



July
2010

Issue
No. 592

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, 5th May 2010

On the origins of citrus, and huanglongbing and its vectors
Andrew Beattie

Andrew's talk reads like an unsolved detective story, tying together pieces of information from the past and other scientific disciplines. He brings these threads of evidence together to suggest theories of not only the origins of this psyllid-transmitted disease but also attempts to trace the origins of Citrus.



Monday May 3, 2010 11

mx News

• AGRICULTURE CRISIS

Where would we bee?

The world faces a future with little meat and no cotton because of a catastrophic collapse in bee colonies, experts have warned.

Many vital crops are dependent on pollination by bees, but latest figures show a third failed to survive the US winter.

More than three million colonies in America and billions of bees worldwide have died since

2006. Pesticides are believed to be a key cause of a crisis known as Colony Collapse Disorder, damaging bee health and making them susceptible to disease.

But scientists are at a loss how to prevent the disaster.

Other potential factors include bloodsucking parasites and infections. Some experts believe bees are heading for extinction. The number of man-

aged honeybee colonies in the US fell by 34 per cent last winter, according to a survey by the country's Agricultural Research Service, and some commercial beekeepers have reported losses of more than 60 per cent over a year.

In Britain, the latest report into the fate of the estimated 250,000 honeybee colonies is expected this month after losses

of up to a third in two winters.

Bees are a critical part of the food chain because flowering plants depend on insects for pollination and the honeybee is the most effective.

It pollinates 90 commercial crops worldwide, including most fruit and vegetables.

A world without bees would mean a largely meatless diet of rice and cereals, no cotton for

textiles, no orchards or wildflowers and decimation among wild birds and animals in the bee food chain.

Bees are worth \$43 billion to the global economy.

"Bees contribute to global food security and their extinction would represent a terrible biological disaster," said Bernard Vallat of the World Organisation for Animal Health.

Synopsis of the talk at the May meeting

Dawson's Burrowing Bees

Warrick Angus

'Life' is one of the BBC's most recent wildlife documentary series focusing on extraordinary animals and extreme wildlife behaviours. This documentary series took years to research and film, and covers stories from all over the world of the habits of animals many people don't even know exist. One such animal is Dawson's Burrowing Bee.

Dawson's Burrowing Bee has an unusual existence. As their name suggests, the bees burrow in sun hardened clay pan soils and only emerge for a couple of months in which they must breed, forage build new nests and die. The bees are solitary, however, female bees tend to build their burrows/nests very close to each other. The burrows are approximately 20 cm deep and sock shaped. The horizontal portion of the burrow is where the female parent builds many single egg chambers. Once an egg is layed in each chamber it takes about 10 months for the grub to grow and emerge as an adult bee. Interestingly, the males always emerge from the burrows first.



Warrick filming with the Photron camera



A clay pan showing the burrows close together

Eventually all the males die and the mated females continue working from dawn to dusk foraging, building their burrows, and laying eggs, until they too die off and the process starts again. The females drink nectar from *Eremophila* and *Hakea* flowers and use this moisture to loosen the soil so they can dig. They excrete wax onto their burrows to harden the dirt.

In late 2007, Simone McMonigal and Warrick Angus (former members of the Entomological Society of NSW) were fortunate to travel to Carnarvon, on the Eastern side of the Kennedy Ranges, to help film this large bee for the 'Life' series. Our role was to film the female bees with a special high-speed camera (a Photron), so that we could show their behaviour in slow-motion. It was quite

On the surface of the clay pans, hundreds of male Dawson's burrowing bees emerge from the burrows. The males are large, orangey brown and bumble bee size and fly around the surface of the clay pans for about one to two months before the females emerge. Once the females emerge, battles between the males begin. The males fight each other in an effort to dominate the female. In the heat of battle sometimes females are caught up in a mating ball where several males climb over her body trying to pull her away from other males. In some instances the males compete so voraciously that the females actually get torn apart. Aside from the battles, there are also males that are significantly smaller than the large ones. These smaller males stay away from the competing larger males and wait in a safe area for females that might emerge and escape to shelter away from the larger boys.



A female bee foraging

challenging, as to run this camera, it required a couple of suitcases of hardware! The Photron is controlled via a computer, which we had to set up in a tent to keep it out of the sun and dust, and run it all off a generator. We got some amazing shots of the bees emerging from their burrows, cleaning around their burrows, and flying back to their burrows, laden with pollen. The most interesting part of watching the bees in slow motion was that rather than just seeing small, noisy, buzzing, whizzing tiny creatures, we got to know them as small animals with personality and purpose.

The 'Life' series hasn't been screened in Australia yet, so keep an eye out to see these amazing bees. It's also well worth the effort to see them in the wild, but be careful not to tread on their delicate burrows.



A female bee laden with pollen



A female bee emerging from her burrow



AUSTRALIAN ENTOMOLOGICAL SOCIETY'S 41st AGM & SCIENTIFIC CONFERENCE

Entomology for Australia's Future
September 26-30 2010
Perth, WA

The Organizing Committee, Sonya Broughton, Modika Perera, Maria José de Sousa Majer and Jonathan Majer invite you to the 41st AGM and Scientific Conference, which will take place at the Vines Resort in the Swan Valley, just north of Perth.

Our conference logo is the Western False Saturn Moth or Dryandra Moth Carthaeidae, *Carthaea saturnioides*. Feeding on Grevillea and Banksia species, the moth's activity season is August to December, so you may have a chance to see it in its native range.

The conference will have five themes:

- *Invasive species and biosecurity*
- *Threats to biodiversity and their amelioration*
- *Food safety*
- *Insect biology and ecology*
- *Systematics and taxonomy*
- *Integrated pest management and grain production systems*

There will also be a half-day mid-conference tour of the Swan Valley. This relaxed region is where you'll find rolling vines, meandering waterways and lush natural bushland, as well as award winning wineries, breweries and food producers. As Western Australia's oldest wine growing region, many vineyards are still owned by descendants of European emigrants. Many wineries offer cellar door tastings, or if you're partial to a pint, there are four microbreweries offering award winning drops.

We look forward to seeing you over here in the West.

www.aes2010.org/

Show & Tell – May Meeting

The Circular Editor obviously missed the consensus at the March meeting that the brown scarab shown by Barbara (on behalf of Marcus Riegler) was indeed the Argentinean scarab (too busy trying to photograph the items on display and take notes).

Graham Owen (SFIS) emailed that he thought that Clarry Chadwick had been involved in its identification in Australia. “I believe the beetle is a Dynastin genus, *Cyclocephala signaticollis* named by Burmeister in 1847. In Phil Carne’s book “Systematic Revision of the Australian Dynastinae” he says the tribe Cyclocephalini is omitted from his index because it is represented only by a single introduced species. S. Endrodi who wrote the bible on Dynastinae with his “The Dynastinae of the world” says all species of *Cyclocephala* are known from America mostly from tropical countries with quite a number from the Antilles. However he does not list *signaticollis*.

CSIRO list it on their website with the common name “Argentinean Scarab” and only found in NSW. It has said to have been discovered in NSW in the mid 1950’s and is now a widespread pests of recreational turf areas. It is usually first noticed in December when large brown patches start occurring in the lawn. Numbers can be as high as 350 per sqm. The Russian insect price list has *Cyclocephala signaticollis* from Australia for sale at \$6.00 each. In Google you will find 1530 websites most dealing with pesticides.

Ted Taylor bought along a well organized display of lace bugs with accompanying notes

Lace Bugs — Hemiptera:Tingidae

Information about 3 species.

Sycamore Lace Bug (*Corythuca ciliata*)

Distribution

The Sycamore lace bug is a native North American insect. It was detected in Europe (Padova, Italy) in 1964. It has since spread through most of central and southern Europe. It was first detected in Australia (Sydney) in March, 2007. At that time it was firmly established in the CBD and inner suburbs. It is now to be found throughout Sydney and other parts of NSW. The specimens here came from Woollahra.

Host

Plane trees (*Platanus* spp.) are its preferred host. One of the Plane tree species (*P. occidentalis*) is called Sycamore in North America, hence the common name. Plane trees are widely planted as a street tree in Sydney and many other places in Australia.

Feeding Damage

This insect species over-winters as adults and can be found under loose bark from late March. The feeding damage to the leaves becomes obvious by December with the pale green colour effect easy to see from a distance. So far I have not seen any serious effects on heavily infested trees but this may change with time.



Lantana Lace Bug (*Teleonemia scrupulosa*)

Distribution

The Lantana Lace Bug is a native of Mexico, Central and South America. It was first introduced into Australia in 1936, as a biological control for Lantana (*Lantana camara*). The specimens here came from La Perouse.

Host

Of the many biotypes of *Lantana camara*, it is most effective as a biological agent on the common red variety. It can, however, exist on other varieties including the common pink variety that is the dominant variety in the Sydney region.

Feeding Damage

The feeding damage can be very severe on the common red Lantana. In late summer affected plants will be completely defoliated. Damage to the common pink Lantana is minor — the specimens came from this variety.



Snake Vine Lace Bug (*Stephanitis queenslandensis*?)

Distribution

This lace bug is native to Australia. The specimens here came from La Perouse.

Feeding Damage

Causes pale green spotting showing through the top surface of affected leaves. The overall effect on the affected vine appears to be very minor.

Host

The specimens were collected from Snake Vine (*Stephania japonica*). This is a very common plant in coastal areas.



Barbara May showed some caterpillars bought to her botany class that had been parasitised probably by Brachonids)

Ted Taylor bought photos of banded bees from his back garden. Mary-Ann has up to 10 on *Hardenbergia*. ♂♂ clasp by mandibles to stem



Robin bought newspaper articles on a 56 cm stick insect from Malaysia and the problem of bee population decline (see above).



Hit me with your living stick
It's the longest stick insect ever found. And it's on your face. This 56.7cm-long Phobaeticus chani was discovered in the Heart of Borneo -- the rainforest that borders Malaysia, Indonesia and Brunei. It's only the third time the creature has been seen, with scientists uncovering 123 species on Borneo Island, including a slug that fires "love darts" at its mate. Picture: AFP

Wei Liang bought small longicorn (5mm) beetles probably Lamiinae

Dinah Hales collected Vine hawk moth larvae from Virginia creeper 2 weeks ago now 2 pupae.

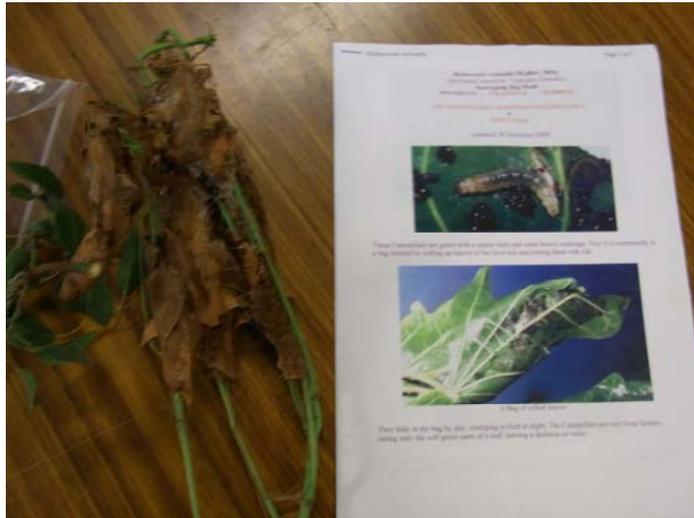


Barbara May bought along some galls from a Turpentine tree from the Hawkesbury/Richmond area



Barbara snacking on an insect gall during the meeting

Mary Ann Terras bought a sample of the leaf cluster created by the Kurrajong tree near work covered in bag moth. Small trees almost overwhelmed by end of season. More details can be found at <http://lepidoptera.butterflyhouse.com.au/pyru/clytus.html>.



Graham Owen showed huge carpenter bees collected in Bali. They fly like helicopters into a flower then fly out backwards. Feed on vine with flowers that look like orchids with long “tongues”



Simone with her own special “Show & Tell”

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 |
|---------------------------------|----------------|---|
| 7 th July, 2010 | Andrew Beattie | On the origins of citrus, and huanglongbing and its vectors |
| 1 st September, 2010 | Graeme Smith | Cave insects (some experiences from Australian and PNG caves) |
| | | |

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 2009

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

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