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NEWSLETTER

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The Corona President: An Interview with Carlos das Neves

For this edition of the Newsletter, I had a pandemic-appropriate Zoom interview with our esteemed President of the Wildlife Disease Association, Carlos das Neves. Carlos became WDA president before the pandemic began,



Credit: Carlos das Neves

back when there was no indication that a novel virus would affect every corner of the world with such intensity. During his tenure, he has had to adapt plans and goals along with the rest of our council.

In addition to guiding WDA through the SARS-CoV-2 pandemic, he is becoming one of the leading scientific experts on the wildlife disease and One Health aspects of this pandemic; and has hopes to help stem the flow of future global disease – ideally with the help of our brilliant membership.

Q: How did you become interested and involved with wildlife disease?

A: When he started his veterinary studies at 18 years of age, Carlos knew already that he didn't want to work with domestic animals, rather to be involved with research, and to work with exotic or wild species. He has achieved both goals during his career. His experience began as a vet student in Africa, and then he was able to spend six months during his veterinary training field practice with two WDA members – Patrick Dunning in New Zealand and Morten Tryland in northern Norway. He later went back to Norway to finish his PhD. Besides a year-long

hiatus spent in Portugal with the Ministry for Science, his entire career has been spent in Norway.

He is now the Director of Research and Internationalization at the Norwegian Veterinary Institute in Oslo, but to get there, he first began by obtaining his veterinary degree at the Faculty of Veterinary Medicine, Technical University of Lisbon and then his PhD at the Norwegian School of Veterinary Science in wildlife virology, where he completed work on viruses of reindeer. His postdoctoral work was split between Norway and Germany, in virology, both again under the mentorship of WDA members.

Carlos is listed as an author of 59 publications, including four in the Journal of Wildlife Disease. He is a diplomat of ECZM and now the chair for wildlife population health.

Q: When did you become involved with WDA, what do you like most about the organization, and what inspired you to become more involved with WDA leadership?

A: The first conference he went to was in 2005 in Carins, Australia, and he formally joined later that year. There are many great things about WDA, but the overall feeling of the organization as a uniquely relaxed family, all sharing a common passion, really won him over. While there are many highly-lauded, internationally-known members, there is still a family atmosphere. You can go to a lecture in the morning with someone who you look up to, and then later in the afternoon be having a beer with them, relaxing and talking about rhino and zebra. WDA not only builds a network of colleagues, but also friends. That spirit brought him in, and then

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gave him a desire to chip in with his own time and effort, first as secretary, then vice president and now his current position.

As an early career scientist, he found WDA to be a really nice community to be a part of, and even motivated him to keep going forward. Carlos also was the first European to receive the esteemed Terry Amundson Award, in 2008 at the 57th International Conference in Edmonton, Alberta Canada.

Q: Please tell us about the Lancet Task Force on Coronavirus.

A: Carlos was one of 22 scientific experts to be included in the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) Workshop on Biodiversity and Pandemics. The Pandemics Report was released after the workshop was held virtually in late July of 2020. There were a wide variety of experts invited, including those in the fields of epidemiology, zoology, public health, disease ecology, comparative pathology, veterinary medicine, pharmacology, wildlife health, mathematical modeling, economics, law, and public policy. Carlos emphasized that there were multiple members of WDA among the 22 scientists. The report was broadcast by many aspects of the media worldwide, and called attention to how biodiversity loss is also connected to pandemics. In the simplest of summaries, it emphasizes the need to build One Health capacity and research globally, and how preventing pandemics is far less expensive than paying for their outcomes. You can read the report here: <https://ipbes.net/pandemics>.

After the media attention from the IPBES workshop, the Lancet decided to convene a large commission to work on COVID-19. The commission will be working on many topics, everything from medicine to social, financial, and diplomatic issues. Each topic is divided into task forces. The task force Carlos is on will focus on the Origins, Early spread of the pandemic, and One Health solutions to future pandemic threats: <https://covid19commission.org/origins-of-the-pandemic>. This twelve-person



Credit: Carlos das Neves

task force is charged with analyzing the data on all leading theories for the origin of SARS-CoV-2, documenting outbreak investigation and control efforts, and identifying the benefits of a One Health approach in preventing future pandemics. Carlos will specialize in the wildlife health and One Health aspects of the analysis. One of his career goals in general has been building up One Health research, so it is a perfect fit.

Q: Do you have any guidance for wildlife professionals in the time of COVID-19?

A: First we must all continue to do our best to stay safe. For all of those working with wildlife, continue working towards having a good overview of wildlife health and wildlife in general, if we know more about wildlife, we can reduce the risk of new pandemics.

It is also vital to communicate to each other and within the association. Tell us what you are doing in WDA and share your message and knowledge. WDA can help profile the work of our members, and even enrich their cause. We have a lot of members, very skilled in many different disciplines, that have been active, working in this pandemic, and have been actively working for many years before it trying to prevent pandemics.

Most of the wildlife people aren't working directly on COVID, because it is a human health problem. However, there have been concerns raised about

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wildlife becoming infected with SARS-CoV-2 or becoming a reservoir. And there are probably members that will have a role in that research. WDA as an organization does not run surveillance or research programs, but if you want to be more active use the WDA network to reach out to those members who are involved. Not everyone sees the relevance of the work we do on wildlife health, and that's something the association could do more about, to make it more visible, Carlos says.

Q: What are your goals for WDA as President of our organization, and what are your hopes for the future?

A: A main goal is to raise more awareness of WDA. He would like the organization to show a stronger visual external profile. Wildlife health and diseases are related to biodiversity loss and emerging pandemics. Carlos would like to better map what our membership has been doing particularly with COVID-19, and to be sure that within the membership we are using WDA as a network



Credit: Carlos das Neves

to communicate and get or stay involved. More people keeping a good eye on wildlife health is necessary if we are to predict and prevent pathogens jumping from wildlife to humans. If we know more about wildlife, perhaps we reduce the risk of new pandemics.

In the near term, there is a strategic committee which over the summer will review the association's core values, mission, and goals. This was one of the future committee's recommendations from last year. It will help try to plan what WDA will be as we evolve over time, a strategic "vision," if you will. A review of the findings will be presented at the annual international conference in August with a presentation of this vision for our future.

Member activity has been increasing, Carlos said, particularly as meetings have become more virtual. The WDA Latin American section had a conference in November with approximately 400 attendees, and we had a successful online international conference this past year. Carlos is looking forward to the online conference this coming August. It will be structured similarly to a regular conference, and formatted to maintain the casual atmosphere while showcasing our membership's extraordinary research. Additionally, in February there will be two 1 and ½ hour sessions which will be called "WDA Days." More details will emerge soon on these extra webinars.

Carlos is the first WDA president not to go through the physical meetings and conferences, but he will always be the "Corona President," and we are lucky to have him.



Credit: Carlos das Neves

Wildfires in the Brazilian Pantanal: a veterinary perspective from the front lines.

By: Pedro Enrique Navas-Suárez and Mirella Lauria D'Elia.



Credit: Giant Armadillo project

The South American Pantanal is a biome that houses immeasurable biological wealth. It is the world's largest tropical wetland and flooded grassland. During the second half of the last year this biome suffered one of the greatest environmental catastrophes of this century. The Pantanal is a fire adapted ecosystem but with its worst drought in 47 years, human-caused and natural fires spread massively out of control.

According to the Instituto Nacional de Pesquisas Espaciais (INPE – in Portuguese), in 2020 the fires in the Pantanal increased 210% compared to the same period in 2019. Official data reported more than 14,400 fires (the historical record was 12,536 in 2015). Data from the Centro Nacional de Prevenção e Combate aos Incêndios Florestais (Prevfogo– in Portuguese) indicate that approximately 2.2 million hectares (15% of the total area) were lost in the fires, an area equivalent to three quarters the size of Switzerland and twice the size of 2020's California megafires. The huge loss of this priceless biodiversity was witnessed by veterinarian and

member of our association Mirella Lauria D'Elia, who shares with us her experience on the front line working in the clinical care of the wildlife rescued from the affected areas.

Mirella had her first experience with environmental disasters in 2019, when the B1 Dam broke in Brumadinho, Minas Gerais, Brazil. At the time, she attended as technical coordinator of the Fazenda Abrigo de Fauna- Vale's (FAF), a unit created with the aim of treating and sheltering domestic and wild animals rescued from the dam break area. All animals were clinically evaluated and rehabilitated according to health protocols, and domestic animals submitted to immunization program before being reintegrated into their family nucleus or made available for responsible adoption. A unique opportunity that according to Mirella provided personal and professional growth.

In October 2020, Mirella went to the affected area of Poconé, the second municipality in the state of

Wildfires in the Brazilian Pantanal: a veterinary perspective from the front lines.



Credit: Mirella Lauria D'Elia.

Mato Grosso most affected by the fires to work as a volunteer veterinarian for Ecotrópica, a non-governmental organization that actively participated in the mitigation of this catastrophe. She replaced another vet who was in the region since July. This NGO lead the terrestrial and aquatic monitoring in rivers and streams to search for wildlife affected by the fires, as well as supplying the sources of water and feeding resources throughout the affected region. A few weeks later, she was hired as a collaborator of the Mato Grosso State Environment Secretary, with the objective of helping coordinate the activities developed by the Post of Emergency Service Station for Pantanal Wildlife (PAEAS – in Portuguese); she remained in the Pantanal for two months until the total dismantling of this infrastructure on November 30, 2020.

According to Mirella “the routine in environmental emergencies is a pandora’s box, where the day-to-day scenario is unpredictable. We worked in several activities such as the prospecting of areas for the supply of resources, evaluation of impacted bridges and streams that needed interventions, active search for wildlife suitable for rescue, addressing reports, evaluation of the demand for supplies, attention and monitoring of the interned animals and planning of field expeditions”. One of the most stunning experiences related by Mirella was that throughout each emergency the sensation of not feeling fully prepared was frequent, but

nevertheless, day by day she felt more capable of dealing with adverse situations.

When I asked her about the psychological preparation to deal with this work, she replied: “Brumadinho taught me to recognize my limits and above all, to recognize when I am in a vulnerable position, that is, to admit and demand anything when I need it (something that I learned because I failed many times). We are human but sometimes we insist on wearing a superhero shield. In veterinary college we are prepared to accept losses casually, since many times we will not be able to recover our patients in scenarios like this. I don’t agree with that standardization of death. Giving yourself the right to mourn losses also relieves and strengthens the team, because from that we also become more empathetic, even in times of dissent.

Obviously, in critical situations in the field we need to think and act strategically, objectively, and technically. We will surely have difficult days, many more losses than lives saved, and we will have painful goodbyes, due to the commitment and connection that the team develops with each animal. You must allow yourself to sit and cry when necessary. Each animal is a test of resilience for the entire team.

There are extreme weather conditions and scarce resources, comfort, rest, and food, among other obstacles. Not in vain our profession statistically

Wildfires in the Brazilian Pantanal: a veterinary perspective from the front lines.

suffers from Burnout Syndrome. I also believe that it is extremely important that we break our individual barriers of daily preconceptions and always place ourselves in a space of listening instead of judgment. All of this contributes to reduce psychological stress. Additionally, I think that the presence of a psychologist is an indispensable element, and even underestimated, in this type of operation”.

I also asked her what would be the recommendations that she would give to students or professionals who want to go to help in areas of environmental catastrophes.

She answered that “acting in the first line of environmental emergencies requires a series of skills: it is necessary to have physical and mental resistance, vaccination card up to date, and study and train on the subject as much as possible, since many times there are attitudes that put people, animals and the operation as a whole at risk. It is necessary to know the context of each type of emergency and how the incident control system (ICS) works. I have observed problems that result from the volunteers’ lack of knowledge about the importance of integrating information in the command centers of each operation. This means that when you act, even if it is voluntary, it is extremely important that you are aligned with the competent bodies and that they know who you are, where you come from, what your skills are and how you are going to be useful for the operation. Material and professional resources are scarce in these scenarios and we must contribute so that they are used in the best possible way”.



Credit: Mirella Lauria D’Elia.

To conclude, Mirella shares with us the following reflection:

“I believe that the first step to improve the response in environmental catastrophes is the creation of a National or Latin American committee that has the technical and scientific representation necessary to face these scenarios, which I think will unfortunately be more and more frequent. The exchange of experiences with other countries and the possibility of taking training courses such as those offered by FEMA is urgent for the Latin American community.

The loss of data and the lack of dialogue between the parties involved in gathering information on affected biodiversity largely commits us to inadequately assess the proportions of impacts and to establish clear objectives to safeguard biomes and people. I consider that the participation of associations like ours is relevant in events like these, in order to contribute technically to the identification and evaluation of some health



Credit: Edson Vandeira/Ecotrópica

Wildfires in the Brazilian Pantanal: a veterinary perspective from the front lines.



Credit: Giant Armadillo project

metrics in wild animals in a more dynamic and rapid way, contributing to more consistent discussions and assisting decision-making processes.

It is not uncommon for one of the parties involved to believe that the obtained information or data is private, an error that compromises the proper functioning of the operation and those of the future. Each one of the professionals involved needs to understand that their performance is only possible through authorizations granted by the responsible spheres and therefore, we must report to them when demanded or necessary. We need to be aligned with the State. I'm not talking about a submissive relationship between the public-private parties involved in environmental emergencies, but if we act in an uncoordinated way, much information is lost. Each lost data point can cost a life and we need to work more cooperatively to achieve a better multi-institutional scenario. In addition, to improve preparation for future operations, it is necessary that we integrate databases of trained and experienced professionals so that they can be activated on demand.

The State, in turn, must recognize the fundamental role of the biodiversity professionals and anticipate calls so that they can urgently hire them to

act in these scenarios. It is unacceptable that governments take advantage of the empathy and love for animals of biodiversity professionals to obtain technical resources at our emotional and economic cost. Finally, the parties involved must organize to demand actions from the governments, as soon as possible. There is much to debate, and we must act”.

WDA members in Latin America and across the globe are involved in this crisis, responding to the needs of government agencies, the public and carrying out triage and treatment of injured wildlife. They are doing their best to help front-line institutions deal with those displaced and injured.

Your donation will be directly and entirely used by WDA Latin America to fund the emergency response and ensure the welfare and conservation of wildlife.

WDA members: Donate now on the [website](#).

If you are not a WDA member you can donate by calling the WDA Business Office at 785-865-9404.

If you have questions or need assistance, please contact wda@allenpress.com

Tom Thorne and Beth Williams Memorial Award

By Dave Jessup

It was a lovely warm December morning in 2004 at my Winter home above Naalehu, Hawaii and I had just finished trimming bougainvillea and hibiscus when my wife called down to me, 'Al Franzmann just called, you need to call him back right away.' I did and he told me Beth and Tom had been killed the previous evening when a tractor trailer rig skidded on ice and slashed across the oncoming lane destroying their car. They had been on their way back to Laramie after spending a week's vacation in the Caribbean. Big life lesson, you never know when it's going to be over.

We talked for a while about our mutual good memories of them, the great work they had done, what arrangements were being done, and both felt a need to find a way to honor them. They were our friends, the quintessential wildlife health power couple, amazing scientists with an ability to 'get things done'. And nice people, fun to be with. They really had to be honored in a way that would last, that would allow their grieving friends to contribute to a memorial.

At the time I was an officer of American Association of Wildlife Veterinarians (AAWV) and we agreed that was a good place to start. Al, Tom, Beth, Bob Lange and I had come together in the summer of 1979 to write up the governing documents to establish AAWV. We agreed to start contacting others, explore a joint effort with Wildlife Disease Association (WDA), make strong contributions ourselves, and see if we could expand the circle. Not too long after Al rang off Walt Cook called. Both Tom and Beth and I had mentored Walt and he was hurting. It had turned into 'one of those days' and I needed to call Ed Addison, WDA's Executive Manager, first to let him know, he had been another special friend of theirs, and to explore what we could do.

Tom Thorne and Elizabeth Williams were very special people. Tom is best known as the wildlife veterinarian for the State of Wyoming and supervisor of the Sybille Wildlife Research Unit. From the early 1970's Sybille was one of the only places in the US that held 'big game' species like elk, deer, bighorn sheep and occasionally pronghorn antelope and bison for disease research. Much of the early

work on brucellosis was conducted there. When a small remnant population of the presumed extinct black-footed ferret was discovered, he helped lead the effort to take them into captivity and start a breeding colony. His entry into endangered species work led to him to champion recovery of other species like the Wyoming toad. Tom moved up to branch chief, and for a short period, was Director of Wyoming Game and Fish, the only US wildlife veterinarian or health specialist to do that. Tom was a WDA Council member and Officer and major supporter of WDA auctions. And Tom was not what you would call a 'stuffy' person. Many WDA members fondly remember him being tricked into making the winning bid at a WDA auction for a nice, tie-dyed dress for Beth, and the proviso that he wear it to the Conference banquet. Ever the good sport (and with a bit of Dutch courage, at least a fifth of it one might surmise) he followed through, coming to the banquet in cowboy boots and that sleeveless dress. Absolutely unforgettable.

From the moment we became friends, I knew Beth not only as a gem of a human being, but also a brilliant one. I still remember the sparkle in her eyes as she described seeing spongiform changes in the brain of a deer from the Fort Collins game pens over breakfast with Tom and myself at the 1978 WDA conference. Essentially all the work on CWD for more than two decades would be led by or done in cooperation with Beth. She was a member of WDA Council and an officer and primary contributor to workshops and seminars of CWD at conferences. She was an important contributor to black-footed ferret recovery, and her work on distemper with Dick Montali and others led to a ferret safe vaccine. She provided first descriptions of a number of wildlife diseases, and was deeply respected by fellow pathologists. She taught and mentored others, published widely, and was co-author with Ian Barker of "Infectious Diseases of Wild Mammals", still a definitive text. At the time of her death, she was Editor of Journal of Wildlife Diseases with Tom as her assistant. And above all Elizabeth Storm Williams was a joy to be around, always with an easy laugh, and always interested in history, art, literature and so many other things.

Tom Thorne and Beth Williams Memorial Award

In 2005 the wildlife health community, particularly AAWV and WDA members, began making donations toward a Tom Thorne and Beth Williams Memorial Fund. It was fairly quickly agreed that this would become a joint award from WDA and AAWV and that as WDA had professional management and invested funds, they would manage these funds in a separate, dedicated investment account. Vic Nettles, Charlotte Quist and Ed Addison, as well as others weighed in on the wording of the award. Vic in particular wanted to make sure that it was not just for excellence in wildlife health research, but included applying science to management and conservation. Something both Tom and Beth had been good at, an art/science that is indeed special. WDA and AAWV agreed on “The Award is presented in acknowledgement of either an exemplary contribution or achievement combining wildlife disease research with wildlife management policy implementation or elucidating particularly significant problems in wildlife health”. Although that wording has always been a little awkward and open to interpretation it has served us well in trying to distinguish between multiple potential deserving recipients.

We agreed it would be given when appropriate, not every year necessarily, at the WDA conference (which is almost always a joint WDA-AAWV affair). The donations to the award grew quickly, first by hundreds then by thousands of dollars as a mechanism for taking contributions was worked out. WDA contributed some of its auction funds in early years, and later a significant amount of interest from other WDA invested funds. Eventually we were able to make contributing to that fund an option when folks were renewing WDA membership. That really helped.

Mike Miller, who had been very close to both Tom and Beth, came up with the idea for a bronze of a pair of black footed ferrets for the award itself and was able to line up a local artist who had known them. Such a beautiful and appropriate symbol. The awards committee is made up of the Presidents of WDA and AAWV as well as two selected members from each organization. Recipients costs are covered to attend the WDA meeting where the award is presented, and the fund makes a \$1000 contribution in their name to a project to be selected by the recipient. We then knew about what we needed yearly to cover costs of the

award and were able to forecast about what it might take to endow this award fund in perpetuity.

Flash forward 13 years from that sad December day in 2004 and the Tom Thorne and Beth Williams Memorial Fund was nearing its endowment goal, even with inflation and increasing travel and award costs. And it was still one of the more popular donation recipients for WDA’s membership. One old friend of Tom and Beth’s, who chose to remain anonymous had made several large contributions, and then at the 2018 and 2019 WDA Conferences, she pledged to match any contributions to the award collected at the WDA auction up to \$3000. This effort was to assure we got well above the endowment amount needed for the award in perpetuity. It took only about 4-5 minutes to collect sufficient pledges. In only 15 years since the inception of the Tom Thorne and Beth Williams Memorial Award, the fund that supports it was well above the amount needed to endow it in perpetuity, even with inflation and even if the award was given yearly. So, WDA and AAWV are de-emphasizing contribution to that award.

Mike Miller, who had stepped in to lead much of the chronic wasting disease work Beth started, was the first recipient of the award at a wonderful and touching banquet at the WDA conference in Rocky Mountain National Park in 2007. Other recipients have included Gary Wobeser in 2008, David Jessup in 2010, Jonna Mazet in 2011, Ian Barker in 2012, John Fischer in 2014, Ted Leighton in 2015, the One Health Research Group at James Cook University in 2016, Carol Meteyer and David Blehert in 2017, Lise Wolfe in 2018, Billy Karesh in 2019, and Richard Kock in 2020.

Any future contributions made to the Tom and Beth Fund will be added to the fund, but WDA is hoping to redirect some of the members generosity and dedication toward other areas that are not as well supported. We will continue to remember and honor Tom and Beth, and those who have made contributions to wildlife health and disease research at levels similar to what they did. To assure that the coming generations know what they did and why we honor them, WDA will be adding a page at the WDA website explaining more about Tom and Beth and the work to which they were so vital and so dedicated.

Passing of J.H. (Jack) Arundel

By Ian K. Barker, Ian Beveridge, David M. Spratt

J.H. 'Jack' Arundel, elected a committee member at the inaugural meeting (1975) and Chairperson (1981-1983) of the Australasian Section of the Wildlife Disease Association, and an Emeritus Member of the WDA (1989), recently passed away in his 96th year.

A 1952 veterinary graduate of the University of Sydney, Jack was recognized as an outstanding teacher of parasitology from 1964-1988 at the Faculty of Veterinary Science of the University of Melbourne, where he also conducted research and advised graduate students in a variety of areas of veterinary parasitology.

In the early 1970s, through interactions with Barry Munday, the instigator of the WDA Australasian Section, and a chance involvement with an outbreak of mortality in kangaroos, Jack developed an interest in wildlife diseases. Realizing how little was known about disease in Australian wildlife, in 1973 he obtained seed funding to establish a Wildlife Disease Research Unit at the University of Melbourne. Staffed by a parasitologist, a wildlife pathologist and a technician, in collaboration with Jack and a faculty avian pathologist, members of the Unit investigated deaths associated with poor management in a popular state-run zoo/wildlife sanctuary; die-offs of various etiologies in local waterfowl and waterbirds; avian botulism outbreaks in Melbourne parks; significant mortality in populations of free-ranging kangaroos due to coccidiosis and blood-sucking nematodes; widespread deaths in Little Penguins associated with helminth infections; avian poxvirus infections in passerines; stress-related seasonal mortality in breeding male dasyurid marsupials; and epidemics of blindness in kangaroos, as well as conducting surveys of the parasites of numerous native and feral mammals.

Despite its productivity, promised state government funding to continue the Unit was not forthcoming, and a subsequent federal contract to pursue research on kangaroo diseases was cancelled for budgetary reasons



in 1978. Jack was senior author of a 1977 book chapter reviewing the little that was then known of disease in Australian marsupials and coauthored a number of the numerous publications which issued from the Unit's

activities. Jack later contributed to government committees on kangaroo management and culling, and on management of whale strandings. He also initiated, and for a number of years organized, a series of lectures on wildlife disease issues in the Melbourne veterinary curriculum.

Although Jack's Wildlife Disease Unit was a transient entity, as were many novel initiatives in the underfunded and narrowly-focused Australian veterinary schools of the time, its influence was not. Established at a time when in Australia wildlife were considered 'vermin' by many, and it was difficult to recruit the 10 people required to form what was to become the first geographical section of the WDA, the Unit legitimized the study of wildlife diseases in Australian veterinary institutions. It demonstrated the need for wildlife veterinary activity and promoted the development of the Australasian Section in an environment where the advantages of involvement with an international organization such as the WDA were contested. A number of Melbourne veterinary and graduate students of the era became involved in wildlife disease work, carrying that forward into their careers. And Jack Arundel's academic lineage, in the form of those who he mentored as members of the Unit, or who were, in turn, mentored by them, extends across several generations in Australia, Canada, and more widely. The Australasian Section

Passing of J.H. (Jack) Arundel

is one of the largest and most active in the WDA. Within 6 years of the section forming, in 1981, the year that Jack began his term as Section Chairperson, it sponsored the 4th International Conference of the WDA, “Wildlife Disease in the Pacific Basin” (not ‘Bison’ as many international participants interpreted the local pronunciation), and in 2005 and 2015 again sponsored international conferences. Three recipients of the Distinguished Service Award, four (three joint) recipients of the Tom Thorne and Beth Williams Memorial Award, four recipients of the Emeritus Award, and three recipients of the Duck Award are members of the Australasian Section or of Jack’s academic lineage.

Jack was active in other scientific organizations, especially the Australian Society for Parasitology, of which he was a founding member, President and an elected Fellow in honour of his contributions. For over 25 years he was involved heavily in the



affairs of the Australian Veterinary Association (AVA), serving in an editorial capacity on the Australian Veterinary Journal, as State President, and later as National President. Jack was elected Fellow by the AVA in recognition of his contributions, and later was awarded the Gilruth Prize, its highest honour. At his retirement from the University, he was awarded the degree of Doctor of Veterinary Science *honoris causa*. In 2002, Jack was named a Member of the Order of Australia “For service to veterinary

science as an educator and researcher, and to the profession through participation in the Australian Veterinary Association”.

Jack was predeceased in 2003 by his wife of 50 years, Margaret. Subsequently, embedded among their 5 children and their partners, with 16 grandchildren, he remained active and involved with family and friends locally and internationally until his unexpected death in August 2020.

Trilateral Wildlife Health Webinar Series

The American Association of Wildlife Veterinarians (AAWV), the WDA Wildlife Veterinary Section (WVS) and The Wildlife Society Wildlife Disease Working Group (TWS WDWG) have the pleasure of announcing the formation of a Trilateral Wildlife Health Webinar Series, beginning in 2021!

The event will be held every other month and the organization of the webinar will rotate among the organizations. This Series will bring our members engaging speakers covering a wide array of wildlife health topics bimonthly and is intended to feature the work the members of these organizations do every day. Although not immediately available for the inaugural

event, CE credit for veterinarians will be provided in the future.

This webinar series is for WDA WVS members; if you are unsure if you are a member, please let us know and we can check for you. If you forgot to renew this year, there is still time, please go to:

<https://www.wildlifedisease.org/wda/MEMBERAREA/JoinRenew.aspx>

Stay Tuned! Additional details and links will be sent in subsequent communications to the members of AAWV, WDA WVS and the TWS WDWG.

ASF-STOP Finalized in 2020

Dolores Gavier-Widén

The networking project ASF-STOP (Understanding and combating African Swine fever in Europe), financed by COST (European Cooperation in Science and Technology, <https://www.cost.eu/>) reached its end on 30 April 2020 after 4 years of intensive and rewarding work.

ASF-STOP had a crucial component of wildlife work and research, represented by the wild boar, which has a key role in the epidemiology of ASF in Europe. ASF virus circulates in wild boar populations, which are involved in the spread and expansion of the infection, with spillover to domestic pigs. Moreover, carcasses of wild boar that die of ASF are a source of environmental contamination. Unfortunately, commercial vaccines are not yet available, and it is difficult to control ASF in wild boar.

ASF-STOP was formed by 32 European COST countries as well as Russia and Ukraine and built a network that extended well beyond Europe and included more than 270 participants. The many working group meetings and workshops and the two international conferences were pivotal in the sharing of experiences and knowledge on ASF. The

22 short term scientific missions and 4 training schools contributed to building capacity in Europe and enhanced trans-national collaboration, the latter was characterized by high participation of the less research-intensive countries in Europe. Scientific outputs included more than 20 peer-reviewed publications, many popular science communications, numerous reports and guidelines and 5 new projects, as well as a book about ASF which is under preparation.

Through ASF-STOP I had the opportunity to learn much more about ASF and to meet many old and new colleagues, which I very specially enjoyed. Our Science Communications Manager, Laura Iacolina is the moderator of our ASF-STOP google group, which has already more than 100 members. If you would like to join please send a request at the link <https://groups.google.com/forum/#!forum/asf-stop>, with a brief explanation of your research interests or email the same information to Laura Iacolina (lauraiacolina@gmail.com)

<https://www.asf-stop.com/>



Photo: ASF-STOP Final Conference, 29-30 January 2020, Brescia, Italy

January 2021 Student Corner

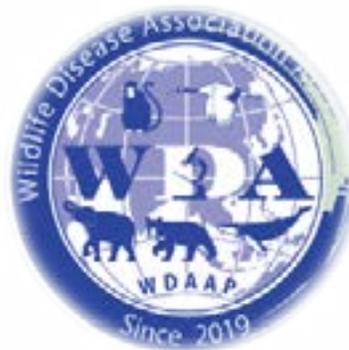
Dear WDA worldwide students,

First of all, the SAC wishes you all a happy new year and that all your 2021 wildlife projects may be realized! During these hard times, it is even more important to stay connected and feel solidarity. Even if we are not able to meet in person and exchange experiences at the moment, we stay available for you and continue to work on projects to help the WDA students to reach their objectives and still feel part of this family. We take this as an opportunity to let you know that if you feel like you need advice or want to reach out, we remain available for you. Please don't hesitate to contact us (wdatravelgrant@gmail.com). Living through this pandemic make you realize how important you and your hard work are in the One Health Approach. The world will need you, stay on track!

For the SAC, 2021 will be another year with new projects for you. The first one is the creation of a Student Chapter in Asia Pacific. This year we sponsored 6 students from the AP section to give them the opportunity

to be part of the WDA and promote the student section over there. Congratulation to our winners!

Additionally, the SAC is currently actively working with the Zoo and Wildlife Medicine Study Group and our student chapter to organize monthly webinars. We want to provide you a regular learning opportunity with additional benefits through the WDA website such as recordings, presentations, round tables, etc. This new platform will be also be an opportunity for any of us, student or not, to present your work and research and give us the opportunity to learn about you and your work. Until now, the Latin American SC and UC Davis SC already responded positively!



If you are part of a student chapter or are a member who wants to organize a webinar, please don't hesitate to contact us (ioannidis.marianthi@gmail.com) and we will come back to you with all the details and guidelines.



January 2021 Student Corner

Moreover, this year EWDA SC will renew its traditional student workshop. The event will be entirely online and accessible from all over the world!



This year's workshop will be named "Communicating Science in wildlife conservation" with the aim to offer students an opportunity to improve their communication skills in science through talks and/or posters.

The event will be divided into three phases:

- The first will host speakers involved in the communication of wildlife health issues to the public (such as Chris Walzer, Ruth Cromie and Marcus Clauss); and scientists who are professionally engaged in enhancing young professionals communication skills.
- The second phase consists of a one-month-period given to a selected number of students to present (during phase three) a given

scientific paper – Students will have access to online platforms provided.

- The phase three will be a four-evening-workshop with lectures and student presentations. Each evening will host speakers from a different European research institution (i.e. ZSL, VetMedUni Vienna and others).

Don't miss this great opportunity and stay tuned! For any additional questions, info, please refer to: <https://ewdastudent.wordpress.com/>



Finally, we are working on finishing the mentoring program, in collaboration with the EAAV and EAZWV. We know that many of you have been looking forward to this, especially with the absence of real-life student-mentor mixers. We are looking forward to sending you more information as soon as we can!

Marianthi Ioannidis, on behalf of the Student Activities Committee



Quarterly Wildlife Mortality Report

January 2021

Written and compiled by members of the U.S. Geological Survey's National Wildlife Health Center.

Chlamydiosis in Arizona red-tailed hawks

Starting in late August and through the month of September 2020, National Park Service (NPS) personnel at Organ Pipe Cactus National Monument (OPNM), Pima County, Arizona, reported sick and dead red-tailed hawks (*Buteo jamaicensis*) to the U.S. Geological Survey's National Wildlife Health Center (NWHC). The birds were located near Quitobaquito Springs, the primary water source in the national monument. A total of seven moribund and dead hawks were collected during the event at OPNM. Three red-tailed hawk carcasses were also found south of OPNM on the Rio Sonoyta in Sonora, Mexico in mid-October; carcass condition suggested they had been dead for a week or more.



credit: Ian Barker

Five of the seven specimens collected from OPNM, including three adult males, one adult female, and one immature female, were shipped to the NWHC for necropsy. Upon gross necropsy, body condition was fair to emaciated, with splenomegaly (enlarged spleen), noted in four individuals, the only significant finding. Liver or spleen tissue was submitted to the [Wisconsin Veterinary Diagnostic Laboratory](#); chlamydia bacteria was identified via PCR in all five birds. Using methods described by [Sachse and Hotzel \(2003\)](#) NWHC identified the strain as *Chlamydia buteonis*, which had been previously described from a captive red-shouldered hawk (*B. lineatus*; [Laroucau et al. 2019](#)).

Chlamydiosis is a naturally occurring bacterial disease of free-ranging and domestic birds, mammals, and humans caused by *Chlamydia* spp. and is considered a reportable animal health disease in Arizona. The disease is common in some species of parrots (Psittaciformes) and has been found in 30 orders of birds globally ([Kaleta and Taday, 2003](#)). Most strains are host specific and may result in mild to moderate disease and, in some instances, death. Fatal infections may cause necrotizing lesions in the spleen, liver, pericardium, and respiratory system. For further information on chlamydiosis visit the NWHC [website](#). For more information on this event, contact Barb Bodenstein, bbodenstein@usgs.gov.

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Widespread migratory bird mortality in New Mexico and the southern Rocky Mountains

In early September 2020, widespread migratory bird mortality was reported in New Mexico and the southern Rocky Mountains following an extreme early winter weather system in the area that included high-winds, snow, and severe temperature drops. The U.S. Geological Survey's National Wildlife Health Center (NWHC) partnered with the New Mexico Department

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of Game and Fish (NMDGF), the National Park Service, the U.S. Fish and Wildlife Service, and other agencies to investigate the extent of the event and potential causes of mortality. NMDGF received reports describing hundreds of dead or grounded and disoriented birds from multiple locations around the state over the span of several days. While the magnitude of the event is uncertain and reported mortality often represents a fraction of total mortality, approximately ten thousand birds were reported to the NMDGF and NWHC.

Summary information regarding the event is contained on the Wildlife Health Information Sharing Partnership – event reporting system ([WHISPers](#)) and additional observations were collected on [iNaturalist](#). The NWHC examined carcasses collected from locations across New Mexico

representing over 30 species of migratory birds including those from the swallow (Hirundinidae), warbler (Parulidae), flycatcher (Tyrannidae), hummingbird (Trochilidae), sparrow (Passerellidae), bluebird (Turdidae), and owl (Strigidae) families. Nearly all the birds examined were in poor body condition or severely emaciated. There was no clear indication of a common cause for the emaciation or death based on necropsy and pathological investigation. Bacterial disease, contagious viral diseases including avian influenza and Newcastle

disease, and parasites were all ruled out as causes of death. In addition, there was no evidence of wildfire smoke poisoning, pesticide poisoning, or exposure to other toxins. While no consistent cause of death was determined, several environmental factors, including [drought](#) and extensive [wildfires](#), predated the extreme weather event and may have predisposed the birds to mortality. For more information on this event, contact Dan Grear, dgrear@usgs.gov.



Credit: Peregrine Wolff

SARS-CoV-2 and wildlife

Genetic sequencing suggests that SARS-CoV-2, the virus responsible for the COVID-19 pandemic, likely originated in Asian horseshoe bats (family Rhinolophidae; [Zhou et al. 2020](#)). As the virus continues to spread globally, questions have emerged about the potential for humans to transmit the virus to North American wildlife, its potential effects on native wildlife populations, and the resultant possibility of establishing a persistent wildlife reservoir.

The U.S. Geological Survey's National Wildlife Health Center (NWHC) is participating in several research endeavors to help elucidate the risk SARS-CoV-2 poses to wildlife, potential modes of virus transmission, and precautionary measures that could be taken by

humans who handle wildlife. In a rapid risk assessment using expert knowledge to model possibilities, scientists found a non-negligible risk for humans working with bats to transmit the virus to them ([Runge et al. 2020](#)). To more directly assess the potential for bats to become infected by SARS-CoV-2, NWHC conducted an infection trial in big brown bats (*Eptesicus fuscus*). Although the study did not find evidence of infection in big brown bats, additional studies are needed to determine the potential susceptibility of other North American bat species ([Hall et al. 2020](#)). In collaboration with the United State

Department of Agriculture (USDA), the Centers for Disease Control (CDC), and state agriculture, natural resources, and health departments, the NWHC is also assisting with targeted surveillance of mustelids and other meso-carnivores found near infected mink farms in Utah, Michigan, Wisconsin, and Oregon, to date. While overall surveillance summaries are pending, USDA submitted results concerning a single positive wild mink (*Neovison vison*) caught in association with

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one of the positive farms to [ProMed](#). Lastly, NWHC and the U.S. Fish and Wildlife Service's National Black Footed Ferret Conservation Center (NBFFCC) jointly conducted a small trial using commercially available purified SARS-CoV-2 protein combined with a previously studied adjuvant to vaccinate black-footed ferrets (*Mustela nigripes*). After an initial vaccination followed by a boost, no adverse effects were noted and the ferrets produced neutralizing antibodies against the virus, but it is currently unknown whether their titers are protective against the disease. Approximately two thirds of the ferrets at NBFFCC have since been vaccinated with the purified protein. To date, no known exposure has occurred in the colony.

To date, there is no evidence that the SARS-CoV-2 virus is circulating in wildlife populations, and that wildlife are a source of infection in people (the CDC has published COVID-19 Frequently Asked Questions regarding pets and animals, including wildlife, at this [link](#)). However, as with other pathogens, appropriate use of personal preventative equipment (PPE) can help mitigate the potential risks associated with SARS-CoV-2. Runge et al. (2020) found that the use of PPE (e.g., appropriate N95 respirators and dedicated field site clothing and gloves) would be expected to significantly reduce the exposure probabilities when interacting with bats. For a thorough assessment of safe work practices for working with wildlife, see [Taylor and Buttke \(2020\)](#). For more information on the NWHC's SARS-COV-2 activities, contact Jonathan Sleeman, jsleeman@usgs.gov.

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For additional information on the USGS National Wildlife Health Center see the following links:

- Main website: www.usgs.gov/nwhc.
- Disease Investigation Services: www.usgs.gov/nwhc/services.
- Report Mortality Events and Submit Specimens: www.usgs.gov/NWHC/submit.

To view, search, and download historic and ongoing wildlife morbidity and mortality event records nationwide visit the Wildlife Health Information Sharing Partnership event reporting system (WHISPer) online database: <http://whispers.usgs.gov/>