The Paratuberculosis Newsletter

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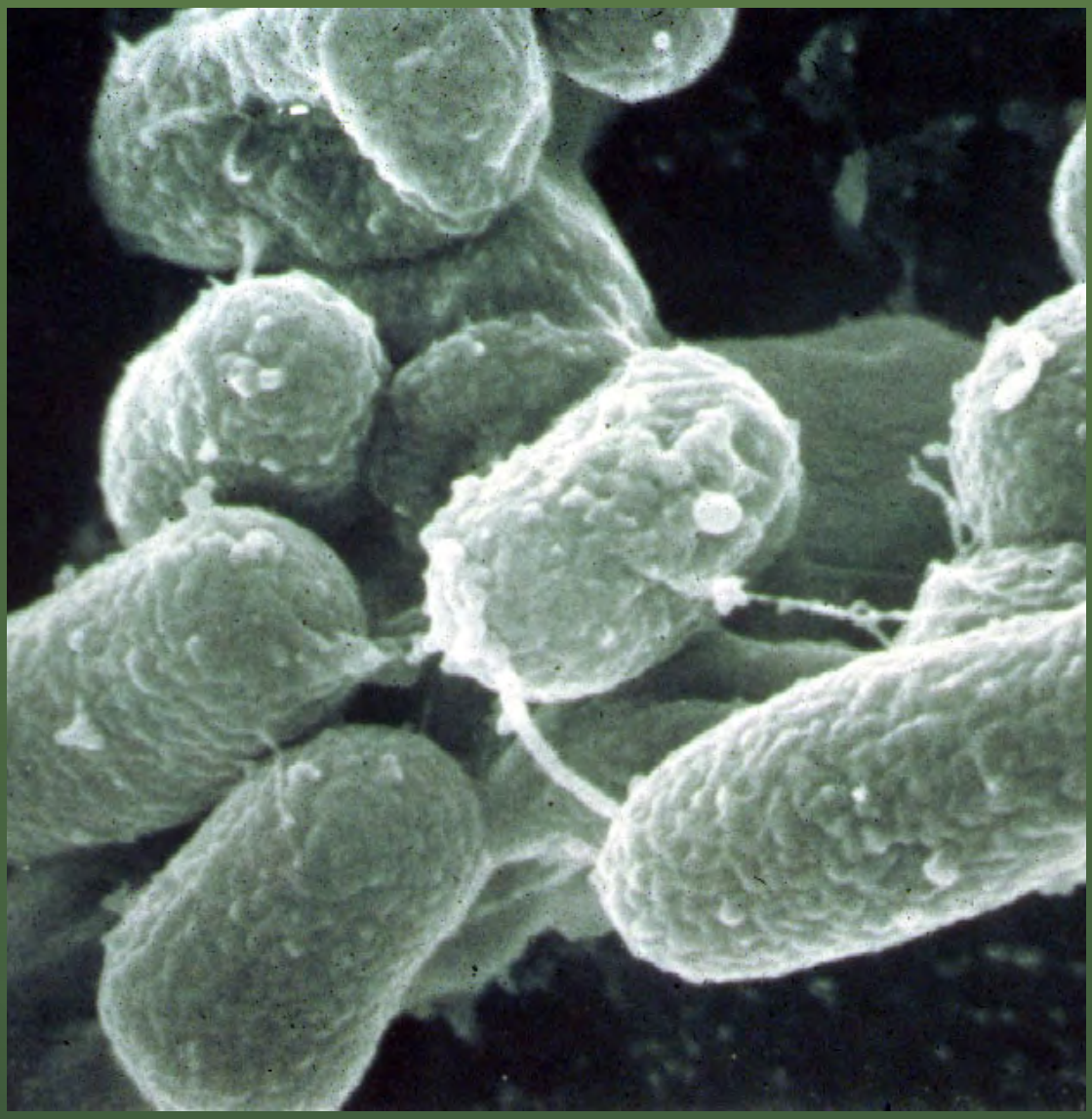

CONTENTS

Note from the Editor

As I gathered information for this issue of the Newsletter, the scarcity of peer-reviewed publications on paratuberculosis during the last few months surprised me. Is it because we had our colloquium this year and we are all exhausted? Perhaps not, as there have been many presentations on paratuberculosis at other conferences (hint: download the newsletter if you want to find out more). Or are we getting ready for the next colloquium? I certainly hope so, as planning for the next ICP in Dublin is progressing well. Read on to get to know the Chairs for the scientific sessions.

Kumi de Silva

Thank you to Johnes.org for the cover image of *Mycobacterium avium* subspecies *paratuberculosis*

IAP business

Equity and Access Policy

The draft policy was circulated to the IAP Board for comment and was revised by the Working Group (Kumi de Silva, Marta Alonzo-Hearn and Herman Barkema) based on responses from the Board. The IAP Executive is currently assessing this revised draft.

International Collaborative Research Grant Program (ICRGP)

The IAP Board has approved the establishment of a program to offer grants for collaborative research on paratuberculosis. The goal of the ICRGP is to provide seed funding to initiate and foster international research collaborations and/or to support and aid existing collaborative efforts that support the goals of the IAP. Further details will be available soon.

15th ICP: www.icpdublin.com

The Chairs for the scientific program have been confirmed and are:

Bryan Markey
Diagnostics and detection

Bryan Markey is Associate Professor of Veterinary Microbiology and Head of Section of Veterinary Pathobiology at University College Dublin. He has broad interests in infectious diseases of animals and is co-author on a number of international textbooks on veterinary microbiology. He is currently vice president of the European College of Veterinary Microbiology. His principal research interests are enzootic abortion of ewes and Johne's disease. He is a member of the Technical Working Group of Animal Health Ireland that advises on the control of Johne's disease in Ireland. He is also the Irish representative on the Board of IAP.

Sam Strain
Host response and immunology

Sam Strain is Chief Executive of Animal Health and Welfare Northern Ireland (AHWNI). He has worked in mixed general practice and undertaken research into mycobacterial infections including the early pathogenesis of tuberculosis and Johne's Disease, the evaluation of novel vaccine and diagnostic targets for bovine mycobacterial diseases and the effect of parasite co-infection on mycobacterial immune responses and disease outcomes. He is currently a member of the Animal Health Ireland (AHI) Technical Working Group providing technical input into the AHI Johne's Control Programme and the scientific member of the TB Eradication Partnership group tasked with overseeing the Northern Ireland bovine TB eradication programme.

Irene Grant
Public health and Map in the environment

Irene Grant is Professor of Microbiology and Food Safety at Queen's University Belfast. She has been working on *Mycobacterium avium* subsp. *paratuberculosis* (MAP) for 25 years, developing improved methods to sensitively and specifically detect viable MAP in milk and dairy products, assessing the efficacy of dairy processes to inactivate MAP in milk, and, most recently, testing the blood of Crohn's patients for evidence of viable MAP.

Lorna Citer

Control programs

Stephen Gordon
Pathogenomics and Map biology

Stephen Gordon is a Professor in Infection Biology at University College Dublin. His research focus is tuberculosis in animals and humans and Johne's disease (paratuberculosis) in cattle. Current research includes describing the molecular basis for the differential virulence of the human tuberculosis pathogen *Mycobacterium tuberculosis* and the animal tuberculosis bacillus *Mycobacterium bovis*; characterising mycobacterial pathogen virulence factors; and developing new diagnostic approaches for mycobacterial infection.

Conor McAloon
Epidemiology and Economics

Conor McAloon is an Assistant Professor in the Section of Herd Health and Animal Husbandry in the School of Veterinary Medicine, University College Dublin. He is a veterinarian and a Diplomate of the European College of Bovine Health Management and is interested in all areas of cattle health and production. He completed his PhD on the epidemiology and control of paratuberculosis in Irish dairy herds in 2017. He is currently involved in research across a range of areas important to the Irish cattle industry primarily paratuberculosis and calf health but extending to other infectious diseases of cattle, as well as syndromic surveillance, antimicrobial use, fertility, welfare and biosecurity.

Job Opportunities

Assistant/Associate Professor of Anatomic Pathology

University of Wisconsin-Madison

The Department of Pathobiological Sciences, University of Wisconsin-Madison School of Veterinary Medicine, is seeking candidates for a clinical- or tenure-track faculty position in the field of anatomic pathology to join departmental faculty with expertise in infectious diseases (immunology, parasitology, bacteriology, virology, epidemiology, and public health) and comparative pathology (anatomic and clinical).

Interested applicants should apply at the appropriate following online application site:

- Tenure track position: http://jobs.hr.wisc.edu/cw/en-us/job/499566/assistant-professor-of-anatomic-pathology
- Clinical track position: http://jobs.hr.wisc.edu/cw/en-us/job/499565/assistant-clinical-professor-for-anatomic-pathology

Application deadline: **December 15, 2018**

Assistant or Associate Professor - Canada Research Chair Tier 2 in One Health

Ontario Veterinary College

The University of Guelph is seeking applications and nominations for a Tier 2 Canada Research Chair in One Health . The appointment will be tenure-track at the rank of Assistant or Associate Professor. Tier 2 Chairs are awarded for a five-year term and can be renewed only once.

https://www.uoguelph.ca/facultyjobs/postings/ad18-68.shtml

Review of applications and nominations will begin on **December 18, 2018** and will continue until the position is filled.

Paratuberculosis News

Phase 2 of the Johne's Control program in Ireland starts in January 2019. Financial support is being offered to participants of this voluntary program.
https://www.independent.ie/business/farming/schemes/new-johnes-programme-launched-with-financial-support-for-four-years-37574001.html

Johnes.org recently summarised publications on ovine paratuberculosis in Uruguay, comparison of PCR tests for diagnosing ovine paratuberculosis and copper on MAP viability

The Actiphage™ kit is reported to be able to detect paratuberculosis in 1-day old calves https://www.animalshealth.es/profesionales/la-deteccion-de-la-paratuberculosis-en-terneros-de-1-dia-ya-es-posible

https://www.fwi.co.uk/livestock/health-welfare/diagnostic-kit-finds-johnes-in-day-old-calf

The Bovine Veterinarian reported on progress towards a genetic test for paratuberculosis based on milk ELISA scores https://www.bovinevetonline.com/article/genomic-test-johnes

Upcoming events

- 15th ICP on 13-18 June 2020 in Dublin, Ireland

- 7th International Conference on *Mycobacterium bovis*

- International Veterinary Immunology Symposium 2019 in Seattle, USA

- 16th ICP in 2022 Jaipur, India

News from other conferences

5th EAVLD

14-17 OCTOBER 2018, MCE BUSINESS AND CONFERENCE CENTRE, BRUSSELS

The European Association of Veterinary Laboratory Diagnostics meeting held in Brussels recently had many presentations related to paratuberculosis. These included:

- *Mycobacterium avium paratuberculosis* antibodies in milk as a prognostic indicator of Johne's disease in dairy cows: R. Sibley, United Kingdom
- Detection of active infection of new-born calves by *Mycobacterium avium* subsp. *paratuberculosis* (MAP) in first days of life: C. Pelletier, France
- Construction of the reference standard for the detection and quantification of *Mycobacterium avium* subsp. *paratuberculosis* by quantitative PCR in faeces: P. Králík, Czechia
- Validation of a new serology tool for Johne's disease in cattle, including preliminary validation for bovine milk and caprine serum: S. Hines, USA
- The use of web based tools to support interpretation of IDEXX milk ELISA Johne's results in the UK: P. Orpin, United Kingdom

The recent International Symposium on Veterinary Epidemiology and Economics also had several presentations on aspects of paratuberculosis including:

- Prevalence of *Mycobacterium avium* subsp. *Paratuberculosis* infections in Canadian dairy herds: H. Barkema
- Insight from epidemiological and animal movement data on bovine paratuberculosis infectious dynamics at a regional scale: G. Beaunée
- Sensitivity and specificity of fecal culture in liquid medium to detect paratuberculosis infections in Québec dairy herds, using a hierarchical Bayesian latent class model: J. C. A. Sabogal
- Evaluation of efficiency of environmental sampling in the national surveillance for *Mycobacterium avium* subspecies *paratuberculosis* in Japan: T. Yamamoto
- Environmental transmission and management of *Mycobacterium avium* ssp. *paratuberculosis*: an individual based modeling approach: K. Ceres

- Determination of shedding levels of *Mycobacterium avium paratuberculosis* in New Zealand sheep farms using a direct faecal qPCR method: M. Gautam
- Incidence of fecal excretion of *Mycobacterium avium* subsp. *paratuberculosis* in dairy cows before and after the enrolment in the Québec Voluntary Program J. C. A. Sabogal
- Environmental sample characteristics and herd size associated with decreased herd-level prevalence of *Mycobacterium avium* subspecies *paratuberculosis*: C. Corbett
- Evaluation of economic losses due to paratuberculosis in a bovine dairy herd in Northern Italy, 2012-2016: A. Procopio
- Paratuberculosis in goat herds in Quebec: prevalence, risk factors and diagnosis approaches: J. Arsenault

Have you attended a conference recently where there were presentations related to paratuberculosis? Email editor@paratuberculosis.net to share this information

Recent publications (Sept-Nov 2018)

Arango-Sabogal, J. C., G. Fecteau, J. Pare, J. P. Roy, O. Labrecque, G. Cote, V. Wellemans, I. Schiller, N. Dendukuri and S. Buczinski (2018). Estimating diagnostic accuracy of fecal culture in liquid media for the detection of Mycobacterium avium subsp. paratuberculosis infections in Quebec dairy cows: A latent class model. Prev Vet Med 160: 26-34.

Arsenault, J., J. Singh Sohal, A. Leboeuf, P. Helie, G. Fecteau, Y. Robinson and Y. L'Homme (2018). Validation of an in-house real-time PCR fecal assay and comparison with two commercial assays for the antemortem detection of Mycobacterium avium subsp. paratuberculosis infection in culled sheep. J Vet Diagn Invest: 1040638718810744.

Bauman, C. A., A. Jones-Bitton, J. Jansen, D. Kelton and P. Menzies (2018). Evaluation of bulk tank milk PCR and bulk tank milk modified ELISA tests for the detection of paratuberculosis at the herd level in goat and sheep dairies in Ontario, Canada. J Dairy Sci. doi: 10.3168/jds.2018-15020

Berry, A., C. W. Wu, A. J. Venturino and A. M. Talaat (2018). Biomarkers for Early Stages of Johne's Disease Infection and Immunization in Goats. Front Microbiol 9: 2284.

Brito, L. F., S. Mallikarjunappa, M. Sargolzaei, A. Koeck, J. Chesnais, F. S. Schenkel, K. G. Meade, F. Miglior and N. A. Karrow (2018). The genetic architecture of milk ELISA scores as an indicator of Johne's disease (paratuberculosis) in dairy cattle. J Dairy Sci 101(11): 10062-10075.

Colombatti Olivieri, M. A., R. D. Moyano, G. E. Traveria, M. F. Alvarado Pinedo, M. L. Mon, M. J. Gravisaco, F. O. Delgado, M. P. Santangelo and M. I. Romano (2018). Protection efficacy of Argentinian isolates of Mycobacterium avium subsp. paratuberculosis with different genotypes and virulence in a murine model. Res Vet Sci 121: 4-11.

Corbett, C. S., S. A. Naqvi, C. A. Bauman, J. De Buck, K. Orsel, F. Uehlinger, D. F. Kelton and H. W. Barkema (2018). Prevalence of Mycobacterium avium ssp. paratuberculosis infections in Canadian dairy herds. J Dairy Sci 101(12): 11218-11228.

Derakhshandeh, A., F. Namazi, E. Khatamsaz, V. Eraghi and Z. Hemati (2018). Goat paratuberculosis in Shiraz: Histopathological and molecular approaches. Vet Res Forum 9(3): 253-257.

Kirkpatrick, B. W. and B. M. Lett (2018). Short communication: Heritability of susceptibility to infection by Mycobacterium avium ssp. paratuberculosis in Holstein cattle. J Dairy Sci 101(12): 11165-11169.

Konboon, M., M. Bani-Yaghoub, P. O. Pithua, N. Rhee and S. S. Aly (2018). A nested compartmental model to assess the efficacy of paratuberculosis control measures on U.S. dairy farms. PLoS One 13(10): e0203190.

Ma, J. G., A. L. Tian, W. B. Zheng, Y. Zou, Y. T. Zhang and Z. Q. Yang (2018). First report of bovine viral diarrhea virus and Mycobacterium avium subspecies paratuberculosis infection in Tibetan sheep (Ovis aries) in Tibetan Plateau, China. Trop Anim Health Prod.

Prendergast, D. M., R. A. Pearce, D. Yearsley, E. Ramovic and J. Egan (2018). Evaluation of three commercial PCR kits for the direct detection of Mycobacterium avium subsp. paratuberculosis (MAP) in bovine faeces. Vet J 241: 52-57.

Shariati, A., F. Fallah, A. Pormohammad, A. Taghipour, H. Safari, A. S. Chirani, S. Sabour, M. Alizadeh-Sani and T. Azimi (2018). The possible role of bacteria, viruses, and parasites in initiation and exacerbation of irritable bowel syndrome. J Cell Physiol.

Steuer, P., C. Avilez, C. Tejeda, N. Gonzalez, A. Ramirez-Reveco, F. Ulloa, A. Mella, I. R. Grant, M. T. Collins and M. Salgado (2018). In vitro inactivation of Mycobacterium avium subsp. paratuberculosis (MAP) by use of copper ions. BMC Microbiol 18(1): 172.

Deadline for next issue: 15 February 2019

All contributions should be sent to editor@paratuberculosis.net

Board Members