5th INTERNATIONAL CONFERENCE OF THE EUROPEAN COLLEGE OF VETERINARY MICROBIOLOGY

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ABSTRACT BOOK

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EVENT ORGANIZERS

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European Network for Optimisation of Veterinary Antimicrobial Treatment

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ORGANIZING COMMITTEE

Matjaž Ocepek (Chair)

Matjaz Ocepek is a Senior Research Fellow and the Head of the National Veterinary Institute at the Veterinary Faculty. He is engaged in development and implementation of the methods for diagnostics of zoonoses. He is also a Leader of several scientific projects and a Principal Investigator of one of the main research groups at the Veterinary Faculty. He has published more than 100 original scientific papers. He is a Member of the European Society of Mycobacteriology, International Association for Paratuberculosis, International Society for Infectious Diseases and Slovenian Microbiological Society (past-President) and a Board Member of the European College of Veterinary Microbiology. Sr. Res. Fell. Matjaz Ocepek is the Head of the National Veterinary Institute. He is engaged in development and implementation of the methods for diagnostics of zoonoses. He is also a Leader of several scientific projects and one of the main research groups at the Veterinary Faculty.

Jana Avberšek

Dr. Jana Avberšek is a research associate at the Institute of Microbiology and Parasitology at the Veterinary Faculty, University of Ljubljana, and head of the Laboratory for Molecular Bacteriology at the same institute. Her main research interests include molecular methods for detection of various bacterial animal and zoonotic pathogens, genotyping of bacteria by whole-genome sequencing (e.g. Salmonella sp., STEC, Clostridioides difficile, Staphylococcus pseudintermedius) and genetic background of antimicrobial resistance.

Filip Boyen

DVM, PhD, Dipim. ECPHM (non-certified), EBVS® European Specialist in Veterinary Microbiology. Filip Boyen obtained his DVM and PhD at the Faculty of Veterinary Medicine, Ghent University, Belgium. His research addresses different bacterial diseases in various animals species. with a recent focus on the use of MALDI-TOF in diagnostics.

Darja Kušar

Research fellow, BSc Biology, PhD Microbiology, Darja Kušar holds a PhD in microbiology and is a researcher at the Institute of Microbiology and Parasitology, Veterinary Faculty, University of Ljubljana. She works in the Laboratory for Molecular Bacteriology. She is experienced in molecular diagnostics and typing of bacterial pathogens, including dPCR and NGS.

Rachel Marschang

PD Dr. med. vet. Diplomate, European College of Veterinary Microbiology and of the European College of Zoological Medicine in herpetological medicine. Consultant at Laboklin in Bad Kissingen, Germany. Adjunct professor at the University of Hohenheim in Stuttgart. Editor-in-chief of the Journal of Herpetological Medicine and Surgery.

Tina Pirš

Dr. Tina Pirš, DVM, is a specialist at National Veterinary Institute, Veterinary Faculty, University of Ljubljana. She is the head of Institute of Microbiology and Parasitology and quality assurance manager. Her main interest is general bacteriological diagnostics in various animals species and she participates in several scientific projects.

Damien Thiry

Professor, DVM, PhD, Dipl ECVM Damien Thiry is Professor of Veterinary Bacteriology at Liège University, Belgium. He obtained a PhD thesis on the interactions between suids and hepatitis E virus in the Virology unit of the FARAH Research Center (Faculty of Veterinary Medicine, ULiège) in collaboration with the Scientific Institute of Public Health in Brussels (Sciensano). Simultaneously, he performed a master degree in Veterinary Public Health – Emerging Diseases. He is working since 2014 in the Bacteriology team of the veterinary faculty. He performed two post-doctoral research stays: one in Pasteur Institute (Paris) and a second one at KULeuven where he developed a Galleria mellonella model of phage therapy against Klebsiella pneumoniae. His main research topics are the study of antimicrobial resistance, especially in Staphylococcus aureus and Enterobacteriacae and the study of bacteriophages as potential treatment against bacterial infections.

Urška Zajc

Urška Zajc is a veterinarian and works in the field of veterinary microbiology at the Institute of Microbiology and Parasitology, Veterinary Faculty, University of Ljubljana. She conducts the diagnostics in the Laboratory for especially dangerous bacterial diseases (BSL III). She is experienced in conventional and molecular diagnostics of bacterial pathogens.

SCIENTIFIC COMMITTEE

Prof. Bryan Markey (Chair)

Professor Bryan Markey MVB, PhD, Dipl. ECVM, MRCVS. Bryan Markey is Professor of Veterinary Microbiology at the Dublin School of Veterinary Medicine in Ireland, where he heads up the Section of Veterinary Pathobiology. He is a founding member and de facto diplomate of the European College of Veterinary Microbiology, currently serving as President of ECVM. His research interests include enzootic abortion of ewes, Johne's disease and MRSA infections in small animals. He has co-authored a number of international books on veterinary microbiology, including Clinical Veterinary Microbiology and Veterinary Microbiology and Microbial Disease.

Nicola Decaro

DVM, PhD, Full Professor of Infectious Diseases of Animals, EBVS® European Specialist in Veterinary Microbiology, Member of European College of Veterinary Microbiology

Matjaž Ocepek (Chair)

Matjaz Ocepek is a Senior Research Fellow and the Head of the National Veterinary Institute at the Veterinary Faculty. He is engaged in development and implementation of the methods for diagnostics of zoonoses. He is also a Leader of several scientific projects and a Principal Investigator of one of the main research groups at the Veterinary Faculty. He has published more than 100 original scientific papers. He is a Member of the European Society of Mycobacteriology, International Association for Paratuberculosis, International Society for Infectious Diseases and Slovenian Microbiological Society (past-President) and a Board Member of the European College of Veterinary Microbiology. Sr. Res. Fell. Matjaz Ocepek is the Head of the National Veterinary Institute. He is engaged in development and implementation of the methods for diagnostics of zoonoses. He is also a Leader of several scientific projects and one of the main research groups at the Veterinary Faculty.

Irena Zdovc

Professor of Veterinary Microbiology at the Veterinary Faculty, University of Ljubljana. She is employed at the Institute of Microbiology and Parasitology where she works as a clinical bacteriologist. Her research interests include methods for isolation of various fungal and bacterial pathogens with an emphasis on the research of multidrug-resistant bacteria (especially MRSA, MRSP and ESBL). At the National veterinary institut she heads up Section on Bacterial Animal Diseases and she is responsible for two National reference laboratories, NRL for Listeria monocytogenes and NRL for antimicrobial resistance.

Urška Kuhar

Dr. Urška Kuhar is a Research Fellow with a DVM diploma and a PhD in veterinary medicine at the Institute of Microbiology and Parasitology, Veterinary Faculty, University of Ljubljana. She is the head of the Virology Department, head of the National Reference Laboratory for Capripoxviruses and head of the working group of NRLs at the National Veterinary Institute. She is an expert in laboratory diagnostics of viral diseases in animals and works with cell culture techniques, serology, and molecular virological techniques, with a focus on next-generation sequencing and bioinformatics analysis.

Patrícia Alexandra Curado Quintas Dinis Poeta

Full Professor| Senior Researcher at Veterinary and Animal Research Centre, Associate Laboratory for Animal and Veterinary Science (AL4AnimalS) | Collaborator at LAQV-REQUIMTE, EBVS® European Specialist in Veterinary Microbiology. Head of MicroART- Microbiology and Antibiotic Resistance Team Head of Medical Microbiology Laboratory, President of the Scientific Committee, School of Agrarian and Veterinary Sciences, Veterinary Science Department

KEYNOTE SPEAKER

Anette Loeffler

Graduated from Munich, Germany, veterinary school in 1994 and subsequently worked in mixed practice in Cumbria. She completed a residency in veterinary dermatology and a PhD on MRSA in companion animals at the Royal Veterinary College. She is Professor in Veterinary Dermatology and Cutaneous Bacteriology at the RVC and divides her time between dermatology referral clinics at the RVC, teaching and research. She has an active role in the referral hospital infection control and antimicrobial guideline activities, co-authored the recent WAVD clinical consensus guidelines on methicillin-resistant staphylococci in small animal practice and is currently Editor-in-Chief of Veterinary Dermatology.

THE IMPORTANCE OF STAPHYLOCOCCI AND THE 'VETERINARY BURDEN OF MRSP'

Anette Loeffler
Royal Veterinary College, University of London, UK

Staphylococci have long been amongst the best known and most troublesome bacterial pathogens in human and veterinary medicine, particularly due to their ability to become multidrug-resistant and adhere to implants. Three recently published systematic analyses show the burden of antimicrobial resistance (AMR) in bacterial pathogens. They identified *S. aureus* as one of the three leading bacterial pathogens for human deaths attributable to and associated with drug resistance globally, and in the WHO European region during 2019 and *S. aureus* was also found to be the leading bacterial cause of death in 135 countries and globally in individuals over 15 years of age also during 2019 (Global Burden of Disease 2019, Antimicrobial Resistance Collaborators).

Although such data are not currently available for veterinary medicine, staphylococcal infections in animals are consistently amongst the most common bacterial infectious diseases in companion animal and livestock medicine and thus lead to considerable morbidity and antimicrobial prescribing. Multidrug-resistance as e.g in *S. pseudintermedius* (MRSP) and biofilm formation amongst the coagulase-negative staphylococci in intensive veterinary care settings have become problematic and mirror many of the medical challenges in human medicine. Molecular techniques have provided new insights into the niche adaptations of staphylococci, resistance genes and virulence factors, but management of staphylococcal diseases remains difficult.

The success of MRSP in small animal settings is largely based on the ubiquity and survival capacity of staphylococci on body surfaces and in the environment and its ability to cause opportunistic infections. And while most staphylococcal infections, including MRSP infections, are not life-threatening to the host, many are associated with chronic underlying diseases and therefore require repeated or ongoing treatment. For skin, ear and eye infections, advances on treatment recommendations in recent years have focused largely on topical therapy and with good success. However, for deeper infections that require systemic therapy, treatment options are often substantially limited due to extensive AMR. A antimicrobials associated with higher toxicity and with ethical concerns regarding their use in animals (rifampicin, amikacin, chloramphenicol).

Significant knowledge gaps remain for drug dosages and laboratory breakpoints. And further insights into host-factors of staphylococcal infections and into the potential of harvesting competitive bacterial flora for disease management are needed. However, positive developments of a reduction in MRSP from dogs following prescribing changes have been seen, supporting the value of collaboration between clinicians, microbiologists and other stakeholders in limiting the threat from multidrug-resistant staphylococci while protecting them as valuable surface colonisers.

ORAL

FRIDAY, SEPTEMBER 22nd 2023

5th INTERNATIONAL CONFERENCE OF THE EUROPEAN COLLEGE OF VETERINARY MICROBIOLOGY

ARNOLD HALL I

L1 SELENOUREIDO MOLECULES ARE EFFECTIVE INHIBITORS OF MALASSEZIA PACHYDERMATIS FIELD STRAINS FROM DOGS

Spadini C.[1], Montanaro S. L.[1], Mezzasalma N.[1], Gandolfo E.[2], Carta F.[3], Angeli A.[3], Selleri S.[3], Supuran C.T.[3], Cabassi C.S.[1]

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[3]NEUROFARBA Department, University of Florence, Florence, Italy

Malassezia pachydermatis (MP) is responsible of severe cutaneous infections in companion animals - particularly in dogs - causing dermatitis and external otitis, which recently gained attention for its increasing azole resistance. For this reason, reaching novel therapeutic strategies is of great interest. In previous work, compounds bearing acyl/selenoureido moieties and primary/secondary sulfonamide groups acting through organic selenium and Carbonic Anhydrases inhibition were evaluated. Eight of these compounds (5g, 7a, 7c, 7k, 8c, 10c, 11b, 11f) were tested *in vitro* by MIC assay against 32 field MP. These strains were isolated from dogs affected by dermatitis and/or external otitis in which a yeast etiology was suspected after cytological examination. Each sample was firstly cultured onto Sabouraud agar then isolates were identified by CHROM-agar® Malassezia. Confirmation of the ID was performed with a nested PCR for internal transcribed spacer region of rRNA gene. In comparison each isolate was tested with MIC assay for its susceptibility to ketoconazole (KTZ). In general, the MIC of tested compounds on field MPs were higher than the reference MP (DSMZ 6172). Despite this, compounds 11b, 8c and 7a showed a lower MIC in 8,1,1/32 field strains, respectively. The MIC of KTZ on field strains showed an average value of 0.94 ± 0.14, including three strains whose MIC values were 16, 8 and 5 µg/ml. On these three strains, compounds 7a, 8c and 10c showed lower MIC values, suggesting greater efficacy of selenoureas than KTZ in phenotypically azole-resistant MP. Confirmation of genotypic resistance to azoles will be needed.

L2 PREVALENCE OF SAPROPHYTIC MYCOBIOTA IN ROAD-KILLED AND HUNTED WILD MAMMALS IN PORTUGAL

Soares A.S.[1], Matos A.C.[2,3,4], Figueira L.[2,4], Matos M.[5], Coelho A.C.[1]

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[5]Centre for the Research and Technology of Agro-Environmental and Biological Sciences (CITAB), University of Trás-os-Montes e Alto Douro (UTAD), Vila Real, Portugal

Wildlife populations have long been considered a link in the chain of pathogen emergence. An unprecedented number of fungal and fungal-like diseases have been triggering some of the most severe die-offs and extinctions ever witnessed in wild species. The aim of this study was to describe the saprophytic mycobiota in the fur of road-killed and hunted wild mammals in Portugal. Samples were collected with the Mackenzie technique and sent to the Medical Microbiology Laboratory of the University of Trás-os-Montes and Alto Douro, Portugal. Fungal isolation was performed from the fur and scales of 101 wild animals (51 red foxes (*Vulpes vulpes*), 5 beech martens (*Martes foina*), 6 eurasian otters (*Lutra lutra*), 3 European badger (*Meles meles*), genet (*Genetta genetta*), 19 Egyptian mongooses (*Herpestes ichneumon*), 2 hedgehog (*Erinaceus europaeus*), 7 wild boar (*Sus scrofa*), 4 rabbits (*Oryctolagus cuniculus*) and 1 brown hare (*Lepus europaeus*). A total of 426 fungal isolates were obtained. In this study, 84 animals (83.2%; CI 95%: 75.9%- 90.5%) presented saprophytic fungi in their hair or scales, from which 19 genera were identified. The most prevalent genera were *Mucor* (37.6%; CI 95%: 28.2-47.1%), *Penicillium* (20.8%; CI 95%: 12.9-28.7%) and *Aspergillus* (14.9%; CI 95%: 7.9-21.8%). The results obtained suggest the importance of conducting surveys, to increase in knowledge about the mycobiota present in the fur of wild animals and to allocate their importance in a One Health approach.

L3 BACTERIAL AND PARASITIC ZOONOTIC PATHOGENS CARRIED IN THE GUTS OF EAST GERMAN FOXES, RACCOONS AND OTHER PREDATORS, 2021-2022

Kittl S.[1], Frey C.F.[2], Brodard I.[1], Scallsi N.[1], Vargas Amado M.E.[3], Thomann A.[1], Schlerack P.[4,5], Jores J.[1,6]

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