



NEWSLETTER

// WINTER 2024



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EWDA Newsletter Winter 2024

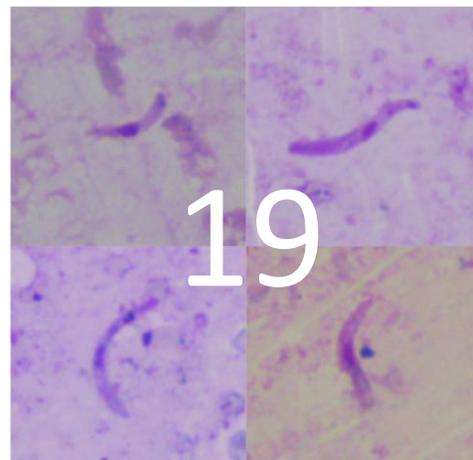
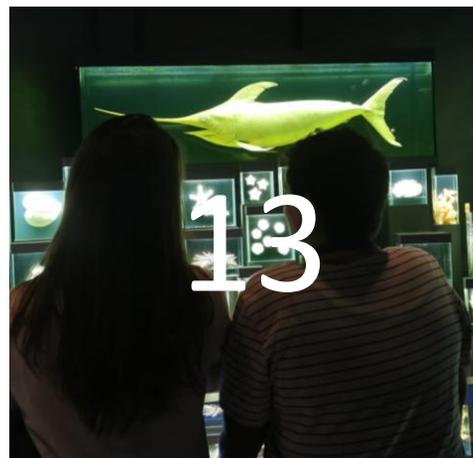
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ON THE COVER

Grey wolf (*Canis lupus*)

Cover photo by **Grégoire Dubois**

Explore more remarkable photographs:



Disclaimer

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

Editorial

“Welcoming our new board members and thanking our outgoing members”

We extend our gratitude to our outgoing board members for their invaluable contributions and dedication. As we welcome our new board, we look forward to the fresh perspectives and continued commitment of this team to advancing the EWDA's mission and goals.

Welcoming of new members

The EWDA is entering an exciting new chapter with the transition to a new board. We are confident that the incoming board will build upon this strong foundation to continue driving the EWDA mission forward. We welcome [Erik Ågren](#) as our **new Chair**, succeeding Gudrun Wibbelt. [Francisco Ruiz Fons](#) will be shifting from Member-at-Large to Vice-Chair, taking over from Becki Lawson. [Beatriz Rubio Alonso](#) will be taking the place of Erik Ågren as Newsletter Editor. [Xavier Fernandez Aguilar](#) will take up the position of Member-at-large, and [Kim van de Wiel](#) will be our new Student Representative.

We are very also happy to share that several board members will continue in their current roles: [Miriam Maas](#) as Secretary, [Alberto Casado Gómez](#) as Website coordinator, [Philippe Berny](#) as Treasurer, [Anne-Fleur Brand](#) as Newsletter Editor, [Helle Bernstorf Hydeskov](#) as Coordinator of Student Activities, [Paul Holmes](#) as Research Advisor, and [Gabor Czirjak](#) and [Đuro Huber](#) will continue to lead the Eastern countries communications.



Thank you all!

As the EWDA continues to grow and evolve, we want to take a moment to express our gratitude to our outgoing board members for their dedication, expertise, and tireless efforts during their time on the board. Your input has been essential in shaping the direction of the EWDA, and your commitment has left a lasting impact on our association. We deeply appreciate the time, energy, and passion you have devoted to our shared goals.

We look forward to staying connected as you continue to make a difference in the field of wildlife disease.

With gratitude,
The EWDA Board

Beatriz Rubio Alonso

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Chair's Corner



WDA conferences and WDA name rebranding

A very successful EWDA conference in Stralsund in September, a most interesting, experimental WDA2024 conference in Australia in December, and the ongoing discussion on name rebranding of WDA, have all been part of a busy start as the new Chair of EWDA.

New on the job

During the EWDA conference in Stralsund, Germany, I was honoured to take over the Chair position of EWDA from Gudrun Wibbelt who has done a great job in heading the European section. A partly new EWDA board was elected, and we all thank the officers stepping down. The running of our association does require a number of members to step up. All members should please consider joining the board or a committee for a few years, to take a turn in contributing to the function and continuation of the association. It is a great way to be a closer part of this very kind European network of wildlife professionals.

EWDA 2024

Finally, a meeting in person for the EWDA membership! After the pandemic we are hopefully back to a normal time schedule for conferences. We learn and adapt, so now hybrid conferences work well and means also that more members can participate. Sascha Knauf and his team from FLI professionally organised and hosted an excellent conference in Stralsund, where you members contributed with the scientific presentations to make it a most interesting and inspiring event for me, and hopefully for all participants. A fever and a positive COVID test when I came home from the conference gave me and some other participants a reminder that all is not back to pre-pandemic life! Remember to boost your vaccination status!

**WDA
2024**



WDA 2024

Presenting science by storytelling or art, how do you do that? The WDA2024 conference in Canberra, with Andrew Peters heading the organizing team are to be applauded. They managed to pull off the challenging task of introducing a new mindset in how to present and think about our work, to include traditional knowledge, how to reach out to a broader audience, and Respect – Listen – Reflect, in all aspects of life. Challenging at times for me, needs more reflection, but some ideas should be used to develop coming conferences! Also happy to have made the long trip and finally revisit Australia where I worked 20 years ago!

WDA Name rebranding

WDA is working with input from the members to test the ideas of changing the name of the association. It has been brought up before. Maybe the time is right now? A more international touch, and more health than just diseases, are some suggestions to make WDA more known, and to find a name that is easy to understand for the broader public. The WDA Council uses online Town Hall meetings to listen to the membership, and will ask for input from all sections, stay tuned and give your input!

Working for you, the Members.

Erik Ågren

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Notes from the Board

“Proud to be an EWDA member”

It is cold outside, but thinking of our great EWDA Conference in Stralsund gives a warm feeling. It was great to see old friends and colleagues again and share five (or six) days together. To me personally, the conference is a perfect combination of a great atmosphere and high-level presentations on a subject that I deeply care for: the health of our wildlife and ecosystems. The quality of the presentations is ever increasing and as always, the student presentation were of a high standard. Though the days were intense (I needed some days to recover, which also maybe had to do with a SARS-CoV-2 virus that I brought home), I also intensely enjoyed them.



One of the specific moments of this conference that made me proud to be an EWDA member, was the EWDART award. Though I have to admit I was a bit skeptical at first, I was persuaded by my enthusiastic co-driver to compete for EDWART.

During the conference, I got convinced it was a fun and very effective way to put travelling by train/public transport in the spotlight. As the conference went along, people were talking about the different travelling options they or others had conference, and all the efforts people had been through. A certain kind of admiration developed, with a desire to be part of that group next time.

I am sure for the next conference, more people will take the effort to avoid travelling by plane, even though for many of us the journey will take quite long: we now know it is possible, it only takes the determination to do it. I don't have numbers to substantiate it, but I expect that compared to other conferences our carbon footprint was relatively low. I am sure the Sustainability Committee is also having a look at this and may even be able to give some feedback on this already.

In a conference year, the number of EWDA members is always relatively high and this year is no exception. At the time of the conference, we had 284 members from 23 countries. Let's keep our community this strong and renew your membership in case you haven't done yet.

Enjoy the festive season and I wish you and your loved ones all the best for 2025!

Miriam Maas, DVM, PhD

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Network for Wildlife Health Surveillance Committee

“Moving forwards together to protect wildlife”

In case you missed it, Dolores Gavier-Widén gave an excellent overview of current European-wide wildlife health surveillance projects in her plenary talk at the recent EWDA meeting. We believe this information is of great interest to all members and have invited Dolores to share a summary with us here.

Only about 15 years ago knowledge of the status of wildlife health was limited in the majority of European countries. Today wildlife health surveillance is taking place in Europe at a high level, possibly the highest ever- why? Several factors have led to awareness about the urgency of sustaining healthy wildlife and healthy ecosystems. Factors include growing climate change, accelerating biodiversity loss, emerging infectious diseases (EID) and the Covid 19 pandemic, new technologies, the impact of ASF and HPAI and the One Health (OH) boom. These influences are reflected in political will, ambitions and new trends in the European Union (EU). The European Green Deal, for example, is a set of policy initiatives with the overarching aim of making the EU climate neutral by 2050. It embraces the EU's biodiversity strategy for 2030 and implements several actions, policies and programmes.

ENETWILD, an international network of wildlife professionals enhancing European capabilities in monitoring wildlife health under the One Health approach

To understand the role of wildlife in the epidemiology of diseases, including EID, zoonoses, diseases that are shared with livestock or only affect wildlife, information about the wildlife populations is essential. To calculate the prevalence the denominator data, i.e. the susceptible population, are needed. To assess the occurrence/presence of a wild species can be easy. However, estimating the size and densities of populations, evaluating and harmonising methods to “count” animals, determining how populations fluctuate by seasons and in different habitats is more challenging. Information on the home range

and behaviour of the wildlife hosts is also needed. In response to these needs EFSA funded the very productive ENETWILD project (2018-2023), continued by [ENETWILD 2.0](#) (2024-2029). These projects have collected harmonised wildlife population data and created important instruments for wildlife monitoring, for example the [European Observatory of Wildlife](#). They have also contributed to the Citizen Science platform [MammalNet](#).

Horizon Europe (HE) partnerships for the green transition

The European partnerships are a main implementation tool of HE, addressing the European Green Deal and contributing to the UN Sustainable Development Goals. The partnerships are long-term (up to 10 years) programmes that bring together large consortia of actors from public and private sectors. They address complex challenges in an integrated approach, with a broad range of actors across the value chain and countries. The partnerships facilitate synergies and cooperation among scientists, reduce the fragmentation of R&I and avoid duplication of research and investments.



The European Partnership on Animal Health and Welfare (EUP AH&W) started in 2024 and works on 5 priority areas: 1. Surveillance and risk assessment, 2. Tools to estimate AH&W, 3. Management of animals, 4. Treatment and vaccines and 5. Socioeconomic approaches.

Currently there are 17 joint internal projects (JIP) in the EUP AH&W. Many of them address different aspects of wildlife health, such as AMR and risk assessment. The JIP “European network for wild mammals and birds” (2024-2026) works on wildlife disease surveillance and strengthens wildlife scientists’ networks in Europe, it works also on wildlife populations, impact of human activities on disease spread and stakeholders and policy. The consortium is formed by more than 100 scientists belonging to 29 research performing organisation in 14 European countries.

EU4Health programme-towards coordinated surveillance in Europe

EU4Health programme was created as a response to the Covid pandemic and is implemented by HaDEA, the European Health and Digital Executive Agency, by managing calls for proposals and tenders from 2022 to 2027. EU4Health addresses the need to setup an EU coordinated surveillance aimed at identifying One Health risks including emerging and re-emerging zoonotic diseases. The EU commission allocated funds for Member States to apply for direct grants to set up surveillance and EFSA received the mandate to perform risk assessment aiming at identifying and prioritizing One Health zoonotic risks for the EU, which should be targeted by the surveillance. ENETWILD worked together with EFSA.



The prioritized diseases include CCHF, TBE, *E. granulosus*, hepatitis E, HPAI, influenza in swine, WNF, RVF, Lyme disease, Q fever and “disease X” (but called “Y” in animals). The latter is to investigate a possible but currently unknown emerging zoonotic disease, causing mortality in wildlife.

The latter is to investigate a possible but currently unknown emerging zoonotic disease, causing mortality in wildlife.



Marine mammals are included in the EUP AHW. Photo: Karin Bernodt

The results of the surveillance will be collected by EFSA for risk assessment for One Health Zoonotic risk for the EU.

One Health initiatives often include wildlife

The One Health boom has certainly boosted wildlife health surveillance in Europe and beyond. Wild animals are recognized as important components of each of the 3 OH pillars and also as sentinels of ecosystem health. An excellent example of international reinforcement of OH strategies with wildlife focus is the [WOAH Wildlife health framework](#) : “Protecting wildlife health to achieve One Health”. There are numerous OH initiatives at national, regional and global levels.

Moving forwards together-protecting wildlife

The above are some of the initiatives to learn more about the health of wildlife, but there are many more. European wildlife health networks are now larger and broader and currently there are many ongoing research and development and/or innovation projects that include work on wildlife. Strengthened networks, consciousness and knowledge about wildlife health and diseases will hopefully help to better manage and protect our wildlife in Europe.

Dolores Gavier-Widén

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Small Grants Committee



Wildlife Research Grants: €18,000 to be awarded across four categories – apply 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

Applications will be open early in 2025 – please apply by 15th September 2025

For full details see: <https://ewda.org/ewda-small-grants/>

2023 projects supported by EWDA currently in progress:

Wildlife Conservation Research Grants

- Dr. Katherine Hughes:** Causes of morbidity and mortality in European brown hares, *Lepus europaeus*, in the UK
- Maria Puig Ribas:** Assessing the role of avian malaria in the decline of house sparrows (*Passer domesticus*) in Barcelona

Grant for Wildlife Health Research and Education in Eastern Europe

Dr. Károly Erdélyi: Study of West-Nile virus epidemiology in Red-footed falcons (*Falco vespertinus*) and Common kestrels (*Falco tinnunculus*), roles of long-range vs. short-range migratory species

The Amanda Hawkswood Wildlife Welfare Research Grant

Yannick van de Weyer: Epidemiological and pathological aspects of respiratory disease associated mortality in European hedgehogs (*Erinaceus europaeus*) presented for rehabilitation

Transformative Research on Wildlife Health Grant

Jordan Oelke: Overlapping Hotspots: An atlas of the effects of biosecurity on bio- and agro-diversity against ASF in Lusatia

More elaborate project descriptions can be found in the [Winter 2023 Newsletter](#).

Paul Holmes

On behalf of the EWDA Small Grants Committee: Gábor Czirják, Emmanuelle Gilot Fromont, Ignasi Marco and Đuro Huber



Grant Winner Report

The Amanda Hawkswood Wildlife Health and Welfare Research Grant
Awarded to Simone Pisano, University of Bern, Switzerland

**Optimizing a non-destructive field-based sampling method for the
detection of *Aphanomyces astaci***

Simone RR Pisano, Nabila el Hassani, Heike Schmidt-Posthaus

Check out the [Summer 2024 Newsletter](#) for reports from the two other 2021 grant winners.



The water mold *Aphanomyces astaci* is the causative agent of crayfish plague, responsible for the decline of European crayfish. Native European freshwater crayfish are protected species and classified as endangered. North American crayfish, however, are resistant carriers, i.e., they co-exist with the pathogen without (or rarely) developing the disease. The detection of *A. astaci* is usually carried out by molecular diagnostic tests based on PCR. The DNA is extracted directly from tissue samples, namely the exoskeleton, usually sampled post-mortem (lethal, destructive method - LDM). Killing of endangered species is controversial for welfare and conservation aspects. Therefore, a non-lethal, non-destructive sampling method (NNM) using a toothbrush without killing the crayfish was developed.¹ Crayfish needed to be washed with sterile water and intensively scrubbed on a petri dish so that particles from the cuticula were collected in the water and water was tested for *A. astaci* DNA.

This method was considered time consuming, needing experience of performing people and use of a lot of consumables. We aimed to optimize the NNM that can be used with less consumables and lower risk of contamination. Moreover, tissue samples (e.g. removal of a swimmeret, pleopod) are often collected directly in the field for genetic analysis (non-lethal, destructive method, NDM). The reliability of these samples for *A. astaci* DNA detection was also tested.

Method: To compare the optimized NNM, NDM and the LDM, euthanized native and invasive crayfish were sampled with all three methods (Fig. 1): optimized NNM: A single-use dry interdental brush was scrubbed along the body surface of the crayfish, taking special attention to the abdominal cuticle and the setae of the uropods and the exoskeleton.

a) NDM: The setae of two uropods (NDM1) and a pleopod (NDM2) were sampled separated.

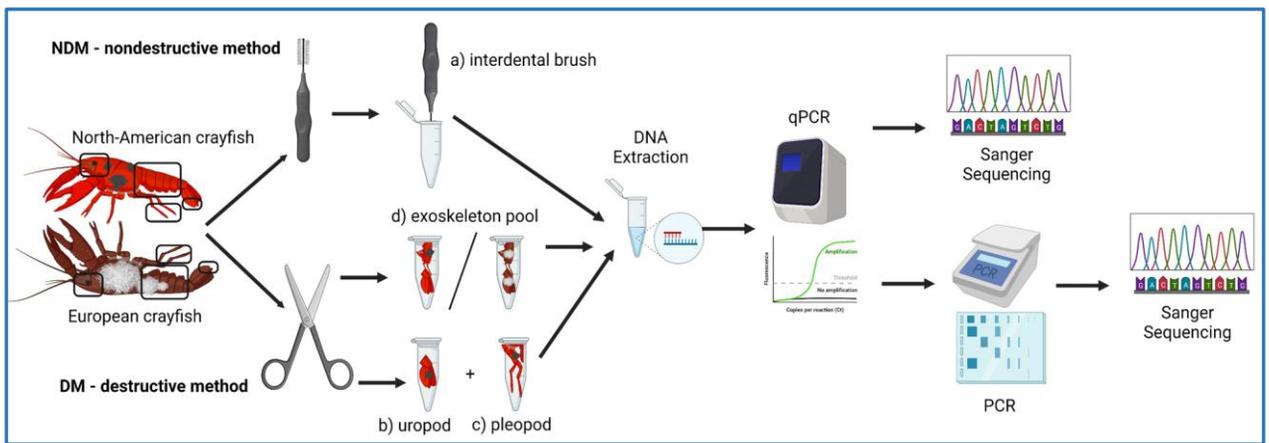


Figure 1. Sampling and laboratory analysis performed on crayfish in this study

b) LDM (Gold standard): The setae of two uropods, an eye, a swimmeret and abdominal cuticles were sampled. Samples were frozen at -20°C and analyzed with a published qPCR protocol.²

Results: In native crayfish undergoing an outbreak of crayfish plague, both, the LDM and the NNM, could detect *A. astaci* DNA in all samples, suggesting that NNM would be a reliable method for sampling in sensitive native populations (Fig. 2). In invasive non-native species, representing carrier of the pathogen, the LDM detected the presence of the pathogen. The NDM showed surprisingly similar results to the LDM. On the other hand, the NNM failed to detect the pathogen in two populations.

Discussion: These results indicate that the optimized NNM is sufficient to detect an outbreak of crayfish plague, likely due to the higher pathogen load.

Nevertheless, the usefulness of a NNM in case of an outbreak is limited, since the mortality in native species is usually very high and dead animals are available for sampling. In asymptomatic carrier species, however, this optimized NNM might be insufficient to detect *A. astaci* in a population or a large number of individuals are needed.

The results also indicate that the NDM can be used to detect *A. astaci* presence, at least at population level. Nevertheless, more animals with different pathogen load should be tested to understand the sensitivity of this method and the minimal number of animals required to test, in order to find at least one positive animal.

Pleopods have been sampled *intra vitam* for genetic studies of crustaceans since their functionality is still intact if only one pleopod is removed.

qPCR	Exoskeleton pool	Interdental brush	Uropods	Pleopod	
 n=11	+	5 (45.4%)	4 (36.6%)	2 (18.2%)	0 (0%)
	-	6	7	9	11
 n=18	+	1 (5.5%)	0 (0%)	2 (11.1%)	2 (11%)
	-	17	3	15	15
 n=25	+	11 (44%)	0 (0%)	10 (40%)	10 (40%)
	-	14	25	15	15
 n=16	+	16 (100%)	16 (100%)	NA	NA
	-	0	0	NA	NA

Figure 2. Optimisation of sample collection – results

Moreover, crayfish tissue undergo regeneration after tissue loss and therefore the pleopod will grow back. The possibility of using samples also for pathogen detection will allow to reduce the number of animals to be captured and manipulated, in accordance to the 3R principles.

In conclusion, this study revealed the reliability of non-lethal sampling methods for pathogen detection in crayfish species, avoiding the unnecessary euthanasia of already endangered European native species.

Student Chapter



"What happened... and what has to come!!"

The Student Chapter has been involved with students at FLI in co-organizing several key events at the EWDA 2024 conference in Stralsund. Hear about what happened at the conference and what exciting upcoming activities are on the horizon.

The Stralsund conference has been a very stimulating moment for everyone, closely packed with scientific presentations and networking events. For our students, it has been a great occasion for learning about possibilities in wildlife health care, getting to know each other and get in touch with some of the most relevant professionals in the field.

Stralsund Conference events

The conference kicked off with the student workshop. On Monday morning, participants have received an overview about career opportunities from Helle Bernstorff Hydeskov and Kim van de Wiel (on behalf of the Student Chapter) and brainstormed opportunities from different countries. The second part involved presentations from Ruth Cromie and Katharina Seilern-MacPherson who illustrated importance of science communication through examples such as lead poisoning in a One-Health context (inc. wildlife),



"Stakeholders debate" at the Student Workshop

and the utilisation of citizen science in the Garden Wildlife Health programme at ZSL. Student participants were then involved in a practical activity impersonating different stakeholders (vets, hunters, etc.) debating the ban of lead ammunition in Europe. Simulation was a great success and students brought insightful arguments with great enthusiasm and a lively debate.

On Wednesday, the annual auction night, co-organized by the Student Chapter, brought together attendees for a laughter-filled evening of fundraising and community building. With items donated by conference participants, everyone had the chance to bid on unique "wild" items, thus contributing to the future success of EWDA's student initiatives. Over €3800 was raised that evening! Thank you to everyone who attended!

The closing event for the Student Chapter was the Student-Mentor mixer at the Oceaneum, with almost 100 participants among students and mentors of different disciplines. After six close rounds of "speed-dating" to break the ice, students had the opportunity to share a buffet dinner with mentors and satiate their questions and curiosities about future opportunities in the field and receive insightful advice and stories of hands-on experience from more experienced members of the WDA community.

Feedback received about these activities was generally positive, and gathered great enthusiasm from students who participated to various activities and the mentors.

EDWART, our sustainable travel challenge mascot, has also gained a new home, and was brought to Sweden by a team from the Swedish Veterinary Agency (SVA).



Student-mentor mixer night (top) and auction (bottom)



Student Workshop 2025: Road to Croatia!

On December 2nd, and up to 31st December, the Student Chapter has opened the registration for the 2025 Student Workshop in Croatia! Participants will be engaged in a dense week full of activities. The workshop will be open to 25 students, of which 5 spots will be reserved for participants from Eastern Europe.

The topic will be “Applied disease ecology and epidemiology” and it will entangle a packed schedule of lectures and practical activities. The workshop will be organized in collaboration with colleagues from the University of Zagreb. Lectures will involve topics such as the Project Bear Health, Epidemiological research and study design, ASF and Aujeszky epidemiology.

Starting from the capital city, participants will be transferred to the Gorski Kotar, a wild mountainous area close to the border with Slovenia, for two days of intense field work activities and lectures, as well as hands-on experience with real-life applied disease ecology and epidemiology. Topics and practicals will cover the use of telemetry, capture methods and necropsies in disease ecology and epidemiology, as well as the set up of epidemiological study design.

While field work will be condensed in the first part of the week, back to Zagreb practical activities will involve necropsies and deer farm visit (in the framework of management of wildlife population). Speakers will be outstanding wildlife scientists from biology and veterinary world, to remark the interdisciplinarity of the workshop, with expertise in large carnivores and bears, such as Prof. Em. Djuro Huber, Dr. Agnieszka Sergiel, Prof. Dean Jonjevic, from the ECZM and Dr. Slaven Relkic.

Follow us on Facebook and Instagram for more updates on the program to follow! Workshop page for more details and link to the application: <https://ewdastudents.weebly.com/2025.html>

We look forward to welcoming you in Croatia 2025!

EWDA Student Chapter

- Kim Van de Wiel (Chair)*
- Rachele Vada (Secretary)*
- Simon Krukenmeier (Workshop coordinator)*
- Giulia Graziosi (Communication)*
- Anna Langguth (past Chair)*
- edwastudent@gmail.com



Student workshop 2025 event announcement

Student Travel Grant Recipients

On a summer's afternoon in **Edinburgh**, I embarked on a train journey across 5 countries to attend the EWDA conference in Stralsund, Germany. Travelling by train made the journey into an adventure, experiencing different landscapes, languages, travel snacks and ideas of punctuality! The **Ozeaneum** provided the ideal starting venue for a gathering of wildlife enthusiasts. I enjoyed sharing wonder at extraordinary aquatic creatures, from mesmerising jellyfish to elegant seahorses, with fellow attendees. I was impressed by the consistently high quality of presentations at the conference both in terms of their **thought-provoking ideas and visually impressive graphics**. This made giving my own talk a little more nerve-wracking but a **great opportunity to present** to a live audience after being mainly restricted to online presentations during the Covid era. For me, the highlight of the conference was the student mentor-mixer. This event really showcased how **warm, friendly and generous EWDA members** are, with more experienced researchers giving their time to help early career researchers in their professional development. It was a particular privilege to meet researchers, previously only known to me as authors on papers, that have been pivotal in guiding my own research and ideas. I greatly enjoyed visiting local nature hotspots during and after the conference with fellow wildlife enthusiasts. It was a special treat to see several **white-tailed sea eagles and thousands of Eurasian cranes**, as these species are rare in the UK. I am very grateful to EWDA for the opportunity to attend and present at the conference, and particularly for the travel grant I received, which enabled me to travel to the conference more sustainably than would otherwise have been possible. It was really encouraging to see how many attendees had found positive ways to transform the journey to the conference into a group adventures, avoiding flying and instead taking shared train journeys from as far afield as the UK and Scandinavia, sometimes even incorporating legs by bike. EWDA: chapeau!

- Stephanie Brien

This was my **first ever EWDA conference** and my first time in Germany so I had high expectations. Safe to say, those we surpassed! This week was filled with inspiring lectures that proved how relevant monitoring wildlife health is, as well as the growing importance of teaming up to face the challenges ahead. It was also a great opportunity to connect with fellow students and EWDA members. The **auction night** was incredibly entertaining! The post-conference tour to the **Vorpommersche Boddenlandschaft National Park** was an unforgettable experience. Seeing the ancient dunes meet the pristine beach front and ending the day with hundreds of cranes filling the evening sky as the red deer crossed the shores was mesmerizing. As the Student Chapter's **Country Representative for Portugal**, I returned home inspired and with the desire to do more next semester. I'm grateful for this opportunity. Hoping we all meet again soon!

- Catarina Monteiro



Student Travel Grant Recipients

I am grateful to have received a Student Travel Grant, generously provided by the **Ceva Santé Animale Wildlife Research Fund**. This opportunity, organized by the EWDA Student Chapter in collaboration with the Friedrich-Loeffler-Institut, enabled me to attend the 15th European Wildlife Disease Conference in Stralsund, Germany.

The week began with a **hands-on workshop on Wildlife Surveillance**, followed by days filled with insightful presentations on **One Health, disease surveillance, and the epidemiology of wildlife pathogens**. Throughout the week, key discussions tackled critical issues, including the impacts of climate change, urbanization, and sustainability on wildlife health.

The Conference was a fantastic opportunity to learn, **share knowledge, and connect with fellow professionals and friends**. We had the chance to visit the **Friedrich-Loeffler-Institut - Federal Research Institute for Animal Health, and the Ozeaneum**, among other excursion activities. I enjoyed a **birdwatching trip**, exploring the beautiful Baltic region, its rich wildlife, stunning landscapes, and historical roots!

Thanks so much again for organizing this great opportunity!

- Rita Santos

This was my **first experience** at an EWDA conference in person (I attended the online conference in 2022). Therefore, it was the first time I could enjoy not only the talks and the wonderful scientific programme, but also the good environment. I had the opportunity to meet old friends and colleagues, make new friends, talk about future projects and collaborations and be updated about the last research in different (and interesting) conservation areas. In my opinion, the **fantastic atmosphere** made this conference special. I felt at home, surrounded by people with the same interests, motivations and passions. The planned activities were also amazing, creating the perfect ambience for networking, like at the **dragon boat activity!**

See you at the next conference!

- Rebeca Grande Gómez

I returned **fully inspired** after an incredible week at the EWDA conference in Stralsund, Germany. The event was packed with insightful talks that reaffirmed my passion for wildlife health, and it was a privilege to **present my preliminary research on hedgehog health**. Special thanks to the EWDA Student Chapter for the generous Travel Grant! One of the highlights was finally **meeting my fellow Wildlife Population Health residents** from the ECZM in person, as well as connecting with experts and diplomates in the field. The social events, especially at the Ozeaneum, were unforgettable and added to the **vibrant atmosphere** of the congress. This experience has left me more motivated than ever to continue my work in wildlife health!

- Naomi Terriere



Student Travel Grant Recipients



2024 marked a **long-awaited reunion** for EWDA members to finally gather in person again after several years of **staring at our screens in agony**. Clearly, people had been building up not only their enthusiasm but also a **secret pot of money** kept hidden from their spouses with one purpose; The **renown EWDA auction**. Bids were almost flowing as eloquently as beers and sweat in a heated battle for honour. This year featured over 100 items ranging from the usual helpful textbooks and authentic **EWDA merchandise to African sculptures, a gender biased emergency kit and crocheted animals**. It is encouraging to know that apart from extracted DNA kept in sophisticated gene banks, endangered animals will now also live on in the form of carefully hooked textile thanks to EWDA's student president, amongst others. How proud the Scottish peasants would be seeing how their invention is now actively contributing to conservation. This year's auction closed with a record yield, a big thank you to all involved! See you on the next.

- Yannick van de Weyer

As a veterinarian with a deep **passion for virology**, attending the EWDA conference felt like a **turning point early in my career**. Veterinary work often focuses on clinical science, but through the incredible studies and our visit to FLI, I realized that understanding diseases in nature is the key to truly protecting life. I was especially touched by the work of **Marie-Pierre Ryser-Degiorgis**, whose life and legacy left a mark on me. In this uncertain time, when we may be nearing a sixth mass extinction, the conference **gave me hope** by showing how different ideas and perspectives can come together to shape the future. While the philosophy of epidemiology still feels incomplete, **the spirit of working together was alive and strong**. I'm deeply thankful to the EWDA, its Student Chapter for helping me to attend, and all the amazing scientists who made this unforgettable experience possible, one that will stay with me.

- Ender Mengeş

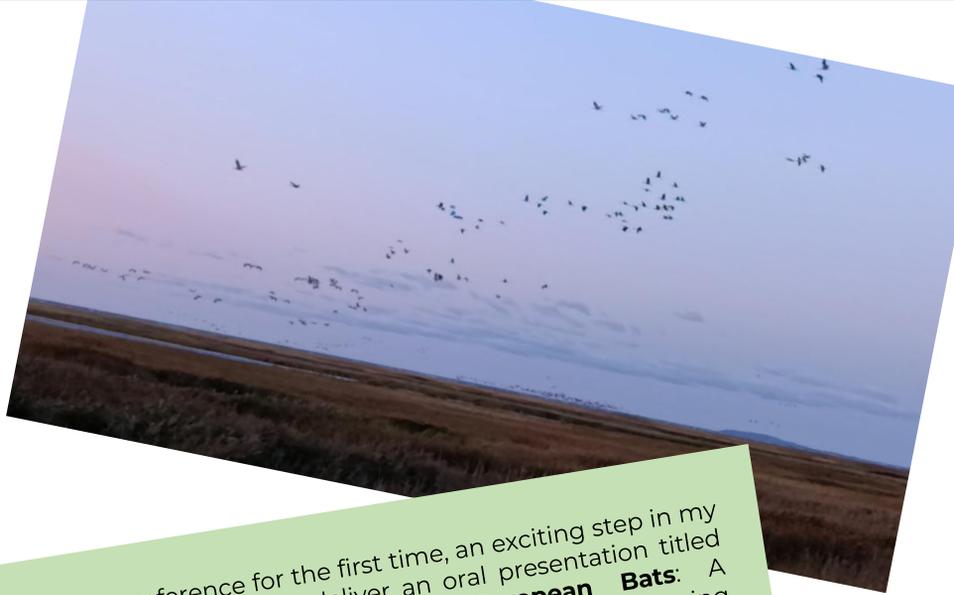
Student Travel Grant Recipients

One Health

EWDA 2024



September 9th-13th, Stralsund, Germany

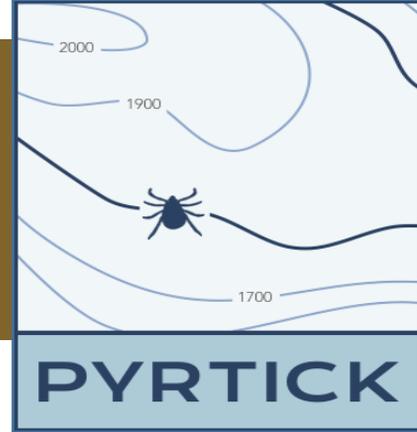


This year, I attended the EWDA conference for the first time, an exciting step in my professional journey. I had the opportunity to deliver an oral presentation titled "**Exploring Oro-pharyngeal Microbiota Diversity of European Bats**: A Comprehensive Investigation from Spain" a study part of my PhD project. Sharing insights from my research and receiving valuable feedbacks, proved to be an enriching experience. The event also served as a platform to reconnect with old and new colleagues and friends. A particular highlight was meeting, for first time in person, several residents and diplomates of **Wildlife Population Health** specialty of the ECZM. As a **first-year resident** myself, this was a **great chance to strengthen relationship with my peers**. Overall, the week, filled with engaging talks, posters and workshops, was truly inspiring and reinforced my appreciation of the vital role of collaborative work in advancing wildlife health and conservation efforts.

- Carlotta Pasetto



PyrTick: A Cross-Border Harmonized Approach for the Study of Ticks in the Pyrenees



"A pioneering study of tick ecology and the critical role of wildlife in the ecology of tick-borne pathogens in the eastern Pyrenees"

The PyrTick project, supported by the Interreg POCTEFA 2021-2027 program, is addressing the escalating public health issue of tick-borne diseases in the Pyrenean region.

The Pyrenean mountains comprise a unique alpine area with limited data on tick ecology and highly vulnerable to climate change effects. Led by research teams from the University of Zaragoza and NEIKER in Spain, and INRAE and the Laboratoires des Pyrénées et des Landes in France, PyrTick aims to harmonize and expand data collection on tick species presence and phenology, and the pathogens they carry. The project will develop detailed distribution, abundance, and risk maps, which are vital for anticipating current and future health challenges under various climate scenarios.

The Role of Wildlife in Tick Ecology

Ticks in the Pyrenean ecosystem rely heavily on wildlife to complete their life cycles and spread infections, creating complex disease transmission networks that impact both ecosystems and public health. By studying these interactions, PyrTick

aims to map out these host-pathogen-vector relationships.

Promoting Long-Term Surveillance

A key goal of PyrTick is to establish a sustainable monitoring network for ticks and the pathogens they transmit in the Pyrenees. This involves a coordinated sampling approach across varied environments and altitudes, incorporating methods like vegetation flagging to collect questing ticks, capture and sampling of small mammals, and collaboration with hunters and rangers to gather samples from wild ungulates.

Beyond Research: Public Health Awareness

Beyond data collection, PyrTick prioritizes public health by actively engaging in outreach initiatives to educate communities about the risks of tick-borne diseases. The project will provide practical guidelines for tick prevention, benefiting local residents, outdoor workers, and tourists in the Pyrenees, and will include educational visits to rural schools. PyrTick aims to reduce health risks and support safer interactions with the natural environment by promoting responsible behavior and fostering an understanding of ticks' ecological roles.

Visit our website for more information: pyrtick.eu



The study include periodical survey for questing ticks. Photo: Ruth Rodríguez.



El proyecto EFA100/1 está cofinanciado al 65% por la Unión Europea a través del Programa Interreg VI-A España-Francia-Andorra (POCTEFA 2021-2027). El objetivo del POCTEFA es reforzar la integración económica y social de la zona fronteriza España-Francia-Andorra

Sofia Soares

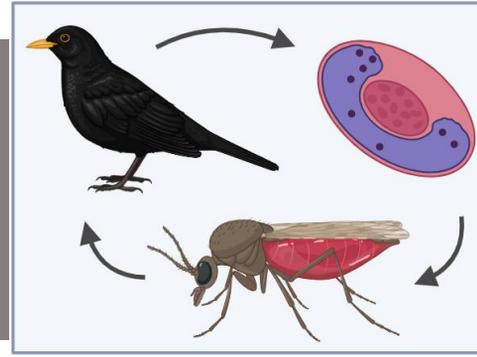
(and the PyrTick team)

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Culicoides and Haemoproteus: Unravelling their vector-parasite associations



“We need more researchers invested in studying Culicoides-Haemoproteus associations. With only a handful of scientists able to combine classical and modern parasitology, we are far from understanding the full picture of this vector-parasite relationship.”

A glance of how we can use *Haemoproteus* parasites to understand the feeding preference of *Culicoides* insects and the mechanisms of transmission of these parasites in the wild.

Investigating host parasite relationship in wildlife is essential to better understand how vector-borne diseases can be transmitted. However, this is not an easy task, specially when you are dealing with a big diversity of vector and parasite species. With a research project funded by the [Research Council of Lithuania \(LMTLT\)](#), we tried to understand how is the relationship between *Culicoides* biting midges and avian *Haemoproteus* parasites in the wild.

Big diversity, big gap

Haemoproteus are one of the most diverse avian blood parasites. It has almost 180 species described, and more than 2,000 genetic lineages (or haplotypes) reported. However, the natural vectors of these parasites have been described for only 11 *Haemoproteus* species and 14 lineages.

From the vector side, there are almost 1,400 *Culicoides* species described all over the world, and only 5 of them were confirmed to be natural vectors of *Haemoproteus*. The studies targeting their vector potential to transmit *Haemoproteus* are concentrated in Europe, more specifically in Lithuania, leaving a big gap in other countries around the world.



Culicoides females with (left) and without (right) burgundy pigment, indicating a blood meal and higher chances of being positive for parasites.
Photo: Margarita Kazak.

In fact, several experimental studies pointed out *C. impunctatus* and *C. nubeculosus* as vectors of *Haemoproteus* parasites, among other species with a mammalophilic feeding behaviour. Even though these species are able to support the parasite development, they might not be actively transmitting the parasite in the wild.

Haemoproteus and its complex life cycle

Haemoproteus is one of the most studied avian parasites, with a relatively high host-specificity relationship between the avian host and the parasite species and lineage.

It has two subgenus, *H. (Haemoproteus)* and *H. (Parahaemoproteus)*, which are transmitted by Hippoboscidae flies and *Culicoides* biting midges. With an heteroxenous life cycle, asexual reproduction occurs in the avian host, with stages being found in the tissues and in the blood. The sexual reproduction occurs in the invertebrate host, which can be confirmed as a competent vector once the infective stage, sporozoites, are found in the salivary gland.

For the parasite to be transmitted, first the insect must bite and infected bird, survive long enough for the parasite to completes its life cycle and for the sporozoites to reach the salivary glands, and finally feeds on a susceptible host.

To access this stage of *Haemoproteus* life cycle it is necessary to dissect the vector, do salivary gland preparation, stain these preparations, and perform microscopical analysis. In parallel, molecular analysis should be conducted to confirm the presence of parasite DNA and its genetic identity.

What *Haemoproteus* lineages can tell us?

Looking for a simpler way to investigate the presence of haemosporidian parasites in wild birds, the [MalAvi database](#) was created. Using a barcoding region of the cytochrome b gene, each haplotype receives a name, which is an acronym of the bird species name. With a high host specificity, some lineages are found exclusively in certain bird species.

This is quite convenient in terms of vector investigation, since it is possible to understand the feeding preference of the vectors. With that in mind, we analysed the available literature looking for the [most common interactions between *Haemoproteus* and *Culicoides*](#).

We identified that *C. segnis* and *C. kibunensis* can harbour a high diversity of parasite lineages, and consequently feed on a high diversity of birds, mainly Passeriformes. On the other hand, *C. circumscriptus* harbour mainly parasite lineages from owls, hawks, crows, and raves.

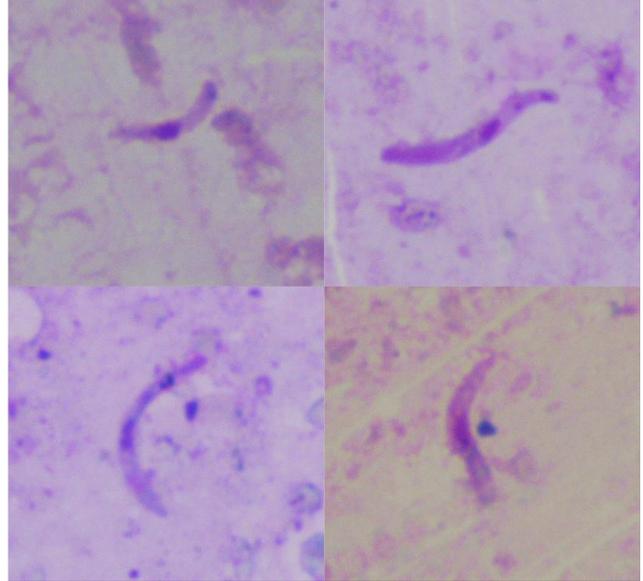
Interestingly, there is a high number of interactions between *C. kibunensis* and parasite lineages found in Turdidae birds. These interactions investigating were confirmed when we analysed the [source of blood in engorged insects](#). Confirming that using such approach allow us to understand the feeding preference of *Culicoides* insects and how *Haemoproteus* parasites are being transmitted in the wild.

Barely touching the tip of the iceberg

In this project we confirmed that [C. reconditus is a competent vector of *Haemoproteus*](#), as well as 16 new *Haemoproteus-Culicoides* interactions. Even with these findings, we are far from understand the mechanisms of transmission of these parasites in nature.



UV light trap used to capture *Culicoides* insects during this study. Photo: Carolina Chagas.



Haemoproteus sporozoites in salivary gland preparation of *Culicoides*. Photo: Carolina Chagas

For example, *C. festivipennis* is frequently reported with *Haemoproteus* lineages, but only recently it was [confirmed as competent vector](#). This also seems to be the case for *C. circumscriptus*, that despite of the several reports of *Haemoproteus* DNA, its vector competence was still not confirmed.

Another important questions is if the parasite has some sort of influence on the feeding preference of the insects. It is known that some parasites can shape host behaviour, as is the case of *Plasmodium relictum* an avian parasite closely related to *Haemoproteus*. But such investigations have never been done for *Haemoproteus* and *Culicoides*.

Yet, the lack of trained professionals to dissect insects and perform microscopical analysis is an issue. We must think about training the new generation of parasitologists for such analysis.

Last, but not least, we need more researchers studying the host parasite relationship between *Haemoproteus* and *Culicoides* in other countries and even continents. Nowadays, the information is concentrated in Europe and in a few countries.

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Monsters in the Wild



“Malformations in wild animals have been a subject of increasing scientific interest as they serve as critical indicators of environmental health”

Malformations in wild animals have been a subject of increasing scientific interest as they serve as critical indicators of environmental health. Advances in teratology—the study of developmental malformations—have brought new insights into the causes, mechanisms, and implications of these anomalies in natural populations.

Congenital defects have been described in almost every vertebrate group, but in wild animals, the descriptions of these anomalies are scarce, and the information is virtually non-existent or rare. They are more commonly observed in captive animals. Most of the individuals who carry these malformations die before birth. If they survive, most malformations are only detected during a post-mortem exam. Unfortunately, in the majority of animals that die in the wild, postmortem is not performed since animals die in regions of difficult access (ex. Forests and oceans) or they are predated/scavenged. Most likely, the number of animals with malformations is much higher, as expected, as is the case with cancer in wildlife. A large diversity of factors can lead to the occurrence of malformations, such as 1) genetic factors (numeric and structural chromosomic abnormalities and defects in the genes); 2) environmental factors (drugs, toxins, infectious agents, radiation or others); 3) multifactorial etiology, including a combination of environmental and genetic factors.



Leucism in Crocodylus acutus embryos.. Photo: Oscar Serrano

Serrano, O.S.; Garcês, A.; Pires, I.; Calderón Mateus, J.A.; Olivera, J.M.; Dávila, J.J. Congenital Anomalies in American Crocodile (*Crocodylus acutus*, Cuvier, 1807) Embryos from a Farm Breeder in Colombia. *Vet. Sci.* 2024, 11, 317. <https://doi.org/10.3390/vetsci11070317>



*Ventropalmar (A) and dorsopalmar (B) view of the right and left hind limb in an *Erinaceus europaeus* with ectrodactyly (arrow).* Photo: Andreia Garcês Garcês, A.; Pires, I.; Sargo R., Silva F. (2024) An unusual case of ectrodactyly in a free-living European hedgehog (*Erinaceus europaeus*, Linnaeus 1758), *Journal of Advanced Veterinary Research*, 14, 6, 1054-1055

New tools and Methods of identification

Improved field monitoring techniques, including high-resolution imaging and 3D scanning, have enhanced the identification of subtle and overt malformations. Citizen science platforms, such as iNaturalist, contribute to the broader documentation of anomalies, especially in remote or under-researched regions.

New advances in genomics and transcriptomics have allowed researchers to pinpoint mutations or disrupted gene expressions responsible for malformations. Modern studies explore how signaling pathways (e.g., Hedgehog, Wnt) are disrupted during embryogenesis due to teratogens helping to understand the cause of these malformations.

Environmental DNA (eDNA), CRISPR and Gene Editing, Bioinformatics and Machine Learning are some of the new tools used to detect this anomalies.

Role of Environmental Stressors, parasites

Analytical chemistry and toxicology have identified key contaminants, such as heavy metals, endocrine-disrupting compounds, and pesticides, that induce developmental anomalies. Long-term ecological studies correlate malformation rates with habitat quality and pollutant levels.

Molecular diagnostics has help to identify specific parasites linked to malformations, such as *Ribeiroia ondatrae* in amphibians. Studies of host-parasite interactions revealed also so how environmental factors amplify parasitic impacts on wildlife development.

Prevalence and Patterns

Contemporary studies reveal diverse malformation patterns across diverse taxa:

- Amphibians: Extra limbs, missing limbs, and spine curvatures are frequently linked to parasites and chemical exposure.

- Fish: Spinal deformities and craniofacial abnormalities are prevalent in polluted aquatic systems.

- Birds: Beak deformities and skeletal anomalies are documented in populations exposed to pesticides or heavy metals.

- Reptiles and Mammals: Malformed shells in turtles, limb abnormalities in ungulates and carnivores highlight, face deformation in primates localized environmental stresses.



Polydactuly in Crocodylus acutus embryos.
Photo: Oscar Serrano

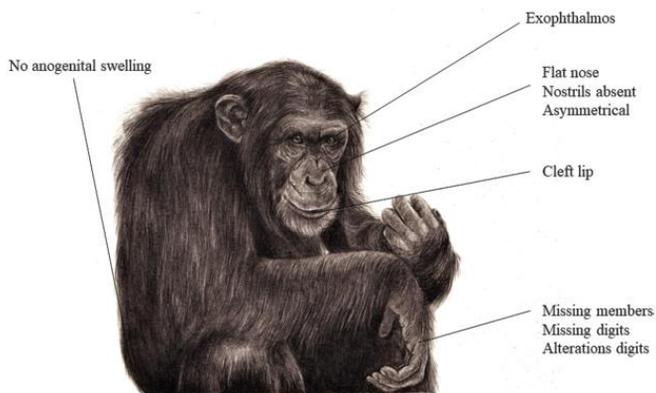
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Ecological Implications and conservation

Modern studies emphasize the cascading effects of malformations on ecosystems, such as: reduced individual fitness due to deformities can lower reproductive success and survival rates, population-level impacts, especially in species with already low numbers, threaten biodiversity, ecosystem-level disruptions occur as species interactions and trophic dynamics shift due to malformation-induced vulnerabilities.

Future remarks

Research in this area is still a growing field. Many of the papers existing are not recent and the variability in studies conditions, species, pesticides detection methods among others makes it difficult to compare them. But new reports are appearing every year, and the scientific community seems to be more alert regarding these issues. Every new case report is important to better understand these malformations. Further studies are needed in natural conditions, including different species, long periods, in different geographical locations. In addition they should examine in different samples (animals with malformations and samples collected in their habitat: water, soil, air) and different components. All the studies both experimental and epidemiological are important and could constitute an alert to avoid the use of determined agents (e.g. Pesticides), preventing further damage to animal species, man, and the environment.



Schematic representation of the chimpanzee (Pan troglodytes schweinfurthii) main malformations.
Photo: Andreia Garcês

Garcês A., Pires I.:(2022) "Chapter 9 - F reproductive and teratogenic effects of pesticides on great apes (Hominidae)", in Marsupial and placental mammal species in environmental risk assessment strategies, *The Royal Society of Chemistry*, pp. 200-210 DOI: <http://dx.doi.org/10.1039/9781839163470-00200>

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Ceva Wildlife Research Fund

"It is unique in that it contributes to the preservation of wildlife health, a field of animal health that is under-invested for not being economically viable."

The Ceva Wildlife Research Fund is an endowment fund whose objective is to finance applied research projects targeting wild animals to better control the risk of zoonoses, one of Ceva's major commitments.

For the second year in a row, Ceva Wildlife Research Fund is helping a team at CEFE (Center for Functional and Evolutionary Ecology, CNRS-Université Montpellier-IRD-EHPE) to implement a vaccination trial against Highly Pathogenic Avian Influenza in the French Southern and Antarctic Territories, using the technology of mRNA vaccine with Respons Ceva AI H5.

The episodes of high mortality among seabirds in Europe associated with the avian influenza epizootics in the spring-summer 2022 raised several questions: what were the eco-epidemiological dynamics at play and how to study them? Could there be any means to potentially intervene for threatened populations? Given the CEFE team's experience on the ecological epidemiology of seabirds, particularly in the French Southern and Antarctic Territories as part of the ECOPATH-1151 project supported by the French Polar Institute (IPEV) since 2015, it was proposed to help explore the immune response of species breeding in sub-Antarctica to vaccination with a newly available anti-H5 RNA vaccine, Respons AI H5, which may be useful in this context. The objectives of this project were to determine the dynamics of the anti-H5 antibody response in king penguin (*Aptenodytes patagonicus*) chicks following vaccination in a colony on Possession Island in the Crozet archipelago. Such a test could inform us on the temporal persistence of antibody levels during the long period of chick rearing on land, which lasts over 300 days.

The first blood samples will be back for analyses in France in January 2025 and a second vaccination trial campaign will start in March 2025.



King penguin chicks handled for a vaccination experiment against highly pathogenic avian influenza on Possession Island, Crozet archipelago, French Southern and Antarctic Territories (Photo credit: IPEV/CNRS)



Wildlife Research Fund

Ceva Wildlife Research Fund

“Contraception may influence space use by reducing density or allowing family herds to travel more widely without young calves.”

The CWRF supports a fascinating research project in South Africa about elephant population management in collaboration with the CNRS-CEFE (National Center for Scientific Research – Center for Evolutionary and Functional Ecology). Although African elephants are globally endangered, some well-protected populations are growing to levels that might exceed desired densities due to their impact on vegetation. Managers often set a "carrying capacity" for these populations, but this target is usually poorly defined and based on uncertain data. Many small, fenced reserves, especially in South Africa, use contraception to control elephant numbers, particularly by targeting females, to protect overall biodiversity. However, the impact of contraception on elephant space use is understudied. Contraception may influence space use by reducing density or allowing family herds to travel more widely without young calves. Further research is needed to clarify these effects. The goal of the project is to design and demonstrate how an adaptive management of elephants based on their space use could be thought through, using a combination of literature review, field-based GPS studies and modelling.

The team believes that, because elephant impacts on ecosystems are numerous and diverse, one will never be able to conduct the field studies required to objectively define the 'carrying capacity of an ecosystem' for elephants. However, elephant space use itself, and in particular the heterogeneity in the intensity of use of the landscape, could be the metric to use to adaptively manage elephant populations. Specifically, populations that can be controlled through contraception will be studied, to provide new knowledge that will be used to parameterized the mathematical models required to guide action.

The first GPS collars, 32 to this day, have been deployed last month thanks to the efforts of the local expert teams.



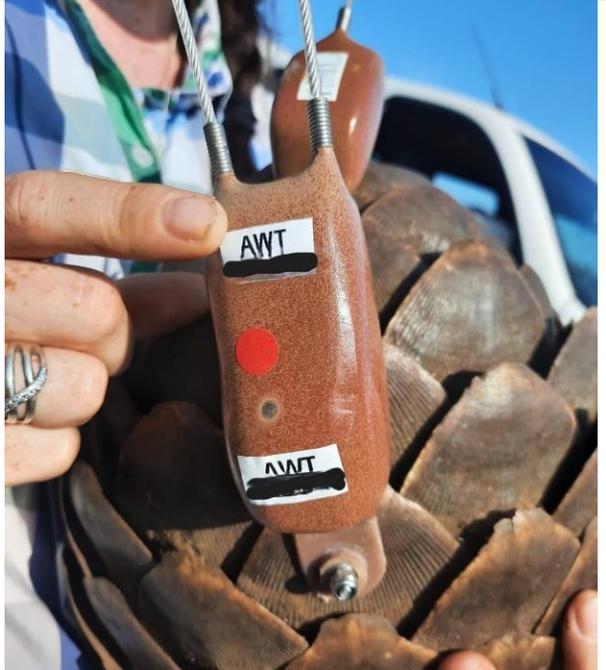
Photo credits : CNRS

Ceva Wildlife Research Fund

The Ceva Wildlife Research Fund proudly supports the pioneering PhD project of Jessie Berndt in collaboration with the African Pangolin Working Group (APWG) as well as the Munywana Conservancy. This PhD project is conducted under the auspices of the University of Pretoria and Tshwane University of Technology with supervision by Professors Andrew McKechnie and Ray Jansen, and the conservation management team of the Munywana Conservancy.

The title of Jessie's project is 'Adaptive behaviour, habitat use and ecological traits of Temminck's pangolin *Smutsia temminckii* reintroduced into a large conservation area in northern KwaZulu-Natal'. The pangolins in the study form part of the world first reintroduction of Temminck's pangolin into an area where they were locally extinct for four decades.

This project is the brainchild of the APWG together with Beyond Phinda and is taking place on the Munywana Conservancy and the Beyond Phinda Private Game Reserve. The project aims to enhance the conservation of pangolins, one of the most mysterious animals, by providing crucial insights for their protection.



Tags attached by a bolt through a hole in a scale (Photo credit: Matt van Wieringen)

Despite their distinctive scales and long tongue, little is known about their behavior and ecological needs. This lack of knowledge hampers conservation efforts, especially as pangolins face threats like habitat loss and illegal wildlife trade. More research is urgently needed to ensure their survival.

The APWG, supports this project's applied science mission, aiming to ensure the survival and well-being of the Temminck's pangolin.

Jessie is currently in the field, tracking these elusive creatures with telemetry. The units have been especially designed for pangolins and are attached carefully via a bolt in a hole drilled through a specific scale. The technology can vary from VHF (very high frequency), satellite and LoRa (Long Range and Ultra-High Frequency) depending on which is best for the various research requirements and the challenges faced on the field. Valuable insight into behavior, dispersal, territory mapping, movement and interaction is gained using the GPS fixes from the different tags. This study will answer many questions and provide deeper understanding of pangolin behavior.

