



BUTTERFLY CONSERVATION SA Inc.

NEWSLETTER

No. 18: September 2004

BUTTERFLY HOUSE AT THE MELBOURNE ZOO

The Butterfly House at Melbourne Zoo was opened 17 years ago because at the time, we had on display all the big animals from around the world but 80% of the animal world was not represented at the zoo and these are the insects.

Importance of Insects

Contrary to our opinion that we are at the centre of the universe, insects are the single most important group of animals on earth. This is partly due to the number of species (estimated at up to 30 million) and the number of individuals (estimated at one and a half trillion for every person on earth) (1.6 x 10¹²). We don't see the majority of these insects because most of them are between two and four millimetres long.

If humans were suddenly to vanish from Australia today, there would be a few ecological problems such as pollution and out of control fires, but within a few months these would be controlled, and within a few decades it would be difficult to tell we have ever been here. However if insects were to suddenly vanish, the ecosystem would collapse and within a few months humans would become extinct. Plants would no longer be pollinated, all the major animal groups would quickly die out, the soil would die and start to rot, and before long the only things left would be bacteria and algae, just as it was a billion years ago.

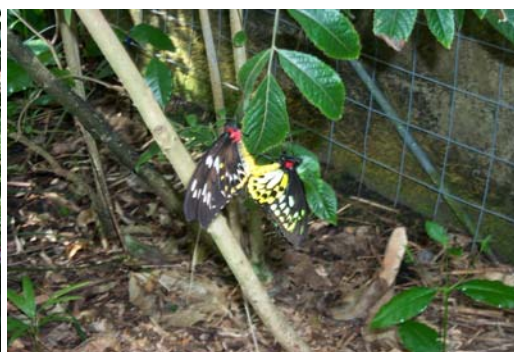
Butterfly Life Cycle

Butterflies have a four stage life cycle, starting with an egg, then a caterpillar, then a pupa which emerges into an adult. In the Butterfly House we provide the butterflies with food plants on which they lay their eggs. Each butterfly species has a particular type of plant on which the caterpillars feed, so the adults will lay only on these and not on other plants within the Butterfly House. These plants are situated in the garden beds in black pots.

Each week we change over the food plants with a fresh one, and take the old one into glasshouses out the back where the eggs hatch and we rear the caterpillars. When they have eaten enough leaves, they make a pupa and emerge as an adult, at which point we bring them back into the Butterfly House. We put about 70 new butterflies

Inside this issue:

- Butterfly House at the Melbourne Zoo
- Annual Report 2003-4
- Notes from Roger Grund on the Linden Gardens plant and butterfly lists.
- Plant and butterfly list at Linden Gardens
- Notes and meetings
- New members
- Myponga EXCURSION



*Left: Butterfly keeper Robert 'Ando' Anderson provides nectar for the butterflies in the Melbourne Zoo Butterfly House
Above mating pair of Cairns Birdwing Butterflies Photos: Helen Woodward*

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BUTTERFLY CONSERVATION SA Inc. for membership enquiries and annual membership payments (\$10):
Treasurer, 13/4 Randolph Avenue, PARKSIDE. 5063

ANNUAL REPORT 2003 – 2004

Membership retention has been good at around 100 financial members and the finances of the society are presently healthy. I would like to thank all members for their continuing support. Committee meetings have continued throughout the year on a monthly basis.

Members may now receive the newsletter either as a hard copy part-colour version via mail or as a PDF file full colour version over the internet. My thanks to Committee Member Trevor Rowe who recently set up a website for the society and members are urged to submit articles and photos for inclusion in either the newsletter or the website. I would express thanks to those people who have already contributed articles to the Newsletter throughout the year.

The society continues to provide community support with lectures on South Australian butterflies in schools and to other community groups. We also continue to provide information and help to other organizations and to provide advisory displays at the occasional environmental function.

The committee continues to work towards producing a series of full colour information sheets for the butterflies to be found along the Mt Lofty Range and the Adelaide Plains. Information sheets as an introduction to butterflies and urban garden butterflies have already been produced. These two sheets were sent to all members. The committee is still working on producing field-guide identification sheets and posters for South Australian butterflies. Committee Member Mike Moore has continued throughout the year to help Lindsay Hunt sort his vast slide collection.

Our planting project of *Adriana klotzschii* and the tall *Gahnia* saw-sedges, supported by the Natural Heritage Trust, has met with limited success. Some 700 *Adriana klotzschii* were planted out last year, and a further 80 planted this year. Reports back from the volunteer planters indicate there were very poor survival rates for this plant. We had good success with the 400 *Gahnia* plants at Mt Bold, and a further 110 *Gahnia trifida* plants have been planted out at Myponga this year.

The two-year survey for butterflies in the restricted Mt Bold Water Catchment area was completed during the year, and a final compilation report is now being prepared. Nature Foundation SA Inc funded this survey. Some 30 species of butterflies were recorded, including several threatened species, which is pleasing.

The society received funding through the Wildlife Conservation Fund for a four-week survey on Kangaroo Island to try and locate the endangered Lycaenid *Ogyris idmo*, the butterfly icon for South Australia. The butterfly was last seen on the island in 1934. The survey was undertaken at the end of last year but unfortunately the butterfly was not seen. Andy Young, a local naturalist on Kangaroo Island has since offered to continue the surveillance for this butterfly over the next two years with some support from the society. Location of the butterfly would allow for management plans to be put in place for its preservation.

The society has continued to be active in trying to protect the last remaining colony of the Bitterbush Blue Butterfly in the Adelaide area that occurs on Torrens Island. This island has been targeted for development by the Corporate Governance board of the government. Further letters were sent during the year to the Premier and Environment Minister outlining our concerns, and they have responded by referring the letters to the Generation Lessor Corporation, a subsidiary of the Treasurer of South Australia.

BCSA expresses its thanks to the Urrbrae Wetlands Resource Centre for continuing to provide its resources for our meetings, and to the South Australian Museum for their support. I would finally like to thank all the active Committee Members for their dedicated untiring support of the society, in particular Jan Forrest our Secretary, Lois Hasenohr our Treasurer and Kevin Parken for auditing the books.

Roger Grund
Chairman
August 2004

MELBOURNE ZOO BUTTERFLY HOUSE, continued from page 1.

in the Butterfly House each day, and there are 800-1000 in here at any one time. In total we breed almost 30,000 butterflies a year.

The Butterfly House Environment

The conditions inside the Butterfly House attempt to simulate those of a tropical rainforest during summer. The temperature stays at around 30° C all day every day of the year and goes down to 20°C during the night. The temperature feels a lot hotter than 30°C because of the high humidity. The humidity ranges between 60-80%.

Large mercury vapour lamps at the top of the Butterfly House provide light very similar to sunlight and come on in the early morning and late afternoon to extend the length of the day so that the butterflies think it is summer all year round.

We also provide the butterflies with an artificial nectar, which is almost identical to the nectar in flowers. It is made up of three different types of sugar (fructose, sucrose and glucose) at a concentration of 15%, and is all the butterflies need as adults. Artificial nectar is provided in coloured feeders in the garden beds, and the feeders are different colours because some butterfly species prefer specific colours (the Orchards prefer the red feeders for example) and in the wild the butterflies would visit a range of different coloured flowers.

Conservation

People don't generally consider that insects are in need of conservation because there are so many of them. But some species are represented only by very small populations and live in habitats that are vulnerable to destruction by humans. Many species of insects are also important to the livelihood of other species of birds and mammals, and so whole ecosystems may rely on them. In some parts of the world we are losing dozens of insect species per day due to land clearing and we don't yet know what the future consequences of this will be.

Local butterflies can be easily brought back to the suburbs by planting the right plants in your backyard. There are two types of plants required—flowering plants for the adults and food plants for the caterpillars. If you place around your backyard plants which produce lots of nectar such as Buddleias and daisies, the adult will come to the garden to feed. However, if the caterpillar's food plant is also there, the butterflies will lay eggs and a local population will be established. Each butterfly species has specific food plants for the caterpillars but lemon trees, wattles and native grasses are a good starting point.

Conclusion

At any time in the butterfly house, as we speak, there are a range of dramas going on about which we really have no idea. Some butterflies are battling tenaciously over a small piece of prime real estate, others are deep in courtship and at any time there are several pairs mating, others are egg laying to perpetuate the species while others are taking their last few flutters of life at the bottom of the garden beds. The butterflies are communicating with each other, sometimes frantically, using sounds we can't hear, smells we can't smell, in wavelengths of light we can't see, and probably in ways we can't yet imagine.

Patrick Honan

Melbourne Zoo Butterfly House



Left: Larvae and adult butterflies in the Melbourne Zoo Butterfly House. Below: Butterfly keeper Robert 'Ando' Anderson shows member Kim Sinclair the butterfly breeding cages. Photos: Helen Woodward



PLANT LISTS of indigenous species planted at LINDEN GARDENS corner Greenhill and Portrush Roads, Burnside with possible BUTTERFLY species, (list is continued on page 5). NOTES from Roger Grund (Chairman Butterfly Conservation SA) on the possibility of these plants being Butterfly host and nectar plants.

Planted vegetation has been propagated from sources within the City of Burnside. The total number of indigenous species is 65. Residents can propagate using seed or cuttings from local plants established in some reserves. First contact Andrew Crompton at Burnside Council Offices for suitable locations for seed collection. PLEASE do not dig up plants from parks and reserves.

Unfortunately, butterfly host-plant lists only tell us what butterflies might be in an area in an ideal pristine situation. Each situation is totally different. Possible resident butterflies for the Adelaide urban area are listed in the 'Butterflies of South Australia' www.chariot.net.au/~rgrund/index.htm internet site, but butterflies actually present can improve dependent on the situation as to whether it is close to a large native vegetation

Continued page 6

PLANT	Common name	type	If nectar plant	BUTTERFLY	Family	Common name
<i>Acacia acinacea</i>	Round-leaf Wattle	1 metre spreading shrub		<i>Nacuduba biocellata</i>	Lycaenidae	Two-spotted Line Blue
<i>Acacia paradoxa</i>	Kangaroo thorn	shrub 3m tall		<i>Nacuduba biocellata</i>	Lycaenidae	Two-spotted Line Blue
<i>Acacia pycnantha</i>	Golden Wattle	shrub or tree 4-8m tall		<i>Nacuduba biocellata</i>	Lycaenidae	Two-spotted Line Blue
<i>Acacia pycnantha</i>	Golden Wattle	shrub or tree 4-8m tall		<i>Polyura sempronius</i> (faint chance)	Nymphalidae	Tailed Emperor
<i>Acacia pycnantha</i>	Golden Wattle	shrub or tree 4-8m tall		<i>Theclinessthes miskini</i> (faint chance)	Lycaenidae	Wattle blue
<i>Allocasuarina verticillata</i>	Drooping sheoak	tree 5 - 9 m tall				
<i>Anthropodium strictum</i>	Chocolate lily	herb				
<i>Bothriochloa macra</i>	Red-leg grass	grass				
<i>Bulbine bulbosa</i>	Bulbine lily	bulb/tuber 20-50cm tall				
<i>Bursaria spinosa</i>	Christmas bush	shrub or tree 1 - 12m tall	x			
<i>Bursaria spinosa</i>	Christmas bush	shrub or tree 1 - 12m tall	x			
<i>Callitris gracillis</i>	Native Pine	Tree to 10 metre				
<i>Calostemma purpureum</i>	Garland lily	herb				
<i>Carex appressa</i>	Tall Sedge	sedge to 1 m tall				
<i>Carex breviculmis</i>	Sedge	sedge				
<i>Carex fascicularis</i>	tassel sedge	sedge to over 50 cm tall				
<i>Carex inversa var inversa</i>	sedge	sedge				
<i>Chenopodium pumilio</i>	Chenopodium	herb		<i>Theclinessthes serpentata</i> (possible)	Lycaenidae	Chequered blue
<i>Chloris truncata</i>	windmill grass	grass		<i>Ocybadistes walkeri</i>	Hesperiidae	Grass-dart
<i>Chloris truncata</i>	windmill grass	grass		<i>Taractrocera papyria</i>	Hesperiidae	White grass-dart
<i>Chrysocephalum apiculatum</i>	common everlasting	herb	x	<i>Vanessa kershawi</i>	Nymphalidae	Australian Painted Lady
<i>Convolvulus erubescens</i>	Austral Bindweed	herb				
<i>Cotula australis</i>	Billy buttons	herb				
<i>Cullen (Psoralea) australasica</i>	native scurf-pea	shrub 0.5 - 2.5 m tall	x	<i>Papilio demoleus</i>	Papilionidae	Chequered Swallowtail
<i>Cullen (Psoralea) australasica</i>	native scurf-pea	shrub 0.5 - 2.5 m tall	x	<i>Zizina labradus</i>	Lycaenidae	Common Grass-blue
<i>Cyperus vaginatus</i>	Flat Sedge	sedge 30 - 150 cm tall		<i>Ocybadistes walkeri</i>	Hesperiidae	Grass-dart
<i>Danthonia geniculata</i>	Knead Wallaby grass	grass				
<i>Danthonia linkii var fulva</i>	Wallaby grass	grass				
<i>Danthonia racemosa var. racemosa</i>	Wallaby grass	grass 20 - 75cm tall				
<i>Dianella longifolia var grandis</i>	Pale flax lily	bulb/tuber				
<i>Dianella revoluta var revolute</i>	Flax lily	bulb/tuber to 1 m tall				
<i>Dichondra repens</i>	Kidney Weed	Lawn-like runner				

PLANT	Common Name	Type	If Nectar plant	BUTTERFLY	Family	Common Name
<i>Dodonaea viscosa</i>	Sticky HopBush	shrub 1 - 4 m tall				
<i>Einadia nutans</i>	Climbing saltbush	Trailing shrub				
<i>Enchylaena tomentosa</i>	ruby saltbush	shrub to 1 m tall				
<i>Enneapogon nigricans</i>	Black-head grass	Tussock 30cm stems				
<i>Epilobium billardieranum</i>	Native willow herb	herb perennial to 80 cm tall				
<i>Eucalyptus camaldulensis</i>	river red gum	tree to 30 m tall	x			
<i>Eucalyptus leucoxylon</i>	SA blue gum	tree to 30m tall	x			
<i>Eucalyptus microcarpa</i>	grey box	tree to 25m tall	x			
<i>Geranium retrorsum</i>	Native geranium	herb				
<i>Gonocarpus elatus</i>	Gonocarpus	herb				
<i>Goodenia albiflora</i>	white goodenia	shrub to 1 m tall	x	<i>Junonia villida</i> (possible)	Nymphalidae	Meadow Argus
<i>Goodenia amplexans</i>	clasping goodenia	herb	x	<i>Junonia villida</i> (possible)	Nymphalidae	Meadow Argus
<i>Goodenia ovata</i>	Hop goodenia	shrub to 2 m tall	x	<i>Junonia villida</i> (possible)	Nymphalidae	Meadow Argus
<i>Goodenia pinnatifida</i>	Goodenia	Small herb	x	<i>Junonia villida</i> (possible)	Nymphalidae	Meadow Argus
<i>Hakea carinata</i>	Hakea	shrub				
<i>Helichrysum apiculatum</i>	common everlasting	herb perennial 7 - 60 cm tall	x	<i>Vanessa kershawi</i>	Nymphalidae	Australian Painted Lady
<i>Juncus bufonius</i>	rush	rush				
<i>Juncus pauciflorus</i>	rush	rush				
<i>Juncus subsecundus</i>	finger rush	rush 20 - 90 cm tall				
<i>Kennedia prostrata</i>	Running Postman	climber stems perennial weak 1.5m		<i>Lampides boeticus</i>	Lycaenidae	Long-tailed Pea Blue
<i>Lignum marginale</i>	native flax	herb				
<i>Lobelia alata</i>	angled lobelia	herb perennial to 50 cm tall				
<i>Lomandra densiflora</i>	Pointed mat-rush	rush 20 - 60cm tall				
<i>Lomandra multiflora</i> spp. <i>dura</i>	Stiff Irongrass	rush 30 - 50cm tall				
<i>Lotus australis</i>	Australian Trefoil	herb perennial to 60 cm tall		<i>Lampides boeticus</i>	Lycaenidae	Long-tailed Pea Blue
<i>Lotus australis</i>	Australian Trefoil	herb perennial to 60 cm tall		<i>Zizina labradus</i>	Lycaenidae	Common Grass-blue
<i>Microtis</i> sp	Onion orchid	Lilly-like orchid				
<i>Myporum viscosum</i>	sticky boobialla	shrub to 2 m tall	x			
<i>Olearia ramulosa</i>	Twiggy daisy bush	shrub to 1.5 m tall	x			
<i>Pseudognaphalium luteoalbum</i>	Cudweed	herb				
<i>Pterostyklis</i> sp	Greenhood orchid	Small green orchid				
<i>Ptilotus spathulatus</i>	Pussytails	Low ground cover				
<i>Poa</i> sp.	Native tussock grass	grass				
<i>Pultenaea daphnoides</i>	Mt.Lofty bush pea	shrub	x			
<i>Ranunculus laplaceus</i>	native buttercup	herb	x			
<i>Rubus parvifolius</i>	Native respberry	shrub perennial long stemmed	x			
<i>Scaevola albida</i>	sml-fruited fan flower	shrub 5 - 50 cm tall	x	<i>Junonia villida</i> (possible)	Nymphalidae	Meadow Argus
<i>Senecio hypoleucus</i>	Mt.Lofty Grounsel	1 metre shrub				
<i>Senecio quadridentatus</i>	Grounsel	Small shrub				
<i>Themeda triandra</i>	Kangaroo Grass	grass to 90 cm tall		<i>Ocybadistes walkeri</i>	Hesperiidae	Grass-dart
<i>Themeda triandra</i>	Kangaroo Grass	grass to 90 cm tall		<i>Taractrocera papyria</i>	Hesperiidae	White grass-dart

LINDEN GARDENS (corner of Greenhill and Portrush Roads Burnside) continued from page 4

area such as the Torrens Linear Park, Adelaide Hills, Rail line reserves, Coastal Reserves etc. For example brown satyr butterflies will probably only be seen next to the hills.

Host-plants also have to be planted with nectaring plants. In a situation where space is a premium you will have to decide on small plants, and also decide whether you want a wet or dry garden, whether you want native or mixed, and then relate that to the butterflies that are the most common for the area.

For those people wishing to promote butterflies in their garden, then my suggestion is to concentrate on the common urban butterflies (see the website) such as *Ocybadistes walkeri*, *Taractrocerca papyria* (skippers); *Papilio anactus* (swallowtails); *Pieris rapae* (whites); *Danaus chrysippus*, *Danaus plexippus*, *Geitoneura klugii*, *Heteronympha merope*, *Junonia villida*, *Polyura sempronius*, *Vanessa itea*, *Vanessa kershawi* (brushfoots); *Lampides boeticus*, *Nacaduba biocellata*, *Theclinesthes serpentata*, *Zizina labradus* (blues). Double up on plants that will serve 2 or more butterfly species as well as selecting nectar plants that flower throughout the flying season! Some host-plants can double as nectar plants like *Psoralea* and milkweed. Some nectar plants like Lantana and Buddleia will need to be regularly pruned to keep them to sizeable proportions and to promote flowers. Some grasses are better than others, some like kikuyu and couch are invasive.

We hope this information is helpful to members in the inner Burnside area of Adelaide

NEXT ISSUE:

Egon Shore provides some interesting aspects of Japanese Butterflies.
Photos and report on our field trip to Manning Reserve and Douglas Scrub in September.
Financial report of 2003-4.

NEWSLETTER EMAILED TO YOU IN PDF:

If you receive your newsletter via the post and would like to have it emailed to you in PDF all colour format please advise the secretary Jan Forrest at forrest.jan@saugov.sa.gov.au OR janfhm@senet.com.au as some emails have 'bounced'.

EXCURSION: To Myponga Reservoir area 21st November, 2004
Meet 10.30am at the Parking Bay north side of wall (visitors viewing area)
byo lunch and rubber boots ring Jan Forrest 8297 8230 if planning to come.

BUTTERFLY CONSERVATION SA Inc.

Chairman: Roger Grund

Secretary and Newsletter Editor: Jan Forrest OAM C/- South Australian Museum, North Terrace, ADELAIDE, 5000 ph (08) 82077503.
email < forrest.jan@saugov.sa.gov.au >

Treasurer : Lois Hasenohr , 13/4 Randolph Avenue, PARKSIDE. 5063

OUTREACH PROGRAM

The full exhibition and AO size panels from the Exhibition "Where have all the Butterflies gone?" are available from Jan Forrest at the South Australian Museum for use by Landcare and other Conservation groups at seminars, conferences and workshops or just for display. Included are five introductory panels, and seventeen panels from seven habitat areas: Coastal, Grasses, Mallee, Urban, Migration/Vagrant, Eucalyptus Forrest/Woodland, Arid, Wetland and Lower South East.

DIARY DATES**MEETINGS -**

Committee meetings are held **bi-monthly** (usually the second Monday of the month) at 6.00pm in the Urrbrae Wetlands Resource Centre, Cross Roads, Urrbrae. All members are welcome to attend. If you would like further information or receive an agenda please contact the Secretary Jan Forrest at the address above.

WEB SITES

'Butterfly Conservation SA Inc.' <http://www.chariot.net.au/~bcsa/index.htm>
'South Australian Butterflies' <http://www.chariot.net.au/~rgrund/index.htm>

WELCOME TO NEW MEMBERS:

LEE HEARD
BELINDA ELLIS
PAM KELLY
YVONNE PAYNTER
SANDRA NICKOLAI
MARK ZIERSCH

We were sorry to hear of the death of member **Jason Huebner** in July this year.

