



Eucryphia

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Robertson Environment Protection Society – to promote the protection and enhancement of the Robertson Environment

Next Meeting

REPS Annual General Meeting 14th November at 7:30pm at the Robertson Community Centre

Our usual Friday Meeting Talk will follow the Annual General Meeting. Our guest speakers will be David and Helen Tranter, who will speak on:

“Thursday Island – Then and Now”

Fifty years ago, Helen and David Tranter went to live in Thursday Island after graduating in biology at the University of Queensland. Last month they returned for a holiday to see how things have changed. They will share their impressions in a talk to the society at the Annual General Meeting with the help of slides.



Thursday Island Children.
Photograph by Ludo Kuipers.

Thursday Island is now the unofficial capital of the Torres Strait Islands, which extend from Cape York to the coast of New Guinea, home to Australians of Melanesian, Asian and European descent.

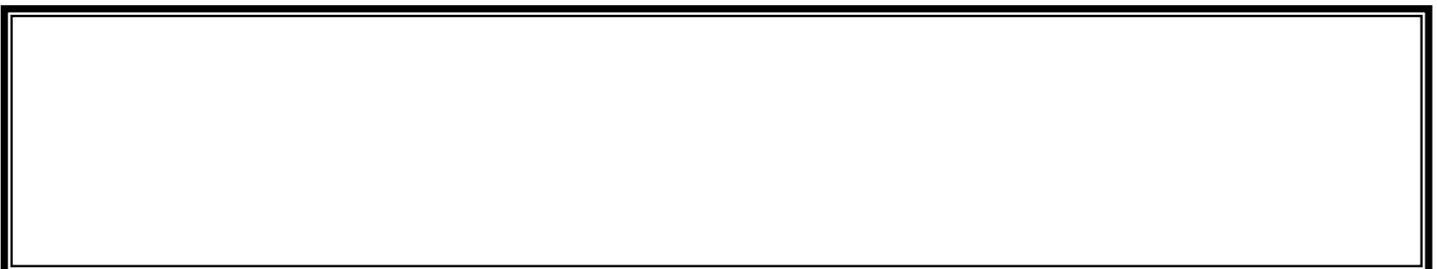
Through this shallow passage where the Pacific and Indian Oceans compete for dominance, where the tides and tidal streams defy the imagination, Torres, Cook and Bligh found their way back to Europe in the 17th, 18th and 19th centuries.

During the Australian gold rush days in the latter part of the 19th century, pearls were discovered in the giant pearl oyster endemic to north Australian waters, precipitating a “pearl rush” which continues to this day. After World War II,

Australia sent a delegation to Japan to study their pearl culture industry, encouraging CSIRO to set up a pearl shell research station on Thursday Island equipped with the “Gahleru”, a 45-foot research ketch manned by Aboriginal divers.

It was here that David worked from 1953 to 1956 and with the support of Helen, investigated pearl oyster reproduction, showing that pearls could be cultured in the empty gonads of *Pinctada maxima* (the “kina” of New Guinea currency) by inserting tissue grafts and nuclei where they were nourished by stem cells about to change from male to female.

All are welcome – please bring friends and family. A light supper will be provided.



Annual General Meeting

Friday 14th November

The REPS Committee encourages all members to attend the AGM, and to consider standing for a position on the committee.

Seconded nominations for the positions listed below can be sent to PO Box 45, Robertson 2577. Nominations will also be accepted from the floor on the night.

AGENDA

1. Minutes of the last AGM
2. Reports: President and Treasurer
(Treasurer report reproduced next page)
3. Positions declared vacant
4. Election of Committee Members
President
Vice President
Secretary
Three Committee Members

The following positions to be filled from other members or the above committee members:

Publicity Officer
Eucryphia Editor
Talks Convenor
Librarian
Supper Convenor

5. General Business
 6. Close AGM
-

Membership Renewals Due

REPS Memberships Renewals are now due. Please continue to support REPS by filling in the enclosed Membership Renewal forms and posting your Membership fees to:

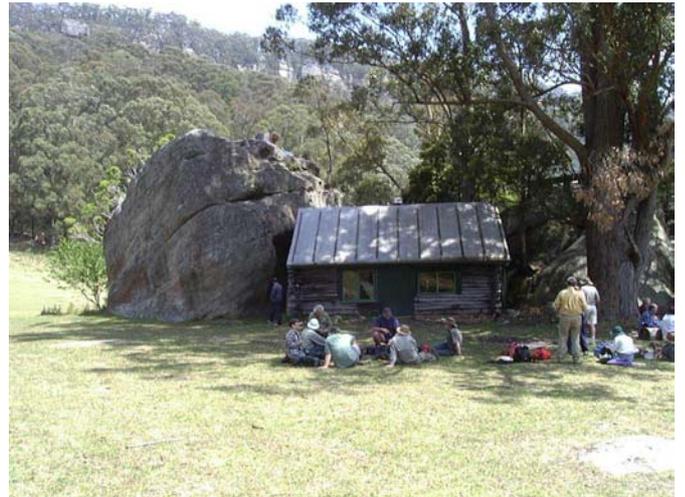
REPS
PO Box 45,
Robertson NSW 2577

Your ongoing support is much appreciated.

Escarpment Bushwalk

On Saturday 18th October some members of REPS participated in a bushwalk to help celebrate 50 years of the National Parks Association.

The walk was from the top of the Escarpment, (approx 5 Km south of Macquarie Pass) down Caloola Pass to the base of the cliffs. Lunch was taken at the Dingelda Hut (the family name of several founding members of the Caloola Club).



Dingelda Hut

Photograph by Denis Wilson

About 50 walkers in total attended, with 30 choosing the more arduous walk, while the others stayed up on top, taking a gentler stroll, and helping to prepare for the party.



National Parks Association 50th Party
Photograph by Denis Wilson

ROBERTSON ENVIRONMENT PROTECTION SOCIETY INC
FINANCIAL STATEMENTS FOR THE PERIOD ENDED 30 SEPTEMBER 2003

These statements have been prepared in accordance with section 26(6) of the Associations Incorporation Act 1984
and Rule 17 of the Association's Rules

BALANCE SHEET AS AT 30 SEPTEMBER 2003

		\$
Current Assets		
Balance per Bank Passbook	General Account	2,608.31
	Grants Account	3,677.20
Balance per Bank Statement at 30-9-03	Railway Account	0.00
		6,285.51
Current liabilities		
Unpresented cheque		4.90
Net Assets		6,280.61

STATEMENT OF INCOME AND EXPENDITURE FROM 01-10-02 TO 30-9-03

GENERAL ACCOUNT

INCOME	\$	EXPENDITURE	\$
Memberships	1,460.00	Dept of Fair Trading	39.00
Interest	2.69	PO Box Rental	52.00
Donations	375.00	Insurance	300.00
		Hall hire	66.00
		Audit fees	297.00
		Cash purchases -CDs	100.00
		Printing	321.33
		Postage	301.85
		Stationery	58.08
		Transaction charges	37.00
TOTAL INCOME	1,837.69	TOTAL EXPENDITURE	1572.26
		Excess Income to Expenditure	265.43

Bank Reconciliation at 30-9-03

Opening Balance per Cash Book	2,342.88	Balance per Bank Passbook	2,608.31
Plus Excess Income to Expend	265.43		
Closing Balance	2,608.31	Balance to cash book	2,608.31

GRANTS ACCOUNT

INCOME	\$	EXPENDITURE	\$
Interest	12.64	Australian Garden History	777.90
Return of Petty cash (Rlwy admin)	320.45	Kickstart Grant	62.35
		SCA Caalang Creek	2,750.00
TOTAL INCOME	333.09	TOTAL EXPENDITURE	3,590.25
		Excess Expenditure to Income	3,257.16

Bank Reconciliation at 30-9-03

Opening Balance per Cash Book	6,929.46	Balance per Bank Passbook	3,677.20
Less Excess Expend to Income	3,257.16	Less o/s cheque	4.90
Closing Balance	3,672.30	Balance to cash book	3,672.30

RAILWAY STATION ACCOUNT

INCOME	\$	EXPENDITURE	\$
Personal donations and fundraising	1,074.85	WSC Carving Grant	342.00
NAB Award	7,500.00	WSC Accessible Toilet Grant	5,421.68
Grants and Project Funding:		Project spending not linked to grant	6,222.63
WSC Carving Grant	1,000.00	History display	108.77
WSC Acc Toilet Grant	5,000.00	Station Maintenance/Admin	574.60
Interest	320.17	Insurance	505.01
		Transaction Charges	34.00
		Transfer to R. Heritage Rlwy Stn Inc	19,763.56
TOTAL INCOME	14,895.02	TOTAL EXPENDITURE	32,972.25
		Excess Expenditure to Income	18,077.23

Bank Reconciliation at 30-9-03

Opening Balance per Cash Book	18,077.23	Balance per Bank Statement	0.00
Less Excess Expend to Income	18,077.23		
Closing Balance	0.00	Balance to cash book	0.00

Anne Wilson. Hon. Treasurer

Life and Livelihood

An essay by David Tranter.

Part-2: Cooperation

The mutual tolerance or exchange of benefits between the elements of a system.

Just as two people become so close to each other that they are recognisable as a couple, so from time to time the connection between particular elements of a system become so close that they are recognisable as a symbiosis, a system within a system, a whole that is greater than the sum of its parts.

Throughout the breadth and depth of life, symbioses have emerged, not only between individuals of the same species, but also between species as different as trees and fungi or bacteria and human beings. Symbiosis is more than a way of life, it heralds the dawn of a new self, the emergence of a new level of complexity in the hierarchy of life, symbiosis is one of the main ingredients of the vitality that distinguishes the living from the non-living world.

All the plants and animals alive today are derived from a primordial, symbiotic predator, host to internal organelles of bacterial origin, some with the ability to synthesise organic matter by harvesting the energy of sunlight (*chloroplasts*) and others with the ability to metabolise ingested food (*mitochondria*) - all this within a unicellular unit barely one tenth of a millimetre in size, surrounded by a membrane permeable to the gases and nutrients that they need for their common livelihood. The direct descendants of this complex, primordial cell may be found today in marine and fresh waters everywhere, living proof that "small is beautiful".

Yet big also has its benefits, to eat, for example, rather than be eaten. Close relatives of this primordial cell secured their common future by staying together as cell cooperatives adapted to perform a variety of functions - for example those violet organisms one can see on Australian beaches early in the New Year such as *Physalia* the bluebottle and *Veella*, the sailor. When such solitary, self-sufficient cells stuck together for their joint benefit, first for a time then for good, they began an evolutionary journey that led to

unprecedented diversity, and complexity. In just such a way, our own cells are gathered into tissues, each with a particular function - for example red blood cells to aerate our body and skin to keep our insides in.

Close by Cape Tribulation, where Cook's "Endeavour" came to grief, is a jewel in the Great Barrier Reef, that enormous structure which astronauts describe as the most striking feature they can see from space. This tiny, coral cay, Low Island, was the chosen site for a Royal Society Expedition seventy years ago to discover, amongst other things, how the splendid diversity and abundance of living organisms that characterises coral reefs could coexist in seas with little nutrient resources. This question had exercised the mind of Darwin in his famous voyage on the *Beagle* across the Atlantic, Pacific and Indian Oceans, he knew for sure that coral reefs could be found only where the water was absolutely clear but why that should be so was a mystery.

Coral reefs are built by coral polyps, humble little relatives of *Physalia*, with the ability to form calcareous skeletons to support their sac-like body. The Royal Society scientists sensed that the answer to Darwin's question might lie in the fact that coral polyps take in paying guests, photosynthetic algae, which require light for their livelihood. These "zooxanthellae", act like chloroplasts, drawing on sunlight to synthesise organic matter in exchange for trace nutrients like phosphorus.



Coral polyps on the Great Barrier Reef



Close up photograph of normal red coral polyps

The tentacled polyp host grabs a bit of plankton now and then, breaks it down into inorganic phosphorus and delivers it to the chloroplast to synthesise carbohydrate, yielding oxygen as a by-product. When the sun goes down on a coral reef, oxygen levels on those parts of the reef that receive little aeration from the outside surf begin to slump and if the sun should fail to rise the next morning to reactivate the photosynthesis machine, the residents of the reef would surely suffocate.

The pollination system practised by flowering plants and their partners, the birds and bees and furry little mammals, is responsible for the production of the greater part of the food, which human beings consume today. Other symbiotic systems we rely on for survival include nutrient exchange between fungi and the roots of trees, cellulose breakdown in the guts of cattle, sheep and goats, and bacterial hindgut associations, which convert unwanted food into waste.

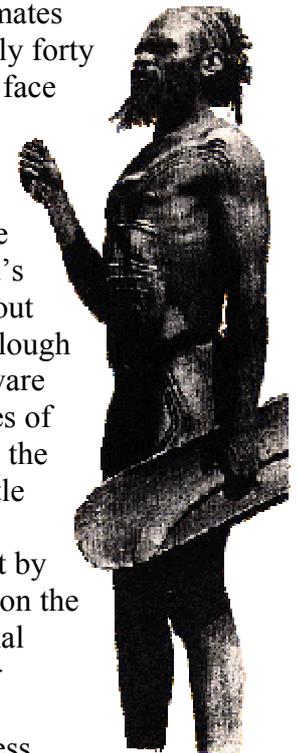
Cooperation is the foundation of society. Agriculture developed in Australia by way of farmer's cooperatives, many of them (for example the Dairy Farmers Cooperative), survive to this day. The largest flower market in the world at Aalsmeer in the Netherlands is a flower grower cooperative. Large businesses establish franchises with smaller businesses for their mutual benefit, workers provide businesses with their labour in return for wages, and producers deliver their goods to consumers for a price. Research specialists cooperate in interdisciplinary projects, research institutes form cooperative research centres to make better use of scarce resources. The states of

Australia cooperate with the Commonwealth, the nations of the world cooperate with the United Nations.

In each and every case, both partners in the symbiosis must benefit from the deal for the system to be viable, the more equal the benefit, the stronger the union. What is called "coral bleaching" is due to the eviction by the coral host of its symbiotic algae, which are no longer able to synthesise carbohydrates for their host. The United States pre-emptive strike against Iraq had the effect of weakening the United Nations of which it was a member. The livelihoods of symbiotic partners are better working as a team than "going it alone".

There are lessons here for international governance.

The great tragedy of Australian history is that colonisation was founded not on cooperation with the traditional owners of the land but on colonial nostalgia for the green fertile fields of Albion blessed with seasons and climates that behaved. A culture barely forty generations old came face to face with one that had lived in isolation from the rest of the world for two thousand generations. Devoid of all the cereals that sustain the world's burgeoning population, without beasts of burden that could plough the soil or haul a cart, and aware of the limitations and vagaries of Australian soils and weather, the Australian Aborigine saw little survival value in cultivating crops that could be wiped out by the next drought. Colonists, on the other hand, saw the Aboriginal way of life as primitive, their relationship with the land as tenuous, their culture worthless, their humanity dubious.



In hindsight, we now know that they were wrong.

By David Tranter

“Lane Cove Bushland - bushfire recovery, and a process of discovery.”

Report of talk by Ray and Alma Kearney to REPS on 10th October 2003.

Such a feast - for the eyes and intellect - there was for members of REPS at the October meeting. Stunning photographs, and challenging matters to ponder. The speaker, Professor Ray Kearney, started his talk with a very low-key introduction. What started out as an admirable endeavour by parents, Ray and Alma Kearney, to encourage their children to learn about nature, led to a process of scientific discovery. They offered to make a photographic record of the children's discovery of interesting plants and insects in the local bushland. Then, when the dramatic bushfires of 1994 devastated the local bushland, so the Kearneys decided to document the changes. This led to scientific discoveries and ultimately, to legislative protection for the Lane Cove River State Recreation Area.

Firstly the fire damage was photographed, and then the recovery, as it occurred, was recorded in a series of directly comparable photographs, which allowed the audience to assess re-growth over a period of time. We saw, after the fire, how the Eucalypts burst into frenzied growth. "Adventitious shoots" covered the trunks and branches. Over the next two years, this growth reverted to normal patterns of leaf and branch structures again.

Ray then showed us some other photos of the immediate post-fire period. The first flush of growth after the fire, within days, came from fungi, tiny bracket fungi appeared on burnt trunks of trees. Some of the first plants to shoot were the Grass Trees (*Xanthorrhoea*). These plants went on to flower heavily the next season. Many seedlings from the Banksias and Hakeas sprang up within weeks of the fire. These plants use thick woody seedpods to protect dormant seeds during the fire.

Meanwhile, where the forest canopy had been destroyed, grasses established themselves quickly. But this was not permanent. Quick-growing shrubs, such as Wattles and Banksias were also

growing amongst the grasses, and after two years, these shrubs dominated the under-storey of the forest.

Then, Ray showed us some wonderful photographs of various small orchids, which are pollinated by particular species of wasps, through a process known as pseudo-copulation. When this process was first reported, in the 1920s, the report was dismissed as being implausible. The orchids produce a pheromone, which mimics that of a female wasp, tricking the male insect into attempting copulation. When he performs the act, the plant deposits its "pollinia", (a sticky sack containing pollen grains) onto the insect, which then flies off to repeat the process with another flower, thus completing the pollination process for the plant.

The evening concluded with a series of slides of wonderful small fungi that had not been described until the Kearneys undertook their detailed study of this section of local bushland at Lane Cove. Significantly, the work of the Kearneys in finding, identifying and submitting the first scientific descriptions of these fungi has led to the Lane Cove River State Recreation Area being registered on the Register of the National Estate, and subsequently receiving protection under NSW State law, as a site of special scientific interest.

We had seen a great photographic record of an excellent piece of scientific study, which resulted in environmental protection for the unique community of plants, animals and fungi. Congratulations to Ray and Alma Kearney for a job well done.

Report by Denis Wilson



Living in Alice

A poem by Christine Godden

My relationship now
is with this landscape.
But I can't find the words,
can't get my tongue around it,
can't nail it to the paper,
'beautiful' is nowhere near enough.

How to write about the evening sky,
the way it grades from apricot through pink to
turquoise to lilac
then, effortlessly, to navy and on into black
and all in one moment?

Early evening, driving back from Glen Helen,
I saw a sky:
It blew my mind.
It knocked my socks off.
It bowled me over.
It moved me to tears.
But you can't write that in a poem.

That jumble of rocks, they way they sit,
each day it's different
depending on the light
one construct in the morning
another in the afternoon.

And the deep black of the burnt corkwood,
elegant structure of its twisting stance,
skeletal in the morning light but fissured in the
afternoon,
the grey-green of its long leaves seven colours in a
day,
while the pale froth of its blooms glow golden,
vanilla, fresh cream,
lemon yellow, bud-green, and sharp lime against
its own charcoal.

My dog backlit against the morning light,
just before it turns sharp and glary,
the air still crispy cold, mist from her mouth,
and my hands pocket-warmed.

*Christine Godden was a former resident of Robertson
and the previous editor of Eucryphia. Christine now
lives in Alice Springs.*

Weed Invasion

By David Dunstan

Volume 7(4) 2002 of the Royal Botanic Gardens
publication 'Cunninghamia' has a very interesting
article on the history of weeds in Australia. The
paper presented there shows just how the invasion
of weeds in Australia has progressed.

In between 1801 and 1804 Robert Brown collected
botanical specimens around Sydney and
Parramatta. He identified 29 of these specimens as
being of European origin and naturalised in the
area. Basically they were introduced weeds. Some
that you may recognise by common name are:

Large leafed plantain
Tobacco
Thorn apple
Cape Gooseberry
Stagger weed
Petty Spurge
Chick weed
Scarlet Pimpernel

It is also interesting that a lot of his specimens
were collected adjacent to rubbish dumps.

Work by other botanists has shown that there has
been an approximately linear increase in the
number of weeds in the Eastern States since that
time. It is estimated now that there are about 1564
weed species naturalised and that the rate of
increase is approximately 6 species per year.

These statistics are a bit depressing, but whether
the effect of the weeds is invasion to the point of
killing all else or just cosmetic we have to keep up
the battle to reduce them. I am sure that some of
the weeds even make themselves look like the
good plants adjacent to them just to avoid being
removed.

If you read the NPA Journal of October 2003, it
states that there are 2700 weeds affecting our
countryside. Perhaps that allows for the wide range
of Australian plants that have become weeds when
relocated around the country by our bad habits.



The Robertson Guild

1st and 2nd November

10am-4pm

**Fettlers Shed Gallery
Robertson Heritage Railway Station**

The creative and talented members of the Robertson Guild will be holding a selling exhibition in time for Christmas. Come along to see their work and purchase some unique Christmas presents.

On Sunday 2nd November the 3801 Steam Engine will be visiting Robertson Station.

**Wollongong W TAFE Printmakers
Saturday 29th and Sunday 30th November
10am-4pm**

**Fettlers Shed Gallery
Robertson Heritage Railway Station**

There will be an exhibition of the work of the students and staff of Wollongong W TAFE Printmakers.

**Robertson Primary School
Saturday 6th and Sunday 7th December
10am-4pm**

An exhibition put on with the participation of the children celebrating their best work during the school year.

December 12th REPS Meeting

The December 12th Meeting will be an informal social meeting for Christmas. The members at the meeting on Friday 14th November will decide exact details of this final meeting for 2003 however those planning to come, please bring a supper plate.

Welcome to New REPS Members

REPS welcomes the following new members:

Julie McDonald
Lyle McDonald
Roger McDonald
Mim Merrick
Monica Engel
Ken Baxter
Annabel Baxter
Neil Boughton
Beth Boughton

Rainforest Exhibition

Congratulations to Helen Tranter, Leon Hall, Denis Wilson and Janet Waterlow for organising the Rainforest Exhibition over the two weekends of Tulip Time. It was an informative and interesting exhibition.

Thank you to all those who helped man the Fettlers Shed on the open days.

Thank you also to Robertson CTC for lending the computers and to Ralf Wilson for technical assistance.

Eucryphia Contributions

We are always looking for new contributors to Eucryphia. If you have an essay, article, poem or photograph that you want to share with other REPS members please contact Lyndon Stanley.

Telephone: 4869 1650

Email: lyndon@hinet.net.au

All contributions will be most welcome.

Don't forget to come to the
REPS Annual General Meeting
on 14th November at 7:30pm
at the Robertson Community Centre
