

SEGMENTS

Journal of the
Scientific Expedition Group



SEG 20TH Anniversary Weekend Celebration – August 2004

When plans were being made for SEG's 20th AGM, the suggestion was made to have a weekend away to celebrate the 20th year of SEG. The first expedition of SEG was to a spot on the Coorong close to Pelican Point, so I immediately thought of the family holiday shack about 15 km away from there, on the waters edge at Long Point. After consultation and a quick recce with Gwen & Richard Willing, the venue was confirmed and so on the Saturday morning after the AGM, the boat was hooked to the back of the Mitsubishi, the BBQ was loaded along with a few reds and off we went.

After a very pleasant trip through Wellington and Narrung, we arrived, opened up the shack, erected the BBQ, launched the boat and then started to worry whether the directions sheet was understandable to those trying to find the place. We needn't have worried as people started arriving and so did the weather, I had especially ordered a beautiful warm sunny day with only a gentle breeze - not bad for August!

We took advantage of the weather and walked up the old entrance road to have a look at the rehabilitation work that has been taking place on the Potters Scrub part of the National Park. It was very reassuring to see the regeneration of the vegetation on what was, not too many years ago, a considerable area of rabbit and wild sheep infested drifting sand. It is now mostly quite dense mallee shrubland with many birds and only the tracks of native animals evident.

On the way back to the shack we collected several armfuls of deadfall and after a BBQ tea sat around a small fire on the beach, listening to the lapping of waves on the shore, sampling a few nice wines and swapping highly improbable stories.

In the morning, after breakfast, the boat was brought close to the edge of the sand and a plank was rigged so that boarders wouldn't have to get their feet wet - what service!!! The heavy breakfast did slow our trip across to the Younghusband Peninsula, but we all made it in only two loads and commenced the walk through the scrub and sandhills until the glorious vista of the Southern Ocean opened up before us. A sight that's hard to get sick of – totally deserted sand and surf disappearing into infinity in all directions with a thunderous roar from the sea for accompaniment. *(Continued page 2)*

SEG 2005 Calendar

- January**
- January 26-29 GRaSP Trip
- February**
- February 28 March SEGments articles due
- March**
- Mid March SEGments Vol. 20 No. 4
- March 24-28 Barker Ranges Boundary Survey
- April**
- April 21 to 25 Minnowarra Survey
- April 21 to 25 GRaSP Trip
- May**
- May 30 June SEGments articles due
- June**
- Mid June SEGments Vol. 21 No. 1
- July**
- July holidays GRaSP Cross-over Trip
- August**
- Late August SEG AGM
- August 29 SEGments articles due
- September/ October**
- Mid September SEGments Vol. 21 No. 2
- School holidays GRaSP trip
- Minnowarra Survey
- November**
- November 28 SEGments articles due
- December**
- Mid December SEGments Vol. 21 No. 3

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**SEG 20TH Anniversary Weekend
Celebration cont. from pg. 1**

Reluctantly we made our way back to the shack, had a quick lunch, retrieved the boat with some unfortunate bogging in the sand and went our separate ways back to town. Thanks to all who came along and made it a great weekend and a good celebration of 20 years.

Written by Trent Porter

**GRaSP Spring Data Recovery Trip
October 20 to 25, 2004**

Leaders: Chris Wright
Graham Blair

Expeditioners: John Love
Ray Hichman
Mick Gogler
Richard Austin
Mika Peace

Transport: John Love's Toyota Prado
Chris Wright's Subaru

**Expedition description:
Wednesday 20th October**

The expedition group of seven set off from Adelaide early Wednesday morning. The first leg of the trip involved a drive to Clare, then via Hawker to Copley to stop at the Copley Bakery, famous for its gourmet savoury pies and extra famous quandong dessert pies.

After lunch, it was on to Leigh Creek for Chris and Co. to meet the town manager in order to negotiate funds for the local pluviometers, while Graham, Richard and myself headed to Aroona Dam to perform maintenance and download the Aroona Dam pluviometer and to also record the dam water level. Aroona Dam is the main water supply for Leigh Creek township and its considerable size is indicative of the quantity of runoff down the Gammon creeks during rain events.

Moolooloo station was the next stop, where we performed maintenance on the North Moolooloo and Pfitzners Well pluviometers. That night we stayed in the Moolooloo shearers quarters, with the luxuries of an oven, power and beds for all, with the added fame of knowing we were sleeping at the location of Jigalong Station in the movie Rabbit Proof Fence.

Thursday 21st October

We made an early start to Maynards Well pluviometer, then to Maynard Homestead where we met the Nichols family; Gina and her three children, along with the dogs, chickens, ducks, goats and horses and latest addition, a four day old foal. After a rest under the veranda munching cool sweet watermelon, it was on to Mocatoona pluviometer. A bit further along we came to the tree spring, where fresh water seeps from the roots of an ancient river redgum. With sunset approaching we headed into the Gammon Ranges, delivering oranges to Angapina Station along the way.

Friday 22nd October

We set off up Arcoona Creek to the Vandenberg campsite, once Chris and Ray had returned from the morning Wallaby watch. Richard, Mick and myself, led by Graham headed up the creek, then divested ourselves of all possible extra weight while we detoured to Arcoona South pluviometer. A full storage of clear rainwater at the gauge was not wasted, we drank our fill and then poured measures of cool water over each other as we recorded the data. The effects of our cool shower wore off quickly as we headed back up to the main Arcoona Creek to collect the packs, then pressed on to Wild Ass Creek waterhole, where we collapsed in the shade and watched Chris, John and Ray perform biological sampling on the water, a resident frog made his recoding debut on a Frog Census tape.

We loaded up for the last stretch of the hike to Vandenberg campsite, where upon arrival, Richard and I collapsed in a heap after throwing our packs down in relief. The others somehow had energy reserves to head up to Granfield Waterhole, where they collected drinking supplies and bathed in the clear water. After a much needed dinner, Ray, Chris and I headed to Granfield Waterhole to record the resident frogs.

Saturday 23rd October

On Saturday morning Chris and Graham were up early to check the Sambot pluviometer, just upstream of the campsite, then back at camp roused the rest of the troops, who had been resting up before the climb up North Tusk Hill to the Plateau. On the way we passed Granfield Waterhole where we caught a frog who seemed much too small to have been the rowdy croaker recorded the night before.

The trek up North Tusk Hill became more of climb and less of a walk the closer we got to the summit, but the reward of spectacular views of the northern Flinders in all directions a cooling breeze were well worth the effort. Expeditioners lay under whatever bushes produced a little shade and replenished energy supplies with scroggin as Richard filled in our names in the summit guest book. Chris and John related the story of the five-course millennium party on top of North Tusk and Mick and I shook our heads in wonder at anyone carrying all that food, wine and dry ice up the slope.

From North Tusk, Ray led the party across the saddle to the Plateau through scrub and bushes, receiving a collection of scratches along the way. At the pluviometer we shared an early lunch with then flies and ants before the group split, with Chris, Richard, Ray and John heading off to the photo points, then back down via North Tusk Hill, while Graham, Mick and I downloaded and calibrated the pluviometer, drinking our fill and replenishing water bottles as we measured the volume of rainfall received in the last three months.

We headed back to camp down the western tributary creek, where we disturbed a pair of mating goannas, and as the female escaped the male un-voluntarily posed for photos.

Sunday 24th October

We headed upstream to Upper Sambot Waterhole for a leisurely breakfast followed by photo points and biological sampling. Two different species of frog were caught, photographed, then released.

Back at Vandenberg camp we loaded packs up for the trek back down the creek. Fortunately the packs were lighter as we had consumed as much spare food as possible the night before.

We arrived back at base camp around 3pm after stopping to view the quandongs in full fruit along the way near the enclosure cages, constructed to study the effects of introduced animals on native vegetation.

After a recovery spell at base camp, Graham and Ray headed to the Enclosure pluviometer, while Chris, Mick and I went to do the evening Wallaby watch. The Wallaby watch route took us up Wallaby Creek and over Acroona Saddle, where Mick and I admired the view as Chris did maintenance

on the Acroona Saddle pluviometer. On the way up no Yellow Footed Rock Wallabies were seen, but a Euro was spotted. Chris assured us we had a good chance of seeing wallabies on the way down Evasive Creek, and as we scrambled down the creek two obligingly showed their pretty faces close to the bottom just before dark. We made it back to camp under moonlight.

Monday 25th October

Chris, Mick and Graham set out early to complete maintenance on the Enclosure pluviometer, while John loaded up his trusty four wheel drive for the trip home. After the final gate opening and closing drive out of the Gammons, we arrived at the Copley Bakery for a morning tea feast.

After the visit to the Bakery, Graham and Co. headed off on a search for Mick's lost mobile phone, while Chris and Co. visited the local water processing plant to promote interest in the project. Next stop was at Hawker for more junk food, then a junk food top-up at Orroroo for those who still had room. The expeditioners made it back to Adelaide by 8pm.

Report adapted from information written by Mika Peace

For regular updates on rainfall in the Gammon Ranges and Flinders Ranges check out http://www.bom.gov.au/cgi-bin/wrap_fwo.pl?IDS60163.html

Autumn & Winter GRaSP trips

April 21 to 25, 2004

This trip will involve changing rainfall data loggers, searching for Yellow Footed Rock Wallabies and other botanical and biological survey work.

July School Holidays

This GRaSP trip will involve a cross-over walk across the Gammon Ranges, as well as the normal Scientific work.

Contact:
Chris Wright (phone 08 8278 8818)

Easter Weekend - Barker Ranges Boundary Survey

March 24 to 28

Contact Chris Wright (phone 08 8278 8818) if you are interested.
Hurry Places are limited!

**Waterhouse Club and SA Museum
Survey of the Merdayerrah
Sandpatch, Nullarbor Plain,
October, 2004.**

By SEG Member Graham Medlin

In October 21-31, 2004, 31 expeditioners, 7 Scientists, 3 caterers and an Aboriginal consultant made their way to the Merdayerrah Sandpatch. Our campsite was off the old Eyre Highway, 2 km from 16 Mile Tank, and about 10 km from Border Village. One of the aims of this trip was to re-open pitfall lines at Sites 1-3, last used in 1984 and to install additional lines in areas closer to the coast that have not previously been trapped. In addition, signs of Aboriginal history in the area were to be documented.



Nullarbor Cliffs with Merdayerrah Sandpatch in the background

The SA Museum staff included the Curator of Mammals (Cath Kemper), Curator of Reptiles (Mark Hutchinson), Collection Managers for Insects (Jan Forrest), Spiders (David Hirst) and Anthropology (Phillip Manning), a bird and plant expert, Graham Carpenter and myself (Graham Medlin, Subfossil expert *ed.*). We were accompanied by Clem Lawrie, an Aboriginal guide and consultant.



An Aboriginal flint corestone.

With the help of expeditioners, my role was to look for bones in Aboriginal middens in sand dune blowout areas, and old owl roosts

in coastal caves. Time was also spent looking at Allens Cave where two archaeological excavations have been carried out, one in 1969 and the most recent in 1989.



Amberat in Allens Cave

Cath Kemper and Graham Carpenter had previously collected owl pellets from this cave in 1995 but they contained only House Mouse and a single Lesser Long-eared Bat. Graham Carpenter made a further collection from a ledge in a cave in the coastal cliffs in the eastern section of the sandpatch in May 1996. This material was more exciting and included the remains of the Black-footed Rock Wallaby and a single left lower jaw of a young Tasmanian Devil, both too large to have been eaten by owls.

I was keen to look in Allens Cave for evidence of other species that might have been eaten by owls in the past and collections were made there by different groups of expeditioners, over three days. Our attempts to locate bones from Aboriginal midden sites in sand dune blowout areas on the sandpatch proved fruitless, so this line of investigation was abandoned and more time was spent looking for bones in coastal caves.

By the end of the survey we had collect bones from eight caves in the coastal cliffs in the western and eastern regions of the sandpatch over a distance of 2.4 km, together with material from the surface of Allens Cave. Additional opportunistic collections were also made from permanent pitfalls, originally set up for a survey in 1984, which had become accidentally uncapped, allowing small animals to fall in. (These pitfalls at Sites 4 and 5 were not being re-opened in the present investigation). The spectacular Warbla Cave was also visited by expeditioners, but the sheer cliffs of the sinkhole made access impossible.



Warbla Cave, Nullarbor Plain

Remains from Coastal Caves

A preliminary analysis of the eight coastal caves yielded 8 species of native rodent (some now extinct), 5 species of small carnivorous marsupial (including 3 species of dunnart, the Southern Dibbler and the Red-tailed Phascogale), one bandicoot (Western Barred Bandicoot), the Brush-tailed Bettong and the rare Banded Hare-wallaby. In addition, traces (droppings, tracks and/or bones) of introduced species such as Cat, House Mouse, Rabbit, Goat, Fox and Dingo were also found. One coastal cave contained what appeared to be wallaby droppings of a size similar to that produced by the Black-footed Rock-wallaby.

Remains from Allens Cave

The surface owl roost material from Allens Cave contained 8 species of native rodent (most now extinct in the area), 7 species of small carnivorous marsupial (including 4 species of dunnart, the Mulgara, the Western Quoll and the Red-tailed Phascogale), two bandicoots (Western Barred Bandicoot and the Bilby), and the Brush-tailed Bettong. A fragment of a Common Brushtail Possum skull was positive evidence for their presence at some time in the past. The significant number of jaws from the Western Barred Bandicoot suggests that this was once a very common animal in this region. (It is now extinct on the Australian mainland.) Rabbit skull material and six skulls from the Lesser Long-eared Bat were also collected from the floor of the cave. The bat skulls were all in one area among rockfall on the floor and were probably not the prey of owls, but natural deaths in a regular bat roosting area.

Large numbers of cached and partly eaten quandong stones were found in one section of Allens Cave, suggesting that a stick-nest rat nest had once been nearby. When we searched for it, amberat from the old nest was located under a rocky overhang, but the

original sticks from the nest were no longer present.

Goat droppings were found in large numbers in an overhang in a large shallow sinkhole adjacent to Allens Cave. This overhang also contained the remains of the most complete Stick-nest Rat nest seen on the survey.

Remains from Pitfall Sites

Skeletal remains of a range of small mammals and reptiles, together with a spiders, centipedes, beetles and other insects were collected from permanent pitfalls at Sites 4A, 4B, 4C, 5A and 5B which had been accidentally opened (kangaroos jumping on them etc.) some time after the 1984 survey. Mammal remains included Western Pygmy Possum, House Mouse, at least two species of dunnart (the Fat-tailed Dunnart and the Little-long-tailed Dunnart) and baby Rabbit. Reptiles remains included Western Bluetongue, a Sleepy Lizard, and the Nullarbor Dragon. A large gecko (*Nephurus* sp.), smaller geckos, smaller skinks and several other dragon lizards were also present. A large snake, (probably a King Brown Snake), was seen at Site 5A investigating the pitfalls which we had recently filled in to prevent any more accidental deaths. In the past it had obviously found the open pitfalls rich pickings for the small mammals and lizards which were unable to escape.

Other Interesting Finds

In addition to the large number of Aboriginal flint flakes and cores in the sand dune blowout areas on the Merday-errah Sandpatch, other interesting finds included: a 2.1 cm tektite, a large piece of pumice, fossilised root casts and fossil pupal cases of at least one species of weevil.

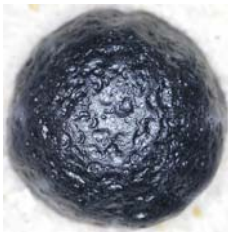
There are number of possible sources for the pumice which was found just behind the first row of sandhills. In the past, pumice was used to clean and roughen the decks on sailing ships, and pieces were sometimes washed overboard during storms. During the early 1970's I collected a piece of pumice from the beach at Hallett Cove which had one side worn flat, suggesting that it had probably come from a sailing ship many years ago. The Merdayerrah Sandpatch pumice, however, had no wear marks, so its most likely origin is a volcanic eruption south of Australia or in the Indian Ocean some time in the distant past. It may even have been

produced during the eruption of volcanoes in the Mount Gambier area less than 10 000 years ago.



Pumice from Merdayerrah Sandpatch

There are a number of theories for the origin of tektites, the most widely accepted being that they are the result of a terrestrial impact caused by a comet or asteroid. Material was thrown up from the surface of the earth and ejected out into space. These ejecta melted on re-entry and fell to the earth as the objects that we call tektites.



Tektite (top view)



Tektite (side view)

Tektites are found in a wide arc from Vietnam to the Philippines across Indonesia into Australia as far south as Victoria. The supposed impact crater would have to be somewhere in SE Asia, but to date no such area has been found. (Perhaps it is now underneath the ocean!) Australasian tektites have been aged at about 770 000 years. The tektite found on an old stranded beach at the Merdayerrah Sandpatch, between the cliffs and the sea, had been exposed by dune blowout and was also accompanied by large numbers of Aboriginal flint chips and cores. Whether the tektite was lying in its original impact area or was carried to its final resting

place by an Aboriginal hand we will probably never know.



Area where the tektite, pumice and Aboriginal stone tools were found on the Merdayerrah Sandpatch.

The fossilised root casts are common in the area, and probably belong to ancient *Melaleucas* which grew along the coastal margins of Eyre Peninsula and the Nullarbor Plain. The two fossil pupal cases collected (32.0-34.0 mm long) belong to a beetle (a weevil), *Leptopius duponti*. They are hollow and have been preserved by limestone cement to form a cast. They still contain the exit holes where the adult beetle emerged. The beetle and its larvae fed on the roots of the *Melaleucas* and then pupated underground. Another much larger, (56.0 mm), fossilised pupal case may belong to a moth or a larger species of weevil.



Fossilised weevil pupal cases

Waterhouse Club

The Waterhouse Club is an association of the South Australian Museum. For more information on the Waterhouse Club visit www.waterhouseclub.org.au Or contact the SA Museum North Terrace Adelaide SA 5000 Phone 08 8203 9802 Fax 08 8203 9838

MINNAWARRA BIODIVERSITY PROJECT
Spring survey 30th September – October
4th 2004

Personnel:

Scientific: Loraine Jansen, Christina Pahl, Claire Gifford, Frances Taylor, Richard Willing. Many private volunteers as well as Hindmarsh Island Greencorps Group, Leader Greg Lundstrom, and members of Wildlife and Habitat Support Group

Total 33 volunteers donated 594 hours of their time.

Weather: Calm, sunny, warm to mild spring days, cool evenings.

Mammal trapping:

The most prolific catch sites were nos 1 (swamp), 3 (side of gully), and 8 (swamp). Site 9 (hill), previously prolific, was quiet this time.

A total of 74 new native mammals were trapped, and 28 recaptured.

Species as follows:

Bush rat (*Rattus fuscipes*) 39 new, 12 recaptured; Swamp rat (*R. lutreolus*) 22 new, 8 recap; Marsupial mouse (*Antechinus fuscipes*) 12 new, 8 recap. (most were lactating females with multiple young in pouch). 1 echidna (*Tachyglossus aculeatus*) in pit – a misguided animal! Black rat (*R. rattus*) 4, domestic mouse (*Mus musculus*) 3 (not often caught except during minor plagues).

Bats:

Lesser Long-eared bat (*Nyctophilus geoffroyi*) 3

Frogs:

Brown froglet (*Crinia signifera*) 14
 Brown Tree Frog (*Litoria ewingii*) 1

Skinks:

Garden skink (*Lamphrolis guichenotii*) 19
 Southern Grass skink (*Pseudomoia entrecasteauxii*) 3
 Mallee Snake-eye skink (*Morethia obscura*) 1
 White's skink (*Egernia whitii*) 1

Birds:

List not available at time of going to print, but the usual approximately 30 species were sighted, with no unexpected findings.

Summary:

Another successful survey, conducted in perfect weather conditions, with plenty of mammals caught, and no surprises in other

aspects of the survey. This is the first time we have trapped an echidna, although they are commonly seen around the farm and scrub.

**Volunteers Needed -
 Minnowarra Biodiversity Project**
April 21 to 25, 2005
 Contact: Richard Willing
 Phone 08 8558 9453

Kids Corner

The hidden words are taken from the articles in this issue. The words are hidden in all directions. Can you find them all?

Word List

- | | |
|----------------|------------|
| Allens | Amberat |
| Archaeological | Bandicoot |
| Bat | Blowout |
| Bones | Border |
| Cave | Coastal |
| Corestone | Curator |
| Devil | Dibbler |
| Excavations | Eyre |
| Flint | Merdayerah |
| Mouse | Owls |
| Pitfalls | Pumice |
| Rock | Sandpatch |
| Tektite | Wallaby |
| Warbla | |

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



SCIENTIFIC EXPEDITION GROUP - Membership

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 receive regular information on SEG activities and expeditions

Patron: Her Excellency, the Honourable Marjorie Jackson-Nelson, AC, CVO, MBE, Governor of South Australia

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C. Warren Bonython AO

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Name

Address

Telephone (H) (W)

E-mail

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 :

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Scientific Expedition Group Inc.
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Unley S.A. 5061