



Eucryphia

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Robertson Environment Protection Society – to promote the protection and enhancement of the Robertson Environment
PO Box 3045, Robertson NSW 2577 www.reps.org.au

Next REPS Meeting Friday 8th April 2011 at 7:30pm at the Robertson Community Centre

Tim Beshara

"The Great Eastern Ranges Wildlife Corridor - Robertson District "



My role is to get everyone to work together and to help develop a common vision we can all work towards. I want the Southern Highlands Links project to be exemplary. To do this we need to get the science and communication right and get the on-ground action happening at a

scale big enough to make a difference. Our first joint project, a partnership with the Hawkesbury Nepean CMA, Sydney University and various corporate partners, will replant riverside vegetation along 10km of the Wollondilly River.

I have a degree in Environmental Science with majors in Geology and Geography. I found the degree wasn't instantly useful to enter a tough environmental jobs market early this decade. So in response I started working for various bush regeneration companies across Sydney pulling out Lantana. I also spent a stint building sandstone steps through bushland reserves. This practical experience combined with TAFE courses provided a solid grounding for my environmental career.

In 2004 I joined Greening Australia to manage the impressive Greening Western Sydney project (one of Australasia's top 25 restoration projects according to the Society for Ecological Restoration International).

In my current role as Science Manager my work covers a broad area of policy advocacy, science and program development. I attend to tasks such as conservation planning, grants writing and policy submissions. I also present to Mayors, Ministers and parliamentary committees. A Master of Arts in the Social Sciences has helped me polish my skills in this area.

Greening Australia is excited to be working for conservation in the Southern Highlands as part of the Great Eastern Ranges Initiative. The Southern Highlands Link is special because it has more threatened animals than anywhere else in the extensive Sydney Basin. It is worthy of a special effort and I am proud to be part of it.

Taken from <http://www.greateasternranges.org.au>



**All welcome. Active discussion. Light supper
(Gold coin donation)**

Upcoming Events

- Sat 2nd April – Rally for Climate Action, Belmore Park near Central Sydney, 11am, see page 5
- Thu 7th April – Australian Plants Society Talk by Wendy Johnston, 2.00pm, CWA Hall, Moss Vale. Page 5
- Fri 8th April – REPS Talk – Tim Beshara 'The Great Eastern Ranges Wildlife Corridor' at 7:30pm, see above
- Sun 10th April – Vintage Car Day, 11:00am at Fettle's Shed Gallery and Railway Station. Page 5
- Sat 16th April – NPA Bushwalk, Pipeline Lookout and McPhails Fire Trail. Page 5
- Sun 17th April – CTC 2pm Sunday Series, 'Gasland'. Page 5
- Sat 30th April, 28th May – Caalang Creek Working Bee – 9:30am onwards. Page 5

From the president

The year started well with a well-attended meeting in February addressed by Dr. Kim Hamilton who gave an account of the work being done at the Australian Botanic Garden, Mount Annan, (we were introduced to the new name by our guest) in preserving seeds of rainforest plants. David Tranter has arranged other promising speakers for future meetings. Do invite friends and neighbours to attend these worthwhile events.

A not-so-happy note is that our secretary, Lyn Stevenson, suffered serious injuries when knocked down by a cyclist in the village. She is likely to be confined to hospital for some time but is still smiling and remains optimistic. We wish her well for a good recovery. This organisation has been indeed fortunate in having such a fine secretary and I here express our gratitude to Lyn. REPS now needs someone to fill her role. Please contact me if you are available.

The committee continues to work towards fulfilling our goals, a leading one being researching the Yarrowa rainforests, educating local people about their beauty and significance, and promoting their conservation. Much has been achieved in the past; the production in 1993 of the free booklet, *A Guide to the Yarrowa Brush*, being a prime example (Do ask if you can use any of the remaining copies). It was decided at the March committee meeting that a revised edition be prepared that will include some changes of scientific names, extra trees and shrubs, ferns, herbs, orchids, fungi, etc. Improved technical resources are now available, further research has been done, and references to recent publications can be listed. This project is a challenging one that will take several months and involve the contributions of a number of members. We look forward to an exciting result that will enhance the promotion of our aims.

It has been suggested that visits by knowledgeable members to rainforest patches be offered to assist in the identification of plants. This has begun and some interesting finds have been made. Specimens of leaves or flowers may also be brought to meetings for identification.

Allan Stiles

February Talk Review

by David Mee

Dr. Kim Hamilton: Eastern Australian Rainforest Seed Project. A talk given to REPS at its meeting on 11th February, 2011 at the Robertson Community Centre.

After introductory remarks, President Allan Stiles called upon David Tranter to introduce the evening's speaker, Dr. Kim Hamilton. David noted that she had graduated from Griffith University in Queensland, and was currently working at the Australian Botanical Gardens at Mount Annan.

Kim began by stating that Australian rainforests were wonderfully diverse, but were vulnerable to a variety of threats such as climate change and weed infestation. Various local rainforest environments, including that of Robertson, the Illawarra and coastal rainforests, were under threat. One strategy to have some protection against species extinction is the saving of seed in seed banks, so that the species could be propagated and re-introduced into the natural system if necessary. This can be both cost effective and a space saver, compared for instance, to growing the species in maintained gardens.

There are global strategies for seed banking which include the Millenium Seed Bank Project, where seeds are stored in a concrete vault in Sussex in England, a facility managed by the Royal Botanical Gardens at Kew. Currently 10% of the world species are stored, with an aim to increase this to 20%. It is funded by a UK lottery.

The Australian Botanical Gardens at Mount Annan are supporting this project. The standard procedure for many plants is to store seed by drying collected seed (to about 5-8% moisture content) and storing it in a dry atmosphere in refrigerated conditions at about -20 degrees below freezing. Many Australian species will survive almost indefinitely in these conditions, especially those from dry and arid regions, and then regenerate when planted. Almost 40% of NSW plants have had their seed stored by this method. The drawback of this system for most rainforest plants is that they will not tolerate their seed being dried as this kills the embryo, which is then no longer viable. They therefore need another method of preparation and storage. Species which are intolerant of drying include varieties of Macadamia, Lilly Pilly, Kangaroo Apple, Mountain Pepper and Native Ginger. Australian citrus, of which there are 6 varieties, including the finger lime, also present problems.

The method currently under investigation is “cryopreservation”. This involves the use of liquid nitrogen. The seed still needs preparation and various species-specific methods are being trialled, including using coatings of various types. The prepared seed is then plunged into a flask of liquid nitrogen to preserve it. To test the efficacy, the seed, after a certain storage time, has to be rapidly thawed and germination attempted. If a high percentage is germinated successfully, this tests the efficacy of the method. So far results are encouraging for otherwise difficult species.

Following the talk, many questions were raised by the audience. Kim’s talk was clearly relevant to the membership’ experience and interests. David Tranter asked a very pertinent question on how to tell when the seeds are mature and ready for preserving. The answer to this was highly specific to each plant, but was defined by the process of testing and observation.

Kim noted that her investigations were supported by Government funding up to 2013. She is producing a book entitled *Conserving Plant Germplasm*.

Kim’s talk was warmly applauded and she was presented with some local produce as a gift in recognition.

Could our *Eucryphia* be host to a fascinating fungus?

by Allan Stiles

In November 2008 the Guardian newspaper published the following article that reported an exciting discovery that may be significant in reducing global warming:

Scientists discover Patagonian diesel that grows on trees

A tree fungus could provide green fuel that can be pumped directly into vehicle tanks, US scientists say. The organism, found in the Patagonian rainforest, naturally produces a mixture of chemicals that is remarkably similar to diesel. “*This is the only organism that has ever been shown to produce such an important combination of fuel substances,*” said Gary Strobel, a plant scientist...who led the work. “*We were totally surprised to learn that it was making a plethora of hydrocarbons.*”

In principle, biofuels are attractive replacements for liquid fossil fuels used in transport that generate greenhouse gases... Critics say that current biofuels

scarcely reduce greenhouse gas emissions and cause food price rises and deforestation. Producing biofuels sustainably is now a target and this latest work has been greeted by experts as an encouraging step.

The fungus, called *Gliocladium roseum* and discovered growing inside *Eucryphia cordifolia* in northern Patagonia, produces a range of hydrocarbon molecules that are virtually identical to the fuel-grade compounds in existing fossil fuels. Details of the concoction, which Strobel calls “mycodiesel”, are to be published in the November [2008] issue of the journal *Microbiology*. “*The results were totally unexpected and very exciting and almost every hair on my arms and legs stood on end,*” said Strobel.

Many organisms, such as algae, are shown to make chemicals that are similar to the hydrocarbons present in transport fuel, but none produce the explosive high energy density found in this fungus. Strobel said that the chemical mixture produced could be used in a modern diesel engine without any modification. Another advantage of the fungus is its ability to eat up cellulose, the compound that makes up most of the organic waste that is currently discarded, such as stalks and sawdust. Converting this plant waste into fuels is an important goal for the biofuels industry, which currently uses food crops such as corn.

“*Fungi are very important but we often overlook these organisms,*” said Tariq Butt, a fungus expert at Swansea University. “*The discovery and its potential applications are fantastic...*”

Eucryphia cordifolia is one of two species of the genus that grow in South American rainforest that is a remnant of the Gondwanan flora, as are the temperate rainforests in Australia. Is this or a similar fungus associated with one of the five Australian species of *Eucryphia*? Chile and Australia share rainforest species of several genera including *Araucaria* and *Nothofagus* and a remarkable fungus is found on both a Chilean and an Australian species of the latter. Could our *Eucryphia* also share the promising fuel producer?

Q: If it's zero degrees outside today and it will be twice as cold tomorrow, how cold will it be?

A: ?!

Poetry Corner

Edited by Jonathan Persse

Water – without which life could not have begun,
without which no life could survive.

Horace (65-8 B.C.) - Epistles, l.XIX.l

You know, Maecenas, as well as I, that, if you trust
old Cratinus, no poems can please long, nor
live, which are written by water-drinkers.

William Shakespeare (1564 – 1616) Henry VI, part 1

l. ll. 133 - Joan of Arc speaking
Since I have entered into these wars,
Glory is like a circle in the water,
Which never ceaseth to enlarge itself,
Till by broad spreading it disperse to nought.

Lord Byron (1788 – 1824) Childe Harold's Pilgrimage
from stanza 179

Roll on, thou deep and dark blue ocean – roll !
Ten thousand fleets sweep over thee in vain;
Man marks the earth with ruin – his control
Stops with the shore.

W. E. Aytoun (1813 – 1865) from The Massacre of the
Macpherson

Fharshon had a son,
Who married Noah's daughter,
And nearly spoiled ta Flood,
By trinking up ta water:
Which he would have done,
I at least pelieve it,
Had the mixture peen
Only half Glenlivet.

Rupert Brooke (1887 – 1915) from Heaven

Fish....
Ponder deep wisdom, dark or clear,
Each secret fishy hope or fear.
Fish say, they have their Stream and Pond ;
But is there anything Beyond ?
This life cannot be All, they swear,
For how unpleasant, if it were !
One may not doubt that, somehow, Good
Shall come of Water and of Mud ;
And, sure, the reverent eye must see
A Purpose in Liquidity.

David Campbell (1915 – 1979) Prayer for Rain

Sweet rain, bless our windy farm,
Stepping round in skirts of storm
While these marble acres lie
Open to an empty sky.

Sown deep, the oaten grain
Awaits, as words wait in the brain,
Your release that out of dew
It may make the world anew.

Sweet rain, bless our windy farm,
Stepping round in skirts of storm:
Amongst the broken clods the hare
Folds his ears like hands in prayer.

Judith Wright (1915 – 2000) River Bend

What killed that kangaroo-doe, slender skeleton
tumbled above the water with her long shanks
cleaned white as moonlight?
Pad-tracks in sand where something drank fresh blood.
Last night a dog howled somewhere,
a hungry ghost in need of sacrifice.

Down by that bend, they say, the last old woman,
thin, black and muttering grief,
foraged for mussels, all her people gone.

The swollen winter river
curves over stone, a wild perpetual voice.

Philip Hodgins (1959 - 1995) The Dam

THE dam at the end of the deep green field
is a metre of brown wrapping paper
covering the clay that has not congealed.
In the days before the excavator
two men with shovels dug it in a week.
When I was five I nearly drove the tractor in.
A load of fodder held us back.
In summer it's popular with the herd
who muck it up by floating green cow pats
and come out caked, with leeches on their teats.
In winter it's the spot for shooting birds.
Two ibises stand on the rim like taps.

David Tranter Two Haikus

*Heart beat of the sea,
El Nino and La Nina:
drought and flooding rains.*

*Water for the birds,
wet wings drying in the sun,
Splash and splash again.*

Please send a poem on the environment, written by yourself or another person, to Jonathan Persse, Sallyhill, Burrawang 2577



Sunday 10th April 11.0am – 4.00pm
Vintage Car Day at Robertson Railway

- Kiosk open
- Art exhibition
- Railway and history exhibition
- Vintage working machinery

For further information, 4885 2393

www.robertsonrailway.com.au

Next REPS Working Bees
Saturday 30th April & 28th May

Meet at the footbridge in Hampden Park from 9:30am onwards. Don't forget water, hat and gloves. We now have tools available, but if you can, bring your own.

Queries to Steve Douglas 42714957 or Leon Hall 48882222.

Help Care for Our Nature Reserve
1st Wednesday of each month 9:00am to noon

All welcome. Please bring garden gloves. For further information, phone Ford Kristo (NPWS) during business hours: 4887 8244

Rally for Climate Action
Saturday April 2nd @11am, Belmore Park

Family-friendly rally for climate action includes music and face-painting for kids.

Belmore Park (next to Central Station, behind the Eddy Avenue bus stops)

For further information and map – [Greenpeace](#)

The NSW Climate Action Rally is organised by AYCC, ACF, Get Up, Greenpeace, NCC, I million women, Oxfam and 350.org.

Australian Plants Society

The Australian Plants Society will present a talk on the “*Pros and Cons of Native Plant Selection for your Garden*”. The speaker is Wendy Johnston.

Thursday 7th April, 2pm at CWA Hall Moss Vale

Plant table will be set up for discussion and plants will be available for sale

www.reps.org.au

NPA Walk

Saturday 16th April Morton NP
Pipeline Lookout and McPhails Fire Trail

12kms along a management track and then a rough bush track to the Pipeline Lookout for morning tea. Retrace steps to McPhails Fire Trail which is unused and leads steeply down into Kangaroo Valley. 450m steep decent. Car shuffle will be needed. Contact Joan Lowe by Thursday 14th April.

0248612996 or 0417492981 or

joan.lowe@bigpond.com

Car pool from Bowral as option.

CTC 2pm Sunday Series | Gasland

The Wingecarribee Shire is under threat as mining companies search for coal and coal seam gas in our region. This Academy Award nominated documentary looks at the devastation caused across America by similar activities. Introduced by Peter Martin from action group ‘Shoo Cockatoo’, this is essential viewing for everyone in our region.

Rated PG.

- Sunday 17th April 2pm, café opens at 1.30pm
- Tea and coffee available BYO beer/wine
- Adults \$10 children \$5 (CTC Fundraiser)
- bookings recommended - 4885 2665

e.info@robertsonctc.org.au

Contact REPS

All those who are interested in supporting our aim are welcome to join REPS. Our aim is to promote the preservation and enhancement of the Robertson environment. We welcome contact with individuals and other community groups.

Please contact The Secretary

PO Box 3045, Robertson NSW 2577

or President – Allan Stiles on 4885 1698

Also, we are always looking for new contributions to Eucryphia. If you have an essay, article, poem or photograph that you want to share with other REPS members please contact Monica Engel.

Telephone: 4885 2665

Or email: monicaengel@robertsonctc.org.au

All contributions will be most welcome.
