



BWDS NEWSLETTER

2012/02

DECEMBER 2012

Website : www.bwds.be

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First Announcement

5th Symposium of the Belgian Wildlife Disease Society

Spatial Approach of Wildlife Diseases

Friday 18 October 2013
at CODA-CERVA, Tervuren



We invite you to submit oral or poster communications on the subject “wildlife diseases” in its broadest sense.



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1. First announcement of the 5th BWDS Symposium

The organization of the 5th BWDS Symposium has been started up. The Symposium will be held on **October 18th, 2013** at the same location as two years ago, the Tervuren site of the CODA/CERVA/VAR. At the last board meeting on November 20th, a consensus was reached about focusing on the link between geography and the distribution of wildlife diseases, which resulted in the choice of “Spatial Approach of Wildlife Diseases” as the general theme. A number of interesting subjects and respective speakers in relation to this theme will be invited. Like in former editions the submission of poster presentations will be possible. A novelty is a call for short oral presentations (max 10 min.) for which we encourage “Belgian” subjects but not exclusively. Depending on the number of submissions and the time frame available, the submitting person will be informed whether her/his contribution can be retained as a short oral presentation or as a poster presentation. Detailed information about the program and the registration modalities will be distributed later on.

So please mark October 18th 2013 in your agendas.

(The BWDS team)

2. Editorial

Studying wildlife diseases has become attractive in Belgium. Following a worldwide evolution, the “One Health” awareness has started to bridge the separate niches of different disciplines. An increasing number of people is working on wildlife-borne pathogens and their ecological context and there is a growing attention for wildlife diseases at meetings and conferences. As in other fields the partition of competences between different governments complicates the picture in this country. Wildlife related matters being mainly a regional competence, research and surveillance projects focusing on specific subjects have been set up since about a decade, first in the south and then in the north. At the federal level a working group on wildlife diseases is now operational within the FAVV/AFSCA (Federal Agency for the Safety of the Food Chain) and communicates with the OIE (World Animal Health Organisation).

As BWDS we are happy with this evolution, showing the fulfilment of one of our main objectives, the raising of interest for wildlife diseases. Another important objective was to create a soil facilitating different actors to cooperate by exchange of knowledge and materials, and by mutual support in the collection of data to be shared with the official instances. Yet here and there some clear indications of territorial behaviour in a rush to get hold of the part of the cake within reach obscure the success story: a common sign of human “biodiversity”, our Belgian singularity, or the particular meaning of “wildlife” in a small country with the highest degree of urbanization in Europe, who knows ? The probable multifactorial

etiology of the opportunistic syndrome could explain perfectly some normal profiling drive, but the latter should not lead to monopolisation claiming exclusivities. The more pragmatic question is whether the BWDS, having brought wildlife diseases to the surface in Belgium, should think about redefining its objectives in a substantially changed context compared to when we started. Probably more than ever it will be necessary in the future to provide a substrate for a transparent communication when the latter becomes more difficult. This is not a pure idealistic point of view but mainly efficiency-based in order to avoid to get stuck (what also happens in other fields) and to stay credible at the international level. This important issue will have to be discussed in the next board meetings. In the meantime we continue to cultivate the positive approach in which anyone with the same mindset is more than welcome.

(P. Tavernier)

3. Meeting Report General Assembly September 11th 2012

Present: Vanessa Suin¹, Paul Heyman², Christel Cochez², Vibeke Deryckere³, Vandensande Elia³, Jean De Borchgraeve⁴, Jan Stuyck⁵, Dieter Heylen⁶, Katrijn Rosiers⁷, Stefan Roels⁸, Veerle Van den Bossche, Valérie Obsomer⁹, Fabien Danlois³, Sandrine Herbelet¹⁰, Martine Van den Broeck^{6, 11}, Kristof Baert⁵, Leen Claes⁴, Stéphane De Craeye¹, Bernard Brochier¹, Muriel Vervaeke¹², Mieke Stoffels², Anthony Noterman², Alexandre Dobly⁸, Michael Vandecan¹³, Jo Maris⁷, Pol Simons², Paul Tavernier¹⁴

¹ WIV-ISP, ² RLVBD, ³ Merial, ⁴ ITG, ⁵ INBO, ⁶ UA, ⁷ DGZ, ⁸ CODA-CERVA, ⁹ UCL/ELIC, ¹⁰ UBern (CH), ¹¹ UGent, ¹² ANB, ¹³ FAVV/AFSCA, ¹⁴ WILDPAD

This meeting took place at the Queen Astrid Military Hospital, Neder-Over-Heembeek (Brussels), on September 11th. There were three presentations of which you can find the abstracts below: the speakers were Vanessa Suin (WIV-ISP), Dieter Heylen (University of Antwerp) and Valérie Obsomer (Earth and Life Institute, UCL).

Like in the former meeting no administrative part was held : it was decided to postpone the main agenda point, i.e. the organization of the 5th BWDS Symposium, to a special board meeting later on.

(Report: P. Tavernier)

4. Short Abstracts of Presentations on September, 11th, 2012

(1) Presentation Vanessa Suin (Rabies and TBEV National Reference Center, Scientific Institute of Public Health WIV-ISP) : Tick-Borne Encephalitis Virus (TBEV)

The laboratory of tick-borne encephalitis virus (TBEV) was nominated by the INAMI / RIZIV in 2011 as the National Reference Centre of TBEV in Belgium. The core activity of the NRC is the diagnosis and surveillance of TBEV in humans. For this purpose, different diagnostic techniques were developed such as

an ELISA test (serology) to detect IgM and IgG, a seroneutralisation test and a real-time PCR specific for the detection of TBEV. Belgian hospitals submit samples from patients with neurological symptoms or for controlling the efficacy of TBEV vaccination. A further activity of the NRC is the study of TBE seroprevalence in sentinel domestic animals e.g. ruminants. In collaboration with the BWDS, the CODA/CERVA/VAR and the ANB (Agentschap voor Natuur en Bos, Flemish Government), TBE seroprevalence is also examined in roe deer and wild boar.

(Abstract: Vanessa Suin)

**(2) Presentation Dieter Heylen (Evolutionary ecology group, Department of Biology, University of Antwerp) :
Borrelia infection in songbirds and their ticks**

Birds are important in the dispersal of tick-borne pathogens, and are considered to sustain tick and pathogen populations in close proximity to humans. Songbirds are often infested with more than one tick species, however little is known about the implications of multiple infestations on the flow of tick-borne pathogens. We examined the circulation of *Borrelia burgdorferi* sensu lato in a tick community which consists of three species with contrasting ecologies, but sharing two songbirds as a host. *Parus major* and *Cyanistes caeruleus* belong to Europe's commonest resident birds of gardens and woodlands. *Ixodes ricinus* is a generalist field tick and is the main vector of Lyme disease in Europe, whereas *I. frontalis* and *I. arboricola* are ornithophilic ticks with an undefined vector status for *Borrelia*. *Ixodes arboricola* naturally occurs in tree-hole nests, while *I. frontalis* is also associated with open bird nests.

Parus major had the highest infestation loads, due to the higher *I. ricinus* exposures when foraging at lower heights. This bird hosted positive *I. frontalis* and *I. ricinus* larvae, indicating the facilitation of *Borrelia* transmission. The low, but significant numbers of *Borrelia* in unfed *I. arboricola* ticks, provide the first field data suggesting that this tick is competent in maintaining *Borrelia*. Aside from *Borrelia garinii*, a high number of less dominant genospecies was observed, including several mammalian genospecies (*B. afzelii*, *B. sensu stricto*, *B. spielmanii* and *bavariensis*) and an unique type of *B. turdi* detected in *I. frontalis*. This is the first record of *B. turdi* in North-Western Europe. *Borrelia* haplotypes were shared between *I. arboricola* and *I. ricinus*, between *I. frontalis* and *I. ricinus*, but not between *I. arboricola* and *I. frontalis*. This suggests that the flow of *Borrelia* can be maintained by bird-specific ticks, and bridged by *I. ricinus* to other host types outside bird-tick cycles.

(Abstract: Dieter Heylen)

**(3) Presentation Valérie Obsomer (Earth and Life Institute, Université Catholique de Louvain, ELIC):
*Ticks and Lyme disease in Belgium: a review of current knowledge***

In Belgium, 14 species of ticks have been recorded. A collaborative effort allowed to compile 1624 sites of occurrence throughout the country and concluded that (1) first, ticks are everywhere but (2) there are

hot spots of tick species diversity where circulation of pathogens between transmission cycles could be favoured and (3) there are hot spots of tick abundance. While *Ixodes ricinus* is the major vector present in Belgium, *Ixodes hexagonus* is discretely present in gardens and urban areas leading to bites going unnoticed. More than a hundred of infectious agents have been found in Europe in the tick species present in Belgium, including at least 52 pathogens from the genus of *Borrelia*, *Babesia*, *Rickettsia*, *Bartonella*, *Francisella* as well as many viruses and *Coxiella burnetii*.

Lyme disease is caused by a pathogen transmitted to humans through several routes, including bites from deer flies and mother to child transmission, but the main vectors are ticks. In Belgium, at least 7 *Borrelia* species from the *Borrelia burgdorferi* group (agent of Lyme disease) have been found in ticks including the known pathogenic species, but also species for which the pathogenicity is not well described. Information on *Borrelia* species distribution is sporadic. Some areas harbour only one species, while others harbour many species. Sometimes different species can be found together in one individual tick.

On the other hand, Lyme disease reporting is poor in Belgium : 500 or 1000 cases are reported yearly based on positive blood tests. These records are based on voluntary reporting and the data come from two different sources, providing a non-consistent picture of disease distribution. In the meanwhile, an inquiry based on the General Practitioner Network from ISP-WIV identified 9000 *erythema migrans* cases per year in Belgium. While this is based on information coming from 161 practitioners, a similar survey in The Netherlands based on 8000 practitioners identified 22000 cases per year. Yearly more than 130000 people are getting tested for Lyme in Belgium (INAMI).

In conclusion, it is possible to get bitten by ticks everywhere in the country but some hot spots of tick abundance increase the risk of contact. Hot spots of tick species diversity and *Borrelia* species diversity increase the risk of multiple infections. Ticks may harbour a wide array of pathogens and only a few have been investigated in Belgium until now. Some of them are transmitted as soon as the tick bites and may result in symptoms difficult to interpret for the practitioner, particularly in the absence of targeted blood tests.

(Abstract: Valérie Obsomer)

5. Working Group Wildlife Diseases at the Food Agency

In 2011 a working group wildlife diseases was created within the Directorate Animal Health and Safety of Animal Products of the FAVV/AFSCA. The objectives of the working group are to facilitate the information exchange about wildlife diseases between the federal and regional levels, agree about surveillance networks, and streamline the reporting to the national and international authorities, including the preparation of the semestral and annual notification of wildlife diseases to the World Organisation for Animal Health (OIE). Since 2009 the notification of wildlife diseases (figuring on a special list, but also

“non-listed” wildlife diseases can be notified) was separated from the notification of domestic animal diseases. This international obligation is a federal competency and is the responsibility of the permanent Delegate at the OIE, being Dr. Pierre Naassens, who is the Central Veterinary Officer (CVO). Each country Delegate appoints a “Focal Point” or “Single Point of Contact” (SPOC), an official who, under the Delegate's authority, will inform the OIE of the presence of notifiable diseases affecting wildlife and will submit comments on proposed new OIE standards in the field of wildlife diseases.

Before the creation of the wildlife diseases working group, Dr. Stefan Roels, BWDS board member, and head of the unit “Surveillance, Orientation and Veterinary Support” and the TSE diagnostic lab at the CODA/CERVA, was appointed to be the SPOC after a demand of the FOD/SPF Health, Safety of the Food Chain and Environment. At the end of 2010 Prof. Annick Linden, responsible for the “Réseau de Surveillance en Faune Sauvage” at the Liège University (Walloon region), was appointed on her demand as the second point of contact (POC). Nevertheless for the OIE, only one SPOC per member country is accepted. On the other hand, during a recent direction meeting at the CODA/CERVA/VAR it was decided that diagnosis and surveillance of wildlife diseases, with the exception of activities within the mission of the National Reference Laboratories (NRL's), will not be considered a priority, including the POC responsibility. This information was communicated at the last meeting of the wildlife diseases working group in October, together with the decision that the SPOC for Belgium from now on will be Annick Linden.

It is the intention of the working group wildlife diseases to meet regularly in the future and to broaden the activities in order to discuss any relevant wildlife disease matters. For example at the last meeting on October 23th, an update was made about the priorities of the federal and regional authorities in animal diseases matters and about the regional legislations in this field. Furthermore, the new European Animal Health Law (AHL) was presented with special attention for the parts referring to wildlife.

(Communication: P.Tavernier, S.Roels)

6. Usutu virus in blackbirds

Recently there has been much going on in Flanders about Usutu virus (USUV) in blackbirds (*Turdus merula*, merel, merle noir), yet no cases were reported. USUV is a Flavivirus related to West-Nile Virus (WNV), belonging to the Japanese Encephalitis group of arthropod-borne viruses (“arboviruses”). It is transmitted by mosquitos between wild birds.

It was first described in South Africa in 1959. In Europe outbreaks in blackbirds and great grey owls (*Strix nebulosa*, laplanduil, chouette lapone) were first observed in Austria in 2001. Other passeriform bird species can be affected but to a lesser degree (e.g. barn swallows,...). Affected birds show apathy, feather disturbances and neurologic signs before dying.

Later on the virus was also detected in Hungary, Switzerland, Spain, Italy, and more recently in the Czech Republic and in Germany, where bird watchers reported important population decreases in blackbirds in the upper Rhine valley. Becker et al. (2012) found 86 from 223 birds (19 species) positive by real-time PCR for USUV (of which 72 blackbirds positive). At the NABU website (bird protection organization in Germany), by extrapolation the apparent population decreases were linked to the Usutu virus outbreak. Yet it can be questioned whether Usutu virus is the sole responsible for the reported population decreases.

In Belgium no abnormal blackbird mortality has been reported (confirmed by the INBO ornithologists) and as far as we know no attempts have been made to search for the virus.

In Austria the virus is still present after ten years but mortality has decreased significantly. After some years of high mortality, many birds become seropositive, probably explaining the decrease in mortality (Meister et al., 2008).

Unlike WNV the pathogenicity for humans appears to be very low. Antibodies have been found in several people, but only sporadic cases of disease are known e.g. in immune-compromised patients in Italy. USUV emergence fits in the picture of the emergence or import of other mosquito-borne viruses (“moboviruses”) and diseases in Europe (Hubálek, 2008), some of them having an important zoonotic impact (West Nile Virus, Sindbis virus, Chikungunya virus, Dengue, ..). Ecological factors (climate; presence of appropriate habitats for mosquito’s) and host immunity are determinative in the emergence of these viruses. Therefore surveillance for moboviruses is warranted.

(Communication : P. Tavernier)

7. Poxvirus outbreaks in Paridae

In the UK different incidents of avipoxvirus infections in great tits (*Parus major*, koolmees, mésange charbonnière) were reported since 2006, and to a lesser degree in other passeriform bird species (Lawson et al., 2012). Large tumor-like lesions were observed, much more conspicuous than the lesions commonly seen in avipox. The number of cases reported increased steadily each year. Spatial analysis found the infection to originate and spread from south-east England. Sequencing revealed identical sequences as in viruses from continental European poxvirus incidents in great tits. As early as in the sixties, cases were reported in Scandinavia and more recent outbreaks were reported from Hungary, the Czech Republic and Austria.

We were informed that recently also in southern Belgium some avipox cases in great tits were reported : one tit with pox lesions was observed by a bird watcher in Louvain-la Neuve and 4 individual cases were seen by a bird ringer in Moeskroen/Mouscron (at the linguistic frontier). Click [here](#) to see a picture of the Louvain-la-neuve case. In Flanders, we are not aware of any poxvirus suspected incidents in tits nor in other wild bird species.

If you have observed any of such cases in Belgium please share your information with us. Remind that at the CODA/CERVA/VAR a project on Transmission Electron Microscopical (TEM) diagnosis of poxviruses is running (responsible: Dr. Jan Mast). Although the project focuses on ruminant poxviruses in the context of surveillance for new and emerging diseases, all material from pox-like lesions in birds, lagomorphs, rodents and sea mammals can be submitted as well for free TEM diagnosis. Note that no other examinations than TEM will be done in this context, and that only pox-like lesions can be submitted. All practical information about the sampling and the essential information to join to your submission, can be found by clicking [here](#) .

Address to : Dr. Jan Mast, Dept. TEM (Transmission Electron Microscopy), CODA / CERVA, Groeselenberg 99 , B 1180 Brussels. Contact: Jan.Mast@codacerva.be

It is worthwhile to mention that in avian practice in Flanders, last autumn (and to a lesser degree also in the autumn of 2011) an apparent increase in clinical avipox cases was observed in backyard poultry and in canary breeding facilities. Lesions are often discrete and are therefore easily missed by the first line consultant. If and how this observation is linked with the Paridae pox incidents in Europe is unknown.

(Communication : P. Tavernier)

8. Invitation meeting “Improve tools and strategies for the prevention and control of classical swine fever”

As the coordinator of project CSFV_goDIVA “Improve tools and strategies for the prevention and control of classical swine fever”, I am delighted to invite you to the project’s dissemination meeting which will take place on Thursday the 31st of January 2013 from 09:30 until 16:00 at the auditorium (building H) of CODA-CERVA, Groeselenberg 99, B-1180 Brussels. During this meeting, the main results and achievements from this 3-year project aimed at improving control strategies for classical swine fever in domestic pigs as well as wild boar will be presented. These include the development of a live marker vaccine against CSF and its associated DIVA (Differentiation of Infected from Vaccinated Animals) diagnostic tools.

You can find the summary of the project’s main objectives and achievements at www.csfvaccine.org and the full agenda of the meeting below :

Agenda :

- | | |
|----------------|--|
| 09:30 - 09:40: | Opening of meeting and welcome by Dr. Pierre Kerkhofs, General Manager of CODA-CERVA |
| 09:40 - 09:50: | Welcome and introduction to project CSFV_goDIVA by Dr. Frank Koenen, project coordinator |
| 09:50 - 10:00: | Welcome and by Dr. Anne-Sophie Lequarré, European Commission Scientific Officer |
| 10:00 - 10:25: | Development and characterization of a live CSF marker vaccine candidate
<i>Dr. Martin Beer, FLI Federal Research Institute for Animal Health, Greifswald - Insel Riems, Germany</i> |
| 10:25 – 10:50: | Choice of vaccine candidate and efficacy studies
<i>Dr. Willie Loeffen, Central Veterinary Institute of Wageningen UR, Lelystad, the Netherlands</i> |

- 10:50 – 11:15** **Coffee break**
- 11:15 – 11:40: Steps towards commercial production and marketing authorization
Dr. Catrina Stirling, Pfizer Animal Health, Zaventem, Belgium
- 11:40 – 12:05: Overview of novel and improved DIVA diagnostic assays for use with the CP7_E2alf vaccine
Prof. Sándor Belák, Statens Veterinärmedicinska Anstalt, Uppsala, Sweden
- 12:05 – 12:30: Comparative assessment of emergency measures against CSF in domestic pigs
Dr. Hans-Hermann Thulke, Helmholtz Centre for Environmental Research, Leipzig, Germany
- 12:30 – 13:30:** **Lunch**
- 13:30 – 13:55: Backyard pigs in the EU: estimation of their density and their role in CSFV transmission
Dr. Beatriz Martínez-López, Complutense University of Madrid, Spain
- 13:55 – 14:20: Improving efficacy of oral vaccination in wild boar for CSF control
Dr. Sophie Rossi, Office National de la Chasse et de la Faune Sauvage, Gap, France
- 14:20 – 14:45: New insights into the immunology of CSFV
Dr. Marie-Frédérique Le Potier, L'Agence nationale chargée de la sécurité sanitaire de l'alimentation, de l'environnement et du travail, Maisons Alfort, France
- 14:45 – 15:10: Potential of antiviral treatment to reduce CSFV transmission
Dr. Frank Koenen, CODA-CERVA, Brussels, Belgium
- 15:10 – 16:00: Round table discussion
Prof. Åse Uttenthal, National Veterinary Institute, Copenhagen, Denmark

In case you would need hotel accommodation, I can recommend you the Best Western County House Hotel, Square des Héros 2-4, B-1180 Brussels. Bookings can be made directly to the hotel at res@countyhouse.be with reference 'CODA/CERVA'.

May I ask you to confirm your attendance by the 21st of December 2012 at the latest by returning the registration form to Ilse Vangeel at ilse.vangeel@codacerva.be.

On behalf of the consortium, I am looking forward to welcoming you to our meeting.

Yours sincerely,

Frank Koenen, Operational Director Interactions and Surveillance, CODA-CERVA, Brussels

(Sent by Ilse Vangeel on behalf of Frank Koenen)

9. Next general assembly on 20th December 2012

We invite you for the next general BWDS meeting, the last one for this year. This time we are welcomed at the **INBO, Institute for Nature and Forestry** (Flemish Community), at their site in **Geraardsbergen** (Eastern-Flanders), on **Tuesday, 20 December at 10 a.m.** Dr. ir. Jim Casaer will first explain the role of the INBO in wildlife study and management, and then will tell us all about wild boar in Flanders. The second part of the meeting we will go for a guided tour of the labs.

Route description: <http://www.inbo.be/docupload/4116.pdf>

Please send a short message to info@bwds.be if you will come . See you soon !

(The BWDS team)