

OBJECT: To foster an interest in nature

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# MEETING—THURSDAY 7th June 7:30pm Australian National University Venue details back page

## Kamchatka

### Kamchatka — Russia's land of ice and fire

Rosemary Purdie is a plant ecologist who cut her botanical teeth doing vegetation mapping in western Queensland in the 1970s, has never been able to walk past plants since without checking them out, and has done extensive plant collecting in all Australian states and territories. A decade ago she exchanged a career with the Commonwealth Government for voluntary work in, for example, the Australian National Herbarium, plus regular trips to Central Asia where she continues to be enthralled by the cultures landscapes and vegetation.

Rosemary recently visited Kamchatka, known as Russia's land of ice and fire: ice because of its long, extreme winters, and fire because of the many volcanoes. Rosemary will introduce lowland forest, tundra, lava flow and alpine vegetation and plants she saw, and show a colourful relationship between some local plants and brown bears!

The scenery is so spectacularly different from our beloved but worn-down continent



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## Presidential Musings

### Scientific names

Not a characteristic possessed by myself, but one used by many field naturalists is the ability to remember and use the scientific binomial names for organisms.

Carl Linnaeus, born in 1707, usually gets the credit for arranging and naming organisms, and while he certainly conceived many names he was essentially an organiser. Scientific names for species were already in Latin, but were often long and unwieldy. For example, the humble tomato was called *Solanum caule inermi herbaceo, foliis pinnatis incis, racemis simplicibus*. Linnaeus' idea was to divide nature into groups based on shared physical characteristics. Firstly, the three kingdoms of plants, animals and minerals! Kingdoms were divided into classes and then into orders, which were divided into genera (singular: genus) and then species (singular: species).

Linnaeus gave all the organisms known at that time a simpler Latin name in two parts, known as a binomial. The first part was the genus, followed by the species. Using this system, the tomato became a more manageable *Solanum lycopersicum*. He gave binomial names to animals five years later and, between 1753 and his death, he named thousands of plants and animals in this way. This binomial system was adopted by other scientists and became the standard way of naming organisms.

Many terms incorporated into scientific names today, had their origins from a very long time ago. For example, the term *Anas* (a genus of dabbling ducks) comes from Marcus Varro a Roman scholar who lived in the first century BC. *Anas* means to swim. Many other terms used today had their origin from the Greek scholar, Aristotle; or the Roman author, naturalist, and philosopher, Pliny.<sup>1</sup>

Linnaeus, a deeply religious man, had not an insignificant ego, and considered 'that God had bestowed upon him the greatest insight into nature study, greater than anyone else has gained...'. Linnaeus proclaimed that species are the natural entities that God placed on earth at the creation (although he later accepted that hybrids could occur between pairs from the original creation). Species are his (God) not ours — and they exist as they are, independent of our whims.

After Darwin, a conceptual change occurred to natural selection in steps, instead of for God all at once. However, as pointed out by the late Stephen Jay Gould, species are real, whether created by God or evolved by natural selection and hence the Linnaean method has stood the test of time.<sup>2</sup>

### References

1 Birkhead T, (2009) *The Wisdom of Birds, an illustrated history of Ornithology*, Bloomsbury, page 37

2 Gould SJ, (1993) *The first unmasking of Nature*, Natural History Magazine 4/93

## OUTING: Sunday June 10: Yerrabi Walking Track.

We are visiting Namadgi often this year in order to find a walk suitable for our ANN2012 Get-together visitors. Booroomba rocks is quite challenging so we are looking elsewhere. The Yerrabi Track is a 4 kilometre return walk of moderate grade. The walk "begins at the Boboyan Trig car park on the Boboyan Road (35 km south of the Namadgi Visitor Centre... and meanders through forest and swampy grassland before passing Boboyan Trig and ending at a steep, rocky outcrop with sweeping views." [Yerrabi Brochure]. Please meet at the Namadgi Visitors Centre at 9.30 am. Bring food, water, suitable clothing and wear comfortable shoes. Please ring Rosemary von Behrens on 62541763 if attending.



# More needed to save koalas

By James Fitzgerald

The federal government's decision to list the koala as threatened in NSW and Queensland, is a small step in the right direction but unfortunately does not prevent logging in the koala forests of NSW or Queensland.

The Australian koala population prior to British settlement is estimated at having exceeded 10 million. A population of this size would reduce bushfire risk by providing over two million tonnes per year of hazard reduction eating of gum leaves. Gum leaves are the most explosively flammable part of the Australian bush. Too often little recognition is given to the positive services Australian wildlife would provide if normal population levels were re-established.

A significant factor in the fragmentation of the Australian koala population was the large-scale killing of koalas for their skins in the late 1800s and early 1900s. In Queensland in just one month August 1927, some 584,000 koala skins were sold.

Australia's fragmented koala population could now be as low as 40,000 and declining.

It is a long-established scientific fact that fragmented populations of animals become genetically weaker over time. The genetic weakness then causes the fragmented populations to start to die out as they are no longer able to fight diseases or adapt to changes in their environment. The correct approach to save the koala is to restore habitat within a system of wildlife corridors to enable the koala gene pool to flow via the normal dispersal of young males.

There is a growing concern that the current system of protection is failing Australian wildlife. It is often too little too late. Some koala conservationists would go so far to claim that legislation aimed to protect actually enables the destruction of koala habitat.

In any case, current protections allow animal numbers to get down to low numbers, creating genetic bottlenecks that significantly reduce their long term survival prospects.

The NSW Wildlife Council believes that a benchmark based on pre-British settlement population estimates should be used to restore wildlife populations to at least 10 per cent of the estimate by re-establishing gene pools, habitat and wildlife corridors. Using pre-British estimates as a benchmark recognises the inter-relational connectivity of species. The current wildlife protection system does not provide for the many mutually beneficial relationships that exist in the natural world.

It is important to consider that even the largest national park is just a gene puddle if it is not connected to other habitat.

Wildlife rehabilitation groups know that male animals are over represented in road kill because of their need to disperse and find other populations. Prior to the large-scale killing of koalas for their skins the koala gene pool flowed up and down and across most of eastern Australia. For koalas to survive in the long term, the fragmented populations need habitat restored and most likely a supplementary breeding program guided by geneticists to reconnect the populations. The aim to rebuild the koala population to at least 10 per cent of pre-British estimates using this method is not unachievable. All it needs is community and political will.

As the koala population is rebuilt it would be necessary to re-establish animals like the Powerful Owl, as this predator would play its role in ensuring survival of the fittest by taking the occasional young koala from an unfit or inattentive koala mother. Other animals like the glider possum that help pollinate trees and is also a prey species for the Powerful Owl would need to be rebuilt so that the Powerful Owl didn't focus all of its attention on the koala. It is these types inter-relational connections across species and the roles they play in the natural world that are not recognised in the current system of wildlife protection in Australia.

Wildlife corridors need to be defined and wildlife-friendly people and businesses encouraged to buy land along the corridors with conservation agreements and reduced rates. The bang for the buck is that wild-

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life corridors of re-established and connected habitat will benefit not just the koala but many other native plants and animals. It might be appropriate to reduce some of the native vegetation controls outside wild-life corridors. People would then have a choice based on their belief systems and or business needs as to where it would be best for them to live and or own land.

The 2007 United Nations Global Environmental Outlook 4 report (GEO-4), identified species collapse as a major environmental threat. We are now in the world's sixth great extinction event. Current man-made extinction rates are 100 times higher than the base level in the fossil record.

Australia has the worst record for animal extinctions. The failure of the current protection system will end up with more animals endangered... not a functioning ecosystem. Fertility is a product of nature that is needed to replenish depleted soils that farmers and human food production ultimately depends.

Is the Australian public happy that since British settlement we have destroyed 99.5 per cent of Australia's koala population? Most Australians have not seen a koala in the wild because of this destruction. It is now well overdue for Australia to rectify the wrongs of the past and rebuild a one million strong healthy connected koala population.

*James Fitzgerald is the NSW Wildlife Council media officer. James is a dedicated wildlife carer . He can be contacted on 0448 066 304*



**Todd was found to the north of Cooma NSW starving in open farmland without a gum tree in sight.**

**Todd was a young dispersing male looking for a new population to join but with so much habitat cleared he ended up lost in open grassland and was underweight, dehydrated and starving.**

**After Todd regained weight and was cleared by the Vet he was successfully released back into the wild on 30 November 2011.**

## **LOOKING CLOSELY**

**is the name of an art exhibition currently on at the CSIRO Discovery Centre, Clunies Ross Street, Black Mountain. Visitors will see paintings of fungi, lichen, bone, the cosmos, rocks, oyster shell etc. It runs from 29 May to 13 June, 9 - 5 Monday to Friday, 11 - 3 Saturday and Sunday. All visitors welcome.**

**The opening is on Tuesday 29 May at 6 pm, and the Opening Speaker is DR DUNCAN STEEL - ASTRONOMER.**

**Our hard-working Rosemary has two entries in the exhibition.**

## What caterpillar is that?

Rosemary von Behrens

In January 2012 I was alerted by neighbours to a large caterpillar crawling over a letter box and an adjoining shrub. It was 12 to 15 cms in length, striped white and black with transverse lines of parallel orange dots along its back and sides. The caterpillar was very prickly with clumps of sharp spines which appeared to emanate from the raised dots. In trying to identify it I went to the Internet and discovered <http://lepidoptera.butterflyhouse.com.au/moths.html>.

Don Herbison-Evans, at this site, very kindly and promptly pointed me in the right direction. The caterpillar is *Chelepteryx collesi*, the White Stemmed Gum Moth, in the family Anthelidae – Australian Woolly Bears. It, and its moths, cocoons and egg photographs are found at: <http://lepidoptera.butterflyhouse.com.au/anth/collesi.html>. The colours seem to vary a little from my photograph.

The caterpillars eat leaves of various trees in the family Myrtaceae<sup>1</sup> such as Angophora and Eucalypt species in summer, and spin large loose double-walled silk cocoons through which they push their spines in early autumn. While pupating they are protected by the spines, or stiff hairs, which are barbed and brittle and very painful to remove. You are strongly advised not to touch unless hands are protected. The cocoons are often found in letterboxes, under eaves or on the trunk of the food tree.

The large moths usually emerge in April and May. Males have a wingspan of approximately 14 cms and females 16 cms. The moths colouration is brown grey and yellow<sup>2</sup>. Eggs are laid on any surface.

In a recent talk to the Friends of the Australian National Botanical Gardens on moths, Ted Edwards referred to the sets of prolegs and true legs on caterpillars. Six segmented (jointed) true legs [3 pairs] are positioned up front under the first three body segments (thorax). They remain after metamorphosis and the prolegs, along the remainder of the body, disappear. Prolegs are fleshy and cylindrical; the microscopic hooks on the base of prolegs allow the caterpillar to walk in precipitous places and “grip a stem with safety even in strong winds and particularly where it has laid a silken trail or prepared a silken resting pad.”<sup>3</sup> These are a moth specialization. The number of prolegs can vary according to the species of caterpillar. They are only found on moth and butterfly larvae. (Caterpillars are larvae.) Prolegs are clearly visible on *Chelepteryx collesi*. The next time neighbours cluster excitedly around a letterbox, accept their invitation to investigate.



Prolegs, *Chelepteryx collesi*,  
Photos: R von Behrens



<sup>1</sup><http://lepidoptera.butterflyhouse.com.au/anth/collesi.html>.

<sup>2</sup>Ibid

<sup>3</sup>Zborowski P, Edwards T, *A Guide to Australian Moths*, 2007 CSIRO Publishing Collingwood



## Field Naturalists' Association of Canberra Inc.

### Who are the Field Naturalists?

The Field Naturalists' Association of Canberra (FNAC) was formed in 1981. Our aim is to foster interest in natural history by means of meetings and regular field outings. Meetings are usually held on the first Thursday of each month. Outings range from weekend rambles to long weekends away. Activities are advertised in our monthly newsletter. We emphasise informality and the enjoyment of nature. New members are always welcome. If you wish to join FNAC, please fill in the member application below and send it in with your subscription to the FNAC Treasurer at the address below.

**President:** Chris Bunn (02)62412968/0417407351

**Email:** fieldnaturalist@yahoo.com.au

**Website:** www.fieldnatscanberra.com

All newsletter contributions welcome, material published does not necessarily reflect the views of the club



**Monthly meeting venue:** Division of Botany and Zoology, Building 116, (Gould wing) Daley Rd, Australian National University. Park (occasionally the adjacent building 44). Meetings start at 7:30 pm and are followed by refreshments.

### Field Naturalists' Association of Canberra

GPO Box 249

Canberra ACT 2601



### MEMBERSHIP APPLICATION OR RENEWAL

Family name: ..... First name: .....

If a family membership, please include the first names of other members of the family:

.....

Postal address: .....

Suburb: ..... State: ..... Postcode: ..... Home phone: .....

Work phone: ..... Email address: .....

Subscription enclosed: \$.....(Single/Family \$25) Donation: \$.....

How did you hear about FNAC? Please circle: FRIEND? OTHER? Please specify: