British Veterinary Zoological Society

Proceedings of the Spring Meeting 2008

17th and 18th May, 2008

Woburn Safari Park

Artichokes to zebra; all you need to know about herbivores

 Proceedings Editor: Victoria Roberts
**BVZS GUIDELINES FOR MEETING ABSTRACTS**

**PLEASE NOTE:** From the November 2007 meeting all abstracts and extended abstracts will be linked to CABI. This is an important step in helping the Society and members work reach a wider audience. While the society encourages authors to include as much relevant data as possible, it is the author’s own responsibility to restrict their data as necessary in order not to prejudice any future peer-reviewed publications they may have planned. While previous humorous biographies have been included, inline with the links with CABI, please adhere to the biography guidelines and keep these to a professional nature. At present BVZS meetings and abstracts are NOT peer-reviewed.

Submissions should preferably be in word (.doc) format, 12 font Times New Roman, single line spacing, not justified.

**Biography:** This should include the author’s qualifications and institution/ practice/ affiliations, as well as a summary of any particular achievements, career, highlights, or relevant current projects. Please keep the biography to a professional nature. Maximum of 100 words.

**Title:** Submission should include a title of not more than 15 words, and the names, qualifications and affiliation/ institution of each author.

**Abstracts:** Abstracts should be a minimum of 200 words, and a maximum of 750 words. A reference list may also be included. Abstracts, with references should not be longer than 1 page.

**Extended Abstracts:** These should be in the format: SUMMARY, INTRODUCTION, MATERIALS AND METHODS, RESULTS, DISCUSSION, REFERENCES; or if this is a case report or case series: SUMMARY, INTRODUCTION, CASE REPORT, DISCUSSION, REFERENCES. Review articles should preferably be in the format: SUMMARY, REVIEW, CONCLUSION. This may be altered depending on the reviews nature, but must include a SUMMARY and CONCLUSION. The text should be concise and should be a maximum of 2000 words, and not exceed 4 pages in length, including illustrations and references. The summary should not exceed 200 words.

**Tables and Illustrations:** Tables should be kept to a minimum and should be created in Word. The legend should clearly explain what data the table is presenting, without the need to refer back to the text. Tables should not duplicate information presented in figures. Digital images should be GIF, TIFF, or JPEG files, at a minimum resolution of 300 dpi. Please label them to correspond with the list of numbered figure captions; for example ‘Figure 3.jpg’ or ‘Figure 7B.jpg’, etc.

**Style:** Measurements should be expressed in the metric system or in SI units. Temperatures should be given in °C. Centrifugation speeds should be given in g. All abbreviations should be spelt out in full the first time they are used in the text. Medicines should be referred to by the generic name (Recommended International Non-Proprietary Name), as used in the sixth edition of The Veterinary Formulary (London, Pharmaceutical Press 2005) and listed on the website of the Medicines and Healthcare Products Regulatory Agency, followed by the proprietary name and manufacturer in brackets when first mentioned; eg, fenbendazole (Panacur; Intervet).

Parasitic infections should be referred to according to the Standardised Nomenclature of Parasitic Diseases (SNOPAD) guidelines, which are summarised by the World Association for the Advancement of Veterinary Parasitology. Spelling should be in British English. Manuscripts should be written in the third person.


Personal communications should be cited within the text and follow the form ‘A. B. Smith, personal communication’.

Last updated: August 2007, Romain Pizzi
British Veterinary Zoological Society

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PROGRAMME

Main Sessions: Saturday (Parallel Sessions below)

08.00-08.45 Registration and coffee

08.45-9.00 Welcome: President of the British Veterinary Zoological Society, Edmund Flach

09.00-10.30 Session 1 General Herbivory Chair: Edmund Flach

- Developments to the Nutrition of Captive Ungulates: A Review (30 minutes): Paul Rose 13
- Interest in sanfoin for zoo hoofstock: Tim Bouts 15
- MCF in zoo ungulates: Leo Foyle, VLA Luddington 16

10.30-11.00 Coffee

11.00-12.30 Session 2 Other zoo herbivores (primates etc.) Chair: Jon Cracknell

- Gentle lemur case report: Rowena Killick 17
- Debilitating Clinical Disease In A Wild-Born Captive Western Lowland Gorilla (Gorilla gorilla gorilla) Infected With Simian T-Lymphotropic Virus: Nic Masters 18
- Antelope post mortem examination – expect the unexpected: David Harwood, VLA Winchester 19
- Medical and surgical treatment of a ventral cervical abscess in a Malayan tapir (Tapirus indicus): Sophie Roelandt 20

12.30-14.00 Lunch

14.00-15.30 Session 3 Bird and lower vertebrate herbivores Chair: Michael Stanford

- Great bustard project (30 min): John Chitty 21
- Microsporidial infections in Partula snails: Edmund Flach 25
- Updates on common waterfowl diseases: Stephen Smith 26
- Intestinal obstruction in a green turtle: Sue Thornton 28

15.30–16.00 Tea

16.00-17.30 Session 4 Small camels and cervids Chair: Matt Hartley

- VLA disease surveillance in zoo animals, camels and deer: James Barnett, VLA Truro 29
- Skin diseases in camels: Aiden Foster, VLA Shrewsbury 30
- Endoparasitic disease in alpacas: James Barnett, VLA Truro 33
- Abortion in camels and the role of BVD: Aiden Foster, VLA Shrewsbury 34
- Outbreak of TB in llamas: Fin Twomey, VLA Starcross 37

Parallel Sessions Saturday

11.00-12.30 Back to Basics

- Invertebrates: John Chitty – Powerpoint printout available on the day 38

14.00-15.30 Masterclass

- Use of anaesthetic monitoring equipment in zoos and in the field: Jonathan Cracknell 39

17.45 BVZS General Meeting

Dinner at Cranfield Institute of Management 19.30 for 20.00

Ceilidh Band Calamity Fling 22.00-00.00
Main Sessions Sunday

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Topic</th>
<th>Presenter</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>09.00-10.30</td>
<td>Session 5</td>
<td>Small Mammal Herbivores</td>
<td>Chair: Lesa Longley</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>An investigation of intestinal parasites in Common Dormice (Muscardinus avellanarius): Lisa Brown</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Demodex musculi infestation in two pet house mice (Mus musculus): Stefaan van Poucke</td>
<td>41</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total Ear Canal Ablation and Lateral Bulla Osteotomy (TECA-LBO) as treatment for para-aural abscessation in a rabbit (Oryctolagus cuniculi): Ian Sayers</td>
<td>42</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cervical vertebral malformation and disc dysplasia in a French lop rabbit: Michelle Ward</td>
<td>43</td>
<td></td>
</tr>
<tr>
<td>10.30-11.00</td>
<td>Coffee</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11.00-12.30</td>
<td>Session 6</td>
<td>Large Mammal Herbivores</td>
<td>Chair: Tim Bouts</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Anaesthesia of large herbivores (30 minutes): Polly Taylor</td>
<td>44</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Elephant Herpes Virus: Jonathan Cracknell</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Anthelminthic resistance in Gemsbok: Sarah Hewitt</td>
<td>49</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Developments to the Nutrition of Captive Giraffe (Giraffa camelopardalis): Paul Rose</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>12.30-14.00</td>
<td>Lunch</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14.00-16.00</td>
<td>Session 7</td>
<td>Open</td>
<td>Chair Sarah Hewitt</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Use of Training in Zoo Animals; first get your tiger to sit: Debra Bourne</td>
<td>51</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TB in elephants: a review and update: Jonathan Cracknell</td>
<td>52</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>EGZAC, European Group on Zoo Animal Contraception: Yedra Feltrer</td>
<td>56</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Update on Techniques for the Diagnosis of Mycobacterium: Martin Vordemeier, VLA</td>
<td>57</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hypercholesterolemia in a captive meerkat population: Anne-Lise Chaber</td>
<td>58</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Oops its tail has fallen off - professional indemnity insurance in zoo and wildlife medicine: Michael Stanford, Veterinary Defence Society</td>
<td>59</td>
<td></td>
</tr>
</tbody>
</table>
SPEAKERS

James Barnett
Since qualifying in 1988, James has worked in mixed practice and as a vet at Whipsnade Wild Animal Park, the National Seal Sanctuary and the Sea Life Centres. In 1998, he took up a post in small animal clinical pathology and pathology. He then joined the Veterinary Laboratories Agency at Starcross, Exeter in 2005, transferring to Truro in 2008. As a Veterinary Investigation Officer, he is involved in provision of primarily farm animal diagnostic and consultancy services. He is deputy programme manager for the VLA’s Miscellaneous Captive and Exotic Species Programme and also manages a tuberculosis project. Outside the VLA, James has been veterinary director/co-ordinator of the charity, British Divers Marine Life Rescue since 1998.

Debra Bourne
Debra graduated from Cambridge University (UK) in 1992 and completed her PhD on toxoplasmosis and other diseases in the Bennett’s wallabies at Whipsnade Wild Animal Park in 1997. She then joined the charity Wildlife Information Network (WIN) as a Veterinary Editor, writing Wildpro electronic encyclopaedia volumes. She is presently working on volumes on cranes, snow leopards, waders, and viral diseases of great apes. She is interested in a wide variety of species, particularly marsupials, cranes, lemurs, penguins and waterfowl, and has a particular interest in the relationships between natural history and behaviour, captive management, diseases and disease management.

Tim Bouts
After graduating at Ghent University, Belgium in 2000, Tim joined the department of Surgery and Anesthesiology where he worked with horses and ruminants. On completion of the MSc in Wild Animal Health at ZSL London Zoo and the RVC in 2002 Tim began a residency in anaesthesia at Ghent University. Here, he developed an anaesthetic table for koi carps for doing laparoscopy. He moved back to the UK to Newquay to work in a first and second line mixed practice and a referral hospital for exotics which provided the veterinary care for Newquay zoo, Blue Reef aquarium and the Cornish Bird of Prey Centre. Afterwards, Tim went to the UAE to become the Head of the Veterinary Department of the Endangered Wildlife Breeding and Conservation Centre in Al Ain, Abu Dhabi and was the chief veterinarian of Al Bustan Zoo in Dhaid Sjarsha until he joined ZSL as a veterinary officer based at ZSL Whipsnade Zoo in 2006.

Lisa Brown
Lisa has completed the first two years (pre-clinical) of the veterinary medicine course at the Royal Veterinary College, London. She is currently studying for an intercalated BSc honours degree at the University of Liverpool in Veterinary Conservation Medicine. Hobbies include painting, making clothes, and music.

Anne-Lise Chaber
Anne-Lise completed a two-month externship at Healesville Sanctuary at the Australian Wildlife Centre and a four-month externship in the Veterinary Department at the Durrell Wildlife Preservation Trust. After graduating from the Veterinary University of Liège in 2007 with distinction, she started a post-graduate master’s degree in Wild Animal Health at the Royal Veterinary College and the Zoological Society of London. Hobbies include travelling in remote areas and endurance sport.

John Chitty
John qualified from the Royal Veterinary College in 1990 and achieved the RCVS Certificate in Zoological Medicine in 2000. He is currently a partner in small animal / exotics practice in North Hampshire. His caseload is greater than 80% exotics / zoo / small mammal - both first opinion and referral. He has contributed to numerous publications including being co-editor of BSAVA Manual of Psittacine Birds 2nd Edition. John is also co-editor of the Journal of the Association of Exotic Mammal Veterinarians and the UK representative to the Board of Directors of the Association of Avian Veterinarians (AAV); Secretary to the European Board of the AAV; President of the Veterinary
Invertebrate Society; Chairman of the steering committee of the British Wildlife Rehabilitation Council and a DEFRA-appointed Zoo Inspector.

Jonathan Cracknell
Jonathan graduated in 2000 from the University of Glasgow. Initially starting in general practice he moved to the Animal Health Trust to undertake a clinical scholarship in Veterinary Anaesthesia. Since then he has worked at the RSPCA’s Stapeley Grange Wildlife Hospital, for Animal Asia Foundation’s Chengdu Moon Bear Rescue Centre in China, and he has worked in the only exotics practice in Hong Kong. On his return to the UK Jonathan spent a period at Port Lympne and Howletts Zoo before being taken on as the RCVS Trust Resident in Zoo and Wild Animal Medicine at the Zoological Society of London. His interests are in wildlife and zoo anaesthesia and analgesia, conservation medicine, and zoo pathology.

Yedra Feltner Rambaud
Yedra graduated at the University of Madrid in 1987 then spent a year in Munich as an intern in the surgery and ophthalmology department. Working with wildlife and conservation was always her dream. After several years in private practice she completed the MSc in Wild Animal Health (her “best career move ever!”). Following this Yedra went to Nigeria to work with primates at the Drill Rehabilitation and Breeding Project, (also a chimp sanctuary). She then went to India to work on the Vulture Decline Project led by ZSL. Before joining the Veterinary Department at ZSL London Zoo, Yedra also participated in several ZSL projects including the amphibian chytridiomycosis surveillance project and native species reintroduction and translocation projects. She is currently a full time veterinary officer for ZSL based at London Zoo.

Edmund Flach
Edmund qualified from Cambridge in 1982 and then spent three years in general practice before undertaking the MSc in Tropical Animal Science at the Centre for Tropical Veterinary Medicine in Edinburgh. For the next five years he did field research on tick-borne diseases of cattle in Zanzibar and Morocco, before being accepted for the post of Veterinary Officer at the Zoological Society of London’s Whipsnade Zoo. For 14 years he carried out the clinical and pathological work at Whipsnade, plus doing research and also teaching on the ZSL / RVC MSc in Wild Animal Health. In 2006 he specialised in pathology and became ZSL’s Zoo and Wildlife Pathologist, based at London Zoo, but still involving regular work at Whipsnade. Edmund gained in RCVS Certificate in Zoological Medicine in 1997 and Diploma in Zoological Medicine (Mammalian) in 2001. He has published widely and has presented at many BVZS, EAZWV and international meetings. Edmund has been on BVZS council for several years and President 2006-8. He also enjoys live music and plays in the band Paradox at a number of pubs in, and around, Leighton Buzzard.

Aiden Foster
Aiden is editor-in-chief of the journal Veterinary Dermatology, a special associate professor in veterinary dermatology with the University of Nottingham vet school, president of the European Society of Veterinary Dermatology, and president of the Shropshire Veterinary Association. While a senior lecturer in veterinary dermatology at the University of Bristol he developed an interest in skin diseases of South American camelids. He is a veterinary investigation officer for the VLA based at Shrewsbury and is manager of the VLA programme “Miscellaneous Captive and Exotic Species”.

Leo Foyle
Qualified from Dublin in 1997 and worked in mixed practice in the UK before obtaining a Master’s degree in aquatic veterinary studies from The Institute of Aquaculture, University of Stirling in 2001. He returned to Ireland to work in the only dedicated aquaculture practice in the country before being invited to join the Department of Veterinary Pathology in the Veterinary College, UCD, where among standard staff duties, he also acted as veterinary consultant to the Marine Institute of the Department of Communications, Marine and Natural Resources, and sat on the Irish Fish and Shellfish Health Advisory Committee. While in the vet school, he began conducting post mortem examinations on
animals from Dublin Zoo and subsequently from various zoological collections in Britain when he joined the VLA as a veterinary investigation officer in March 2007.

**David Harwood**

David qualified from the Royal Veterinary College in 1974 and worked in farm animal practice until 1983. He then joined Veterinary Investigation Service (now Veterinary Laboratories Agency) at Carmarthen and transferred to VLA Winchester in 1994 where he is still based. In addition to routine diagnostic and other duties within the VLA, he manages the VLA animal welfare programme; he is a member of the VLA Cattle Group and the VLA Small Ruminant Group (as goat consultant). David was President of the British Cattle Veterinary Association in 2002 / 2003, is an Honorary Vet for the British Goat Society, and edits the Goat Veterinary Society Journal.

**Sarah Hewitt**

Sarah qualified in June 2000 from the Royal (Dick) School of Veterinary Medicine and Surgery. She went into mixed practice in Lincolnshire then East Yorkshire where she also worked with exotics and wildlife. In September 2004 she began the Masters course in Wild Animal Health and completed her dissertation on the Mortality of Captive Gorillas (*Gorilla gorilla gorilla*). She is currently working for the Scott Veterinary Clinic in Bedford where she gained her Certificate in Zoological Medicine and is currently part of the veterinary team at Woburn Safari Park.

**Rowena Killick**

Rowena graduated from Edinburgh vet school in 1997 after completing the exotics elective. She spent several years in practice before working as a volunteer vet for the Thai Society for the Conservation of Wild Animals in 2002. She completed the MSc in Wild Animal Health at the RVC / ZSL in 2005 and then spent a year in mixed practice in West Sussex seeing first opinion and referral exotic pets, as well as first opinion domestic animal cases. She is currently the RCVS Trust Senior Clinical Training Scholar in Zoo and Exotic Medicine and Surgery at Bristol Zoo Gardens/University of Bristol.

**Nic Masters**

Nic graduated from Cambridge in 1999 having completed an elective evaluating the use of a portable draw-over vaporiser system for anaesthetising wild animals in the field. Nic joined IZVG in October 2005, having attained his Wild Animal Health Master of Science degree at the Institute of Zoology and Royal Veterinary College. His MSc research project, investigating anaesthetic-related mortality in Great Apes, has recently been published in *Veterinary Anaesthesia and Analgesia*. Since joining the practice, Nic has been the resident veterinarian at Twycross Zoo, one of the most diverse collections of primates in the world. Apes and monkeys comprise much of the caseload. He spends the remainder of his time providing veterinary care for other IZVG clients across the UK and abroad, covering all taxonomic groups.

**Sophie Roelandt**

Sophie graduated as a veterinarian from the University of Ghent, Belgium in 2003. She worked as a small animal surgeon in several first, second line and emergency practices in the UK until 2006. During 2006-2007 she completed a rotating Small Animal Internship at the University of Liverpool. At present she is a student studying for the Master’s in Wild Animal Health at the Royal Veterinary College and the Zoological Society of London.

**Paul Rose**

Paul read a BSc (honours) degree in Animal Science at Imperial College London in 2003. His dissertation researched the behaviour of captive giraffe (at Paignton Zoo), linked to the digestibility and composition of their feed. After graduation, he spent some time abroad, working as an animal keeper in Brisbane, Australia. Paul completed the MSc in Wild Animal Biology at the Royal Veterinary College (2004-2005) and the focus of his research project was a survey of nutrition, husbandry and pathologies of captive giraffe across the United Kingdom. Currently, he is lecturing at Sparsholt College, Hampshire. Paul has several ongoing research interests, namely in the field of
ungulate nutrition and the development of novel enrichment devices (predominantly for hoofed mammals).

**Ian Sayers**
Ian qualified from Liverpool University in 1992 having arranged the first exotic elective. He then worked with exotics and wildlife in mixed practice before researching cheetah in the Serengeti. Subsequently he has worked with zoological collections at Bristol Zoo and Paignton Zoo. He is Clinical Fellow of Zoological Medicine and Surgery at Bristol University where he lectures and helped set up and run the RWF Rabbit Clinic. He lectures internationally on rabbits and other species. Currently multi-tasking work at Bristol University, Paignton Zoo, first opinion practice and veterinary consultancy. In his spare time interests include photography, kayaking, DIY and gardening (yes I know it’s a sign of age!)

**Stephen Smith**
Steve graduated with honours from the Royal Veterinary College, London in 2002 and went into small animal practice. In 2004 he was appointed to a 4-year ECAMS Avian residency training program run jointly between the University of Bristol and Great Western Referrals. He gained the RCVS certificate in Zoological Medicine in 2006 and aims to sit his European avian diploma exams in 2009. He is a veterinary advisor to four of the wildfowl and wetlands trust collections and recently co-authored a chapter in the BSAVA *Manual of Farm Pets*.

**Michael Stanford**
Stan qualified from Liverpool University Veterinary School in 1987. After 5 years working in a private avian and small animal orthopaedic referral practice in North Yorkshire he started his own practice in Cheshire in partnership with his wife. The practice has an 80% exotic pet and wildlife caseload ranging from all classes of exotic pets through to zoo animals and native wildlife cases employing 5 veterinary surgeons. He has a special interest in psittacine medicine and surgery. In 1999 he opened a laboratory specifically designed to perform pathology work on zoo animals, exotic pets and wildlife. From 2004 the practice has provided all the veterinary services for the RSPCA Stapeley Grange Wildlife Hospital in Nantwich dealing with upwards of 5000 wildlife cases per annum. He is the author of the caged bird and nutrition chapters in the BSAVA *Manual of Exotic Pets* and BSAVA *Manual of Psittacine Birds*. He is also the author of “Calcium Metabolism in Psittacine Birds” in *Companion Bird Medicine*. He has been on the editorial committee of *Exotic DVM* magazine since 2003. He was awarded the Diploma of Fellowship of The Royal College of Veterinary Surgeons by thesis in 2006, and became a RCVS Recognised Specialist in Zoo and Wildlife Medicine in 2007. Although still working in his practice, Stan has also worked full time as a VDS claims consultant from January 2007 dealing with the increasing exotic animal claims.

**Polly Taylor**
Polly graduated from Cambridge in 1976. She entered general practice, then became junior anaesthetist at Cambridge University Veterinary School (CUVS). She obtained her RCVS DVA in 1980. In 1983, Polly was appointed chief of anaesthesia at the Animal Health Trust and was awarded her PhD in equine anaesthesia (Cambridge University) in 1987. She then held University Lecturer then Reader posts in anaesthesia at CUVS and was responsible for clinical anaesthesia and teaching as well as research in anaesthesia. She became a Diplomate of the ECVA in 1995 and founding College President. Polly is now a freelance consultant in anaesthesia: her work includes clinical anaesthesia, teaching, drug registration and research and she has numerous papers published in anaesthesia and analgesia.

**Sue Thornton**
Sue, a zoology graduate from the University of Durham, graduated from the Royal Veterinary College, University of London in 1992. She spent 6 months in mixed practice before becoming the Veterinary Officer at the Zoological Society of London (ZSL). In 1995 she spent a year as Clinical Veterinarian at The Marine Mammal Center, Sausalito, California before returning to ZSL for a
further five years. She joined The International Zoo Veterinary Group in 2000 and became a partner in 2003. She is Veterinary Advisor to the Herpetological TAG for the British and Irish Association of Zoos and Aquariums and the European Association of Zoos and Aquaria. Sue has been a member of BVZS council for 10 years and for the past 7 years has represented BVA on the BIAZA Council. She is also a DEFRA appointed zoo inspector.

**Fin Twomey**

Fin qualified from the Faculty of Veterinary Medicine at University College Dublin. After six years in mainly farm animal practice, he started a post nine years ago as a Veterinary Investigation Officer for the VLA at Starcross, Devon. Whilst mainly involved in the routine diagnosis of cattle and sheep diseases, his other interests include investigation of diseases in zoo animals and South American camelids. Camelids are of particular importance as they are steadily increasing in numbers in the South West of England.

**Stefaan Van Poucke**

Stefaan graduated from the Veterinary School, University of Ghent, Belgium (1994). He obtained the RCVS Certificate in Veterinary Dermatology in 2000 and is now a partner in a 7-vet small animal practice in Braintree, Essex. Most of his time is first opinion work with some dermatology referrals. He is currently working towards a Masters degree in Clinical oncology.

**Martin Vordermeier**

Martin trained in immunology (PhD: University of Tuebingen, Germany, post-doc: University of Adelaide, Australia). He is a cellular immunologist with 18 years experience of mycobacterial research into human and bovine tuberculosis. Since 1997, he has been the senior scientist leading a team at VLA investigating the immune responses in cattle to *M. bovis* infection, with emphasis on the development of vaccines and immuno-diagnostic reagents. He is also a principal/lead scientist in DEFRA, EU, or Wellcome Trust-funded research projects, including a project studying bovine TB in Africa. He has authored around 130 publications and is on the editorial boards of *Infection and Immunity* and *Clinical and Vaccine Immunology*.

**Michelle Ward**

Michelle graduated from the University of Sydney (Australia) in 1996 with a degree in zoology and from the same institution in 2000 with a degree in veterinary science. After completing a short-term research post, Michelle relocated to the United Kingdom and spent three and a half years working in private mixed practice. She then completed a three-year residency in rabbit and exotic medicine at the Royal (Dick) School of Veterinary Studies (University of Edinburgh) where she is currently employed as a clinician and lecturer in Exotic Animal and Wildlife Medicine. Additionally, Michelle has recently been appointed Wildlife and Exotic Animal Clinic Manager at the university. She was awarded the Diploma in Zoological Medicine (Mammalian) in 2007 and is an RCVS Recognised Specialist in Zoo and Wildlife Medicine. Her particular research interests include zoo/exotic animal nutrition, gastroenterology and the role of intestinal microflora in the maintenance of health.