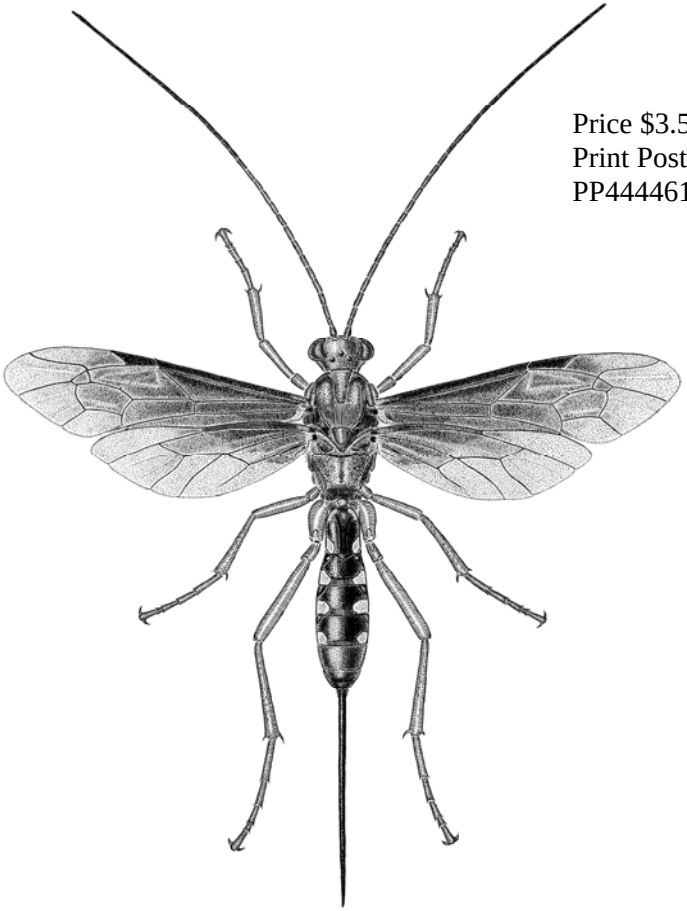
ENTOMOLOGICAL SOCIETY OF QUEENSLAND INC

NEWS BULLETIN



Price $3.50
Print Post Approved
PP444461/0003

Volume 41, Issue 2, May 2013

THE ENTOMOLOGICAL SOCIETY OF QUEENSLAND

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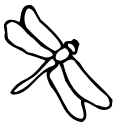
Front Cover Illustration: Ink illustration by William Manley of a female *Lissopimpla excelsa* (Costa, 1864) (Hymenoptera: Ichneumonidae: Pimplinae), a parasitic wasp (image copyright Qld Department of Agriculture, Fisheries & Forestry).

ISSN 1037-2989





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The **ENTOMOLOGICAL SOCIETY OF QUEENSLAND INC.**, since its inception in 1923, has striven to promote the development of pure and applied entomological research in Australia, particularly in Queensland. The Society promotes liaison among entomologists through regular meetings and the distribution of a *News Bulletin* to members. Meetings are announced in the *News Bulletin*, and are normally held on the second Tuesday of each month (March to June, August to December). Visitors and members are welcome. Membership information can be obtained from the Honorary Secretary, or other office bearers of the Society. Membership is open to anyone interested in Entomology.

Contributions to the *News Bulletin* such as items of news, trip reports, announcements, etc are welcome and should be sent to the News Bulletin Editor.

The Society publishes **THE AUSTRALIAN ENTOMOLOGIST**. This is a refereed, illustrated journal devoted to Entomology in the Australian region, including New Zealand, Papua New Guinea and the islands of the South Western Pacific. The journal is published in four parts annually.

EMBLEM: The Society's emblem, chosen in 1973 on the 50th anniversary of the Society, is the king stag beetle, *Phalacrognathus muelleri* (Macleay), family Lucanidae (Coleoptera). Its magnificent purple and green colouration makes it one of the most attractive beetle species in Australia. It is restricted to the rainforests of northern Queensland.

The issue of this document does **NOT** constitute a formal publication for the purposes of the "International Code of Zoological Nomenclature 4th edition, 1999". Authors alone are responsible for the views expressed.

Introducing Dr Simon Lawson, our new President for 2013

Dr. Simon Lawson
Forest Health, Department of Agriculture, Fisheries and Forestry
Ecosciences Precinct, Dutton Park, Qld

It seems I was destined for a career in entomology at the age of about 11 after winning a $10 bet with my father that I could not collect 100 species of insects in our backyard in Mt. Gambier, South Australia (an early lesson in just how diverse a group the insects are, even in cool temperate Australia). Of course I easily won the bet and the $10 was put to good use, being about half the cover price at the time (a whopping $19.80!) of the 1970 first edition of 'Insects of Australia' (I still have this copy on my desk for reference).

I went on to finish a B Ag Sc and M Ag Sc at the University of Adelaide's Waite Institute under David Morgan, and my first professional entomology job was at 'the Waite' running a biological control program for the five-spined bark beetle (*Ips grandicollis*). This started my love affair with forest insects and forest entomology, and I've since never been tempted to move out of this field!

In 1989 I took up a Japanese Government Monbusho scholarship and I continued studies on the natural enemies of the spruce bark beetle, *Ips typographus*, in Hokkaido, the northernmost island of Japan, completing a doctorate at the University of Tokyo in 1993. This work was supervised by Professors Katagiri and Furuta, who I am deeply indebted to for their many kindnesses during that time.

A two-year postdoc at the Forestry and Forest Products Institute in Japan followed, working on the natural enemies of the pine sawyer beetle, *Monochamus alternatus*, the vector of pine wilt disease in north Asia.

Before returning to Australia in 1997 I also had a two year stint teaching Biology English as a foreign Professor at the University of Tsukuba.

On returning to Australia I took up a forest entomologist position with the then DPI, associated with the initiatives of the time to expand hardwood plantations as a replacement timber resource for native forest. I have now been with the Department in its many guises and name changes (currently the Department of Agriculture Fisheries and Forestry Queensland) for 16 years and leader of the forest health team since 2006, following in the footsteps of Ross Wylie.

My research in Queensland has been directed at managing insect pests in eucalypt plantations by gaining a better understanding of their biology and ecology, with particular emphases on using semiochemicals as tools in IPM systems, modelling population dynamics, and enhancing biological

control. I also have a keen interest in forest biosecurity, both in Australia and in the region, most recently with ACIAR and AusAID projects in the Pacific and Vietnam. A current passion is international collaborations focussed on the use of biological control against the Australian-origin eucalypt insect pests that have been moving around the globe with increasing frequency.

I am very honoured to have been asked to serve as your President this year and look forward to an interesting year promoting entomology in its various forms in Queensland. I also look forward to meeting many of you during the course of the year.

~

Minutes of General Meeting

Held in the Seminar Room, Ecosciences Precinct, Boggo Rd, Dutton Park, on Tuesday, 9th April 2013 at 1 pm.

Chair: Simon Lawson

Attendance: Simon Lawson, Kathy Ebert, Manon Griffiths, Andrew Hayes, Geoff Thompson, Don Sands, Penny Mills, Diana Leemon, Bill Palmer, Chris Moeseneder, Geoff Monteith, Federica Turco, Brenton Peters, Kathy Thomson, Peter James, Justin Bartlett, Lance Maddock, Alexandra Glauerdt, Nadine Baldwin, Sarah Corcoran, Julianne Farrell

Visitors: Susan House, Dean Beasley

Apologies: David Holdom, Ross Kendall, Bradley Brown, Morris McKee, Gary Cochrane, Mike Barnett

Minutes: The minutes of the last General Meeting were circulated in News Bulletin Vol. 40, Issue 9, December 2012.
Moved that the minutes be accepted as a true record: Simon Lawson
Seconded: Geoff Thompson
Carried unanimously.

Nominations for Membership

The following nominations for Membership were received and approved by Council, and are put forward for election:

General Membership:
Mr Robert Constantine, Deception Bay, Q, *Nominated by* Owen Seeman, *seconded by* Christine Lambkin.
Mrs Mona Moradi Vajargah, Wishart, Q, *Nominated by* Matthew Purcell, *seconded by* Bradley Brown.

All new members were elected unanimously. The President then invited Michael Ramsden to give his address on Sirex wasp.

Main Business

First female *Sirex* trapped in Queensland.

Wood Wasp Woes: Sirex in Queensland 2009 – forever?

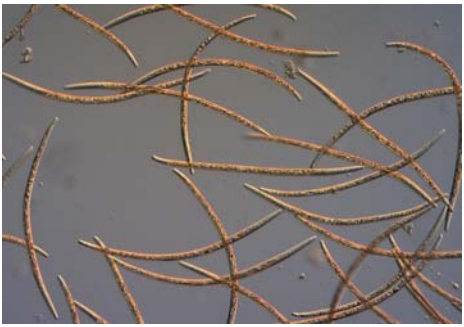
Michael Ramsden (presenter), Jade Hetherington and Carl Sutherland of HQPlantations Pty Ltd, Helen Nahrung of the University of the Sunshine Coast and Manon Griffiths of the Department of Agriculture, Fisheries & Forestry Queensland

In early February 2009 general pest surveillance trapping using static insect panel traps baited with attractant lures detected a single female Sirex wood wasp (*Sirex noctilio*), the first to be found in Queensland. Sirex is an introduced pest that has been affecting *Pinus radiata*, *P. taeda* and some other *Pinus* species grown in plantations in Australia since its accidental introduction into the mainland in 1961. It has been progressively spreading northwards since with its prior most northerly detection at Tenterfield, NSW in 2002. Late February 2010 the following year *Sirex* was detected a further 27 kilometres away within the HQPlantations licence area at Passchendaele State Forest.

Female *Sirex* in sample billet.

Sirex has a very complex but well studied life-cycle where its larval stages are dependent on the presence of the decay fungus *Amylostereum areolatum*, with spores of this fungus being deposited with phytotoxic mucus as a female lays her eggs. The combined effects of the toxic mucus and the fungus leads to the demise of the host tree. Major outbreaks of *Sirex* have occurred, as in the "Green Triangle" (SE South Australia - SW Victoria) in 1987 where between 1987 and 1989 this wasp killed over 5 million *Pinus radiata* trees with a royalty value of $10 – 12 million. Thus, when not properly managed, *Sirex* can cause serious losses.

Immediately following the February 2009 detection at Sugarloaf, HQPlantations expanded its trapping network and initialised strategies to control future *Sirex* expansion within its Southern Downs plantations. These strategies were closely guided by those set out by the National Sirex Coordination Committee. This initial widespread trapping response failed to detect any further *Sirex* during the remainder of the summer of 2009.



Deladenus siricidicola, nematode parasite of *Sirex noctilio.*

The nominal flight season (December – March) of early 2010 resulted in 44 female *Sirex* being intercepted in static panel traps with an intercept peak in mid-March. These intercepts indicated that *Sirex* was well established and expanding quickly only one year after the initial detection; therefore biocontrol measures widely used throughout the southern States were initiated.

The primary biocontrol is a parasitic nematode *Beddingia siricidicola*, which is manu-

Dissected female *Sirex* with eggs infected by nematodes.

ally introduced into groups of artificially stressed (poisoned) "trap" trees. The nematodes migrate throughout the inoculated stems entering late instar larvae, rendering female *Sirex* sterile. The female is still capable of laying eggs (up to 250 per large female), but these eggs are now sacks of nematodes, thus she is spreading her own control mechanism! A small number of parasitoid wasps, *Ibalia leucospoides* and *Megarhyssa nortoni*, were also released at Sugarloaf and later at Passchendaele.

Laboratory examination of larvae extracted from a small number of trap trees inoculated in May 2011 showed promise as nematodes were present within male and female larvae. The large scale introduction of nematodes into the 'system' commenced in May 2012 with 72 million nematodes being introduced into 76 trap tree plots within the Passchendaele plantation estate. In October that same year a selection of trap trees were examined, with billets being removed to establish if *Sirex* was present and if nematodes had infected their larvae. Early to late instar larvae were present in the trap trees with initial overall nematode parasitism within these larvae at 39%. This parasitism level was envisaged to increase as the larvae matured to pupation, and it did, with data to the end of January 2012 showing that 60% of emerged adult females were infected with the bio-control nematode. Infection rates of emerged adults between sample plots ranged from 48-100%.

Collections of female *Sirex* from Queensland, showing variation in body size.

These successes are further encouraging as it is probable that *Sirex* will continue its march northwards into HQPlantations' main production estates at Beerburrum and the Fraser Coast. Species untested against *Sirex* such as Caribbean pine (*Pinus caribaea var. hondurensis*), Slash pine (*Pinus elliottii var. elliottii*) and an advanced hybrid of these predominate in these regions in a subtropical coastal climate. Species susceptibility and climate may reduce the risk of *Sirex* but they may also reduce the effectiveness of the biocontrol nematode. Urgent research is currently addressing these concerns.

Typical frass-packed larval tunnels of *Sirex* .

A vote of thanks was given by Andrew Hayes

Any other business:
Next meeting will be held on Tuesday 14th of May, speaker will be Mike Furlong.
The meeting closed at 2pm.

People and Projects

A Pantropical tramp in Brisbane

Dr Robert Mesibov, Queen Victoria Museum and Art Gallery, and School of Agricultural Science, University of Tasmania

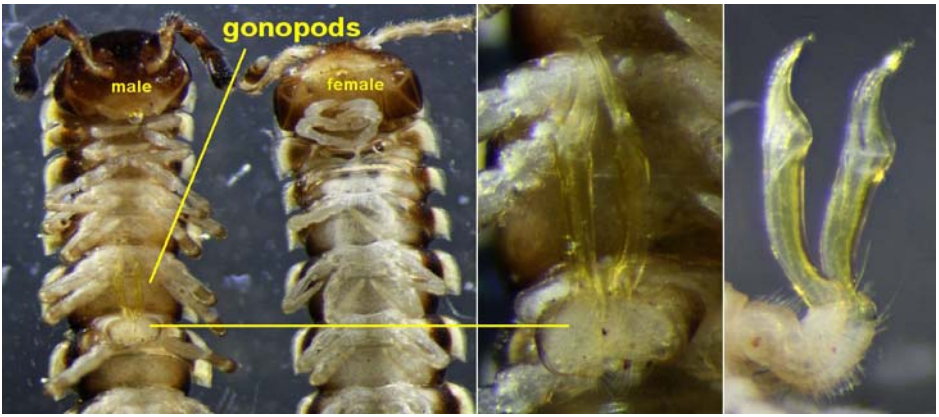
Orthomorpha coarctata (de Saussure, 1860) (Polydesmida, Paradoxosomatidae) has been found at an apartment complex in Brisbane's West End, from where I was sent specimens in April this year. This is the furthest southern record I know for the species in mainland Australia. *O. coarctata* was first collected in Darwin in 1961 and has since spread to northwest Western Australia. In 2008 I was sent specimens from a resort on Hamilton Island in Queensland, but the quick 1000 km jump to Brisbane was something of a surprise.

O. coarctata is believed to be native to Indonesia. It is now established on most Pacific islands and in some southeast Asian cities, as well as parts of tropical South America, the Caribbean and the far southeastern USA. In non-mainland Australia it occurs on Christmas and Lord Howe Islands.

The species is 15–20 mm long and medium to dark brown with pale yellow tips to the paranota, or 'keels' along its back (see first illustration). Unfortunately, that description fits more than one invasive millipede, and a fair few native Australians as well. To positively identify *O. coarctata* you need to carefully examine the gonopods of a mature male, as shown in the second illustration.

I don't know whether *O. coarctata* competes with any native millipedes, but in any case the invader would be impossible to eradicate, as it spends most of its life hidden in garden mulch. Like most other millipedes, *O. coarctata* eats rotting vegetation and is harmless to humans and their pets. The species is known to go wandering (sometimes in large numbers) after heavy rains, mainly in summer. The wanderers are adults looking to disperse and mate. Individuals take 1–2 years to mature.

Lateral view of whole animal (left); dorsal view, close-up (right).



Separating male and female (left); ventral and lateral views of gonopods (middle and right).

O. coarctata can only be 'controlled' when it wanders away from its garden-bed habitat, and then only by the usual means of keeping bugs out of sight in urban Brisbane, i.e. sweeping and occasionally applying insecticide!

It will be interesting in coming years to see how far south this global traveller spreads in mainland Australia.

NOTICE OF NEXT MEETING

Tuesday 14th May 2013, 1pm

~

Dr Mike Furlong

University of Queensland

Plant responses to herbivory: complex interactions between parasitoids, predators and prey

Seminar Room 1
Ground Floor, Ecosciences Precinct
Boggo Road, DUTTON PARK

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DIARY DATES 2013

Nine general meetings held per year on the 2nd Tuesday of the respective month

MAR—Tuesday 12th	Geoff Thompson	AGM and President's Address
APR—Tuesday 9th	Michael Ramsden	*Sirex* wood wasps in Queensland
MAY—Tuesday 14th	Dr Mike Furlong	Plant responses to herbivory: complex interactions between parasitoids, predators and prey
JUN—Tuesday 11th	Notes & Exhibits / Student Award Presentation	
AUG—Tuesday 13th	Dr. Doland Nichols	Bell Minor associated dieback of eucalypt forests
SEP—Tuesday 10th		
OCT—Tuesday 8th		
NOV—Tuesday 12th		
DEC—Tuesday 10th	Notes & Exhibits and Xmas BBQ	

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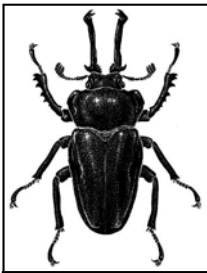

THE ENTOMOLOGICAL SOCIETY OF QUEENSLAND

NOTICE OF NEXT MEETING

Tuesday 14th May 2013, 1pm

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Plant responses to herbivory: complex interactions between parasitoids, predators and prey

a presentation by

Dr. Mike Furlong

Senior Lecturer, University of Queensland

~

Seminar Room 1
Ground Floor, Ecosciences Precinct
Boggo Road, DUTTON PARK

More venue details available at
http://www.esq.org.au/meetings.html

ALL WELCOME

NEXT NEWS BULLETIN

Volume 41, Issue 3 (May 2013)

CONTRIBUTIONS WELCOME

DEADLINE - Tuesday May 21st, 2012