BVZS heads into Robin Hood country and returns with bounty of knowledge

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LESA LONGLEY examines the exciting topics that were discussed during the BVZS autumn meeting in Nottingham

THE autumn meeting of the British Veterinary Zoological Society (BVZS) was held at the University of Nottingham School of Veterinary Medicine and Science.

After an early start from Edinburgh, we arrived on Friday lunchtime at Twycross Zoo for the pre-meeting zoo visit. The medium-sized zoo houses approximately 1,000 animals. The zoo is renowned for its primate collection, holding more than 50 species of non-human primates along with several other non-domestic species – all cared for by 50 keepers. Twycross Zoo was opened in 1962 by Molly Badham and Nathalie Evans and was made famous by the chimps of the PG Tips commercials. Unfortunately, Miss Badham passed away in October 2007, aged 93. We had time to walk round the zoo before the guided part of the tour began, with highlights including the new tropical house, bonobo (Pan paniscus) troops, and Asian elephant (Elephas maximus) training.

Starting up

The title of the first part of the meeting was “Recent advances in comparative medicine” and drew a broad range of speakers from zoo, wildlife and exotic pet practice, as well as other aspects of veterinary and human medicine. Meeting attendees promptly filled the large lecture theatre at the university’s veterinary board and were then welcomed to the meeting by Edmund Flach, president of BVZS. Gary England, dean of the veterinary school, then gave us all an insight into the planning,
development, and running of the university’s new veterinary course. The school provided excellent facilities for speakers, workshops and refreshment breaks throughout the meeting.

The sessions got off to a flying start, with Suzetta Billington chairing the comparative anaesthesia, analgesia and fluid therapy session. Jonathan Cracknell from the Zoological Society of London (ZSL) presented a review of analgesia in exotic species, reminding us all of the importance of reducing pain in animals under our care. Šárka Trnková and Zdenek Knotek from the University of Veterinary and Pharmaceutical Sciences Brno, in the Czech Republic, discussed anaesthesia in green iguanas (*Iguana iguana*).

Keith Simpson (Vetronics) and Richard Hammond, head of the division of surgery at the University of Nottingham’s veterinary school, outlined anaesthesia monitoring tools. Alexandra Tomlinson (Central Science Laboratory) described the effects of *Mycobacterium bovis* infections on the health of free-living badgers (*Meles meles*).

Parallel sessions on Saturday morning included a masterclass on haematology and biochemistry analysis, ably led by Michael Waters from the RVC and Mike Hart from Greendale Laboratories. In the afternoon Kevin Eatwell and Mary Pinborough, from Pinmoore Animal Laboratory Services (PALS), conducted a wetlab on comparative faecal analysis – audience participation involved examination of samples from attendees’ practices.

Yedra Feltrer chaired the session on comparative reproduction. First up was Simon Fishel, managing director of the CARE Fertility Group in Nottingham, who described human-assisted reproduction technology. Cheryl Asa is currently director of the Association of Zoos and Aquariums (AZA) Wildlife Contraception Center, and discussed the uses of the new gonadotrophin releasing hormone (GnRH) agonists, such as leuprolide acetate and deslorelin, as contraceptives in a variety of mammalian taxa. Florine de Haas van Dorsser (Imperial College London) demonstrated the use of urinary relaxin to diagnose and monitor pregnancies in wild felids. Matt Brash described castration of a sub-adult hippopotamus (*Hippopotamus amphibius*), at Flamingoland.

**Primate viruses and zoonoses**

The session on “Primate viruses and zoonoses” was chaired by Mark Stidworthy. Henk Niphuis, from Primate Viral Diagnostics in the Netherlands, outlined testing for antibodies in different viral infections such as B-virus, simian T-lymphotropic virus three, simian immunodeficiency virus and hepatitis, after which Arpassorn Routh (ZSL) described testing and identification of herpes B antibodies in Thailand's macaques. David Gardner-Roberts, from the Mountain Gorilla Veterinary Project in Rwanda, presented details of an investigation into an outbreak of stomatitis in a group of orphaned eastern gorillas, suspected to be caused by herpes simplex infection, and another presentation on the employee health programme at the project. Nic Masters (International Zoo Veterinary Group) presented findings from the first confirmed outbreak of callitrichid hepatitis/lymphocytic choriomeningitis virus (LCMV) in a UK zoo.
Becki Lawson chaired the “Wildlife, emerging infectious diseases and surveillance” session. Vic Simpson from the Wildlife Veterinary Investigation Centre in Cornwall described renal calculi in free-living Eurasian otters (*Lutra lutra*), in the UK; he proposed a link between bite wounds and renal inflammatory changes, predisposing calculus formation. Andrew Breed, from the University of Queensland, discussed the emergence and ecology of zoonotic henipaviruses, particularly flying foxes (genus *Pteropus*) as putative hosts of Nipahvirus. Edmund Flach (ZSL) outlined the usefulness of impression smears from avian postmortem examinations.

Karina Acevedo-Whitehouse (Institute of Zoology, London) described respiratory pathogens from free-ranging whales in the Gulf of California, including intriguing methods of collecting samples from whale blowholes – using either an extensible panel from a boat alongside the subject, or a remote-controlled helicopter to hover over whales that could not be approached. Simon Hollamby (University of Edinburgh) outlined the Systematic Environmental Assessment: Eagles Assess Global and Local Ecosystems (SEA EAGLE) project, which uses sea eagles (*Haliaeetus* species) as biomonitors of environmental health. Matt Hartley from DEFRA gave us a valuable update on bluetongue in Europe, and the impact on British zoos.

As usual, the AGM was held after close of Saturday’s session, with business including the election of new officers. Then it was time for the dinner and a chance for everyone to let their hair down until late into the night.

The first few sessions on Sunday morning were remarkably well attended, even with a few hangovers evident. Bairbre O’Malley (University College Dublin) ran two “back to basics” sessions on Sunday morning: one on avian and one on reptilian structure and function. Ann Pocknell (Abbey Veterinary Services) provided a useful review of biopsy and postmortem sampling in the afternoon.

### Comparative therapeutics

The author’s session collated various speakers and topics to discuss comparative therapeutics. Professor Knotek returned to the podium to elucidate on the use of NSAIDs in iguanas (*Iguana iguana*), noting that no adverse haematological or biochemical changes were found on blood analysis after repeated intramuscular administration of carprofen and meloxicam. Malcolm Cobb (divisional head of veterinary medicine at the University of Nottingham’s veterinary school) discussed his transference of techniques from small animal cardiology to nonhuman primate echocardiography at Twycross Zoo, in order to assess cardiac structure and function. Kevin Eatwell (Birch Heath Veterinary Clinic) gave a comprehensive overview of antibiotic therapy in reptiles, including choosing the most appropriate drugs and how they affect reptiles differently, compared to other taxonomic groups.

Tim Bouts (ZSL) described the first case of hypothyroidism diagnosed antemortem in a red panda (*Ailurus fulgens*), with details of the investigation and successful treatment of the case. Brigitte Reusch (Hare and Tortoise Veterinary Referrals) gave a detailed update on rabbit dentistry.
Romain Pizzi (special lecturer in zoo and wildlife medicine at the University of Nottingham’s veterinary school) finished the session with a brief history of comparative minimally invasive surgery.

Michael Stanford’s session on comparative nutrition started with a double bill from Andrea Fidgett, the nutritionist at the North of England Zoological Society, Chester Zoo. Andrea initially discussed circulating concentrations of vitamins A and E in avian species, and then how Chester Zoo has evaluated and adjusted rations for its ungulates to more closely resemble freeranging diets, emphasising the forage portion.

Kevin Eatwell presented findings from a study into 25-hydroxycholecalciferol levels in captive Testudo species tortoises, and suggested implications for UV provision and diet. Brian Stockdale (practitioner and veterinary advisor to the British Canary Council) gave a whirlwind tour through the role of live food in breeding passerine birds, comparing free-ranging to captive diets. Neil Forbes’ (Great Western Referrals) presentation was a review of avian malnutrition. Peer Zwart, from the University of Utrecht, then returned us to reptilian medicine, discussing gout in reptiles. Professor Zwart was awarded honorary membership to BVZS at the meeting.

**Open session**

Last but not least in the proceedings was the open session, chaired by Nic Masters. Torsten Møller spoke about his clinical experiences with serodiagnostic tests for tuberculosis in several species at Kolmården Djurpark in Sweden, listing possibilities as well as limitations of serodiagnostic tools such as ELISA (Lelystad, CIDC), and the elephant rapid test (STAT-PAK) developed from multi-antigen print immuno assay (MAPIA Chembio).

Laura Pugh (University of Edinburgh) was awarded the student presentation prize for her review of carnivore necropsies over a 60-year period at Edinburgh Zoo.

Andrew Routh (ZSL) then described the background research, planning and teething troubles that go into development of new exhibits.

Phill Elliott highlighted the plight of bile-tapped bears, describing high incidents of chronic inflammation, cholelithiasis and hepatobiliary neoplasia in animals at the China Bear Rescue Centre in Sichuan.

The meeting was finished by André Stadler’s (Wuppertal Zoo, Germany) presentation on the non-invasive use of Mexican kissing bugs, Dipetalogaster maxima, for blood sampling of zoo animals. One bug can obtain more than 1ml of blood from an animal, without causing discomfort to the blood donor. May Tse (University of Edinburgh veterinary student) had a poster presentation on gastrointestinal parasites and bacteria in wild Hainan gibbons and captive buffcheeked gibbons and discussed findings from a summer project.
• The BVZS is a non-territorial division of the BVA. It represents professionals with an interest in exotic, zoo and wildlife species. The society has a large student membership. The spring meeting will be hosted by Woburn Safari Park on the weekend of May 17 and 18, 2008. Visit www.bvzs.org for more information on the BVZS.

The auditorium for the meeting at Nottingham University’s School of Veterinary Medicine and Science.
Training time at Twycross Zoo for the Asian elephants (Elephas maximus).
Exhibitors helped to support the meeting
**Pink-backed pelican** (*Pelecanus rufescens*) at Twycross Zoo.