



## COMING EVENTS

### Walking Bees

1st Saturday &  
3rd Sunday each  
month.

**Sunday June 19th**

Gate 82  
Entry off Hillside Road  
Springfield

**Upper working bees**

Enter from  
Springwood Park  
Eagle on the Hill  
**Saturday July 2nd**  
**Sunday July 17th**  
**Saturday August 6th**  
**Sunday August 21st**  
**Saturday Sept 3rd**  
**Sunday Sept 18th**  
**Saturday 1st October**



THE UNIVERSITY  
of ADELAIDE

## President's message

Hello from the coal face. Fellow olive killers have raised eyebrows at a couple of items in my olive control bushcare kit. Accordingly I share with you the contents of my kit for your interest. Most of the work I do is 'making good' after primary olive clearance, specifically:

- pulling small seedlings
- treating plants too large to pull
- re-treating re-growth stumps

Not included in the kit below but important where there are numbers of larger missed plants or re-growth stumps (lignotubers) are, respectively, a small tree-popper, and a 10-Litre back-pack sprayer with a glyphosate : metsulfuron-methyl (Brush-Off®) mix. Here are the 10 items in my kit. The kit and contents weigh 3.2 kg in total which is easily carried.

### *Secateurs*

All-purpose tool for removing small trunks & exposing lignotuber for treatment; & cutting through roots when excavating lignotuber. Single most useful tool when traveling light & treating smaller plants only.

### *Pruning saw*

Sharp folding saw for removing trunks on larger plants and regenerating stumps to access for further treatment.

### *Mattock*

Mini mattock for grubbing out larger plants; excavating one side of a plant to snap off tap root below lignotuber; or to expose lignotuber for herbicide application. Remove sharp 'pick-axe' tool on double-sided versions to prevent injuries. Back of tool can double as hammer for use with chisel when frilling.

### *Multigrips*

Gives greater leverage for pulling

out seedlings & gripping base of any that break off near ground level.

### *Hammer*

For using with chisel to 'frill & fill' lignotubers to apply herbicide.

### *Chisel*

As above. A lightweight alternative to cordless drill for 'drill & fill' technique. Quick & better suited to smaller plants.

### *Injector Gun*

Alternative to squeeze bottle for applying herbicide. Quick & easy to use, doesn't leak, works at any angle & doesn't roll down hills when put down.

### *Bottles of herbicide*

4 x 130 mL bottles of herbicide for use with injector gun. Include 1:5 glyphosate (360 g/L) : water mix for 'frill & fill' of lignotubers & treating larger roots remaining after excavation. I intend adding a bottle with triclopyr : bio-oil basal bark mix for treating small hawthorns etc.

### *Gloves*

Chemical resistant for use with herbicide.

### *Plastic tool box*

Lightweight open easy-access box comfortably fits all tools above. Insert small Tek-screws through floor at corners to prevent it sliding down slopes.

I welcome your comments.

*Peter Bird*

See page 9 for a photo of Peter's kit

# President's AGM Report

The Friends of Waite Conservation Reserve are a small but dedicated group committed to restoring the 121 hectares of spectacular Grey Box Grassy Woodland that forms the backdrop to Waite campus. On weekends, specifically the first Saturday and third Sunday of each month we assemble to do good deeds in the reserve.

As in the previous two years, working bees have concentrated on systematically walking the reserve and removing olive seedlings where mature olives have been previously cleared. In some areas this amounts to only a dozen or two seedlings per hectare. But in later cleared areas numbers can be scary and we spend much more time working than walking.

Last year in 16 working bees 26 volunteers removed seedling olives from 94 percent of previously cleared areas of the reserve during which we probably removed 100,000 seedlings or more. Each year we do better than the last as we remove the backlog of seedlings. This year we have already completed 30 percent of the reserve after only 3 working bees so I am confident we will complete our task comfortably.

We also re-treated several hundred re-sprouting olive stumps by spraying or drilling and filling. And we controlled other woody weeds - Buckthorn, Hawthorn & Blackberry, and treated localised infestations of Fountain Grass, Perennial Veldt Grass and False Caper. In all our labours amounted to about 850 volunteer hours.

Jennifer and the university continue to fund ongoing clearance of mature olives. It is slow going, removing a hectare or so each year, but we are gradually whittling down the remaining 23 hectares. To support this process the Friends group applied for, but was unsuccessful in attracting funding for a Green Army work team. We also missed out on a funding grant for a trailer-mounted portaloo to support the team.

We are currently in the process of again applying for the Green Army program, once more partnering with Conservation Volunteers Australia as the service provider

organisation. CVA work crews also spent time clearing olives in the reserve this year for which the Friends provided some training and supervision.

As well we have been investigating the feasibility of using the Basal Bark Spray technique to speed up the process of primary olive control. Although not confident the technique will have broad application in the reserve, we may attempt some trials later this year.

Feral deer are a serious pest, killing sapling trees and dispersing thousands of olive seeds throughout the reserve. Andy Baker continues to monitor deer activity using ground surveys and trail cameras, and liaises with the Australian Deer Association to remove them – thank you Andy.

On the lighter side we had a lovely time in the wind and snow surveying fungi last winter. I thank Helen Vonow, Julia Haska and Tony Robinson for sharing their knowledge & helping us to find 18 species.

Thanks also to the committee for their hard work – Secretary Helen Pryor, Treasurer Lynda Yates, Penny Paton, Erinne Stirling, Peter Lang & Clint Garrett. This year I'd like to single out Clint who has put in a huge effort editing four issues of the newsletter, producing spectacular fliers, manning displays, and contributing many hours of additional work in the reserve tackling olives and other weeds. And thanks to all the other volunteers who came to working bees and helped to push back the tide of weeds.

One last thank you. I recently had the pleasure of attending an afternoon tea here in Urrbrae House to celebrate Jennifer Gardner's 30<sup>th</sup> anniversary as Manager of Waite Arboretum. At the risk of embarrassing her further I would just like to thank her for her dedication, enthusiasm, professionalism and hard work in supporting the reserve and the Friends group over many years.

*Peter Bird*

25 May 2016

# In the Reserve

## 2016 WORKING BEES

Walking (Working) Bees are held on the first Saturday and third Sunday of the month, from mid April to early December. Start time is 9:00 am and we generally try to finish at about 12:30pm.

Please bring lunch with you, so that we can sit and share time at the end of the walking bee.

Working bees will continue to concentrate on walking cleared parts of the reserve pulling seedling olives. In some areas we will also use tree-poppers to remove larger plants and spray or drill & fill regenerating olives

Working bees will still go ahead even if rain is forecast

Email reminders are sent out the week beforehand. Contact Peter Bird [pbjbird1@bigpond.com](mailto:pbjbird1@bigpond.com) or 0418 853 834 to register your interest.

Sunday June 19th

Gate 82 Hillside Rd



Winter/Spring Schedule

All from Springwood Park via

Eagle on the Hill

Saturday 2nd July

Sunday 17th July

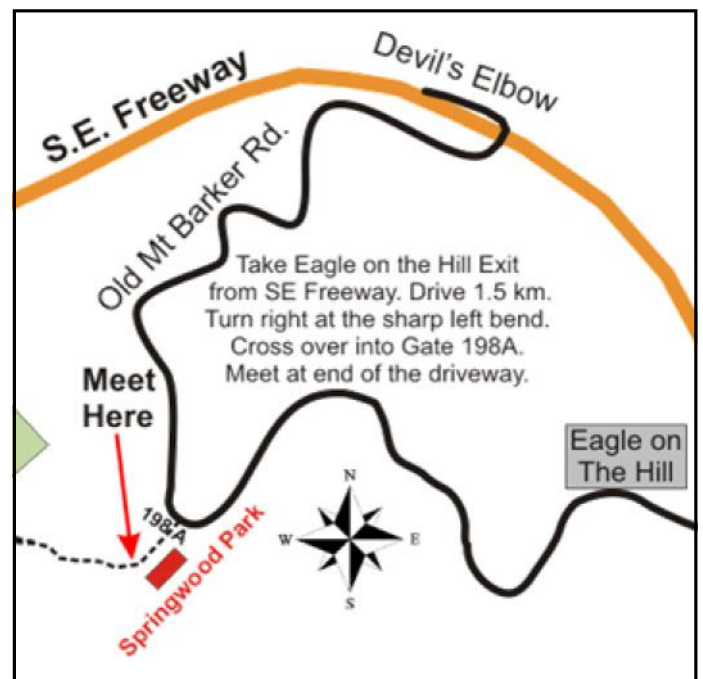
Saturday 6th August

Sunday 21st August

Saturday 3rd September

Sunday 18th September

Saturday 1st October



Invertebrates make up over 97% of animal species but are often overlooked in wildlife conservation. Insects are the largest class of invertebrates, and within them beetles (Coleoptera) are the largest order, comprising ¼ of all described species.

My interest in one particular family, the jewel beetles (Buprestidae), was ignited by the publication in 2006 of Shelley Barker's book "*Castiarina, Australia's richest jewel beetle genus*" in which he described and illustrated all the known species of that genus.

Buprestidae is the 8th largest beetle family in the world with around 14,700 species and over 1285 in Australia. SA has over 320 species with more than a third of them in that one genus *Castiarina*.

Buprestids have large eyes and keen eyesight, and are often attracted to certain colours, traits useful in locating suitable host plants as well as mates, since they are not known to emit sex pheromones. They are often brightly coloured with pigmented areas and/or metallic areas that are iridescent and shift in hue as the angle of view or incident light changes. The iridescent colouring results from micro-structure and does not fade on specimens over time.

Jewel beetles can get away with being conspicuously coloured because they are relatively unpalatable to predators. Many *Castiarina* species reinforce the message in groups of superficially similar (but often not closely related) species that mimic each other or even more distasteful beetles.



Fig 1 *Melobasis propinqua* on *Pultenaea largiflorens*

Buprestid larvae are generally wood-borers, although not usually a pest like some of the longicorn beetles. Those from subfamily Buprestinae have a very pronounced "flat-headed" grub – actually expanded thoracic segments behind the head. There are also bark-borers, stem-borers, gall-makers and leaf-miners. An example of the latter is the genus *Aaaaba* a tiny beetle that mines the leaves of native *Rubus* species (native blackberries/raspberries), but there is only one native *Rubus* in SA which is rare and *Aaaaba* has not been recorded here.

Information on larval host plant species is lacking for most Buprestids but can be established by:

- ♦ discovery of non-emerged adults in wood, rearing adults from billets (sections of branches) kept in a container;
- ♦ observations of egg-laying females;
- ♦ identification of larvae by morphology (only described well enough for a few),
- ♦ matching DNA barcodes of larvae with adults

Adult host plants are more easily determined. Some buprestids are specific to a particular plant species, genus or family and these do not necessarily match the larval host. Adults fall into two main ecological groups: leaf-eaters and flower-feeders.

To date 17 species have been recorded in Waite Conservation Reserve (Table 1), an increase of 5 on the 12 listed in 2010. There is a detailed account with photos in the Autumn 2010 Newsletter (No. 19) available from the Friends web page:

([http://www.adelaide.edu.au/waite-historic/friends/reserve/newsletters/fwcr\\_newsletter\\_19\\_autumn\\_2010.pdf](http://www.adelaide.edu.au/waite-historic/friends/reserve/newsletters/fwcr_newsletter_19_autumn_2010.pdf)), so my focus here is on the new additions.

The first flower-feeding species recorded in the WCR is the metallic green *Melobasis propinqua*, which was found in Sep 2011 on the orange-yellow flowers of the Twiggy Bush-pea (*Pultenaea largiflorens*), as predicted (fig. 1).

# Jewel Beetles



Fig. 2 *Melobasis semisuturalis*

The slightly smaller *Melobasis semisuturalis*, (a leaf-feeder like most *Melobasis* species) was recorded on Golden Wattle (*Acacia pycnantha*) in Dec 2011. This species is golden-green to green with a maroon-purple strip where the elytra (hardened outer wing-covers) meet (the 'suture'). On some individuals the maroon strip is enlarged and extends over most of the elytra (fig. 2).

There are now 5 species of *Anilara* recorded: a small black-grey species originally listed as "*A. adelaidae?*" and now identified as *A. planifrons* from Golden Wattle foliage, plus four brownish species (Fig. 3) instead of just *A. obscura*. The latter four have been caught on the dead leaves of fallen Grey Box branches in WCR, and three of the species were also reared from billets cut from the branches of a one year-old fallen limb. .



Fig. 3 *Anilara blackburn*, *A. obscura*, *A. angusta*, *A. longicollis* Waite Conservation Reserve.

A large beetle likely to visit the reserve over summer is *Temognatha lessonii* which has been recorded from Grey Box Woodland at Blackwood. The individual illustrated (fig. 4) was found dead beneath a flowering Red Gum on the Waite campus

*Peter Lang*



Fig. 4 *Temognatha lessonii*, Waite Campus.

### Editor's Note:

The photographs shown here are a small selection of Peter's truly beautiful photographs. The species shown below is not found in the Reserve as it is a rare species from Eyre Peninsula. It is however a good sample of Peter's excellent photography.

*T. congener* breeds in vegetation which is associated with agriculturally productive soils. It was presumed to be extinct as it had not been seen for 50 years in S.A. It was re-discovered in 2009 in a large bush-land reserve. This is once more proof of the need to preserve some areas for posterity.



*Temognatha congener*, an endangered species once found near Adelaide and across agricultural districts of SA

# Jewel Beetles of Waite Reserve & Arboretum

Jewel beetle (family: Buprestidae) records from Waite Conservation Reserve and nearby Waite Campus

Sub- family	Species	Area	Host Plant	Position
A	<i>Agrilus hypoleucus</i>	WCR	<i>Acacia pycnantha</i>	foliage
B	<i>Anilara angusta</i>	WCR	<i>Eucalyptus microcarpa</i>	dead foliage
B	<i>Anilara blackburni</i>	WCR	<i>Eucalyptus microcarpa</i>	dead foliage, # billets
B	<i>Anilara longicollis</i>	WCR	<i>Eucalyptus microcarpa</i>	dead foliage, # billets
B	<i>Anilara obscura</i>	WCR	<i>Eucalyptus microcarpa</i> <i>Eucalyptus leucoxydon</i>	dead foliage, # billets dead foliage
B	<i>Anilara planifrons</i>	WCR	<i>Acacia pycnantha</i>	foliage
B	<i>Chrysobothris perroni</i>	WCR	<i>Eucalyptus camaldulensis</i> <i>Eucalyptus microcarpa</i>	# dead in fallen branch, # billets
A	<i>Dinocephalia transsecta</i>	WCR	<i>Allocasuarina verticillata</i>	foliage
A	<i>Diphucrania modesta</i>	WCR	<i>Acacia pycnantha</i>	foliage
A	<i>Diphucrania nubeculosa</i>	WCR	<i>Acacia pycnantha</i>	foliage
A	<i>Germarica lilliputana</i>	WCR	<i>Allocasuarina verticillata</i>	foliage
A	<i>Germarica sp. large</i>	WCR	<i>Allocasuarina verticillata</i>	foliage
B	<i>Melobasis propinqua</i>	WCR	<i>Pultenaea largiflorens</i>	flowers
B	<i>Melobasis semisuturalis</i>	WCR	<i>Acacia pycnantha</i>	foliage
B	<i>Melobasis simplex</i>	WCR	<i>Acacia pycnantha</i>	foliage
B	<i>Melobasis sordida</i>	WCR	<i>Acacia pycnantha</i>	foliage
B	<i>Melobasis vittata</i>	WCR	<i>Acacia pycnantha</i>	foliage
B (a)*	<i>Castiarina amplipennis</i>	WARI	* <i>Eucalyptus sp.</i>	flowers
B (b)	<i>Castiarina crenata</i>	WARI	* <i>Angophora sp.</i>	flowers
B (a)	<i>Melobasis fasciata</i>	WARI	<i>Eucalyptus camaldulensis</i>	trunk
B	<i>Pseudanilara piliventris</i>	WARI	* <i>Acacia notabilis</i>	dead foliage
B	<i>Pseudanilara purpureicollis</i>	WARI	* <i>Acacia notabilis</i>	dead foliage
B (a)	<i>Selagis aurifera</i>	WARI	* <i>Eucalyptus sp.</i>	flowers
B	<i>Temognatha lessonii</i>	WARI	<i>Eucalyptus camaldulensis</i>	below flowering canopy

**KEY:**

subfamily: A = Agrilinae, B = Buprestinae

area: WCR = Waite Conservation Reserve; WARI = Waite campus/arboretum

\*source: (a) = private collection RG; (b) = WARI collection; remainder P.J. Lang

# indicates breeding record/larval host

## How bird populations have changed in one hundred years

If you were to transport yourself back 100 years, the bird fauna of the Netherby area would be so different as to be almost unrecognisable. Sixty-three bird species have been recorded from the Waite Conservation Reserve in recent times but if you were to take a walk in the reserve you would probably see at most 30 species in a couple of hours and they tend to be the commoner birds like magpie, Crimson and Eastern Rosellas, wattlebird, Noisy Miner, kookaburra, Weebill, wren and a few species flying over like lorikeets, galahs and swallows.

From 1919 to 1938 John Sutton lived on Fullarton Road near the Waite and being an accomplished ornithologist and a meticulous note-taker, he recorded at least 71 species in his garden or the nearby Waite lands. The totals belie the changes that have occurred in the bird fauna in a relatively short period of time. A startling 28 species have been recorded in the last 20 years or so that were not recorded by Sutton (that we know of). This means that there are many many species that were seen by Sutton that no longer occur in this part of the Hills Face Zone or are very rare.

While the birds we see today that he didn't see tend to be generalist or 'increasers' (e.g. corellas), the birds he saw that we don't include many woodland birds. A modern bird-watcher's mouth would be salivating with the birds John Sutton saw or heard from his bedroom at night or on his walks around the district, and these include species that are now extinct in the Mt Lofty Ranges, like the Bush Stone-curlew and Regent Honeyeater, and those that are very rare, e.g. the Brown Treecreeper, Black-chinned Honeyeater, Zebra Finch and Jacky Winter.

Some of the birds that Sutton recorded were seasonal visitors to the Adelaide area; Flame Robins, Golden Whistler and Grey Fantails were mainly seen during the colder months. A few of the latter two species still make it into Adelaide suburbs in autumn/winter but we rarely record Flame Robins now even outside the city. Brown and Rufous Songlarks came in the spring/summer months of some years in the early twentieth century; a few Brown Songlarks appear in late winter at

Adelaide Airport but their numbers have dropped markedly in the last 20 years.

Birds that bred at Netherby in the 1919-38 period include the Southern Boobook, Superb Fairywren, Crested Shrike-tit, European Goldfinch, Yellow-rumped Thornbill and Horsfield's Bronze-cuckoo.

Even by the 1920s Sutton was noting the decline of species once more common at Netherby; he remarked in 1926 that the Scarlet Robin, once a regular visitor, was not often seen now and in 1924 he reported that Bush Stone-curlews were rarely heard



**Scarlet Robin—one of our lost species**  
Photo: Jon Norling

I am indebted to Belinda Cale who carefully transcribed John Sutton's Netherby notebooks and to Philippa Horton for making the data available for this article. Other records were taken from the *South Australian Ornithologist*. This journal is a treasure-trove of early bird records for our state and we owe the early ornithologists like Sutton and others a debt of gratitude for their assiduous collection and publication of bird records. John Sutton, a retired banker, was secretary of the SAOA for 16 years (1922-38) as well as Honorary Ornithologist/Assistant Ornithologist of the South Australian Museum for 15 of those years.

*Penny Paton*

“O” week presented the opportunity for the group to mount a display on the Waite Campus front lawn. Helen and Clint set up at the designated time, but found that majority of students were more interested in the free sausage sizzle than the display.



**Clint discussing the Reserve with 2 freshers**

April saw the group advertising its presence to the local community with a display in the Mitcham Square Mall. Congratulations to Helen Pryor for her patient negotiating with Centre Management to get a display place.

Four of our members volunteered time to staff the stall, Meg Byrt Clint Garrett, Helen Pryor Janis Richardson

Those who came to the stall spanned a wide range of ages, but the common thing that interested them in the Reserve, was the walking trails. Interestingly, a number of our enquirers did not know where the Waite Reserve was and had to be shown on a map.



**Clint presents Peter Lang with his gift. in appreciation of an excellent AGM talk. Note the Jewel Beetle artwork encasing the bottle.**

The “Jewel Beetle” was made by Silvia Piddington. It was crocheted with waxed polyester and metallic thread over a wool core the legs and mouth parts are telephone wire with glass bead eyes

Sylvia works in a variety of media - creative basketry using a variety of plant and man-made materials, knitted, crocheted, woven, tatted creations and fabric jewellery. She is also a lace-maker extraordinaire and is currently working on a commission for Princess Mary of Denmark with Australian flora themes.

If you have not done so already it is time to renew your membership.



You can mail your cheque to our treasurer Lynda Yates at:  
PO Box 19  
Brighton SA 5048

**Or EFT**

Bank: Credit Union SA  
BSB: 805 007  
Account No: 7226301

Account Name: Friends of Waite Conservation Reserve

Reference Code: [Your name: eg J. Jones subs or subs+donation

**Individuals \$15**  
**Families \$20**

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# Olive Control

Peter wrote about this in the previous newsletter and I had the opportunity to attend a workshop on this method of control.

The poison being used is Garlon 600, a low volatile ester form of triclopyr. This formulation can be mixed with oils or water. For basal bark treatment, Garlon is mixed with Bio-Safe, a canola based formulation as the herbicide has to penetrate the cambium.

BBS works best on younger olives that still have smooth bark. Older trees with rough bark absorb a large amount of herbicide and need repeat spraying over several hours in order to saturate the bark sufficiently to reach the cambium. The lower stems of the olive plant need to be thoroughly saturated with the herbicide mix in order for the procedure to be effective. It is important that the entire circumference of the stem to be saturated with herbicide. If a strip is missed, then the cambium continues to conduct sap and the branch will partly live.

Spraying time is controlled by the growth state of the olives. Typically late spring, early summer is best, when sap flow is high. However spraying in late summer will also work, if there has been a significant summer rain event. Plants that we looked at had been sprayed in February and were looking very sick.



Basal Bark Spraying being carried out at Little Para Reservoir

We visited a site on at Little Para Reservoir to look at the effect of BBS and more the conventional drill and fill method. Both killed olives, the big difference is operator time. BBS takes about 5 minutes for the stems of a plant about 4 metres high by 7 metres across to be sprayed. The same plant treated with drill and fill takes about 30 minutes to be treated as lower branches often have to be cut away to get at the lignotuber. There is a huge saving in operator time with BBS. That equals a big cost saving if you are paying a contractor. There are also advantages for the operators as there is much less bending with BBS.

Once treated, the olive needs to be left for a whole growing season so as to be sure that the Garlon has penetrated to the roots and completely killed the olive plant. Unfortunately, this means that when it comes time to clear the dead growth, the olive wood has become extremely hard and is much slower to cut or chip than green wood.

Another disadvantage is the volume of herbicide to be used. In the example above, the olive would require about 5 litres of mix, compared to less than a litre for drill and fill.

As with all methods of control, there are pros and cons. We need to work out whether this method would be useful in the Reserve.

*Clint Garrnett*



Peter Bird's Olive Control Kit