



November
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CIRCULAR OF THE ENTOMOLOGICAL SOCIETY OF NEW SOUTH WALES Inc

Next Meeting of the Entomological Society of NSW Inc

Where: Meeting Room 2, Ermington Community Centre, River Road, Ermington
When: 7.30 pm on Wednesday, 5 November 2008

Speaker: Alex Roach
Heritage Pest Management
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Museum Pests

Museums and galleries have large collections of organic material, which are at risk of damage from a range of pests. Due to the fragile nature and value of collections, conventional pest control methods are often not suitable. For this reason a range of non-toxic measures have been developed for treating insect pests in collections.

This lecture will look at some common pests of museums, their damage, and some of the treatments used for controlling pests in museum collections (e.g. freezing, low-oxygen fumigation).

Alex Roach has worked on pest control in a wide range of Museums and other important Australian Heritage sites over nearly 20 years and has designed, implemented and various integrated pest control programs and assisted with research into new methods for controlling insect pests. He has written and co-written several articles on pest management for museums and has presented numerous lectures and workshops to staff of cultural institutions, on practical measures that can be undertaken to control pests.

Also of interest in the near future

Society Christmas Dinner

See details on page 42

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September Meeting Talk

PHENOLOGY AND DIVERSITY OF CICADAS IN THE SYDNEY REGION

(a synopsis of the talk given at the September meeting)

Associate Professor David Emery
Unit of Study Coordinator, Veterinary Parasitology, Animal and Veterinary Biosciences Entomology
Faculty of Veterinary Science, University of Sydney.

This talk is dedicated to that gentleman and scholar, Dr. Ross Storey (DPI, Mareeba), who was a valued friend and an inspirational and dedicated insect enthusiast.

The Sydney cicada season commences with the appearance of the “grass cicada” *Cicadetta celis* (Moulds) on *Melaleucas* (bottle brushes) around early September and is followed by a reasonably “standard” pattern of species emergences until late January. Some straggling lonely male “Black Princes” (*Psaltoda plaga*) may persist until around Easter.

Why does a veterinarian become involved in entomology? Most of the amateur “cicadaphiles” in Australia appear professionals, perhaps being able to “adjust” worktimes to critical seasonal pursuits for the hobby! From a childhood fascination where I thought there were only about 10 species of cicadas, this activity became a rather summer-consuming hobby with my children, Timothy, Nathan and Samantha. We have conducted surveys of cicada emergence and persistence (phenology) around the Sydney Region since 1990. Repeated examination of several areas including RNP, Prospect Reservoir, Castlereagh Nature Reserve (CNR), Kuringai-chase NP (KCNP) and regions in the Blue Mtns and southern Tablelands have documented around 36 cicada species with distinct patterns of emergences over the summer. Posters have been prepared for NPWS for Prospect (12 cicadas) and RNP (23 cicadas) in attempts to heighten awareness of cicada fauna and conserve remnant native vegetation for these wonderful summer singers (along with the odd snake!).



“Preserve that habitat”.

Many hypotheses surround the triggers for cicada emergence and raise the tantalizing prospect that cicada emergences may presage the quality of a season or summer!! This stems from the regular tropical seasons around the ICTZ and the extraordinary Magicicada emergences in May which can be predicted from Brood maps across the USA and using an algorithm based on average April temperatures. Alas, even after 16 years of monitoring the Sydney populations, no such periodicity or predictive principle has emerged from the data (but it may be there, as I have not yet correlated phenology with climatic data).

Probably around only half of the 600+ Australian cicada species are currently described and collectors are limited, usually getting old!! There has at least been some recognition that an amalgam of traditional morphotaxonomy, emerging molecular taxonomy and acoustic analyses of songs gives the best discrimination for species identification, especially when consistent with plant preferences and behavioural ecology. The Mini3 bat detector (http://www.ultrasoundadvice.co.uk/Pages/Mini-3_Detector.html), adjusted by the manufacturers for detection of Homoptera, aids the failing high-range hearing of aged male cicadaphiles, but is a poor substitute for trained young enthusiastic ears. So Samantha

and Nathan have many new finds to their credit, particularly 2 “blue moon” variants of the Green Grocer *Cyclophila australasiae*, and the new species presented which include:

- the “Orange-bellied buzzer” and “red-eyed heath buzzer” (TNS 275 and 323), from RNP in Oct-Nov and January, respectively. For the former, we have only just secured a female after 4 years of searching and 22 males in the bag.
- The “Ferny acacia cicada” (*Cicadetta nr adelaida*) (TNS 214), found widely around the Sydney region at Wallacia, Camden, Silverdale, Berry and Bargo from Nov-Dec.
- The “wavering firetail” (*Cicadetta nr abdominalis*) (TNS 513) with orange triangles on the dorsal sternites and found widely from KCNP, RNP, Blackheath and Jamberoo Mtn from Dec-Feb. The species is replaced at Piccadilly Circus (ACT, Brindabella Ranges) by a larger variety (TNS 516-Jan only). It does not tick when flying, has a ringing song and prefers the open heathland shrubs to 3m when it coexists in RNP and Blackheath with the “red ringer”.
- The “Red ringer” (*Cicadetta nr abdominalis*) (TNS 512) has a similar song to 513, but with additional cadences and ticks when flying. It prefers the woodland eucalypts and females range in colour from orange-brown to black. The red ringer has been found in RNP, KCNP and Blackheath. The true *C.abdominalis* is found in Tasmania and is smaller and stockier than its related northern species.
- The “Brown firetail” (TNS 509) is related to the *Cicadetta denisoni* complex and is found at Berry and the tall timbered areas of Sydney around Gordon, Epping (MQUni), St Ives and Terrey Hills. This species ticks when flying at an elevation of +30m, so is very hard to capture except after southerly changes reduce its altitude and speed!! Imagine my amazement when my colleague brought in 20 males from a neighbour’s swimming pool where the “creepy-crawly” had been left “tapping” on the bottom all day. This is an excellent example of the propensity of a great number of female cicadas to attract males by “wing flicking”! Finding females is still serendipitous!
- Several other tickers are also in this complex.

Some extras pieces of information may assist enthusiasts and these include:

- Sound files of cicada songs and calls are presented in an excellent website diligently constructed by (Dr- soon!) Lindsay Popple at UQ (<http://bacs-s02.bacs.uq.edu.au/sib/ins-info>)
- Max Moulds book (1990) “Australian cicadas” NSW Press, is cheap on “ebay” or “Abebooks” website.

Several websites contain cicada information for enthusiasts and collectors and include:

- Insectnet- mainly for traders, heavily weighted to moths, butterflies and beetles (no surprise) but lots of interesting collecting, storage and taxonomy info in the “Forum” section. The site also contains ads for overseas collecting trips. <http://www.insectnet.com/>
- Cicada Mania- heavily weighted to the USA and Magicicadas that are due in May (again with brood xiii). <http://www.cicadamania.com/cicadas/>
- A special interest cicada chatgroup (mainly USA members) with some international flavour (I am a member!). <http://pets.groups.yahoo.com/group/Entomology-Cicadidae/?yguid=234484738>
- The Australian Museum factsheets at www.amonline.net.au/factsheets/cicada.htm



Australian Entomological Society AGM and Conference, 2008

Dinah Hales

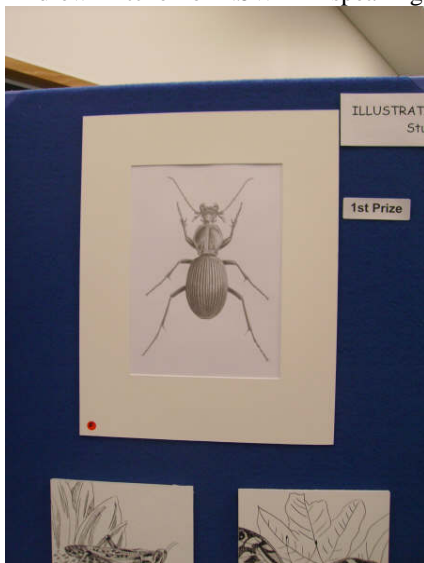
Over 100 entomologists converged on Orange for the 39th Annual General Meeting and Scientific Conference of the Australian Entomological Society, held from 28 September to 1 October at the Orange Agricultural Institute. Listed as participants were names from as far afield as India, Pakistan, Iran, Georgia and the USA (although not all these people actually attended), as well as Korea and New Zealand. Add into the mix overseas postgrads and postdocs in Australian universities from PNG, Malaysia, and Ghana (to name just a few), and we had a truly international gathering. The meeting got under way in the traditional style for AES with evening drinks and nibbles (sponsored by Mortimers of Orange), after which forty or so people repaired to Basil's Restaurant for an excellent dinner and much cheerful conversation with old and new friends.

Monday morning was devoted to the Linnaeus Symposium, celebrating 250 years from the publication of the 10th edition of Carolus Linnaeus's *Systema Naturae*, in which the binomial system of nomenclature was first proposed. Keynote speaker David Yeates (CSIRO, Canberra) decried the slow rate of species description, and discussed potential methods of speeding the process, with less emphasis on the actual description in words and more on time- and cost-efficient illustration. Cybertaxonomy, with web-based keys and digital images is the probable way of the future. David was followed by Cameron Slatyer of ABRIS, Canberra. Cameron expressed his concern about the declining taxonomic workforce, and the lack of new taxonomists – only one new taxonomist becomes available per year whereas the country needs 4-6. Maybe as much as 50% of the taxonomic workforce may be lost by 2020

(I recall Bob Taylor presenting the same sort of comments in the early 1980s). A practical political problem is that the word "taxonomy" is not understood by public servants (or the public) and something more positive and comprehensible should be put in its place – "species discovery", for example. John La Salle, head of ANIC further discussed impediments to taxonomic progress and commended automated species discovery and description, with web-based publication of descriptions. Keep an eye out for the Atlas of Living Australia www.ala.org.au. The final speaker for the morning was Bruce Halliday (CSIRO) wearing his hat as a member of the International Commission on Zoological Nomenclature. Bruce explained the procedures of the Commission. Its wheels necessarily grind slowly but it is hoped that electronic publication will be accepted in 2010. ZooBank is already happening, where taxonomic papers may have embedded links to additional cyberdata. The website is www.zoobank.org. After a sumptuous morning tea, the symposium continued with Andrew Mitchell of NSW DPI speaking on DNA barcoding



Scones, jam and cream, cakes and slices, fruit platter at morning tea time



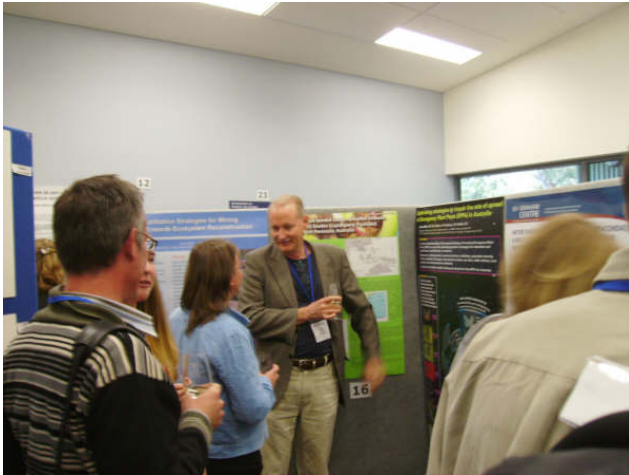
First prize winning entry in the student section of the black and white illustration award

as a technique contributing to species diagnosis and discovery, followed by Donald Hobern, again of CSIRO, who told us more about the Atlas of Living Australia project. The remaining papers for the morning were contributed papers relevant to the theme.

Lunch lived up to the standards already set by the nibbles and morning tea. The afternoon session kicked off with a symposium on Plant Biosecurity, led by keynote speaker James-Ridsdill-Smith (CSIRO, Perth, CRC for National Plant Biosecurity). James described the various components of national biosecurity systems, both assessing risk and responding to invasions, and Susanna Driessen of NSW DPI followed up with a State perspective on the Plant Biosecurity Continuum. Darren Peck (CSIRO, Canberra) described how remote cameras aid the work of AQIS, giving quick access to taxonomic expertise.

I had to Chair the final session of day, which started with Tiffany Mason of DECC describing work on recovery of the purple copper butterfly. Ohseok Kwon from Korea (Secretary General of the next International Congress of Entomology in 2012) gave an interesting paper on a beetle used in Chinese medicine, including evidence for increased immuno-activity of extracts when the beetle is fed an optimal diet. Geoff Gurr of Charles Sturt University then

discussed plans for a national, web-based curriculum in entomology, a topic dear to many of us in EntSocNSW. He demonstrated how it might work by inserting a video message from collaborator David Merritt at UQ. The final paper was the Presidential Address by outgoing President Jonathan Majer of Curtin University of Technology, WA. It was a fascinating and controversial account of supposed short-range endemics in the stygo- and troglofauna affected by mining in the Pilbara and Barrow Island, or perhaps mining affected by short-range endemics. Jonathan's view was that the vast sums of money spent on the SREs would be better applied elsewhere. All speakers were totally resistant to signals such as the 3 minute bell and the Chairman leaping to her feet and despite the absence of one speaker we only just got through the session on time.



Poster session with Orange Mountain wines - John Rogers centre.

on the possible extinction of some native aphids. The themes of most of the other papers were biological control and integrated pest management. For example, Leigh Pilkington (NSW DPI) amazed us with comparison of low-tech Australian glasshouses with the fabulously-automated ones in The Netherlands, and Sarah Mansfield spoke on parasitoids of whiteflies. Garry Levot led the afternoon session with his keynote address on insect growth regulator resistance and was followed by Robyn Gunning from Orange with an exciting new "shock and awe" technology for control of resistant insect pests. Debbie Kent had an interesting approach to the evolution of host plant relationships, asking the audience to vote on the likely origin of a psyllid infesting back-yard eggplants. The day ended with the official poster session, incorporating a wine-tasting sponsored by Orange Mountain wines.

The Society's dinner was held at The Harrison and was full of happy faces and high level discussions of science, hobbies and wine tasting. The food was again excellent, but after the general high standard of the catering at OAI, I would have been well-satisfied by a lighter meal! I certainly didn't come home lighter.

Fruit flies dominated Wednesday morning, commencing with keynote speaker Rod Turner from Plant Health Australia on the Australian biosecurity approach, and Karen Armstrong from NZ giving their perspective. Dick Drew (Griffith University) spoke on the risk of introduction of tropical fruit flies and the declining level of fruit fly taxonomic expertise. Deb Hailstones of NSW DPI described molecular methods for fruit fly identification and their current limitations. The other papers for the morning were contributed papers on aspects of the biology of fruit flies and their parasites.

Then followed the AGM, an important one because it marked the changeover from the old to the new Executive (each Executive usually takes a four-year term). So the Orange people, Murray Fletcher, Geoff Gurr and Graham Thwaite, have done their work and the new Executive (David Yeates, Vice President, Alice Wells, Secretary, and Gordon Hooper, making a return to the Executive as Treasurer) is based in Canberra. Meron Zalucki, University of Queensland, is the new President. David Yeates was awarded the Society's prestigious Mackerras Medal, which is offered every two years for outstanding work (mainly research) in entomology by a scientist under 50 years of age.

Tuesday morning saw Jonathan Majer back at the podium, giving a keynote address on the topic of biological indicators of mining site rehabilitation. The remaining papers in the morning's sessions were contributed papers, including mine



Glenys Wood, SARDI, Debbie Kent (NSW DPI) and Gary Taylor (University of Adelaide).

I enjoyed a paper by Desley Tree of Queensland DPIF on a short project she had done on spore-eating native thrips. Insect structure and function is at the base of understanding of insect biology and this paper epitomised it. The Phil Carne Prize winner was Katherine Barry from Macquarie University – unfortunately Kate was not well enough to attend the meeting, so we couldn't hear her discussion of sexual cannibalism in praying mantids.

I had to leave after this session to catch, supposedly, the XPT back to Sydney, so missed a couple of interesting papers, including Murray Fletcher's on the world's first inquiline flatid and Ainsley Seago's on beetle diffraction gratings. I also missed the announcement of winners of the illustration and photography competitions which are a feature of the Society's meetings. I can tell you that David Perovic from CSU won the award for the best student presentation, because I was on the judging panel.

Sadly the XPT had broken down that morning and was replaced by a series of coaches all the way back to Sydney. Our coach was somewhere between the roadtrip from hell (especially for one ill passenger) and the magical mystery tour, as the driver had never previously had to find the stations at Penrith, Blacktown, Parramatta and Strathfield. Fortunately for us, one of the passengers was a retired truckie who very kindly stayed on the coach after his intended set-down point to act as navigator.

In closing, I'd like to commend the AES conferences to all our members. They are a great place for keeping up-to-date, meeting old friends and networking, and for younger people, advertising yourself to potential employers. The next will be in Darwin. It's true they aren't cheap, but to my mind well worth the expense, even if you have to pay out of your own pocket. Nowadays it's usual to get professional conference organisers to take the load of detail off the organising committee. Sally Brown Conference Connections did an excellent job and everything went very smoothly. For the members of the Organising Committee who are also members of this Society, thanks and congratulations once again.



Peter Gillespie of OAI explaining something to Queenslanders Jane Royce (L) and Desley Tree (R) at lunchtime (fourth person not identified)

PS. I was surprised to find the term Homoptera in reading while preparing my paper and again in several presentations at the meeting. I even wondered if it had been resurrected as a taxonomic concept, so I checked with Murray. He assured me that it has been as dead as the dodo for a couple of decades now, since it implied a relationship between the Auchenorrhyncha and Sternorrhyncha which simply doesn't exist. It would be good to get it out of the vocabulary, especially in a teaching context.



New Vice President and Mackerras Medallist David Yeates, talking to former treasurer John Jennings



Some of the entries for the insect photography award

Insect Fun at Ku-ring-gai Festival of Wildflowers

Gith Strid-Nwulaekwe & Ted Taylor (photos from Gith and Howard Greening)

At this year's Ku-ring-gai Festival of Wildflowers, held at St Ives over the weekend 30-31 August, our Society again had a large stall that included live and pinned insect exhibits, educational handouts, posters and books, sale of toy insects and stickers, and a family quiz. Ted Taylor, Barbara May, Graeme Smith, Howard Greening and Gith Strid-Nwulaekwe attended the stall and as usual enjoyed the highly interactive insect demonstrations with visitors and we answered many questions. Among the live displays, Gith's Goliath Stick Insects (second largest species in Australia), Ted's many types of wood boring insects and Barbara's Silk Moths and Spiny Stick Insects were popular.

There were also several walks on the Festival Program and our Society contributed by guiding the 'Bug Walk'. This year there were two 'Bug Walks' in the early afternoon of each day. These walks attract a good attendance from the Exhibition visitors who range in age from the very young to quite old – unfortunately no wheelchairs are possible because the trail is rough and steep at times. The aim of these walks



is to find, show and talk about insect (bugs), and related objects such as borer damage to trees, insect galls and mines – which you may find along the trail. Members who did the finding, naming and discussing were some of the team manning our Entomological Exhibit in the Visitors Centre, namely Howard Greening, Barbara May, Graeme Smith and Ted Taylor (Gith stayed behind to mind the exhibit).



This year the weather was coolish but fine in spite of rain on the Sunday morning. As we all know you don't usually go on insect collecting trips in August even if it is late in the month. But nevertheless it is surprising what you can find in the St Ives Bush in late winter. The main standby insect always certain to be there is the termite. The trail we use has a large active colony of nasute termites (*Nasutitermes walkeri*) at the beginning of the trail and also near the end there are several more large colonies of the same species. So whatever else we may find it can be truthfully said that the 'bug' walkers are in the presence of millions of 'bugs'. There





are of course other species of termites in the area but you can't always be sure to find them.

This year one of the live insect finds was a mass of processionary caterpillars located under a piece of loose bark at the foot of a eucalypt. These were still at an early stage in their development but gave the chance to warn them of the danger from the hairs of this type of moth larvae. Another gregarious insect is the steel blue Sawfly - we have located masses of them in past years but they were a no show this year. The mines of the Scribbly Gum Moth (*Ogmoraptis scribula*) are always very visible on the smooth barked eucalypts. At the end of the trail the pittosporums (*Pittosporum undulatum*) are nearly always in flower at this time of year and give a chance to show a leaf miner (*Phytoiriomyza pittosporophilli*) in all its stages as a finish to the walk.

Hope to see you all there next year.

Gith & Ted

Society web site

www.entsocnsw.org.au

Total hits on the site are up to about 5,500 since inception or about 500 per month. While not a huge number as far as web pages go, we are now starting to get a variety of requests emailed to our contact address on the website. These range from requests for specimen exchange to asking why there isn't a National Insect Day in Australia. It's good to see that the site is acting as a way for outsiders to contact the Society and hopefully will boost our membership.

The Tarsus page was hit 72 times (we have a membership of just over 100) so hopefully more members are downloading the newsletter before it is emailed. Of course, non-members could also be accessing Tarsus this way as it is only the most recent volume of our Journal that is limited to members only internet access.



Any contributions to the site are most welcome.

For any problems (e.g. lost passwords), submission of photos for publication or suggestions for improvement get in contact with Graeme Smith. (0421 617 377) or le_gbsmith@optusnet.com.au

Insect of the Month

Passeromyia indecora (Diptera: Muscidae; Muscinae) – Garry Levot

Just before Christmas an enquiry was received via email at the NSW Department of Primary Industries Head Office address. The message was directed to Dr. Murray Fletcher who, in turn, copied me into the correspondence. A family from Arcadia in Sydney's north-west had been watching some birds nesting on their property and had won their trust sufficiently to be able to approach the nest. The bird species was never determined. The family had noticed the nestlings had welts in the skin and one of the sons having heard something about myiasis, extracted several maggots from the skin of one bird, using forceps. After some initial scepticism we asked that the maggots be submitted for identification to at least eliminate (hopefully) screw-worm.

By the time the live specimens arrived they had pupated within the tissue paper lining the container. It appeared that the maggots had made some attempt to cocoon themselves in the paper. The third instar larval posterior spiracles were clearly obvious on the



Photograph: Garry Levot



Photograph: Murray Fletcher

tanned puparium and were distinctly muscid. This was good news as screw-worm could be dismissed. A couple of weeks later, six adult flies emerged. They and their puparia are shown below. There is nothing remarkable about the appearance of the flies. They are about the same size as houseflies but they have a fascinating life-history.

P. indecora is a parasitic species of muscid that lays its eggs under the wings of nestling birds. The young larvae bore through the skin and feed subcutaneously on the blood of the host. As they grow the lump containing the maggot in the skin gets bigger. Infestations can kill young birds. If this occurs the larvae continue to feed on the dead host. Full size larvae pupate by making a cocoon from nest debris.

Other muscids with similar habits belong to the genus *Philornis*. In recent times *Philornis downsi* has arrived in the Galapagos Islands and is causing significant mortalities in Darwin's finches.

Christmas function – Saturday 6th December at 6.30pm

The Boatshed seems to have become our regular Christmas Dinner venue. Ted and Mary-Lynn have again offered to arrange this event at the same venue.

BOATSHED CAFÉ

1609 ANZAC PARADE
LA PEROUSE

(see map)

TEL: 9661 9315

ENTRÉE: CAESAR CHICKEN SALAD

MAIN: GRILLED BARRAMUNDI

OR

FRIED WHITING FILLETS

OR

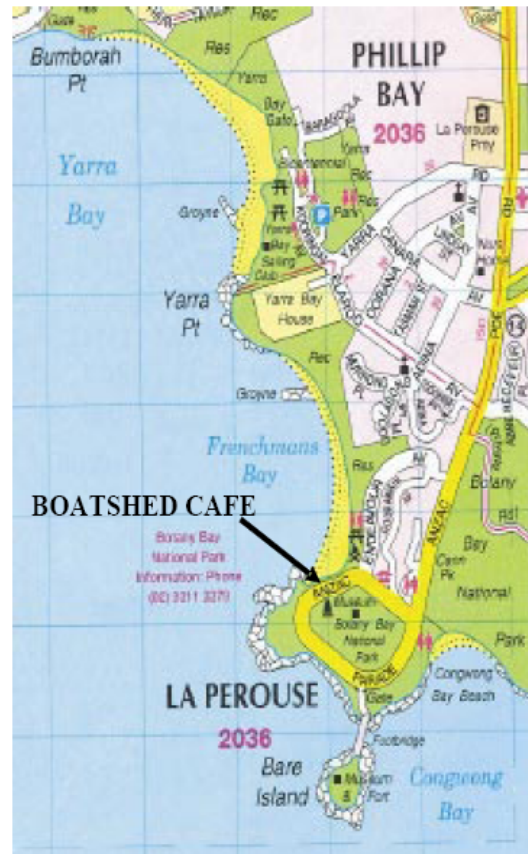
TASMANIAN SALMON WITH CAPERS AND
LEMON

Each served with Greek salad, fries and dinner rolls

DESSERT with tea or coffee

COST: \$38 per person

(+ buy your own drinks at the restaurant)



RSVP: Ted TAYLOR – 96613627 by **1st** December

For an interactive map go to: www.eatability.com.au/au/sydney/boatshed_the/map.htm

Bi-monthly Meetings

The Society meets **BI-MONTHLY** unless otherwise advertised. General meetings with a speaker will generally be held only on the “odd numbered” months (March, May, July, September, November) while the Council will meet more frequently. Speakers tentatively scheduled for the coming general meetings are shown below.

This timing allows us to alternate meetings with the Society For Insect Studies (SFIS) which meets at the Australian Museum at 7.30 on the second Tuesday of the “even numbered” months.

Future Events

| Date | Speaker | Title |
|-------------------------|------------------------|---------------------|
| 5 Nov, 2008 7.30 pm | Alex Roach | Museum Pest Control |
| 6 Dec, 2008 6.30 pm | Ted & Mary-Lynn Taylor | CHRISTMAS DINNER |
| TBC | Garry Webb (Sumitomo) | Pest ants |
| 4 March, 2009 7.30pm | | AGM |

Venue:

Meeting Room 2
Ermington Community Centre
10 River Road Ermington

Meetings start at 7:30 p.m. (directly following the Council meeting)

Talks run for around 45 minutes, with 10 minutes for questions, followed by a light supper. Guests are most welcome.

Getting there:

By Car: From Victoria Rd turn into Spurway St (head towards Parramatta River). Turn right into Jackson St then left into River Rd. If heading north on Silverwater Rd, turn right into Victoria Rd then proceed as above. If heading south on Silverwater Rd take the Parramatta off ramp, cross Victoria Rd and proceed into River Rd. If you miss the off ramp, turn left into South St, then left into River Rd.

By Bus: Routes 525, 523 and L20 depart from Argyle St near Westfield shopping centre near Parramatta station. Routes 523 and L20 depart from West Ryde station. Get off at the Ermington shops. River Rd passes between the supermarket and the hotel.

SOCIETY POSTAL ADDRESS

C/- ENTOMOLOGY DEPARTMENT
THE AUSTRALIAN MUSEUM
6 COLLEGE STREET
SYDNEY NSW 2000

MEMBERSHIP FEES 2008

| | |
|--------------------|------|
| ORDINARY MEMBERS | \$50 |
| COMPANY ASSOCIATES | \$60 |
| STUDENT MEMBERS | \$25 |
| CORPORATE MEMBERS | \$50 |

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