BUTTERFLY CONSERVATION SA INC.

NEWSLETTER

No. 63: January 2018

HAVE YOU SEEN THESE BUTTERFLIES?
Polyura sempronius the Tailed Emperor butterfly and *Lucia limbaria* the Chequered Copper butterfly

We have recently received reports of the tailed emperor butterfly *Polyura sampronius* at Barmera and also near the University of Adelaide and River Torrens where they have been found on the caterpillar host plant eastern states trees.

In addition we have recently received reports of the Chequered Copper butterfly *Lucia limbaria* at Salisbury, Hackham and Clare.

The Discovery Centre Manager at the South Australian Museum, Mike Gemmell, has agreed to work with Butterfly Conservation by recording sightings of these two butterfly species.

The tailed emperor is an eastern states species and was first sighted in South Australia in the early 1970's. It has subsequently been found around the Unley, Hawthorn and Fullarton areas so information on other locations would be appreciated.

The chequered copper butterfly had not been seen on the Adelaide plains for over 60 years when a colony was discovered on the former Victoria Park racecourse in an area where the hostplant *Oxalis perennans* grows. It was subsequently discovered in the south parklands. These colonies are surviving and are the subject of a management plan by the Adelaide City Council. in consultation with members of BCSA.

If you see either of these two species, please contact the Discovery Centre at the South Australian Museum and include the locality, date, time and any other information. Email discovery@samuseum.sa.gov.au or phone +61 8 8207 7404.

See centre pages for fact sheets of these two species.

IN THIS ISSUE

Top: *Lucia limbaria* underside LFHunt;
Below: *Polyura sempronius* underside RHFisher and left larvae LFHunt.

BUTTERFLY CONSERVATION SA. INC. Membership enquiries: membership@butterflyconservationsa.net.au or online: www.butterflyconservationsa.net.au/product/become-a-member/ Membership payments ($10pa - plus $10 surcharge for posted newsletters): to Treasurer: C/- South Australian Museum, North Terrace, ADELAIDE. 5000. Cheques to be made out to: Butterfly Conservation SA Inc. EFT details: BSB 633-000 Account No:152785838 Bank: Bendigo Bank. Account Name: Butterfly Conservation SA Inc. Please email Treasurer if paying by direct debit: treasurer@butterflyconservationsa.net.au with name, amount and item.

HINDMARSH ISLAND PROPERTY REVEGETATION - KAREN'S JOURNEY

In March 2010 my husband Chris and I bought 32 hectares of land on the southern central part of Hindmarsh Island. The property had been part of a much larger dairy farm settled in 1856 and continuously used for grazing and cropping since then.

We found ourselves with hectares of weeds on the property and almost no indigenous vegetation but we were adjacent to a number of other properties that were being revegetated by the local Landcare Group and very close to a number of large coastal reserves including the Coorong National Park.

Hindmarsh Island has been severely over cleared for agricultural since first settlement in the early 1840s. Nearly all the remaining woodlands on the Island were cut to feed the steam boilers of riverboats and flour mills from the 1850s.

We immediately set out to intensively revegetate half of our block and put shelter belts around the other half to connect our revegetation efforts with adjacent properties. We wanted to discover ways of doing this in the most sustainable, least time consuming, minimal cost and fastest way possible.

Our desire was to enjoy this project in our lifetime. We did not accept the local dire predictions of how difficult this country was to grow anything in, and that it would take 20 years or more to get good ecological site restoration outcomes. We have always been interested in the wildlife that is around us. We wanted to encourage wildlife to come in and be able to use the vegetation as habitat by looking at the structure and function of the indigenous plants we were planting. A large part of this was an integrated pest management approach to weed control to allow natural recruitment of indigenous plants rather than having to put in a large number of new plants each year.

Thus began a very interesting journey that, at its heart, uses sustainability principles and processes. One of the main fallacies I discovered that seems to be widely accepted is the emphasis on output rather than outcomes. For example, success of these types of projects is often measured on how many trees are planted, not on how many trees actually survive and thrive in the long term and really should those trees have even been planted in the first place? Would it not have been better and more appropriate to plant understorey on that site instead?

Fungi are appearing on many of the sites. One of the most important lessons I have discovered after over 40 years in working in agriculture, horticulture and natural resource management is the importance of connectivity between plant species particularly when planting indigenous plants and that plants are the foundation on which all other organisms depend.

So we added adaptive management to our sustainability criteria. Rather than getting stuck in a fixed management plan we have "fine tweaked" what we do to accommodate opportunities as they show up and then fit them into the sustainability model of the 4 Rs, refuse, reduce, reuse and recycle; For example I was watching tonnes of mulch being driven by truck into Goolwa after contractors hired by Hindmarsh Island Landcare had removed woody weeds on their planting sites on the Island (mostly non-indigenous native plants like *Leptospermum laevigatum* that had become feral

Photos: Top left: 2012 plantings, photo right same site in Sept. 2016..
Above: 5000 plants, photo taken in 2015. Right: same site in 2017.

on the Island, a lesson to be learned in planting non-indigenous plants!).The trucks were coming past our gate and I innocently said to Landcare "dump it on our place instead"; about 200 tonnes later they finally stopped! I have now moved most of this mulch around newly planted tubestock which is mostly small understorey plants and we now have bark mulch paths on many of our planting sites.

My preference is for fast ground up revegetation. What I did was plant as wide a variety of locally indigenous plant species as possible, (usually over 100 species in one planting). The vast majority of which is understorey under 1 metre and containing many grass species. We scalped each planting hole and each plant has a core flute guard. Then mulch was placed around each guard. Survival rates were over 95%, considerably higher than local survival rates (between 33% and 57% on survival trials conducted on the planting sites on the island by the local LAP Board).

My "proof of concept trial" was 5000 plants put in one area in 2015. The results were outstanding! Our 2016 plantings were put in by a planting team that did not scalp and mulch and results were much poorer and weed control has been a major challenge despite similar climatic conditions (and in fact much higher rainfall in 2016). Mulched areas on very poor low nutrient sands on the sand dune areas have shown vastly accelerated growth rates, particularly of sheoaks, this has been done in conjunction with extensive weed control.

We also don't burn any pruning's. We have laid wood across planting sites to provide perching opportunities for raptors and other birds, for lizard habitat and soil stabilisation and of course places for fungi to grow and connect with plant roots. Our latest project has been to create reptile "houses" in the revegetation areas from broken pavers found on the property.

We are nearly eight years into this project, 56,000 locally indigenous plants of approximately 180 species have now been planted and we add new species and natural recruitment adds many more hundreds of additional plants each year as well.

Karen Lane

Some members may recall a visit to Karen and Chris Lane's property a couple of year ago. Members of BCSA have again been invited to visit later in the year to see the progress of this remarkable project. Information in the next newsletter and/or via email.

ONCE AGAIN WE ARE ASKING FOR YOUR HELP WITH OUR BCSA DISPLAY STALLS

AUSTRALIAN PLANTS SOCIETY
Sat. 21st - Sun. 22nd April 2018
Sat. 10.00 - 5.00, Sun 10.00 - 4.00
Wayville Showgrounds

SOPHIE'S PATCH (Easter)
Sat 31st Mar - Mon 2nd April 2018
10 am – 4:30 pm
Open Garden at Hamlyn Cottage
394 Springs Rd, Mt Barker Springs

Please contact Gil Hollamby Ph: 85246873 or via email to: membership@butterflyconservationsa.net.au if you can assist on these two BCSA stalls.

THANKS TO THE FOLLOWING MEMBERS

who helped out at the Australian Plants Society October show on the BCSA stand.

Brett Oakes	Gerry Butler
Jan Forrest	Andrew Walters
Helen Pryor	Pam Barnett

MOTHING ABOUT - TRIVIAL BITS

Contribution from David Keane

Moth: are two characters in Shakespeare's plays of 1598:
1. A fairy in *A Midsummer Night's Dream* who is an attendant on Titania, moth can be of either sex, but should be small and agile.
2. A page in *Love's Labour's Lost* who attends Armado.

Gustav Adolf Moths was a German rower who competed in the1900 Summer Olympics. He was the coxwain on the German boat *Favorite Hammonia* in the semi-final, but he did not compete in the final. However the IOC medal database credits the gold medal to him and not to Max Ammermann, who participated in the final.

CAPER WHITE *Belenois java*

The Caper white butterflies *Belenois java* are usually out and about in Nov/Dec. Thanks to Dawn Borchardt for these photos of the yellow form.

BCSA DISPLAY AT Mt.PLEASANT SHOW

Sat 17th March, 2018 from 10.00am

DUE TO THE DISAPPOINTING LACK OF RESPONSE TO GIL'S EMAIL REQUEST TO ASSIST, PARTICIPATION BY BCSA IN THIS EVENT HAS BEEN CANCELLED

MEMBERS, HOWEVER MAY STILL LIKE TO ATTEND, IT IS AN EXCELLENT DAY OUT.

THE MOTH BOOK

We are seeking images of the following introduced plants:
Cabbage family *Brassica* sp.
Perennial Rye Grass *Lolium perenne*
Barley grass *Hordeum leporinum, H. vulgare,*
Wheat *Triticum aestivum.*
Potato *Solanum tuberosum*
Tomato *Lycopersicon esculentum*
Common Centaury *Centaurium sp.*
Winged thistle *Carduus* spp.
Cape Weed *Arctotheca calendula*
Spear thistles *Cirsium vulgare*
Fleabane *Erigeron canadensis*
Apples *Malus domestica*
Grapes *Vitis vinifera*
Aquatic pond plants including Pond Weed *Potamogeton* spp., Water Milfoil *Myriophyllum* spp. and sea grasses *Zostera* spp.
Ground creeper *Boerhavia diffusa*
Bird grass *Polygonum aviculare*
Plantain *Plantago lanceolata*
Barrel clover *Medicago spp., including M. polymorpha;*
Beetroot *Beta vulgaris.*
Algae and lichens

If you can assist please contact Jan Forrest at info@butterflyconservationsa.net.au. We need sharp high resolution images 300dpi. You will be acknowledged in the book as the photographer.

MEMBERSHIP FEES ARE NOW DUE

If you have lost your notice (included with the last newsletter), please contact the treasurer at: treasurer@butterflyconservationsa.net.au for an account. If you did not receive an notice then you are probably not in arrears!

AUSTRALIAN BUTTERFLIES

Two weeks before Christmas
along the track
which runs along beside the lake,
there are blue gums in flower.
Every year at this time
native butterflies gather
to sip the nectar
from the pink fluffy cups.
I can imagine
their pearly dawn breakfast.

Smaller than the wandering monarch,
and having the same colours
they could be mistaken,
but they are more subdued
than the travellers
in tones and habits.

During the day they sleep
but if disturbed they rise
serenely, gathering in clouds
and, like pods of fish
they drift, dipping up and down
and turning in unison.
Though sometimes
one or two trail above
like the tail of a kite.

(Penned by Sheila Gordon whose farm abuts Warren Reservoir in Mt Crawford Forest. This is mostly about the Common Brown (*Heteronympha merope merope*) males in particular). Photo: LF Hunt.

WHAT'S FOR SALE? - WE NOW HAVE AN ON-LINE SHOP

BOOKS ***"Attracting butterflies to your garden, what to grow and conserve in the Adelaide Region"*** ***NEW EDITION*** Published by BCSA 2016 - Our price $25 (**financial members** may purchase a book for $20). Postage $7.
"The Making of a Monarch" by Linda Shmith has now been reprinted. Cost $20 plus postage $7.00.

DVD ***"Butterfly Garden"*** produced by Tracy Baron and Carolyn Herbert - $20 each (BCSA financial members price $15)
Postage and packaging $7 One book plus one DVD postage $15.

POSTERS ***"Spiders and their allies of the Adelaide Region"*** Published by BCSA 2014. $10 a set of two, plus postage.
Single posters: "***Bats of SE South Australia"*** and ***"The Bilby - Endangered Species"*** posters are available for $5 each, plus postage.
Poster postage is $12 for up to 6 posters. Posters are free to schools, but incur postage.

SITE SIGNS: Application form to register a butterfly site is available on the butterfly gardening website. Cost including postage $50.

PLANT TAGS: See list and form available on website. $2.00 per tag, includes plastic stake and postage.

If you would like to order any of our merchandise, obtain an order form for a site sign, plant tags or schools poster set, please email: info@butterflyconservationsa.net.au or write to the Secretary C/- South Australian Museum, North Terrace, ADELAIDE. 5000 or check out the **ON-LINE STORE** **at** **www.butterflyconservationsa.net.au**.

Tailed Emperor

Class:	**Insecta**
Order:	**Lepidoptera**
Family:	**Nymphalidae**
Genus:	***Polyura***
Species:	***sempronius***

Interesting aspects:

A large, spectacular butterfly. Even its early stages are spectacular, with large globular eggs, large colourful larvae with horned dragonheads, and very large glistening emerald green pupae, marked with white. This butterfly was first seen in South Australia during the big invasion of subtropical butterflies that occurred during the unusually moist and humid summer conditions of 1973-1974. It established itself in urban Adelaide in those years and has maintained its presence ever since. Flight numbers tend to vary from year to year, but have noticeably declined over the past 10 years.

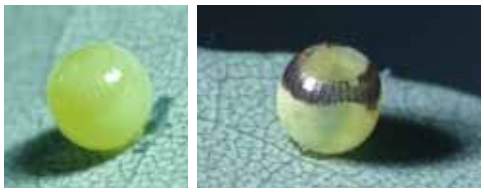
The butterfly belongs to a subfamily group of very robust butterflies with strong, stout thoraxes, and characteristically shaped wings. The larvae are also very characteristic, having long stout bodies, bluntly forked tails, and large horned heads. The group occurs mostly in the tropical humid forests and woodlands around the world. The *Polyura* generic group is best developed in Australia and South East Asia. It is very similar in appearance to, and very closely related to the *Charaxes* generic group, which is best developed in Africa.

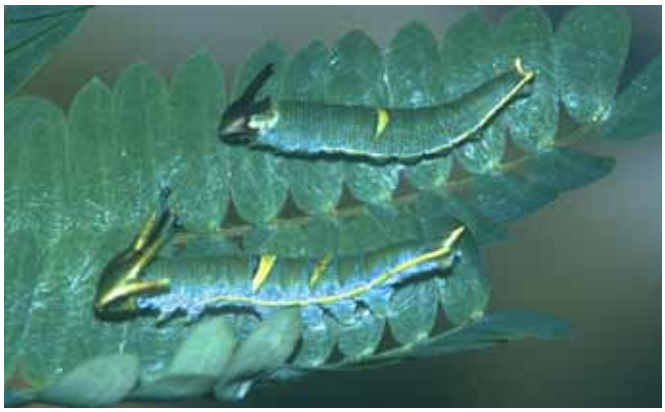
Description:

Wingspan: male 75mm, female 85mm.
Upperside: white with black margins. Forewings with white spots. Hind wings yellow margins and two ‘tails’.
Underside: tan brown and white with dark spots on the hind wings, margins yellow.

Larval foodplants

Numerous native (interstate) and introduced ornamental trees, mainly of the Leguminosae/Fabaceae family. The larvae usually eat the leaves of the foodplant. (Bold typeface indicates species has been recorded feeding on this plant in South Australia).
South Australian species: Acacia pycnantha (golden wattle), *A. longifolia* subsp. *longifolia* (Sydney golden wattle), *A. mearnsii* (black wattle); *Jasminum* sp. (native





Photos: Left: Adult. Top right: new egg and egg about to hatch, below 1st instar larva, 3rd instar larvae, 3rd instar multi striped larva and larval head. Photos LFHunt. Bottom right: Adult underside. Photo: RHFisher.

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jasmines) (Oleaceae).
Interstate introductions: ***Acacia baileyana*** (Cootamundra wattle), *A. dealbata* (silver wattle), *A. decurrens* (queen wattle), *A. podalyriifolia* (Mt Morgan wattle), *A. saligna* (golden wreath wattle), ***Paraserianthes(Albizia) lophantha*** **subsp.** ***lophantha*** (Cape Leeuwin wattle) (Leguminosae/ Mimosoideae); *Brachychiton acerifolius* (Illawarra flame tree), ***B. discolor*** (white kurrajong), *B. populneus* (kurrajong), *Sterculia* spp. (Sterculiaceae)
Foreign species: ***Robinia pseudoacacia*** (black locust or false acacia), *Wisteria* spp (Leguminosae/ Papilionoideae); *Caesalpinia ferrea* (leopard tree), *C. gilliesii* (bird of paradise tree) (Leguminosae/ Caesalpinioideae); *Quercus palustris* (oak) (Fagaceae); *Celtis occidentalis* (hackberry), *C. paniculata*, *C. philippensis*, *C. sinensis* (Chinese hackberry) (Ulmaceae); *Cinnamomum camphora* (camphor laural) (Lauraceae); *Lagerstroemia indica* (crepe myrtle) (Lythraceae).

Habitat and Ecology:

Males usually group on hill tops, particularly up from their foodplants. They settle high up in the trees with wings either closed or partially open. They periodically fly off to scout the area for newly emerged females before returning to settle again in the same position. If there is more than one male then they will compete for the best advantage point on the hill top or tree. They become very territorial chasing and attacking any large flight movement in the vicinity, including other males and large insects, and even small birds. They attack other males by a clashing of wings, which is sometimes audible. The females only venture to the hill tops to mate. They are more often seen flying gracefully through the urban areas pausing often to investigate potential foodplants. They will often stay near the foodplant tree or within the area in which they spent their early stages. Although they usually have a slow graceful flight interrupted by frequent gliding spells, the butterflies are very strongly built (typical for the subfamily) and if disturbed are capable of extremely fast flight. The butterflies are readily attracted to sap flows from certain trees, and sometimes to fermenting and rotting fruit where they will become intoxicated. They are also attracted to congregations of scale insects, and if the scale is common enough to produce copious amounts of sugary secretions, then these butterflies find such secretions irresistible. In the humid tropics they will imbibe water from the edges of puddles, and are also attracted to animal and bird droppings, even decaying corpses!

This species prefers open forest and wooded areas. Apart from vagrant butterflies, it is an urban butterfly in South Australia. Its foodplants are nearly always introduced ornamental trees to be found only in the urban environment. The butterfly and its early stages probably require warm humid and sheltered conditions to survive for any extended period of time.

Distribution

Originally from southern Queensland and NSW the species is also found in the NT. In South Australia this species has established itself in the Adelaide southern suburbs of Unley and Fullarton with sightings in the Adelaide CBD as well as some northern suburbs.

Flight period:

The butterfly is seen all year round in the humid tropics of Australia. In South Australia it is seen in flight during the warmest months. There is usually a main late spring - early summer flight, followed by another flight in late summer - early autumn. The summer brood can be completed in 10-11 weeks. During seasons of abnormal humidity, vagrants will fly in from the eastern states. Larvae that overwinter usually produce pupae in October, and these develop to adults in November and early December.

Abundance (in SA):

Uncommon.

Threats:

Its main threat is likely to be an extended cold winter spell, although the early stages can withstand overnight frosts. Its favourite foodplants around Adelaide are Cape Leeuwin Wattle and False Acacia, which are often shortlived or are deciduous during winter, and this can cause additional stress to all stages of the butterfly.

Conservation Strategy:

None required. If you are lucky enough to have the butterfly established in your area then nurture it, as it is a large spectacular butterfly. It may be receptive to the propagation of its favourite foodplants in your garden.

Hostplants: Kurrajong tree. Right top: flowers and fruit. Below right: Cape Leeuwin wattle or Albizia. Photos: LFHunt

ACKNOWLEDGEMENTS ***Polyura sempronius*** **fact sheet:**
Majority of text, map and flight bar from: '*Butterflies of South Australia*' website by Roger Grund much of which includes biological information by the late Lindsay Hunt.
Other references and contributors include: Michael Moore; Andrew Lines; Fisher RH 1978 *Butterflies of South Australia*; Braby MF 2004 *The complete field guide to Butterflies of Australia*; Dashorst RM & Jessop JP *'Plants of the Adelaide Plains & Hills*.
Production: Jan Forrest OAM, January 2018.

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Chequered Copper

also known as the 'Small Copper' and 'Grassland Copper'

Class:	**Insecta**
Order:	**Lepidoptera**
Family:	**Lycaenidae**
Genus:	***Lucia***
Species:	***limbaria***

This 'copper' butterfly belongs to the endemic Australian Theclinae group, which have a strong obligatory association with ants. This symbiotic relationship is a close one and the caterpillars are unlikely to survive in the wild without the ants.

An elusive butterfly, it occurs in well-defined small colonies which can exist for many years if left undisturbed. The butterflies often remain near the colony, with males being highly visible as they sun themselves with open wings. When not feeding, males will take up territorial positions near the hostplant, while females will preoccupy themselves with egg laying.

The butterflies fly near to the ground. Both sexes are immune to attacks from their larval attendant ants by having pheromones the same as the ants. The butterflies remain with safety in the presence of ant trails or near the entrance to ant nests. When settled, the butterflies are easily approached.

Description

Wingspan: male 23mm, female 25mm.
Upperside: central forewing area bright orange, fringes of both wings chequered brown and white.
Underside: grey-brown, forewing pale orange in central area with one or two spots and rows of brown spots, hindwing with a series of obscure dark spots edged white, ground colour pale whitish-grey.

Photos: LFHunt

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Larval foodplants:

Oxalis perennans (native sorrel or creeping yellow oxalis) and the introduced *Oxalis corniculata* ssp. *corniculata* (yellow wood-sorrel) (Oxalidaceae). The plants are perennial herbs, erect or creeping rarely to 30cm tall, 3 leaflets each 2 - 25 mm long, flowers with yellow petals 6 - 12 mm long, fruit 4 - 30mm long. The larvae will eat all parts of the hostplant, but prefer the leaves and flowers.

Larval attendant ant:

Larvae are attended by numerous small, common black ants *Iridomyrmex* sp. (*gracilis* and *rufoniger* groups). The relationship is obligatory although the early stages can survive in captivity without the presence of ants.

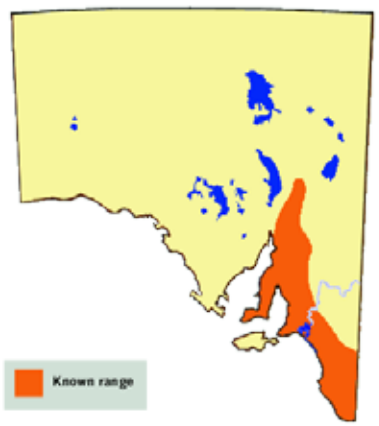
Habitat and Ecology:

The butterfly is usually seen in moist grassland or very open woodland areas in which the grasses or understorey are sparse and open. The butterfly appears to best survive where its hostplants can remain alive (at least in perennial mode) over the hot summer months. Larvae and pupae are found in tunnels and galleries made by a small black ant (*Iridomyrmex* sp.) beneath the host plant.

Distribution

Early specimens were recorded in the lower north of SA, the Barossa Valley, Adelaide plains and nearby areas in the Mt.Lofty Ranges. The butterfly is presently known from the Fleurieu Peninsula, Barossa Valley, Mount Lofty, Flinders Ranges, the SE Region of SA and in March 2011, from the Adelaide Park Lands. The butterfly has always been considered rare however based on the distribution of its larval hostplants and similar habitat areas, the range of the butterfly could be more extensive.

The species is also recorded from the higher rainfall areas of Victoria, New South Wales and southern Queensland.



Flight period:

Abundance (in SA):

Rare

Threats:

Its habitat is prime agricultural and grazing land, and its existence is therefore under constant threat from agricultural processes, particularly the effects of herbicides, insecticides, stock trampling, overgrazing and indiscriminate mowing. Colonies should be able to survive a light grass-fire, but not regular burnoffs.

Conservation Strategy:

Specific grassland habitat may have to be conserved for the long-term survival of this butterfly. Strategies may include the introduction of local provenance nectar plants for the adults to feed upon. Some grazing by native or domestic animals is beneficial as it stops grasses from becoming too rank and obliterating the hostplants for this species. The butterfly would be a good candidate for re-introduction into conserved areas, as eggs or adults. Council reserves and parks that receive some watering should be ideal.

Photo: LFHunt *Oxalis perennans*

ACKNOWLEDGEMENTS *Lucia limbaria* fact sheet:
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FACTS ABOUT ACACIAS

- The foliage colour of Acacia ranges from light or dark green to blue or silver-grey.
- Acacias are characterised by their small, finely divided leaflets, which give the leafstalk a feathery or fernlike (i.e., pinnate) appearance.
- A large group of Acacias develop modified flat leaf-like structures called phyllodes (which are flattened stems) soon after germination.
- **Acacia flowers do not produce any nectar.** However, the leaf and phyllode glands secrete a nectar or sugary substance which attracts ants, bees, butterflies and other insects.
- The color of the Acacia flowers in each species is fairly consistent and can aid in identifying different species.
- Acacias produce pods or legumes(straight to highly coiled or twisted, smooth or covered in fine hairs) which contain seeds, these too can be helpful in identification of the species.
- Acacia tree can be raised either from seed, from cuttings, or by grafting.
- *Acacia acinacea* (Gold Dust Wattle), *Acacia adunca* (Wallangarra Wattle), *Acacia alata, Acacia aneura* (Mulga), *Acacia baileyana* (Cootamundra Wattle), *Acacia bancroftii, Acacia beckleri* (Barrier Range Wattle), *Acacia binervata*(Two-veined Hickory), *Acacia melanoxylon, Acacia longifolia, Acacia senegal*, are some of the species of Acacia.
- Acacias are mostly insect pollinated.
- All parts of the Acacia plant - flowers, leaves and phyllodes, legumes and seeds, stems, trunk and roots are all utilized by hordes of animals.
- The Acacia wood is renowned for its excellent fuel properties and can also produce good charcoal.
- Acacia seeds are often used for food and a variety of other products. The seeds of *Acacia niopo*, for instance, are roasted and used as snuff in South America.

source unknown

Photos: Acacia pycnantha Golden Wattle Left: Ron Sandic-ock. Above: Jan Forrest. Below: *Acacia ligulata* Bill Dowling

BUSHFOODS AUSTRALIA

Acacia victoriae

Known as: *Elegant wattle, Prickly wattle, Gundabluey, Bramble wattle, Elegant acacia.*

Traditional Aboriginals used A. victoriae in arid regions of Australia as a food source. It occurs in all mainland states. Women would collect seed pods from the trees when ripe, separate seed 'yandy' clean in a wirra. Parch by fire, pound and ground into a flour. Mix water with flour to make a dough.Place in fire coals/ash to get a Johnny cake. Green pods fully formed were also lightly roasted and seed eaten.

In plentiful times seed could be stored away, it has a very hard seed coat. From the Leguminosae family it has a pea flavour.

Having a high protein level approx 17%, carbohydrate 41%, fibre 29%,fat 3 % (Brand & Cherikoff 1985) and a low GI average 1480+270 KJ /100gms (Brand & Maggire 1992).

Acacia victoriae Todd Birkinshaw.

BUSHFOODS AUSTRALIA WATTLESEED PRODUCTS PROVIDED FROM *ACACIA VICTORIAE*

1: Whole Raw Seed
2: Roasted & Ground
3: Kibbled
4: Milled
5: Whole Roasted All $70 pkg
6: Retail Packet (POA: Price on Application)

Most of today's uses are based around making a roasted hazel nut flavour from the seed. By roasting the raw wattle seed until it pops, similar to pop corn. This new unique flavour has many uses, coffee-like beverages (caffeine free), essences, beer, baking, confectionery, dairy, sweets, confectionary and marinades.

Over the past few years even the pod/husk of *A. victoriae* have been researched for its medical properties, in the fight against cancer.

Information on wattleseed and other products go to the Bush Foods Australia website: http://www.bushfoodaustralia.com/wattleseed/ and in South Australia https://tumbeela.com.au.

BUTTERFLY CONSERVATION SA INC.

presents

a PUBLIC TALKS PROGRAM for 2018

www.butterflygardening.net.au

Butterfly Conservation South Australia Inc.

presents

a PUBLIC TALKS PROGRAM for 2018

On the first Tuesday of the month March to November at 6.15pm for a prompt 6.30pm start.

At the Clarence Park Community Centre
72-74 East Avenue, Black Forest.
Bus route W91/W90: stop 10.
Noarlunga Train service: Clarence Park Station.
Glenelg Tram: Forestville stop 4, 9min walk south.
Entry by donation (minimum of $2).
Bookings not required
Please bring supper to share, tea/coffee will be supplied.
Meetings should conclude by 8.30pm.

At the start of each meeting a ten minute presentation on a *'Butterfly of the Month'* will be given by a BCSA committee member.

In the case of an advertised speaker not being available, a speaker of similar interest will replace that advertised.

Photo LFHunt. Bitter-bush blue butterfly *Theclinesthes albocincta*

BUTTERFLY CONSERVATION SA INC.
c/- South Australian Museum, North Terrace, ADELAIDE
For further information contact: Jan Forrest 8297 8230
Annual membership: **$10** per year. If a hardcopy of the newsletter is requested, add a surcharge of $10 for postage. Life Membership $200.

Website: www.butterflyconservationsa.net.au

Resources for sale:
Book ***'Attracting butterflies to your garden, what to grow and conserve in the Adelaide region'*** (2nd edition). RRP $29.95
At the talks program or on-line - $25ea and $20 for members (one only at this price).
Books, **spider posters** and **plant tags** are available at the online shop: www.butterflyconservationsa.net.au/shop.

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6th March: ***Bitterbush-blue Butterfly Recovery Plan.*** Dr Richard Glatz will discuss a recent survey of the Bitterbush blue butterfly covering Parham-Gawler (and KI), including the discovery of new colonies. Following this talk members are invited to attend an excursion to Torrens Island and other sites. See newsletter.

3rd April: ***Using hoverflies to understand how the nervous system codes visual information.*** Despite being equipped with low-resolution eyes and tiny brains, many insects show exquisite abilities to detect and use visual information. Hoverflies are not only interesting for their visual behavior, but are also one of our most important wild pollinators. Presented by Assoc. Prof. Karin Nordström.

1st May: ***Know and understand mosquito ecology to regain your sanity.*** How did a small fly evolve to become the scourge of humanity? Are there some simple truths that will help us understand it's evolved strategies? Presented by Dr. Michael Kokkinn, School of Pharmacy and Medical Sciences, University of South Australia.

5th June: ***The Great Victoria Desert.*** Although the largest desert in South Australia many people do not know where it is, and few have visited. Jan Forrest OAM will show stunning images of the flora and fauna of this little known SA destination and discuss projects carried out by members of the GVD Friends group, including vegetation monitoring using a drone and monitoring quandong trees for camel damage.

4th July: ***The story of Ants.*** Rodney Hutchinson will provide a fascinating insight in the life history of ants including their symbiotic relationship with Lycaenid butterflies and how the little known dinosaur ant, *Notomyrmecia macrops* was discovered.

1st August: ***Ediacrara.*** Affiliate Professor Dr Jim Gehling AO will discuss his research into the oldest known animal fossils, the South Australian Ediacara and Emu Bay Biota. This includes the spectacular rocks and fossils of the Flinders Ranges and Kangaroo Island and extends to working on fossil-bearing strata of the same age in Canada, the USA, the UK, China and Namibia.

5th September: 6.30pm BCSA AGM 7.00pm Public Talk ***How the Afghan camaleers shaped our state.*** Historian Pamela Rajkowski OAM will trace the early routes of the Afghan cameleers in South Australia and how they shaped our economy.

3rd October: ***"The importance of symbiotic relationships between flowers, insects and microbes for pollination and development."*** Dr Miguel de Barros Lopez will present the latest findings in this rapidly changing field, from the importance of gut microbes for insect metamorphosis to the role of yeast in pollination.

7th November: ***'Creating a butterfly garden'*** Member Roz Daniell and partner have created a beautiful butterfly garden at Forrestville and is now creating a 'rain garden' in the street. Find out their process and progress as well as their tricks and hints for going about it.

BITTERBUSH-BLUE BUTTERFLY RECOVERY PLAN - 6th March.

Dr Richard Glatz is the Principal Scientist, D'Estrees Entomology & Science Services and an affiliate of the University of Adelaide and the SA Museum. On 6th March Richard will discuss the Action Plan for the Bitterbush blue butterfly (*Theclinesthes albocincta*): Northern Adelaide Plains – Kangaroo Island

In 2016, a project was initiated to develop a management/ recovery plan for the Bitterbush blue butterfly (BBB; *Theclinesthes albocincta*). The work was funded by Birdlife Australia and AMLR NRM board through the Samphire Coast Icon Project, which had identified BBB as an icon species to promote conservation of the samphire coast. Funding was provided to determine the current distribution of BBB, the status of the sites where BBB or it host plant the Coast bitterbush (*Adriana quadripartita*) occur, and to make recommendations regarding the ongoing management of BBB and *A. quadripartita*.

This included an assessment of predicted effects of sea-level rise on the low-lying coastal habitat where BBB often occurs. Funding was provided to cover an area from Tennyson on the metropolitan coast, to Parham on the Northern Adelaide Plains coastline. D'Estrees Entomology & Science Services undertook the work and provided in-kind resources to extended the scope of the project south to Hindmarsh Island and Kangaroo Island.

The talk will cover the biology of BBB, results of the survey and recommendations regarding the region-wide management of BBB, with a focus on the Metropolitan region and the Northern Adelaide Plains.

USING HOVERFLIES TO UNDERSTAND HOW THE NERVOUS SYSTEM CODES VISUAL INFORMATION - 3rd April.

Despite being equipped with low-resolution eyes and tiny brains, many insects show exquisite abilities to detect and use visual information. For example, male hoverflies are highly territorial and chase away conspecific males who enter their territories, whereas females are pursued for mating. Hoverflies are not only interesting for their visual behavior, but are also one of our most important wild pollinators, which is important for our food production.

Associate Professor Karin Nordström did her PhD in the Lund Vision group, supervised by Professor Dan-Erik Nilsson, and a post doc with David O'Carroll at Adelaide University. Nordström then spent 6 years as a Research Fellow at Uppsala University, Sweden. She relocated to Flinders University in 2015 where she holds a position as Associate Professor in Anatomy and Histology.

Nordström's research is funded by grants from the ARC and the US Air Force. Her main passion lies in understanding how small brains, such as those of insects, manage to perform exquisite visual tasks. For this purpose she is investigating hoverflies, using a range of techniques, including electrophysiology, quantitative behavior, modelling and extensive field work.

Nordström has published over 40 papers, many in high ranking journals, has supervised about 30 PhD, Masters, Honours and undergraduate students, many of whom are still in science. She is the state representative of the Australasian Neuroscience Society.

MOSQUITOES: THE TINY FLIES THAT CAUSE MISERY - 1st MAY

When **Michael Kokkinn** was a Primary School Teacher way back in 1970 one of his pupils volunteered his father's opinion that God put flies on Earth to remind us to keep clean. On Parent/Teacher night, he happened to meet the father and repeated his opinion about God's plan for flies and he responded: "I'm still trying to work out why He put mosquitoes on Earth!"

Apart from the lamentable fact that mosquitoes carry diseases (Malaria, Yellow Fever, Dengue Fever, Encephalitis etc.), that kill millions of people every year, they also cause severe discomfort and distress by their biting behaviour. Despite annual education campaigns by health authorities, there seems to be a stubborn ignorance of their biology in the population generally. Take the simple view that there is only one type of mosquito when, in fact, Australia is home to more than 140 species, each with its own biology, host and biting behaviour.

Michael confesses that the reason he attends the monthly meetings of the BCSSA is to learn about the ***Butterfly of the Month*** and to hear the talks which have been wonderfully varied (from revegetation projects to the beauty of native grasses). Now, his talk in May will continue the tradition of diversity, though you might be surprised at what mosquitoes and butterflies have in common.

Having been a member of the Butterfly Conservation Society of SA for several years now, he regards it as a great honour to be giving a talk about mosquitoes and trying to demystify their biology and behaviour. In so doing, he hopes to provide insights which will equip the audience to understand where the common species breed and to anticipate their strategies for biting.

Dr Michael Kokkinn is an Entomologist at the School of Pharmacy and Medical Sciences, University of South Australia.

WELCOME TO NEW MEMBERS:

At the time of printing, membership officer Gil Hollamby was on the high seas crewing for the One and All so the opportunity to welcome new members was not possible this issue.

Articles for the next newsletter to 'The Editor' BCSA Newsletter C/- info@butterflyconservationsa.net.au

MIGRATION OF THE WANDERER BUTTERFLY VIDEO

A couple of years or so ago a member gave Jan Forrest a copy of the DVD ***'Born to Move'*** Episode 1 produced by National Geographic. The DVD features the migration of the Wanderer/ Monarch butterfly from Mexico to Canada and return. We had in mind to store it with the Laptop and show this fantastic video should a guest speaker booked for one of the public talks, is unavailable at the last minute.

However, unfortuntely our copy was lent to another member who expressed an interest in the Monarch butterfly and regretably, it has not been returned.

If you have our copy of this amazing video could you please return it to Jan Forrest, or if you own your own copy could we please copy it for possible use at a Public Talk.

Thanks you.

KONICA MINOLTA

Thanks to Chris Lane and Konica Minolta for their generosity in printing the BCSA newsletter.

Konica Minolta is a Landcare Australia National Partner

BUTTERFLY CONSERVATION SA Inc.

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Consultants: Roger Grund and Peter McQuillan.
Public Officer: Beth Keane

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DIARY DATES

COMMITTEE MEETINGS - Meetings are normally held bi-monthly (usually the second Monday of the month) at 6.00pm at a committee member's home. All members are welcome to attend. If you would like to attend please contact Chairman Mike Moore.

PUBLIC TALKS PROGRAM 2016: first Tuesday March - November, Clarence Park Community Centre 6.15pm for a 6.30pm start to 8.30pm.
Next talk: 6th March: Bitterbush-blue Butterfly Recovery Plan. Dr Richard Glatz

Butterfly Site

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WEB SITES

BCSA official website - Butterfly Conservation SA - www.butterflyconservationsa.net.au
The former domain name **Butterfly Gardening** - www.butterflygardening.net.au is also still available and links directly to the new BCSA site.
South Australian Butterflies (R Grund private site) - http://www.sabutterflies.org.au (has been off-line however it will be back on-line shortly).
NRM Education - http://www.naturalresources.sa.gov.au/adelaidemtloftyranges/home 'Get involved' - 'Education' - for students, **school monitoring activities** / for educators. See also other regional NRM Education sites