All Wildlife Diseases, All Conservation, All One Health, All the Time!

NEWS ON ARTICLES FROM JOURNAL OF WILDLIFE DISEASES 50(1)

Health of wildlife, domestic species and human beings, and the environments that support them (One Health), has been a focus of the Wildlife Disease Association for more than 50 years. The January 2014 Journal of Wildlife Diseases (JWD) issue 50(1) has several articles with particular conservation and wildlife management significance which we would like to make you aware of.

In *Giardia in Mountain Gorillas (Gorilla Beringei beringei), Forest Buffalo, (Syncerus caffer), and Domestic Cattle in Volcanoes National Park, Rwanda* a team lead by Jennifer Hogan of U.C. Davis and colleagues from Gorilla Doctors tested feces from three species for the intestinal protozoal parasites *Giardia* and *Cryptosporidium*. *Giardia* was found in 9% of mountain gorillas, 6% of cattle, and 2% of forest buffalo. *Cryptosporidium*-like particles were also observed in all three species. Molecular characterization of *Giardia* isolates identified zoonotic genotype assemblage B in the gorilla samples and assemblage E in the cattle samples. No evidence for transmission of protozoa from forest buffalo to mountain gorillas was found, but the genotypes of *Giardia* isolated from gorillas have previously been reported in humans, suggesting the importance of humans in this ecosystem should be more closely evaluated.

The necessity to euthanize large stranded whales poses logistic, pharmaceutical, delivery, public relations, and disposal challenges. Arguments for allowing a stranded whale to expire on their own are countered by humane concerns to end the animal's suffering. The size of whales and environmental conditions often pose safety concerns for stranding personnel, and necessitate large quantities of euthanasia agents. Drug residues, particularly for pentobarbital-containing euthanasia solutions which are environmentally persistent, are a concern for relay toxicity to scavengers. In *Low-residue Euthanasia of Stranded Mysticetes, Craig Harms* and colleagues from North Carolina State University, University of North Carolina, Woods Hole Oceanographic Institution, North Carolina Division of Marine Fisheries, and National Marine Fisheries Service describe a euthanasia technique for stranded whales using readily available, relatively inexpensive drugs followed by saturated KCl. Euthanasia was effective and personnel exposure to hazardous situations and drug residues were minimized.

Environmental variables can reduce or worsen the effects of chytrid fungus infections that have caused severe declines and extinctions in amphibians worldwide. Vanessa Terrell and colleagues from University of Georgia, Indiana University, and San Diego Zoo Global provide evidence that *Drought Reduces Chytrid Fungus (Batrachochytridium dendrobatidis) Infection Intensity and Mortality but not Prevalence in Adult Crawfish Frogs (Lithobates areolatus)*. They observe that drought reduces the incidence of the severe fungal skin disease, as well as eliminating fish and invertebrate populations that feed on frog larvae, both beneficial to amphibians with complex life histories.
Avian influenza A virus (AIV) infection appears to be most common in ducks, geese, swans, gulls, and shorebirds, but many other bird species may also serve as hosts. In *Evaluation of Seabirds in Newfoundland and Labrador, Canada, as Hosts of Influenza A Viruses* a large team of researchers from University of Guelph and Newfoundland and Labrador Department of Natural Resources led by Michelle Wille tested 3,158 swab samples between 2008 and 2011 from 13 seabird species for evidence AIV virus, and 156 serum samples for evidence of previous infection. AIV was detected in nonbreeding Thick-billed Murres and breeding Common Murres, and the later also had high antibody prevalence (44%). They concluded that murres may be important in the ecology of AIV and that their dense breeding colonies and long distance movements may make them important potential hosts of AIV.

Yohannes Berhane and colleagues from the Canadian National Centre for Foreign Animal Disease showed that Pre-exposing Canada Geese (*Branta canadensis*) to a Low-Pathogenic H1N1 Avian Influenza Virus Protects them Against H5N1 …Challenge with European-origin high pathogenicity virus. The serum from the pre-exposed geese did not neutralize H5N1 in vitro, and did not reduce virus plaque numbers, but did reduce virus plaque size, suggesting that antibodies directed against viral neuraminidase protein may be somewhat protective.

For full articles see Journal of Wildlife Diseases 50(1) or contact wda.manager@gmail.com