

# Castlemaine Naturalist

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Brush-tailed Phascogale  
*Phascogale tapoatafa*

**Castlemaine Field Naturalists - 2006 - Celebrating 30 years**

## Leaf Litter – Rachel Tonkin 8/6/06

(From notes taken at Newstead Landcare meeting in June '06)

It took Rachel Tonkin four years to record the twelve months of change that occurs in her fascinating book “Leaf Litter” - about the connection between the things in the forest and our lives.

When Rachel was upset as a baby, her mother would often wheel her to the nearby swamp to watch the birds in the trees – to observe nature. These early pacifying experiences observing nature may quite possibly have played a role in a long line of events which have resulted in this amazing record of natural observations many years later.

Certainly Rachel’s concerns about the Government’s ‘uninformed’ way of making environmental decisions and her interest in caring for the environment led her to thinking about writing a book for children that would be both engaging and educational. Rachel wanted the book to include things to find, cross sections and lift up flaps that revealed things of interest. There were to be no long words - just common names so a child’s interest would remain uninterrupted. She wanted to make “yukkie” things engaging and most important of all, the book had to be beautiful.

With just pencil roughs and sample texts Rachel set out to convince the publisher of the book’s potential before she actually knew what the book would be about. That would depend on what she found during her period of research.

Rachel began collecting specimens to make realistic drawings. She found a dead blue-tongued lizard and photographed it but had no stretched paper ready for painting so left it outside – their pet magpie found it and pulled the front legs off. With permission Rachel carefully transferred a layer of bush litter into a fish tank and immediately started to see things of interest. There were tunnels and a centipede eating springtails. Three red bugs in different stages of development would appear to sun themselves under the light when she painted. On one

occasion a European wasp placed its proboscis in another wasp's abdomen and posed for two hours.

She discovered that insects are capable of learning quite a lot. Rachel collected and kept *Camponotus* (sugar) ants in order to study how they moved. At first when she opened the lid they would go mad trying to escape but in time they learned not to bother and instead sought the food being offered. They survived for nine months and when Rachel inquired about reintroducing them back into their original nest, Simon at the Melbourne Museum advised her that that would be very difficult as they would need to be washed first.

Rachel had pet spiders. There was a huntsman which when she wriggled the jar would run up the side. He hated blowflies but liked small bush flies. She learned to recognize that when his abdomen was flattened it meant he was hungry. One day she fed him a flying ant, which he swallowed and promptly spat out. When she eventually set him free, Rachel noticed a skink eating a huntsman – a sorry end for him but just an everyday occurrence in the land of leaf litter. Rachel also kept a red back spider in a jar for 2 ½ years and a brown house spider proved to be a real leaf litter spider who could make itself impossible to see in the bottom of the jar.

The book is set around a tree that actually grows on Frances Cincotta's property. Rachel painted the tree 14 times to record the subtle colour changes and slow movements of the bark that occur in a twelve month cycle. She also observed that rain caused lots of different effects that had to be considered for her illustrations - beading up on some things that needed to remain waterproof and causing others to increase in size.

Rachel engaged help with identification and knowledge of lifecycles from people like David Avery and Bruce Fuhrer. To record the life cycle of the Eltham Copper Butterfly she used photo references taken in Kalimna years before, information from researcher Andrea Canzano, pupal cases from the museum and butterflies from Gary Sobey at Skydancers.

Text and illustrations were tested with school kids. The front cover went through various design stages and the colour of the paper had to be changed when an early version came back from the printer with the Tuan and the mice looking dead – because they had used cream paper.

One of the important messages contained in this book is that leaf litter is not "rubbish". It is a rich source of food for plants and animals, packed full of things in various stages of life and decomposition - illustrating how things are interconnected and how nature is continually recycling because our resources are finite and not limitless – and showing us that if we upset the balance of nature and destroy our plants and animals we will be affected as well.

Geraldine Harris

## Noxious Weeds – Ern Perkins

North Central Catchment Management Association requested suggestions of weeds that might be added to the noxious weed list. I suggested the following plants.

**Hastate Orache** (*Atriplex prostrata*) A wetland saltbush.

**Cobblers Pegs** (*Bidens pilosa*) A daisy with hooked seeds, easily dispersed by people or furry animals.

**Pampas Grass** (*Cortaderia selloana*) Is becoming much more widespread.

**Cotoneaster** (*Cotoneaster spp*) Another garden escape, now widely spread.

**Thorn-apple** (*Datura wrightii*) One of the thorn-apples not yet on the noxious list.

**Spanish Heath** (*Erica lusitanica*) Is becoming more common. Large areas at Maldon.

**Gazania** (*Gazania linearis*) Will it equal cape Weed in abundance?

**Galaxia** (*Moraea fugacissima*) Related to Cape Tulip. Ravenswood has one of its few Australian infestations.

**Parrots Feathers** (*Myriophyllum aquaticum*) A major wetland weed, well established in Campbells Creek.

**Large-flowered Woodsorrel** (*Oxalis purpurea*) Very common cemetery weed, now widely distributed elsewhere.

**Inkweed** (*Phytolacca octandra*) A weed of granite areas.

**Pincushion** (*Scabiosa atropurpurea*) Is impacting on the Spiny Riceflower on the Guildford Plateau.

**Lesser Reed-mace** (*Typha latifolia*) An introduced cumbungi now present in Castlemaine.

There are many other plants worthy of consideration.

### Plantation/horticultural plants.

a. **Olive** (*Olea europaea*) Is becoming more common and widely spread. Has potential to become a major weed.

b. **Radiata Pine** (*Pinus radiata*) A common bushland weed.

c. **Cootamundra Wattle** (*Acacia baileyana*) Increasing its extent.

d. **Tree lucerne** (*Chamaecytisus proliferus*) is also extending its extent.

Grasses and small herbs. There are many that grow in native vegetation. They may be so abundant that control is almost impossible. They compete with and exclude native species such as small daisies, lilies and orchids. These weeds include:

a. **Shell Grass** (*Briza maxima*) and **Shivery Grass** (*B. minor*). Both invade undisturbed bushland.

b. **Hair grasses** (*Aira spp*) It is difficult to find bushland without these weeds.

c. **Daisies** e.g. **Cat's Ears** (*Hypochoeris radicata* and *H. glabra*)

d. **Vulpias, especially (*Vulpia bromoides*)** Widespread and common in bushland.

e. **Sweet Vernal Grass (*Anthoxanthum odoratum*)** Very common grassland and bushland weed, especially in higher rainfall areas.

f. **Veldt Grasses.** All are invasive. Near Castlemaine *E. longiflora* appears to be the most troublesome.

These weeds, and many others, also invade grassy woodlands.

### **The Mini World of Micro Minerals – Julian Hollis – 9/6/06**

(Julian was speaker at our June meeting and leader of the Saturday excursion)

Julian Hollis started digging things in the soil as a very young child. At three he unearthed some bones in the grounds of Westminster Abbey and while still a student at Geelong Grammar he discovered a new group of minerals he named Anakieites (?). As a boy, Julian remembers asking his father where a particular rock came from and since then, Julian has had “fifty years of fascination” researching the origins of rocks and minerals and in particular the origins of certain micro minerals.

At our June meeting Julian explained how new methods of geological mapping are revealing new information about the deep structures in the Earth's crust and leading to revised theories of how the crust was formed. A dense display of volcanic activity in our local area has geologists making new interpretations about various landforms such as the huge fracture system running from Barkers Creek towards Muckleford and continued research is revealing an interesting array of new rocks and minerals.

Micro minerals are minerals of less than 2mm across. They are hard and so not easily destroyed. They are moderately heavy with a specific density of 3 or greater (gold has a specific density of 19). They occur as accessories and are very rare. Micro minerals are deposited as residues in the rivers and streams. They can be removed by crushing fresh rock to a powder and then magnetically separated by passing the powder through a heavy liquid with a specific gravity greater than 3. This method is often dangerous and involves quite toxic substances. Many of the techniques are slow, costly and have poor yields and larger businesses using large-scale equipment and working with large samples can often cause environmental problems.

Julian uses what some might term an unsophisticated method – he uses a gold pan and water. Starting with a range of sieves and then the skillful use of the pan and water to discard the lighter materials, he washes until all that is left in the bowl are the heavier particles. For some this would seem boring and laborious but Julian “just loves it”.

He takes his carefully labelled parcels home, dries them out and then looks to see what he has found. This can involve picking out with tweezers, and on occasions a single-hair brush with a slight magnetic charge, a hand held microscope and his trusted (and cheap) old Russian microscope. Heavy minerals have unique "signatures". These signatures can be traced to source material and often to a small area of source material. For example diamond-bearing systems can be located by finding dykes and following a lead to the source.

The advantages of this approach are that it can identify quite insignificant features, it can help define distinctive features of a larger system and by inference – of deeper levels of the crust. So far Julian has looked at 2000 localities looking for associations of distinctive minerals.

On Saturday ten members braved the cold to accompany Julian on an interest filled excursion. We started with a brief visit to the Trentham Falls where we learned just how unstable the falls are and why. From there we walked down to the river where Julian showed us his panning techniques and sent the residue home with Joy Weatherill for further investigation.

Our next stop was at the Upper Coliban Reservoir where we looked at various rock types exposed by the low water levels in the reservoir including evidence of thermal pools in the area.

After lunch we drove to the other side of the spillway and spent some time fossicking through the rocks on the exposed shore. Of particular interest on this side of the reservoir were the examples of Takylite (?) that is formed when molten magma meets water and forms a particularly hard and sharp dark blue rock. This rock was once worked into surgical cutting tools by the local Aboriginal clans and traded widely throughout the country.

Geraldine Harris

### **Reminder regarding Screensaver CDs:**

Members are reminded that a free screensaver CD featuring 200 images of local indigenous plants comes as a gift with each 2006 membership as a way of celebrating our 30<sup>th</sup> year. Members can collect their gift CD at meetings on payment of fees or have it posted by paying \$2 postage in addition to their membership fee. Additional copies may be purchased for \$6 (\$2 extra for postage). The following paid-up members wishing to take up this offer can collect their gift CD from Tonks Hardware, Barkers St, Castlemaine: **Liz Freeman, Cathy Newing, Isobel Ross and Rose Watson.** Further enquires: Ern (5472 3124) or Hans (5472 1082).

## **Brush-tailed Phascogale – *Phascogale tapoatafa*.**

Ref: Key Guide to Australian Mammals, Leonard Cronin.

Active mainly at night, they sleep in nests lined with leaves or shredded bark in tree hollows, sometimes shared with several others. Females appear to occupy exclusive home ranges of about 4 -5 hectare while suckling their young. Males are very competitive during the mating season when their chests become stained with yellow secretions of the chest gland, and they die soon after mating due to stress-induced illnesses. They are agile climbers and extract their prey from crevices and under bark with their long fingers.

Sexually mature at about 8 months, females live to 2 years or more. Mating occurs in June, copulation lasts for several hours and up to 8 young are born some 30 days later. Females have no true pouch although ridges of skin develop on either side of the eight teats during the breeding season. The young attach firmly to the teats and are dragged around by the mother for about 54 days. They are then left in the nest until weaned at 4 -5 months. They eat insects, spiders, centipedes and small vertebrates caught and manipulated with their forefeet.

### **From the Business Meeting 22/6/06**

- **Erin Court.** Council has ratified a section 173 agreement on Lot 9 - building permit application has been withdrawn and Trust for Nature Covenant to be placed on same.
- **VCAT/VicRoads Pyrenees Highway.** No decision yet. Tribunal seeking more information re tree clearing on area adjacent to area of VCAT hearing. Objectors claiming that over 400 trees have been removed and exemption conditions have not been complied with. Moved that CFNC be part of new group to negotiate with VicRoads over future roadworks and also that committee have authorized expenses of up to \$100.
- Ern Perkins presented **research recommending most suitable projector and computer set up for club to purchase** with funds from Parks Vic for surveys carried out by club members.
- **New Club Letterhead** designed by Ern Perkins was adopted.

**Articles wanted:** If it interested you it will interest us. Articles can be forwarded to Geraldine Harris, P O Box 703, Castlemaine, 3450. Ph 547 2244 or email to [gedharris@castlemaine.net](mailto:gedharris@castlemaine.net)

**Disclaimer:** The opinions expressed in this newsletter are those of the contributors and not necessarily those of the club.

## Observations

### May Committee Meeting

- \* Spreading Wattle, Cranberry Heath, buds on Urn Heath, Ironbarks and Grey Box and Autumn Greenhoods in flower. Poverty Gully race on eastern side of Monk - Sweet Bursaria in flower. Richard Piesse
- \* At Fryerstown Cemetery – 29 bird species – Southern Whiteface and Jacky Winters in good numbers. Chris Morris
- \* Plagues of Kangaroos and wallabies. Value of exclusion plots demonstrated – several patches of Autumn Greenhoods. Hans van Gemert

### June Meeting

- \* 8/6 Brush-tailed Phascogale crossed the road in-front of our car coming out of Green Gully on way back from Newstead late at night. Geraldine Harris
- \* 9/6 A freshly killed Brush-tailed Phascogale collected on roadside at Yandoit. Another one crossing the road in Limestone Track on the way home from work the same night. Natasha Harris
- \* Powerful Owls seen on an excursion to Dargile State Forest with bird observers group. Bruce Davidson
- \* Autumn Greenhoods *Pterostylis revoluta* in the Bendigo Forest close to Spring Gully. Richard Piesse
- \* Yellow-tailed Black-Cockatoos and Sulphur-crested Cockatoos at Lancefield, Wheeler St, along railway line in Specimen Gully Rd, at Barkers Creek, and in the Pine Plantation.
- \* Two female King Parrots in Gisborne. Joy Weatherill
- \* Feral Pigs are causing a lot a damage in the Lancefield area. Introduced by shooters, up to 120 caught in a single night. Recently Bill van Smeerdijk counted 11 at his place on a single night.
- \* Frogs heard in garden. Virginia Bartlam
- \* Photos taken of Black-breasted Buzzard taken at Yapeen by Maurie Dynon.

### June Committee Meeting

- \* Spreading Wattle, Cranberry Heath and Woolly Wattle on Wewak track and Vaughan Rd. Phascogale on Helge Track. Richard Piesse
- \* 16/6 Boobook Owl in Botanical Gardens. George Broadway
- \* White-browed Babblers along railway line at Barkers Creek. Doug Mills
- \* Koala in Muckleford State Forest. Hans van Gemert
- \* Hopping Mammal thought to be an antechinus seen on Mia Mia Track, Muckleford State Forest. Hans van Gemert

### Have you welcomed a newcomer lately?

Before and after meetings members are busy setting out and packing up chairs, sound systems, supper table, publications etc and just catching up with fellow members. But there is one job that needs to be the priority of all members – greeting any new person, introducing them to other members and making them feel very welcome. This is the best way to ensure that they come again.

## Castlemaine Field Naturalists Programme - July 2006

**General meetings** (second Friday of each month, except January) are held in the Uniting Church (UCA) Hall (enter from Lyttleton St.) at 8.00 pm.

**Excursions** (Saturday following the general meeting) leave from the carpark opposite Castle Motel, Duke Street at 1.30pm sharp unless stated otherwise. BYO morning and afternoon tea. Outdoor excursions are likely to be cancelled in extreme weather conditions. There are NO excursions on total fire ban days.

**Business meetings** - fourth Thursday of each month, except December, at 27 Doveton Street, at 7.30 pm. All members are invited to attend.

VISITORS ARE WELCOME AT CLUB MEETINGS AND EXCURSIONS.

**Fri Jul 14. Antarctica.** Chris Morris. UCA Hall, 8pm.

**Sat Jul 15. Terrick Terrick.** Full day excursion. Depart from carpark opposite motel in Duke St at 10am sharp. BYO refreshments and lunch. Leader: Rita Mills, Ph 5472 4553.

**Tues Aug 1. Indigenous Plant Working Bee** – to plant 200 seedlings in Botanic Gardens Nth. Meet at the Mary Street, Froomes Rd corner at 10am. Wear sturdy footwear, gloves, hat and BYO tools and morning tea. Contact: Hans van Gemert, Ph 5472 1082.

**Sat Aug 5. National Swift Parrot Survey.** Depart from carpark opposite motel in Duke Street at 8.15am sharp. Contact: Rita Mills, Ph 5472 4553.

**Fri Aug 11. New Zealand.** George Broadway. UCA Hall, 8pm.

**Sat Aug 12. Brisbane Ranges.**

**Fri Sept 8.** Meeting UCA hall 8pm. Details later.

**Sat Sept 9.** Excursion. Details Later.

**Fri Oct 13.** Meeting UCA hall 8pm. Details later.

**Sat Oct 14.** Members will attend the SEANA Campout at Maryborough.

**Sat Oct 14, Sun Oct 15. SEANA Campout at Maryborough.** Register by Aug 30. Early registration (\$20) would be appreciated please. Details: (p10, June Newsletter). Contact : Ern Perkins Ph 5472 3124.

### 2006 Committee

Rita Mills (Pres).....Ph 5472 4553    George Broadway (Sec)....Ph 5472 2513  
Hans van Gemert (Treas/ Public Off).. Ph.5472 1082    Ern Perkins (Web).....Ph.5472 3124  
Noela Cain.....Ph 5470 6223    Athol Dorman.....Ph.5472 4429  
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**Subscriptions for 2006** (Screensaver with each 2006 membership \$2 postage)

Ordinary membership: Single \$22, Family \$30

Pensioner or student: Single \$19, Family \$24

The subscription includes postage of the monthly newsletter, *Castlemaine Naturalist*.

**Website:** <http://home.vicnet.net.au/~cfnc>

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