



BUTTERFLY CONSERVATION SA Inc.

NEWSLETTER

No. 15: December 2003

THE AMERICAN BUTTERFLY (*Danais Archippus*)

Submitted to BCSA by Dr John Wilson and includes an introduction by Roger Grund

INTRODUCTION

In our recent Newsletter No 12, December 2002, the reproduced article written by entomologist Dr Behr (in 1844) on his early observations of South Australian butterflies, refers to his good friend Mr Wilson who provided Dr Behr with help on his observations.

Dr John Wilson of Adelaide has sent BCSA some information on Charles Wilson, one of South Australia's earliest naturalists. Charles arrived in the colony in 1838 and wrote some of South Australia's earliest articles on Entomology. He wrote a series of 26 articles for the *South Australian Register* on The Natural History of the Colony. He began in November 1840 and continued almost every two weeks until March 1842. They are the first known articles describing the insects seen in and around Adelaide, and before scientifically trained men arrived in the colony who were able to more accurately classify and describe the natural history.



Photo: Lindsay Hunt



Photos: Roger Grund

Top two photos male, lower photo female. *Danaus plexippus plexippus* The female is distinguished by the absence of the small raised black sex pouch in the lower-centre of each hindwing

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One has to keep in mind that Charles wrote when the nomenclature was very different from today. He was in a foreign country with few reference books, and those he had were based on the English scene. The different insects he discovered were often compared with an English counterpart, which has made the present-day identification of the insect sometimes very difficult.

We are indebted to Charles Wilson for recording a first hand account of the coming of the Wanderer butterfly (*Danaus plexippus*) into South Australia. (Prior to about 1880, when articles on South Australian butterflies began to be published in scientific journals, early information was published in local newspapers that subsequently became buried in archival history. We are therefore thankful that Dr John Wilson has been able to keep a record of this article, which he has kindly provided.)

Indeed, similar papers probably still lie buried in early newspapers of the period. It would be of interest for someone with the will and time to work their way through the archives of our early newspapers to elucidate the early butterfly information, such as to determine when some of our earliest butterfly immigrants appeared, (eg the Dinky Swallowtail, or document notable mass migrations etc). When an insect is new to a region, the insect invariably has been in the region for a number of years as it gradually builds up in numbers to be then "noticed" by the local populace. In the case of the Wanderer however, as Charles Wilson noted, this seems improbable as it would be very unlikely for someone to miss recognising such a large and highly visible, slow flying butterfly. (However, it still requires somebody to actually document the record. The butterfly was first documented in Australia in 1856, from Sydney.)

Reference details on the original article are: DELTA (a pseudonym for CHARLES WILSON). 1878. The American Butterfly (*Danais Archippus*). *The Garden and The Field* October 1, 1878 p75-77.

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BUTTERFLY CONSERVATION SOUTH AUSTRALIA INC**ANNUAL REPORT 2002 – 2003**

Membership retention has been good at around 110 members and the finances of the society are presently healthy. I would like to thank the members for their continuing support. Committee meetings have continued throughout the year on a monthly basis. It was with regret that Committee Member Bob Edge lost his wife to illness. Bob also is not well and has decided to move to the Riverland to be near his son. Committee Member Lindsay Hunt is also seriously ill. Committee Member John Hunwick has relocated to Port Lincoln. Understandably the society needs additional committee members.

The committee is considering putting the newsletter onto the internet in PDF format so that those who wish may print the newsletter in full colour. It will also reduce handling and postage costs. An alternative is to simply email the PDF file. Committee Member Trevor Rowe has offered to pursue this activity.

The committee continues to work towards producing a series of information sheets for the butterflies to be found along the Mt Lofty Range and the Adelaide Plains. Other information sheets in the pipeline are for urban garden butterflies, and mistletoe butterflies. They are also working on producing field-guide identification sheets and posters for South Australian butterflies. To this end Trevor Rowe and Roger Grund spent a considerable amount of time during the year digitally photographing mounted specimens to be used in the guides. Trevor Rowe and Committee Member Mike Moore are providing ongoing help for these projects.

The society received a small grant from Nature Foundation SA Inc to help with the costs of the duplication of colour slides from the Fisher collection, which can then be loaned for presentation and talk purposes. The first batch of slides have already been duplicated after being selected by Committee Member Marcus Pickett, but additional slides are needed to fill gaps, and Lindsay Hunt has offered to fill these gaps from his vast slide collection. Mike Moore has been giving Lindsay considerable help to sort his slides for this purpose.

A two-year survey of butterflies in the restricted Mt Bold Water Catchment area is continuing. This survey started in the spring of 2002 and is being funded by Nature Foundation SA Inc. Several threatened species have been located within the area, which is pleasing.

A further grant was received from the Natural Heritage Trust to support a planting project of *Adriana klotzschii* and the tall *Gahnia* saw-sedges. *Adriana* is the caterpillar foodplant for the Bitterbush Blue butterfly. The plant used to be common along the beaches of Adelaide but urbanisation has wiped these plants out, and consequently also the butterfly. The tall saw-sedges are caterpillar foodplants for the threatened *Hesperilla* skippers in areas near Adelaide. To this end some 700 *Adriana klotzschii* and 400 *Gahnia sieberiana* have already been planted. However, we are entering new territory with the propagation of *Gahnia trifida* from seed as this feat has never before been done successfully on a commercial scale, but hopefully success will prevail with some seedlings ready to plant in 2004.

The society has applied for funding through the Wildlife Conservation Fund to survey for the endangered Lycaenid *Ogyris idmo* on Kangaroo Island, the butterfly icon for South Australia. The butterfly was last seen on the island in 1934 and it is hoped the survey will relocate the butterfly and subsequently allow for management plans to be put in place for its preservation.

The society continues to fend for the conservation of butterflies and their habitats and in this regard you may have seen the various newspaper articles that have been organized by committee members. We also continue to provide information and help to other organizations and to provide advisory displays at the occasional environmental function. The society has been active in trying to protect the last remaining colony of the Bitterbush Blue Butterfly in the Adelaide area, which occurs on Torrens Island. Unfortunately this island has been targeted for development by the Corporate Governance board of the government. Letters have been sent to Ministers outlining our concerns. This colony is required as it will hopefully provide the butterflies for repopulating the *Adriana* that is presently been planting along Adelaide's beaches under the above Natural Heritage Trust program.

The committee does not condone the Department of Environment's new policy of Fire Management within its parks. In theory the Fire Management may be beneficial in reducing fuel loads, but in practice it has the potential to cause irreparable damage to butterfly habitat and colonies. Conserved areas are now so fragmented that damage to a butterfly colony in one area may never be replenished by butterflies from elsewhere. It is extremely good news that the swamps on the Fleurieu Peninsula have finally been Federally listed as a Critically Endangered Ecological Community. Such habitats contain remnants of the tall *Gahnia* saw-sedges, which are the caterpillar foodplants for the large *Hesperilla* sedge-skippers, most of which are now threatened in South Australia, (due solely to the loss of their wetland habitat).

The committee will propose a number of field days, and for their continuance, member support is encouraged. Committee Member Neil Collier is undertaking special butterfly counts throughout South Australia and in this regard would appreciate help from interested members, (contact him at 82013002). Various committee members continue to provide community support with

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(The article was retyped for the Newsletter by Roger Grund. No changes were made except that taxonomic names used in the article have been italicised for ease of recognition.)

THE AMERICAN BUTTERFLY

(*Danais Archippus*).

By Delta

During the last four years I have from time to time added to my previous notes a few jottings about this remarkable butterfly, now a native with us, and fully acclimatized, but I was not able till this winter to complete observations so as to give its full history. It presents, as applied to this colony, the following peculiarities: - 1. It is strictly an importation, 2. Completely acclimatized, 3. One of the largest (if not the largest) and handsomest of our butterflies, 4. Our only winter butterfly, 5. In numbers seen together at one time, more than any other, 6. The larva able to live and grow through our coldest winter weather.

Till within the last few years this butterfly was quite unknown in this colony. How it entered this quarter of the globe it is not easy to say, though most probably in the egg state, on one of the plants on which the larva (or caterpillar) feeds. As far as other colonies are concerned, the first notice I saw of it was in the *Australasian* of the 26th April, 1873, where a whole column and part of another are devoted to a description of the butterfly, its markings and habits; stating also that it was then seen in Melbourne for the first time. From this account I shall make a few extracts to compare with my notes on the butterfly here; for though I have no doubt it is the same species, the accounts differ in some respects. I will then add what the *Australasian* column does not contain. This is headed "Our American Butterfly Visitor", and continues:- "During the whole of last month" (March, 1873) "and so far as we have got in the present one, a magnificent butterfly has appeared suddenly in various localities near Melbourne in considerable numbers, which has never been seen in the colony before by any of our entomologists, who are in great state of delight and astonishment. It is far larger, and with a more bat-like flight than any of our native butterflies, so that it attracts the attention of gardeners and other observant persons not particularly interested in entomology". About a quarter of a column is then devoted to the shape, size, and markings of the butterfly; and adds that Professor McCoy, of the Melbourne Museum, being applied to, gave the name as the American *Danais Archippus*, and stated that it was first observed a year before on the N.E. coast of Australia, and sent with other specimens to the Melbourne Museum, but was there considered to be a "mistake", and that it had been mixed up with the N. Australian species by accident. The Professor then names several places and times where and when it had been observed or taken in Victoria since the first of March previous, and of other scattered specimens from the N. and N. E. parts of this continent. The writer in the *Australasian* adds that the butterfly had since been seen in various places in and around Melbourne that year.

In America the *D. Archippus* is known "from Canada southward to Brazil". The caterpillar as seen there (it not having been observed up to 1873 anywhere in Australia) compared with my notes of it near Adelaide, I will shortly mention.

The article in the *Australasian* concludes with an allusion to the Darwinian theory as applied to this butterfly, which is not

necessary to enter upon here.

A period of some years, it will be observed, has occurred since the above remarks were made, during which the butterfly has been gradually spreading in all directions here and elsewhere in Australia, though, as far as I know, none of them had been seen in South Australia up to the year 1873; but in 1874 one or two were for the first time observed at some distance from the capital (Adelaide) without exciting more than a passing notice.

It is said no species of the genus *Danais* has hitherto been known to inhabit Victoria, which made the appearance of *D. Archippus* additionally remarkable to the entomologists of Melbourne. Here the case is different, though under somewhat unique circumstances. A species of *Danais*, or closely allied genus, I found some 25 years ago, in the neighbourhood of the Reedbeds. I took six or eight specimens on one day, smaller and paler than the one in question; but I do not think I have seen one since. Some years later, I took two individuals of another and somewhat larger species. All these I subsequently parted with, so can give no further account of them.

In the year 1875, the *D. Archippus* was seen here in many places, but was nowhere numerous. During all this time nothing was known of the caterpillar or chrysalis, nor what plant the former fed on (though the butterfly was evidently increasing in numbers); and there seemed no means of finding this out. At last at the end of autumn (June) of 1876, Mr Ziegler, of Norwood, two miles east of Adelaide, told me that he had discovered the caterpillar, and with it the plant on which it feeds here, viz., "the native cotton", of which he had a quantity growing in his garden. We none of us ever suspected that this or any other butterfly caterpillar fed on this "wild cotton" plant, as we knew it was not a native production. My desire to meet with the caterpillar was denied for that reason, as I did not hear of it till too late. For years past this curious plant with its silky cotton pods had been noticed by everyone journeying up the Mount Lofty range of hills, or strolling through the gullies below. It extends all along the creeks or small water courses, and spreads over the adjacent lowlands. Of this plant Dr Schomburgh, the well known Director of our Botanic Gardens, writes me thus:- "The so-called 'wild cotton' is *Gomphocarpus frutescens*, a native of South Africa; it may have been introduced into Australia from the Cape (Good Hope) and spread in South Australia. The cotton is useless".

In former years the only insects I ever observed on these "wild cotton" plants were specimens of the twenty-spotted *Coccinella*, or ladybird. These little beetles were feeding, as is the custom of their tribe, on the larvae of a kind of *Aphis* that infested the plants. The ladybird is ours, but the *Aphis* is probably a foreigner.

Last year (1877) the caterpillars of this *Danais* were only found, as far as I could hear, in Mr Ziegler's garden, probably from their food being allowed to grow there undisturbed.

In the Easter holidays (third week in April) this year, a party of us took our usual stroll up the Gullies. Here the *Gomphocarpus* was in greater force than ever, and the butterflies also; they were everywhere about, especially among the plants. Though the sun was often shining brightly, their flight was slow and lagging (by no means "bat-like", which is rapid), and they were taken even with the hand without any difficulty, sometimes two together, while resting side by side; but no caterpillars were as yet seen.

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Close to my residence in Kensington nearly three miles from Adelaide, and a mile nearer the hills than Mr Ziegler's, a large paddock adjacent to mine has a creek running through it, on the sides of which are the plants in question, and from these I first received the caterpillars and chrysalis. The former I was able to keep alive till the end of July, when they died, and no others were taken after this date.

I will now first speak of the Melbourne account of the markings, size, &c., of the butterfly, and then of our own. With a few exceptions we agree, so that the butterflies of the two colonies cannot be considered as varieties of the same species, though both may be of the original American type, variable in a series of years from outward circumstances. After minutely detailing all the marks and spots, the *Australasian* of April, 1873 says: - "The underside (of the butterfly) is still handsomer than the other", which hardly agrees with the importation here, as during the last few months everyone who takes an interest in these minor gems of creation must have observed this silent wanderer, and looked on it with some degree of pleasure as it settled on a plant or flower, expanding its deeply fluted wings to what sunshine it might chance to obtain. I will speak of it but briefly here. Expanse - tip to tip of wings, upper ones, in a fine specimen, 4 ¼ inches; colour - a bright brick-dust red, veined with black, and bordered with the same round each of the four wings, picked out with white spots and dots; body - black, with white spots on side and underneath; underside of wings similarly coloured, but paler, especially lower pair, and with white dots more distinct."

Speaking of the caterpillar, the *Australasian* says: - "It is well known in America, and is so striking in appearance, that if it had been feeding in the past summer it could scarcely have escaped notice. It is about two inches long, striped and spotted in a very common way, but remarkable for two long appendages on the third segment of the body, and two more projecting up from the last segment. It will be interesting if any observer should from this notice recognise the larva next season, as it has not yet been recorded here", (Melbourne).

My observations of the caterpillar now with us cause me to differ in several small respects from the account above given; but first I must ask, if the caterpillar is "striped and spotted in a very common way," how could it be so striking "in appearance", unless from some other cause which is not mentioned. Our caterpillar in length has never exceeded one and half inches (but then it might not have been full grown). It is (from my notes) thickly clothed with short soft hairs, and striped laterally with three very narrow bands of black, yellow, and light bluish white, set close together and repeated several times to the end of the body. Just above the eyes are two short hair-like processes about a quarter-inch in length, black, like horsehair in appearance, but soft to the touch, and not retractile or in any way hurtful, and two shorter ones near the end of the body. These creatures were perfectly passive and inactive on the leaves of the plants, which they seem never to quit, and are always feeding in a line with the stems, so they are not

easily to be seen by the passer by, and so closely resemble the general appearance of the narrow leaves that it requires some looking for to discover all that are at rest on the plants. They make no resistance when removed from a branch, but roll themselves up if they happen to fall to the ground.

The chrysalises, discovered after the caterpillars were singularly short for the size of the butterfly, not being above three-quarters of an inch in length, very stout, and bulging more towards the end of the body than near the head, where the wings lie rolled up; colour, a bright green, with six or eight pure golden spots near the head, and a row of golden dots round lower part of abdomen, at end of which was a hard spine, one-fifth of an inch in length, pointed but harmless. I saw but two of these chrysalises perfect, one of which I have now, the rest being skins emptied of their tenant butterflies, and which were still attached to the leaves.

I first received the caterpillar on 17th May from my neighbour's paddock, where the *Gomphocarpus* was growing luxuriantly, and around it the butterflies were flying all day long in large numbers. A small branch of the plant was brought to me with five or six larvae on it, then about one-third grown. After this my notes record as follows:-

June 4 – Butterflies still about, and caterpillars about half grown; white frosts at night and in early mornings; caterpillars alive and healthy, though motionless as usual; no active butterflies been seen for some months.

June 28 – Up to present time caterpillars still alive; been several frosty days; they stand it all; some butterflies about in middle of day, and a few chrysalises found; caterpillars sluggish, never quit the leaves if can help it.

July 8 – Midwinter; caterpillars still alive, though nights often frosty, but no more chrysalises found; a few butterflies about when sun out; in confinement caterpillars do not change to chrysalises.

July 29 to Aug. 17 – A few butterflies still about each day; when will they cease or die off ?

Thus far my notes. As to the extent of range the butterflies now have, I may say that two gentlemen living at Blinman, 350 miles N. of Adelaide, told me since above that about 10th July last they were flying all over the country there in immense numbers. The singular lagging flights of the insect has been talked of, so different to the usually rapid motions of these insects especially in tropical countries, of which the poet, speaking of the tribe generally, says:- "Child of the sun, pursue thy rapturous flight".

Perhaps they may be excused their apparent inaction, as at this time of the year when they are abroad, the sun is frequently not seen.

As to the number of species of the butterflies of South Australia, a singular fact is that they do not reach half those of the British, their total number being but 35. Of these again nearly half are very rare, perhaps only

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WEBSITE ADDRESS: 'Butterflies of South Australia'
(produced by Roger Grund) <http://www.chariot.net.au/rgrund/index.htm>

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lectures on South Australian butterflies in schools and to other community groups, and in this regard our thanks are extended to Mike Moore who has taken over this role from Lindsay Hunt.

BCSA expresses its thanks to the Urrbrae Wetlands Resource Centre for providing its resources for our monthly meetings. I would also like to thank committee member Jan Forrest for her dedication to the group with secretarial and other help, and for producing the high standard of our newsletter, and thanks to Lois Hasenohr for taking over the book keeping of the group, and to Kevin Parken for auditing the books, and finally thanks to our other unmentioned committee members Jill Davey-Warren, Tim Gudgeon and David Keane for helping to keep BCSA in an active mode. Finally I would express thanks to those people who have contributed articles to the Newsletter throughout the year.

Roger Grund
Chairman
October 2003



**THANKS TO COMMITTEE
MEMBER BOB EDGE**

The committee would like to sincerely thank Bob Edge for his contribution to the Executive committee over the last two years and wish him well in his 'retirement' in the Riverland.

**BUTTERFLY CONSERVATION SA INC.—FINANCIAL STATEMENT
2002-2003 SUMMARY**

OPENING BALANCE			\$ 4979.12
INCOME	\$ 1848.34	EXPENSES	\$ 338.34
(membership fees, donations, Fundraising, interest, grant)		(printing, stationery, postage Bank and govt. fees, Friends of Parks insurance)	
Natural Heritage Grant	<u>3250.00</u>		
	\$ 5098.34		
BALANCE AT BANK as at 3 July, 2003			\$9739.12
Includes Grant monies yet to be spent.			\$5,713.00

PROPOSED WEBSITE

Many thanks to those members who returned their questionnaire on whether you would like to receive your newsletter electronically. The response was excellent and whilst not everyone has email or wishes to receive their newsletter electronically there were a number of members who prefer this option. Trevor Rowe is now working to develop our own BCSA website and in time, the newsletter will be incorporated into it. Members who wish to receive their newsletter via the post will continue to receive it this way and those who would like to receive it electronically will be advised via email when the next newsletter is on-line. You may change your option at any time. It is anticipated that the website will be available next year.

Thanks too for the varied comments from some members, your suggestions and input is important to us. For information to those who queried the cost of printing in colour we advise that the newsletter is not 'printed' in colour as such. The first page containing any colour photos and the heading is run through an inkjet printer it is then overprinted on the photocopier. As we only have a small membership this is not an expensive process (cost is only the ink), obviously, if we produced more newsletters this method would not be viable.

If anyone has skills in website design and would like to assist Trevor he may be contacted on 8296 1607

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occasional visitors. Even including the smaller ones, mostly the "blues" (*Polyommata*) for several years there were not found above 20 species; the rest came in scatteringly, one or two per annum, and till some years ago 35 might be counted, but no more till this American stranger made its appearance, and is now "one of us". Of the genus *Papilio* we have but one species, whereas in England there are two, which is remarkable when we compare so cool a climate as England with this; but the very heat of our summer weather, without sufficient moisture, may be one cause of the limited number of our Diurnal Lepidoptera.

Before Mr A. R. Wallace, the well known naturalist and traveller, had written his late admired work "The Geographical Distribution of Animals", I sent him the number 35 as that of our butterflies, and this fact will be found in his second volume. I regretted that I could not manage three dozen.

Of course as we go more northward from Sydney, Queensland, and upwards to Cape York, this tribe increases in number, size, and beauty of colouring, including (towards the tropics) even the giant *Ornithoptera*, or bird-butterflies.

Though it is true that our *Archippus* butterfly, or rather the caterpillar, is an importation from America, and feeds and thrives here, I cannot consider it any "mystery", as the *Australasian* of April, 1873, does, else it would be increased by its feeding on a plant from Africa, and that alone. We can only suppose that in its original habitats it feeds on some other plants as our *Gomphocarpus*. END

BUTTERFLIES IN THE MT. BOLD CATCHMENT RESERVE

Chairman Roger Grund has recently completed a survey of the Mt. Bold Catchment Reserve. Supported by the Nature Foundation, in total, of the 56 species known to have occurred within the region, only 26 were sighted within the reserve.

Six of these are considered to be very rare or threatened and conservation of these species will require the restoration of their habitats.

Look for further information on this project in the next newsletter.

TRANSPARENCIES AVAILABLE TO ILLUSTRATE TALKS

Thanks to a small grant from the Nature Foundation, BCSA in collaboration with the SAMuseum has been duplicating a number of stunning life history and habitat transparencies from the RHFisher and RGrund transparency collections. Committee member Mike Moore is working with Lindsay Hunt to fill gaps in the duplicate set of transparencies to ensure there is a wide coverage of South Australian butterfly life histories. About 50% of the South Australian butterflies are so far featured in this duplicate set. Thanks go to Bob Fisher, Roger Grund and Lindsay Hunt for their support in this project, their help is greatly appreciated.

Although incomplete, the duplicate set of transparencies is available to illustrate talks, from Jan Forrest, Senior Collection Manager, Entomology Section, South Australian Museum ph: 8207 7503, email: forrest.jan@saugov.sa.gov.au

BUTTERFLY CONSERVATION SA Inc.

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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 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 SITE (produced by Roger Grund)

'South Australian Butterflies' <http://www.chariot.net.au/~rgrund/index.htm>

WELCOME TO NEW MEMBERS:

JANET CUMMINGS

JOHN DODD

NATASHA ULLUCCI

CHRIS BLAKE

J.G. WILSON

CHRIS MAYFIELD

DAVID HARRISON

RAYMOND LOCKWOOD

JOHN ISON

CHRIS & SALLY DESLANDES

ALAN GRAHAM

RON HALL

