**20th March 2015 1.00pm GMT**

**B-1009 Fish bacteriology: How it differs from human and terrestrial microbiology**

**Speaker: Dr Nicky Buller**

**Description**

This presentation will cover culture techniques and identification of bacteria from fish and other aquatic animals. Topics covered include collection of samples, collection and transport with an emphasis for remote areas; culture requirements for bacteria from freshwater, brackish and marine sources including use of NaCl, sea salts and incubation temperature; the advantages and disadvantages of different bacterial identification systems including conventional biochemical identification methods, use of the API systems and Vitek from Biomerieux, Biolog, and MALDI-TOF (matrix-assisted laser desorption ionisation time of flight mass spectrometry. Molecular techniques for identification of particular bacteria will be discussed briefly.

**Learning Objectives**

1. Collection and transport of samples
2. Culture techniques
3. Identification methods

**Speaker Biography**

Dr Buller is senior microbiologist at Animal Health Laboratories, Department of Agriculture and Food Western Australia where she has worked for over 20 years. Prior to this she worked in medical laboratories. She has a post-graduate qualification in molecular biology, a PhD involving molecular typing techniques, and is the author of Bacteria and Fungi from Fish and Other Aquatic Animals; a practical identification manual. Samples received at AHL include those from aquatic and terrestrial sources.

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**10th April 2015 2.00pm GMT**

**B-1010 Water Quality 101 for fish veterinarians**

**Speaker: Dr Richmond Loh**

**Description**

Fishes live in intimate contact with their watery environment. Moreover, they rely on the qualities of water for many biological processes including respiration, nutrition, hydration, excretion and more. It is no wonder then that all persons dealing with aquatic animal health always stress on the importance of water quality. Water testing can help you quickly identify issues with water if it is the case. It will also allow us to modify their course of action or treatment plan. This presentation gives an overview of each water parameter as it applies to fish health, and practical ways to correct water quality problems. It will cover the following topics: nitrogen cycle, temperature, ammonia, nitrite, nitrate, pH, carbonate hardness, general hardness, dissolved oxygen, carbon dioxide and salinity.

**Learning Objectives**

1. Understand the various water parameters and how they relate to the requirements of different fish species: temperature, salinity, pH, KH, GH, ammonia, nitrite, nitrate (the nitrogen cycle), dissolved oxygen and carbon dioxide.
2. Understand how to manage and prevent water quality issues using physical & biological filters, aeration, water flow, aquatic plants, water exchanges, fish stocking density, feeding rates, etc.

3. Understand how to generate results for the various parameters.

**Speaker Biography**

Dr Loh started his professional career as a veterinary fish pathologist in Tasmania. His skill set is unique, having been admitted as a Member of the Australian & New Zealand College of Veterinary Scientists (ANZCVS) by examination in the subjects of “AquаАnimal Health” and in “Pathobiology”, and is a Certified Aquatic Veterinarian. As “The Fish Vet”, he provides veterinary services to a range of clients: pet fish owners, public aquaria, retailers, wholesalers and fish farmers (ornamental and food fish). He has published 2 books: “Fish Vetting Essentials” & “Fish Vetting Medicines”; and an instructional DVD, “Fish Vetting Techniques & Practical Tips”. He is an invited speaker nationally and internationally. He has served as President of the WAVMA in 2014.

**May 2014**

**B-1011 What do fish owners want and how can you change their behaviour?**

**Speaker: Dr Miriam Sullivan**

**Description**

Veterinary practice involves not just treating animals, but also dealing with their owners. In this webinar we will discuss why people choose to keep fish and how this is related to public attitudes about fish. In particular, we will discuss why fish owners are often reluctant to seek professional veterinary help and how this could be changed. You will learn key theories about human behaviour and how you can influence that behaviour in order to improve outcomes for your client’s animals.

**Learning Objectives**

1. Recognise that not all clients keep fish for the same reasons, and that this can influence their priorities and provision of care.
2. Understand the Theory of Planned Behaviour and be able to apply it to scenarios in aquatic veterinary care,
3. Recognise the barriers that prevent fish owners from seeking professional veterinary help,
4. Understand and apply basic strategies for changing client behaviour.

**Speaker Biography**

Dr Miriam Sullivan, University of Western Australia.

Dr Miriam Sullivan is a lecturer in Science Communication at the University of Western Australia. She recently graduated from the University of Western Australia with a PhD entitled ‘Fishing for Answers: Improving Welfare for Aquarium fish’, which examined public attitudes towards fish, mechanisms for behavioural change amongst fish owners, and how we can better measure fish welfare.

**June 2015**

**B-1012 Cuttlefish (Sepia) Diseases. Squid/cuttlefish pathology. Description of Vibrio alginolyticus infection in cuttlefish with references to anatomy and histoanatomy**

**Speaker: Dr Cheryl Sangster**

**Description**
The presentation will introduce participants to the general anatomy and histoanatomy of the cuttlefish (Sepia spp.). Using this knowledge, we'll examine a case study of Vibrio alginolyticus infections in these animals and how the anatomy and physiology help explain the pathogenesis.

**Learning Objectives**

1. General understanding of basic cephalopod anatomy
2. Introduction to cephalopod histoanatomy
3. Common sites of infection by Vibrio alginolyticus

**Speaker Biography**

![Speaker Image]

**July 2015**  
**B-1013 Koi Winter Diseases. Seasonal koi health**  
**Speaker:** Dr Julius Tepper

**Description**

Many factors must be analyzed when doing a complete veterinary diagnostic workup for a pond problem. In areas where two distinct seasons are characterized by a warm metabolically active and cold metabolically inactive period, the diagnostic workup should account for these variable factors. This presentation will explore the variables seen during the cold season and the problems that often result from them.

**Learning Objectives**

1. To understand the dynamics of the physical and biological variables in koi ponds seen during cold weather.
2. To understand the negative effects these variables can have on koi health.
3. To learn what can be done to mitigate these negative effects.

**Speaker Biography**

Dr. Tepper graduated with honors from the University of Liege in Brussels, Belgium in 1976, practicing as a small animal-exotic practitioner in New York ever since and opened the Long Island Fish Hospital in 1998 to care for the health of pet fish. He served as Treasurer of the International Association for Aquatic Animal Medicine from 2006-09, and as a member of the Executive Board of the World Aquatic Veterinary Medical Association (WAVMA) since its formation in 2006 through 2012, and as President in 2011. He became a WAVMA Fellow in 2012 and a certified aquatic veterinarian (CertAqV) in 2013.

**August 2015**  
**B-1014 Diseases of Farmed Saltwater Crocodiles in Australia**  
**Speaker:** Dr Cathy Shilton
Description
The presentation will provide a brief introduction to saltwater crocodile (*Crocodylus porosus*) farming in Australia followed by an overview of their diseases from a pathology perspective. The presentation may be of general interest as an overview to this industry, or of interest from the aquaculture perspective of mass rearing of a large reptile in captivity, or of interest to aquatic animal or reptile disease experts or pathologists. Pathology images will be limited to gross images (no histopathology).

Objectives
1. Gain familiarity with the crocodile farming industry in Australia
2. Gain familiarity with the diseases of farmed crocodiles

Speaker Biography
Dr Shilton started her career as a mixed practice veterinarian before going on to complete a residency specialising in zoo and wildlife medicine and pathology at the University of Guelph in Canada. For the past 13 years, she has worked as a veterinary pathologist for the Northern Territory Government in Australia, during which time she has seen hundreds of laboratory diagnostic submissions from the regional crocodile farms, as well having collaborated on numerous crocodile-related research projects. Dr Shilton is co-chair of the veterinary section of the International Union for the Conservation of Nature Crocodile Specialist Group.

18th September 2015 6.00pm GMT
B-1015 Vets in Fish Conservation. Aquatic Veterinarians and Fishery Conservation
Speaker: Prof. Mohamed Faisal

Description
In their hostile aquatic habitat, fish are subjected to a multitude of stressors. As a result, many fish species have extirpated or at the brink of extinction. Over the last three decades, bacterial and viral pathogens have decimated fish populations throughout the world and the sight of miles-wide mats of dead fish became very common in marine and freshwater environments alike.
This presentation gives an overview of conservation medicine as an emerging discipline with an emphasis on the role played by aquatic veterinarians in rehabilitating wild fish stocks and managing fish health issues.

Learning Objectives
1. Understand the discipline of Conservation Medicine
2. Understand the role played by pathogens in causing serious fish kills.
3. Understand the role played by aquatic veterinarians in saving fish species from extinction

Speaker Biography
Professor Faisal started his aquatic veterinary professional career in 1977, when his doctoral thesis at the Veterinary School of the University of Munich, Germany, focused on the Spring Viraeemia of Carp Virus. Since then he practiced aquatic veterinary medicine in academia where he combined field observation, clinical examination, and laboratory studies harmoniously. His clinical experience included teleosts, mollusks, and amphipods. His research focused on understanding the host-pathogen intricacies. Currently, he directs the Aquatic Animal Medicine Program at Medicine, Michigan State University. He oversees all fish health issues for Michigan including fishery rehabilitation programs. He is proud to have served as WAVMA President in 2013.
5th October 2015
B-1016 Marine Ornamental Invertebrate Medicine
Speaker: Prof. Greg Lewbart

Description
Invertebrate animals comprise >95% of the animal kingdom’s species, yet non-parasitic invertebrates are vastly underrepresented in the typical veterinary school curriculum. This lecture provides an introduction to some of the more prominent marine invertebrate groups (coelenterates, mollusks, crustaceans, echinoderms, and the horseshoe crab) and reviews the state of the science with regards to clinical techniques. Areas of emphasis include taxonomy, anatomy, physiology, anesthesia, diagnostic techniques, and clinical management.

Learning Objectives
1. Describe the differences between the major marine invertebrate taxonomic groups.
2. Describe how to work up a marine invertebrate case.
3. Discuss the treatment and management options for the most common and important diseases and syndromes of captive marine invertebrates.

Speaker Biography
Greg received a B.A. in biology from Gettysburg College in 1981, an M.S. in biology with a concentration in marine biology from Northeastern University in 1985, and a V.M.D. from the University of Pennsylvania, School of Veterinary Medicine in 1988. He worked for a large wholesaler of ornamental fishes before joining the faculty at the North Carolina State University College of Veterinary Medicine in 1993, where he is Professor of Aquatic Animal Medicine. He’s a diplomate of the American College of Zoological Medicine and was named 2007 Exotic DVM of the Year by ExoticDVM Magazine. In 2012 he received the William Medway Award for Excellence in Teaching from the International Association for Aquatic Animal Medicine. Greg is an author on numerous popular and scientific articles about invertebrates, fishes, amphibians and reptiles and speaks locally, nationally and internationally on these subjects. He’s also authored or co-authored over 20 book chapters related to veterinary medicine of the above-mentioned taxonomic groups and edited or co-edited three veterinary textbooks: Self-Assessment Colour Review of Ornamental Fish (Manson Publishing and ISU Press, 1998), Rapid Review of Exotic Animal Medicine and Husbandry (Manson Publishing, 2008), and the multiple award winning Invertebrate Medicine (Wiley-Blackwell Publishing, 2006; 2012).

19th November 2015
B-1017 Elasmobranch (Shark) Medicine
Speaker: Dr Rob Jones

Description
Elasmobranchs are the cartilaginous fish – the sharks and rays. They are commonly kept in public aquariums and the public have a fascination with them. They have significant differences from an anatomical viewpoint as well as physiologically - these basic differences will be covered.
I will also discuss some of the artificial reproduction research I have been involved with for the past 10 years. Finally, I will discuss some common problems seen in elasmobranchs in captivity as well as some of the wild shark rescues I have been involved with.

**Learning Objectives**
1. Understand elasmobranch anatomy and how it differs from teleosts
2. Understand elasmobranch physiology and reproduction and how it differs from teleosts
3. Examine some shark medicine cases and treatments

**Speaker Biography**
Since 1999, I have been working within the aquarium world. I now travel and consult to all the public aquariums in Australia and New Zealand and more recently internationally.
Commencing in 2003, I organized a research team working on artificial reproduction in sharks, which culminated in the first Artificial Insemination shark born in March 2014.
I also have developed the world’s first online course for aquarists and others working in the aquarium and zoo industry (the e-Quarist course) was launched in May 2011 and now has students on five continents.

**December 2015**
**B-1018 Fish Leukocytes**
**Speaker: Prof. Dušan Palić**

**Description**
Leukogram is one of most common tools used during clinical evaluation of a patient. This would be true for the fishes as well, however, available information is scattered through scientific journals and some clinical textbooks, and focuses on just a few out of more than 35,000 fish species. Further, many instruments that are routinely used in blood cell analysis do not work well, or at all, with fish blood for multiple reasons such as presence of nucleated red blood cells. Because of this, it is important for a clinician who wants to practice on (especially ornamental or pet) fishes, to learn how to distinguish the leukocytes in fish blood smears. This presentation on fish leukocytes will provide a practicing aquatic veterinarian with information how to take advantage of blood smears to collect more information about health status of fish.

**Learning Objectives**
1. Veterinarian will understand the value and limitations of the fish blood smear.
2. Veterinarian will become familiar with major leukocyte types in fish.
3. Veterinarian will be able to prepare tools for collection and use rapid staining techniques to produce a readable fish blood smear.

**Speaker Biography**
Prof. Palić is a third generation veterinary professor, who fell in an aquarium when he was two years old. He has his life focused on aquatic animal veterinary medicine since. Dušan has been involved in teaching, research and extension/practice in fish for over 20 years, and has participated in number of initiatives to enhance veterinary workforce in the area of aquatics. He is a founding WAVMA member, fellow and past president, and also a Cert AqV. Dušan also is a founding diplomate of European College of Aquatic Animal Health (ECAAH). He participated in development of USDA NVAP (veterinary accreditation program) aquatic modules. He served on multiple committees, including World Veterinary Association Communication work group, and has organized many events.