



# Tarsus

April  
2006

Issue No. 565

## CIRCULAR OF THE ENTOMOLOGICAL SOCIETY OF NEW SOUTH WALES Inc

The Annual General Meeting was held earlier this month. I was honoured to be re-elected as President. In a way the meeting was like other AGMs – only a small fraction of the membership attended and most of the positions on the new committee were filled by incumbents. However an important difference from past years was the injection of new blood. The Society gained 5 committee members: Simone McMonigal, Graeme Smith, Robin Parsons, Warrick Angus and Marc Greco. The new ideas and enthusiasm they bring make this a great result for the Society, one that bodes well for the future.

On the following pages you will find:

- The 52<sup>nd</sup> Report of the Council of the Entomological Society of New South Wales
- Seminar series program for 2006

Martin Horwood  
President

### Next Meeting of the Entomological Society of NSW Inc

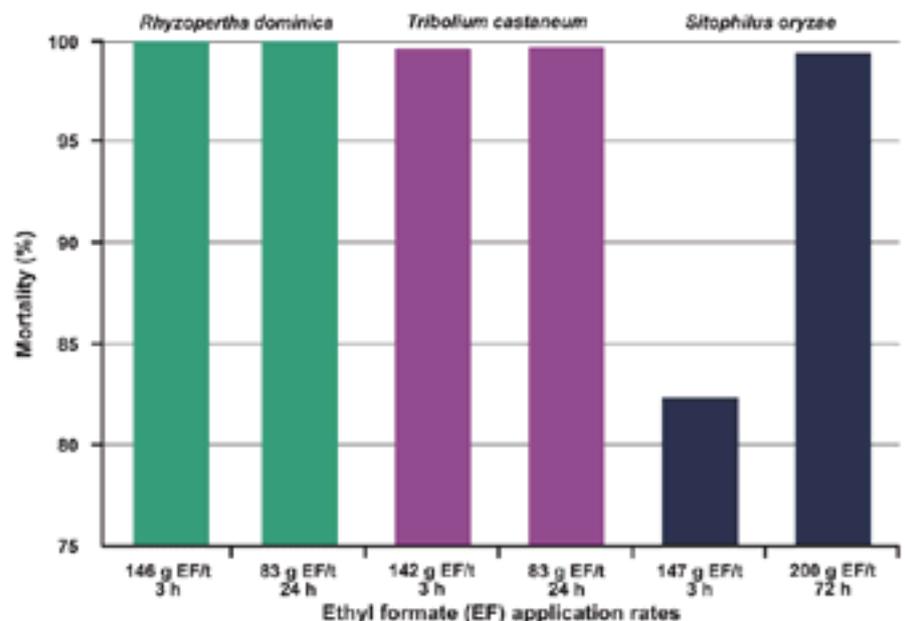
**Where:** Meeting Room 2, Ermington Community Centre, River Road, Ermington

**When:** 7.30 p.m. on Wednesday, 5 April 2006

**Speaker:** Bob Ryan, Manager Market Support, BOC Limited

**Title:** “VAPORMATE – She’ll be apples”

**Abstract:** A naturally occurring substance (ethyl formate) found in green apples and cabbages is the new weapon in the fight against insects which attack stored products. Ethyl Formate formulated in carbon dioxide [VAPORMATE™] has been released on the market by BOC Limited to treat stored grain, fresh produce and packaged food. This project illustrates the success that comes from grower organisations [GRDC], researchers [CSIRO] and private enterprise working together. After trials in WA, Queensland, the ACT and NSW, CSIRO researchers developed a standard concentration for a 50-tonne silo of grain which takes 12 minutes to apply, three hours to fumigate and two hours to air out with no withholding period. The VAPORMATE™ product contains 16.7% Ethyl Formate in liquid carbon dioxide, The active ingredient ethyl formate is very volatile [boiling point 54°C] and so is easily aerated from treated products.



**Fig. 3.** Mortality of mixed age cultures containing 5-25,000 insects, of the most tolerant stored grain insects exposed to 3 and 24 hour VAPORMATE™ fumigations of wheat.

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NOTICE: Statements made in the Circular do not necessarily represent the views of the Entomological Society of New South Wales Inc  
TARSUS is prepared for ESNW by Simone McMonigal Email: smcmonigal@hotmail.com

# The 52<sup>nd</sup> Report of the Council of the Entomological Society of New South Wales

## 1. The Council for 2005

Honorary President	Mr Martin Horwood
Honorary Vice President	Mrs Barbara May
Honorary Secretary	Ms Tanya James
Honorary Treasurer	Mr Ted Taylor
Honorary Business Manager	Ms Gith Strid
Honorary Public Officer	Dr Mary Anne Terras
Honorary Editor	Dr Garry Levot
Honorary Circular Editor	Mr Martin Horwood
Councillors	Associate Professor Robert Spooner-Hart.

## 2. Membership

Membership as of 31<sup>st</sup> December 2005 was 107.  
27 members unfinancial, 6 lapsed and 3 resigned.  
We also welcomed 6 new members.

## 3. Council Members

Council met on 9 occasions between March 2005 and March 2006.  
Members attended: Horwood 7, May 9, James 7, Taylor 8, Strid 8, Terras 3, Levot 9, Spooner-Hart 3.

## 4. Society Meetings

Meetings have continued at the Ermington Community Centre. We had a wide range of interesting speakers who attracted a large number of visitors. The society appreciates the contribution of time and effort made by our monthly speakers and trip organizers.

<b>Date</b>	<b>Event</b>	<b>Speaker</b>
2 <sup>nd</sup> April	Trapping night with SFIS	
6 <sup>th</sup> April	Changes in Suburban Insect Populations	Courtney Smithers
4 <sup>th</sup> May	An appreciation of Lucanid (stag) beetle taxonomy, biology and diversity	Roger de Keyser
1 <sup>st</sup> June	Invasive pollinators and the Politics of the Large Earth Bumblebee	Guy Williams
6 <sup>th</sup> July	Sexual superiority in Male Queensland Fruitfly: A step by Step Guide to Success.	Phil Taylor
3 <sup>rd</sup> August	Beating the Waratah Stem and Bud Borer	Victor Rajakulendran
7 <sup>th</sup> September	Honey Kills Superbugs – The medicinal Benefits of Honey	Shona Blair
5 <sup>th</sup> October	Insect Navigation – An overview	Ken Cheng
19 <sup>th</sup> –20 <sup>th</sup> November	Trip to Megalong Valley	
1 <sup>st</sup> February	The rise of the Bed Bug	Stephen Doggett

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## 5. The 52<sup>nd</sup> AGM

The 52<sup>nd</sup> AGM was attempted to be held at the Ermington Community Centre on the 2<sup>nd</sup> March 2005. Unfortunately not enough financial members attended to make a Quorum. The elections of Council were held over to the following meeting. However, the presidential address was given by Martin Horwood.

## 6. Volume 34 of General and Applied Entomology

Volume 34 of General and Applied Entomology was published and distributed to all members mid year. Thank you to Garry Levot for his continued excellent work in publishing our Journal.

## 7. Circulars

11 Circulars (no's 554-564) were published between March 2005 and February 2006. Unfortunately there was not a member able to undertake the duties of Circular Editor in 2005 and our President added this role to his other duties. This past year saw some major changes to the Circular. A new format and name – Tarsus – came into being. Also due to the changes in technology, the increased costs to the society and no independent Circular Editor, Circular distribution changed to email only with hard copies being made available at meetings. Thank you to Martin for undertaking this major change and for filling in. As always comments, contributions and assistance is most welcome.

## 8. Society Emblem

The emblem for 2005 was the male and female Cicadas. This illustration took 3<sup>rd</sup> Prize in the 2002 illustration competition.

## 9. Other Activities

- Lowen Turton has continued to run the Societies Web Page. Thank you to Lowen for keeping us part of the world wide web.
- On the 2<sup>nd</sup> of April a joint trapping night was held with the society for insect studies at State Forest, Pennant Hills.
- Gith Strid co-ordinated our 11<sup>th</sup> year at the Ku-ring-Gai Wildflower Festival. Several members attended hosting bug walks, showing live and pinned specimens and talking to the public about the wonderful world of insects.
- Unfortunately the Office of the State Cabinet knocked back our suggestion of a State Insect Emblem (the Botany Bay Weevil). It is now up to the State Heritage Commission to follow this up with the Government.
- In November members and their families spent time in the Megalong Valley in the Blue Mountains for a collecting weekend.
- A census was taken of the Society's membership mid year. The information received was used to formulate a membership list. This list will allow council to keep in touch with its members and will be kept private and confidential.

## 10. Annual Dinner

The Annual Dinner was held at the Thai Garden House Parramatta. It was enjoyed by all who attended.

## IN YOUR BACKYARD



Photo: Keith Power, Toowoomba, Qld.

### ROBBER FLIES - Order Diptera, Family Asilidae

These large, bristly flies are extremely successful predators and have voracious appetites. They mostly prey on other insects and are capable of attacking and immobilising bees, wasps, dragonflies, grasshoppers and even spiders.

When on the hunt, robber flies establish a perching location - usually in a sunny, open area - in order to locate suitable prey. Once located, robber flies catch their prey in mid-air, using their strong legs to grasp and their modified mouthparts - a stabbing proboscis - to inject them with saliva containing neurotoxic and proteolytic enzymes. The neurotoxins paralyse the prey and the proteolytic enzymes digest proteins in the body tissues. The robber fly will then return to its perch and consume the liquidised body tissues of the prey - all that remains is the discarded exoskeleton.



Photo: Gareth Carter



Photo: Keith Power, Toowoomba, Qld.

Because of their size and active habits, robber flies are one of the more common flies seen in Sydney.

Distribution: Throughout Australia

Habitat: Urban areas, forests and woodlands

Status: Common

Size: 5-30 mm

#### References:

[www.faunanet.gov.au/wos/factfile.cfm?Fact\\_ID=185](http://www.faunanet.gov.au/wos/factfile.cfm?Fact_ID=185)

[bugs.bio.usyd.edu.au/Entomology/InternalAnatomy/imagePages/robberFly.html](http://bugs.bio.usyd.edu.au/Entomology/InternalAnatomy/imagePages/robberFly.html)

## SEMINAR SERIES 2006

Date	Speaker	Title
5 April	Bob Ryan Manager Market Support BOC Limited	“VAPORMATE – She’ll be apples”
3 May	Sue Marte District Horticulturist NSW Department of Primary Industries at Young	<i>Maroga melanostigma</i> - Just another boring insect? Investigations into the biological control of fruit-tree borer in prune trees
7 June	To be advised	
5 July	To be advised	
2 August	To be advised	
6 September	Greg Holwell Behaviour Ecology Lab Department of Biological Sciences Macquarie University	Mating behaviour in <i>Ciulfina</i> praying mantids: Who needs cannibalism?
4 October	To be advised	
1 November	To be advised	
6 December	To be advised	

### Venue:

Meeting Room 2  
Ermington Community Centre  
10 River Road, Ermington

### Meetings start at 7.30om

Talks run for around 45 minutes, with 10 minutes for questions.  
Afterwards a supper is provided.  
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.

(Information: Martin Horwood martinh@sf.nsw.gov.au phone 02 9872 0111)

# DID YOU KNOW?

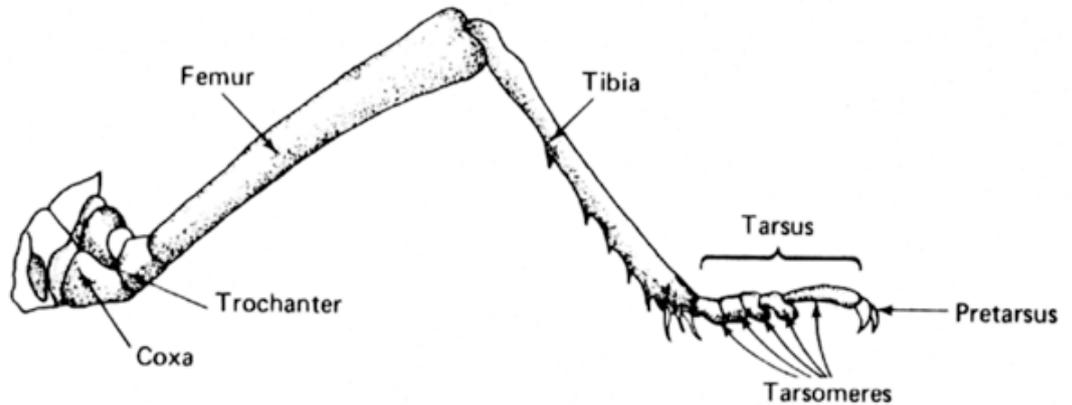
The **arthropod tarsus** (which this Circular is named after) is usually the fifth and last segment of the arthropod leg, although it is the seventh among spiders, as a patella is present in that group, between the femur and the tibia, and a metatarsus is also present, between the tibia and the tarsus.

Among insects the basal articulation of the tarsus is with the tibia. The tarsus may be subdivided into subsegments called tarsomeres. In some groups, the number of tarsomeres is important for identification to family level, for example beetles (Coleoptera), or to subfamily level among some flies (Diptera) (e.g., Cecidomyiidae). Among

insects, because the insect thorax is divided into a pro-, meso-, and metathorax, there exists a protarsus or foretarsus, a mesotarsus or midtarsus, and a metatarsus or hindtarsus.

The tarsomeres are distinguished in the

same way, foretarsomeres, midtarsomeres, and hindtarsomeres. Tarsal claws, also called unguis (singular, unguis), may be present. The tarsus of arthropods is part of the exoskeleton, whereas the vertebrate tarsus is a bone in the foot.



## References:

[www.ipm.uiuc.edu/cropsci270/syllabus/lecture0202.html](http://www.ipm.uiuc.edu/cropsci270/syllabus/lecture0202.html)  
[www.californiabiota.com/cabiota/uroctonites.htm](http://www.californiabiota.com/cabiota/uroctonites.htm)  
[en.wikipedia.org/wiki/Tarsus\\_%28arthropod%29](http://en.wikipedia.org/wiki/Tarsus_%28arthropod%29)



Electron Microscope photo of a Uroctonites Scorpion tarsus

## SOCIETY POSTAL ADDRESS

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

## WEB ADDRESS

<http://www.entsoconsw.netfirms.com>

## MEMBERSHIP FEES 2007

ORDINARY MEMBERS	\$50 (\$45 if paid by 1/1/07)
COMPANY ASSOCIATES	\$60
STUDENT MEMBERS	\$25 (\$20 if paid by 1/1/07)
CORPORATE MEMBERS	\$30

Front page Robber Fly Photo: © B Hulbert.