

22nd Meeting of the Advisory Committee

Belgrade, Serbia, 27 – 29 March 2017



Report of Intersessional Working Group on Communication, Bat Conservation and Public Health

Prevalence of *Pseudogymnoascus destructans* (Pd) Project – The UK's Bat Conservation Trust is working with Joseph Hoyt, University California Santa Cruz, who is studying Pd in North America and China for his PhD. The project builds on work already undertaken by Hoyt looking at the prevalence of Pd in bats in the USA (where it causes WNS) and China (where WNS is not found). It has involved National Bat Monitoring Project volunteers at a small number (<15) of hibernation sites in England. Swab samples are taken from hibernating bats (from forearm and muzzle) under Natural England licence, along with some swab samples from the surface of the hibernacula. The first samples for the project were gathered in December 2016 and second sets of samples are being gathered during February and March 2017.

Pan-European Pd Project – Sebastien Puechmaille reported progress to the 5th International Berlin Bat Meeting in February. The objectives of this project are (i) to locate the source population in Europe and infer the timing of its introduction to North America (ii) to characterise population structure of the fungus across Europe (iii) to predict suitable areas that are yet to be colonised in North America. Over 1,300 Pd samples have been collected from 94 of 306 known sites in 20 European countries and genotyped for 18 variable microsatellites which has so far narrowed down the source population to France/Germany. The large genetic dataset has revealed a surprisingly strong population structure of the fungus across Europe. Modelling of the data set suggests that the fungus is currently occupying only half of its potential distribution in North America.

Coronaviruses: During 2006-2008, faecal samples of 211 bats representing 13 different species from 31 locations in the Netherlands were analysed for the

presence of coronaviruses (CoV). Four bat species (*Myotis daubentonii*, *M. dasycneme*, *Pipistrellus pipistrellus*, and *Nyctalus noctula*) were found to excrete group 1CoV. For the first time, a group 2 CoV was found in a bat (*P. pipistrellus*) in Europe. The results were published in 2010. (This was a joint project of the National Institute for Public health and the Environment, Naturalis Biodiversity Center, Institute of Virology of the University of Bonn, and the Central Veterinary Laboratory, Lelystad).

The active surveillance to CoV in bats in the Netherlands is continuing and numerous additional faecal samples, from *P. nathusii* in particular, are stored for further analysis.

During 2011-2014, faecal samples of 489 bats representing 16 species were collected in Ukraine. As part of a project searching for betacoronaviruses in bats in Ghana and Europe, faecal samples of seven *P. pygmaeus*, five *P. nathusii* and six *P. kuhlii* from Ukraine were selected for this project. A betacoronavirus related to human betacoronavirus 2c EMC/2012 was found in one of the *P. nathusii*. (This was a joint project of several institutions, including the Schmalhausen Institute of Zoology in Kiev (UA), the Center for Infectious Diseases Control in Bilthoven (NL), and Naturalis Biodiversity Center in Leiden (NL). Results were published in 2013.

The remaining samples are stored for further analysis, together with many from different bat species from Germany, Luxembourg and France.

EBLV: Two cases of Daubenton's bats with EBLV2 occurred during August 2016 in northern England – in West Yorkshire (a juvenile female) and in Northumberland (an adult male). A further case was reported in a male Daubenton's bat in Inkoo, Southern Finland in October 2016.

Since 1984, passive bat rabies surveillance is carried out in the Netherlands. So far, nearly 6,000 dead bats have been screened and EBLV-2 was found in five pond bats (*Myotis dasycneme*).

Among the 1666 serotine bats (*Eptesicus serotinus*) tested, 381 (22.8%) were carriers of EBLV-1. An update of these results will be published in 2017.

Since 2010, passive surveillance of bat rabies has been carried out on bats which died or had to be euthanized in bat rehabilitation centres in Ukraine. So far, brain tissue of 342 bats of different species, including 178 serotine bats, were tested by the Central Veterinary Institute (CVI) at Lelystad. Since two lineages of serotine bats

occur in Ukraine (*E. serotinus serotinus* and *E. serotinus turcomanus*) which cannot be distinguished morphologically, each individual is also identified by its DNA (16S). So far, 10 serotine bats (six *E. s. serotinus* and four *E. s. turcomanus*) were found to be positive for EBLV-1a. The results will be published in 2017.

***Campylobacter* and *Salmonella*:** During the past two years, faeces of 631 bats of 14 species were tested in the Netherlands for the presence of *Campylobacter* and *Salmonella*, both food-borne pathogens. *Salmonella* was not found in any of the samples but *Campylobacter* was confirmed in 3% of the bats examined. The strains *Campylobacter jejuni* and *Campylobacter coli* were indicated and are genotypes also found in humans, wildlife, environmental samples and poultry (This was a joint project of the Institute of Food Safety of the University of Wageningen, Biodiversity Research Wageningen, National Institute of Public Health and the Environment, and Naturalis Biodiversity Center). The results will be published in 2017.

Bat Disease Conference – There will be a second International Symposium on Infectious Diseases of Bats at Colorado State University, Fort Collins, at the end of June. A UK bat worker (Tracey Jolliffe) will attend. More details are on the website at: <http://www.batid.org/>

Media – In the UK, the BBC referred to a ‘bat plague’ in Chile, following an increase in the number of bats found in houses in that country. BCT’s Director of Communications complained to the BBC about this but the complaint was not upheld despite the Chilean Public Health Authorities also commenting that the report was inaccurate. The peak of such media reports usually occurs during the summer. BCT maintains a spreadsheet of media items on bats and diseases and attempts to correct the most misleading reports. It would be helpful if members of the working group could relay their experiences about misleading media reports in their own countries, as this would help to determine trends and guide efforts to counter them.

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