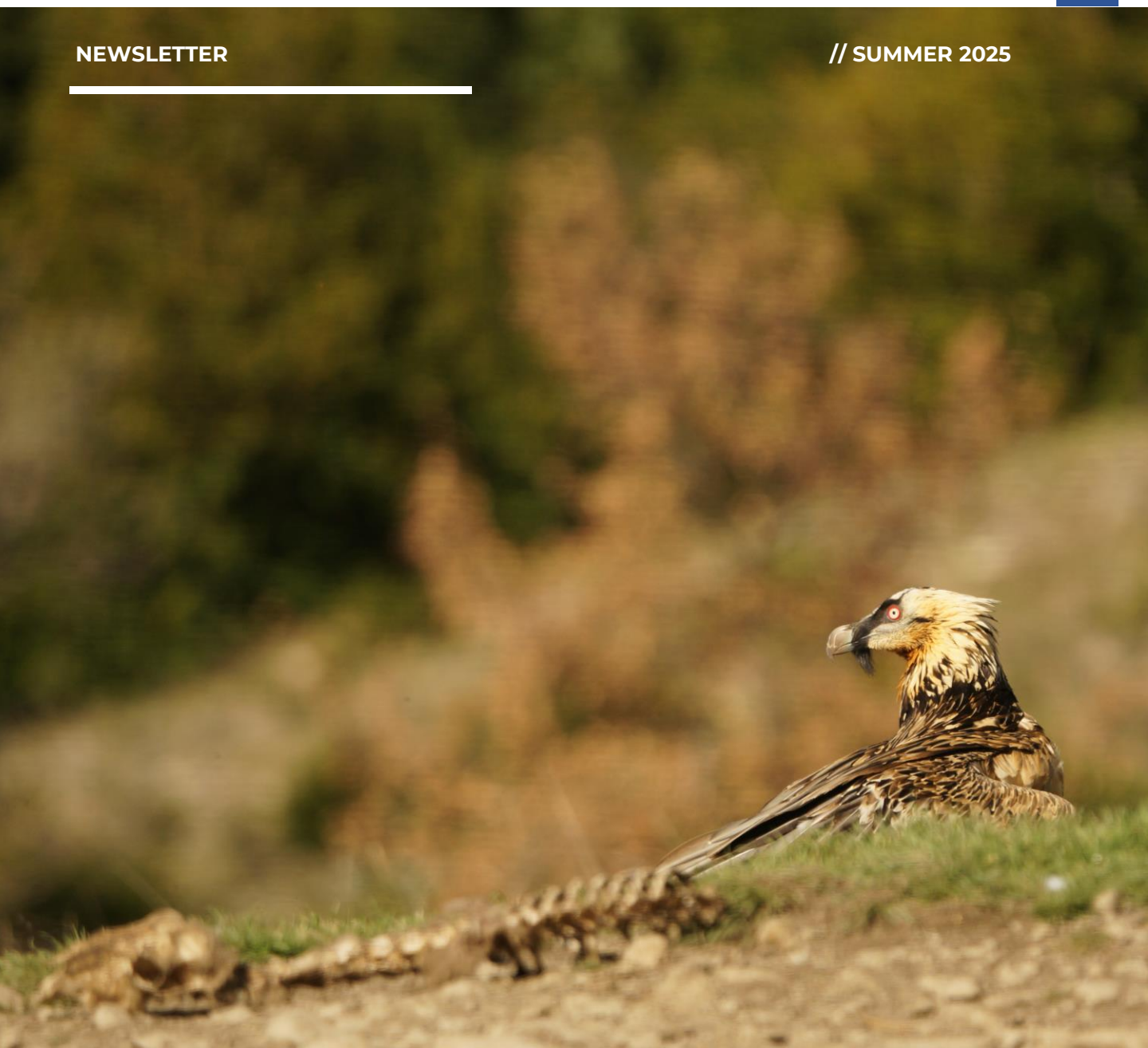
EWDA

European

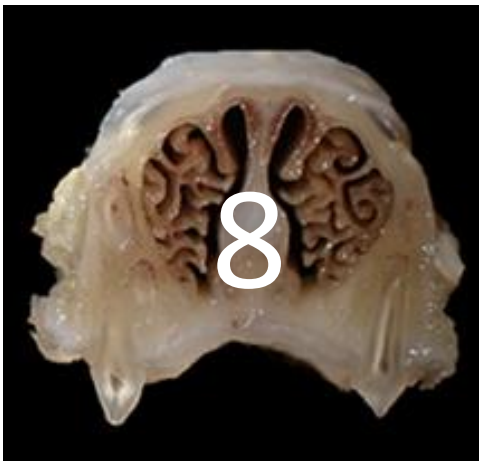
Wildlife Disease Association

NEWSLETTER // SUMMER 2025



CONTENT

EWDA Newsletter Summer 2025



ON THE COVER

Bearded vulture (*Gypaetus barbatus*)

Cover photo by **Beatriz Rubio Alonso**

Disclaimer
The editors have tried to put this non-citable bulletin together as carefully as possible and apologise for any errors or omissions that may have been committed.

Notes from the Editors

As summer unfolds across Europe, we're delighted to bring you another edition of the EWDA newsletter – full of research updates, fieldwork insights, and upcoming opportunities to connect and learn.

As summer unfolds across Europe, we're delighted to bring you another edition of the EWDA newsletter - full of research updates, fieldwork insights, and upcoming opportunities to connect and learn.

This season, we're looking across the Atlantic with excitement towards two major events hosted by our colleagues in North America. The **73rd Annual International Conference of the Wildlife Disease Association (WDA)** will take place **from July 27 to August 1, 2025**, in Victoria, British Columbia, Canada. It's set to be an exceptional gathering of minds working at the intersection of wildlife health, conservation, and One Health.

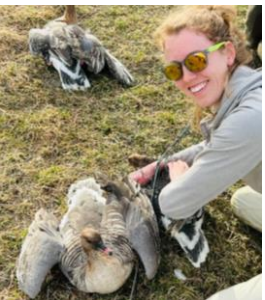
Just before the main event, **the CANUSA Student Chapter** (Canadian and USA WDA Students) is hosting an inspiring pre-conference workshop, **"Living Landscapes: Bridging Wildlife Health, Human Impact and Community Voices**", from **July 23-26**. This student-led initiative promises a dynamic and inclusive space for emerging professionals to explore interdisciplinary approaches to wildlife health.

European bison (Bison bonasus) in Spain © Beatriz Rubio Alonso

For those staying closer to home - or looking to keep costs and carbon footprints down - there are still fantastic learning opportunities to tap into. We highly recommend the free, self-paced Rewilding Europe online course, which explores ecological restoration and the role of wildlife in rewilding landscapes. Also not to miss is the online course on assessment, triage, and treatment of bushfire-affected wildlife, developed by Taronga Conservation Society Australia - a valuable resource for anyone working in wildlife rehabilitation or disaster response.

We hope you enjoy this issue and feel inspired by the wealth of activity and collaboration taking place across our global community.

Warm wishes,
The EWDA Editorial Team



Anne-Fleur Brand
DVM, MSc
Norwegian University of Science and Technology, Trondheim, Norway
anne-fleur.brand@ntnu.no

Beatriz Rubio Alonso
DVM, MSc
Instituto de Investigación en Recursos Cinegéticos (IREC-CSIC-UCLM)
Ciudad Real, Spain
beatriz.rubio@uclm.es

Chair´s Corner

WDA continues in a turbulent time

Keep connected across the globe at the WDA2025 conference in Canada in July!

A turbulent time

Promoting wildlife health or the overall largest long-term issues such as climate change, One Health/Planetary Health in the present short-term state of mind in the world, with an ongoing political circus, multiple countries at war and human suffering dominating media and economic focus, is not easy.

We in the wildlife health and disease arena should of course not despair. We all need to keep on doing our work as part of increasing knowledge in our field, support colleagues affected by fact-resistant political leadership, and support science in general.

The Capercaillie *(Tetrao urogallus) male is an impressive and appreciated game bird measuring up to 90 cm in body length. It lives in the deep coniferous forests of Sweden. The males fluff their feathers, fan out the tail and strut around to impress both hens and competitors. Some males even attack humans and passing cars to defend their territory. No barriers! Rather like many political leaders nowadays… This bird was living in an aviary for educational purposes.*
Photo: Erik Ågren.

O Canada!

WDA conferences tend to be held during the summer season, so just a bit more than seven months after the WDA2024 conference in Canberra, in the Australia summer month of December, it is time for the WDA2025 in Victoria, British Columbia, Canada, in July. Again, we European members must cross both an ocean and a continent to participate in person. Luckily, the WDA2024 experimental hybrid and parallel conference solution with both an on-country and an off-country conference has evolved the concept of these events. Now all members around the globe are offered ways to participate, connect and contribute, regardless of time or funding constraints!

Cherry picking the parts of this type of conference solution for WDA2025 will be a way to adapt and develop how we hold conferences, and each conference will, and should be, unique! I look forward to meeting many of you on-site, or online!

Presently, our hosts for the EWDA 2026 conference in Serbia are already well into planning our own next European section meeting in September 2026, something to look forward to and start preparing for your participation!

Working for you, the Members.
Your Chair,

Erik Ågren
EWDA Chair
Swedish Veterinary Agency
Uppsala, Sweden
erik.agren@sva.se

Network Committee

Emerging and neglected wildlife health issues in Europe – call for abstracts

EWDA Network meeting - 2025

Two of the long-term goals of the EWDA Network are to improve the exchange of information among wildlife health surveillance programmes in Europe and to share expertise.

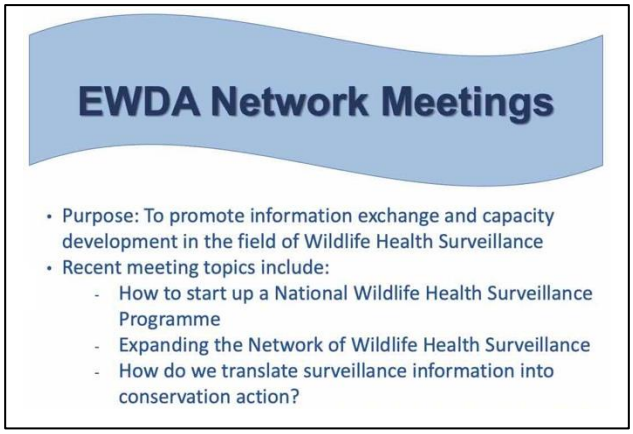
In line with these goals, we propose to host an online meeting on **Monday, 24th November 2025**, 14.00-16.30 hrs CET on the subject of **Emerging and neglected wildlife health issues in Europe.**

During this meeting, we will focus on emerging and neglected wildlife health issues in Europe.

We are interested in issues that you think we should discuss, either because they are emerging and perhaps not everybody is aware of them, or because they are important but have received limited attention.

We suggest not to deal so much, or at all, with highly pathogenic avian influenza and African swine fever, because they are discussed extensively in other fora.

This is a call for short presentations (max. 7 minutes presentation and 3 minutes discussion) on an emerging or neglected wildlife health issue in Europe. Please submit a title and a brief abstract (maximum 150 words; example below) to **ewda.network@gmail.com** by **31st August 2025** for consideration.



***Title**: Rustrela virus infection as a differential diagnosis for neurological disease in wild mammals*

***Presenter:** (name, affiliation, email)*

***Abstract**: Rustrela virus (RusV; Rubivirus strelense), a member of the family Matonaviridae, was recently identified as the cause of staggering disease, a usually fatal neurologic syndrome in domestic cats. So far, rodents of the genus Apodemus have been found as reservoir hosts of this virus. Besides domestic cats, RusV infection has been identified both in North America and in Europe as the cause of neurological disease in a wide variety of free-living and captive mammals, including carnivores, equids and marsupials. Therefore, RusV infection should be included in the differential diagnosis of any mammal with neurological disease of unknown cause.*

Example abstract format for EWDA Network meeting.

From these submissions, the EWDA Network committee will make a selection for presentation at the online meeting, with the aim to cover a diverse range of topics affecting a variety of taxa with broad interest to EWDA members.

Event registration to receive the Zoom webinar link will be available in August – please keep the date in your diaries for now!

We look forward to sharing surveillance findings together – any queries in the meantime, please contact us.

On behalf of the EWDA Network Committee,

Becki Lawson
Chair of the EWDA Network
Institute of Zoology
Zoological Society of London
becki.lawson@ioz.ac.uk

Network Committee

EWDA Diagnosis Card Updates

The aim of the **EWDA Diagnosis Cards** is to share knowledge on appropriate diagnostic methods for diseases or disease agents in wildlife and to promote methodological harmonisation throughout Europe.

In particular, each Diagnosis card outlines a list of recommended diagnostic method(s) and preferred samples, and the advantages and limitations of each method.

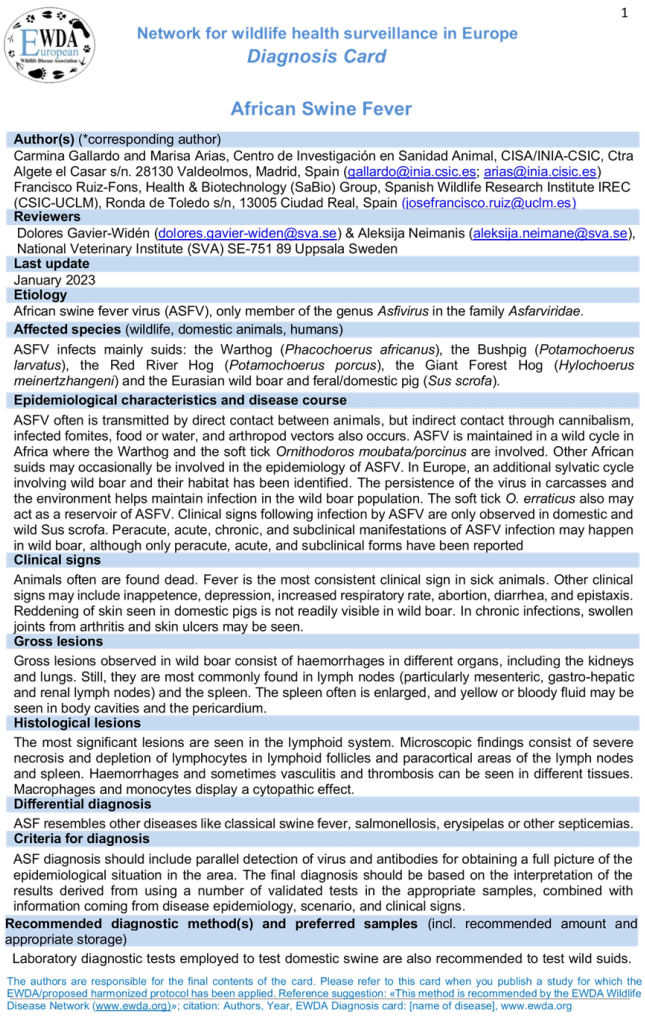
The final version is made freely available as a PDF to download from the EWDA website https://ewda.org/diagnosis-cards/.

The EWDA Network is committed to updating the existing cards and integrating the card list since knowledge about wildlife is constantly expanding, and several diseases in wild populations have recently sparked interest. According to that, over the last six months, new and/or updated diagnosis cards have been added to the dedicated website page. We updated the card on "Bluetongue", adding information regarding "Epizootic Haemorrhagic Disease", and published five more new cards:

- "*Batrachochytrium salamandrivorans*"
- "Leishmaniasis",
- "Myxomatosis",
- "Ophidiomycosis–Snake Fungal Disease (SFD)"
- "Leptospirosis"

bringing the total of cards published to 32.

If you have suggestions for other wildlife diseases that would benefit from an EWDA Diagnosis Card, please contact us.



1

Network for wildlife health surveillance in Europe
Diagnosis Card

African Swine Fever

Author(s) (*corresponding author)
Carmina Gallardo and Marisa Arias, Centro de Investigación en Sanidad Animal, CISA/INIA-CSIC, Ctra Algete el Casar s/n. 28130 Valdeolmos, Madrid, Spain (gallardo@inia.csic.es; arias@inia.csic.es)
Francisco Ruiz-Fons, Health & Biotechnology (SaBio) Group, Spanish Wildlife Research Institute IREC (CSIC-UCLM), Ronda de Toledo s/n, 13005 Ciudad Real, Spain (josefrancisco.ruiz@uclm.es)

Reviewers
Dolores Gavier-Widén (dolores.gavier-widen@sva.se) & Aleksija Neimanis (aleksija.neimane@sva.se), National Veterinary Institute (SVA) SE-751 89 Uppsala Sweden

Last update
January 2023

Etiology
African swine fever virus (ASFV), only member of the genus *Asfivirus* in the family *Asfarviridae*.

Affected species (wildlife, domestic animals, humans)
ASFV infects mainly suids: the Warthog (*Phacochoerus africanus*), the Bushpig (*Potamochoerus larvatus*), the Red River Hog (*Potamochoerus porcus*), the Giant Forest Hog (*Hylochoerus meinertzhangeni*) and the Eurasian wild boar and feral/domestic pig (*Sus scrofa*).

Epidemiological characteristics and disease course
ASFV often is transmitted by direct contact between animals, but indirect contact through cannibalism, infected fomites, food or water, and arthropod vectors also occurs. ASFV is maintained in a wild cycle in Africa where the Warthog and the soft tick *Ornithodoros moubata/porcinus* are involved. Other African suids may occasionally be involved in the epidemiology of ASFV. In Europe, an additional sylvatic cycle involving wild boar and their habitat has been identified. The persistence of the virus in carcasses and the environment helps maintain infection in the wild boar population. The soft tick *O. erraticus* also may act as a reservoir of ASFV. Clinical signs following infection by ASFV are only observed in domestic and wild Sus scrofa. Peracute, acute, chronic, and subclinical manifestations of ASFV infection may happen in wild boar, although only peracute, acute, and subclinical forms have been reported

Clinical signs
Animals often are found dead. Fever is the most consistent clinical sign in sick animals. Other clinical signs may include inappetence, depression, increased respiratory rate, abortion, diarrhea, and epistaxis. Reddening of skin seen in domestic pigs is not readily visible in wild boar. In chronic infections, swollen joints from arthritis and skin ulcers may be seen.

Gross lesions
Gross lesions observed in wild boar consist of haemorrhages in different organs, including the kidneys and lungs. Still, they are most commonly found in lymph nodes (particularly mesenteric, gastro-hepatic and renal lymph nodes) and the spleen. The spleen often is enlarged, and yellow or bloody fluid may be seen in body cavities and the pericardium.

Histological lesions
The most significant lesions are seen in the lymphoid system. Microscopic findings consist of severe necrosis and depletion of lymphocytes in lymphoid follicles and paracortical areas of the lymph nodes and spleen. Haemorrhages and sometimes vasculitis and thrombosis can be seen in different tissues. Macrophages and monocytes display a cytopathic effect.

Differential diagnosis
ASF resembles other diseases like classical swine fever, salmonellosis, erysipelas or other septicemias.

Criteria for diagnosis
ASF diagnosis should include parallel detection of virus and antibodies for obtaining a full picture of the epidemiological situation in the area. The final diagnosis should be based on the interpretation of the results derived from using a number of validated tests in the appropriate samples, combined with information coming from disease epidemiology, scenario, and clinical signs.

Recommended diagnostic method(s) and preferred samples (incl. recommended amount and appropriate storage)
Laboratory diagnostic tests employed to test domestic swine are also recommended to test wild suids.

The authors are responsible for the final contents of the card. Please refer to this card when you publish a study for which the EWDA/proposed harmonized protocol has been applied. Reference suggestion: «This method is recommended by the EWDA Wildlife Disease Network (www.ewda.org)»; citation: Authors, Year, EWDA Diagnosis card: [name of disease], www.ewda.org

Example of a Diagnosis card.

On behalf of the EWDA Network Committee,

Antonio Lavazza
DVM, MSc
Retired from IZSLER.
Brescia, Italy
alavazza0@gmail.com

Small Grants Committee

Apply for EWDA Small Grants by ***September 15th, 2025!***

There are four categories of grant, and six grants of 3000 Euros available for 2025:

Wildlife Conservation Research Grant	2 x 3000 Euros
Grant for Wildlife Health Activities in Eastern Europe	1 x 3000 Euros
The Amanda Hawkswood Wildlife Health and Welfare Research Grant	1 x 3000 Euros
Transformative Research on Wildlife Health Grant	2 x 3000 Euros

Please find full details here.

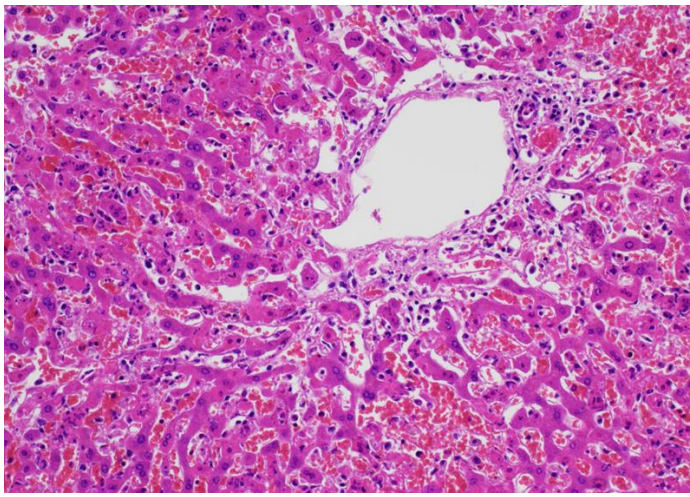
2023 projects supported by EWDA currently in progress:

Causes of morbidity and mortality in European brown hares in the UK

Dr. Kate Hughes (principal investigator)
Prof. Diana Bell (collaborator)

Populations of European brown hares, (*Lepus europaeus)* have dropped precipitously over the last century in both the UK and other parts of Europe. However, although the species is of "principal importance" in England, Wales and Scotland, meaning it is regarded as a conservation priority under the UK Post-2010 Biodiversity Framework, the prevalence of specific diseases is currently undetermined. This project will involve post-mortem examination of 50 deceased hares found by citizen scientists, to add to data from 50 animals already examined. The data from the 100 hares will be analysed to identify disease patterns and prevalence.

Post-mortem examinations have now been performed on a total of 77 hares (27 under this project), with 23 remaining.



Histological section of a liver illustrating pathology due to European Brown Hare Syndrome.

There is a contingency plan in place to increase the public awareness of the project to ensure that we reach 100 hares by the end of the project timeline.

On behalf of the EWDA Small Grants Committee,

Paul Holmes
EWDA Research Advisor
Animal and Plant Health Agency,
Shropshire, England.

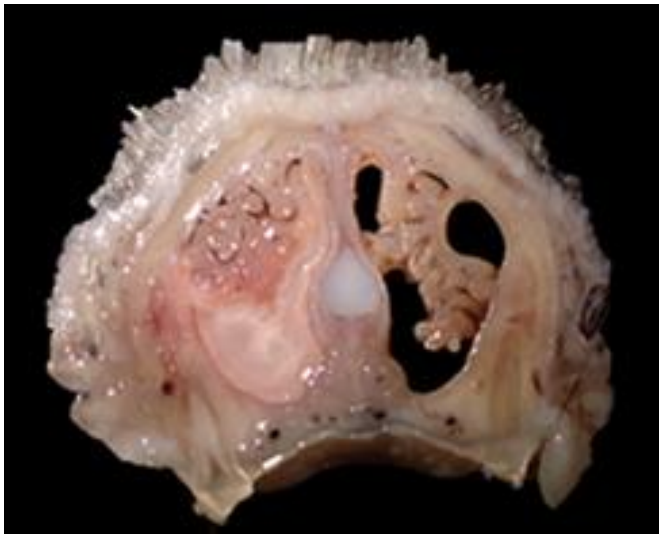
Clinicopathological and microbiological aspects of respiratory disease associated mortality in European hedgehogs presented for rehabilitation

Yannick Van de Weyer

Thanks to the generous financial support of the EWDA Amanda Hawkswood grant, IVES Liverpool and ZEBRA Foundation, we were able to conclude the sampling period of our hedgehog study with a total of 55 animals. Comprehensive pathological and microbiological investigations of the cardiorespiratory tract were performed, with the aim to elucidate underlying causes for clinical respiratory disease in European hedgehogs presented for rehabilitation. We found that both upper and lower respiratory tract diseases were almost equally represented (45-55% prevalence in targeted population). Upper respiratory tract disease often manifested as severe rhinitis with gram-negative bacterial colonies, possibly secondary to trauma, dental disease or foreign bodies. Verminous pneumonia and tracheitis were the most common lower respiratory tract conditions. We also had several cases for which respiratory disease could be linked to systemic salmonellosis. Sleepless nights in front of the microscope or excel sheet are currently in progress to materialize these findings. Finally, I cannot thank my colleagues at RSPCA enough, for their field contributions have been absolutely pivotal to the success of this project.

Transverse section of the hedgehog nasal cavity obtained rostral to the canine after formalin fixation. Control.

Transverse section of the hedgehog nasal cavity obtained at the first premolar. Control. H&E stain.



Transverse section of the hedgehog nasal cavity obtained rostral to the canine after formalin fixation. Rhinitis case. The maxilloturbinates are bilaterally swollen (oedema + inflammation) and undergoing atrophy. The left nasal cavity is filled with a suppurative to haemorrhagic exudate.

Small Grants Committee

Final Report - 2023 Wildlife Conservation and Research Grant
Awarded to
Assessing the Role of Avian Malaria in the Decline of House Sparrows (*Passer domesticus*) in Barcelona

Maria Puig Ribas, Dr. Johan Espunyes, Dr. Oscar Cabezón, Dr. Xavier Fernández-Aguilar, Laura Carrera-Faja– Wildlife Conservation medicine Research Group, Dr. Javier Quesada – Museu de Ciències Naturals de Barcelona

The house sparrow (*Passer domesticus*), once one of Europe's most abundant bird species, has declined by 50% since 1980. While multiple hypotheses have been proposed to explain this decline, recent research suggests that avian malaria, caused by *Plasmodium relictum*, may play a critical role, particularly in urban and suburban environments. In Catalonia (NE Spain), house sparrow populations have declined sharply since 2002, yet no studies have assessed the prevalence of Plasmodium in this region, despite the presence of competent vectors. This project investigated the trends in *Plasmodium* spp. infection prevalence in house sparrows from Barcelona and its potential impact on the species' decline. To achieve these, we captured house sparrows during autumn from 2012 to 2022, using baited cage traps. Birds were measured, sexed, banded, and sampled for blood (Figure 1). Each spring, systematic transect surveys were conducted to re-sight marked individuals. The presence of *Plasmodium* spp. DNA in blood samples was assessed using real-time PCR assays, and the impact of infection on overwinter survival was analysed using Cormack-Jolly Seber models. The prevalence of *Plasmodium* spp. was 25.5% (95% CI: 21.4–30.1; n=388), with no increasing or decreasing trend in prevalence over time (p = 0.30;)
Five Plasmodium lineages were identified, with SGS1 being the most common (70.4%), followed by GRW11, PADOM01, ARF9, and DELURB4, the latter two being rarer in sparrows. No significant effects of sex, age, or capture month were detected on *Plasmodium* spp. infection in house sparrows, and the infection had no impact on body condition or juvenile overwinter survival (n = 298).

In conclusion, house sparrows in Barcelona are infected with *Plasmodium* spp. at prevalences comparable to the global average (28.3–32.1%). The infection is not influenced by sex or age, does not appear to affect juvenile survival, and shows no evidence of a link to the species' population decline, suggesting that other factors may at play. By focusing on a species that is both abundant and widely distributed, our results underscore the importance of considering infectious diseases in conservation management, even for common species that are often overlooked in such studies.

Sustainability Committee

"Transformative change for a just and sustainable world is urgent because there is a closing window of opportunity to halt and reverse biodiversity loss and to prevent triggering the potentially irreversible decline and the projected collapse of key ecosystem functions" Prof. Karen O'Brien, co-chair of the IPBES transformative change assessment.

Launched through a collaboration between the Sustainability Committee and the Small Grant Committee, this funding initiative supports research on wildlife health that drives or facilitates transformative societal change. Researchers are encouraged to explore this ongoing opportunity and review the application process.

Enabling transformative research

The Transformative Research on Wildlife Health Grant was created to stimulate research projects on wildlife health that support or implement transformative changes in human society.
According to the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), transformative change refers to a fundamental, system-wide reorganisation across technological, economic and social factors. This aligns closely with the WDA's mission statement, which promotes healthy wildlife and ecosystems, biodiversity conservation, and environmentally sustainable solutions to One Health challenges. The grant encourages applicants to implement these principles alongside the WDA's charter of values, which are available on their website.

From theory to practice

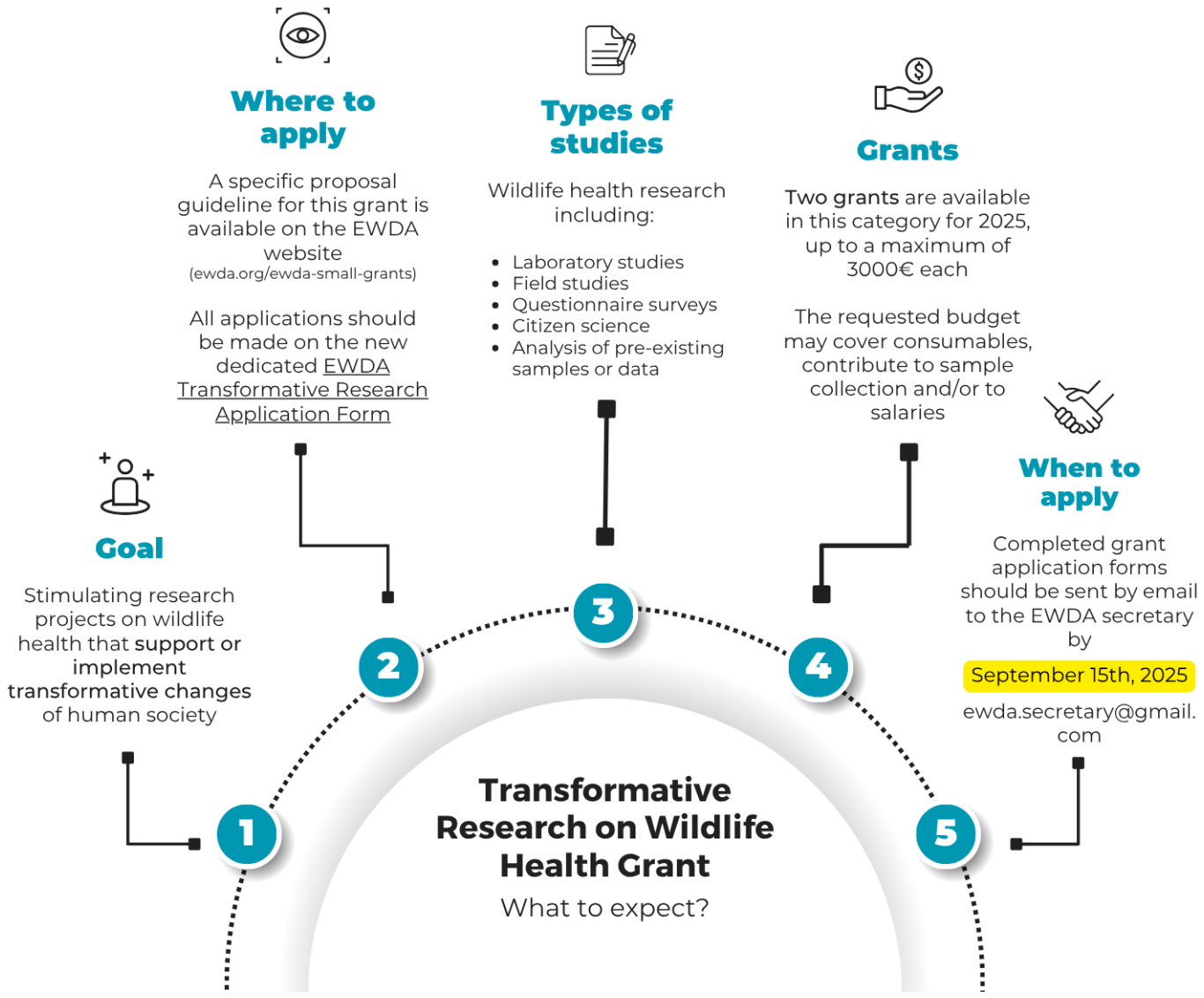
Formulating research problems in response to wildlife disease challenges calls for a broader perspective than is often applied in current practice. This includes giving balanced attention to wildlife, the inorganic components of ecosystems, and, where relevant, domestic animals and humans. Research design should take into account not only financial costs, but also the ecological and social costs to society.

Similarly, the choice of scientific methods should prioritise environmental impact alongside feasibility and efficiency. Addressing wildlife disease effectively requires not only short-term measures—such as the development of treatments or containment strategies—but also long-term approaches that tackle the root causes of disease emergence. These may include interventions that promote ecosystem stability, reduce human pressures on wildlife, and contribute to a more sustainable and resilient society. One such example is a grant awarded previously to Jordan Oelke for his proposal titled *"Overlapping Hotspots: An atlas of the effects of biosecurity on bio- and agro-diversity against African Swine Fever in Lusatia."*

Transformative research on wildlife health informs and supports transformative changes in human society. Icons from Canva.

Applications now open

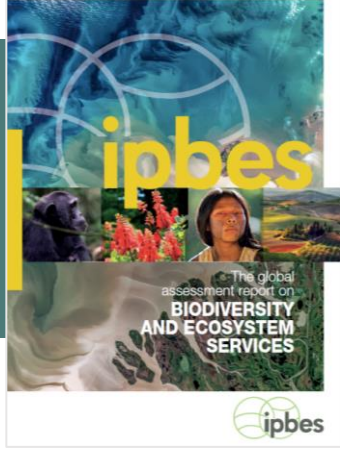
for the Transformative Research on Wildlife Health Grant



Key information on the Transformative Research on Wildlife Health Grant: Infographic realised by Beatriz Rubio Alonso. Icons from Canva.

Paule-Émilie Ruy
PhD, M.Sc, M.A.
Marine and Freshwater Research Centre
Galway, Ireland
Pauleemilieruy@gmail.com

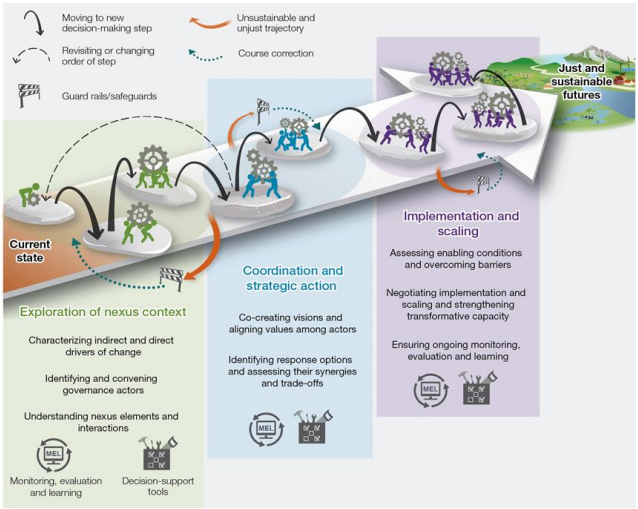
Sustainability Committee



"Here we provide some suggestions for applications that would fit the call Transformative Research on Wildlife Health."

The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) concluded in its 2019 report, that the "goals for conserving and sustainably using nature and achieving sustainability cannot be met by current trajectories, and goals for 2030 and beyond may only be achieved through transformative changes across economic, social, political and technological factors". Transformative change refers to a fundamental shift in various aspects of society, organizations, or individuals. It involves substantial changes in systems, structures, values, behaviors, and norms, leading to a new and improved state.

The call for Transformative Research on Wildlife Health was founded in 2023 to encourage wildlife health researchers to implement transformative changes in their work. We realize that it is not easy to do so and that the available budget per grant (3000 Euros) is limited. Therefore, we here provide some suggestions for applications that would fit both the scope and the budget of the call. It is based in part on a more recent IPBES report from 2024: Thematic Assessment Report on the Interlinkages among Biodiversity, Water, Food and Health, or- in short - the Nexus report).



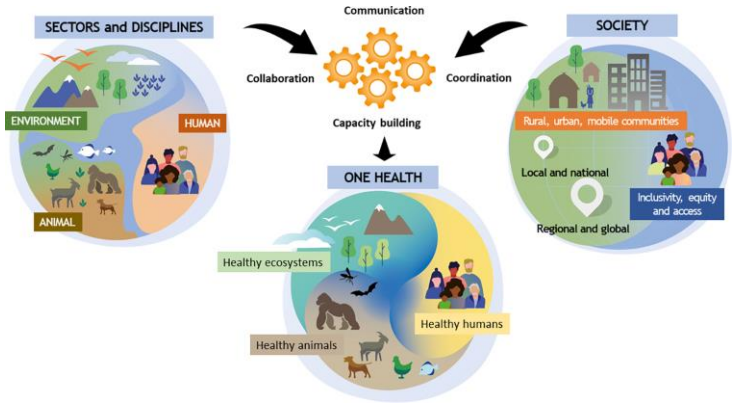
A road map for nexus action to help achieve just and sustainable futures. Source: IPBES (2024). IPBES Nexus Assessment: Summary for Policymakers.

In this report, the pathway to transformative change is divided into three main steps: formulating the problem; creating a vision for a response to the problem; implementing the response. We believe each of these steps separately could be suitable as a proposal to our call. Below we describe these steps and suggest possible topics. Each of these topics could be applied at different geographical scales, ranging from a region within a European country to Europe as a whole.

Step 1: Formulating the problem

This means characterizing a wildlife health problem in a broad context, accounting for the interconnection and interdependence of health of wild animals, humans and domestic animals within a shared environment. This is the One Health approach. Such a characterization could be based on a literature review. This literature review could be the subject of a proposal, and the money requested could be used for submission of the review for publication in a peer-reviewed scientific journal. Examples of possible topics:

a) Emergence of African swine fever, including roles of land use change, hunting practices and international trade and travel as underlying causes.
b) Effect of large-scale insulation of houses on availability of breeding and/or roosting sites for birds and bats.
c) Impact of salmon louse infection on free-living sea trouts, including the roles of salmon farming and its relationships with water pollution, fisheries, biodiversity and climate change.



A wildlife health problem can be characterized within a One Health context, acknowledging the links between wildlife, human, and domestic animal health. Source: PLoS Pathogens 18(6): e1010537 (2022).

Step 2: Creating a vision

This means creating a vision for just and sustainable outcomes of intervention to deal with a wildlife health problem. Before taking action, you need to know where to go, that is what kind of future outcome you desire. You can do so by stepping back and envisioning possible futures for the wildlife health problem in question, in the broadest sense. To create such a vision, you need to account for the requirements and wishes of the different actors involved. Creating such a vision again could be based on a literature review, or could be the outcome of a workshop in which various actors co-create a vision. Either way, this could be the subject of a proposal, with money requested either for scientific publication or for organizing a workshop. Examples of possible topics:

a) Vision for a just and sustainable agricultural and silvicultural production system, accounting for the health of field and forest wildlife.
b) Vision for a green city, healthy for humans and animals.

Step 3: Implementing the response

This means identifying specific transformative response options for a wildlife health problem. Conventional response options often are technical solutions (e.g. vaccination), deal with the problem in a narrow sense (e.g. culling of predators to reduce predation of ground-nesting birds), and allow business to continue as usual. In contrast, transformative response options often address underlying causes (e.g. agricultural intensification), deal with the problem in a broad sense (e.g. following the One Health approach, trying to optimize health of humans, animals and the environment), and require fundamental changes in business. The transformative character of such response options depends on the degree in which they optimize the balance between the health of humans, domestic animals, wildlife, and their shared environment, and the degree in which they benefit the conservation of biodiversity, now and in the future.

Proposals to our call could take the form of the description, the implementation and/or the evaluation of the outcomes of such a response option. Examples of possible topics:

a) Replacing trawling by rod-and-line fishing to improve the health of aquatic ecosystems.
b) Replacing bird feeders by seed-producing plants to reduce pathogen transmission among garden birds.
c) Development of practical and sustainable farming practices through active engagement with farmers, aimed at enhancing wildlife and ecosystem health within existing agricultural landscapes. This could include evaluating habitat features such as buffer zones, hedgerows, and small wetlands on wildlife-livestock contact and/or pollinator health; or carrying out farmer interviews and participatory mapping to explore the perceived barriers and motivations influencing the adoption of sustainable, ecosystem-supporting habitat features on agricultural land.

A miscellaneous topic that also would fit the call is "Development of a carbon tracker to calculate the carbon footprint of wildlife health research proposals". This topic follows directly from a recommendation in the Heidelberg Agreement, October 2024, which states "*Funders should consider the greenhouse gas emissions of the research they fund. In the future, emission budgets for funded projects may have to be implemented.*"

We hope these examples help wildlife health researchers apply for the upcoming 'Transformative Research on Wildlife Health' call, deadline **15 September 2025**. On behalf of the EWDA Sustainability Committee, good luck.

Thijs Kuiken
Department of Viroscience
Erasmus MC, Rotterdam, The Netherlands.
ewda.sustainability@gmail.com

Student Chapter

"BEARly survivors of the Croatian workshop"

We would like to present you the Croatian Student Workshop "Applied Disease Ecology and Epidemiology" held in April and introduce you the newest Country Representatives.

From April 7th to 11th, the EWDA Student Chapter hosted its biannual students workshop - this time, venturing for the very first time into Eastern Europe! Set between the vibrant city of Zagreb and the stunning wilderness of Gorski Kotar Natural Park in Croatia, the event brought together passionate wildlife health students from across Europe, including newcomers from Croatia, Slovenia, Romania, and Bosnia and Herzegovina.

The workshop was a result of a collaboration between the EWDA Student Chapter and the Veterinary Faculty of the University of Zagreb, which involved also the Croatian Hunting Association.

Telemetry training with Dr. Slaven Reljić.

Over the course of an intense, hands-on week, students firstly dove deep into the conservation and management of the Carpathian Brown Bear. Traveling through the rugged Croatian mountains, they were immersed in the full scope of field procedures - from capturing and immobilizing bears, to biological sampling, data collection, and post-mortem analysis.

In-depth lectures covered bear biology, health monitoring, and conservation challenges related to the species, giving students a rare and holistic view of large carnivore work.

Back at the University of Zagreb's Veterinary Faculty, students took part in a necropsy session on various wild mammals, gaining insight into epidemiological methods and health data collection - key aspects of wildlife disease surveillance, which was complemented with a lecture on epidemiological studies design.

To complement the core program, three unique excursions broadened the learning experience:

- A visit to a capercaillie breeding centre in Gorski Kotar
- A tour of a free-range-inspired deer farm, modeled after New Zealand's practices
- An exploration of Croatia's rich wildlife management history at the Zagreb hunting museum

This unforgettable week wouldn't have been possible without the tireless efforts of Prof. emer. Đuro Huber and Prof. Dean Konjević, both from the Veterinary Faculty of the University of Zagreb. Prof. Huber, a cornerstone of the EWDA community, has studied Croatia's large carnivores since 1981. Prof. Konjević, a Diplomate of the ECZM in Wildlife Population Health, leads impactful research in wildlife diseases, pathology, and public health. Joining them were Dr. Agnieszka Sergiel (Institute of Nature Conservation, Kraków), an expert in bear stress physiology and ecology and Dr. Slaven Reljić, field researcher and international project contributor on sustainable hunting and bear conservation

New Student Country Representatives

We warmly welcome our new Country Representative for Romania, Georgiana Lupu from the University of Cluj-Napoca! With her addition, we now proudly count 13 country representatives - but we're still growing. If you're a motivated student ready to promote wildlife health and connect across borders, we'd love to hear from you! Please consult our webpage for available spots and email us for queries or applications.

Post-mortem exam with Prof. Dean Konjević and lectures from Prof. emer. Đuro Huber and Dr. Agnieszka Sergiel during the 2025 Students Workshop.

2025 Students Workshop participants.

Bear trap setting by Prof. emer. Đuro Huber during the 2025 Students Workshop.

A farewell message

As the 2023-2025 EWDA Student Chapter Board wraps up its mandate, we want to thank every mentor, supporter, speaker and student who made these years special. We've grown together, shared knowledge, and built friendships across countries. Here's to the next chapter - and to seeing many of you again soon at upcoming WDA and EWDA events!

The EWDA Student Chapter Board: Kim Van de Wiel, Rachele Vada, Simon Krukenmeier, Giulia Graziosi.

Avian *Lankesterella*, a neglected parasite


Photo by: Mélanie Duc

"We know surprisingly little about this widespread parasite"

Neglected for a long time, now researchers are investigating avian *Lankesterella* parasites. But we still know very little about them.

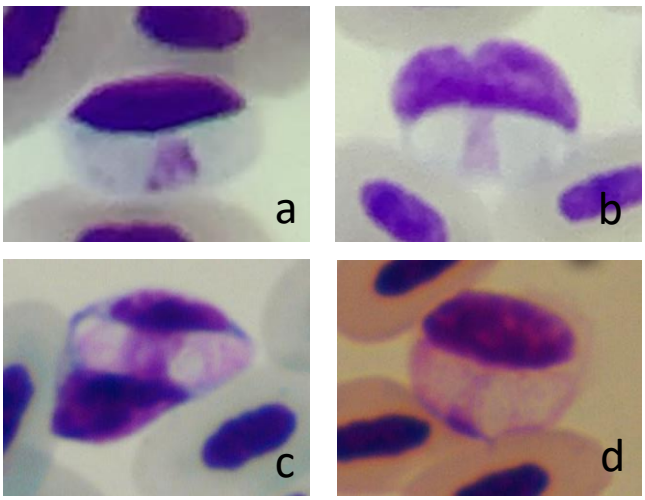
Blood parasites are common in wild birds, with some of them being extensively investigated, such as *Haemoproteus* and *Plasmodium*, while other ones are neglected and little is known about their effects in hosts, which is the case for *Lankesterella*.

What do we know about *Lankesterella*?

For a long time, this parasite was believed to belong to *Hepatozoon* genus. In fact, there are several species described, based on morphological characteristics of the blood stages. Only in 2006, due to the application of molecular techniques, was this parasites linked to the *Lankesterella* genus (see the publication here).

In the next years, just a few more studies reporting the presence of *Lankesterella* in birds were published. Just recently, this parasite started to receive more attention with several research groups targeting it to better understand the diversity, prevalence, life cycle, pathogenicity, and specificity.

However, we still know very little about these parasites.



Lankesterella parasites in reed warbler *Acrocephalus arundinaceus* (a), blue tit *Cyanistes caeruleus* (b), blackbird *Turdus merula* (c), and wren *Troglodytes troglodytes* (d).

A collaboration between British and Lithuanian researchers

Through a project funded by The Royal Society, we aim to gain new knowledge on the prevalence, diversity, host specificity, and host impacts of blood parasites from the genus *Lankesterella* in passerine birds from populations in both the UK and Lithuania (IES\R1\221056 - International Exchanges 2022).

The first step in the project was to define which of the available protocols are the best ones to detect the presence of the parasite. For that, we tested PCR protocols targeting three different genes (*18S, cytb* and COI), as well as microscopy. The best approach is to combine two different protocols: *cytb* and microscopy. The manuscript with these results is currently under review and should be published soon.

Currently, we are investigating the prevalence of infections in birds from the UK and Lithuania. High number of infections were reported in wrens (*Troglodytes troglodytes*), robins (*Erithacus rubecula*), and blackbirds (*Turdus merula*). We are still analyzing the effects on the host based on white blood cells counting, weight, and wing length.

Jenny C. Dunn
Lecturer in Parasitology
School of Life Sciences
Keele University, UK
j.c.dunn@keele.ac.uk

Carolina R. F. Chagas
Senior Researcher
P. B. Šivickis Laboratory of Parasitology
State Scientific Research Institute Nature Research Centre
Vilnius, Lithuania
carolina.chagas@gamtc.lt

Mammalian orthoreovirus in European hedgehogs

"Hedgehogs can harbour Mammalian orthoreovirus"

This study revealed the presence of *Mammalian orthoreovirus* in the European hedgehog, with a total percentage of positive animals of 13% among nearly 300 individuals sampled over a two-year period, little is known about the implications of this infection in hedgehogs.

The European hedgehog (*Erinaceus europaeus*) is a synanthropic wild species increasingly present in urban and peri-urban environments across Europe. Despite its widespread distribution, it is currently classified as "Near Threatened" by the IUCN, primarily due to a consistent population decline in rural areas over recent decades. This trend has led to the progressive displacement of hedgehogs into anthropised environments, where they increasingly come into contact with humans, domestic animals, and other urban wildlife. Such ecological dynamics raise concerns regarding their potential role in the epidemiology of zoonotic diseases. Hedgehogs are known to host a wide range of pathogens, some with zoonotic potential, and recent studies have suggested that they may serve as reservoirs for emerging viruses, including coronaviruses.

Among potential zoonotic viruses capable of infecting a broad spectrum of mammalian hosts are Mammalian orthoreoviruses (MRVs), non-enveloped double-stranded RNA viruses transmitted primarily through respiratory and orofecal routes. MRVs are genetically diverse and prone to genomic reassortment due to their segmented genome.

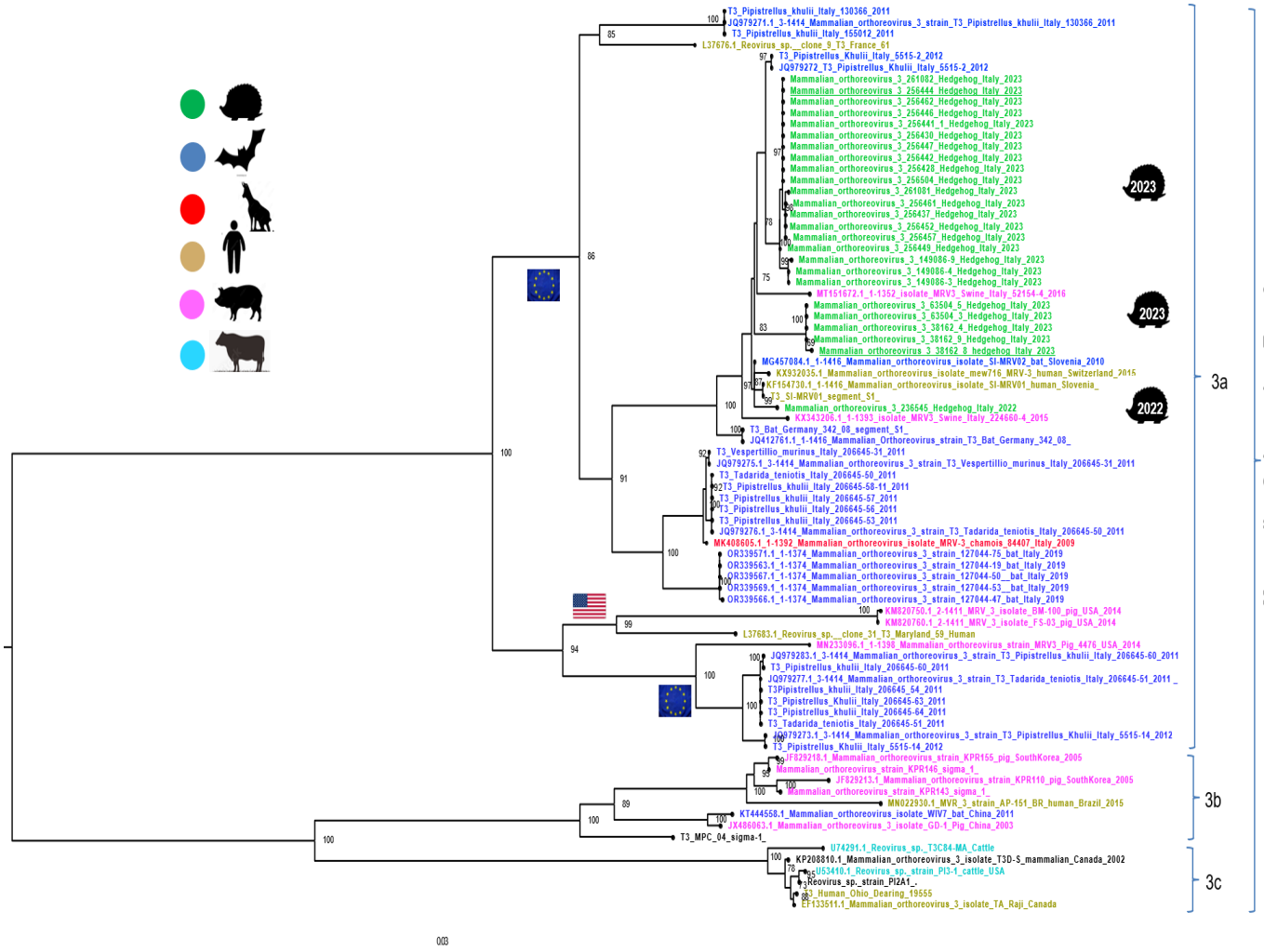
In Italy, MRVs have previously been detected in various wild animals, including bats, rodents, and ungulates. However, no data were available on their circulation in hedgehog populations.

This study aimed to assess the presence and genetic characteristics of MRVs in European hedgehogs. A total of 293 hedgehog carcasses, recovered from four wildlife rehabilitation centres in Northern Italy between 2022 and 2023, were examined. Lung and intestinal samples were tested using real-time RT-PCR targeting the MRV L1 gene segment. MRV RNA was detected in 38 individuals (13%).

Nineteen samples yielded a cytopathic effect in cell culture and were confirmed as MRVs. Typing PCRs targeting the S1 segment revealed that 25 of the positive samples belonged to MRV serotype 3. The full S1 segment of these viruses was sequenced, and four representative samples were subjected to whole-genome sequencing.

Phylogenetic analyses revealed a high degree of reassortment, with MRV segments closely related to strains previously identified in bats (*Pipistrellus kuhlii, Eptesicus serotinus*), humans, and even Alpine chamois. These findings indicate that the MRVs found in hedgehogs are likely the result of multiple reassortment events and share a complex evolutionary history with viruses circulating in other wildlife and human populations. Despite the detection of MRV, most infected hedgehogs did not exhibit macroscopic lesions attributable to the virus, and its pathogenic role in this species remains unclear.

Mammalian orthoreovirus in European hedgehogs



Maximum likelihood phylogenetic tree based on sequencing of the S1 gene. Sequences of hedgehogs MRV are written in green.

In conclusion, this study provides the first evidence of MRV infection in European hedgehogs and raises concerns about the potential role of this highly adaptable and synanthropic species in the transmission and evolution of zoonotic viruses.
The genetic plasticity of MRVs, combined with the hedgehog's ecological traits, suggests the importance of continued surveillance and further investigations into their role as reservoirs or bridge hosts for emerging infectious diseases.

Tiziana Trogu, Davide Lelli, Enrica Sozzi, Ana Moreno, Antonio Lavazza

Istituto Zooprofilattico Sperimentale della Lombardia e dell'Emilia Romagna

Brescia, Italy - Tiziana.trogu@izsler.it

Wildlife Forensic Academy: Training the Next Generation in Wildlife Crime Scene Investigation

"We aim to bridge the gap between science, conservation, and law enforcement - by empowering the next generation of wildlife defenders." - Dr. Greg Simpson

The Wildlife Forensic Academy (WFA), based near Cape Town, South Africa, is a first-of-its-kind training institution that equips students and professionals with hands-on skills in wildlife forensic science, veterinary pathology, and crime scene investigation. With growing global concern about wildlife crime and zoonotic spillover, the Academy provides targeted, field-based education for those working to protect biodiversity and prevent illegal wildlife trade.

Founded to address the urgent need for skilled personnel in conservation law enforcement and forensic sciences, the WFA offers short intensive courses that merge theory with practical crime scene exercises. Participants learn to document and analyze wildlife crime scenes, collect forensic evidence, perform necropsies, and understand the legal frameworks surrounding wildlife crime.

Wildlife Crime and Illegal Wildlife Trade

Wildlife crime and Illegal wildlife trade are the second most significant threat to biodiversity, fourth largest crime by financial records and unregulated disease transmission risk. Yet, counteracting them is not seen as a priority.

The members of the criminal justice chain together: veterinarian, ranger, magistrate, lawyer and crime scene investigator.

The WFA has is pioneering the training for rangers, conservation staff, law enforcement professionals, vet and students to achieve this goal.

Unique Training Platform

- Training takes place in South Africa's Western Cape, with simulated crime scenes in natural settings, and access to a growing forensic archive of wildlife pathology cases. Courses range from 1 to 4 weeks, covering topics like:
- Wildlife crime scene management
- Veterinary forensics and necropsy techniques
- Evidence handling and chain of custody
- Illegal wildlife trade awareness and border security.

Research and Internships

The WFA also supports research projects and internships for students passionate about conservation science and forensic medicine. Students, universities, and enforcement agencies are encouraged to reach out for customized training opportunities or collaborations at our unique facilities.

Come and do a course and support the fight against wildlife crime!

Dr. Greg Simpson
Director, Wildlife Forensic Academy
admin@wildlifeforensicacademy.com