BUTTERFLY CONSERVATION SA INC.

NEWSLETTER

No. 68: May 2019

GOODBYE TO A SPECIAL FRIEND - DAVID KEANE

Founder of Butterfly Conservation SA, former Chairman and committee member.

Members will be saddened and dismayed at the recent death of our founder and former chairman David Keane. David passed away in the RAH on Monday 22nd April following complications during an emergency heart operation.

David was born in 1949 in Ashford, Kent, in England. He came to Australia in 1964 and lived in Adelaide since then. His interest in butterflies and moths developed as a child, being brought up in the English countryside, learning about nature and botany. He studied Horticulture at the Adelaide Botanic Gardens, exploring Australian gardens and native flora. Active service in Viêt Nam provided an opportunity to study plants and collect butterflies. On completion of his studies he commenced employment with a mining company, working in rehabilitation of the land and environment. Later came illustrating flora and he contributed to many books and publications.

David and wife Beth own their own business in land rehabilitation and management and David combined this with various activities such as lecturing at the University of Adelaide, involvement with the threatened species network and environmental groups. As a member of the British Butterfly Conservation Society he was on a field trip with the Kent butterfly group whilst on holiday in the UK and was inspired to form a butterfly conservation group in South Australia on his return.

David has been a member of the committee of BCSA since incorporation 20 years ago and was chairman 2007 - 2013. He has been involved in every major BCSA project including the ***Where have all the butterflies gone?*** South Australian Museum Exhibition, co-author of the book ***Attracting butterflies to your garden, what to grow and conserve in the Adelaide region*** writing a majority of the introductory text on planning and planting out a butterfly garden. He contributed widely to the content of the BCSA website and is co-author of our new book ***Caterpillars, moths and their plants of southern Australia*** to be published later this year. In particular, the hostplant section of each species mentioned, including the provision of many plant images from which to choose, to illustrate hostplants to be featured in the book.

A skilled quizmaster, his quiz nights were legendary and on display at the BCSA Forum in July 2014 and at a wind up night for the 2016 Public Talks Program. He often provided interesting quotes and snippets to include in this newsletter.

Our heartfelt sympathy go to Beth and his two girls Isabelle and Jessica.

We will miss you David.

Above left: Professor Chris Daniels, Secretary of BCSA Jan Forrest and Chairman David Keane at the lauch of the BCSA website and site sign August 2007. **Top right:** David when chairman of BCSA. **Above:** David (centre) discusses vegetation rehabilitation on a BCSA field trip.

IN THIS ISSUE

BUTTERFLY CONSERVATION SA. INC. Membership enquiries: membership@butterflyconservationsa.net.au or online: www.butterflyconservationsa.net.au/product/become-a-member/ Membership payments ($20pa - less $10 for email newsletters): to Treasurer: PO Box 4, DAW PARK 5041. 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.

A NOTE FROM MEMBER PAM O'MALLEY

I have attached some photographs of some caterpillars feeding on a Hoya in my garden. I think they may be caterpillars of Monarchs - *Danaus plexippus plexippus*. I thought they fed only on Milkweeds - *Asclepias* and *Gomphocarpus* species. My husband found a reference to Monarch caterpillars feeding on Hoyas in New Zealand. I have found four or five of various sizes. They certainly seem to be munching away happily. I think the Hoya may be *Hoya bella* India.

I thought this may be of interest to you if they are indeed Monarch caterpillars.




Thanks Pam for this observation. Jan and team.

MORE ON THE MONARCH

Over the last few weeks I have had four lots of orphan wanderer caterpillars left on my doorstep! Actually that is not quiet true, seems that these voracious eaters have eaten themselves out of house and home and the owners contacted me in an effort to relocate them. Fortunately committee members John Wilson and I still had plants available and were able to accommodate over 60 caterpillars between us!


My great-nephew Sam with a recently emerged adult.

With so many pupa available I took around 20 to the Blackwood kindergarten and the children were delighted to be able to let them go once adults.

Jan Forrest

CLELAND WILDLIFE LEPIDOPTORIUM

This initiative at Cleland has been a great success along with the accompanying South Australian Museum exhibition. If you can grow food plants for the Monarch (swan plant and cotton-bush), Australian Admiral (native nettle), Dainty/Orchard swallowtail (citrus) and Chequered swallowtail (*Cullen*) **for next year** that would be fantastic. Preferably in pots. Committee member John Wilson has native nettle tubestock available.

DON'T BE SOUR OR SOB OVER YOUR *OXALIS*

D. Keane

Food plant of the Chequered Copper butterfly - *Lucia limbaria*

What is the difference between the introduced "Creeping Oxalis" (**Oxalis corniculata*) and the native equivalent "Native Oxalis" (*Oxalis perennans*) ? One simple answer 'not much', they are very similar in many ways. In the interests of the butterflies' survival both plant species will provide the same food source and habitat requirements. Both species of oxalis are associated with symbiotic relationship with certain ants. The Australian Admiral butterfly is in a similar situation in that the introduced and native stinging nettles are the food plant and either have to be maintained if the butterflies are to visit our gardens. It is important to note that not all introduced plants should be treated as 'weeds' (only when they become a threat to the native species and habitats). Many introduced plants have an important ecological role to play in maintaining our biodiversity now that natural systems are changing and disappearing. The native oxalis should take precedence over the introduced one if propagated as a food source. Only 'declared/ proclaimed plants' are prohibited to be propagated or sold. Note 1: Robert H. Fisher only mentions *O. corniculata* as the food-plant (Butterflies of South Australia 1978). [It appears that the female butterfly only lays eggs on the *Oxalis perennans* pers comm. Gerry Butler].

Field guide:

Oxalis perennans: (syn. *O. exilis*) this native species to South Australia usually occurs in untouched or native areas such as woodland and grasslands, especially the Adelaide Plains. The leaves (more reflexed) are much greener and flowers are erect and larger in contrast with the foliage and the flowers and fruits appear above the leaf mass.

**Oxalis corniculata* ssp. *corniculata*: this introduced species usually occurs in cosmopolitan areas, in gardens, nursery pots and disturbed areas. The leaves (more open and flat, but not always) are green often with a yellowy to a bronze colour, more loosely spreading and bending along stems, flowers and fruits usually stay below the leaf mass. This plant is variable depending on where its growing. Clue: If it is very 'weedy' it is likely to be *Oxalis corniculata*.

Botanical guide: No straight forward or conclusive difference can be determined as there is conflicting information in both the Flora of South Australia, and It's Blue With Five Petals (two notable references for SA if you want to become more oxalidaceous). Ref: Census of South Australian Vascular Plants 2005.

Native oxalis

Introduced oxalis

Photos: Left DKeane. Right 'Western Weeds', 2007, The Weeds Society of WA Inc

Reprinted from Newsletter 54 March 2015.

THE BUTTERFLIES AUSTRALIA PROJECT: citizen science saving butterflies.

Chris Sanderson

Australia has over four hundred species of butterflies, but despite being active during the day, brightly coloured, and very noticeable when in flight, we still know very little about many of them. We currently have no national database for information on butterflies. For some species we don't know the full extent of their range (where they occur), while for others we don't know even their basic life history, such as what their host plant is, or what their caterpillars look like. Without this knowledge, we risk butterfly species going extinct before we realise they are in trouble.

Another problem Australia faces is the lack of people out there looking for butterflies who would recognise when a species is out of place. There are many species of invertebrates, including butterflies, that would be highly damaging to agriculture or to the Australian environment if they established here. One example is the Banana Skipper, *Erionota thrax*, a major banana crop pest, which is already in nearby Papua New Guinea. Early detection of species like this is essential to have any chance of limiting damage caused. However the chances of this happening in such a large country are small with so few trained observers out there to look.

This is why we have created the Butterflies Australia project – an exciting initiative to collect butterfly sightings data for the whole of Australia. It's a citizen science project, meaning anyone can participate. We want sightings of butterflies from anywhere within Australia and Australian territories. Whether it's your backyard, local park, or a remote national park rarely visited by people, your data will greatly increase our knowledge of butterfly populations and movements.

The project will help us better understand the large aggregations and migrations of butterflies such as these Blue Tigers (*Tiramula hamata*), which are currently poorly understood. Photo: Chris Sanderson

The project hopes to help detect new species of butterflies for Australia, such as this Tawny Coster, which was first detected in 2012 and has now spread across the whole of Northern Australia. Photo: Chris Sanderson

The data you submit will be verified by experts and will end up in the Atlas of Living Australia, a CSIRO initiative for storing data related to the natural world. The resulting database of Australian butterfly sightings will be the first of its kind, a national, scientifically-verified set of sightings records that can be used for research and conservation of butterflies.

We haven't yet set the official project launch date, but it will likely be in October 2019. This will involve the launch of a free app. for iPhone and Android smartphones which will allow you to record butterfly sightings and will also include a field guide. We will also have a website that will allow you to record sightings and explore the database to find lists of butterflies in your local area, or locations where specific species might occur. In the meantime, you can sign up to our Facebook group https://www.facebook.com/australianbutterflyconservation/ or join our mailing list https://mailchi.mp/e9cc5f6f5ec0/ausbuttrflies.

We look forwards to working with you to learn more about Australia's beautiful butterflies.

If you have any ideas or would like to become involved please feel free to contact Chris Sanderson at: christopher.sanderson@anu.edu.au.

SPOT THE CATERPILLARS

Left: three (yes three) caterpillars of the introduced plume moth *Wheeleria spilodactylus.* This moth was introduced 20 years ago to control horehound *Marrubium vulgare* in the Mt. Lofty ranges. https:// https://www.naturalresources.sa.gov.au/adelaidemtloftyranges/news/171109-hungry-caterpillar-tackles-horehound-weed. Right: caterpillar close-up Photos: David Armstrong.

EXCURSION TO LOCATE THE ELUSIVE BITTERBUSH* BLUE BUTTERFLY *Theclinesthes albocincta* 23rd Feb. 2019.

Whilst we did not see any butterflies this time, this excursion was deemed a great success and thanks go to member Dr. Richard Glatz for travelling from Kangaroo Island just for the day to show us the Bitterbush Blue Action Plan survey sites and explain in detail how and where to look for eggs, larvae and evidence of feeding.

The Port Gawler site was dry, few plants appeared to have many leaves however it is an extensive area and once the rains come Richard is confident it will 'bounce back'. Now there are 20 members who know where to go and what to look for, we are keen for interested members to visit this and other sites detailed on the *Action Plan survey report to make and record detailed observations on sightings of eggs, larvae and adults as this will add greatly to our knowledge of this species and how it is surviving.

On pages five and six of this newsletter are fact sheets explaining how to identify the adult and locate eggs and larvae. So there is no excuse!!

The group then travelled to Biodiversity Park at Outer Harbour and found much healthier looking vegetation and although evidence of feeding was found, no eggs, larvae or adults. We would dearly love a group of members who live in this area to create a ***Friends of the Bitterbush Blue Butterfly*** in this park either separately or in conjunction with the existing friends of the park group. We only need a couple of members to express interest initially, so if you are interested please contact Secretary Brett Oakes to start the ball rolling.

If you would like a copy of the survey report please contact Membership Officer Gil Hollamby membership@butterflyconservationsa.net.au.

*presented as **Bitter-bush Blue** in Braby's '*Butterflies of Australia*' however **Bitterbush Blue** used here to be consistent with the Action Plan report.

Photos: Far left: Richard talks to members at Port Gawler site. Left: Gil Hollamby (Membership Officer) at Port Gawler. Above: Margaret Bungey, Karen Lane and Marion Moore next to one of the larger Bitterbush plants at Biodiversity Park Outer Harbour. Below left: Richard with the group at Biodiversity park and below the whole group. Photos: Jan Forrest.

BUTTERFLY WORKSHOP FOR CHILDREN

Images from the successful butterfly workshop held at the Tea Tree Gully Library by member Linda Shmith last year when 16 children attended with their parents. Photos: Linda Shmith.

THANKS

Thanks to members who assisted at the Mt.Pleasant Show, APS plant sale weekend and Sophie's Patch over Easter especially to conveners Gil Hollamby, Brett Oakes and Linda Shmith. Particular thanks to Bernadette Johnson for transporting display material to Mt.Pleasant, to Gerry Butler for setting up at the APS sale and to Linda Shmith at Sophies' Patch.

If you can assist for a few hours at these displays **please** volunteer as we often struggle to find members available to assist.

Members Gil Hollamby and Anne Frodsham at Sophie's Patch on Sunday 21st April. Photo J.Forrest.

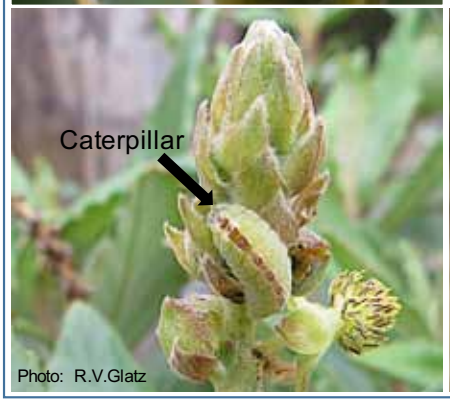
How to look for the Bitterbush blue butterfly (*Theclinesthes albocincta*)

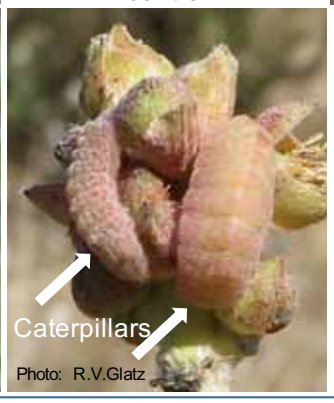
Caterpillars of the Bitterbush blue butterfly feed only on the Coastal bitterbush. Butterflies lay eggs only on the bitterbush. So, you need to find some bitterbush!

Bitterbush usually occurs on sand dunes within 500m of the coast. Bushes are usually 1-3m high and have bright glossy leaves which can be serrated.

Female laying egg on young male flower spike ⟵

Bitterbushes have male and female flowers on separate plants. Find young male flower spikes with unopened buds because females lay eggs mainly on them. Butterfly activity and caterpillars are concentrated on and around flowering male plants. Look closely for eggs on young male flower spikes. Eggs are about 1-2mm, green-white and round with a sunken centre.





Look for caterpillars too. They are up to 1cm, fat, range from pink-green and often have a stripe. Look for damage made by the caterpillars. The make characteristic single holes in the side of male buds and their supporting bracts.

Bitterbush Blue Butterfly *Theclinesthes albocincta* BCSA fact sheet was published in Newsletter 65, (August 2018). If you would like a copy of that newsletter or the fact sheet emailed to you please contact the membership Secretary Gil Hollamby, membership@butterflyconservationsa.net.au or Jan Forrest editor@butterflyconservationsa.net.au.

Gil and Jan can also provide you with a copy of the Bitterbush Blue butterfly report ***Action plan for the Bitterbush Blue butterfly (Theclinestes albocincta) : Northern Adelaide Plains - Kangaroo Island*** the report contains detailed information on survey sites on the Fleurieu Peninsula, Adelaide metro area and Kangaroo Island. This information will be especially useful to members who may be interested in assisting us to monitor this species over the next few years.

D'Estrees
ENTOMOLOGY
Science Services

birdlife
AUSTRALIA

Government
of South Australia

Adelaide and
Mount Lofty Ranges
Natural Resources
Management Board

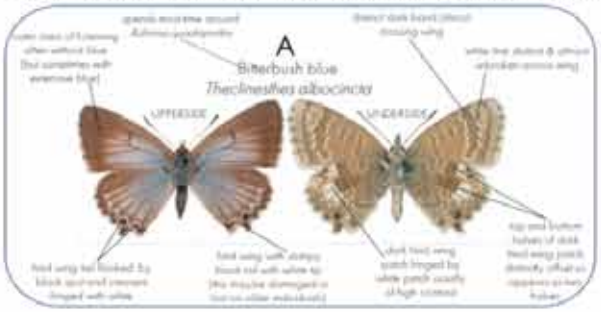
Australian Government

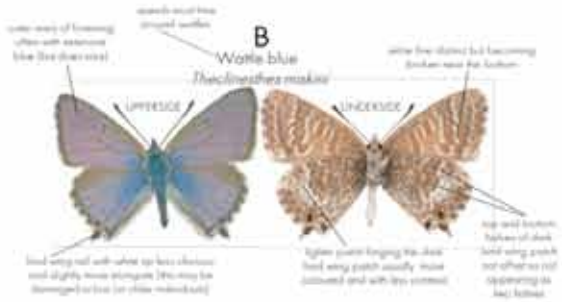
HOW TO USE THIS CHART

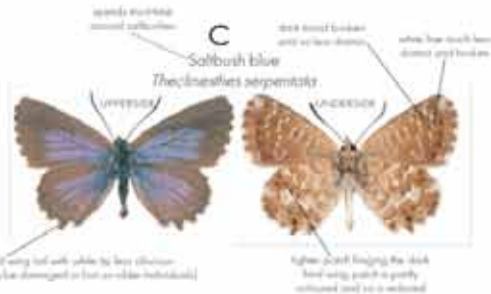
This chart is designed to enable the identification of Bitterbush blue butterfly, *Theclinesthes albocincta* (A) by highlighting features that are different from other small blue butterflies occurring on the Northern Adelaide Plains, Metropolitan coastline and Fleurieu Peninsula. The upperside of each species is shown on the left hand side and the underside of each is shown on the right.

Bitterbush blue butterfly (A) is shown in the blue box along with important features that can be used to tell it from other similar species. The other species (B-F) have features shown that are different to Bitterbush blue. The left hand side shows the three *Theclinesthes* species which are closely related and hardest to tell apart. Generally the best feature to identify the species is the plant that the butterfly spends most time around. On the right are the three other common species of small blue butterfly.

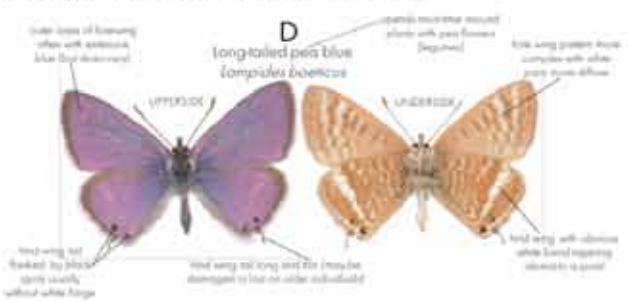
Some features are shared between species and all features shown are naturally variable between individuals, and they also vary with the age and condition of the butterfly. Therefore, as many features should be used as possible (at least 4-5) to identify the butterfly because it is the combination of features that is unique.

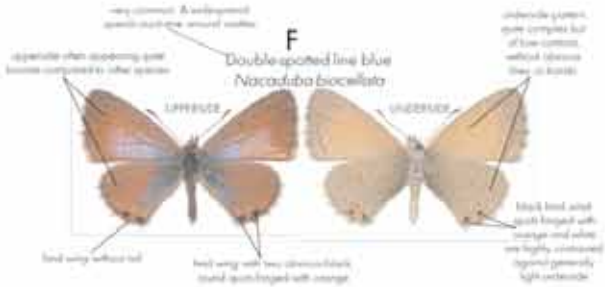






Theclinesthes species





Other species

Photographs from Butterfly Conservation SA Inc.
Obtained from http://butterflyconservationsa.net.au/butterflies/identify/online-identification-tool

Saltbush Blue

also known as Chequered Blue

Class:	**Insecta**
Order:	**Lepidoptera**
Family:	**Lycaenidae**
Genus:	***Theclinesthes***
Species:	***serpentata serpentata***

A widespread and adaptable Blue, the Saltbush Blue could be encouraged into the suburbs by growing its caterpillar food plants. This butterfly has been found on mowed saltbush growing on the footpath in the Adelaide suburb Woodville.

Description

Wingspan: males and females:18mm.
Upperside: Both sexes have a central purple-blue to blue coloured central area on the upper-side of the wings, with broad brown margins. There are a couple of faint white crescents near the base of the hind wing along the outer margin and a distinctive chequered fringe to the outer margin of both wings. There is also a very stubby, short tail at the angle between the outer and basal margins of the hind wing.
Underside: is a mid to dark brown in colour with white transverse markings on the forewing and white patches and other markings on the hind wing.

Distribution

Found wherever its foodplants occur, and these are common and widespread, being present in most habitats. Locally common in breeding areas and in certain locations may be the most common butterfly including the inner city and inner suburban areas. Occurs through much of temperate and subtropical Australia, including Kangaroo Island and Tasmania. Rare in the wet colder areas of South Australia. It is rare or absent along the Pacific coastal shoreline of the eastern states, where it is replaced by *Theclinesthes sulpitius*. A separate subspecies occurs in Tasmania.

Above: male and below female adult upper side. Photo LFHunt.

Top: egg, 1st instar larva. Photos LFHunt.
Below left: 3rd instar. Photos LFHunt.
Right: larva on salt stalk. Photo RHFisher.
Below: final instar larva. Photo LFHunt.

BUTTERFLY CONSERVATION SA. Inc.

**C/- SA Museum
North Terrace,
ADELAIDE 5000
Sth. AUSTRALIA**

Larval Foodplants

Saltbushes. The caterpillars eat the flowers and soft green parts of these plants. Adelaide native species: Slender-fruit Saltbush (*Atriplex acutibractea*), Coast Saltbush (*A. cinerea*), Marsh Saltbush (*A. paludosa*), Berry Saltbush (*A. semibaccata*), Lagoon Saltbush (*A.suberecta*), Climbing Saltbush (*Einadia nutans* ssp. *nutans*), Sea-berry Saltbush (*Rhagodia candolleana* ssp. *candolleana*), Fleshy Saltbush (*R. crassifolia*), Fragrant or Mealy Saltbush (*R. parabolica*), Pop Saltbush (*A. holocarpa*).

Habitat and Ecology

The caterpillars are pale green or green-grey, with a yellow edged, darker band down the back and have an almost granular appearance to the surface of their skin. Mature larva length 8-9 mm. Caterpillars are nearly invisible on their food plants, where they feed on the flower heads and leaves. They are attended by a few ants, usually small black or brown *Iridomyrmex* spp, but occasionally also by a small black sugar-ant *Camponotus ceriseipes*, small black *Monomorium rubriceps*, a small red bull-ant of the *Myrmecia nigrocincta* group, and a small black *Notoncus* sp.

The tiny pupa is pale green to grey-green with scattered brown markings and is usually attached to the stems or leaves of the food plants. This butterfly is easily encouraged to come to urban gardens and will readily form colonies if saltbushes, including the smaller, decorative ones, are grown in the garden.

Flight Period

It is possible to find flying butterflies throughout the year, depending on the region. In the southern areas it is more common during the warmer months from September to May. There is sometimes a mass emergence of the butterfly when hundreds of butterflies are seen flying around the foodplants

Threats

No major threats.

Conservation

None required. Will occur in urban gardens.

Top: adult underside. Photo LFHunt.
Hostplants Below left: *Atriplex paludosa cordata*. Photo RGrund.
Right: *Rhagodia parabolica* fruit. Photo: Todd Berkinshaw.
Above: *Rhagodia candolleana*. Photo RGrund.
Left: *Atriplex semibaccata*. Photo Ron Sandercock.

ACKNOWLEDGEMENTS *Theclinesthes serpentata* **fact sheet:**
Majority of text, map and flight bar from: '*South Australian Butterflies and Moths'* website by Roger Grund.
Other references and contributors include: Michael Moore; 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, April 2019

BUTTERFLY CONSERVATION SA Inc.
is a not-for-profit organisation for those interested in conserving the habitat of Lepidoptera (butterflies and moths) and other animals.
For further Information or to purchase our book '*Attracting Butterflies to your Garden, what to grow and conserve in the Adelaide region'* or to purchase a '*Butterfly Garden*' DVD contact the Secretary, c/- South Australian Museum, North Terrace, ADELAIDE 5000.
WEBSITE: www.butterflyconservationsa.net.au
EMAIL: info@butterflyconservationsa.net.au

NEWS FROM NATURE GLELENG TRUST: 13 MAR FAREWELL TO ANDY, OUR LONGSTANDING CARETAKER OF EAGLE-HAWK WATERHOLE

For over three years Andy Lines has been our amazing on-site caretaker at Eaglehawk Waterhole. He has systematically pulled and sprayed Salvation Jane over the entire property, fumigated extensive areas of rabbit warrens, mapped wetland boundaries with GPS, pulled down old fences, collected insects, recorded new species to the property (including Fiery Jewel Butterflies and a Sand Goanna), and kept a keen eye on rainfall and weather.

Andy recorded a hefty diary of day to day activities, including dusk roll calls and night noises as he camped out with the Red-tailed Black Cockatoos beneath the Blue Gum canopy. The diary and Andy's photos are extremely valuable records and integral to our property data collection and grant reporting.

In our 20 Million Trees project, Andy kept up the regular Salvation Jane and warren fumigation work all summer, and Ken and the crew controlled Skeleton Weed in January.

A few stringybark seedlings have germinated in last year's direct seeding and we wait patiently to see how second year emergence goes. Seed collecting and cleaning have continued on the property, and back at the NGT nursery and seed bank (good stuff Ryan, Rose and crew). Our 2018 seedlings needed hand watering during the string of very hot days recently, which was carried out by Andy and Sheryl. Despite the dry conditions, survival is really good and many tree guards were able to be removed from 2016-17 plantings.

Sources report two new Wedge-tailed Eagle nests, breeding White-fronted Honeyeaters, and regular sightings of Red-tailed Black Cockatoos. The dusk roll call is still consistent, with calls from Sugar Gliders, Owlet Nightjars, Mopokes, Frogmouths and Diamond Firetails regularly heard by Andy.

On behalf of everyone here at NGT, I'd like to give a huge thank you to Andy! We have been extremely fortunate that he has cared for the land so well. Andy has relocated within South Australia, so we look forward to his visits in the future to help out on projects in the district. All the best for the future Andy.

Eaglehawk Waterhole is a special place. If you are interested in staying for a short or longer period please get in touch via email. However long you might stay, it is definitely the experience of a life-time.

Bryan Haywood

Direct seeding being carried out by Eucaleuca in the north of the property.

BCSA **Committee Note:** Nature Glenelg Trust's loss is our gain. Andy has returned to the Butterfly Conservation SA committee and brings with him a wealth of experienc and knowledge. WELCOME BACK ANDY.

TEN NEW SPECIES OF PARASITIC WASPS NAMED

Congratulations to our own Dr. Erinn Fagan-Jeffries for her recent scientific paper describing ten new species of parasitic wasp. Erinn was a member of the BCSA committee until last year. The committee are delighted to hear that her research into parasitic wasps has reached a new level with the publication of this scientific paper. To name one new species is a milestone but to name ten is something just a bit special. Well done Erinn.

New species of Australian microgastrine parasitoid wasps (Hymenoptera: Braconidae: Microgastrinae) documented through the 'Bush Blitz' surveys of national reserves

ERINN P. FAGAN-JEFFRIES, STEVEN J.B. COOPER, ANDREW D. AUSTIN

Abstract

The braconid subfamily Microgastrinae are ecologically important parasitoids of larval lepidopterans, but are poorly studied in many regions of the world. In this study, we focus on describing new species of microgastrine wasps, in part from specimens collected on six different 'Bush Blitz' surveys of regional reserves in South Australia and Tasmania. Ten species of Microgastrinae are described as new and DNA barcodes of the genes COI and wingless are provided: three species in the genus *Choeras* Mason: *C. bush-blitz* Fagan-Jeffries & Austin sp. nov., *C. parvoculus* Fagan-Jeffries & Austin sp. nov., and *C. zygon* Fagan-Jeffries & Austin sp. nov.; six species in the genus *Dolichogenidea* Viereck: *D. bonbonensis* Fagan-Jeffries & Austin sp. nov., *D. brabyi* Fagan-Jeffries & Austin sp. nov., *D. forrestae* Fagan-Jeffries & Austin sp. nov., *D. garytaylori* Fagan-Jeffries & Austin sp. nov., *D. kelleri* Fagan-Jeffries & Austin sp. nov., and *D. lobesiae* Fagan-Jeffries & Austin sp. nov.; and one species from the genus *Sathon* Mason: *S. oreo* Fagan-Jeffries & Austin sp. nov. These new species represent just a small fraction of the potential of 'Bush Blitz' surveys in regional Australia, which provide DNA-quality material allowing an integrative taxonomic approach and offer a window into the biodiversity of some of the least studied areas of the continent.

Right: The new wasp species *Sathon oreo* - not the type of Oreo that you would want to have with your glass of milk!

Maria Sibylla Merian, 17th-century entomologist and scientific adventurer

Maria Sibylla Merian was a 17th-century European artist who not only produced wonderful insect illustrations, but was the first to demonstrate the life-cycle of butterflies and prove that life arose from life.

She seems to have been the first real entomologist, but her work was wrongly criticised in later centuries. Her life is fascinating and her contribution to science deserves to be widely acknowledged.

https://theconversation.com/hidden-women-of-history-maria-sibylla-merian-17th-century-entomologist-and-scientific-adventurer-112057

Image:17th century portrait of Maria Sibylla Merian by an unknown artist. Wikimedia Commons **Below**: An image from Merian's book Metamorphosis insectorum Surinamensium. Wikimedia Commons.

www.butterflygardening.net.au

Butterfly Conservation South Australia Inc.

presents

a PUBLIC TALKS PROGRAM for 2019

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

At the Plympton Community Centre

34 Long Street, Plympton.
(200 metres E of Marion Rd, and 300 metres N of Anzac Highway).

Public transport options include:
Bus from the city via Anzac Highway.
Routes: 245, 248, 262, 263, 265, M44, N262.
Closest stop is Stop 9, then approximately 350 metre walk along Long Street.
Bus from the city via Marion Road.
Routes 100, 101, H20. Closest stop is Stop 10 (east side is approximately 100 metres south of Long street). Stop 10 (west side is on the other side of Moringie Ave.
approx. 100 metres north of Long Street). Then approx. 250 metre walk along Long Street.
Entry by donation (minimum of $2).

Bookings not required

Please bring supper to share and your own cup, 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.

DON'T FORGET TO BYO CUP.

Photo LFHunt. Wood White butterfly *Delias aganippe*

BUTTERFLY CONSERVATION SA INC.
C/- South Australian Museum, North Terrace, ADELAIDE
For further information contact: Jan Forrest 8297 8230
Annual membership: **$20** per year discounted to $10 per year for an emailed newsletters. 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).
Books, **spider posters** and **plant tags** are available at the online shop: www.butterflyconservationsa.net.au/shop.

Butterfly Gardening

Butterfly Site

PUBLIC TALKS PROGRAM 2019

4th June: ***Arid Lands Botanic Garden*** - Chairman **John Zwar OAM** will cover the history of the Arid Lands Botanic Garden since he first proposed the establishment of the Garden in 1981, development of the Garden, the role of the "Friends" support group and the status of the Garden today.

2nd July: ***How to build a National Park*** - The Glenthorne property has had a long and diverse history. **Alan Burns** will outline the history leading up to the March 2018 State election when the 22 year fight to save the property was won and the steps taken since to make Minister David Speirs' promise to build the Glenthorne National Park from bare paddocks, a reality.

6th August: ***Restoring the reefs we never knew we lost*** - Humanity has had a long love affair with oysters, a relationship that fuelled the global destruction of oyster reefs. We now realise that oysters are ecological superheroes, and interest in restoring lost oyster reefs for enhanced ecosystem resilience is growing, especially in South Australia. Presented by **Dr. Dominic McAfee.**

3rd September: 6.30pm BCSA AGM 7.00pm Public Talk
Protecting Southern Hairy-nosed Wombats in the Mallee - Southern hairy nosed wombats are the state fauna emblem. Protection efforts began in the 1960s' after a severe drought. Moorunde Wildlife Reserve was established in 1968 and is now home to about 2000 wombats. In a climate of hostility towards them from surrounding landowners, Moorunde remains a haven for the species. Presented by **Dr. Peter Clements,** President, Wombats SA.

1st October: ***Parasites: the silent majority.*** The World's biota probably includes more parasitic than non-parasitic species. For example: analyses of biodiversity have indicated that although more species of insect have been described and more are awaiting description than for any other group, each of those species will host at least 1 species of nematode as well as other ecto and endo parasites. As shown in a case study of wombat nematodes, parasites have important roles to play within ecosystems and have evolutionary value. Prresented by **Em. Professor Lesley Warner**

5th November: ***Evolution of the southern Australian vegetation – the World's biggest climate change experiment*** - **Professor Bob Hill** will explain how 45 million years ago, southern Australia was attached to Antarctica and was covered in diverse and dense tropical rainforest. Through time, the climate has dried, and the rainforests have been replaced by a mosaic of dry-adapted vegetation.

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

The new venue for our public talks has been very successful and widely praised. It is clean, bright and roomy with the only downside being access to Long Street from Anzac Highway if coming from the city, as there is no right turn from Anzac Highway.

So, if coming along Anzac Highway from the city, turn right well before Long St. at Gray, then turn immediate left into Glenburnie then left again onto Long Street. Alternatively do a U turn at Seaview Aquarium then turn left into Long Street.

Also from Marion Road coming from the south as again there is no right turn into Long Street. This one is easy, turn right into Anzac Highway from Marion Road then left into Long Street.

PUBLIC TALKS PROGRAM 2019

4th June: *ARID LANDS BOTANIC GARDEN*

Presented by Chairman of the Friends John Zwar OAM

John will cover the history of the Arid Lands Botanic Garden since he first proposed the establishment of the Garden in 1981, development of the Garden, the role of the "Friends" support group and the status of the Garden today.

John is an experienced horticulturist with broad knowledge of ornamental horticulture in South Australia, particularly in the arid zone, and a passion for plants and gardening. Trained at the Botanic Gardens of Adelaide, worked at Leigh Creek as horticultural adviser and then moved to PNG as Curator of the National Botanic Garden of Papua New Guinea in Lae.

Returned to SA and established the Parks & Gardens Dept for the Port Augusta City Council.

Awarded a Churchill Fellowship in 1978 & studied arid zone amenity horticulture in Chile, Bolivia, Peru, USA, Israel, Namibia & South Africa. Instigated the Australian Arid Lands Botanic Garden at Port Augusta in 1981 & still very involved with this project. Awarded the Medal of the Order of Australia (OAM) in 1989 for service to the community through tree planting parkland development.

Moved to Roxby Downs in 1987 to work as horticulturist and then senior environmental scientist. After 18 years in these roles moved to Adelaide and worked at Mount Lofty Botanic Garden, before accepting a lecturing position at TAFE SA Urrbrae Campus for 12 years until retirement in March 2018.

2nd July: *How to build a National Park*

Presented by Secretary of the 'Friends' Alan Burns

Alan is a CPA qualified accountant with a lifelong passion for the environment. Having had a fascination for birds from a young age, after settling in the southern suburbs in the mid-1980s, he had a desire to see local open space preserved for nature. From that time increasing losses of open space had occurred and starting as a member of Trees for Life, Alan's first efforts were plantings in the O'Halloran Hill Recreation Park. In 1996 an advert in the local Messenger called concerned residents to a meeting to discuss the future of the Glenthorne property and Alan has been actively involved ever since.

He was involved in the formation of the Friends of Glenthorne Inc which was proclaimed in 1997 by Federal member for Kingston, Susan Jeanes, and incorporated in 1998. By 2001 he was elected Secretary / Treasurer, a position he has held ever since, working with numerous Chairpersons such as Peter Smytherman, Kris Hanna and currently Martin Schumacher.

Alan regularly completes bird surveys on the property and contributed more than 20 survey records from Glenthorne to David Paton's recent Bird Atlas of the Adelaide Region.

Almost 90 bird species have been identified on the Glenthorne property, despite only having very limited vegetation across its 208 hectares. With three dams down the central corridor, permanent water means that not only does Glenthorne have resident water birds on its bird list such as Grey Teal and Hardhead Ducks, but birds such as Pink-eared Ducks, one of Alan's favourites, and occasionally Musk Duck and Australasian Shoveler are seen.

Once the long-awaited revegetation begins, Glenthorne will start to develop into one of the most dynamic environmental hotspots in the Adelaide region, where many birds, animals and insects are expected to thrive.

Alan Burns will outline the history leading up to the March 2018 State election when the 22 year fight to save the property was won and the steps taken since to make Minister David Speirs' promise to build the Glenthorne National Park from bare paddocks, a reality.

6th August: *Restoring the reefs we never knew we lost*

Presented by Dr. Dominic McAfee.

I am a marine ecologist with a special interest in shellfish ecology. My research is heavily focused on applied marine conservation management and restoration ecology.

Much of my research has focused on the capacity of wild oyster populations to protect coastal biodiversity from the extremities of climate change. The majority of this work has been conducted along the east coast of Australia and in Hong Kong.

I have a passion for science communication and am frequently involved in community outreach events. I am also part of the communications team and research and development working group for Australia's Shellfish Reef Restoration Network.

My research focuses on building South Australia's blue infrastructure through the restoration of oyster reefs which were once abundant off Australia's southern coastline. This project is a collaboration with the South Australian government and The Nature Conservancy, who collectively will construct a 20 hectare oyster reef- the first large-scale oyster restoration project in Australia and the largest in the southern hemisphere. My research aims to enhance the recruitment and survivorship of oysters to the reef, ensuring its long-term growth and performance.

Other research interests:
Ecosystem based management; ecosystem engineering theory; climate-adapation strategies for coastal systems; eco-engineering seawalls to enhance biodiversity; invertebrate physiology and mangrove ecology.

Dr. Dominic McAfee is a University of Adelaide Research Associate in the School of Biological Sciences.

WHAT'S FOR SALE? - IN OUR 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. ***"Moths of the Adelaide Region"*** $10 Set of four A3.

Single posters: "***Bats of SE South Australia"*** and ***"The Bilby - Endangered Species"*** posters are available for $5 each, plus postage. FREE Orchid Posters.
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**.

BUTTERFLY CONSERVATION SA Inc.

An affiliated rganisation of the South Australian Museum.
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Newsletter Editor and Public Talks Convener: Jan Forrest OAM - editor@butterflyconservationsa.net.au C/- South Australian Museum.
Publications and Merchandise: Gerry Butler - publications@butterflyconservationsa.net.au
Committee: Andrew Lines, David Keane, John Wilson, Beth Keane, Bernadette Johnson, Bryan Haywood (endangered species advocate) and Cristy Seymour (Social Media).
Consultants: Roger Grund and Dr. Peter McQuillan.
Public Officer: Beth Keane

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 2019: first Tuesday March - November, Plympton Community Centre, 34 Long Street, Plympton. 6.15pm for a 6.30pm start to 8.30pm.
Next talk: 4th June - *Arid Lands Botanic Garden,* presenter Chairman **John Zwar OAM**

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 and Moths - https://sabutterflies.org.au/home/index.html (authored by Roger Grund).
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

WELCOME TO NEW MEMBERS

Marelle Smith
George Diakomichalis
Jill Gutteridge
Colleen Weaver
Maryann Jameson
Barbara Morrow, SA Conservation Society
Michelle Etheridge, SA Conservation Society
Neal Clayton
Pina Mitzious
Kim Zidarich
Lauren Eddy
Jen Mack
Kate Collins
Tracey Davis
Nancy McMurray
Chris Sanderson
Eleftheria Hassiotis
Alison Glastonbury
Janine Clipstone

Articles for the next newsletter to:
'The Editor'
BCSA Newsletter C/-
editor@buttbutterflyconservationsa.net.au
Please send images separately as a .jpg, not embedded in word documents.

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 South Australia Inc.

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