interest, press the button "List Selected Sequences". Please, wait. The processing of data can take few minutes. A button will appear to start the Jalview freeware application to analyze and compare the selected sequences.
The network WELCOMES all BT National Reference Laboratories and other competent laboratories wishing to join.
Coordination

- SECRETARIAT 2009-2011
  Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise
  'G. Caporale' (IZS A&M)

- Annual meeting
WEB SITE & CONTACTS

WEB SITE

www.oiebtnet.izs.it

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THANK YOU!