



<http://nzsp.rsnz.org/index.htm>

### **FROM THE PRESIDENT**

By the time you read this it will be November, which seems to have arrived very early this year. Here's hoping for some better weather before the next newsletter; Palmerston North has been saving most of the rain for the weekends for what seems like months. One drawback of the warmer temperatures was the lack of snow on the mountains round Wanaka during the annual conference last week. That would be finding fault unfairly though; the venue was magnificent. The conference will be reported elsewhere in this issue, so I won't steal anyone's thunder.

Recent events have (yet again) highlighted the ever-changing nature of New Zealand science: first, the loss of the wool levy vote may have a knock-on effect on co-funding for projects from Meat & Wool NZ. I think I can speak for all of us in empathising with them, and particularly with any personnel adversely affected. Second, a recent discussion paper produced by the Ministry for Research, Science & Technology (MoRST), suggests we may be in for more fundamental changes in the way NZ research is funded - particularly in the Crown Research Institutes. The government has concerns regarding the relevance of research outputs to industry, and with how NZ science can best help end-users - and therefore the country - to make more money. I encourage you all to read the discussion paper and send any thoughts you have to one of the society executive; depending on the response, we may make a submission on behalf of the NZSP. In particular, consider whether the government is correct in their assessment as it relates to parasitology research; furthermore, assuming changes are to be made, how can we as a discipline best position ourselves for the future. One thing is certain - industry-relevance will be key.

Ian Sutherland

### **FROM THE 37<sup>TH</sup> ANNUAL CONFERENCE**

The annual conference is over for another year. Many thanks to Robin and Paul for organising the event. The scenery was certainly spectacular. For those who couldn't make it we have a couple of reports from attendees, some photos from the venue, the dinner and the field trip to Lake McKay Station. Thank you to Colin Harvey for hosting the visit.



**The conference  
dinner at Missy's  
kitchen**

#### Executive

<b>President:</b>	Ian Sutherland	<a href="mailto:Ian.Sutherland@agresearch.co.nz">Ian.Sutherland@agresearch.co.nz</a>
<b>Vice President:</b>	Colin McKay	<a href="mailto:colin.mckay@novartis.com">colin.mckay@novartis.com</a>
<b>Treasurer:</b>	Ian Scott	<a href="mailto:I.Scott@massey.ac.nz">I.Scott@massey.ac.nz</a>
<b>Secretary:</b>	Tania Waghorn	<a href="mailto:Tania.Waghorn@agresearch.co.nz">Tania.Waghorn@agresearch.co.nz</a>



Looking civilised....

Before the 16 year old Scapa whisky -  
The Orcadian (from the Orkneys) came  
out?

## CONFERENCE REPORT

from Susan Stasiuk, AgResearch Limited, Palmerston North

As we arrived at the Oakridge Resort, my mind was awl with questions, what did the next few days have in store for us? Did my room-mate snore? Did I pack the velcro dots for my poster? Then I was struck by the place..... wow....yah.....this was a pretty ok place to hold a conference!



The first evening of snacks and drinks provided an opportunity to meet people I'd only ever conversed with by email before, and to introduce myself to several new people. One of the nice things about this conference was that, because of the smaller size, you actually got the chance to talk to people several times and got the opportunity get to know them a bit and remember their names.

The talks were interesting and diverse- not at all a series of FEC tables, as I was led to believe!!! My only regret was that there didn't seem to be a formal poster session, it was tagged onto the lunch session and I got a bit distracted by all the eating and talking, so before I knew it, the posters were being

packed up.

The trip to Lake McKay Station was great; usually, the only animals I see are in test tubes (so to speak). What a nice place these people work in! Also interesting, was the meeting with the local farmers at Lugget Hall, this was certainly my first opportunity meet some of the people we are ultimately working for and to hear their reactions to our work. I came out of Wanaka both refreshed and enthused.



Lake Hawea from half way up  
Lake McKay Station

[Pictures courtesy of Richard Shaw]

## CONFERENCE REPORT

from Dean Reynecke, AgResearch Grasslands, Applied Parasitology Group

We arrived in Wanaka after a short flight from Christchurch on Tuesday, to overcast but mild conditions. A short road trip to the resort had us comfortably ensconced in our accommodation, arranged by this year's organisers. The presentations kicked off on Wednesday morning after a welcoming speech by Dr Ian Sutherland, president of the Society. The day was allocated to oral presentations, and my impression from the outset was that the discipline is alive and well in New Zealand, which I think is a fitting observation given the importance of livestock production losses due

to parasitism. There were lively question sessions for most of the presentations, and several debates had to be cut short in order to give everyone a chance to present their findings. Lively debates were also held around the poster presentations which were also of a high standard. Having recently attended the Australian Society's conference in Sydney in July, I also got the impression that our approach is exactly in line with international trends. There was also the chance to overlap with researchers from Lincoln University as well as farmers, vets and industry, who are all continuing to find common ground in the quest for solutions to parasite management. The approach from industry was especially interesting, where a senior executive from Novartis Animal Health (Australasia) reiterated that most drug companies are firmly behind sustainable use of anthelmintics, especially those recently developed at enormous cost. Several discussions with some key players left me personally in no doubt that we are on the right track, and that we should now be in a position to make fewer mistakes than we have made in the past. I think we all left this year's conference with a sense of optimism, and a lot of new information to think about.



**Grand Mercure Oakridge Resort**

**The field trip half way up Lake McKay Station**



## **FROM THE AGM**

### **Membership**

95 members listed - only 14 are currently paid up.  
The Subscription has been raised to \$20 - subscription notice attached.

### **Notices of Motion**

There were three changes to the constitution that were circulated prior to the meeting

### **3.3 Honorary Life Members:**

Any person who has given meritorious service to parasitology in New Zealand or to the Society may be elected as an Honorary Life Member at any annual or special general meeting. Honorary Members shall pay no subscription and shall be entitled to all privileges of Ordinary Members.

**Moved** - Dave Cole

**Seconded** - Richard Shaw

**Passed**

**7 Executive**

The Executive shall consist of four members, being the President, Vice-president, Secretary, and Treasurer.

**Moved** – Ian Sutherland

**Seconded** – Tania Waghorn

**Passed**

**By-law: student fund**

1. Applications for assistance to attend the next conference will be invited from students working in parasitology and who are Society members.
2. Applications shall include:
  - (a) a detailed budget of conference attendance (travel, accommodation, registration etc.).
  - (b) a covering letter supporting the application which includes a statement as to what other assistance has been sought and what is available.
  - (c) a supporting statement from the students chief supervisor.
3. The applications will be considered by the Executive which shall decide which, if any, of the applicants will be offered assistance and the amount(s) to be offered.
4. The Executive's decision concerning each applicant shall be communicated to the individual applicant in question.

**Moved** – Ian Scott

**Seconded** – Tania Waghorn

**Passed**

<b>Election of Offices</b>	President	<b>Ian Sutherland</b>	Colin McKay / Paul Mason
	Vice President	<b>Colin McKay</b>	Dave Cole / Bill Pomroy
	Treasurer	<b>Ian Scott</b>	Ian Sutherland / Barry Hosking
	Secretary	<b>Tania Waghorn</b>	Ian Sutherland / David Heath

**Conference 2010** The society has a supporting role for the August ICOPA congress in Melbourne.

A phone conference for an AGM was proposed but was rejected. Members want at least a one day meeting/forum to be held in Palmerston North in October.

**General Business** Honorary membership was conferred on Allen Heath by a unanimous vote. Allen is to be requested to give a talk at dinner at next year's conference.

**THE PROGRAM**

**Wednesday 21 October**

**General Papers**

Micro array based gene expression profiles of afferent lymph cells during development of immunity to nematode infection.

Knight, J.S., Baird, D.B., Hein, W., Pernthaner, A.

Peptide facilitated transcytosis into intestinal lymph.

Pernthaner, A., Moore, L., Carpenter, E., Sutherland, I., Hein, W.

Next generation technologies for large-scale sequencing of parasites.

Jex, A., Gasser, R.

Genes that affect Faecal Egg Count (FEC) for gastro-intestinal parasites in sheep.

Hickford, J.G.H., Zhou, H., Fang, F., Forrest, R.H.J., Lin, Y-S., Smyth, A., Frampton, C.M.

Use of Shannon's entropy to process rainfall data as a risk factor in sheep naturally infected with *Haemonchus contortus* in South Africa.

Reynecke, D.P., van Wyk, J.A., Gummow, B., Dorny, P., Boomker, J.

Wormwise Extension in the 21<sup>st</sup> century.

Cook, T.

Parasitism of calves in South Island large dairy herds.

McAnulty, R.W., Gibbs, S.J.

The effect of the ambient temperature on the development and survival of the infective stage larvae of *Cooperia oncophora*.

Sauermann, C.W., Pomroy, W.E., Leathwick, D.M., Scott, I.

Diagnostic laboratory support of veterinary clinic parasitology functions.

McFarlane, Y.

The insulin/IGF signalling pathway and the infective larva developmental switch in *Parastrongyloides trichosuri*.

Stasiuk, S., Scott, M., Grant, W.

Efficacy of ZOLVIX<sup>®</sup> (monepantel) against field populations of gastro-intestinal nematodes in New Zealand.

Mason, P.C., McKay, C.H., Hosking, B.C., Griffiths, T.M.

Ewe ill thrift – are internal parasites causative.

Waghorn, T., Oliver, A-M., Candy, P., Golmour, M., Leathwick, D.M.

Gastrointestinal parasites in New Zealand native songbirds.

Schoener, E., Castro, I., Alley, M.R., Waters, L.

*Taenia ovis* in town dogs.

Heath, D.

### **New Anthelmintics**

Dose determination and confirmation efficacy studies with monepantel against gastro-intestinal nematodes of sheep.

McKay, C.H., Hosking, B.C., Sager, H., Stein, P.A., Kaminsky, R., Mason, P.C.

Managing a new sheep anthelmintic in New Zealand.

Hosking, B.C., Leathwick, D.M.

Efficacy, safety and pharmacokinetics of monepantel in goats.

Rolfe, P.F., Giraudel, J.M., MacKenzie, K., Browning, A., Allan, B., Sager, H.

A risk management approach to using a new sheep anthelmintic in Australia.

Besier, R.B., Dobson, R.J., Hosking, B.C.

*Haemonchus contortus* acetylcholine receptors of the DEG-3 subfamily and their role in sensitivity to monepantel.

Bailey, J., Rufener, L.

---

## **Thursday 30 October**

### **Field Day to Lake McKay Station & Farmers Forum at the Luggate Hall**

Measuring host immunity to parasites in sheep – the saliva test 2009.

Shaw, R., Morris, C., Wheeler, M., Sutherland, I.

Genome wide selection in sheep for host resistance to parasites.

McEwan, J.C., Auvray, B., Dodds, K.G., Pickering, N., Greer, G.J., McLean, N., Clarke, S., Wilson, T.

PCR test for FEC

Gasser, R.

The use of the Happy Factor decision support model in a targeted selective treatment anthelmintic regime.

Greer, A.W., Kenyon, F., Bartley, D.J., Donnan, A.A., McBean, D., Bartley, Y., Jackson, F.

---

## ROYAL SOCIETY HONOUR - ALLEN HEATH

The Royal Society's title of Companion is an honour recognising outstanding leadership in science, and contributions to the promotion and advancement of science and technology in New Zealand.

The Companion Honour bestowed on Allen recognises his work in promotion and encouragement of science and technology aimed at advancing awareness and understanding of scientific issues.



Dr Allen Heath with Dr Garth Carnaby, MNZM, FRSNZ, President of the Royal Society of New Zealand

## COMMENDATION – BERTHA ALLISON

FROM THE PRESS – GOOD LIVING (22 OCT 2009)

**Bertha Allison**

A former lecturer in zoology at the University of Canterbury, Bertha Allison has been researching in the field since 1945. In 1995, she started working as a volunteer research fellow at the Canterbury Museum, initially for two days a week, and more recently for one morning a week. Now aged 93, Allison has made many field trips for her research including, at 89, a trip to Fiordland, where she spent days on a vessel collecting mayflies. For the past 10 years she has also worked as a guide at the art gallery and as an art history tutor. A painter herself, Allison's work has been displayed in small exhibitions.

**The mouthparts of the giant sandworms in the 1984 movie 'Dune' resembled which group of nematodes**

The ascarids. The sandworms and ascarids both have triradial symmetry, having 3 lips



## CORRESPONDENCE

### Lake Wanaka Duck itch research - new development

I have researched the duck itch problem at Lake Wanaka for quite a few years. During the time from early 1980 through 2000, I investigated the possibility of chemical control using Bayluscide, and earned a doctorate after ten years of research into the possibility of biological control from 1990 to 2000. During the research it was determined that The NZ Scaup is the primary host to the parasite which causes cercarial dermatitis in humans. Work was concentrated on the bird schistosome found in the liver and mesenteries and on the gut parasite, an echinostome which appears to naturally contribute to the control of the schistosome in the secondary host, a snail. This natural control does not occur until the fall when swimming is not so popular.

The schistosome that was found does not have a proper scientific name. Sara Brant of the University of New Mexico contacted me 3 years ago and requested parasite material so that she could properly identify the scaup parasite as part of her work to identify world wide bird schistosomes. I gained permission from the proper authorities then to harvest some scaup at Glendhu Bay. In 4 birds I found the liver schistosome and sent the material to Sara. I kept the birds frozen.

Sara advised me that the species here in NZ is a new one and she and I are preparing a scientific paper to name it.

During the course of our correspondence, Sara advised me that she thought there might be another schistosome and suggested that I might search for it. The one she suggested is similar to a neuropathogenic schistosome that has been reported as *Trichobilharzia regenti* in Czech republic by Horak. Instead of the blood

vessels, this parasite travels through the peripheral and central nervous system to the brain meninges where it matures to then produce eggs after moving to the nasal tissue. The eggs hatch and release miracidia into the water which then swim down find their intermediate snail host. Development in the snail occurs and thousands of the parasite are finally released by each infected snail to swim up to the lake surface in search of the scaup to complete the life cycle. It is these forms which also cause duck itch in humans and other mammals.

Since I still had 4 birds in the freezer, it was a simple job to investigate the nasal tissue. Adult worms, eggs and miracidia were found in the nasal tissue and adults were found in the brain meninges. This is a first for New Zealand. I have sent the material to Sara for DNA analysis and comparison with other nasal schistosomes. She has had some success and it appears to rank closely with *T. regenti*, but she needs more fresh material for her work.

As a result I requested permission at the end of August from DoC to harvest 10 more birds from Glendhu Bay. The intention is to determine the life cycle of this "new" parasite and properly identify it.

I am willing to discuss this project with Marjorie Cook if she is interested in writing a full article.

No one knows what effect this parasite has on the scaup, nor does anyone know what happens when this parasite penetrates human skin in an attempt to follow a similar path through the nervous system.

Further research is necessary.

Sincerely

Norm Davis PhD

## What has happened to *Taenia ovis*?

I note the recent correspondence about *Taenia ovis* in the newsletters of the NZSP. Members may be interested in developments relating to *Ovis* over recent years. I was a late comer on the *Ovis* scene but, having been employed by *Ovis Management Ltd (OML)* for around 18 months back when the Hydatids Act was being demolished (early 1990s), I continue to provide a consultancy service to the company.

OML came into existence at the time when the Hydatids Council had ceased its compulsory dosing of dogs and had implemented a programme of serological testing of dogs with penalties being applied to farmers who owned dogs returning positive results. The prevalence of *Ovis* in slaughtered lambs was heading into orbit (see Figure 1). Never-the-less the meat industry (farmers and processors) decided that a regulatory programme for *Ovis* could not be justified. OML is funded by the meat industry to monitor trends in the occurrence of *Ovis* in slaughtered lambs and to advocate control measures, primarily to farmers. OML does not have any specific "control" objectives. The company operates on a very small budget and maintains a programme encouraging farmers to dose dogs on a regular basis (preferably every four weeks) with praziquantel while continuing to prevent dogs having access to untreated sheep meat and ensuring that dogs coming onto their properties do not pose a threat. Promotional activities of the programme include speaking with farmers at show and field days, visiting veterinary practices servicing the sheep industry and communicating with suppliers of lambs in which higher prevalences of *Ovis* are found at slaughter. *Ovis* prevalence in lambs is monitored through the collection of data from lines of slaughtered lambs in almost every meat works in the country. The database allows integration of data from individual farms sending lambs to different slaughter plants and the mapping of that data. All individual farm data is treated confidentially.

From its contacts with farmers and veterinarians, OML believes that approximately 75% of sheep farmers are dosing their dogs at intervals of three months or less and that prepared dog foods form a higher proportion of the diet of farm dogs than was the case 15 years ago.

The annual prevalence of *Ovis* in slaughtered lambs is comparable to that during the time of regulatory control (Figure 1). There have been

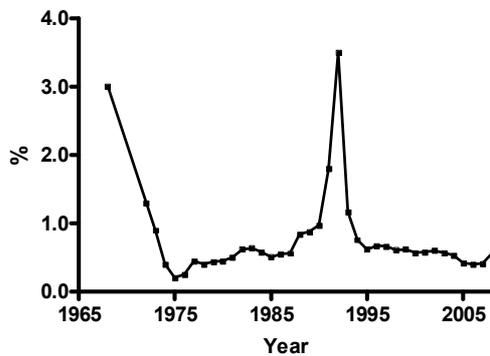
changes in both inspection and recording procedures in meat works but considerable efforts have been made to ensure that comparisons of data remain credible. Comparisons of seasonal data over the years (Figure 2) show that the change from the hyperendemic state to an endemic state, following the introduction of the regulatory programme, has been maintained. Comparisons of the data in these two graphs are interpreted as supporting the credibility the data.

OML has no information on current infection rates in dogs but understands that some data may be being collected from a relatively small area in the South Island. During the time of the regulatory programme data was available to show that infection rates in town dogs were comparable to those of farm dogs. At that time, some were keen to attribute lamb infections to town dogs, however, even a rocket scientist (no biology training) could work out that infected farm dogs deposited a great deal more infected faeces (and hence *Ovis* eggs) on farms than did the relatively small number of town dogs making occasional visits to the country. As commented on by David Heath, occasional lines of lambs with very heavy infections of *Ovis* continue to be seen, just as they were during the days of the regulatory programme. Most meat companies bring such lines to the attention of OML and follow-up usually identifies a history of change in the circumstances of these lambs. In the great majority of such cases, either the lambs have been moved from one farm to another (naïve lambs moved to an infected environment), or a new dog has been introduced to the property (naïve lambs subject the introduction of infection). Very occasionally, "storm" lines of lambs can be attributed to a break-down in the effective control of dog infections after a long period of effective control on the farm.

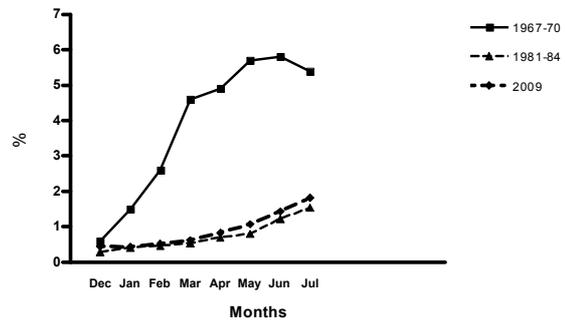
Data on *Ovis* prevalence of the quality available from the New Zealand sheep meat industry is not available from other countries. The limited data that can be mined through the internet and obtained through personal contacts suggests that the *Ovis* situation in other sheep industries is comparable to that seen in NZ during the 1960s. There is considerable concern in some of these countries. The NZ sheep meat industry regards *Ovis* as a nuisance but the industry is not seriously concerned by the current situation.

Bruce Simpson  
Biosecurity Consultant

**Figure 1**  
Percentage of slaughtered lambs in which  
Ovis was detected at meat inspection



**Figure 2**  
Percentage of lambs slaughtered  
in which Ovis was detected at meat inspection



## CONFERENCE NOTICES

### EPIDEMICS 2

**The Second International Conference on >Infectious Disease**

02 – 04 December 2009, Athens, Greece [<http://www.epidemics.elsevier.com>]

### Wildlife Disease Association (Australian Section) and Wildlife Society of the New Zealand Veterinary Association - Joint Conference 2009

10 - 16 December 2009, Woodstock Lodge, The Catlins, New Zealand

### ICOPA XII

15–20 August 2010, Melbourne [<http://www.icopaxii.org>]

**The 1994 movie & TV series feature a mind-controlling parasitic lifeform?**

Stargate, SG-1. Referred to (but not in the original film) as the Goa'uld or as symbionts, this parasitic race ruled Earth for many centuries.

## QUIZ QUESTIONS

The Quiz Master was not impressed with the efforts from the last quiz! So see what you can do with this selection...

### QUIZ # 5

1. In 1889, Theobald Smith and Fred Kilbourne were the first to describe which phenomenon?
2. Leigh Van Valen borrowed from Lewis Carroll to give us which evolutionary theory related to parasitism?
3. Which malt whisky was the toast of the day at the recent NZSP conference at Wanaka?



**Next Newsletter:** January 2010

Please send news items, notices etc. to Tania

Email: [tania.waghorn@agresearch.co.nz](mailto:tania.waghorn@agresearch.co.nz)

### What is *Linguafoeda acheronsis* better known as?

Alien, Ellen (Sigourney Weaver) Ripley's nemesis in Alien, Aliens, Alien3 and Alien Resurrection. Gifted its scientific name in some of the comics based on the original movies (nerd-alert!). *Linguafoeda acheronsis* means foul-tongue from Acheron, Acheron being a name applied to the planet this lifeform was first found on, but originally was one of the five rivers of the Greek underworld

## SUBSCRIPTION NOTICE

Return Subscription to: Dr Ian Scott  
IVABS, College of Sciences, Massey University  
Private Bag 11-222, Palmerston North  
[I.Scott@massey.ac.nz](mailto:I.Scott@massey.ac.nz)

Money can be paid directly in to the society bank account. Please include your surname and initial in the payee details and return by email the subs form to Dr Ian Scott, letting him know how you have paid, so money can be matched to payee.

[Westpac Trust](#)  
[New Zealand Society for Parasitology](#)  
03 0774 0857331 01

**DETACH HERE**

---

### **NEW ZEALAND SOCIETY FOR PARASITOLOGY SUBSCRIPTION 2009 / 2010**

The subscription for this year is \$20.00.

**NAME:** \_\_\_\_\_

**AMOUNT PAID:** \_\_\_\_\_

**CORRECT EMAIL ADDRESS:** \_\_\_\_\_

---