The 64th annual Wildlife Disease Association conference was held at the Novotel Twin Waters on the Sunshine Coast in Australia. The Sunshine Coast is situated in Queensland, north of Brisbane and is famous for its beaches. It might have been winter in Australia but the days were warm and sunny.

There were 350 delegates attending the conference and a broad range of topics were presented. Unsurprisingly there were a large number of presentations on Australian native fauna including the unfortunate Tasmanian devil, which has been threatened with devil facial tumour disease. Dr. Ruth Pye presented the results of a vaccine trial against this disease that might help protect these animals in the wild. Julius Keyyu (Tanzania), Anna Haw (South Africa), James Hassell (Kenya) and Annie Cook (Kenya) were in attendance and also presenting at the conference. Julius did a fantastic presentation on interepidemic surveillance for Rift Valley fever virus in cattle and wildlife in Tanzania, which was valuable considering the risk of RVF outbreaks in Africa and the Middle East. Anna Haw fascinated all the wildlife veterinarians with her study on rhino anaesthetics and many vets were seen taking notes during her presentation. James Hassell impressed everyone with his retrospective analysis of gorilla mortality aided by cute primate pictures. Annie Cook presented a poster on emerging bat diseases. There were a number of social events including a great opening ceremony with some impressive dancing by a group of indigenous Australian people from the Gubbi Gubbi tribe. The dancers spoke of their connection with nature and using resources in sustainable ways. It was a poignant reminder of the impact development has on the environment.

The student mixer was a great opportunity to catch up with friends and colleagues. The auction night was, as always, a lot of fun with Dave Jessup and David Schulz entertaining everyone as they bid/fought for fantastic items such as holidays around Australia.

The culmination of the conference was the dinner on the final night and the awards ceremony.

### 2015 WDA Awards

- **WDA Ed Addison Distinguished Service Award** – Dave Spratt
- **WDA Emeritus Award** – David Schultz
- **WDA Duck Award** – Andrew Peters
- **Tom Thorne and Beth Williams Memorial Award** – Ted Leighton
- **Best student poster** – Sarah Sapp, University of Georgia
- **Best student presentation** – Matilde Tomaselli, University of Calgary
- **WDA scholarship** – Tiffany Wolf, University of Minnesota
- **Research Recognition Travel Award** – Stefano Liccolo, University of Calgary
In the field of wildlife zoonoses, it turns out that the phrase, ‘it is the small ones we have to worry about’ could actually represent reality. This certainly appears to be the case for emerging infectious diseases involving wild mammals, where small species often become large targets for blame (e.g. bats and rats). However, a growing body of evidence points to another group of ‘small’ mammals that could play an important role in disease ecology: mesocarnivores. Mammalian mesocarnivores (members of the order Carnivora < 15 kg) are considered critical to maintaining healthy, functional ecosystems, especially regarding infectious disease dynamics. This group of mammals can influence disease dynamics in a variety of ways, ranging from increased associations with humans (e.g. raccoons in urban environments) to dietary preferences for other small mammals considered important to zoonotic disease cycles (e.g. rodents). In addition, mesocarnivores can serve as important reservoirs for pathogens of both human health and conservation concern (e.g. rabies). In fact, recent research indicates that mesocarnivores may play a significant role as reservoirs for distemper and rabies here in Africa. Despite the potential importance of mesocarnivores in disease dynamics, a majority of research to date has focused on a small suite of temperate species (e.g. northern raccoons, red foxes, and Eurasian badgers). This is especially concerning when one considers the diversity of mesocarnivores on a global scale. Africa in particular hosts more than 60 species of mesocarnivores, representing 30 genera from 5 mammalian families. In spite of this great diversity, our knowledge of the role of mesocarnivores in disease dynamics in Africa remains limited.

Thus, the goal of the Small Carnivore Research and Parasite Study (SCRAPS) is to help increase our understanding of mesocarnivores and their potential role in disease dynamics along Africa’s human-wildlife-livestock interface. Focusing on Kenya’s Laikipia County, a hot-bed of human-wildlife interactions, we plan to examine how anthropogenic disturbance influences small carnivore behavior, physiology, and immunology and ultimately how these interactions work to shape parasite (e.g. ticks, fleas, and intestinal worms) loads in a suite of small carnivore species. Although our work concentrates on three of the most common species found in this region, e.g. the common or small-spotted genet (Genetta genetta), white-tailed mongoose (Ichneumia albicauda), and slender mongoose (Galerella san-guinea), these species occur on a nearly continental scale, expanding our ability to extrapolate to other African systems. Genets in particular are an important group

Figure 1: Primary SCRAPs researchers, Adam Ferguson and Dedan Ngatia, processing a white-tailed mongoose (Ichneumia albicauda).
to focus on as there is at least one if not multiple species in nearly every part of Africa. In addition, we are also sampling other mesocarnivore species including zorilas (*Ictonyx striatus*), black-backed jackals (*Canis mesomelas*), bat-eared foxes (*Otocyon megalotis*), African wildcats (*Felis silvestris*), and dwarf mongooses (*Helogale parvula*). The SCRAPS team consists of researchers from Karatina University (Dedan Ngatia), Maasai Mara University (Dr. Paul Webala), and the University of Nairobi (Dr. David Odongo) and is funded through an international postdoctoral fellowship from the National Science Foundation (Dr. Adam Ferguson). Collaborators include researchers from the University of Georgia (Dr. Vanessa Ezenwa), University of Illinois (Dr. Brian Allan), University of California Santa Barbara (Dr. Hillary Young), Bard College (Dr. Felicia Keesing), the Smithsonian Institution (Drs. Kris Helgen and Joseph Kolowski), and the International Livestock Research Institute (Dishon Muloi). With Drs. Webala and Odongo as the primary supervisors, the SCRAPS project is run by Adam Ferguson and Dedan Ngatia out of the Mpala Research Centre ([www.mpala.org](http://www.mpala.org)). It is here and in surrounding communally-owned lands where most of the actual work takes place.

A day-in-the-life of a SCRAPS researcher always starts out the same, with the smell of rotten meat! Our work is largely built upon successful live-trapping of the aforementioned species. We utilize a grid of live traps on both protected and communally-owned properties within central Kenya, attempting to quantify how rural concentrations of humans and their associated domestic animals influence mesocarnivore disease ecology. An off-shoot of the SCRAPS project includes a study of domestic dog space use and parasite infection patterns, being led by Karatina University MSc student Dedan Ngatia. All captured animals are sampled for a variety of biological material, including blood, feces, and ectoparasites. Laboratory work and next generation sequencing technologies are being used to screen for blood-borne pathogens such as *Babesia* as well as for RNA viruses. Combining the disease/parasite surveillance with immunological metrics such as bacterial killing assays, we hope to determine if living in human-disturbed habitats have health costs for these wild animals.

For the domestic dog study, we are tracking the movement ecology of more than 50 dogs using GPS loggers. The focus is on the community ranches of Koija and Il Motiok, both of which border conservancies harboring species of conservation concern (e.g. African wild dogs). Through his MSc project, Dedan Ngatia hopes to address how spatial overlap between domestic and wild carnivores may lead to increased opportunities for disease transmission. Our ultimate hope is that the SCRAPS project helps to shed light on an important, but often overlooked group of players in the game of disease ecology. Although slightly redundant, our acronym aptly describes these small and feisty critters, which have to make a living in a world dominated by Africa’s megafauna, a living that often leaves them scrapping to survive. However, these species may offer us a lesson in respecting the small when it comes to tracking disease along Africa’s human-wildlife-livestock interface. Once again, it is the little ones we have to look out for!
The death of “Cecil the lion” in Zimbabwe in July last year at the hands of a paying white hunter caused a great deal of outrage across the world. In the two months following Cecil’s death there were 696,000 mentions of “Cecil” on social media and 95,000 mentions on editorial media. The negative reactions included defamatory comments on social media by celebrities as well as the public, calls for prosecution of the hunter, and protests at the hunter’s workplace.

**Did Cecil’s death raise awareness of the plight of lions?**

**Is the focus on trophy hunting appropriate for lion conservation?**

**Where should resources be directed for lion conservation?**

Reactions to Cecil’s death have included calls for the end of trophy hunting in Africa, bans on the carriage of trophies by airlines, and calls for UNESCO to make a list of World Heritage Species to replicate the attention and protection that is given to cultural and natural sites around the world.

In August 2015 in response to these global petitions Zimbabwe suspended the hunting of lions, leopards and elephants in areas around the Hwange National Park. Also in August a number of airlines including British Airways, Virgin Atlantic, American Airlines, Delta and United banned the carriage of hunting trophies. In November 2015, France banned the importation of lion trophies. Oxford University’s Wildlife Conservation Research Unit (WildCRU), which has been monitoring the lion population, including Cecil, in Hwange National Park, received $1.06 million in donations. As a result of this attention in April 2016, TIME magazine named Cecil the world’s most influential animal.

These developments are likely to be received as positive steps in the fight to protect lions in the wild. However there is a concern that the emphasis on hunting detracts from the real threats to lions.

Lion populations have declined from an estimated 450,000 in the 1940s to 20,000 today. The reasons behind this rapid decline are well documented to be habitat loss, killing lions to protect human life or livestock, and depletion of prey species. These can all be linked to expansion of the human population. Trophy hunting has also been shown to contribute to declines in lion populations if the industry is poorly regulated. Increases in lion populations in Southern African countries (Namibia, Botswana, South Africa and Zimbabwe) in recent years are likely due to increased finances for management and fencing.

The continued focus on banning trophy hunting fails to recognise the real threats to lions. The true custodians of wildlife are the people that share their habitats. People that live with lions need to have a vested interest in their protection. More habitats need to be protected through incentivising landowners to continue wildlife ranching instead of adopting livestock or agricultural farming pursuits. Perceptions need to shift within communities from seeing lions as a threat to lives and livelihoods to seeing the benefits.

If lions are to be considered a global common good then there must be greater investment in their protection from the global community. The funds for this work cannot come from ecotourism alone. Alternative and sustainable sources of funds need to be identified.

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Figure 1: Cecil the lion rests in Hwange National Park, Zimbabwe (Andy Loveridge/Wildlife Conservation Research Unit via AP)
Comment—The dilemma of a conservationist in Africa

Meseko Clement
National Veterinary Research Institute, Vom, Nigeria

Just a few months ago, the world was taken aback by the news on CNN of the killing of a popular lion—Cecil in Zimbabwe by an American dentist. The incidence brought memories flooding back to my consciousness of a similar incidence I witnessed many years ago, while growing up in the village of Okebukun, not very far from river Niger-Benue confluence. The last lion that bestrides our jungle was “murdered” by a hunter well known to me. Ironically, my late father, who was the traditional ruler in the land, was a conservationist who as a forester contributed to preservation and promotion of nature conservation in our land. The lion probably was being sheltered in the forests of Okunland, less exposed to the harsh elements farther in the savannah. Unfortunately it had this last encounter with the hunter who only saw an opportunity for “popularity” and misplaced fame and went ahead to kill the “last lion of the savannah” and took the “trophy” to the King’s palace.

A few years back in Nigeria, whales were twice washed ashore in Lagos beach and welcomed by knife and cutlass wielding crowds who had no thought for sparing life nor of conservation or exposure to pathogens but were blinded by ignorance, poverty and sheer disregard for conservation and public health.

In like manner, on the 6th August 2015, a rare hippopotamus was hunted for one week and finally killed by local farmers near Dadin Kowa dam in Gombe State, Nigeria (see picture below). The attitude of the villagers was one completely contrary to the ideals of conservation that seemed to be an anathema in their world. All animals wild or domestic are for consumption. These villagers would rather eat all the fishes in the pond (juveniles or adults) and give no thought to replenishment in the hollow notion that there would always be another day and a pond full of fishes. That is where they get it wrong, because as we know it, these animals can go into extinction, they will not always be there.

How differently do these folks, especially the smiling young men of my generation reason? Why are they without scruples in killing a rare hippopotamus for meat? I learned conservation as a youth by watching and participating in tree planting and loath indiscriminate killing of animals. I understand what mankind stands to benefit from tending nature. It is therefore a dilemma to me when I contemplate what it was like when these youths were growing up. Was enough effort made to bring nature and conservation to their consciousness? If it was so, laying siege and hunting down a helpless hippopotamus shouldn’t be a smiling gig.

Figure 1: Hippopotamus killed in Dadin Kowa dam in Gombe State, Nigeria
Source: www.naij.com
Uganda Veterinary Association (UVA), Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) Ministry of Health (MOH) celebrated the World Veterinary Week from 24th to 30th April, 2016 under the theme: "Continuing Education with a One Health Focus". The celebrations were by Makerere University.

World Veterinary day (WVD) is an annual celebration recognized worldwide every year, on the last Saturday of April since 2000 spearheaded by the World Veterinary Association (WVA) and World Organization for Animal Health (OIE). It’s celebrated to show the contribution of the veterinary profession in improving people’s livelihoods and the animal sector. The WVA is a federation of over 80 veterinary medical associations representing over 500,000 veterinarians across the world on six continents. They work to promote animal health, animal welfare, and public health globally with the understanding that human, animal, and environmental health are intricately interconnected, through food, infectious and zoonotic diseases, research to improve human and animal lives, encroachment on wildlife habitat, and the human-animal bond that has existed throughout time.

Uganda celebrations were marked with a variety of activities and events all of which were one health related. The event brought on board several wildlife stakeholders among others including Uganda Wildlife Education Centre, Gorilla Doctors, and Chimpanzee Trust, Conservation through Public Health and Department of Wildlife and Aquatic Animal Resources Makerere University.

It was a memorable occasion with one health approaches in action.
WORLD VETERINARY DAY 30TH APRIL, 2016

Highlights of World Veterinary Day activities

- One Health Run for Rabies Awareness campaign and prevention
- Media campaign including a Press conference, Radio and TV talkshows and print
- Exhibition for 5 days for innovations, research and developments in animal sector
- Communities rabies outreach activities in four divisions of Kampala including vaccination against rabies led by One Health Student Club
- Veterinary Medical Camp for two days involving all private small animal practitioner that offered free veterinary consultations, ecto and endo parasite control and surgical interventions
- Finally the National World Veterinary Day celebrations on Saturday 30th April, 2016 with Hon Prime Minister Dr. Ruhanda Ruganda representing His Excellency the President of Uganda as a Chief Guest accompanied by Minister of Education, and State Minister for Livestock Industry.

Figure 4: Hon. Prime Minister Dr. Ruhakana Ruganda (centre); Hon. Jessica Alupo, Minister of Education; Prof. Dumba Sentamu, Makerere University Vice Chancellor; and Uganda Veterinary Association Executives during the WVD celebrations
Inset: Uganda Wildlife Education Centre (UWEC) demonstrating the care of snakes and other reptiles during WVD exhibition at Makerere University
Dr. Lawrence Mugisha is an expert in Wildlife Health and Biodiversity Conservation, Great Ape Conservation and Primate Health, EcoHealth and Livestock Research, Disease Management and Surveillance using One Health Approach with a broad range of Leadership and Management Experiences. He holds a Bachelor of Veterinary Medicine (2000), Masters of Science in Wildlife Health and Management (2004), PhD (2011) focusing molecular diagnostics of infectious diseases in great apes. He is involved in EcoHealth scientific research with major emphasis on infectious diseases at wildlife-human- livestock interface (One Health Concept) and has published scientific papers in this field and primate health. In recognition of his scientific accomplishments, in 2010, Dr. Mugisha was awarded a prestigious: Rudolph Ippen Young Scientist Award. Dr Mugisha is Associate Professor, College of Veterinary Medicine, Animal Resources and Biosecurity, Makerere University, as well as holding academic positions at University of Minnesota, Mississippi State University, Nelson Mandela Institute of Science and Technology, Arusha, Tanzania, J Venter Craig Institute, USA.

Dr. Julius Keyyu is a Director of Research at the Tanzania Wildlife Research Institute (TAWIRI) in Tanzania. Dr. Keyyu holds a PhD in disease ecology with specialization in ecosystem and population health. His research work is mainly on diseases at the wildlife-livestock-human interface especially zoonotic diseases. Diseases of particular interest include Rift Valley Fever, bovine tuberculosis, brucellosis, leptospirosis and helminth infections. In addition to disease ecology and disease control, Dr. Keyyu works on conservation of biological diversity at large and management of biological resources banks. Dr. Keyyu has published widely and is also a member of many national, regional and international technical and advisory bodies. Dr. Keyyu is a National Focal Point on Wildlife in Tanzania for the World Organisation for Animal Health (OIE).