European Wildlife Disease Association

EWDA Network for Wildlife Health Surveillance in Europe

EMERGING AND NEGLECTED WILDLIFE HEALTH ISSUES IN EUROPE

ONLINE MEETING

24th November 2025

Programme

Time (CET hrs)	Presenter	Title
14.00-14.10	Becki Lawson	Welcome and introduction to the EWDA Network for Wildlife Health Surveillance in Europe
14.10-14.20	Mattia Calzolari	Ecological characterization of Tahyna virus in Northern Italy (Emilia-Romagna, 2024)
14.20-14.30	Viola Haring	White-toothed shrews (genus *Crocidura*) – neglected reservoirs in European ecosystems?
14.30-14.40	Valérie Miserez	Emergence of *Corynebacterium ulcerans* Diphtheria in European Hedgehogs
14.40-14.50	Miriam Maas	Zoonotic risks of invasive wildlife species: the case of raccoons and *Baylisascaris procyonis*
14.50-15.00	Rachel Marschang	Addressing the knowledge gap on wild reptile health in Europe
15.00-15.20	*Break*	
15.20-15.30	Katharina Seilern-Macpherson	Hedgehog arterivirus infection as a differential diagnosis for neurological disease in European hedgehogs (*Erinaceus europaeus*)
15.30-15.40	Philippe DeSoye	Rising detections of fatal haemoparasite infections in free-ranging wild birds in Switzerland
15.40-15.50	Tamara Szentivanyi	Wild Carnivores as Hosts of Emerging Parasitic Nematodes: Insights from Citizen Science Monitoring in Hungary
15.50-16.00	Patrícia Xavier	Host community traits driving Crimean-Congo hemorrhagic fever maintenance in Iberian ecosystems
16.00-16.10	Rozenn Le Net	Unusual Mortality Episodes in Roe Deer in France: The Strange Affair of the Starving Deer
16.10-16.30	*Discussion Q&A*	

Welcome & Introduction to the EWDA Network for Wildlife Health Surveillance

Our EWDA Network for Wildlife Health Surveillance in Europe launched in 2009 with long-term goals to:

1. improve exchange of information and specialist expertise among wildlife health surveillance programmes in Europe
2. develop standard operating procedures for diagnostic investigation
3. develop common criteria for diagnosis of wildlife disease
4. provide training opportunities for wildlife health surveillance.

To achieve these goals, the EWDA Network supports communication through our EWDA Google Group and EWDA WildList; produces information resources including our library of EWDA Diagnosis Cards and convenes meetings.

Our goal with this webinar is to provide a platform for EWDA members to share recent findings on emerging and neglected issues relevant to wildlife health in Europe. We hope that this offers a valuable networking opportunity and fosters further collaboration amongst our EWDA community.

We thank the speakers for kindly sharing their knowledge and experience.

With best wishes

Becki Lawson, on behalf of our EWDA Network Committee
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1. Ecological characterisation of Tahyna virus in Northern Italy (Emilia-Romagna, 2024)

Presenter: Mattia Calzolari, *Istituto Zooprofilattico Sperimentale della Lombardia e dell'Emilia-Romagna (IZSLER), Italy*

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Abstract: Tahyna virus (TAHV; *Orthobunyavirus tahynaense*) is a neglected arbovirus circulating between mammals and mosquitoes; it is pathogenic for human, causing flu-like syndromes in central Europe. The presence of TAHV was monitored by PCR in Emilia-Romagna region (Italy) in 2024, resulting in its detection either in mosquitoes (6 pools of *Ae. caspius*, 2 of *Ae. albopictus*, 1 of *Ae. vexans* and *Cx. pipiens*), culicoids (1 pool of *Culicoides festivipennis*), and wild mammals, i.e., 3 hedgehogs (*Erinaceus europaeus*) and 1 European hare (*Lepus europaeus*). The TAHV-positive hedgehogs were all collected in May, indicating a possible involvement of these animals in virus overwintering. These data provide interesting insights on the ecology of the virus in the study area. Further effort should be made to evaluate the possible pathogeny of this virus to humans under the ecological conditions of the study area.

2. White-toothed shrews (genus *Crocidura*) – neglected reservoirs in European ecosystems?

Presenter: Viola C. Haring[1], *Institute of Novel and Emerging Infectious Diseases, Friedrich-Loeffler-Institut, Federal Research Institute for Animal Health, 17493 Greifswald-Insel Riems, Germany*

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[4] *Julius Kühn-Institute, Federal Research Centre for Cultivated Plants, Institute for Epidemiology and Pathogen Diagnostics, Rodent Research, 48161 Münster, Germany*

Abstract: Knowledge about pathogen presence in terrestrial insectivorous species such as shrews is limited. We tested almost 400 individuals of bicolored white-toothed shrews (*Crocidura leucodon*), lesser white-toothed shrews (*C. suaveolens*) and greater white-toothed shrews (*C. russula*) from Central Europe for the presence of various bacterial and protozoan pathogens. Prevalence of *Leptospira* spp. DNA was 12% in *C. russula*. Additionally, two *C. russula* were positive for *Neoehrlichia mikurensis*, which is the first description in shrews. Applying metagenomic next-generation sequencing, we identified several novel viruses from the families *Nairoviridae*, *Paramyxoviridae*, and *Hepeviridae*, closely related to highly pathogenic species like Crimean-Congo hemorrhagic fever virus and henipaviruses. Our results highlight the role of white-toothed shrews as neglected reservoirs with potential veterinary and public health relevance. These findings support the need for biosafety measures for high-risk groups and underscore the importance of One Health approaches considering land use, biodiversity, and climate change, while recognizing the conservation of these small mammals.

3. Emergence of *Corynebacterium ulcerans* Diphtheria in European Hedgehogs

Presenter: Valérie Miserez, *Wildlife Health Ghent, Department of Pathobiology, Pharmacology and Zoological Medicine, Faculty of Veterinary Medicine, Ghent University, Merelbeke-Melle, Belgium*

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Abstract: Diphtheria caused by *Corynebacterium ulcerans* is increasingly recognised as a health concern in European hedgehogs (*Erinaceus europaeus*) in Belgium. Very high case numbers have been documented in Flanders, with additional cases confirmed in the Netherlands and Finland, and suspected in France and Germany. The infection results in severe abscesses on the head and limbs that are difficult to treat and often fatal. The wide genetic diversity of *C. ulcerans* strains isolated from the lesions suggests that additional underlying factors may predispose hedgehogs to infection with this opportunistic bacterium. Altogether, these findings point to diphtheria in hedgehogs as an emerging disease in Europe. This underscores the need for more systematic testing of hedgehogs, and potentially other wildlife species, for *C. ulcerans* within wildlife health monitoring. In addition, it highlights the importance of investigating possible cofactors, such as viral infections, that could contribute to disease onset.

4. Zoonotic risks of invasive wildlife species: the case of raccoons and *Baylisascaris procyonis*

Presenter: Miriam Maas, *National Institute for Public Health and the Environment (RIVM), The Netherlands*

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Abstract: The geographic range of the zoonotic raccoon roundworm (*Baylisascaris procyonis)* is expanding together with the range of its host, the raccoon (*Procyon lotor*). This creates a new public health risk in parts of Europe where this parasite was previously absent. In the Netherlands, a raccoon population has established in which a *B. procyonis* prevalence of 61% was detected previously. This presentation will show recent results of ongoing testing and will give insight in the debate about and limitations of population management to control the raccoon population.

5. Addressing the knowledge gap on wild reptile health in Europe

Presenter: Rachel E. Marschang[9], *Laboklin GmbH&Co.KG, Bad Kissingen, Germany*

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Coauthors: Steven Allain[1], Tariq Stark[2], Frank Pasmans[3], Daniele Marini[4,5], Francesco Origgi[6,7], Becki Lawson[8]

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Abstract: Surveillance to understand the diseases affecting wild reptiles is a neglected area across Europe. The detection of ophidiomycosis in wild snakes in Europe in recent years has led to increased research interest in this field and recognition of the need for coordinated investigations into the variety of conditions affecting these taxa. A multidisciplinary consortium of scientists involved in research on wild reptile health in Europe has come together to try to improve this situation. Key goals comprise identifying key knowledge gaps, facilitating international information exchange, promoting reporting schemes, encouraging harmonisation of protocols, promoting adoption of best practice guidance, integrating wild reptile disease investigation and surveillance with population monitoring, supporting training and educational opportunities, connecting researchers, advocating for wild reptiles, and translating wild reptile health knowledge to inform conservation efforts. The consortium is in development, and we hope to reach colleagues with shared interests in wild reptiles to help further these goals.

6. Hedgehog arterivirus infection as a differential diagnosis for neurological disease in European hedgehogs (*Erinaceus europaeus*)

Presenter: Katharina Seilern-Macpherson (née Seilern-Moy) *MagMedVet, PhD, MRCVS, Institute of Zoology, Zoological Society of London, UK*

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Abstract: The European hedgehog (*Erinaceus europaeus*) population is in significant decline, now classified as Near Threatened across Europe, and as Vulnerable to extinction in Great Britain. The cause is considered multi-factorial, however, the degree to which disease conditions may be contributing remains unclear. A previously unknown virus, hedgehog arterivirus (HhAV-1), has recently been detected in multiple neurological disease outbreaks in captive hedgehogs in British wildlife rehabilitation centres. Microscopic examination along with RNA in situ hybridization provided evidence of HhAV-1 co-localising with areas of encephalitis, suggesting an association with the observed neurological disease. HhAV was also detected in hedgehogs found dead in the wild, due to trauma or predation, albeit with lower viral loads and no evidence of encephalitis. The distribution and population health implications of HhAV-1, its potential occurrence in continental Europe, and its ability to affect other hedgehog species are important areas of further investigation.

7. Rising detections of fatal haemoparasite infections in free-ranging wild birds in Switzerland

Presenter: Philippe DeSoye, *Institute for Fish and Wildlife Health - University Bern, Switzerland*

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Co-authors: Basso W, Moré G, Pewsner M, Pisano S, Imlau M, Cigler P. Keller S

Abstract: Many avian haemoparasites are considered low-pathogenic, with only sporadic fatalities described in European birds. However, in recent years (2010-2025), detections of haemoparasite-associated mortalities have increased in wild birds in Switzerland. Since 2018, *Plasmodium* spp., the causative agent of avian malaria, have repeatedly been associated with deaths in passerines. Since 2022, *Trypanosoma* spp., previously regarded as apathogenic in birds, have caused mass mortalities in Alpine swift (*Tachymarptis melba*) nestlings. In 2025, *Leucocytozoon* spp. infections were confirmed microscopically and molecularly in carrion crows (*Corvus corone*), with no other cause of death identified. Evidence for population-level impacts of avian haemoparasites remains scarce. Our findings indicate their relevance in avian health, although increased awareness and improved diagnostics may partially account for rises in detection. The findings may indicate shifts in host–vector–parasite dynamics, potentially driven by climate and ecological change, underscoring the need for continued surveillance and research into their role in avian population health.

8. Wild Carnivores as Hosts of Emerging Parasitic Nematodes: Insights from Citizen Science Monitoring in Hungary

Presenter: Tamara Szentivanyi, *HUN-REN Centre for Ecological Research, Vacratot, Hungary; Institute of Metagenomics, University of Debrecen, Debrecen, Hungary*

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Abstract: As part of a citizen science program, hunters across Hungary collected samples from native and invasive carnivores for molecular surveillance of nematodes (COI and 12S markers). Nematode prevalence was highest in badgers (32%, n=25) and red foxes (27%, n=117), while only one golden jackal was infected (1.3%, n=77). Invasive species also carried nematodes, with raccoons (13%, n=38) and raccoon dogs (3.7%, n=27) testing positive. *Angiostrongylus vasorum* was the most common species (n=15), detected only in foxes. *Dirofilaria immitis* occurred in multiple hosts (n=13), including foxes, badgers, raccoons, and one jackal. *Crenosoma vulpis* (n=11) was found in foxes, badgers, and raccoons, while *Thelazia callipaeda* (n=3) was recorded in foxes and a raccoon dog, the latter being a first host detection in Europe. *Spirocerca lupi* was detected in a fox. These findings reveal new host associations and highlight the potential role of invasive carnivores in parasite emergence at the wildlife–domestic interface.

9. Host community traits driving Crimean-Congo hemorrhagic fever maintenance in Iberian ecosystems

Presenter: Patrícia Xavier, *Health and Biotechnology Research Group (SaBio), IREC Institute for Game and Wildlife Research, Spain*

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Abstract: Crimean-Congo hemorrhagic fever (CCHF) is among the most widespread tick-borne viral diseases and a growing public health concern in Europe. The virus circulates in a silent tick–vertebrate–tick cycle involving numerous wild and domestic hosts. Although animals show no clinical signs, they are central to disease dynamics by sustaining tick populations and enabling virus persistence. Not all hosts contribute equally to transmission: communities dominated by red deer promote high CCHFV amplification, whereas diverse host assemblages may dilute transmission, highlighting the key role of red deer. In recent decades, land-use changes, including the abandonment of traditional grazing systems with subsequent forest expansion, as well as intensive wildlife management on hunting estates, have favoured wild ungulate expansion and Hyalomma tick proliferation. These changes have increased ecological suitability for CCHF persistence. Understanding how multi-host systems shape viral circulation is crucial to anticipate disease spread, assess emerging risks, and design effective One Health strategies.

10. Unusual Mortality Episodes in Roe Deer in France: The Strange Affair of the Starving Deer

Presenter: Rozenn Le Net, *VetAgro Sup (Marcy-l'Etoile, France) / PathOwLogic (Lyon, France)*

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Collaborators: Karin Lemberger[2], Anouk Decors[3], Loïc Palumbo[3], Maryline Pellerin[3], Sonia Saïd[3]

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Abstract: In recent years, unusual mortality events in roe deer (*Capreolus capreolus*) have been reported across France through the national event-based wildlife disease surveillance network, Sagir. Affected animals often show emaciation despite full rumens, weakness, impaired flight response, blindness, and diarrhea. Necropsies frequently reveal polyparasitism and minor comorbidities, but no unifying pathogen has been identified, and lesions consistent with Chronic Wasting Disease are absent. Instead, evidence points to atypical, poorly digested diets, suggesting a mismatch between nutritional needs and available forage. Vegetation shifts due to climatic stress and density-dependent competition among ungulates likely play a part. These complex mortality events expose the limits of the classical veterinary diagnostic approach and emphasize the need for novel methods, including rumen phenology, ecological monitoring with Ecological Change Indicators, and climate analysis. Addressing them requires cross-disciplinary collaboration, bridging veterinary and ecological sciences, and open discussion within the European wildlife health community to refine diagnostic frameworks.

Acknowledgments: We are grateful to everyone who contributed to the submission and analysis of animals including local finders, hunting federations, and veterinary diagnostic laboratories.

ADDITIONAL ABSTRACTS

11. Seroprevalence of under-researched embecoviruses in deer from a UK park

Author: Charlotte George, *PhD in Biological Sciences student, Laboratory of Viral Zoonotics, Department of Veterinary Medicine, University of Cambridge, UK.*

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Abstract: Embecoviruses, a subgenus of betacoronaviruses, comprise of under-researched human and veterinary pathogens causing respiratory and enteric diseases of clinical and economic significance. Phylogenetic and serological evidence indicate embecoviruses have histories of cross-species transmission. For example, human coronavirus OC43 likely originated from a bovine spillover, and genetic evidence of bovine coronavirus infection in deer has been reported. Despite a broad host range, including cattle, pigs, and rodents, embecovirus circulation in wildlife remains poorly characterised and largely absent from surveillance. Deer represent high-contact interfaces between humans and livestock and may act as reservoirs for embecoviruses, as demonstrated with SARS-CoV-2. To investigate this, we conducted a pilot seroprevalence study in deer from a peri-urban UK park using pseudotyped microneutralisation assays against a range of embecoviruses. Preliminary results suggest prior embecovirus exposure, indicating deer may represent overlooked reservoirs. This emphasises the need to broaden wildlife coronavirus surveillance and may help inform One Health strategies.

12. Adiaspiromycosis in free-living wildlife in the east of England

Author: Kate Hughes, *Department of Veterinary Medicine, University of Cambridge, UK*.

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Abstract: Adiaspiromycosis, caused by the dimorphic fungi *Emmonsia spp.*, results in pulmonary granulomas. Reported cases in English wildlife have frequently focused on the south-west. We have previously reported adiaspiromycosis in a wild European rabbit, *Oryctolagus cuniculus*, from Cambridgeshire. Adiaspiromycosis has been reported in red squirrels, *Sciurus vulgaris*, in Great Britain but not, to our knowledge, in grey squirrels. Here we describe adiaspiromycosis in five free-living rabbits, including our previous case; a grey squirrel, *Sciurus carolinensis*; and a European mole, *Talpa europaea*; all from the east of England. Fresh adiaspores were digested from lung from one rabbit and were identified as *E. crescens*, with the burden estimated at 10 adiaspores per 0.2 cm^3. There was a continuum of adiaspore sizes, consistent with repeated exposures. These data demonstrate that adiaspiromycosis is present in free-living wildlife in the east of England despite the differing rainfall patterns compared to the south west.

13. Pathology of *Lagovirus europaeus* GI.2 (RHDV2) and GII.1 (EBHSV) infections in free-living English European brown hares, *Lepus europaeus*

Author: Kate Hughes, *Department of Veterinary Medicine, University of Cambridge, UK*

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Abstract: *Lagovirus europaeus* GI.2 (rabbit haemorrhagic disease virus 2; RHDV2) and GII.2 (European brown hare syndrome virus; EBHSV) both infect wild European brown hares, *Lepus europaeus*. However, detailed contemporary descriptions of the pathology associated with these viruses in hares in England are sparse. This study describes five hares reported dead between November 2018 and April 2024 that were positive for EBHSV, and one hare that was positive for RHDV2. All animals were from the east of England, representing a study bias. Amongst the most consistent findings were subtle, multifocal, hepatic pallor; hepatic necrosis; thymic lymphocytolysis and tracheal congestion. Cases of EBHSV frequently exhibited hepatic infiltrates of lymphocytes, plasma cells, and heterophils, and multifocal hepatocyte mineralization. EBHSV and RHDV2 have considerable overlap in pathological features but we present evidence supporting the assertion that hepatic necrosis is more chronic in EBHSV.