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SEGMENTS

Journal of the
SCIENTIFIC EXPEDITION GROUP

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SEG PHOTOPOINT 71B IN THE GAMMON
RANGES LOOKING SOUTH

EDITORIAL

Planning is well underway for Expedition Warraweena to be held during July. The team led by Chris Wright has again put many hours into planning and site visits to ensure that maximum benefit is gained by those attending. If you haven't booked yet do so immediately, it will be well worth it.

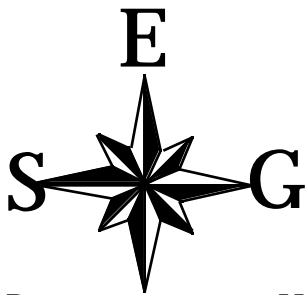
Members will recall that one of the main aims of the Scientific Expedition Group is the promotion and running of expeditions of a scientific, cultural and adventurous nature. particularly for the training of young people in the scientific method in the field.

The Committee is realising, however, that the time spent planning the annual major expeditions is not always reflected in good attendance by expeditioners. It may be time to rethink the system of major annual expeditions with the necessity of central catering and infrastructure. Certainly next year the expedition to Gluepot may be different because of the number of campsites which may be used and the lack of a suitable site for an adventure phase.

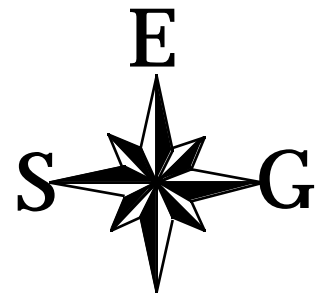
Later this year the Committee is intending to have a Planning Weekend in which the future direction of SEG will be discussed.

The Committee would be very pleased to have feedback from members as to what format they would like expeditions and the other activities of SEG to take.

Alun Thomas



"SEGMENTS" is the authorised journal of the
SCIENTIFIC EXPEDITION GROUP INC.
PO Box 501, Unley, SA 5061



Patron: His Excellency, the Honourable
Sir Eric Neal, AC, CVO.
Governor of South Australia

Position		Phone	Fax	email
President:	C. Warren Bonython AO	8431 1363	8431 1363	
Chairman:	Dr Richard Willing	8431 1620	Mob 018 807 517	
Vice-Chairman:	John Hayes	8204 2870		
Hon, Secretart	JohnLove	8379 1172		
Hon. Treasurer:	Graeme Oats	8278 3179	8278 55777	
Committee:	Phil Cole	8339 3201	83039555	Cole.phil@pi.sa.gov.au
	Duncan MacKenzie	8332 1204	8364 5527	dmackenzie@iname.com
	Christopher Wright	8278 8818	8363 0570	cjwright@dove.net.au
	Robert Major	8352 8949		
	Trent Porter	82789078		
	Janet Furler			
Editor	Sarah Hayes	8272 7342		haysan@camtech.net.au
	Alun Thomas	(w)8212 3133 (h)8296 9453	8231 1273	athomas@collison.com.au
		Address:	23 Rutland Ave Brighton S.A. 5048	

Ecological Projects Co-Ordinator Duncan MacKenzie

SAVING A UNIQUE BIRD HABITAT

BIRDS AUSTRALIA GLUEPOT RESERVE

Text and photographs by
Duncan MacKenzie

Gluepot Station was established as a pastoral lease over 100 years ago. It is located 64 km north of Waikerie and the Murray River. The property measures 40 x 13 km or 544 sq. km – 51,300 ha.

In 1997, the leaseholder looked set to get permission to burn parts of the property to increase grazing fodder – the area has always been marginal sheep country. On hearing this, and with the agreement of the owner, Birds Australia undertook a biological survey of the area.

The staggering results of this survey revealed that the property had excellent populations of no fewer than six globally threatened species of birds, and possibly a third of the known remaining 100 colonies of Black-eared Miner.

There are few areas in the world that support such a concentration of threatened species.

At this point Birds Australia became involved in negotiations to purchase the property, and what followed is unique in the annals of the establishment of Australia's Reserve System.

In just 10 weeks, 2,400 people and organisations pledged \$360,000 to purchase the property. The number of donors has now risen to 2,600.

Gluepot Reserve joins the Bookmark Biosphere Reserve (613,000 ha), an internationally significant area with direct

links to other large conservation reserves in NSW and Victoria.

Gluepot is part of the largest block of intact mallee left in Australia and so the viability of threatened bird populations and other flora and fauna is high. The last major fires on Gluepot were nearly half a century ago in December 1950. Importantly, some large tracts were not burnt at all during these widespread fires. A diversity of fire impacts, together with a diversity of understoreys within the mallee and other woodland communities gives rise to a wide variety of niches for birds and



RED WATTLE BIRD

other animals. Many of the trees within the mallee and Casuarina woodland are hundreds of years old with numerous hollows. Such old-growth habitat is essential for many species including threatened species.

The six nationally threatened species of bird on the Reserve are the Black-eared Miner, Mallee fowl, Red-lored Whistler, Regent Parrot, Scarlet-chested Parrot and Striated Grasswren. Several more species of mallee and woodland birds threatened in one or more states also live there eg. Major Mitchell Cockatoo, White-browed Treecreeper and Redthroat.

Over 160 species of birds have been

recorded on Gluepot Reserve since the property was purchased.

The Reserve forms part of the South Olary Plains and its vegetation associations. Much of it is mallee with either spinifex or heathy understorey. There are some gypsum basins which house a distinct and unusual flora.

The mallee on Gluepot seems more robust than on the neighbouring Bookmark Biosphere Reserve, and it has been suggested that the underlying gypsum may play a role in this. The mallee is "old-growth" vegetation that has not been burn for over 50 years. Mallee that has not been burnt for several decades is vital for breeding for both Black-eared Miners and Mallefowl.

Recent CSIRO studies have shown that the eastern third of the Reserve is one of an exceptionally small number of sites in eastern Australia located more than 10 km from any permanent water source.. The absence of water has played a vital role in negating the impact of domestic stock and feral herbivores (such as goats) on the vegetation. It may also have played a key role in allowing some of the threatened species to thrive there, because birds such as Scarlet-chested Parrots seem to have declined in pastoral lands where increased availability of water has favoured their competitors.

The Reserve is managed by a skilled volunteer Management Committee, and is manned on a continuous basis by volunteer Rangers. In the first 17 months to December 1998, donated volunteer time was 1601 person days and donated mileage was 69,815 km – in Natural Heritage Trust accepted values, this equates to a \$297,037 donation to the Reserve.

Since the purchase of the property in July 1997, the Reserve has been placed on the National Estate listing and is under Heritage Agreement with the State Government.

Capital improvements include an upgrading by 20,000 gallons of the fresh water system; grading of all tracks and removal of overhanging branches; all tracks and main features on the Reserve have been sign posted; the Reserve has been accurately mapped, including floristic mapping; weeds have been removed from around the dams and a feral control program instituted; four campsites have been developed and toilets installed; fire / accident / emergency and search and rescue policies have been implemented and the preparation of Management, Research & Monitoring and Business Plans is nearing completion.



SPINY-CHEEKED HONEYEATER

As well as providing a safe and exciting habitat for visitors to explore, the Reserve is being developed as a quality centre for scientific research. The Black-eared Miner Recovery Team effort is focussed on Gluepot with a PhD student and Project Officer on site; a PhD project is underway studying the influence of watering points on grazing herbivores and their impact on bird habitat (Melbourne University); an Honours project has commenced, using remote sensing to grade ecologically sensitive sites on Gluepot (Adelaide University); a PhD project on the ecology and breeding habits of the Black-eared Miner is nearing completion (La Trobe University).

The University of Adelaide – Geography Department – has installed over 30 permanent photo points and these will be monitored by students on a yearly basis, as part of their curriculum. The SA Bureau of

Meteorology has installed a climatological station on the Reserve which will provide valuable data for present and future research projects.

As part of the long-term biological monitoring strategy for Gluepot, ten 2km x 1km Mallefowl grids will be established to study the movements, abundance and recovery process of this nationally threatened species.

In the year 2000, SEG will be conducting a two week intensive science survey of the Reserve. This will involve a number of research disciplines and cover a large area of Gluepot.

In June, work will commence on construction of facilities for researchers, comprising kitchen, dining room and office. A computer system for research use will be installed and this will be loaded with the latest Microsoft, ESRI ArcView and S-Plus spatial analysis software. A new 240v solar power system will also be installed in June.

A new Telstra phone system is now in place at the Homestead and the Reserve has HF, VHF and UHF radio base station facilities, combined with vehicle installations for use in the field.

The long-term objective of the Reserve is "To effectively manage a large (51,300 hectares), internationally significant protected area for biodiversity conservation, as a community run addition to Australia's National Reserve System".

The short-term objectives are;

- to increase public awareness of effective measures to conserve biodiversity through on-site education programs and by involving volunteers in all aspects of the Reserve's programs;
- to improve the quality of native

vegetation and arrest threatening processes;

- to initiate and support high quality research on nationally threatened species such as the critically endangered Black-eared Miner;

- to contribute as a Partner to the Bookmark Biosphere Reserve program;

- to operate within established guidelines for areas listed on the Register of the National Estate (Australian Heritage Commission), under SA Heritage Agreements, and within the National Reserve System;

- to maintain and protect a large (c20,000 hectare) reference area with restricted access as part of a regionally integrated Bookmark Biosphere Reserve wilderness area;

- to implement high quality management, monitoring and business plans, and develop a successful demonstration program that will be a model for other community groups

with small operating budgets (eg. less than \$50,000 per year).

If one word best describes the success to-date of Gluepot Reserve, it is COMMITMENT. Without the total commitment of the Management Team, Volunteer Rangers and a large number of community groups and organisations, the considerable advancements that have been made, would have taken years.

It is the Management Teams goal to make Gluepot Reserve the "shining star" in Australia's Reserve system, and to achieve that end, we have the will and the motivation and the sense of urgency to make it happen.



REGENT PARROT

VEGETATION THROUGH THE EYE OF A CAMERA

ANNIE BOND

For those of you who don't know me, I'm Annie Bond the elusive character who studied the vegetation photopoints of SEG's GRASP project as part of my university degree. In this ramble I am going to share some observations about the plants in the Gammon Ranges, and also give you an update on directions for future monitoring.

From looking at the photographs (which have been taken for 10 years now) the most striking observation is that there really was very little change in the vegetation during this time. Of course,

this observation is not surprising as one would expect arid vegetation to grow and change very slowly. As an example of slow change; the 'bones' of a still standing, dead shrub are visible in the earliest pictures of a plateau

photopoint and are still in more or less the same position now.

Perhaps the most obvious change in the vegetation took place at site 71B which was burnt by a bushfire a few years before the project started. Although the vegetation was already well established when the first photograph was taken, significant growth of the scattered mallee Eucalypts can be observed through the photographic record. (see the pictures on the front page and with this article)

Another clear change in the vegetation occurred in the photopoint of dense *Melaleuca uncinata*. This change was the

development of a path from one end of the photopoint to the other. The probable cause of the path's formation is well meaning volunteers, myself included, who are cold or hot or tired and forgetful and take a short cut through the photopoint. On the monitoring trip in January this year, a makeshift fence was built to remind people and animals not to walk through the photopoint. I'm looking forward to observing how long it takes for the path to disappear again, but given that the rate of growth and change is slow I expect it could take another 10 years.



As part of my study I compared changes in cover and biomass of vegetation with the rainfall record from the pluviometers. After the exceptionally high rainfall in 1989 I observed increases in

vegetation biomass and cover at all the sites I studied. The mallee site on the plateau which normally has a large area of bare ground was covered in a thin layer of bright, green young plants after the large rains in 1989.

During my last trip (January 1999) Chris Wright, David West and I, between pools of sweat and drinking litres of water, came up with some ideas for rewriting the Leaders Manual to make monitoring trips easier and to improve the quality of the data collected. Work on these projects is stationary at present, while I am busy helping with Expedition Warraweena, but it should get going again soon.

ANNUAL GENERAL MEETING

FRIDAY 27 AUGUST 1999

IN THE TPI HALL, 318 SOUTH TCE, ADELAIDE

at 7.30pm

Business will include:

Reports by the Chairman and the Treasurer

Membership subscriptions

Election of 1999/2000 Committee

Any other business

Guest speaker: John Streich
"IN SEARCH OF THE 1891 ELDER EXPEDITION"

The Guest Speaker is a grandson of Victor Streich, geologist of the Elder Expedition, which explored the area of the Great Victoria Desert in 1891. John followed in the footsteps of his grandfather 99 years later.

Supper

Nominations are called for the 1999/2000 Committee.

The present Committee consists of: President Warren Bonython, Chairman Dr Richard Willing, Vice Chairman Mr John Hayes, Secretary Mr John Love, Treasurer Mr Graham Oats, Committee members Alun Thomas, Phil Cole, Chris Wright, Bob Major, Trent Porter, Duncan McKenzie, Janet Furler and Sarah Hayes .

All present members will retire and are eligible and willing to be re-elected.

Nominations must be signed by the proposer and the nominee and sent to the Secretary, PO Box 501, Unley, 5061, by 26 July 1999.

John Love
Secretary

SEG ONGOING PROGRAMME

The Scientific Expedition Group (SEG) welcomes enquiries from all members and friends who are interested in participating in one or more of our projects or expeditions. Please contact the leader or convener of the project or expedition that interests you for more information.

We welcome enquiries from anyone from 16 - 60 years (or more) who would like to participate in our scientific, environmental and educational projects.

CURRENT RECURRING PROJECTS

Gammon Ranges Scientific Project (GRaSP) is now in its eleventh year. The project involves a four or five day trip to the Gammon Ranges about four or five times a year. A data collection project involving flora and fauna and rainfall gauging which also involves bush camping and trekking. Contact Chris Wright 8278 8818

CURRENT EXPEDITIONS AND ACTIVITIES

3rd to 17th JULY 1999 EXPEDITION WARRAWEENA - east of Beltana in the Northern Flinders Ranges. SEG will be assisting the new owners in the environmental management of this region. Enquiries from potential expeditioners are welcome. Contact Chris Wright 8278 8818

GAMMON RANGES SCIENTIFIC PROJECT

For any of these contact Chris Wright 8278 8818

10th to 14th July 1999 Winter monitoring trip. This will be a crossover trip through Mainwater Pound.

2nd to 5th October 1999 Hydrographic and scientific trip. Leader - Graham Blair

FUTURE EXPEDITIONS

Y2K - GLUEPOT STATION - this property recently acquired by Birds Australia will be the venue for our year 2000 expedition. It is situated north of Wakerie and adjacent to the Bookmark Biosphere Region.

An extensive programme involving geology, botany and zoology as well of lots of adventure and fun is being planned.

Dates will be confirmed later.

Enquiries from potential leaders and expeditioners are welcome.

Please contact Duncan MacKenzie (h) 8332 1204 (fax) 8364 5527

email dmackenzie@iname.com

EXPEDITION WARRAWEENA 1999

by Wendy Telfer

Over the April long weekend several of us went on a Planning trip for Expedition Warraweena 1999. The party was Chris Wright, Annie Bond, John Love, Phil and Cathy Cole, Graham Medlin, Peter Horne and Wendy Telfer.

On the expedition in July we are planning to have two mammal & reptile groups, two vegetation groups, one bird & invertebrate group and an archeology group. John Love and Sarah Hayes have planned the archeology sites on previous trips, so on this trip we focussed on the vertebrate and vegetation project planning.

The first day we drove along the track to Dunbar Well and around the loop track past Yellow and Cockatoo Wells looking for sites for the vertebrate pitfall trapping. A site needs to be large enough to encompass two 50m pitfall lines separated by at least 200m in one habitat type. On Warraweena areas of habitat this size were not easy to find! The vegetation changes quickly to different habitat types probably as a result of the variable geology and hilly nature of the property. It was easy to find large areas of native pine (*Callitris glaucophylla*) and lemon-scented grass (*Cymbopogon ambiguus*), but more difficult to find anything else.

Anyway, we drove slowly around the property jumping out at regular occasions to check possible areas and look for gilgai soils (the cracking soils where lizards and small mammals like to hang out). It took a long time to get anywhere because of the continual gullies along the roads. Also you stop and eight people interested in natural history get out of the car it takes a long time to get them back in the car -ie they have to look at e.v.e.r.y.t.h.i.n.g. This of course meant we learnt a lot from the collective knowledge of the group and only occasionally was the learning side of my brain outcompeted by the "I'd really just like to sit under that tree" side of my brain.

We also looked for the Pastoral Management Photopoints to increase the ease of finding them on the expedition in July. The road out to Yellow Well provided for a few white knuckles - I'm not sure how it looked from the front seat but it was pretty scary at times from the back! Luckily the expert driving of Graham Medlin and Phil Cole got us through the hairy bits.

The birds were strangely absent on the property. Graham Willis suggested this may be due to many of them travelling south at this time of year to feed on the crops. Hopefully there will be more there for the bird group to observe in July. In our travels some of the animals we saw were: red and grey kangaroos, euros, emus, a few stray sheep, a few stray cattle, one rabbit, lots of goats, a red barred dragon, a yellow-faced whip snake and several golden orb spiders.

We also heard a couple of bats back at base camp (although we did not have much luck getting the Anabat to pick them up). Graham Medlin was surprised by the lack of wolf spiders - perhaps a scary indication of the degraded state of the property. In the evening we sat around jive talking and ate Mrs Wright's fabulous apple pie.

The next day we checked out potential campsites for the expedition and talked to Graham Willis about where water is available on the property. The Phil Cole-mobile went off to Black Range Springs and down to Old Warraweena. On Monday they left early to have a look at Nuccaleena mine. What they thought should be

an interesting quiet look around the mine ended up with their party being stuck behind ten four wheel drives for 40 minutes travelling at about 2 km per hour. Needless to say there were a few too many people there to get a full appreciation of the mine.

The Graham Medlin car load continued over the next couple of days to look for pitfall traps and put in markers when sites were eventually chosen. Between choosing sites we did find time for a hike up Mount Stuart. It was a really nice walk with a great view from the top. We did not see any signs of Yellow-footed rock wallabies, although some of the terrain appeared ideal for them.

Perhaps we will see signs of them when we hike over more of the remote parts of the property in the adventure phase of the expedition in July.

So the planning for Expedition Warraweena 1999 progresses with the bounding enthusiasm and expertise of the leadership team. There is still more places for expeditioners keen to explore this spectacular part of Australia and to help in this important scientific research.....so put your forms in now!

PROGRAMMES OF OTHER SOCIETIES

ROYAL GEOGRAPHICAL SOCIETY OF SOUTH AUSTRALIA INC

All meetings are held in the State Library Lecture Theatre, Institute Building, corner North Terrace & Kintore Avenue, Adelaide, beginning at 5.30 pm

Thursday 17 June
5. 30 pm At the cutting edge - geographical research in progress

Thursday 15 July
5.30 pm The sinking of the SS Clan Ranald - a notable South Australian shipwreck
Terry Arnott

Thursday 19 August
7.30 pm Brock Lecture - South Australia's Horseshoe Lake myth - who really exposed it? Philip Gee

Thursday 16 September
5.30 pm Rangelands pastoralism & the environment - towards a sustainable future Greg Campbell

Thursday 21 October
7.30 pm Oceanographic research - the work of the National Tidal Facility

Thursday 18 November
6 pm The Mawson Lakes venture - a site visit

FIELD NATURALISTS SOCIETY OF SOUTH AUSTRALIA

The meetings are held in the Seminar Room of the Royal Society, Plane Tree Courtyard, off Kintore Avenue, Adelaide at 7.45 pm on the second Wednesday of each month.

July 14th Marino Conservation Park; speaker Barbara Randell.

WHICH BANK

Imagine there is a bank that credits your account every morning with \$86,400. It carries over no balance from day to day. Every evening it deletes whatever part of the balance you fail to use during the day.

What would you do? Draw out every cent of course!!!

Each of us has such a bank. Its name is TIME. Every morning, it credits you with 86,400 seconds. Every night it writes off, as lost, whatever of this you have failed to invest to good purpose. It carries over no balance. It allows no overdraft. Each day it opens a new account for you. Each night it burns the remains of the day. If you fail to use the days deposits, the loss is yours.

There is no going back. There is no drawing against the "tomorrow". You must live in the present on today's deposits. Invest it so as to get from it the utmost in health, happiness and success! The clock is running. Make the most of today.

To realise the value of one year, ask a student who has failed a grade. To realise the value of one month, ask a mother who gave birth to a premature baby. To realise the value of one week, ask the editor of a weekly newspaper. To realise the value of one hour, ask the lovers who are waiting to meet. To realise the value of one minute, ask a person who missed the train. To realise the value of one millisecond ask the person who won the silver medal in the Olympics.

Treasure every moment that you have! And treasure it more because you shared it with someone special, special enough to spend your time.

And remember that time waits for no one. Yesterday is history. Tomorrow is a mystery. Today is a gift. That's why it's called the present!!

KIDS CORNER

This time we are looking for names of minerals. Do you know where they all are?

The words listed are arranged in every direction in the letter square below.

G	E	S	A	R	P	O	S	Y	R	H	C	Q
O	O	L	I	V	I	N	E	A	M	B	E	R
L	S	N	F	C	A	L	C	I	T	E	C	O
D	B	A	R	I	T	E	W	B	Q	G	L	P
Y	M	U	D	N	U	R	O	C	N	A	A	A
F	E	L	D	S	P	A	R	M	O	R	Y	L
M	R	E	T	S	A	B	A	L	A	N	X	B
Q	A	F	L	U	O	R	I	T	E	E	H	A
B	E	R	Y	L	C	K	S	O	M	T	A	U
M	M	U	S	P	Y	G	G	G	T	X	L	X
F	I	Z	E	J	A	S	P	E	R	I	I	I
F	R	C	V	X	X	A	R	O	B	U	T	T
G	W	M	A	D	I	A	M	O	N	D	E	E

ALABASTER	DIAMOND
AMBER	FELDSPAR
BARITE	FLUORITE
BAUXITE	GARNET
BERYL	GOLD
BIOTITE	GYPSUM
BORAX	HALITE
CALCITE	JASPER
CHRYSOPRASE	MICA
CLAY	OLIVINE
CORUNDUM	OPAL

SCIENTIFIC EXPEDITION GROUP

The Scientific Expedition Group came into being at a public meeting on 21st August 1984. Membership is open to any persons, family or organisation interested in the following aims:

- The promotion and running of expeditions of a scientific, cultural and adventurous nature.
- The furthering of knowledge, understanding and appreciation of the natural environment.
- Promotion of the values and philosophy of wilderness.
- Enabling people to learn the skills required for planning and running expeditions, and to develop sound field techniques.

Members will receive regular information on S. E. G. activities and expeditions

APPLICATION FOR MEMBERSHIP AND MEMBERSHIP RENEWAL

Please tick where applicable.

- Working adult member ----- \$15.00
- Pensioner student or unemployed ----- \$10.00
- Family membership ----- \$20.00
- Organisation membership ----- \$20.00

Membership name.
(Family name) (Given names)

Address
(No / Street name)

.....
(Suburb / Town) (Post Code)

Telephone (H) (W)

Details of scientific, cultural, adventuring or other relevant skill or interests you may be prepared to share with the group:

.....
.....
.....
.....

Applications should be addressed to : The Hon. Secretary
Scientific Expedition Group Inc.
P.O. Box 501
Unley S.A. 5061