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Comments from the APPS President

Plant Pathologists generally understand change.

We have just had a generational change in Australian politics, that will be certain to bring new directions: in the way Australia is run, in trans-Tasman and Pacific relations, and in political and government attention to agriculture, science, education and development assistance, the areas where many of our members are employed.

So how might plant health research and management policy and planning get more attention from the new government?

Make plant pathology more visible politically.

Writing in the October issue of *Australasian Science*, on 'Making Science Politically Visible', for *conSCIENCE*, a column to express forthright views on national issues, the Executive Director of the *Federation of Australian Science and Technology Societies* (FASTS), Bradley Smith, suggested that during Australia's recent federal election, science was on the sidelines again. (<http://www.control.com.au/bi2007/bi289.php>).

Understand the socio-political underpinnings.

Smith suggested that recognizing the 'embedded-ness' of science in social and political contexts is of critical importance in improving science education, governance and effective communication and advocacy.



Relate the rationale for priorities to global trends and concerns.

He goes on to suggest science policy needs a rethink, to take account of global changes in R & D (such as the rise of China), to tackle the local impacts of climate change, and to identify the long-term socio-economic objectives we want from science (such as 'clean green food'), and evaluate whether we have the capabilities to achieve them. Smith contends there is a need to re-think current policy emphasis on commercialisation of research, and the associated focus on patents, licenses and start-ups.

Translating that: 'plant pathology' needs to be politically visible, and plant health policy may need a re-think, and this will take planning, attention and time.

Take a FAST track?

According to FASTS, the policy focus on science commercialization ignores 'preparedness', which should be a separate class of outcome in public sector research. Australia's Productivity Commission has endorsed this argument and the approach might also appeal to the new government.

But to develop a science policy that gives weight to both commercialization and preparedness, there needs to be benchmarking of agility, flexibility and capacity to address gaps, with lessons taken from the finance and insurance sectors.

Benchmarking.

Plant pathologists by nature of their work are I think, very familiar with agility, flexibility and capacity to address gaps, because:

- Plant disease testing and control does involve some agility of immediate action – for testing and diagnosis, when symptoms and other changes appear, to make observations before they change, and to test before secondary organisms overwhelm the pathogen, and
- Pathologists need the flexibility to change tack, or try other solutions, if the cause of, and the solution to, a problem are not immediately apparent, and
- Teams need to address technical and information gaps through skills development and sharing, information gathering and research, and networking, so that solutions are either 'on hand' or able to be gained quickly and efficiently.

With such a wealth of experience, there is the chance to highlight the roles and skills of plant pathologists and how they could work more productively with colleagues in New Zealand and Asia, to solve problems and improve productivity. And the APSS is well placed to help!

Preparedness in Plant Pathology: Ahead of the Game? Let's get back to basics.

In agricultural R & D at least, plant pathology may be ahead of the game, as 'preparedness' has been a strong emphasis in the strengthening of quarantine and biosecurity policy, and in research over the last decade. Some may say that we have 'overdone' biosecurity in terms of R & D investment.

And in developing policy options for Government, there is a need to emphasize 'getting back to basics' – diagnosis and control of the disease problems Australia already has by developing or improving safe and sustainable management systems.

Australia's National Plant Health Strategy and the Expertise database

Plant Health Australia (PHA) is a non-profit public company, with membership drawn from Australian rural industries and governments, and the primary role of enhancing



protection of Australia's plant industries from the risks posed by pests, diseases and weeds through the implementation of exclusion, eradication and control measures. The APPS is an associate member of PHA.

Since its formation, PHA has placed considerable emphasis on the development of preparedness strategies by Australia's plant industries, and of a nationally co-ordinated surveillance network, linked with projects to develop Industry Biosecurity Plans, guidelines to establish pest free areas and the establishment of a world class plant pathology diagnostic network (see the PHA website, <http://www.planthealthaustralia.com.au>)

As part of the latter, PHA is also overseeing the development of an expertise database and there is the chance for APPS to share member records with PHA, for use in contacting appropriate experts during emergency situations.

Now that key elements of 'preparedness' are bedded down or under way, and with the change of Federal Government, and prospects of a rethink in science and agriculture policies, the development of a National Plant Health Strategy by Plant Health Australia (PHA) and the Office of the Chief Plant Protection officer early in 2008 is very timely.

APPS will be involved in development of the Plant Health Strategy as it is progressed through 2008. Hopefully, within the framework, there will also be opportunities to involve and learn from the New Zealand Experience! So stay tuned for opportunities to make inputs.

APPS Work Plan 2008-2009 and 10-Year Plan

Your management committee is tackling the key issues highlighted at the Biennial General Meeting including: the Work Plan for 2008-09, the APPS 10-year Plan, and the establishment of an APPS Foundation. We also hope to strengthen the ways that society members can become involved in APPS planning, in international development, and in special interest groups, with the development of a web-presence for interest groups during 2008. Take a moment to look at the Draft Framework for APPS Planning and Operations at www.australasianplantpathologysociety.org.au/Meetings/APPS%202007-2009.doc, and send some feedback to: greg.johnson@velocitynet.com.au.

And Season's Greetings to you all...

*Greg Johnson
APPS President*

*Brisbane in October -
Not snow. Just powdery
mildew on mango!*

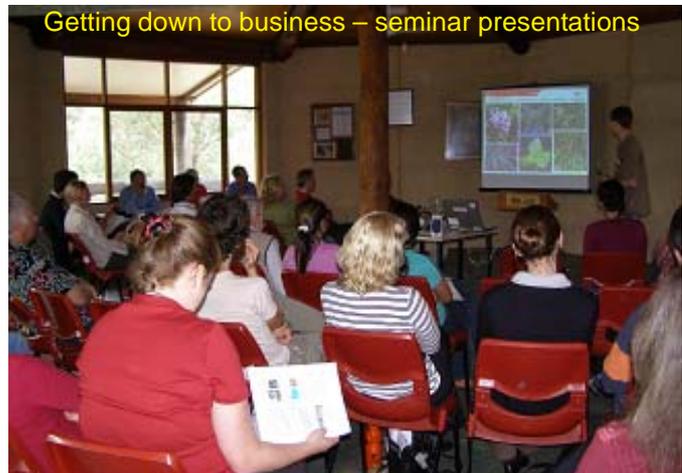


REGIONAL NEWS FROM WESTERN AUSTRALIA

Plant Health Research Symposium 2007

The WA branch of APPS has been busy this year trying to reinvigorate the local Plant Pathology society for our members. Our biggest undertaking for the year was the first annual Plant Health Research Symposium for early career researchers held on 19th October 2007

The symposium gave early career researchers the opportunity to showcase their research to an audience of students, research scientists and industry specialists and to network with other researchers. Eight speakers presented research from a range of disciplines that included virology, quarantine, mycology and nematology to an audience of approximately 60 people.



Our symposium judges, Bill MacLeod (Department of Agriculture and Food, Western Australia), Elaine Davison (Curtin University) and Chris Dunne (Department of Environment and Conservation) had a difficult task to choose between the excellent seminars for prizes generously sponsored by Fisher Biotech Australia, CSIRO Publishing and APPS. After much deliberation the awards were presented as follows:

Best presentation - \$180 Cash Award Fisher Biotech was awarded to Trudy Paap (PATH, Murdoch University) for her presentation of research undertaken during her PhD entitled 'Canker disease of *Corymbia calophylla* (marri) in the southwest of Western Australia'. We managed to get a media interview for Trudy that cumulated in two newspaper articles, and APPS got a nice plug too.

Scientific endeavour - \$100 CSIRO Publishing Book voucher was Awarded to Craig Webster (WA State Agricultural Biotechnology Centre, Murdoch University) for his presentation of PhD research entitled 'An indigenous plant virus from the South West Australian Floristic Region'.

All eight presenters on the day also voted for a **Peer Review Award- \$100 CSIRO Publishing Book voucher** which was Awarded to Monica Kehoe (Department of Agriculture and Food WA and Murdoch University) for her presentation on her Honours project entitled 'Detection of *Turnip mosaic virus* resistance phenotypes in three different mustard species'.

After the hard work of the day was done, the successful afternoon programme ended with a sundowner outside in the lovely location at Piney Lakes Environment Centre.



Judges and winners – (from left) Monica Kehoe, Bill Macleod, Craig Webster, Chris Dunne, Elaine Davison and Trudy Paap



State Councillor, Sarah Collins said, "It was a good opportunity for people interested in the research currently conducted in WA to hear about the latest findings. Also, the format used allowed for a relaxed atmosphere in which presenters were encouraged to develop their presentation style. Its hoped that this approach will improve their confidence in presenting their research, an attribute that will be useful in their future careers in Plant Pathology".



Bookmark the APPSweb site:

www.australasianplantpathologysociety.org.au/

Check out the pathogen of the month, developed by the WA team, and Margaret Senior's paintings of diseases.



PROFILE:

WA State Council Committee Member – Daniel Hüberli

Centre for Phytophthora Science and Management (CPSM)

Biological Sciences, Murdoch University, WA

As a postdoctoral researcher at the Centre, I am investigating the effect of stress, including fire, waterlogging and water deficit, on plant uptake of phosphite to control *Phytophthora cinnamomi*. My burn plots are at a floristically beautiful spot in the Stirling Ranges where *Phytophthora dieback* is unfortunately rampant. I also manage the CPSM's Biosecurity program which involves, among other things, supervision of students.



Favourite Disease:

If it's a *Phytophthora*, I get excited. If it's *P. ramorum* or *P. cinnamomi*, I am ecstatic.

What do you love about Plant Pathology?

Making a positive contribution. My work with a new disease in California, *P. ramorum*, opened my eyes to the enormity of the problem plant pathogens can impose at a local, state, federal and international level. And I loved that everyone worked with passion. The funding agencies were liberal with their purses, the media had a field day, a rock band formed and christened themselves after the name of the disease, the public were genuinely concerned and remarkably informed, and researchers could pick the cream of the crop whilst at the same time do work in field sites that were visually spectacular by disease standards, but also, for their vistas of rucked coastlines and unreachable gullies. That one microscopic organism can cause such exhilaration and a hive of activity is intriguing, but at the end of the day, we all keep coming back for more because it gives us a buzz!

Pet hates in Plant Pathology:

In random order, predawn pressure potentials (but I love the beautiful sunrises), ticks and mites, cheap wine in an expensive bottle, death trials where nothing succumbs, Disneyland where all the plants were pristinely plastic, and field sites without shade or funky Jazz Cafes in close proximity.

REGIONAL NEWS FROM QUEENSLAND

The final DPI&F/APPS seminar for the year was held on the 31st of October at DPI&F, Indooroopilly. The seminar afternoon kicked off with Fiona Giblin giving us insight into the Avocado 'Roadshows'. The roadshows give growers the opportunity to meet researchers and discuss current research and development. Fiona was lucky enough to attend roadshows in south, central and north Queensland, Northern NSW, Vic and WA.

The second speaker for the afternoon was Cherie Gambley. Cherie enlightened us on her recent visit to Pakistan. The aim of this trip was to learn more about Cotton Leaf Curl Disease (CLCuD) and the viruses that are responsible for this disease. Cherie was awarded a diagnostic scholarship which was a joint initiative between Office of the Chief Plant Protection Officer (OCPPO) and the Cooperative Research Centre for National Plant



Biosecurity (CRNPB) under the Australian Government's National Emergency Plant Pest Diagnostic Scheme. CLCuD is exotic (absent from Australia), and the knowledge Cherie gained from this visit could prove valuable to the Australian cotton industry if CLCuD is ever introduced into Australia.

The third speaker was Andrew Miles. Andrew's talk highlighted key exotic threats to the Australian Citrus Industry. The top 5 threats are:

1. Huangblong disease
2. Citrus Canker
3. Variagated Chlorosis
4. Mal-Secco
5. Stubborn disease.

Andrew has recently been appointed as the full time citrus pathologist in the tree pathology centre (UQ/DPI&F).

The final three speakers for the day presented their views and highlights of the APPS biennial conference held in Adelaide. Femi Akinsamni, Peter Wilkinson and myself attempted to cover the whole conference and discussed the concept of the conference (back to basics), stand out talks, the field trips and touristy places to visit in Adelaide!

The day concluded with a pleasant drinks and nibbles session in 'the field'. I would like to thank the DPI&F seminar team for another successful year of seminar days - Liz Dann, Andre Drenth, Kathy Parmenter, Denis Persley, Apollo Gomez, Lisa Keller and Mal Ryley.

Lisa Gulino

REGIONAL NEWS FROM SOUTH AUSTRALIA

- o What a whirlwind 2007 has been for the SA branch – our main energies have focused on the organisation of the conference. We were all happy with how the conference went and even though at times it was stressful, it has meant that a number of us know our colleagues much better than we once used to due to the close cooperation that was needed.
- o Some of the plenary speakers from the conference also spent time in SA (and in some cases in other states) visiting the local plant pathologists. Susan Frankel (USDA Forest Service) visited the Department of Environment and Heritage and suitably impressed them with tales of *Phytophthora ramorum* and the control of sudden oak death syndrome while Dani Shtienberg (Volcani Research Center) and Steve Goodwin (USDA-ARS) visited colleagues for discussions on grapevine powdery mildew and cereal foliar diseases respectively. Of course, a number of conference attendees were also seen around the Waite before or after the conference as well. We were also very privileged to play host to the Executive of the International Plant Pathology Society.
- o In the last quarter of 2007, we have also had a visit from Professor David Gadoury and his PhD student Michelle Moyer. David and Michelle have been visiting Peter Magarey at SARDI's Loxton Research Centre as part of a collaborative project which aims to better understand the dynamics of the progress of grapevine powdery mildew epidemics in the US and Australia with a view to developing a model of disease and subsequent control measures. The project provides the advantage of assessing two growing seasons in one calendar year, enabling more effective progress. Dr Bob Emmett of Victorian DPI in Mildura and Kathy Evans of Tasmanian DPI in Hobart have also been associated with the visit.



- o The SA branch will have a number of graduates in December in the field of plant pathology. Mohamed Jamaludin who was supervised by past president John Randles has completed Honours as has Katherine Linsell who was supervised by Klaus Oldach and Felicity Keiper. Mohamed developed PCR techniques to identify species and strains of the wheat streak mosaic virus while Katherine focused on the development of a Q-PCR technique to identify *Rhynchosporium secalis* in the host (barley). Former APPS member Sarah Palmer (supervised by Amanda Able, Eileen Scott and James Stangoulis) will also graduate with her PhD for her research entitled 'Strawberry powdery mildew: Epidemiology and the effect of host nutrition on disease' while Abolfazl Sarpeleh (supervised by Amanda Able, David Catcheside and Hugh Wallwork) will graduate with a PhD for his research entitled 'Role of *Pyrenophora teres* toxins in net blotch of barley'. Mohamed and Katherine are planning to stay on to do PhDs in the same laboratories while Sarah now works in the United Kingdom and Abolfazl in Iran in related fields.
- o One of our SA members, Dagmar Hanold plays a major role in ProMed-mail reporting outbreaks and emerging plant diseases. Visit www.promedmail.org. Panama disease in banana, fungal rots on mango and WSMV are examples of some of the outbreaks in Australia recently. You can find these and others by going to 'Search Archives' at the website and searching for Australia. Anything starting with PRO/PL is a plant item put together by Dagmar.

We will end 2007 with a cocktail party at Urrbrae House on the Waite campus and toast a successful year in plant pathology in SA in 2007. In 2008, we will have a committee of people to act as councillors for the SA branch (we are still finalising who this might be but they include Barbara Hall, Jenny Davidson, Amanda Able and Peter Magarey).

Prepared by Amanda Able (with some input from Dagmar Hanold and Peter Magarey)

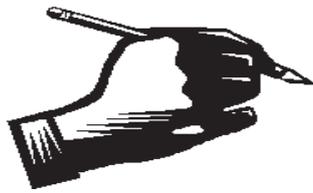
NEWS FROM NEW ZEALAND

The North Island branch of the Australasian Plant Pathology Society has been mostly involved with signing up new members and encouraging people to participate in the Adelaide Conference. Those that went were again impressed by the scope and depth of research represented at the conference, and the quality. The journal of the society has had a significant increase in its Impact Factor, to 0.766, and although there is criticism of such measures, for those in university employment or other Government jobs, the IF is almost the only universally accepted measure of the quality of journals. The quality of journals we publish in can influence promotion and funding, therefore it is good for all of us that APP is progressing up the scale.

Congratulations to Dr Robin McDiarmid, who has accepted our nomination to be the New Zealand councillor for the International Society of Plant Pathology. Nominations were tendered from both the North Island and South Island branches, and as she was the only nominee no election was necessary.

With Robin on board, and with her boundless enthusiasm, we have already made some tentative plans for an inaugural barbeque hosted by APPS as our first official event (ever).

Kerry Everett
North Island Regional Councillor.



Jottings from the APP Editor-in-chief

Hello everyone,

This will be the last Newsletter for the year. It does not seem so long ago that I started compiling papers for APP and APDN for 2007. Soon I shall start a new folder for the 2008 submissions. Time flies.

I do not really have a great deal of news. Both APP and APDN are in a healthy state and I shall be closing down volume 2 of APDN very soon. In 2008 we shall see the start of volume 3. Currently volume 2 is experiencing just over 2800 downloads per month – it is clearly being well used.

I am now fitting accepted papers into the April issue of APP. The lead time, due to the requirements of CSIRO Publishing, is a bit horrendous – especially when there are 6 issues per year to fill. In 2008 there will be a special Nematology Issue due out in June and it is planned to distribute a copy of this into the satchels of those attending the 5th International Congress of Nematology to be held in Brisbane from 13-18 July. Apart from papers on parasitic angiosperms, nematology papers play a smallish role in filling our page quota. It is refreshing to know that many of our very professional nematologists will be contributing to this June issue (37-3) and that it will be spread around the world by the attendees. APP will get exposure and so will the work of our nematology colleagues.

There have been no changes to the Editorial Board of APP. I thank all members for their unstinting help throughout the year and for their time and effort with the manuscripts allocated to them. The editorial board of APDN has increased by one with the addition of Dr Morag Glen from CSIRO Ensis at Hobart. She will share the workload of the non-virology papers with James Cunnington who has steadfastly handled the review of these papers all through 2007. Although the papers are very short each still demands time and effort and often creates the need to push reviewers along. I am grateful to James for all his efforts. Robin MacDiarmid will still handle the virology papers and she has certainly been a great help since her appointment earlier this year. She also appears to be APPS's most photogenic member judging by all the conference and preconference photographs of her.

When you read this I shall be somewhere in China. We leave on 1 December and get back 3 weeks later – no work, no students, no papers, no pushy authors and no email (by choice). It will be a great break. When we get back there are a few days before the Christmas closure and I shall deal with APP and APDN emails chronologically. So, if you email me in the first 3 weeks December you will get the OOO (Out-of-office) message. I would again like to thank everyone involved with our 2 journals throughout the year – authors, editors, reviewers and the staff at CSIRO Publishing for doing a great job. I would also like to pay tribute to Barbara Hall who has transformed the Newsletter from a small sheave of papers into an electronic artform. Well done Barbara.

Merry Christmas and Best Wishes for 2008

Keith Harrower (EiC)



ADELAIDE 2007

Managing Disease and a Conference: Organisers' perspectives

The 16th Biennial Australasian Plant Pathology Conference

Adelaide 2007 would have to be one of the most intense conferences I have ever attended and I am not just saying that because I was part of the organising committee and gave my talk with no sleep (due to illness in the family and not the social occasions I assure you)! The scientific program was packed to the hilt with brilliance and there were over 120 posters, lunch-time meetings, workshops/field tours either side of the conference and action-packed social occasions. Feedback received has been on the whole quite positive and I think I breathe a sigh of relief on behalf of the entire organising committee (Jenny Davidson, Barbara Hall, Belinda Rawnsley, John Randles, Eileen Scott, Hugh Wallwork and myself). Of course, the conference can only be as good as the Conference Secretariat and it was a real pleasure to work with Phil Plevin and his associates (especially Irene and Erin who were always there at the registration desk to help with a smiling face). They took a lot of the hassle away from us allowing us to be more effective as a team – and I would also like to thank that team for a great job.

We decided on a theme of getting back to basics (and hence the building blocks) and we represented this through plenaries which thought about the basics of communication of our science to the wider world, how to deal with biosecurity issues using Australian and American examples and understanding disease and its epidemiology in order to manage it. In addition, we had the McAlpine lecture delivered by the very deserving Graham Stirling and the presidential address by Rob Magarey prompting us to think outside the square in terms of strategies to develop plant pathology in the future. The new executive seems set to continue those strategies forward.

Excellence was also rewarded through a number of different prizes at the conference. In particular, Joe Kochman was admitted as a Fellow of the Society for his various contributions. Best Student Poster was awarded to Jane Cullum (Deakin University) and Student Poster Encouragement Award to Andrew Miles (QDPI). The Best Student Oral Presentation was awarded to Josephine Saul-Maora (University of Sydney) and the Student Oral Encouragement Award to Noel Knight (USQ). The standard of student presentations and posters were very high and bodes well for the future of plant pathology. The inaugural Innovation in Plant Pathology Award was given to Dr Belinda Rawnsley for her research into the impact of use of recycled water on grapevines. It was disappointing that we could not award an Allen Kerr Postgraduate Prize at the conference dinner this year because no nominations were received. I hope that supervisors of PhD students who are publishing their research put their students up for consideration in 2009. This is a tradition that should not be lost and it provides essential encouragement and confidence to the receiver.

Talking of encouragement, one of the new events we had this year was a mentor lunch where our postgraduates and early career researchers met over lunch with members of the R&D corporations, our sponsors, our plenary speakers, the incoming and outgoing APPS Presidents and Fellows of the Society. This initiative was applauded by our sponsors (GRDC, HAL, CRC NPB, BASF/NuFarm and GWRDC) and they have requested that the tradition continues at future conferences.



Make sure you visit the society website to see the photos from the conference. The committee certainly thinks that the APPS 2007 red-rimmed black hats will remain a fashion item for some time given the demand for them! In conclusion, I would like to thank our society members for coming to Adelaide and making this conference the occasion that it was - a conference is only as good as the people attending it and in my opinion, we are a very well educated bunch who know how to party. Good luck to the next committee and I look forward to seeing you all in Newcastle.

Amanda Able





APPS Honorary Members & Fellows

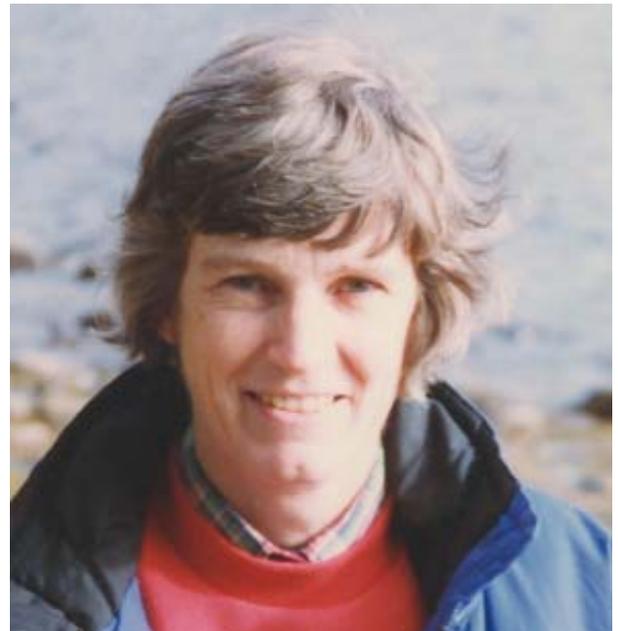
Over the last few editions of the newsletter, profiles of the Fellows and Honorary Members of APPS have been included in the newsletter and are placed on the web. Written by colleagues, these profiles are intended to introduce to you the luminaries of our society. The definitions of both are outlined in the constitution, and can be viewed on the web page. Fellows are people who have "rendered distinguished service to the science of plant pathology", and Honorary Members are those who have "made an outstanding contribution to the Society".

This profile on Helen Ogle was written by Joe Kochman with the assistance of John Brown.

Helen Ogle, Honorary Member 2002

Dr Helen Ogle is a Foundation Member of the APPS. She has made a significant contribution to the Society's growth and wellbeing.

After graduating with a BSc (with First Class Honours and University Medal) and PhD from the University of New England, Helen joined the Plant Pathology branch of Queensland Department of Primary Industries, working on diseases of ornamental plants. From 1974 to 1992 she held a part-time lecturer/tutor/demonstrator position at the Queensland University of Technology. During that time she also held research and senior research assistant positions at the University of Queensland. In 1993 she accepted a position as Associate Lecturer and then Lecturer in the Department of Agriculture at Queensland University. She retired from the University in 2004.



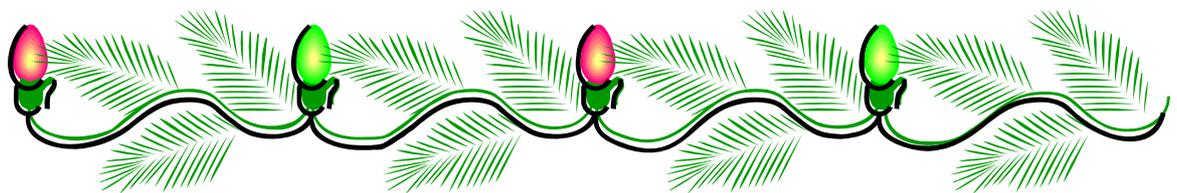
Throughout her career, Helen has been highly respected for her research and university teaching. She has conducted research on diseases of diverse crops such as winter cereals, cotton, ornamental and vegetable crops. She has also investigated many aspects of disease management, ranging from disease resistance to biological control strategies. She has published widely on her research, both in national and international journals, industry articles and authored, co-authored and edited book chapters and books.

As the Executive Secretary of the APPS from 1991 to 1993, when the committee was based in Queensland, Helen was a prominent member of the small team which guided the Society to incorporation in 1994. Helen continued to act as Secretary to the Society

(as required for incorporated associations by the Queensland Department of Equity and Fair Trading) until she retired.

Helen served as the Queensland Councillor of APPS from 1995 to 1999. During this time she regularly reported plant pathological activities that occurred in the State in APPS News. She was instrumental in organising a joint seminar program between QDPI and APPS in Queensland to give all State members an opportunity to participate in a regular seminar program. This gave APPS a strong presence in the discipline in Queensland as well as ensuring that information about current research was disseminated between University researchers and students, Queensland Government Plant Pathology staff and CSIRO researchers.

She was the Scientific Program Coordinator and organised the editing of abstracts for the 13th Biennial Conference held in Cairns in 2001. The success of this conference was largely due to the diverse and stimulating program developed by the Scientific Program Committee. Her enthusiasm and practical involvement in our Society has been admired and appreciated by all her colleagues.



Dorothy Shaw MBE - 26 April 1920 - 27 August 2007

Dr Dorothy Shaw, foundation and honorary member of the APPS, passed away on Monday 27 August 2007.

Dr Dorothy Shaw, former Government Plant Pathologist in Papua New Guinea 1953-1976, had been from 1976, until April 2007, visiting scientist at the Queensland Department of Primary Industries at Indooroopilly. In her time at Indooroopilly, Dorothy continued not only her interest in plant pathology, but also maintained an extensive correspondence with colleagues around the world.

She also pursued interests in Aroids (flowering and pollination and Aroids on stamps), and the collection of fungal spores, particularly those of *Neurospora* spp, by bees, and her memories and stories of the people and places from her career were phenomenal.

In her time at Indooroopilly, Dorothy was a familiar figure - arriving in her Volkswagen before 7.30 am and leaving by 3 - PNG hours - and being greeted by magpies, for whom she would bring food and cheerful greeting.

Despite the encouragement of younger colleagues, Dorothy never changed over to computers or the internet. Her communication was almost always typewritten, sometimes with carefully applied white-out to correct mistakes, and invariably received within a few days of the previous letter, book loan or lunch-time discussion.

An inspiration to many, Dorothy will be sadly missed by her numerous colleagues and associates.



BOOK REVIEWS

The Identification of Fungi: An illustrated introduction with keys, glossary and guide to literature

By **F.M. Dugan**

ISBN 0-89054-336-4. APS Press 2006.

This manual is a succinct and practical introduction to the identification of fungi, covering all groups of fungi traditionally studied by mycologists. In addition to the main phyla belonging to the kingdom Mycota, the manual includes groups belonging to the kingdoms Protista and Stramenopila, hence groups such as the slime moulds and water moulds are also covered. While using the traditional term 'lower fungi', the author clearly explains this artificial but convenient assemblage of taxa, and gives their current phylogenetic taxonomic placements.

The manual generally follows the taxonomic scheme of Alexopoulos *et al.* (1996), treating each of the 'lower fungi', Zygomycota, Ascomycota, Basidiomycota and Deuteromycota in consecutive chapters. The subordinate taxa, subphyla, orders and families, are each given a brief description and keys are provided down to the family level. Within each family, several genera based on economic, clinical and environmental importance are listed, each accompanied by simple line drawings of a representative species. The manual then provides a very useful list of references for further identification to the genus and species levels. In numerous instances, a brief but handy description of the reference is also given.

Included in the manual is an illustrated glossary of fungal structures, which is clear and informative and sufficiently comprehensive to assist in understanding the descriptions and keys provided. Another appendix includes typical life cycles of the major taxa covered in the manual. These life cycle diagrams are highly simplified and, although less essential in the identification process, are nevertheless useful at this introductory level to mycology. In addition to references cited throughout the text, a list of references based on fungal hosts (plants and animals), substrata and environments is also provided and is particularly useful for fungal identification associated with specific plant hosts, for example.

Although the identification of fungal taxa in the manual is based entirely on morphology, the author acknowledges the non-monophyly of many of these taxa. Where available references on contemporary phylogenetic research are listed and highlighted for the reader. For a manual that focuses on identification of specimens and cultures at an introductory level, rather than a review of fungal systematics and evolutionary biology, its simplicity makes it very approachable and practical.

The structure of the manual is straightforward and easy to follow. Its simplicity and conciseness makes it particularly useful as a companion to a textbook on introductory mycology at the undergraduate level. Another commendable value is the comprehensive coverage of all groups of fungi in one volume without the cumbersome background on fungal biology, ecology and taxonomy, which makes it an excellent first step in fungal identification for students or non-specialist fungal taxonomists.

Edward Liew, Royal Botanic Gardens, Sydney.



Mycelium Running: How Mushrooms Can Help Save the World

by Paul Stamets

Published by Ten Speed Press. Soft cover, 352 pages with 350 colour photographs.
ISBN 1-58008-5

Paul Stamets has written several books dealing with the cultivation and uses of mushrooms. These include *Growing Gourmet and Medicinal Mushrooms* (2000) and *The Mushroom Cultivator* (1983), the latter co-authored with J.S. Chilton. In his latest book *Mycelium Running* he revisits subject matter from his earlier publications but also presents a range of ideas and methods for using mushrooms in the maintenance of environmental health and the repair of damaged ecosystems.

The first part of the current book introduces the mushroom lifecycle, discusses the different roles played by mushrooms in various habitats and examines their nutritional and medicinal benefits. Stamets also presents his views as to the overall significance of the fungi or, to be more specific, the fungal mycelium in the natural world.

The second part is titled *Mycorestoration*. This is the term the author has coined for utilising fungi to restore damaged ecosystems. Under this broad heading he discusses four main processes:

- ◆ Mycofiltration - mats of fungal mycelia are used to remove contaminants such as particulate matter, microbial pathogens, and some toxic agents from water sources.
- ◆ Mycoforestry - selected fungi are used to reduce forest wastes, thereby returning nutrients to the soil, or employed to improve forest systems either by directly enhancing tree growth or by inhibiting deleterious agents (often other fungi).
- ◆ Mycoremediation - fungal beds are grown up to accumulate and/or break down various toxic and hazardous materials including heavy metals, petroleum products and even munitions waste.
- ◆ Mycopesticides - the dual properties of some fungi to initially attract and then destroy certain pests are utilised to produce environmentally safe means for their control or eradication.

The final part of the book, which accounts for over half of the contents, presents the technical information required for the initial selection and cultivation of mushrooms suitable for mycorestoration and other purposes. Firstly, methods for obtaining different forms of fungal inoculum including spores, spawn or stem material are described. Scaled up cultivation of mushrooms using systems based around substrates including straw, manure, logs and stumps is described in great detail. Many of the methods described are low-tech so that it is not necessary to have access to special facilities in order to get systems up and running. There is a chapter covering the development of fungal gardens for the production of medicinal and gourmet mushrooms and another describing the nutritional properties of particular mushrooms. In the chapter titled *Magnificent Mushrooms: The Cast of the species* selected mushrooms are described, with notes on their growth, taxonomy and nomenclature, and information on their applicability for mycorestoration and nutritional use.

This book is rather difficult to classify. To a large extent it is a technical manual that would be a useful resource for anyone wanting to grow mushrooms whether for their nutritional or medicinal benefits or for mycorestoration processes. Though not an academic publication some of the methods could be used in the demonstration of macrofungi in a teaching situation. However, as can be seen from the rather ambitious

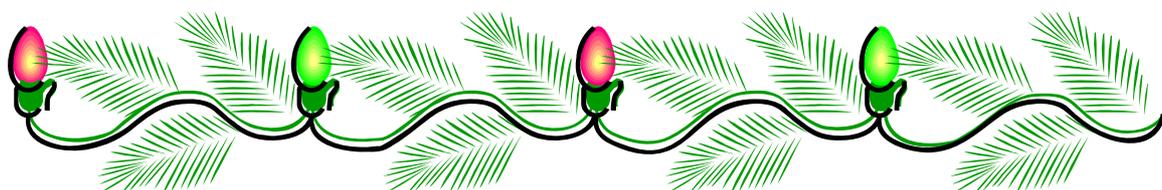


subtitle of the book this is not an altogether conventional text. For example some might dispute certain of the capabilities and characteristics the author attributes to the fungi in the first chapter. With regard to the application of the fungi in some situations (especially in the case of already damaged ecosystems) Stamets indicates that he takes a rather interventionist approach and he acknowledges that this has led to some dispute. And some of the comments made regarding the use of the psilocybes might be considered contentious. However, much of the material in the book and the uses ascribed to the mushrooms are not unfamiliar. Those involved in organic growing systems such as permaculture would see parallels with some of the suggestions made by the author. Stamets himself has referred to his system as “permaculture with a mycological twist”. This statement might allow the work to be put into context. There is some variability in the writing within the book. While the technical descriptions are concise and straightforward other sections tend to be more anecdotal and general, often based on the author’s observations, experiences and philosophy. However, it should be noted that Paul Stamets’ writings are based on his many years of experience researching the mushrooms and their practical applications. He possesses a great knowledge of and enthusiasm for his subject.

The book has an extensive bibliography and contains a large number of colour photographs illustrating many of the techniques and fungi described in the text. At around \$ 50 it is reasonably priced. While the book contains some ideas that might not sit comfortably with every reader, it is thought-provoking and contains much that is useful. It would appeal to those who are interested in methods that support environmental sustainability or others who simply want to learn more about the macrofungi and their uses.

Tom Marney

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NEWS FROM THE BUSINESS MANAGER

Its that time of the year when I am busy processing subscriptions for 2008. If you have not yet made your payment please do so before the end of December to allow time for processing before the first mailout of APP in January. While you are online please also check your details in the member register and update where necessary. Member expertise is an area which could do with more information.

Seasons Greetings to All

Peter Williamson

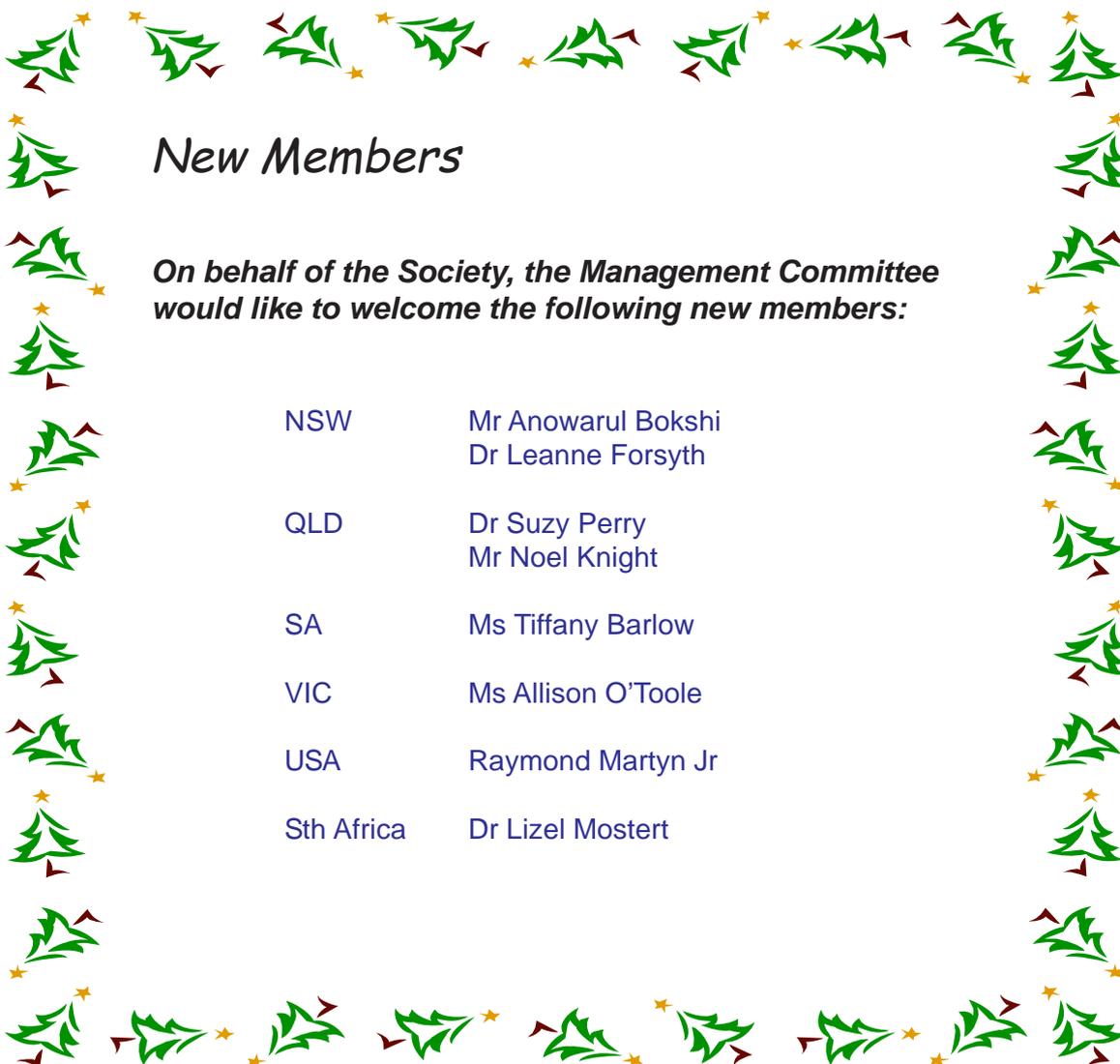


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Photos in banner - top to bottom: Barley net blotch - spot form. Trial site. TSWV on Capsicum. Botrytis on cucumber (2), Ascochyta on chickpea, Faba bean rust. Ascochyta on faba bean. Fusarium crown rot on wheat. Thanks to Hugh Wallwork, Kaye Ferguson, Jenny Davidson and Rohan Kimber.



New Members

On behalf of the Society, the Management Committee would like to welcome the following new members:

NSW	Mr Anowarul Bokshi Dr Leanne Forsyth
QLD	Dr Suzy Perry Mr Noel Knight
SA	Ms Tiffany Barlow
VIC	Ms Allison O'Toole
USA	Raymond Martyn Jr
Sth Africa	Dr Lizel Mostert



Seasons Greetings

