Wildlife Disease & Contaminant Monitoring & Surveillance Network

WILDCOMS newsletter number 19: Autumn 2017 **www.wildcoms.org.uk**

The WILDCOMS newsletter reports newsworthy articles and recent publications from the schemes involved in the WILDCOMS network.

Scheme news

Garden Wildlife Health. Screening of a long-term sample set reveals two *Ranavirus* lineages in British herpetofauna. A recent study (Price et al., 2017) published in PLoS ONE analysed an archive of amphibian and reptilian tissues collected over a 25-year period in Great Britain. PCR testing and sequencing confirmed the presence of two different lineages of *Ranavirus*, with the common frog (*Rana temporaria*) being most frequently infected. As expected, most *Ranavirus* incidents were associated with Frog Virus 3-like viruses but two, separated by 300 km and 16 years, involved Common Midwife Toad Virus-like viruses. This evidence of a CMTV-like virus from Great Britain in 1995 represents the earliest confirmed case of a CMTV in amphibians and raises important questions about the epidemiology of CMTV-like viruses in Britain.

Common frog image by Tony Court Flickr CC BY-SA 2.0.

WIIS-Scotland. The results from WIIS-Scotland are published quarterly. The results for incidents from January to June 2017 have been added to the SASA website and can be viewed at http://www.sasa.gov.uk/document-library/wiis-quarterly-reports-2017.

Scottish Raptor Health Study. We keep working through a large number of carcass submissions originating from across Scotland. These samples are providing us with very valuable information that adds to our database and allows us to build a picture of reasons behind deaths of submitted raptors and trends behind submissions of particular species or locations. We are screening a wide array of samples taken from golden eagle nests during 2017 summer field for a variety of chemicals in partnership with our different collaborators. New tests for detecting pharmaceuticals are being validated and we will keep working through the winter in search of exciting results. Analysis of cloacal swabs, with the help of our collaborations with ZSL has allowed us to advance our knowledge of commensals found in the golden eagle chicks sampled across Scotland. We are also analysing the biochemical and haematological values recorded in the blood samples from the golden eagle nestlings sampled.

Image shows a female golden eagle over her nest occupied with twins, west Uist 2017 copyright Neil Anderson.

Predatory Bird Monitoring Scheme (PBMS). A new study (Molenaar, et al., 2017) on poisoning in red kites in Britain has recently been published in the European Journal of Wildlife. The study, in which the PBMS was a collaborator with other WILDCOMS partners, examined 162 individuals found dead between 1989 and 2007, of which 110 were submitted for toxicological analysis. In all, 32 of the 110

kites were diagnosed as poisoned and this was attributed to exposure to second-generation anticoagulant rodenticides, other pesticides or lead. It was concluded that poisoning of red kites may be slowing their rate of population recovery and range expansion in England.

The annual report of monitoring of barn owls livers for second generation anticoagulant rodenticide (SGAR) residues (Shore et al., 2017 –see publications list) has been published on the PBMS website and can be downloaded here. It is conducted as part of the monitoring requirements for stewardship of these compounds in the UK, and the results are used by the Health & Safety Executive's Government Oversight Group as part of their annual review of stewardship for SGARs.

Data on more recent exposure of red kites to second generation anticoagulant rodenticides are described in a recent report (Walker et al., 2017a) in the reports section on the PBMS website and can be downloaded directly here. This report represents a new and ongoing collaboration between partners that has been facilitated through the WILDCOMS network and brings together all the available annual data on the exposure and effects of second generation anticoagulant rodenticides in red kites.

Red kite image by Andy Howe Flickr CC BY-SA 2.0.

The PBMS has also recently published a report investigating the appropriateness of using post mortem examination derived data as population health indices to monitor population demography, nutritional status and physiological stress in barn owls (Walker 2017b). The report concludes that control charts for various metrics can be generated to help detect deviation from current population status. The report can be downloaded directly from the PBMS website here.

Dissemination activities in the last quarter have included presentations at conferences for the Cheshire Barn Owl Group, the Welsh Ornithological Society, and attendance at the Government Oversight Group meeting for Rodenticide Stewardship Regime.

GB Wildlife Disease Surveillance Partnership delivered a presentation entitled 'An overview of the GBWDSP and WILDCOMS partnerships' at the British Veterinary Zoological Society first annual conference in October 2017 at ZSL London Zoo: https://www.bvzs.org/meetings/bvzs-2017-three-day-meeting

GBWDSP Quarterly Reports

Please find below links to the quarterly reports of GB wildlife disease surveillance produced by the GB Wildlife Disease Surveillance Partnership:

2017 reports: https://www.gov.uk/government/publications/wildlife-disease-surveillance-reports-2017
2016 reports: https://www.gov.uk/government/publications/wildlife-disease-surveillance-reports-2016
2015 reports: https://www.gov.uk/government/publications/wildlife-disease-surveillance-reports-2015
2014 reports: https://www.gov.uk/government/publications/wildlife-disease-surveillance-reports-2014

Previous reports are available on the archived AHVLA web pages of the National Archives:

Cardiff University Otter Project has shown for the first time that genetically distinct populations of wild mammals have different "odour dialects." In a study published in Scientific Reports, they describe how populations of otters from across the UK possess sex- and biogeography-specific odours and speculate on how these odour dialects may affect individual behaviour and conservation efforts. See Kean et al. (below).

Otter image by Karen Bullock Flickr CC BY-NC-ND 2.0.

News

A new print on demand e-book on Anticoagulant Rodenticides and Wildlife (van den Brink et al, 2018) has just been published (http://www.springer.com/gb/book/9783319643755). It provides in-depth reviews on the risks that rodenticides may pose to wildlife, ranging from the biochemical and pharmacokinetic level to ecological field observations affecting secondary exposure.

New publications

Everest, D.J., Floyd, T., Donnachie, B., Irvine, R.M., Holmes, J.P., Shuttleworth, C.M., 2017. Confirmation of squirrelpox in Welsh red squirrels. Veterinary Record 181, 514-515. http://veterinaryrecord.bmj.com/content/181/19/514.1

(2017) Virus presence within Welsh red squirrels. Veterinary Record 180, 520-521. http://veterinaryrecord.bmj.com/content/180/21/520

Heys, K. A., Shore, R. F., Pereira, M. G. and Martin, F. L., 2017. Vibrational biospectroscopy characterises biochemical differences between cell types used for toxicological investigations and identifies alterations induced by environmental contaminants. *Environmental Toxicology & Chemistry* 36 3127–3137. http://dx.doi.org/10.1002/etc.3890

Kean, E. F., Bruford, M. W., Russo, I. M., Müller, C. T., and Chadwick, E. A., 2017. Odour dialects among wild mammals. Scientific Reports 7: 13593. doi: 10.1038/s41598-017-12706-8.

Molenaar, F.M., Jaffe, J.E., Carter, I., Barnett, E.A., Shore, R.F., Rowcliffe, M., Sainsbury, A.F., 2017. Poisoning of reintroduced red kites (*Milvus milvus*) in England. *European Journal of Wildlife Research* 63 *94*. https://doi.org/10.1007/s10344-017-1152-z

Price S.J., Wadia A., Wright O.N., Leung W.T.M., Cunningham A.A., Lawson B. (2017) Screening of a long-term sample set reveals two *Ranavirus* lineages in British herpetofauna. PLoS ONE 12(9): e0184768. https://doi.org/10.1371/journal.pone.0184768

Shore, R.F., Walker, L.A.., Potter E.D., Pereira, M.G., Sleep, D., Thompson, N.J. 2017. Second generation anticoagulant rodenticide residues in barn owls 2016. CEH contract report to the Campaign for Responsible Rodenticide Use (CRRU) UK, 21 pp. http://pbms.ceh.ac.uk/sites/pbms.ceh.ac.uk/files/stewardship-2016-owls.pdf

Van den Brink, N.W., Elliott, J.E., Shore, R.F., Rattner, B.A. (eds.)., 2018. *Anticoagulant rodenticides and wildlife.* Springer International Publishing, pp 398. ISBN: 978-3-319-64377-9. https://doi.org/10.1007/978-3-319-64377-9

Walker, L.A., Jaffe, JE, Barnett, E.A., Chaplow, J.S., Charman, S., Giela, A., Jones, A., Pereira, M.G., Potter, E.D., Sainsbury, A.W., Sleep, D., Thompson, N.J., Senior, C., Sharp, E.A., Shore, R.F. 2017a. Anticoagulant rodenticides in red kites (*Milvus milvus*) in Britain 2015. Centre for Ecology & Hydrology, Lancaster, UK. 18 pp. http://pbms.ceh.ac.uk/sites/pbms.ceh.ac.uk/files/PBMS_Rodenticide_Red_Kite_2015_FINAL.pdf

Walker, L.A., Potter, E.D., Chaplow, J.S., Pereira M.G., Tongue, A., & Shore, R.F., 2017b. Population health indices for barn owls: a Predatory Bird Monitoring Scheme (PBMS) report. Centre for Ecology & Hydrology, Lancaster, UK. 21 pp. http://pbms.ceh.ac.uk/sites/pbms.ceh.ac.uk/files/PBMS_Barn_Owl_Health%20Indices_Final.pdf

Contact us:

If you would like to see a particular topic in the WILDCOMS newsletter, contact us about other WILDCOMS related matters, or be added to our mailing list please e-mail the WILDCOMS coordinator Jacky Chaplow (jgar@ceh.ac.uk).

More about WILDCOMS and the schemes involved at www.wildcoms.org.uk