



DANDER

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President's Report

Looking back over the last year, we've achieved quite a bit and things for the AVPA should be quite settled from a constitutional point of view for the foreseeable future. The evolution of the Australasian Veterinary Poultry Association Limited has taken its share of tears, sweat and a little blood to come to fruition but the outcome is positive and creates a strong foundation for our future.

Again I thank all those who were so willing workers in getting us through the issues now behind us – Peter Gray, Ben Wells, Peter Claxton and Tom Grimes. The bank accounts look healthy and we have an enviable position of being able to fund whatever the Association needs to continue its roles and objectives.

There are currently three projects before us, suggested by several members. These are:

1. a proposal to produce a digital collection of avian pathology and histopathology images, produced in a high tech format allowing unlimited focussing and covering Australian material;
2. a proposal to compile a "History of the AVPA"; and
3. a proposal to produce a "Poultry Disease in Australia" textbook.

These are all important initiatives and deserve our close consideration. The Secretary will shortly be asking the proponents of these projects to produce a short description and justification of each, including a rough budget. It is our intention to circulate these for comment and your Executive will look forward to the response from the broader membership on each of these projects. With the length of time until our next OGM, this appears to be the best way forward with our considerations here.

We are looking forward to the 6th Asia-Pacific Poultry Health Conference (AP6) as part of the World's Poultry Congress (WPC) in July. Kevin Whithear and his Scientific Program Committee have been busy organising what

should be a wonderful scientific program and Peter Scott has been active behind the scenes shoring up the administrative and financial issues for this task AP6 should be a highlight for poultry veterinary conferences in our area this year.

WPC is of course, much larger than AP6 and many of the concurrent streams should provide much interest to our members. For example the "Poultry product safety" sessions will deal with zoonoses and should interest many of our industry members. PIX 08 will operate concurrently as well. I would recommend the WPC and AP6 to you all and encourage as many AVPA members as possible to attend. Yes, it is expensive, but it is not often that we get the opportunity to experience a poultry conference of this standing on our own shores. Don't miss it.

We will be holding a short Annual General Meeting just prior to the WPC kick-off (details to follow soon). It would be good for as many members to attend this as possible. The AGM will be succinct and mainly focus on reports and elections of office bearers. I welcome our current President-Elect, David Marks as he transcends to the presidency at this meeting. The outgoing Executive has left the Association in good shape and its new structure will allow an easy ride into the future. I wish David all the best and will continue to support him as he leads the AVPA into the future

As President and I would like to take this opportunity to say thank you to all AVPA members for their support and, in some cases, real effort in assisting us reach this milestone in the history of the Association. It has been a privilege to be involved in all this and I thank you for your continued patience and sustaining friendship

Peter Groves

Registration for the XXIII World's Poultry Congress/Sixth Asia Pacific Poultry Health Conference is Now Open. Financial Members of AVPA are eligible for the same reduced registration rate as full time WPSA members.

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Welfare	John Barnett	<john.barnett@nre.vic.gov.au>

Membership of the Australasian Veterinary Poultry Association Ltd is available to individuals and groups working in, or interested in, any veterinary aspect of poultry.

Dander will be published quarterly (March, June, September and December). Contributions are welcome. Electronic copy is requested. Deadline for copy is by the end of the second week of the month of publication. Please send information on abstracts of interesting papers, summaries of reports, case histories, social news etc. to Kevin Whithear, School of Veterinary Science, The University of Melbourne, 250 Princes Highway, Werribee 3030, Victoria <kevingwt@unimelb.edu.au> fax 03 9731 2366.

Summary of Important Upcoming Scientific Meetings

April 2008	57th Western Poultry Diseases Conference & XXXIII Convencion Annual ANECA. Sheraton Buganvillas, Peurto Vallarta, Jalisco, Mexico. April 9-12. Contact Dr Rocio Crespo; Email: rcrespo@ucdavis.edu . Web: conferences.ucdavis.edu/wpdc
June 2008	7th International Symposium on Turkey Diseases. Institute of Poultry Diseases Free University Berlin, Germany. June 19 – 21. Contact: Prof. Dr. H. M. Hafez; E-mail: hafez@vetmed.fu-berlin.de
June-July 2008	23rd World's Poultry Conference and Sixth Asia Pacific Poultry Health Conference. Brisbane Conference and Exhibition Centre. June 29 - July 4. AVPA Contact Dr Kevin Whithear; Email: kevingw@unimelb.edu.au . Web: www.wpc2008.com
July 2008	8th International Marek's Disease Symposium. Townsville, Queensland. July 6-10. Contact: Dr. G. Burgess, School of Veterinary & Biomedical Sciences, James Cook University, Townsville, Queensland 4811. Phone: 07 4781 5472; Fax: 07 4781 6833; Email: graham.burgess@jcu.edu.au . Web: http://www.jcu.edu.au/events/mds
July 2008	2008 AAAP/AVMA Annual Meeting. Ernest N. Morial Convention Center 900 Convention Center Blvd., New Orleans, LA 70130. July 19-23. Contact Gregorio Rosales / Sue Clanton; Email: aaap@uga.edu . Web: www.aaap.info/mc/page.do

MEMBERSHIP MATTERS

Membership List

Thanks to all members who have renewed their AVPA subscriptions for 2008. An application form for new or continuing membership can be found at the back of this issue of *DANDER*.

The following lists, prepared by the Hon. Treasurer, provide a breakdown of the current membership, both financial and unfinancial, as at 28 March 2008.

Could any members who have paid via AVA but whose name does not appear as having paid on the lists below please contact the Hon. Treasurer, Peter Gray.

New Members: AVPA welcomes the following new members: Sue Sharpe, Nathan Binstock and Valeria Torok.

AVA Members Who Have Paid for 2008 (Poultry SIG) (23 Ordinary, 3 Life)

Balkar Bains (Life), Leone Basher, Doug Black, Glenn Browning, Peter Claxton, Kim Critchley, Elizabeth Evans, Gordon Firth, Paul Gilchrist (Life), Tom Grimes, Peter Groves, Clive Jackson, Rodney Jenner, Robert Johnston, Noel Johnston, Branko Karaconji, Azadeh Laghai, Mark Lindsey, Alistair Murdoch, Bruce Remington, Margaret Sexton, Peter Spradbrow, Andrew Turner, Stephen Walkden-Brown, Mark White, Kevin Whithear (Life)

Non AVA Members Who Have Paid for 2008 (32 Ordinary, 4 Sustaining, 3 Life)

Leon Barlow (Life), John Barnett, Carol Bates, Peter Beers, Nathan Binstock, Pat Blackall, Wayne Bradshaw, David Buckley, Brian Burke, Roger Chubb (Life), Colm Culligan, Mike Cundy, Peter Curtin, John Doyle (Sustaining), Peter Gray, David Hampson, Robert J Hughes, Brian Jones, Wayne Jorgensen, Harvey Langford (Life), Margaret MacKenzie, Darryl Meaney (Sustaining), Krystyna Minkiewicz, Linden Moffatt, Chris Morrow, Kerry Mulqueen, Amir H. Noormohammadi, Ravi Ravindran, John Reeves, Julie Roberts, Ambrosio Rubite, Brett Ruth, Peter Scott, Sue Sharpe, Jillian Templeton, David Tinworth (Sustaining), Valeria Torok, Ben Wells, Sarah Wylie.

Please see the AVPA website for information on sustaining members and links to websites

Current AVPA Sustaining Members 2008

Sustaining members contribute funds that help defray costs of services to members of the AVPA. We thank all sustaining members for their active interest and support.



Bioproperties Pty Ltd, 36 Charter Street Ringwood 3134 Victoria. (03) 9876 0567
Contact: David Tinworth 0418 334 766 david.tinworth@bioproperties.com.au



Elanco Animal Health, PO Box 516 Echunga 5153 SA. (08) 83888867
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Erratum

The Report on the NSW Poultry Health Liaison Group Meeting of 30 November 2007 published in the December 2007 edition of *DANDER* incorrectly stated that ILTV from flocks in Victoria were Class 1. Amir Noormohammadi has pointed out that they were identified by PCR at the University of Melbourne as Class 2.

Welfare Subcommittee Report

Poultry Welfare – some snippets

Chicken are not 'livestock' – humane slaughter not applicable

According to a US judge, chickens are not "livestock" and are therefore not subject to the Humane Methods of Slaughter Act.

A lawsuit brought by the Humane Society of the US (HSUS) against the Agriculture Department has argued that the USDA had misinterpreted the 50-year-old Act, reports Cattle Network.

"The court finds the legislative history strongly demonstrates unambiguous congressional intent that livestock, as used in the HMSA, does not include poultry," US District Court Judge Marilyn Hall Patel reportedly wrote in her opinion.

Judge Patel granted summary judgment in USDA's favour and dismissed the lawsuit.

HSUS's argument was based on a 1958 dictionary definition of livestock that said that the word encompassed "useful" animals on a farm, while USDA said that the term has always internally meant to exclude poultry.

"The plain language of these bills indicates that Congress intended to exclude poultry from the definition of livestock when it enacted H.R. 8308, the bill that eventually became the HMSA," Patel wrote.

Source: from Worldpoultry.net - 10th March 2008. Note: In Australia poultry are definitely considered as livestock.

Free-range, factory chooks 'taste the same'

Expensive free-range, corn-fed and even organic chickens do not taste any better than the average factory-raised chook, according to a CHOICE taste test.

A panel of four food experts taste-tested eight different roast chickens: two organic, two free-range, one corn-fed and three regular factory-farmed birds. While there were no significant differences in their scores, all agreed chickens don't have as much taste as they used to.

The chooks, which ranged in price from \$3.99 per kg for a regular factory-farmed chicken to \$12.50 per kg for organic, were all prepared and cooked without seasoning or stuffing.

CHOICE says the results tie in with international trials, which also indicate consumers can't tell the difference between organic and ordinary chicken breast meat.

CHOICE media spokesperson Christopher Zinn said buying organic or free-range might have other important benefits, such as the birds having a better life, but it doesn't necessarily mean a tastier roast dinner.

Source: From a story in The Age: <http://www.theage.com.au/articles/2008/03/03/1204402305033.html>

Animal law a strong draw for students

Animal law is proving so popular in universities that it could match the current popularity of environmental law within a generation, according to the head of the Australian Law Reform Commission (a list of articles in the first edition of the Australian Law Reform Commission's journal *Reform* is provided below)

Professor David Weisbrot said changing consumer habits and the prevalence of animal welfare legislation meant the dozen faculties that have offered animal law in Australia and New Zealand were simply responding to demand. This year animal law is being studied at the University of NSW, which ran the first course in 2005, Griffith University and Wollongong University. New courses are on the agenda for 2009 at Sydney University, Monash University, Bond University and Flinders University.

Almost no one was teaching this as a discrete subject just a few years ago. "You might have got the odd 'dangerous animals' case in a torts class, but now there are 85 law schools teaching it in the US, including Harvard." Professor Weisbrot said every state and territory now had an animal welfare act that prohibited cruelty to animals. However, it was a defence to animal cruelty to show that you were operating in accordance with standard agricultural and manufacturing practices - and that included battery chicken sheds and factory farms. He said activists, such as Voiceless, were lobbying for legislative change, undertaking community and professional education campaigns and harnessing the power of consumers.

Mr White sees the long-term benefits of students thinking about animals and the law. "It is trite, but true, to say that these graduates will go on to become litigators and prosecutors, members of parliament and the judiciary, senior policy makers within government departments, and senior managers in the private and not-for-profit sectors," Mr White said.

Source: From an article by Michael Pelly, 7th March 2008, The Australian.

Note: While not knowing the number of students involved, in the very near future there will be more animal welfare lawyers than animal welfare scientists, let alone scientists specialising in poultry welfare.

Articles in the first edition of the Australian Law Reform Commission's journal *Reform* include:

The right to life for animals and their right to go on living (Prof John M. Coetzee, Nobel Laureate in Literature, Adelaide University);

Arguments in favour of basic legal rights for nonhumans (Steven Wise; President, Center for the Expansion of Fundamental Rights Inc., Coral Springs, Florida, USA);

'Suicide foods': the anthropomorphising of animals (Prof Mark Kingwell, Uni of Toronto);

<p>Animal rights activists' case against the animal industries (Tom Regan, American philosopher and animal rights activist);</p> <p>The philosophy behind animal welfare (Geoffrey Bloom, Geoffrey Bloom & Associates);</p> <p>The law and pig farming (Dr Malcolm Caulfield, legal counsel for Animals Australia);</p> <p>Animals and the law in Australia: a livestock industry perspective (Kathleen Plowman; General Manager Policy for Australian Pork Ltd, with Alan Person and John Topfer);</p> <p>The treatment of feral animals (Graeme McEwen, Barristers Animal Welfare Panel);</p>	<p>The ethics of animal biotechnology (Professors Mickey Gjerris and Peter Sandoe, University of Copenhagen);</p> <p>Animal derived food labelling (Katrina Sharman, Corporate Counsel, Voiceless, the fund for animals);</p> <p>The common law and animal rights (Nichola Donovan, Lawyers for Animals);</p> <p>Animals, guardianship and the local courts (Ruth Pollard, Public Trustee NSW); and</p> <p>Animal law courses in Australia (Steven White, Griffith University Law School).</p> <p style="text-align: right;">John Barnett Convenor</p>
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6th Asia Pacific Poultry Health Conference and XXIII World's Poultry Congress

<p>The XXIII World's Poultry Congress (WPC) will be held at the Brisbane Convention and Exhibition Centre from 30 June – 4 July 2008. The 6th Asia Pacific Poultry Health Conference (AP6) will be the main poultry diseases stream of the WPC although there will be other health and disease topics in other concurrent streams (or main disciplines) of the Congress. These are:</p> <ol style="list-style-type: none"> 1. Welfare, husbandry and the environment. 2. Nutrition and feed technologies. 3. Processing and product safety. 4. Economics, marketing, education and extension. 5. Genetics and breeding. 6. Other species and alternative systems. 7. Physiology and endocrinology. 8. Management. <p>Each main discipline is divided into a number of themes and each theme will have one or two invited speakers who will provide an up to date overview (30 minutes) of the theme topic to be followed by presentations of selected proffered papers (15 minutes). In addition to all of this, and running concurrently, will be the 4th International Ratite Science Symposium and PIX 2008.</p> <p>Additional Sessions in the WPC Program which include Health Topics which may be of interest to AVPA members are (invited speakers in parentheses):</p> <p>HPAI impacts in village poultry (Jonathan Rushton, Joerg Henning)</p> <p>Food safety and quality (several sessions)</p> <p>GIT microbiology (Valeria Torok)</p> <p>Sequencing the chicken genome (David Burt)</p> <p>Skeletal disorders (Mark Pines)</p> <p>Immunology of the GIT (Peter Kaiser)</p> <p>Immunology of the GIT (Andrew Bean)</p> <p>Metabolic disorders (Bernard Carre)</p> <p>Alternatives to pharmaceuticals (Peter Scott)</p> <p>Biosecurity in the poultry industry (Gideon Zeidler)</p>	<p>The Brisbane Convention and Exhibition Centre venue is well planned and will allow delegates to move easily between talks of their choice. The Scientific Program Committee is endeavouring to structure the Program to try to avoid clashes of simultaneously running related topics.</p> <p>The morning sessions on each day of the Congress will be devoted to a Plenary available to all delegates to attend. A short biography of each keynote plenary speaker was published in the last edition of <i>DANDER</i>.</p> <p>There will be a single registration for all conference delegates, including AP6 (although PIX 2008 has a separate registration). The WPC/AP6 registration form was provided as a PDF in the previous edition of <i>DANDER</i>. Registration is also available online at www.wpc2008.com.</p> <p>Financial members of the AVPA are eligible for the same discounted rate as WPSA members, a saving of \$200. Please indicate that you are an AVPA member on the registration form.</p> <p>The AP6 Provisional Scientific Program, including invited speakers is on page 16 of <i>DANDER</i>.</p> <p>WPC/AP6 is a not to be missed event for anyone interested in poultry science. There will be something for everyone and even more! AVPA members will be particularly welcome.</p> <p>Immediately following WPC/AP6 will be the 8th International Marek's Disease Symposium in Townsville.</p> <p style="text-align: right;">Kevin Whithear Chair AP6 Scientific Program Committee</p>
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OBITUARY

Arnold 'Rosy' Rosenwald

1909 – 2008



A number of AVPA members were fortunate to have a professional and personal association with Rosy for many years when attending Western Poultry Disease and American Association of Avian Pathologist Conferences in the USA or AVPA Asian Pacific Conferences in Australia. He believed in education and in conferences and extension activities as the way to progress poultry veterinary science. In addition to clinicians he saw managers, consultants, diagnosticians and poultry disease researchers as practitioners of the art and science of veterinary medicine.

Rosy died on January 23 at the age of 98 while still involved in poultry extension organisations.

His career and contributions to poultry medicine spanned more than 70 years. He completed his doctor of veterinary medicine degree at Kansas State University in 1936, and went on to earn a master's degree in bacteriology from Oregon State University in 1942, and a doctorate in veterinary science from the University of Wisconsin-Madison in 1956.

In the thirties he worked for the U.S. Department of Agriculture inspecting red meat, investigating swine brucellosis and sheep scabies and testing sheep for tuberculosis. He then served, from 1937 until 1942, as an assistant professor of veterinary science and assistant veterinarian in the Agricultural Experiment Station at

Oregon State University. During World War II he was a veterinary officer with the rank of captain in the Veterinary Corps of the United States Army, where he served as a veterinary bacteriologist for the War Department's Special Project Division and cared for the veterinary needs of the birds in the Signal Pigeon Corps.

After his war service he accepted a job as the first extension poultry veterinarian at the University of California, serving at UC Berkeley for four years and then at UC Davis from 1950 until he retired in 1977.

He was a charter and life member of the American Association of Avian Pathologists and served in multiple roles, including president, secretary-treasurer, publicity officer, and editor of Avian Diseases from 1961 to 1965.

He was a founder of the Western Poultry Disease Conference established in 1951 to exchange ideas and promote effective, coordinated poultry health measures and he made it into a renowned international conference on avian diseases.

He was a teacher, a mentor to many, and an extension expert and helped many Australian poultry veterinarians to see the industry as a worthy client and offering a challenging career.

Paul Gilchrist

OBITUARY

Malcolm J Lancaster 1958 - 2007



Born at Nathalia in 1958, Malcolm had a boyhood in the bush with close connections to the farming community in North Central Victoria and this no doubt influenced his philosophical attitudes to his veterinary science career and his commitment to public service for the agricultural industries. Malcolm gained a Victorian government cadetship in 1976 to study veterinary science and he graduated BVSc with honours from the University of Melbourne in 1980. He was one of the last veterinary cadets of the Victorian Department of Agriculture, and repaid the investment many times over in his career at the Bairnsdale and Benalla Regional Veterinary Laboratories between 1980-1995 and at the Department of Primary Industries, Attwood, between 1995-2007.

He had a somewhat jaundiced view of individuals with overt ambition and preferred to focus on his own objectives rather than aspire to recognition from others. The personnel intellectual challenge far outweighed the issues of institutional status for Malcolm. Despite these attributes he was one of only a handful of Australian scholars to pass all four elements of the Diploma offered by the American College of Veterinary Pathologists on the first attempt in 2006.

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Aside from his world class standing he achieved as a pathologist he was also very committed to the maintenance of DPI's corporate industry knowledge, and the ability of the pathology group to maintain relevance to the agricultural industries and the field veterinarians. He had recently instigated a pathology training course for government and private veterinarians that received very positive reviews from his colleagues. From 2004 to 2007 Malcolm chaired the Victorian Poultry Health and Welfare Liaison Group.

He maintained a keen scientific interest in most of the disciplines that underpinned pathology, and could debate authoritatively most scientific hypotheses proposed by his colleagues and scientific support staff. Malcolm was never the person however to push his thoughts or theories on other people, but would always make time to discuss issues or problems raised by others.

He had a keen interest in politics and seemed to favour the left rather than the right in his attitudes to society, economics and social politics. Despite Malcolm's scientific focus in the field of pathology, he always maintained a capacity to see the big societal issues and would gently bring people down to earth with elegant logic if he thought individuals held extraneous or outrageous views. His dry wit and satirical humour will be sadly missed by his close colleagues.

Such a pity to lose someone with such integrity, and commitment to scientific ideals, that was combined with a highly tuned analytical capacity. Malcolm had contributed much to Victorian and Australian agriculture, and his scientific contributions will be sadly missed by his colleagues in the Department of Primary Industries, Victoria and the broader veterinary profession.

Greg Parkinson and Robin Condon

This obituary was first published in the Australian Veterinary Journal

Erysipelas in chickens – A multi-veterinary perspective

George Arzey
NSW DPI

Erysipelas - from ERYTHROS, red in Greek and from PELAS, skin, in Latin.

*Red skin, pity,
I have not seen.
Perhaps the erythros mite,
plunged a serrated knife
in the middle of a dark night?*

*Or was it Ascaridia galli,
white and dull,
meandering the chicken hull?*

Introduction

A recent case of erysipelas in chickens housed in a barn/free range enterprise has raised a few interesting questions about the pathogenesis and epidemiology of the disease.

My last encounter with erysipelas was in turkeys in the early 1990's. Red skin was not a feature but I vividly remember that one could boil a billy on their fresh carcasses. My wife coined the phrase "self cooked turkey". Indeed the literature lists pyrexia as one important clinical aspect in turkeys and generally the disease is associated with obvious septicaemia in these birds. Sudden death probably due to emboli is also common and the list of "magnificent" lesions includes ecchymotic haemorrhages on muscles, fat, heart, liver and spleen, focal areas of hepatic necrosis, and degenerative changes are often reported. Enlargement of the liver and spleen, congestion of the lungs etc has been reported. Endocarditis and skin encrustation have been reported in a few chronic cases. Histologically, in turkeys, vascular changes dominate the picture; generalised engorgement of blood vessels in most organs, intravascular aggregation of bacteria accompanied with fibrin thrombi. The cellular inflammatory process in acute cases was reported to be minimal but in subacute and chronic cases the inflammation is more prominent. Damage to parenchymal cells is generalised.

I have seen erysipelas also in ducks. It was associated with a significant mortality and on autopsy the gross pathology observed was the accumulation of serosal fluid in the pericardial sac.

Bisgard and Olsen (1975) reported histological lesions in chickens to be similar to turkeys. Egg production in the flock suffering up to 33% mortality was reported to be unaffected. Unlike turkeys and pigs, endocarditis, joint and skin lesions were absent. The course of the disease was short and most affected birds died within 24 hours. Interestingly, Bisgard & Olsen reported also greyish spots 3-4 mm in diameter on the liver of affected chickens. Perhaps something to keep in mind next time one encounters what appears to be Spotty liver....

The 1978 edition of Disease of Poultry lists general weakness, depression, diarrhoea and sudden death as clinical signs in chickens. Generally, text books of

diseases of poultry list and elaborate on the clinical and pathological picture in turkeys but little is written about chickens or other fowl.

In cage layers, erysipelas was reported to produce among others; obvious septicaemic signs like muscle and visceral haemorrhages, also large dark crusty areas on the skin particularly on the back (Ahmed et al, 1993). Skin scratches were seen on all dead birds and the presumptive portal of entry was apparent.

The case that I am about to describe, fortunately, involved a few colleagues that like me finished up visiting the ill-fated chicken farm or had the opportunity to autopsy birds delivered to the labs. The lengthy investigation over a period of 4 months and the combined power of observation by various participating veterinarians provided me with the confidence to conclude that little is known about some aspects of erysipelas in chickens and the number of papers dealing with this disease entity that followed proper clinical and pathological examination of chickens could be counted on one hand.

I was surprised to learn that a significant number of erysipelas cases occurred in chickens housed on wire (Bisgard and Olsen 1975, Ahmed et al 1993).

Erysipelas was first recognised in 1880. In 1936 Van Es and McGrath citing Nocard et al 1903 (cited by Rosenwald et al in Hofstad 1984) on erysipelas; "At the present state of our knowledge it is impossible to explain the mysterious behaviour of the contagion". The 1984 Disease of Poultry text book has acknowledged that "Basically this is still true".

I have not discovered significant advancement of our knowledge in the last 25 years although the 1984 Poultry Disease comment; "Basically this is still true", could not be found in the 2003 Edition of Poultry Diseases but nevertheless, this edition acknowledged that "the mechanism by which the organism causes disease is still not very well understood".

According to Dr F Hoyle, some diseases of poultry could have their origin in the stratosphere and I was extremely disappointed recently when the space shuttle Atlantis returned to Earth without any additional clues on erysipelas. So while I am still keen to observe meteorites, comments and star dust, I was forced to explore dusty "ancient" text books and veterinary journals.

Clinical background of this case

October 2007- Mortality was first encountered on a large flock of barn/free range layers housed in 3 large fully slatted houses with centrally placed egg laying boxes and conveyers. The sheds are climate controlled. Only one strain of layers was present on the farm. The initial mortality was observed in a 54 week old flock. The original number of birds in this flock was 15,400 pullets.

November/December 2007 – Reported mortality of up to 1% per day was continuing in some flocks on the farm. Spotty liver was suspected following autopsy by the experienced serviceman who reported greyish white spots on the livers of dead birds.

Peritonitis was reported. Loss of feathers in a large number of birds was evident. No red mites were observed on the birds although one would not expect to find this mite on birds during the day

Up to this stage although birds were submitted to a laboratory, *Erysipelothrix* was not isolated mainly perhaps due to the poor state of decomposition of the submitted specimens. Spotty liver was ruled out.

A partial response to medication with chlortetracycline was reported but relapse occurred when medication was discontinued.

A veterinary visit (Vet A) in mid December concluded following autopsy of 15 birds that there was no evidence of Spotty liver and “it is likely that mortality was due to changes in the compliance of the lung and underlying metabolic or multi-factorial disease”. No birds with evidence of clinical disease were detected except for one extremely depressed bird. Most of the dead birds were reported to be in relatively good condition and gross pathology included hepatic, spleen and renal congestion including focal lymphoid infiltration and haemorrhages particularly affecting the liver (subcapsular and extracapsular haemorrhages). Pulmonary congestion and fibrosis was also evident. Ovaries were reported to be with variable degrees of congestion. Generally, livers, spleens and kidneys were often enlarged or swollen. The investigator commented that “the changes do not indicate a clear cut disease or syndrome”.

Bacteriological samples were collected but not processed because of the on-going antibiotic treatment.

Mites (presumably red mites), were detected in at least one shed and birds in another shed showed evidence of feather damage and pecking behaviour.

Feed consumption and production were within the expected normal range.

January 2008- The first isolation of *Erysipelothrix* from birds collected on the farm by the ranger employed by the Rural Lands Protection Board was reported. Following autopsy, a veterinary pathologist concluded that “**the cause of death is not obvious**”. Spleens were found to be slightly enlarged in most birds and the ovaries slightly congested. No haemorrhages were seen, nor was peritonitis evident. There was no evidence of diarrhoea.

On histological examination there was evidence of thrombi in liver and kidneys. Hearts were congested with abundance of bacteria in small capillaries. Interstitial myocarditis was evident in some specimens and bacteria were evident in the lumina of brain vessels. Acute necrosis was also evident in the liver and spleen. The pathologist’s comments were that “the histological findings were consistent with acute bacterial septicaemia typical of *Erysipelas*”.

A veterinary visit (vet B) found rodent activity (deduced from the baiting stations) and high level of infestation with red mites in the nest boxes and immature ascarids in the intestines of dead birds. Severe feather loss was reported in birds using the nest boxes. **No evidence of septicaemia was reported.** The flocks responded favourably to treatment with Piperazine and application of insecticides. Following this treatment mortality levels were reported to be “a lot lower”.

Swabs taken to a laboratory for culture did not yield *Erysipelothrix*.

Mid February 2008 - Another veterinary visit (vet C). Mortality of 5-15 birds per day/flock was still recorded. The number of birds reported in one of the infected shed was 7,800 (at placement - 15,400). Thus, approximately 50% loss occurred since placement. Hen-house egg production was not obviously affected. The autopsy of 5 recently dead birds with good feather covering was uneventful; mainly slight enlargement of the liver and spleen. No red mites were found either on the birds or in the shed. There was no evidence of ascarids or any other internal parasite. No obvious signs of septicaemia were noted although one bird was showing mild pectoral muscle congestion.

Erysipelothrix was cultured from liver, spleen and heart of the dead birds submitted to NSW DPI laboratory at Menangle.

March 2008 - Subsequent to this visit, frozen dead birds were delivered to a laboratory in order to obtain fresh isolates of *Erysipelothrix* for the purpose of bacterin production. Autopsy on six birds concluded that 2/6 had egg peritonitis with no obvious other lesions. 1/6 had no obvious lesions 1/6 was autolysed and 2/6 had carcasses that appeared septicaemic with enlarged and congested liver and spleen as well as congested lungs. *Erysipelothrix rhusiopathiae* was isolated from the 2 septicaemic birds and from the bird with no obvious lesions.

Some interesting aspects of pathogenicity need to be considered.

While erysipelas was reported to be pathogenic for turkeys of any age by a variety of routes, in older chickens, experimentally infected, septicaemia was reported to be produced only by the intrapalpebral and subconjunctival routes and only when injury to these tissues occurred simultaneously.

Histological examination of the conjunctiva of 2 birds from this farm submitted in January 2008 revealed that one had no significant findings and another conjunctiva had “microthrombi and bacteria in the sub-mucosa”. No evidence of conjunctival injury was reported.

Following parenteral administration of the organism it was reported that chickens usually survive.

What the route of infection was in these chickens remains unclear.

What role is played by rodents? Are they a primary vector? Are they part of the mite-chicken cycle?

Mechanical transmission from sick rats to pigeons via various biting flies and mosquitoes has been reported (rodent activity was observed by Vet B).

E. rhusiopathiae has been isolated in nature from rodents. However, Ahmed et al (1993) reported the trapping of hundreds of rodents in the environment of an erysipelas infected flock but culture of a sample of these rodents was negative.

Are red mites a part of the epidemiological equation as mechanical vectors or is their presence an additional stress that affects resistance to this and perhaps other diseases?

Is the irritation to the skin caused by mite infestation a triggering point for skin damage and penetration of the bacterium?

The chicken red mite has been reported to transmit fowl cholera and *Borrelia anserina* and this mite was also reported to carry some arboviruses.

Typical erysipelas skin lesions were not reported during this episode. Skin scratches were not observed by me nor were they reported by other investigators during this investigation.

Mites were reported following 2 visits in December 2007 and January 2008. However, it is likely that mite infestation was present in the earlier stages of the outbreak if feather loss is an indicator. Indeed, evidence of feather damage and pecking behaviour was reported in December 2007.

Red mites were not observed in the shed or on the birds after January 2008 following the treatment with insecticides but mortality from erysipelas continued. Thus, the role of red mites is not clear although the primary introduction could have been associated with rodent-mite-chicken cycle. However, bearing in mind that in older chickens septicaemia was reported to be produced only by the intrapalpebral and subconjunctival routes and only when injury to these tissues occurred simultaneously (Rosenwald et al 1984), the pathogenesis and portal of entry still remain unclear although this case perhaps suggests that feather and skin damage may be a significant initiating factor.

Is the ingestion of infected carcasses a likely route of erysipelas infection in chickens?

Ingestion of pieces of contaminated carcasses by birds in this farm was likely and at least one dead bird that was autopsied in February 2008 was missing parts of the intestines. While 50% mortality was produced experimentally by the oral route in turkeys, it has been also reported that broth culture of *E. rhusiopathiae* administered orally or intra-nasally to turkeys with no damaged membranes did not produce a disease (Rosenwald et al 1984).

Is the damage to mucosal membranes from wandering immature Ascarids a significant factor?

As previously mentioned – in older chickens, septicaemia was reported to be produced only by the intrapalpebral and subconjunctival instillation of *E. rhusiopathiae* and only when injury to these tissues occurred simultaneously.

Intestinal tissue damage, possibly associated with worm burden, was not reported during these investigations.

Immature worms or mature ascarids were not observed prior to January 2008 (vet B) or after January during the February and March investigations.

Why were mature birds still dying (with *E. rhusiopathiae* being isolated), 2 months after the apparent elimination of the red mite and roundworm problem from the flock?

Did the worms play a role in this case or was this an incidental finding that could have resulted in a synergistic detrimental impact when associated with *E. rhusiopathiae* infection?

This remains unclear.

Final comments

The plethora of veterinarians involved between November 2007 and March 2008 is a testimony to the vagueness of the clinical and pathological findings associated with erysipelas in these chickens. It has also demonstrated that the cause of death with some bacterial diseases is not always obvious and it could be beneficial to submit specimens for culture even when there is no gross obvious evidence of an infectious disease.

Erysipelas is believed to be uncommon in chickens, however, the true prevalence of this organism in chickens in Australia has not been elucidated. A serological survey in Japan (Takahashi et al 2000), examining chickens for the presence of agglutinating antibody, found 5.5% of chicken sera to have high titres against *E. rhusiopathiae*, ranging from 1:16 to 1:128. These findings indicate that the rate of *E. rhusiopathiae* infection among chickens in the field could be higher than what is believed to be the case.

The epidemiology and pathogenesis of the disease is unlikely to be elucidated unless fundamentals like prevalence among chickens, portal of entry and the ability of the organism to survive in the environment are resolved.

Inconsistencies in the reported survival time of *E. rhusiopathiae* in the environment are apparent. Up to 8 years survival was reported by Hall (1963) but Wood (1973) concluded that the organism did not survive longer than 11-18 days in organic matter and only 2 days at a temperature of 30°C which is the likely temperature in the outside environment of many free range flocks during the summer months in Australia. While an empty piggery is within a distance of 1km from these chickens, this piggery has been empty for at least 12 months and the survival of the organism on the empty pig farm is a matter for conjecture.

The flocks affected were not on any meat or fish ingredients (Fish and fishmeal were reported to be a probable source of erysipelas infection for avian species in a number of papers).

Since these birds are somewhat free range, the acquisition of infection from wild birds could be considered since *E. rhusiopathiae* has been reported to be present in a variety of wild birds. However, the presence of this organism in wild birds is generally not considered to be common (Thomas et al 2007).

Perhaps when one sees a flock with sporadic mortality but "Nothing definite" one should remember the last case of erysipelas in NSW between 2007 and 2008.

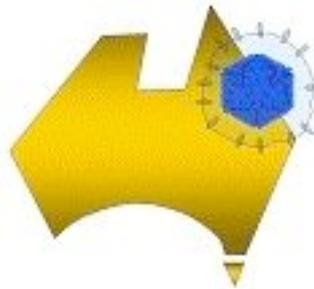
This case highlighted that 19th century mysteries are still not entirely resolved and chickens with little feather coverage might benefit from the ability to decipher ancient Greek and Latin or perhaps just from a good spray of common sense and tender loving mist of an insecticide and a touch of a steady broom

Acknowledgements

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On behalf of the organising committee I have pleasure in informing you that we are now accepting abstracts for the symposium. Registration is now available

Arrangements of the symposium are proceeding quite well and it promises to be a very stimulating event. There will be a great social program and the scientific program is starting to take shape with some excellent keynote speakers.

Graham Burgess

A Mysterious Illness from the 16th Century – Could it happen again?

In the December 2007 edition of *DANDER*, Susan Bibby contributed a short extract of an article published in the Medical Journal of Australia late last year. The article described a catastrophic illness causing high mortality in chickens and people at an isolated Portuguese colony in north-east Indonesia in the 16th century.

The AMJ article speculated on possible causes both infectious and non-infectious. With chickens involved Susan and the Editor decided that this was something to test the diagnostic acumen of the AVPA membership.

A bottle of fine Portuguese Port was kindly donated by the MD of Scolexia, Peter (spare no expense) Scott, as incentive to get the grey matter active.

As usual, we were overwhelmed with contributions from AVPA members describing what may have been responsible for this apparent zoonotic epidemic.

Unfortunately, there can be only one winner, the contribution by **George Arzey** was considered by the judges to be the most lucid, comprehensive and interesting.

The Managing Director of Scolexia at the conclusion of the AGM in Brisbane on 31 June 2008 will present George with his prize. An event not to be missed!

George's contribution is reproduced below. It will provide students of poultry medicine with an incite into how a great diagnostic mind works.

Dear Susan,

Perhaps the fine Portuguese Porto should be offered "on credit" ahead of the competition to enable AVPA members to tackle the task with euphoric enthusiasm and greater imaginary capacity that an Oporto wine sometimes, I am told, inspires. I do not believe that it is possible to solve these clinico-historical mysteries without a good measure of wine tasting and group harmonisation.

Scolexia should consider resolving this historical puzzle around a wintry campfire with AVPA members clutching desperately a good bottle of port and the latest edition of Diseases of Poultry. Considering the weight disparity between the text book and a bottle of port, perhaps a few good bottles of port are required.

It was not until the mid 16th century that the art of making Portuguese port was perfected and one could suspect that Captain Antonio Galvao could have consumed port of uncertain GMP and of qualities that could bring inconsistency to visions in the darker nights of the Maluku Archipelago.

The natural inclination of humans to spin stories in dark nights is well known in some parts of the globe. Most notable among them is the One Thousand and One Nights by Queen Scheherazade. The treatise that the MJA refers to, was written between 1536 and 1539, a period not dissimilar in length to one thousand nights. Sheer coincidence I suspect.

The treatise attributed to Captain Galvao by Sanjaya N Senanayake and Brett C Baker (MJA 2007; 187 (11/12): 693-695) in the December MJA, is not signed. If indeed it was written by him, a man regarded with great esteem by the inhabitants, it should be offered courtesy and should receive the benefit of the doubt and the quality of the red consumed by the Portuguese on dark Moluccas' nights should not be questioned, nor should the tale of the "natural torch in the sky" be questioned with great vigour. However, it is paramount to question the correlation between the events and some of the reasoning given in the MJA for dismissing influenza as the possible illness.

Another element that could be questioned is the absence of references to the arrival of several Spanish expeditions in the Muluka Islands during the early 16th century. As the

Portuguese and Spaniards were rather annoyed at the company of each other through much of history, it is unlikely that the light in the sky was a result of welcoming fireworks and the reference to a 'natural torch in the sky' could indeed be the presence of a comet that unfortunately was never named.

Should the arrival of Spanish expeditions be entirely dismissed as a potential epidemiological source of maladies when historical accounts describe so well the introduction of infectious agents into the Americas and other parts of the universe by the visiting/colonising Europeans?

Were the Portuguese beyond reproach in their understanding of Quarantine and the spread of disease? The Galvao treatise mentioned that not only the indigenous population was affected. However, no details are provided on the ratio of mortality among the indigenous population and the Europeans. Therefore, an introduction by the Europeans of a disease should not be overlooked. It is possible that some Europeans were not exposed previously to the influenza virus strain and therefore were also susceptible as the indigenous population.

Is the appearance of the 'torch in the sky' a coincidence or an epidemiological factor or is it a reflection of humanity's natural tendency to blame and credit the sky for maladies and cures? After all, the name **INFLUENZA** originated from Medieval Latin *influentia*, 'influence' (so called apparently from the belief that epidemics were due to the influence of the stars).

Was Captain Galvao entirely free of the medieval influence? In a previous issue of *DANDER* I mentioned Dr Fed Hoyle's- "star dust and influenza".

Interestingly, the paper in the MJA believes that the phenomenon described in the sky was more likely to be due to a comet rather than meteorites.

Studies of Comets Halley and Wilson yielded data that was remarkably consistent with biological composition of comets. The data came from in situ mass spectroscopy of Comet Halley carried out using instruments aboard the Giotto satellite, as well as from infrared spectroscopy.

"The idea of comets periodically introducing biologically active particles at the top of the stratosphere would thus seem to have acquired a measure of independent empirical evidence" (Journal of the Royal Society of Medicine Volume 83 April 1990)

"Peaks of solar activity will undoubtedly assist in the descent of charged molecular aggregates (including viruses) from the stratosphere to the ground level. Thus, according to our present point of view serious influenza epidemics would follow such peaks, provided the culprit molecular aggregates were recently dispersed in the stratosphere from cometary streams".

With the benefit of latter years research, perhaps a different understanding of the evolution of influenza viruses is a luxury that was denied to Dr Hoyle and Professor Chandra Wickramasinghe when they published the above in the Journal of the Royal Society of Medicine Volume 83 April 1990 Influenza - Evidence against contagion: discussion paper.

Their paper is covered with less dust than the Galvao treatise and a paper discussing an affliction related to an appearance of a comet should examine with due diligence the papers by Hoyle and Wickramasinghe.

Epilogue

The correlation between the 'torch in the sky' and the disease has not been established and no account is given in the treatise of clinical signs either in chickens or human.

The MJA paper excluded avian influenza from the list of possible diseases on the grounds that

- there are no similarities in the death rate between the 1536 malady and the current H5N1
- no similar clinical pattern to H5N1
- the length of time required for a mutation to achieve adaptation to rapid human spread is inconsistent with the rapidity of the spread in the Muluku Archipelago

These arguments could be questioned since if it was avian Influenza, it is not known what subtype of Influenza A virus was involved and other Influenza A subtypes have produced significantly higher death rates than H5N1. Notably, H1N1 in 1918, H2N2 in 1956 and H3N2 in 1968.

No clinical signs are described in the Galvao treatise and therefore, it is not correct for the authors in the MJA paper to state that there was no similar clinical pattern to H5N1.

A rapid mutation of an avian influenza virus to a human adapted virus is indeed unlikely but reassortment between a human influenza virus and avian influenza virus may not require gradual adaptation to human receptors depending on the RNA segments that are exchanged as the case appeared to be with the 1956 and 1968 pandemics.

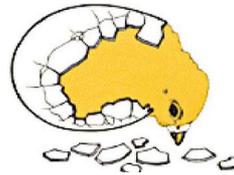
It should be noted that a probable influenza pandemic was reported in 1510 spreading from Africa to Europe and in 1557 another possible pandemic was reported with a third pandemic in 1580 spreading from Asia to Europe (Potter CW J of Appl. Microb. 2001 Vol 91 pp572-579). Thus, the 16th century was laced with at least 3 possible pandemics and the period reported in the Galvao treatise (1536-1539) is wedged between at least 2 possible pandemics reported in Asia, Europe and Africa. Therefore, it could be argued that the odds that Europeans carted influenza viruses to the Muluku Archipelago are not necessarily low.

All the above reasons make influenza virus a realistic possibility and the reasons given in the December MJA paper for excluding avian influenza are not necessarily sustainable

Nevertheless, the sickness mentioned by Captain Galvao may indeed not be influenza A but if Galvao's unsigned treatise of the disease is to be considered as an account written without the inspired flair of Portuguese port, one of the possible conclusions that can be reached is that comets and stardust have the capacity to introduce previously unknown diseases and when it comes to star dust the 'eagerness' of the chicken to contract the disease first is perhaps a reflection of their perspective on life, foraging capacity and ability to find stardust where no human eyes could compete.

Unless, of course, an unsigned account and numerous other publications are just bull dust which humans have a better natural ability and inclination to find and perpetuate.

George Arzey



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