European section of the wildlife disease association bulletin: 2013, 1 (10).

EWDA E-zine

Health of wild
Amphibians | Birds | Fish | Mammals | Reptiles

Editorial

This issue is the tenth bulletin, in (already) seven years, of the European WDA. Our chair, Prof. Christian Gortazar, encourages monitoring of wildlife populations since it is always useful to have a denominator in a ratio… Fabien Mavrot and Marie Pierre Ryser have tracked Ibex in the sunny Alps to observe the impact of infectious keratoconjunctivitis. Florence Ayral tells us how residents of the European college of veterinary public health learn to do wildlife surveillance. Then there is news of some European projects related to wildlife health: APHAEA and WildTech, one at an early stage, the second close to completion. European students have numerous opportunities to follow courses related to wildlife biology, health and management; several of them are presented in the Bulletin for the first time: Master degrees at the Institute of Zoology, London, and at the University of Edinburgh.

Lidewij Wiersma, introduces the student activities, beginning with a presentation given at the free university of Berlin, following this there is a report on the now traditional, biennial student workshop, held in Annecy, on the topic of emerging diseases.

News from the EWDA board and announcement of its forthcoming conference, to be held in Edinburgh, in August 2014 will complete this issue. We hope you will find the reading interesting, and invite you to submit items for the next issue: hopefully in midwinter.

Marc and Paul

Iberian hare: host for Leishmania?... *Cf.* p.2

Year 7 - Nr.10

Summer 2013

European section of the wildlife disease association bulletin

www.ewda.org

President's corner

Christian Gortázar Schmidt [Christian.Gortazar@uclm.es]

Ciudad Real, June 2013

Dear wildlife disease colleagues,

Humans and animals are continuously exposed to a plethora of viral, bacterial, fungal and parasitic pathogens. Fortunately only some of these are able to infect new hosts, become transmissible and, eventually, achieve epidemic spread. Because of globalization however, the speed at which emerging pathogens can nowadays expand is unprecedented. This has consequences on human and animal health and on the environment, making monitoring important.

If humans are affected, such as in the emerging MERS coronavirus in the middle East, or if domestic animal production is hit, such as in the ongoing expansion of African swine fever in eastern Europe, disease monitoring and monitoring the affected populations occurs in parallel and starts immediately. If, however, wildlife is one of the main affected compartments, monitoring is often limited to the recording of cases, with no accurate information on wildlife population trends and the consequences of the disease or its control on the affected wildlife populations. This limits our capacity of efficiently managing infections shared with wildlife.

Recently, a cluster of close to 300 human cases of *Leishmania infantum* infection occurred in the periphery of Madrid, Spain. Iberian hares (*Lepus granatensis*) were found to be competent reservoir hosts, able to transmit *L. infantum* to the vectors (dipterans of the genus *Phlebotomus*). All of a sudden, an infection believed to circulate between humans, pet dogs and a few wild carnivores needs to be analyzed from a new perspective, one that considers wildlife hosts and the environment in a more holistic way. Apparently, hare hunting was not allowed in those peri-urban areas, allowing hare numbers to increase and reach high densities. This, along with the proximity to human dwellings and the contribution of dogs to the epidemiological picture illustrates a nice case study of the One Health concept.

However, this case also illustrates our lack of knowledge on wildlife population changes and our incapacity to predict their consequences on disease dynamics. Taking action to overcome this weakness is the aim of the APHAEA meeting in Brescia, Italy (June 27-28, 2013). APHAEA is an FP7 EU consortium funded through an EMIDA ERA-NET that was born in the European section of WDA as a step towards the development of a European Wildlife Disease Network. Its main goal is harmonizing both diagnostic tools and methods for estimating the abundance of key wildlife species in Europe. Perhaps, in the future, we will be better prepared for

(follow page 4)

Should chamois and ibex wear sun glasses?

F. Mavrot, M.-P. Ryser-Degiorgis*

Infectious keratoconjunctivitis (IKC) is a widespread ocular disease of domestic and wild Caprinae. In ibex and chamois it can lead to important eye damage and irreversible blindness, associated with mortality of up to 30% of the population estimates during severe outbreaks. Even if the disease has been known for nearly a century (the first report of an outbreak in wild Caprinae dates from 1916), the bacteria *Mycoplasma conjunctivae* was only identified as causative agent in the late 1960's, first in domestic sheep, then in chamois and ibex. Since then, it has also been successfully recovered from ibex and chamois during several IKC outbreaks. More recently, we have demonstrated an association between the mycoplasmal load recovered from the eyes of infected animals and the severity of the ocular signs.

However, we have also detected healthy carriers of *M. conjunctivae* in ibex and chamois populations from Switzerland. Among others, healthy carriers were detected in groups of marked ibex in colonies without current IKC outbreaks, none of which developed the disease in the months following sample collection. Furthermore, *M. conjunctivae* was detected in chamois from the Jura mountains, where IKC-outbreaks have never been reported. In comparison to the Alps, this mountain range is characterized by a lower altitude, gentler slopes, a larger forest cover, and less snow.

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Fabien and Marie Pierre

This raised the question as to whether the environment in which the animals lived may have an influence on the onset or the course of the disease. Indeed, a possible role of environmental factors (such as sunlight and dust) in the pathogenesis of IKC has been suggested by several authors in the past decades but to our knowledge, only one attempt was made to assess the role of such factors: In the 1960's, the effect of light on IKC clinical signs was tested in an experimentally infected chamois but the results remained inconclusive.

To further address this question, we conducted a geospatial analysis on 723 ibex and chamois sampled between 2008 and 2010 in different regions of the Swiss Alps. Each animal was examined for IKC-signs and tested for *M. conjunctivae* with a semi-quantitative TaqMan PCR. Altitude and northness (degree of orientation toward north or south) was then evaluated for each individual, not only at the sampling point location but also in a circular sampling area expected to be more represen-

(follow page 4)

(Continued from page 3 « sun glasses? »)

tative of the habitat of the animal.

Blind Alpine ibex found disoriented close to houses during the winter 2009/2010 in the Swiss Alps. Note the opacity of the cornea.

According to the results of this study, chamois with moderate and severe signs are found at higher altitude than healthy individuals. Furthermore, data suggested that the higher the place where the ibex lives, the less mycoplasma are needed to provoke the same damage to the eye.

An influence of northness was not found, except that ibex with moderate and severe signs of IKC seem to prefer more north -oriented, less sunny slopes than individuals without corneal lesions, possibly hinting at a sunlight sensitivity consequent to the disease, a phenomenon that has also been described in domestic Caprinae.

Parallel investigations have shown that interactions with other pathogens than M. conjunctivae, the existence of different mycoplasma strains, and genetic characteristics of the hosts, need to be considered to explain the observed variations in the clinical picture of IKC. Topographic features seem to also play a role, however, rather than elevation itself, it is probably the associated environmental conditions (UV-light, temperature, humidity) that influence the development of the disease.

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(continued from page 2. President's Corner)

identifying changes in wildlife population trends and we will be more able to contribute to the monitoring and control of diseases shared with wildlife. **We need to monitor not only wildlife diseases, but also populations.**

News from the Nordic Section

Erik Agren, Aleksija Neimanis

Erik hands over NWDA gavel to new chair Aleksija

NWDA meeting 2013. The Nordic Section of the WDA has recently had its biennial meeting, as usual on an island – this 21st NWDA meeting was in Sweden, on Torsö island in Vänern, the largest lake in Sweden, 29-31 May. The lake was cut off from the sea in prehistoric times, and has its own freshwater salmon subspecies. Currently there are over 50 Nordic members, and of these, 11 attended this informal and friendly meeting. The Nordic Section board for the coming two years has a new chair; Aleksija Neimanis, Sweden. Past chair Erik Ågren has stepped down after 10 years and has been recently elected co -chair of the European section. The Treasurer Henrik Uhlhorn was re-elected for two years, as were Finland´s country representatives Antti Oksanen and Marja Isomursu, and Denmark´s Anne Sofie Hammer. Mette Sif Hansen was newly elected as Denmark's second country representative. For Norway, two new representatives were elected; Knut Madslien and Carlos das Neves. The scientific program started off with a summary of the past two years wildlife disease activities in Denmark, Finland, Norway, and Sweden, followed by a mix of interesting presentations of ongoing research or case studies. At the Nordic Section presentations are in Scandinavian languages or in English. A brief printed proceeding of the meeting presentations with abstracts in English will be available on the NWDA website pages shortly.

A boat trip to a nearby island with a nature reserve for a stroll and coffee, and a ferry to another neighboring island for a bicycle ride for half a day were enjoyable social activities and gave time for personal discussions. Thursday evening, individually composed Dillö pizzas baked in a stone oven by the lake shore were enjoyed after trying out a timber boom loader (joystick-fun with super-sized toy for big boys and girls), followed by a king-sized hot tub bath overviewing the sunset on the lake, for after-dinner discussions.

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Wildlife disease issues

In Sweden, a lot of media interest lately has been focused on moose (*Alces alces*) health. Studies from various research teams looking at moose calf survival on the island of Öland, thiamine levels in emaciated moose in the south of Sweden, heavy abomasal parasite loads in adult moose, and general disease surveillance especially of adult moose in poor condition in summer and autumn are ongoing. Whether there is an actual increase in moose mortality or whether reports result from increased public awareness and intensified surveillance is being discussed.

Targeted disease surveillance for *Echinococcus multilocularis* is continuing in Sweden, after the first finding of the parasite in red fox in 2011. Three separate counties are affected, with very focal findings of positive foxes. A national screening program is in place, where a voluntary hunter network collects fox scats, or faecal samples, that are sent to the National Veterinary Institute for PCR analysis.

Recently, an outbreak of sarcoptic mange has been detected in the arctic fox (*Vulpes lagopex*), affecting several dens in the mountain range bordering Norway. The arctic fox is endangered in Norway and Sweden, and has been studied closely for many years. Due to this, intervention and extraordinary measures are presently underway, with attempts to non-invasively treat the entire den populations with antiparasitic medicated bait.

A recent PLoS-One publication shows some interesting results from the EU-funded wildlife technology development project WildTech, which is running its final year. Detection of mecC-Positive Staphylococcus aureus (CC130-MRSA-XI) in Diseased European Hedgehogs (*Erinaceus europaeus*) in Sweden, is the title and the article describes the earliest findings of

(Follow page 6)

(continued from page 5: Nordic section)

these resistant bacteria in Sweden – a strain essentially identical to isolates from humans (Monecke et al, 2013).

In Finland there have been several outbreaks of chlamydiosis in passerines, with *C. psittaci* causing severe infections and mortalities. In both Finland and Sweden, studies of dead white-tailed eagles (*Haliaeetus albicilla*) show that over 20% of the birds are affected or killed by lead poisoning, usually – or most likely - after ingesting ammunition lead fragments from gut piles or carcasses.

Greenfinch (*Carduelis chloris*) numbers have dropped 40% in southern Finland, approximately 35-40% in Sweden, and 20% in Norway following the emergence of trichomoniasis. In 2012, trichomonas outbreaks were described in yellowhammers (*Emberiza citrinella*) for the first time.

The common occurrence of the moose meningeal worm *Elaphostrongylus alces* was confirmed for the first time in a preliminary study on possible reasons for decreased moose calf weights in Southwest Finland in 2012. Infections were found in over 50% of calves through investigation of faecal samples and spinal cord samples. Multidisciplinary research on the subject is being planned including studies on moose cow fertility and quality of pastures.

In Norway, a cervid health program has been active the past years, with sampling, screening and focus on diseases in cervids. Studies on deer ked and ticks in cervids have resulted in a dissertation by Knut Madslien 2013. Cases of malignant catarrhal fever of ovine origin occur regularly in moose, and occasionally in roe deer (*Capreolus capreolus*) and red deer (*Cervus elaphus*). With a tradition of many free-range grazing sheep herds in Norway, this disease is much more common in cervids than in other Nordic countries.

A large outbreak of pulmonary mycoplasmosis in muskox (*Ovibos muschatos*) killed one third of the population in Norway, estimated at 350 animals, in 2012. The cause of the outbreak was established after a major collaborative effort to retrieve suitable samples for diagnostic purposes. An outbreak of rabies in arctic fox on the Spitsbergen islands was noted in late 2011, with transmission to Svalbard reindeer.

Denmark reported outbreaks of distemper in red fox (*Vulpes vulpes*), which has had a major negative impact on the fox population in some areas of Jutland. The disease is also present in farmed American mink (*Neovison vison*). Further, *Echinoccocus multilocularis* tapeworm cases have been found in red foxes in the southern part of Jutland, where there are also invasive raccoon dogs from nearby Germany. Several diseases are likely to be introduced by these invasive animals, which are euthanized whenever possible. A wolf (*Canis lupus*) was recently observed in the Northern part of Jutland, the first observation in modern times. This immigrant wolf, from Germany, was later found dead due to chronic infection.

Unfortunately, during 2011 and 2012, several cases of intentional poisoning of large raptors (golden- (*Aquila chrysaetos*) and white-tailed eagles (*Haliaeetus albicilla*), common buzzards (*Buteo buteo*), red kites (*Milvus milvus*)) with carbamate pesticides have been discovered.

These are some highlights of the contemporary wildlife disease picture in the Nordic countries, and there will most likely be a number of scientific publications or presentations on these and other topics, giving more details - coming soon, in a journal or a conference near you! It´s a small world, if you have a computer and internet access!

September 28 is World Rabies Day

World Rabies Day is an opportunity for people around the world to unite in rabies prevention.

Every year hundreds of thousands of people take part in local, regional, and national events, all held to raise awareness about and/or prevent the spread of rabies.

- See more at: http://rabiesalliance.org/world-rabies-day/#sthash.gD5FNSYe.dpuf
or Google "rabies day"

News from APHAEA

APHAEA board

APHAEA (harmonized Approaches in monitoring wildlife Population Health, and Ecology and Abundance) is a European EMIDA project closely associated with EWDA activities. The project aims are (1) to **contribute to the development, implementation and encouragement of the use of harmonized procedures for wildlife population abundance estimation, sampling and diagnosis**, both at national and European levels, in order to improve wildlife health surveillance in general; (2) to **provide data on key host abundance and key pathogens** and their wild hosts in selected (participating) countries according to harmonized procedures, in order to reliably detect geographical differences in host abundance and pathogen occurrence; (3) to enhance international collaboration which is expected to continue after the end of the project.

The project has been designed and is being coordinated by representatives from Spain, Germany, Italy, Switzerland, the Netherlands, France and Sweden (so called "core partners"). However, as the long-term goal of the project is to develop a European network for wildlife health surveillance which adopts harmonized methods, there has been several calls to recruit potential "external partners" interested in contributing to the project.

The project is composed of four work packages (WP). WP1 and WP2 deal with literature reviews about methods to estimate wildlife population abundance (WP1: Species cards) and about method for wildlife disease diagnostics (WP2: Diagnosis cards), with the aim of proposing selected methods for data harmonization at European scale. This work is already making good progress. Currently, 17 Species cards and 30 Diagnosis cards are either in preparation or already reviewed.

APHAEA Logo

The objective of WP3 is to test the proposed harmonized protocols and to demonstrate the advantages of harmonization. For this purpose, three host-pathogen combinations have been selected: Red fox and *Echinococcus multilocularis*; Wild boar and Aujeszky disease virus; Small rodents and *Francisella tularensis*. This WP, which will start very soon, consists of two parts: On the one hand, new data will be collected about host abundance and pathogen occurrence in at least three countries for each host-pathogen combination. On the other hand, existing data will be compiled to complement the field studies. An important objective of this work is to deliver European maps with data on the abundance of key host species and on the occurrence of important pathogens.

WP4 corresponds to the network devel-

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WildTech update

Duncan HANNANT

Legend: WildTech consortium meeting: Slough (UK), April 2013

Project background

WildTech (Novel Technologies for Surveillance of Emerging and Re-emerging Infections of Wildlife, supported by the European Commission under the Food, Agriculture and Fisheries, and Biotechnology Theme of the 7th Framework Programme for Research and Technological Development, grant agreement no. 222633) addresses the problem of the increasing prevalence of new and emerging diseases arising from wildlife.

The objectives of the project

The application of microarray technology for the detection of known infectious agents in wildlife populations, for the detection and identification of novel and unknown infectious agents in wildlife populations and to develop a high through-put serological screening of wildlife populations for infectious disease.

The utilisation of these technologies to assess the spread of selected diseases (proof of concept) using historical samples and those collected during the project. We will monitor and model patterns of wildlife disease spread and the risks associated with these changes. Ultimately this epidemiology framework will be used to reduce the risk of further potential epidemics by producing a generic action plan in case of emerging epizootics among wildlife.

The development of a state of the art wildlife disease data management system with mapping capability for use in Europe and beyond.

Project developments

The project is in its final stages with EU funding coming to an end in December

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2013. The WildTech Consortium is planning to hold a final workshop on 20 September 2013 to disseminate its final results. All stakeholders are invited to attend as are our collaborative and associate partners who have provided the project with valuable information and samples over the last four years.

If you are interested in attending, please contact alex.hammond@nottingham.ac.uk.

Since the beginning of the project in 2009, considerable work has been undertaken by the Consortium in order to achieve the objectives of the project: It is expected that several papers will be published.

Recent publications

Van der Wal F.J. *et al.* The Veterinary Journal, 2012, 10, 029 http://dx.doi.org/10.1016/j.tvjl.2012.10.029

Valiakos *et al.* "West Nile Virus" *in* "Viral Replication", book edited by German Rosas-Acosta, ISBN 978-953-51-1055-2, Published: February 27, 2013.

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Ruettger A. *et al.*, Journal of Clinical Microbiology.2012, 50(7):2492. DOI:10.1128/JCM.00442-12

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The epidemiology aspect

The project is delivering the mathematical, statistical and epidemiological tools necessary for pan European wildlife disease surveillance design, testing and support. Tasks undertaken and in progress include qualitative risk assessment for developing wildlife sampling strategies, epidemiological analysis of historic and new field data to quantify spatial and temporal patterns of disease incidence (prevalence and geographic distribution) and assessing the consequence of changing pathogen distributions using statistical and dynamic modeling. Finally, the evidence derived from these risk assessments will form the basis of recommendations for appropriate and proportionate management and policy actions.

The WildTech database has been developed. The goal is to have sample data and array results stored and accessed by international animal and human health organisations, the international wildlife disease community and policy makers for epidemiological analysis that can be further developed to form part of a pan-European surveillance system. Wildpro® (the open-access electronic encyclopaedia on the health and management of free-ranging and captive wild animals, and (re)-emerging infectious diseases), continues to be updated with new pathogens as part of the WildTech project.

For information, the WildTech Consortium will be attending and presenting at the GRF One Health Summit in Davos, Switzerland on 17-20 November 2013.

ECVPH resident workshop on Wildlife Disease Surveillance

22 and 23 April 2013 in Lyon

Florence Ayral*

Participants of the workshop: students and lecturers, in front of the ENSV, which is a OIE collaborating center for the training of official veterinarians, and headquarter of FVI:
France Veterinary International.

A workshop on **wildlife disease surveillance** was organised on 22nd and 23rd April 2013 in Lyon, with the substantial support of the European College of Veterinary Public Health (ECVPH), the National School of Veterinary Service (ENSV) and the WildTech project.

The ECVPH is the European College of Veterinary Public Health and covers the two subspecialities Food Science (FS) and Population Medicine (PM).

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A total of 14 participants attended the workshop from six different countries (Italy, France, Portugal, United Arab Emirates, United-Kingdom and Switzerland) and their different backgrounds generated an interesting network related on wildlife health.

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ISAWS Easter School in Applied Wildlife Studies

Plitvice Lakes National Park, Croatia; *24 – 29 March 2013*

Ivan Vickovic*

The International Society for Applied Wildlife Studies - ISAWS was established to advance the wildlife sciences and promote high standards within wildlife training. The ISAWS and the Easter School were created by a group of enthusiasts working on the promotion of wildlife sciences and creating relevant knowledge in all aspects of wildlife clusters.

The Society encourages all those entering the wildlife science disciplines to acquire training and competence based on the highest standards it practices. The ISAWS seeks to improve the current teaching in wildlife studies in order to produce wildlife disease teaching support and to further the scientific and applied progress in wildlife studies, to promote standards of training, and experience, and to further the recognition of wildlife specialists.

Through these objectives, the six-day ISAWS International Easter School in Applied Wildlife Studies which was held in March 2013, based at the heart of one of World's most beautiful and oldest National Parks, the Plitvice Lakes, promoted the learning process by advancing the theory and practice of wildlife sciences for attendees coming from numerous European countries, Canada, Asia, and Japan. Through trans-disciplinary education and advancement of young wildlife researchers, scientists and practitioners, being located at the National park, it offered unique advantages to learning programs and created an engaging and pleasant learning environment for both participants and the lecturers. The 2013 Easter School had brought an alliance of world renowned lecturers (*G. Wobeser, M.Artois, D.Gavier-Widen, J. Fickel, J. Matthiopoulos, N. Anderson & A. Aguirre*) offering educational, and knowledge enhancing opportunities.

Through lecture modules, the ISAWS Easter School in Applied Wildlife Studies offered a broad range of conservation, ecology, and wildlife veterinary training, as well as a spirited and dynamic wildlife learning community that enriched the experiences of all that participated in the program.

The famous waterfalls of Plitvice National Park

In 2014, the Easter School modules continue with continuous learning programs promoting standards of training, accelerating progress toward a degree, and enhancing the knowledge in contemporary wildlife expertise.

Check out our learning and educational solutions in applicable wildlife sciences at

www.appliedwildlifestudies.com

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MSc Wild Animal Health

MSc Wild Animal Biology

Institute of Zoology, Zoological Society of London

Royal Veterinary College, University of London

Tony Sainsbury

One year full time study starting each September, leading to an MSc qualification from the University of London (with exit points at Certificate and Diploma).

The MScWAH course provides tuition in the management of captive and free-living wild animals and the epidemiology, control and treatment of disease. The MScWAB provides an understanding of the health and welfare of captive and free-living wild animals together with research methods relevant to the study of wildlife health. The MScWAH was established in 1994 and 208 students originating from 49 countries globally have graduated. The MSc WAB was set up in response to demand from biologists for training in wild animal health and 121 students, who originate from 23 countries, have graduated.

Both courses are 12 months in duration, of which eight months takes the form of taught lectures, practicals, visits, demonstrations and problem-based learning, which is followed by a four month research project. A large proportion of the practical element takes the form of rotations during which the MScWAH students work with the veterinarians at London Zoo, Whipsnade Zoo and the Institute of Zoology in clinical and pathological work on both captive (zoo) and free-living wild animals. MScWAB students likewise work on pathological examinations and also have the opportunity to work with the curatorial and zoo keeping staff at both zoos, and with external institutions who work on the management and monitoring of free-living wild animals.

For further information on the courses see http://www.zsl.org/science/postgraduate-study/ or http://www.rvc.ac.uk/Postgraduate/Courses/

Jennifer Jaffe (left) (MScWAH) assists with a lion anaesthetic

A small group teaching session in progress

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University of Edinburgh

Royal (Dick) School of Veterinary Studies

Conservation Medicine

MSc / Diploma / Certificate by online distance learning

Professor Anna Meredith*

The R(D)SVS is the only UK veterinary school to have a specialist Exotic Animal and Wildlife Service, with an international reputation for providing veterinary education in the field of exotic and wild animal medicine. This online MVetSci programme is aimed at veterinary graduates world-wide (BVM&S or equivalent) wishing to pursue a career in this rapidly developing field. Students will gain enhanced employment opportunities in academia, research, governmental and non-governmental organisations, and consultancies.

Programme aims

The programme aim is to provide applied scientific knowledge relating to the health relationships that occur at the interface of animals, humans and ecosystems. It offers students the chance to learn many aspects of conservation medicine, including eco-system health; species conservation; applied epidemiology; interventions for conservation medicine; wildlife disease management; conservation genetics; wild animal welfare and zoonotic diseases.

Flexible learning

Due to the online delivery method, courses can be studied part-time over 1, 2 or 3 years to Certificate, Diploma or Masters level. Our online learning technology is fully interactive, award-winning and enables you to communicate with our highly qualified teaching staff from the comfort of your own home or workplace. Applicants are now able to take any of our courses as standalone Continuing Professional development, up to the value of 50 credits.

Handling a wild osprey chick as part of a routine health monitoring and ringing programme in Scotland

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Contact us on: Conservation.Medicine@ed.ac.uk

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(Continued from page 7, APHAE)

opment and communication with external project partners. External partners are encouraged to give feedbacks on the Species cards and Diagnostic cards. Here, their opinion on whether they would be ready to apply the proposed harmonized protocols in future studies, is crucial for the project. External partners are also invited to contribute to WP3 in sharing existing data or collecting new data. Mid-June 2013, more than 60 people from 16 European countries were already registered as external partners. In addition, a number of colleagues from North America and Africa are involved in the card development. Together with all EWDA members, external partners have been invited to take part to the APHAEA 1st Consultation Workshop held in Brescia, Italy, on 27-28 June 2013.

For more information and updates, see www.aphaea.org

(Continued from page 10, ECVPH)

The workshop was focused on teaching skills and relevant competences for wildlife disease surveillance. The following topics were addressed: surveillance systems (Marc Artois), WildTech novel technologies (Florence Ayral, ECVPH resident), data management tools (Helena Pereira, Research Engineer for the WildTech Project), disease modelling for decision support (Emmanuelle Gilot-Fromont, Professor at VetAgro Sup) and syndromic surveillance implementation (Fernanda Dorea, National Veterinary Institute of Sweden and Eva Warns-Petit, Epidemiologist).

The workshop met the challenge to provide the means required to develop advanced knowledge and abilities on wildlife disease surveillance in a public health context. Beyond the training, these two days were an opportunity to develop and maintain friendly contacts. This productive and enjoyable workshop was catalyzed by the beautiful city of Lyon and its unforgettable food from the authentic "Bouchon lyonnais". Given the success, the workshop might be planned next year.

Thanks to ECVPH, ENSV, WildTech project and VetAgro Sup for their support! Thanks everyone for this great workshop!

(Continued from page 12: MSc WAH / WAB)

Students conduct a research project to answer important questions from a diverse set of disciplines. Recent projects have examined the quantity of illegal bushmeat smuggled through French airports to provide a provisional assessment of the disease risks and conservation consequences of this practice; determined the reaction of Amur leopards to Siberian tiger faeces with a view to training reintroduced Amur leopards to avoid tigers and reduce losses through predation; undertaken a cost-benefit analysis of the wildlife veterinary programme in Chitwan National Park, Nepal; investigated sperm-female tract interactions in the Bennett's wallaby; and used a novel method to detect elephant endotheliotropic herpesvirus type 1 in vulval swabs and trunk washes in Asian elephants. A total of 111 publications have resulted from either project or case report work representing a significant contribution to conservation.

Graduates are invited to join Wild Animal Alumni (WAA), an enormously valuable global network of wild animal health professionals. The careers undertaken by graduates are as diverse as the project work. There are opportunities in both the conservation and welfare fields, and graduates can take an academic route or work in government, for charities (including zoos) or in industry. A majority of graduates work in conservation but this can be on either in-situ or ex-situ projects. Some students work for further qualifications such as a PhD, but clinical work predominates for the MScWAH graduates. Other career paths include in wild animal management, including rehabilitation and in teaching.

For further information on the courses see http://www.zsl.org/science/postgraduate-study/ or http://www.rvc.ac.uk/Postgraduate/Courses/Index.cfm

Introduction of the WDA and wildlife disease research

Lecture programme at the Free University Berlin, Germany (13 February 2013)

Catharina Vendl *

When we scheduled the event presenting the WDA at the end of semester with exams coming up soon, we were afraid just a few people would attend. But our fears were proved wrong, about 40 students in a small lecture room let us almost run out of chairs.

Alexander and I had already gained some awesome experience at the WDA conference in Lyon. Therefore we decided to present the variety of possibilities the WDA has to offer to vet students in a relaxed atmosphere. It turned out that very few students had heard of the WDA before. Together with two other speakers, a PhD student and a wildlife immunologist from the IZW, we introduced the WDA, the EWDA and its student chapter during a two hour lecture programme. Furthermore we presented several examples from our own experiences of what wildlife disease research can look like and what it means to work with free-living animals.

I started the session by giving an impression of the unique activities and fun the WDA provides such as meeting like-minded students from around the world while catching wild chamois at the Alps. Due to the tight schedule, wildlife science is often a neglected subject in vet schools' curricula. Therefore I briefly talked about my own experiences I gained in Germany, Australia and the United States to give an idea of what externships in wildlife research and medicine can look like. Alexander gave an overview of his PhD project on the adaptation of lab methods to the special needs of wildlife immunology and about his efforts to find out more about immunological mechanisms in bats. Niccolò also talked about his PhD project, the challenge to sequence KORV, the koala retrovirus, how to find out more about its origin and its emergence threatening koala populations. For those who hadn't been infected by the fascinating subject by then succumbed when Gábor gave a great overview on the necessity and the benefits of studying the diseases of free-living animals. Having participated in the EWDA student chapter as a country representative himself he talked about his own experiences and about the advantages of being involved in a network of wildlife disease scientists.

The students showed great interest in the presented topics by asking heaps of questions at the end of the session. We hope to have contributed to the spread of knowledge of wildlife disease research in general and the unique experiences the WDA, the EWDA and its student chapter have to offer.

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Organization: Alexander M. Hecht, PhD student at the IZW (Leibniz Institute for Zoo and Wildlife Research) in Berlin, Catharina Vendl, doctoral student at the Clinic for Zoo Animals and Wildlife at Zürich University.

Other speakers: Dr. Gábor-Árpád Czirják, Wildlife disease scientist at the IZW & Niccolò Alfano, PhD student at the IZW

5th Student chapter workshop

"Emerging Zoonoses: Diseases Without Borders"

Lidewij Wiersma*

Photo of the audience: Mariella Aalto

From the 11th to 14th June of this year, the 5th Student Chapter Workshop entitled "Emerging Zoonoses: Diseases Without Borders" was held at Les Pensières Conference Centre in Veryrier-du-Lac, France. Forty highly motivated students and 12 world class scientists teamed up to exchange ideas, to inspire, to teach and to learn from one another.

The event started with a hike in the wooded cliffs surrounding the beautiful lake of Annecy. Students and speakers got the opportunity to mingle while enjoying the magnificent scenery as well as getting some exercise before the start of three very intensive days of study. In the evening, the programme was opened, followed by two eye-opening keynote lectures by Dolores Gavier-Widen and Sarah Randolph, placing emerging infectious diseases in a global perspective. After a delicious meal, (most) participants went to bed on time to be rested for the next morning's early start.

At 8am, a bright-eyed Ab Osterhaus kicked off the day with a talk about emerging respiratory viruses, ambitiously covering all imaginable facets of the topic in the space of an hour. Thijs Kuiken, thorough and precise as ever, gave an overview of the species barrier and Christian Drosten impressed the students with some cutting edge molecular virology. Students in turn impressed speakers with their short presentations, on subjects ranging from pathogen survival strategies to wildlife surveillance to network analysis and transmission. Marc Artois amused and bewildered the audience with his discourse on synanthropy and Richard Kock had everyone's undivided attention with his presentation on the wildlife-livestock-human interface in Africa.

In the late afternoon, students got two minutes to advertise their posters to the audience in the dynamic slide show, followed by a successful and animated poster session. For some students this was their first time presenting at a scientific gathering and to help them develop their skills, Christian Gortazar subsequently gave a very informative and in-

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teractive session with tips and tricks on how (and how not!) to present science. After dinner, the participants got to sit back and relax with a movie on the outbreak of a major emerging zoonosis; “Contagion”. To avoid letting the overwhelmed and well-fed students fall asleep, they were given a pop-quiz with questions regarding the relevantmovie which resulted in a lively discussion.

On Saturday another delicious breakfast, this time accompanied by some lovely spring sunshine, heralded what was to be another productive day. Four to five students teamed up with one speaker and spent the entire morning working on their specific topic, ranging from transmission to surveillance to conservation to modelling to control regarding zoonotic diseases. In the afternoon, Christian Gortazar enlightened the audience on options for wildlife disease control and Linda Lowenstine made a very strong case for the role of the pathologist in emerging disease investigation. Marie-Pierre Ryser then wrapped up the scientific session with a global perspective on wildlife health surveillance. To give students an idea of the possibilities in science, with both the advantages and the pitfalls, a PhD, a Post-Doc, a Research fellow and a Professor gave their view on science as a career. Apparently when one googles “why work in science”, there are almost 2 billion hits, but this session seemed to sum it up nicely. As for any questions that were left unanswered during this session, there was a panel discussion where the students got to ask speakers anything at all. For the final evening everyone put on their party outfit and was welcomed with an aperitif that was served on the veranda overlooking the moonlit lake. To fill the gaps in the sponsoring of the event, but also as a part of the nights entertainment, the banquet was accompanied by an auction of items brought by students and speakers. Ab Osterhaus and Marc Artois had a few drinks and expertly raised an astounding 2800€ and many more laughs.

On the Sunday the programme mercifully started an hour later and, despite the previous night’s events, students were well awake with the adrenalin rush of having to present what they learned in their small group working session on Saturday morning. Becki Lawson then elaborated on dynamism of endemic and emerging diseases and after lunch, Thijs Kuiken summarized the workshop in a short overview that served to integrate presentations and re-iterate take home messages. The final panel discussion cleared up any lingering questions and at the end, all participants were tired but inspired!

The EWDA Student Chapter thanks all the EWDA for their support, both in time and money, for this event. Once again it was a huge success and we look forward to welcoming a new board and support for the next workshop in 2015!

Lidewij Wiersma

On behalf of the Student Chapter Board

EWDA: Update from the EWDA board secretary

Lisa Yon

Lisa and two good friends

The EWDA recently held elections for three positions on the Board: Accounts Officer, and the two newly created positions of Member-at-Large and Co-Chair.

Marc Artois was elected as Accounts Officer, and will serve a term of four years. This position was designed to enable the EWDA bank account to remain in one country (this account has now been established in France), without the need for the Treasurer to be resident in that country. The Accounts Officer will do practical work maintaining the account for the EWDA.

Miriam Maas was elected Member-at-Large, and will serve for four years. This position does not have a specific function on the Board, but gives members an opportunity to gain experience in governing the organisation.

Erik Agren was elected as Co-Chair, and will serve a term of two years. This position will have a number of duties, including assisting the Chair with communication, chairing the Time and Place Committee, and assuming the duties of the Chair in his or her absence.

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Congratulations to our newly elected Board members.

Philippe Berny recently established a bank account for the EWDA in France. This will allow a more stable account location which can be used long term, and Marc Artois, as Finance Officer, will oversee the running of the account.

The next EWDA conference is scheduled for 25-29 August in Edinburgh, Scotland, and is being organised by Anna Meredith. Please mark the date in your calendars now.

The APHAEA project is promoting development of more disease diagnosis cards, which will be posted on the EWDA website as they become available.

Next EWDA Conference in Edinburgh, Scotland, 24th – 29th August 2014

Anna Meredith*

The next EWDA conference is to be held in the Edinburgh, the Scottish capital. It will be hosted by the University of Edinburgh, with the host organising committee led by Professor Anna Meredith of the Royal (Dick) School of Veterinary Studies. Dr Michael Hutchings, Head of Disease Systems at SRUC (Scotland's Rural College) is leading the Scientific Committee, and the theme for 2014 is "Conservation Medicine". This is a broad theme covering the interactions between animal health, human health and ecosystem health, so as well as wildlife disease topics including the "One Health" theme (wildlife/domestic animal/human interface), wildlife conservation topics will also be featured. in the high quality scientific programme.

The conference venue overlooks Arthur's Seat, an extinct volcano in the heart of the city

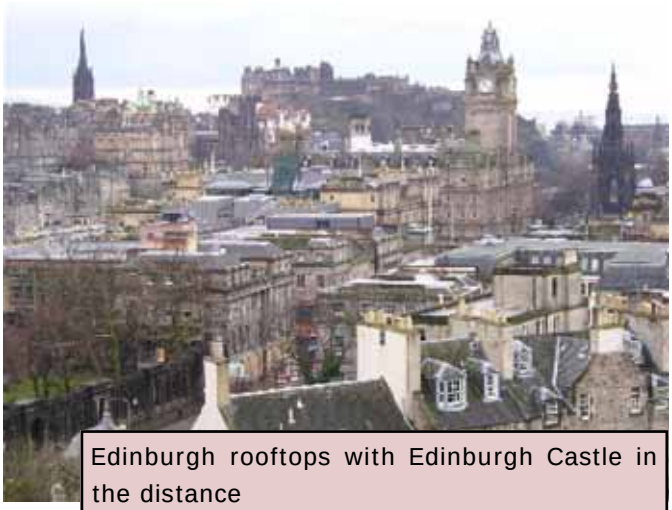
The Edinburgh Military Tattoo on the esplanade of Edinburgh Castle takes place throughout the Festival period and is a spectacle not to be missed.

The conference will be held at the world class John McIntyre Conference Centre in the heart of Edinburgh, featuring a 330-seat plenary room, four large meeting rooms, and two executive boardrooms. An open-air terrace overlooks the nearby Arthur's Seat, the extinct volcano that sits in the heart of the city and is a key feature of Edinburgh's famous skyline. Informal, post-meeting discussions can take place in the stylish Centro Bar. Ac-

(Follow next page)

* Royal (Dick) School of Veterinary Studies, University of Edinburgh

commodation will be available on site and the conference venue is within easy walking distance of Edinburgh city centre.



Edinburgh rooftops with Edinburgh Castle in the distance

If you need any excuse to visit Edinburgh, it is one of the world's top ten cities, and has won more than 12 UK Best City awards. It is UNESCO's first City of Literature and its old and new towns are a world Heritage site. Edinburgh has been nicknamed the "Athens of The North" due to its many Greek neo classical style buildings. Key attractions include Edinburgh Castle, the National Gallery, St Giles Cathedral, and the National Museum of Scotland. If that isn't enough to tempt you to come, the conference will coincide with Edinburgh's world famous International Festival (8-31 August), and The Edinburgh Festival Fringe (The Fringe) which is the largest arts festival IN THE WORLD. So the social programme will be laid on for you and you will be spoilt for choice how to spend your evenings. There will be an opportunity to visit the world famous Edinburgh Zoo and see the only pandas in the UK, and you will be treated to true Scottish hospitality, with the final banquet featuring a traditional Scottish ceilidh (pronounced "kay-lee") where you won't be able to resist dancing with your friends and colleagues to the sound of Gaelic folk music – and don't worry, they call out the dance instructions!

So do put the dates in your diary (24th to 29th August 2014) and come to Scotland and enjoy our beautiful city, Scottish culture, and perhaps even some Scottish whisky. **You will need to book early as accommodation in Edinburgh is highly sought after in the month of August due to the Festivals**, so look out for further announcements. And you may want to stay a little longer and go further afield to enjoy Scotland's breath-taking scenery and our Scottish wildlife. We look forward to welcoming you, and having a fantastic conference.

Wildcat at the Highland Wildlife Park . © Copyright sylvia duckworth

Editor's note: Notice clinical signs of flu...

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