Volume 8, Issue 3

TWS WILDLIFE DISEASES WORKING GROUP

Fall 2014

Supplement

The Vector

The Newsletter of The Wildlife Society Wildlife Diseases Working Group

Special points of interest:

This Supplement is dedicated to presenting the biographies of the candidates seeking to be elected to the Executive Board of the WDWG.

Don't wait!

Vote today!

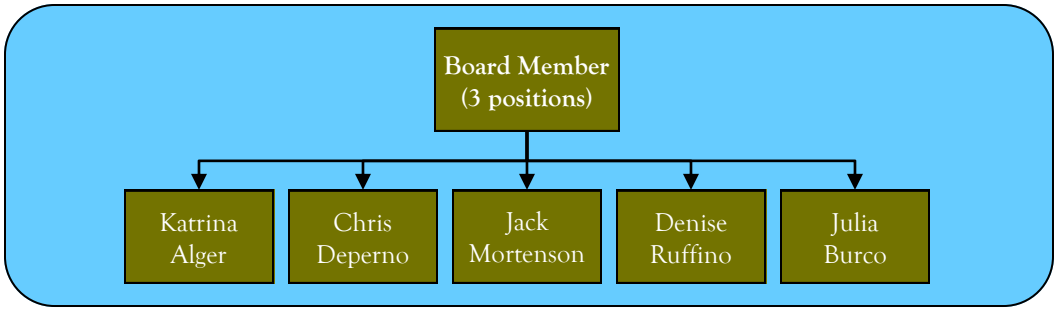
Meet the Candidates!

Inside this issue:

September 5, 2014:

WDWG Holds Board Member Elections

The Nominations and Elections Committee of the Wildlife Diseases Working Group (WDWG) has lined up a slate of candidates for upcoming elections to fill three Board positions. Voting starts on Friday September 5th and will remain open until October 20th. Please vote at the election website: https://www.surveymokey.com/s/QVRTKWL



(Biographies begin on page 2)

WDWG Board Proposes Change to WDWG Bylaws

Cast Your Vote Today!

Are you in favor of the proposed change to Article IV of the Bylaws?

Voting is open from September 5th through October 20th!

https://www.surveymokey.com/s/QVRTKWL

ARTICLE IV: OFFICERS, EXECUTIVE BOARD AND ELECTIONS

CURRENT LANGUAGE: SECTION 1: EXECUTIVE BOARD – The Executive Board shall act as the governing body for the Working Group and shall be comprised of the officers and six additional Board Members, each of whom must be an active member of the Working Group.

PROPOSED CHANGE: The Executive Board shall act as the governing body for the Working Group and shall be comprised of the officers and seven additional Board Members (including one designated Student Member defined as currently being enrolled in undergraduate, graduate or veterinary school), each of whom must be an active member of the Working Group.

Election Excitement!!

Candidate for Board Member:

Katrina Alger

I am a master's student at SUNY-ESF. I have been a member of the TWS Wildlife Diseases Working Group (WDWG) since December 2013. For my thesis, I have partnered with members of the New York State Department of Environmental Conservation and researchers at Cornell University to study diagnostic methods and spatial distribution of Lymphoproliferative Disease virus (LPDV) in wild turkeys in New York. My decision to pursue a graduate degree was ultimately based on a desire to combine my passion for wildlife with my fascination for disease ecology. I was also drawn to the collaborative and interdisciplinary nature of wildlife disease research. However, as a graduate student I find it easy to become consumed by my own work and lose sight of the many other important topics in this field. I am interested in serving on the board of the WDWG because I am eager to heighten my awareness and expand my understanding of the current issues relevant to wildlife disease management. I also hope to gain experience that will allow me to continue serving in leadership positions within wildlife disease organizations. Finally, I feel that I can be an asset to the WDWG board because of my perspective as a student and my experience with interagency collaboration. Whether or not I am elected, I am proud to be part of the WDWG and look forward to working with the members of this group for years to come.

Candidate for Board Member:

Chris Deperno

I earned a Bachelor of Science from Central Michigan University (1990), a Master of Science from Purdue University (1994), and a doctorate from South Dakota State University (1998). From 1999-2004, he worked as a research scientist for the Minnesota Department of Natural Resources. Since 2004, he has been employed as a Professor and Wildlife Extension Specialist at North Carolina State University. His research interests include population ecology, management, and habitat selection of a variety of species, animal damage management, wildlife and zoonotic diseases, and public education. He is a member of The Wildlife Society (National, Southeastern Section, and North Carolina Chapter), Great Plains Natural Science Society, North Carolina Prescribed Fire Council, and the North Carolina Herpetological Society. He has been a member of the Wildlife Disease Working Group since 2011. In 2002, he became a 'Certified Wildlife Biologist' via The Wildlife Society. Currently, he is an Associate Editor for the Great Plains Natural Science Society. He served as the Assistant and Associate Editor for the 2010 and 20111 Proceedings of the Southeastern Association of Fish and Wildlife Agencies, and was Past-President of the North Carolina Chapter of The Wildlife Society and the Great Plains Natural Science Society.

Current Research in Wildlife Disease

LISA L. WOLFE, KARENA. FOX, AND MICHAEL W. MILLER (2014) "Atypical Chronic Wasting Disease in PRNP Genotype 225FF Mule Deer." Journal of Wildlife Diseases: July 2014, Vol. 50, No. 3, pp. 660-665. We compared mule deer (*Odocoileus hemionus*) of two different *PRNP* genotypes (225SS, 225FF) for susceptibility to chronic wasting disease (CWD) in the face of environmental exposure to infectivity. All three 225SS deer had immunohistochemistry (IHC)-positive tonsil biopsies by 710 days postexposure (dpe), developed classic clinical signs by 723 –1,200 dpe, and showed gross and microscopic pathology, enzyme-linked immunosorbent assay (ELISA) results, and IHC staining typical of prion disease in mule deer. In contrast, although all three 225FF deer also became infected, the two individuals surviving >720 dpe had consistently negative biopsies, developed more-subtle clinical signs of CWD, and died 924 or 1,783 dpe. The 225FF deer were "suspect" by *(Continued on page 4)*

Election Excitement!!

Candidate for Board Member:

Jack Mortenson

We have come a long way since the inception of the Wildlife Diseases Working Group with nearly a decade of effort to reach our goals and objectives. I have been involved in research and management of wildlife health since 1996 working for both wildlife and livestock agencies along the way. I also have extensive work experience assisting Tribal efforts in wildlife disease work. My main research interests involve infectious diseases and wildlife capture pharmacology. Although fairly new to this working group since 2013, I have been a long-time active member of the Wildlife Disease Association, American Association of Wildlife Veterinarians and American Association of Zoo Veterinarians. I also serve as a field veterinarian and IACUC member for the Alaska/Northwest Fisheries Science Center, NOAA, National Marine Mammal Laboratory, assisting with Stellar and California sea lion projects. In addition, I have worked internationally in Nepal, Algeria, Japan, and Russia on wildlife/livestock diseases and parasites. I teach capture and wildlife disease courses for professional biologists in multiple states, and for students at Oregon State University. My goals for the working group include expanding our efforts for wildlife health related symposia. There are good opportunities to reach people through web site improvements and web presentations. Also, I would like to promote continued One Health relationship building between agencies and professional organizations involved in wildlife diseases.

Candidate for Board Member:

Denise Ruffino

I currently serve as Refuge Manager for the McFaddin NWR –-US Fish and Wildlife Service (FWS). However, I began my career in 1988 with the USDA-APHIS-Wildlife Services Program (WS) as an urban biologist in Houston. From 2002-2008, I served as a rabies research biologist for Texas WS working on several skunk rabies-related research projects in Texas funded by WS - National Wildlife Research Center, including my dissertation work. In 2009, I transferred to the FWS National Wildlife Refuge Program. I earned my B.S. in Wildlife & Fisheries Sciences and Ph.D. in Wildlife Science from Texas A&M University (1988, 2008) and my M.S. is in Biological Sciences from Sam Houston State University (1997). Disease surveillance, urban wildlife, and invasive species management are fields of special interest to me. I strongly believe in contributing to and practicing professionalism through membership in TWS, maintaining certification, and volunteering. I have been a member of TWS and the Texas Chapter – TWS for over 27 years. Additionally, I have been a member of the Wildlife Disease Working Group since its inception. As a Board Member, I will happily continue to volunteer my time, further pushing wildlife disease management issues to the forefront of professional wildlife management conversations and future planning. I also hope to keep the energy level high, while promoting the WDWG's goals and objectives.

The Wildlife Society Annual Conference

October 25-30, 2014 | Pittsburgh • PA | wildlifesociety.org

"One of the largest and most exciting meetings for wildlife professionals in the U.S."

– Kent Fricke, TX

Election Excitement!!

Candidate for Board Member:

Julia Burco

I have been a member of the WDWG for the past 4+ years. Being a board member on the Wildlife Disease Working Group of The Wildlife Society would be a perfect opportunity to share many of the experiences I have learned early in my career and coordinate with other wildlife health professionals. I have diverse background in wildlife health ranging from oil spill response and avian infectious disease research from my PhD work with the wildlife health center to working with large range of free-ranging species and health issues in my current position as a state wildlife veterinarian for Oregon Department of Fish and Wildlife for the past four and a half years. I am very passionate about training students, biologist and the public in techniques for monitoring wildlife health and currently organize our busy externship program for 4th-year veterinary students interested in wildlife medicine. The most important thing I have learned thusfar in my career is the importance of good communication and to collaboration with a diversity of public, private and government entities to successfully address wildlife disease issues across the landscape.

(Continued from page 2)

ELISA postmortem but showed negative or equivocal IHC staining of lymphoid tissues; both clinically affected 225FF deer had spongiform encephalopathy in the absence of IHC staining in the brain tissue. The experimental cases resembled three cases encountered among five additional captive 225FF deer that were not part of our experiment but also died from CWD. Aside from differences in clinical disease presentation and detection, 225FF mule deer also showed other, more-subtle, atypical traits that may help to explain the rarity of this genotype in natural populations, even in the presence of enzootic CWD.

RANIERI VERIN, PAOLO VARUZZA, MAURIZIO MAZZEI, AND ALESSANDRO POLI (2014) "Serologic, Molecular, and Pathologic Survey of Pseudorabies Virus Infection In Hunted Wild Boars (Sus scrofa) In Italy." Journal of Wildlife Diseases: July 2014, Vol. 50, No. 3, pp. 559-565. To investigate pseudorabies-virus (PrV) –antibody and viral-DNA prevalence, we collected blood, nasal and genital swabs, and tonsillar and lymph-node tissue samples from 139 wild boars (*Sus scrofa*; 39 piglets, 30 juveniles, and 70 adults), during the hunting season of 2010–2011 in Tuscany, Central Italy. We performed immunohistochemistry with anti-PrV monoclonal antibodies on selected tissue samples. Forty-three of 139 (30.9%) boars were PrV-antibody positive and a 1,954–base-pair PrV-specific product was amplified from nine nasal (6.5%) and 26 genital (18.7%) swabs. Sequence analysis of PrV-positive PCR products revealed identity scores of 99–100% with Suid herpesvirus 1 strain Becker (JF797219) and confirmed the identification of PrV DNA in tested swabs. There was significantly higher antibody prevalence in adults than in juveniles and in piglets than in juveniles. The prevalence of viral DNA was significantly higher in genital swabs than in nasal specimens. The percentage of positive nasal swabs did not differ among age classes. Piglets had a higher percentage of PCR-positive genital swabs than juvenile and adult subjects (30.8% vs. 13.3% and 14.3%, respectively). Results confirmed that PrV infection is widespread in the wild boar population in the study area. The presence of anti-PrV antibodies and of the PrV virus in piglets could be related to vertical transmission of the virus. This hypothesis was also supported by a higher presence of viral genome in genital swabs than in nasal swabs. This field study supports the importance of vertical transmission of PrV, and the high prevalence of virus in genital swabs supports venereal transmission in adult feral boars. *(Continued on page 5)*

Don't Delay...Vote Today!! Don't Delay...Vote Today!!

Mission Statement

The mission of the Wildlife Diseases Working Group is to promote better scientific understanding of the causes and consequences of disease in ecosystems and wildlife populations; to apply the principles of wildlife science, ecology, and epidemiology to the prevention and management of diseases in wildlife; to foster education and transfer of information on diseases to wildlife management professionals and the public; and to apply this knowledge to enhance the health and conservation of wildlife populations and their interactions with humans and domestic animals.

Current Research in Wildlife Disease (cont.)

YEN, M.Y., CHIU, A.W.H., SCHWARTZ, J., KING, C.C., LIN, Y.E., CHANG, S.C., D. ARMSTRONG, P. R. HSUEH. 2014. From SARS in 2003 to H1N1 in 2009: Lessons learned from Taiwan in preparation for the next pandemic. Journal of Hospital Infection 87(4):185 -193. In anticipation of a future pandemic potentially arising from H5N1, H7N9 avian influenza or Middle East Respiratory Syndrome, and in large part in response to severe acute respiratory syndrome (SARS) in 2003, the city of Taipei, Taiwan, has developed extensive new strategies to manage pandemics. These strategies were tested during the 2009 H1N1 outbreak. This article assesses pandemic preparedness in Taipei in the wake of recent pandemic experiences in order to draw lessons relevant to the broader international public health community. Drawing on Taiwan and Taipei Centers for Disease Control data on pandemic response and control, we evaluated the effectiveness of the changes in pandemic response policies developed by these governments over time, emphasizing hospital and medical interventions with particular attention paid to Traffic Control Bundling. SARS and H1N1 2009 catalysed the Taiwan and Taipei CDCs to continuously improve and adjust their strategies for a future pandemic. These new strategies for pandemic response and control have been largely effective at providing interim pandemic containment and control, while development and implementation of an effective vaccination programme is underway. As Taipei's experiences with these cases illustrate, in mitigating moderate or severe pandemic influenza, a graduated process including Traffic Control Bundles accompanied by hospital and medical interventions, as well as school- and community-focused interventions, provides an effective interim response while awaiting vaccine development. Once a vaccine is developed, to maximize pandemic control effectiveness, it should be allocated with priority given to vulnerable groups, healthcare workers and school children.

VICTORIA O. ADETUNJI, ADEREMI O. KEHINDE, OLAYEMI K. BOLATITO, AND JINRU CHEN, "Biofilm Formation by Mycobacterium bovis: Influence of Surface Kind and Temperatures of Sanitizer Treatments on Biofilm Control," BioMed Research International, vol. 2014, Article ID 210165, 7 pages, 2014. doi:10.1155/2014/210165 *Mycobacterium bovis* causes classic bovine tuberculosis, a zoonosis which is still a concern in Africa. Biofilm forming ability of two *Mycobacterium bovis* strains was assessed on coupons of cement, ceramic, or stainless steel in three different microbiological media at 37°C with agitation for 2, 3, or 4 weeks to determine the medium that promotes biofilm. Biofilm mass accumulated on coupons was treated with 2 sanitizers (sanitizer A (5.5 mg L^{-1} active iodine) and sanitizer B (170.6 g^{1} alkyl dimethylbenzyl ammonium chloride, 78 g^{-1} didecyldimethyl ammonium chloride, 107.25 g L^{-1} glutaraldehyde, 146.25 g L^{-1} isopropanol, and 20 g L^{-1} pine oil) at 28 and 45°C and in hot water at 85°C for 5 min. Residual biofilms on treated coupons were quantified using crystal violet binding assay. The two strains had a similar ability to form biofilms on the three surfaces. More biofilms were developed in media containing 5% liver extract. Biofilm mass increased as incubation time increased till the 3rd week. More biofilms were formed on cement than on ceramic and stainless steel surfaces. Treatment with hot water at 85°C reduced biofilm mass, however, sanitizing treatments at 45°C removed more biofilms than at 28°C. However, neither treatment completely eliminated the biofilms. The choice of processing surface and temperatures used for sanitizing treatments had an impact on biofilm formation and its removal from solid surfaces.