

Friends of the Australian National Botanic Gardens

# NEWSLETTER

July 2006  
Number 53



Friends of the Australian National  
Botanic Gardens Incorporated

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Forward all material to:  
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Donna Douglass, a Ranger at the Gardens, checks a snake trap in preparation for next summer's study of the interaction of snakes with people at the Gardens. Donna will talk about the project on 22 August (see What's on at the Gardens).

### Membership Information

Membership of the Friends is for 12 months from 1 November. New memberships after 1 August are valid until November the following year.

Membership fees (from 1 August) are:

Pensioner / student	\$30
Individual	\$35
Corporate/Household	\$50

Cheques or Money Orders should be made payable to:

Friends of the ANBG

If paying by Bankcard/Mastercard/Visa please include card numbers, expiry date, name on card and signature.

Applications should be sent to:

The Membership Secretary  
Friends of the ANBG  
GPO Box 1777  
Canberra ACT 2601

# What's in a Name?

Bernard Fennessy, Volunteer Guide

A specimen of Mountain Ash (*Eucalyptus regnans*) can be seen in Section 158 of the Australian National Botanic Gardens. This is in the Rainforest part of the Gardens.

The species was named in 1870 by Ferdinand von Mueller, the Government Botanist of Victoria. The 'regnans' part of the name, meaning 'reigning', refers to the spectacular height of the species. The Guinness Book of Records (1977) stated that, based on official and authentic records, the Mountain Ash at Thorpdale South in Gippsland, Victoria, was the tallest tree in the world. It was measured by a qualified surveyor and was 375 feet (114 metres) high. Probably because of the activities of timber millers there are no modern day giants of this size. In Melbourne's water supply catchment area there are some fine stands of Mountain Ash, some nearly 90 metres in height.

This species is the tallest hardwood (flowering plant) in the world. The record for the tallest tree in the world is now held in the USA by a softwood, the California Redwood (*Sequoia sempervirens*).

The main distribution of *E. regnans* is in the hills and mountains east and south-east of Melbourne, in the Otway Ranges south-west of Melbourne, and in the north-eastern and southern regions of Tasmania. Its altitude range is from sea-level (in Tasmania) to about 1100 m.

Mature growth forests of this species, possibly two hundred or more years old, are really awe-inspiring. The crowns, which do not touch each other, are supported by smooth, cream, grey or greenish trunks the lower parts of which shed long ribbons of dead bark. A lower storey in the forest includes Silver Wattle (*Acacia dealbata*), Blackwood (*A. melanoxylon*), Hazel Pomaderris (*Pomaderris aspera*) and Blanket-leaf (*Bedfordia arborescens*), providing a good habitat for lyrebirds.

Because *E. regnans* is very susceptible to fire and has no capacity to recover by growth from epicormic buds as do many other eucalypt species, the problem of managing it for regeneration has been difficult, particularly as little was known



*Eucalyptus regnans*. Photo by Ian Brooker and David Kleinig.

about its ecology. In 1949 Professor John Turner, head of the Melbourne University Botany School, initiated a long-term investigation by David Ashton who established regeneration blocks, sowed Mountain Ash seed in the mature forest, in cleared areas and under bracken fern. He studied how fast *E. regnans* grows, how deep its roots are at various stages, how often it flowers, how viable the seeds are, and what happens to them. He found that many seeds are carried off by ants. Also, wallabies and wombats eat seedlings. He found that seed is released but not destroyed in a crown fire, and is produced in such vast amounts that some escape predation by ants. Fire makes the ash bed suitable for seed germination. Hence, oddly, Mountain Ash forest needs a catastrophic event—a fire—to ensure regrowth of the forest.

Ashton's PhD thesis, 'Studies in the Autecology of *Eucalyptus regnans* F.v.M.' was published in 1956. He was awarded a D.Sc. in 2002 by the University of Melbourne for his work and continued his interest in this species until his death in November 2005. In 2002 he had published a review of the botanical changes that had occurred in his main study area over nearly 50 years. Such long-term studies are very rare; they provide a sound basis for long-term management for conservation. During his long academic career at Melbourne University David Ashton inspired many students—future

ecologists—as he involved them in many study projects with his *Eucalyptus regnans*.

## Further Reading:

Tom Griffiths. *Forests of Ash: an Environmental History*. Cambridge University Press, 2001.

David Lindenmayer and Esther Beaton. *Life in the Tall Eucalypt Forests*. Reed New Zealand, 2000.

## Friends Briefs

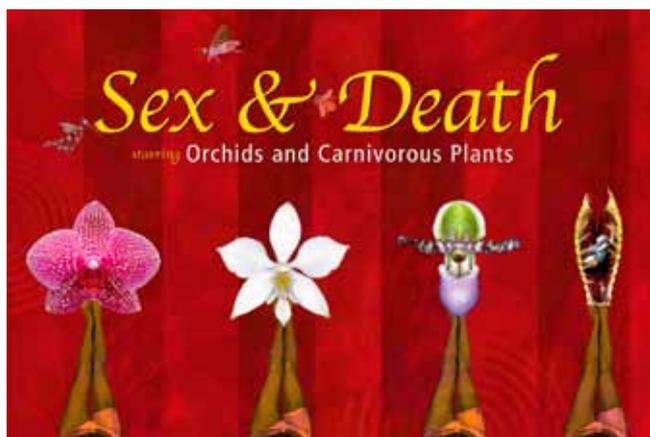
### Association of Friends of Botanic Gardens

Friends of the ANBG are invited to attend the 2006 conference of the Association entitled Evolution, Environment, Ecology and Botanic Gardens. Held in Cranbourne, Victoria, the conference will run from Friday 15 to Sunday 17 September 2006. The conference will focus on the evolution and ecology of our environment and the ongoing involvement of Friends of Botanic Gardens groups in these areas. If you are interested in attending please phone 03 9741 2351 or email smartie@bigpond.net.au.

### Annual Photographic Competition

The Friends are organising the 2006 Photographic Competition for ACT high schools and colleges. All of the schools and colleges have been sent details of the competition; further entry forms can be obtained by telephoning the Friends' Office on 6250 9548. We would like Members to encourage any eligible students to participate in this competition which provides an excellent opportunity for students to become aware of the value and beauty of the Gardens through their photographic skills.

### Sex and Death Exhibition



Sex and Death Exhibition. Images from left to right: *Phalaenopsis Salu Spot* x *Dou-dii* Rose (Paramount Orchids); *Caularthron bicomutum* and *Paphiopedilum liemianum* (Eric Hunt); *Dionaea muscipula* (Barry Rice)

An exhibition at the Sydney Tropical Centre in the Royal Botanic Gardens, 'Sex and Death', explores how plants, like humans, engage in seduction, cooperation, deception and even death to ensure their own reproduction and survival. Set against a backdrop of plants from steamy high altitudes and lowland tropical areas around the world, visitors are bedazzled by a show of beautiful and spectacularly bizarre orchids and carnivorous plants. Visit [www.rbg Syd.nsw.gov.au](http://www.rbg Syd.nsw.gov.au).

### Botanical Art Exhibition

The 4<sup>th</sup> Canberra Botanical Art Exhibition will be held at CSIRO Discovery, Clunies Ross Street, Black Mountain, from 22 September to 2 October 2006 between 10 am and 4 pm. The organising committee extends an invitation to botanical artists who are Friends of the ANBG to submit works for the exhibition. The closing date for entries is 28 July 2006. Please

visit the Canberra Botanical website at [www.canberrabotanical.com](http://www.canberrabotanical.com) or telephone 6278 6555 for entry details. The theme for this year is 'Discovering Plants through Traditional and Contemporary Art'. Entry to the exhibition is free and all works are for sale.

### Special Shared Tours

The Friends of the Royal Botanic Gardens Sydney, have invited Friends of ANBG to join them in the following tours:

- 27 September to 6 October 2006 – Barossa and Kangaroo Island, SA
- 27 October to 5 November 2006 – Cape to Cape, Margaret River WA
- 23 October to 8 November 2006 – Discovery Tour of Cambodia and Vietnam
- 18 to 24 February 2007 – Walking Tasmania: Cradle Mt Strahan & Lake St Claire
- 3 to 10 March 2007 – Lord Howe Island
- 1 to 20 May 2007 – Treasures of Andalusia: Tours of Southern Spain.

Expressions of interest may be directed to [warwickwright@netspeed.com.au](mailto:warwickwright@netspeed.com.au) or telephone 6281 3088.

### Interesting Articles

ANBG Friends might be interested in a couple of articles in the Autumn 2006 issue of the magazine *ANU Reporter*: page 13 'The engine room of life' (on oxygenic photosynthesis), and page 25 'Trilly love songs' (of the Superb Fairy Wren).

## Plant Identification

I suppose you know of the service at the Gardens of having plants identified? If you leave a specimen and fill in a form at the Visitor Centre, your plant will be identified.

One of the people involved is Dave Mallinson who has been at ANBG for 20 years. He collects the specimens from the Visitor Centre and takes them back to the Herbarium where they are put in the freezer to kill any insects—we don't want bugs eating their way through the dried collection, do we? A quick glance or sniff can usually categorise the plant into genus or family. Experts are often consulted, for example, orchids or rainforest plants are shown to David Jones, or Malvaceae shown to Lyn Craven. Keying out is very time-consuming and done as a last resort.

Dave is responsible also for other collections in the Herbarium—Asteraceae, Chenopodiaceae, Rubiaceae, Rutaceae, Scrophulariaceae, to name a few—adding new specimens and updating names where changes have occurred.

Now, don't go rushing off with any plant for identification, as this will create a bigger backlog than there already is. But when the frustration of keying out gets the better of you, you know what to do.

# The Brown Thornbill

*Tom Green, Friend of the ANBG*

This ten centimetre long busybody is one of the many 'little brown jobs' that beginning birders find so difficult to identify.

The Brown Thornbill is, well, brown. Its upper parts are dull brown grading to warm reddish brown on the rump and forehead. Its off-white underside is heavily streaked with black on the throat and chest. The medium length tail has a broad blackish-brown band above the end. That its eye is also reddish-brown is regarded as an important identifier. It does not have an eyebrow line. The sexes are identical.

It helps identification to know that Brown Thornbills are birds of mid-storey shrubs. They rarely descend to the ground or forage more than three to four metres above the ground. They move constantly through the shrubbery gleaning small insects and spiders from leaves and twigs. They have a surprisingly loud 'chirrup' call which, once learned, is also a good identifier. The similar looking Striated Thornbill has its face and crown heavily streaked with white. It usually feeds much higher in the tree canopy, hovering a lot as it plucks small insects from the foliage.

Brown Thornbills are found throughout the forests and woodlands of eastern Australia. They live in pairs. The male pays close attention to his mate. Divorce is rare and infidelity rates are low. Adults are very sedentary spending all their lives within an all-purpose territory, which is about one hectare in size in the ANBG. Having your own patch and a settled marital state pays off. One bird, banded as an adult (in SA), was still alive and at the same site over 17 years later. Not bad going for a six to seven gram sprite.

Brown Thornbills breed in the Gardens from July to December. They may nest several times in a season especially if the earlier nest attempt fails. The female builds a small oval nest with a covered entrance hole near the top. The nest is usually concealed at ground level in the edge of dense vegetation. She lays three eggs and she alone incubates them for about 18 days. The male does help feed the young birds which remain in the nest for about 15 days. About one fifth of Brown Thornbill nests are parasitised by cuckoos. Horsfield Bronze-cuckoos, Shining Bronze-cuckoos, and Fan-tailed Cuckoos all lay their eggs in the nests of small birds like the Brown Thornbill. The cuckoo egg hatches quickly and the young cuckoo then ejects the remaining occupants of the nest. Shining Bronze-cuckoos can often be found lurking in the Rainforest Gully during spring.

Aside from their own loud and melodious song Brown Thornbills are well-known mimics of other birds. Mimicry is most often heard when an observer approaches the nest, so it may be an attempt to distract predators. Often it takes the form of 'whisper song', a prolonged medley of other species' calls, uttered very quietly as if the thornbill is singing to itself. Mimed calls can be as simple as the one note call of the Yellow Robin or as complicated as the chatter of a whole flock of rosellas.



## From the Bookshop

*A New Flowering*, by Shirley Sherwood, paperback, colour illustrations, \$69.95.

Featuring 1,000 years of botanical art, this catalogue represents the Ashmolean Museum's leading exhibition of 2005, providing the unique opportunity to compare illustrations by contemporary artists alongside remarkable botanical art of the past. Chosen by Dr Shirley Sherwood from her acclaimed collection of botanical paintings by artists worldwide, and from the rich historical treasures of Oxford libraries and museums—such as *The Flora Graeca* by Ferdinand Bauer, one of Oxford's greatest treasures—these inspiring images stand at the interface between art and science.

Shirley Sherwood was born in England and was educated at Oxford. Her collection of over 200 botanical artists from thirty countries documents the emergence of a new wave of botanical painting and the renaissance of this art form.

*The Old Country*, by George Seddon, hardcover, colour illustrations, \$49.95.

We are a nation of gardeners, and we take pleasure in tending our backyards. But this pleasure sits uneasily with our knowledge that the places where most of us live are running out of water. We suspect that our lawns and many of our European plants are too demanding of scarce supplies, but can't imagine our streets and gardens without them.

*The Old Country* opens our eyes, and minds, to other possibilities. It does so by telling us stories about our natural landscape. We discover how much of our history has been tied up with plant exploration, from William Dampier's first forays at Shark Bay in Western Australia to the amazing recent discovery in the Blue Mountains of the Wollemi Pine, representing a whole new genus. We learn about the statuesque boab of the Kimberley and its interesting relations, and the allure the banksia family holds for artists.

George Seddon believes that the better we understand the delicacy and beauty of our natural environment, the more 'at home' we will feel as Australians. He explores garden design, and wonders whether the present trend to Mediterranean plants creates more problems than it solves. He looks at what 'native' or 'exotic' or even 'a weed' might mean, and concludes that these notions are surprisingly fluid.

This passionate, wise and witty book, enriched with breathtakingly beautiful illustrations, suggests that the answers to our water problems lie here, at home.

## Further Notes on *Hakea pulvinifera*

Joe McAuliffe, Horticulture Manager, ANBG



On 10 May 2006 *The Canberra Times* published a short story on the work the ANBG has been doing with the critically endangered species *Hakea pulvinifera*. I thought I would elaborate a little more on what's happening with this species.

The article mentioned that we now have developing fruit on a few of the plants in our collection. This is extremely exciting news as this has never been observed by science before. In the wild the plant population is believed to be one organism which has lost the ability to set seed or fruit. One thing we can now say is that it is possible that the plant is capable of producing fruit. This means that the species may be capable of producing viable seed, which would significantly change our approach to the cultivation and conservation of this species. Having said that, it is also quite possible that it will never produce viable seed. Another consideration to keep in mind is that we can't rule out the possibility of cross-pollination with another species. Nonetheless we are continuing to unravel the secrets of *H. pulvinifera*.

The news of this plant producing fruit greatly excited NPWS rangers. They travelled to the wild site to check if those plants were producing fruit. Unfortunately, but not surprisingly, there were no fruit to be seen. However, the rangers commented that the plants were producing the largest flush of new growth ever recorded.

We now have a photographic record of the fruit of *H. pulvinifera*. I am hoping that there will be a botanical illustration and description done in the near future based on the fruit on the plants in the Gardens' nursery. Further pollen analysis of the plants in our collection will be done to determine if there has been any change to its viability.

In the past we have successfully propagated *H. pulvinifera* by vegetative methods including cuttings and grafting. Producing cuttings from this species is slow. This is because we have very little suitable propagation material available from the several plants in our collection. The plants are naturally sparse and are slow to develop, taking several years to be able to yield many cuttings. While strike rates are becoming more encouraging,

it will take decades before we have enough parent plants to produce the species in any reasonable numbers.

Grafting the species has been achieved and the results are promising. We have one grafted plant, grafted onto *H. salicifolia*, and it has thus far proven to be the most vigorous plant of *H. pulvinifera* in our possession. It is very useful as a high yielder of suitable propagation material. However, it is well known that *H. salicifolia* as a rootstock is unreliable, sometimes shedding the graft union or dying suddenly. Another issue to consider when choosing to graft this species is that the wild population is believed to reproduce only by root suckers. Our long-term aim is to grow this species in a single population within the Gardens, allowing it to reproduce itself by suckering. Grafted plants will not have this ability. For these reasons we will not be producing many grafted specimens of *H. pulvinifera*.

Why do we need to produce larger quantities of *H. pulvinifera*? There are a few reasons. Firstly, the more plants of this species we have in our collection, the more secure the species will be. Only having a small number means that what we do have is at a high risk of being lost through unforeseen events. Secondly, we need to collaborate our efforts with this species with other botanical institutions by providing them with plants that they can secure in their collection. We have already provided some plants to Mt. Annan Botanic Garden and Burrendong Botanic Garden and Arboretum. Spreading the holdings of the species in this way greatly increases the species' security as the entire collection cannot be threatened by one single event.

There is another reason why we are making a serious effort to further secure this species within our collection. Should we lose the collection we have at the ANBG now, it is highly probable that we will not be able to propagate from the wild plants. Our original plant of *H. pulvinifera* was acquired by digging it up from the wild population. This is a practice not favoured now by NPWS for many reasons. Most plants of *H. pulvinifera* removed by this method do not survive, and if they do, the chance of successfully propagating from them would be very low. The reason is that the wild population lacks what we propagators call 'juvenility'. In other words, the wild plants do not produce growth that is conducive to propagation methods. For several years we worked on one plant, removing as many cuttings as possible with only a single success. This initial success is what I believe to be a chance occurrence. We were extremely fortunate to have that initial success which produced a plant with increased juvenility, producing material that better suited propagation methods.

Finally, it would be extremely satisfying to contribute to the establishment of a second in situ population of *H. pulvinifera*. This is the ultimate goal and although achieving this is not going to happen in the near future, we are working towards producing enough *H. pulvinifera* to make this possible.

Joe will be giving a talk on *Hakea pulvinifera* to the Friends on 26 October 2006.

# Matthew Flinders and his Scientific Gentlemen

Catherine Jordan, ANBG Librarian

This is the title of a book released by the Western Australian Museum in late 2005. It is based on papers presented at the 'Investigator 200 Symposium' in Albany, Western Australia, December 2001.

The symposium commemorated the bicentenary of the arrival of Matthew Flinders on HMS *Investigator* at King George Sound in December 1801 to begin his survey of the coast of New Holland. The symposium was organised by the Australian Systematic Botany Society, the Wildflower Society of Western Australia and the Western Australian Herbarium. Some of our local Canberrans were among the participants.

There is a diversity of papers in the volume, which is well-illustrated with colour portraits, maps, photographs and paintings of plants and wildlife. Although the emphasis in most chapters is on the activities in south-west Australia, a number cover later aspects of the expedition, as well as the activities of Robert Brown and Ferdinand Bauer after Flinders left Sydney in 1803.

In 1800 Flinders wrote to Sir Joseph Banks, with a proposal for a coastal survey of the largely uncharted landmass of New Holland and New South Wales, to prove whether it was one or several large islands. Banks, the wealthy, eminent president of the Royal Society, a famous patron of the natural sciences and of the colony of New South Wales, approved and persuaded the British Government to mount a scientific expedition. Flinders, aged 27, was appointed captain of the *Investigator* in 1801.

Flinders compiled the first complete chart of the continent. He also advocated the use of the name 'Australia' for the first time, but was forced to reverse the title of the map for commercial reasons. The map of Australia stands as a memorial to Flinders. 'He defined the outline, suggested the name, and personalised the resulting chart by adding hundreds of place names associated with his own life. No other national map is so intimately bound up with the life of one individual', stated Paul Brunton in the State Library of NSW 2001 exhibition catalogue, *Matthew Flinders: the Ultimate Voyage*.

*Flindersia*, a genus of mostly rainforest trees, was named in 1814 by Robert Brown to honour Flinders. Plants can be found at the ANBG in the rainforest and its verges.

Flinders finally returned home in 1810, after a shipwreck and imprisonment on Mauritius, in failing health, and lived just long enough to write the account of his great voyage. The work, titled *A Voyage to Terra Australis*, was published the day before he died, aged 40 years.

The 'scientific gentlemen' of the voyage had a more general brief—to collect, classify and document the natural history of this land. The importance of the scientists and artists on board is indicated by their salaries. Flinders was paid £250 per annum as commander, whereas the naturalist was paid £420 and the artists, £315 each. In excess of 4,567 plant specimens were collected by Brown and Good, and Bauer made 2073 field sketches.

Robert Brown, aged 27, was the botanist, an unknown personality at that time. This was Brown's only expedition. From these collections Brown described 464 genera and 2040 species, and of these, 150 genera and 1500 species were new to science. Some of the botanical results of the voyage are published in Brown's *Prodromus Florae Novae Hollandiae et Insulae Van-Diemen*, this being the only part published. The plants collected by Robert Brown and Peter Good and the bulk of the records are in the Natural History Museum in London.

Brown's diary was published by the Australian Biological Resources Study in 2001 as *Nature's Investigator: the Diary of Robert Brown in Australia, 1801-1805*, compiled by TG Vallance, DT Moore and EW Groves.

Ferdinand Bauer, the natural history artist, at 41, was the oldest of the scientific party. Bauer published 15 of his watercolours between 1813 and 1816 in *Illustrationes Florae Novae Hollandiae*. The copper plates used for the *Illustrationes* and the original water-colours are held at the Natural History Museum in London, and more than 2000 field sketches from the expedition are located at the Natural History Museum of Vienna. He is commemorated in the genus name *Bauera*.

William Westall, the landscape painter, aged 19, was the youngest of the scientific gentlemen. By the 1770s carrying artists on voyages had become British Admiralty policy. An 18<sup>th</sup> century version of official photographers, these artists provided pictorial records of the location, proof that the personnel were present, and showed what these foreign places were like. Westall drew only 27 coastal profiles. He also made sketches, of which 160 are held by the National Library of Australia. Westall later made nine paintings that were engraved for Flinders' 1814 *Voyage to Terra Australis*.

Peter Good, the gardener, played a major role in the collection and preparation of seeds, herbarium specimens and live plants. Good is best known through the plants grown from these seeds. Robert Brown commemorated Good by naming the plant genus *Goodia* after him. Further information can be found in Good's journal, described as a lively, vivid account of the voyage. The journal has been transcribed by the Natural History Museum and is available for loan from the ANBG Library.

Another person of note on board the *Investigator* was Flinders' cousin, John Franklin, aged 15, later to be governor of Tasmania and a famed Arctic explorer.

The Gardens' Library has many other books relating to exploration of Australia and biographies of the various botanists and artists. Titles are listed in our catalogue which can be accessed via the ANBG homepage, see <http://www.anbg.gov.au/library>.

Other titles of interest which may be found in your local library include Ernestine Hill's popular biography of Matthew Flinders titled *My Love Must Wait*. It describes the poignancy of the long separation from his wife Ann. There's also Flinders'

*continued next page*

# Terrestrial Orchids

## Sheila Cudmore, Volunteer Guide

Terrestrial orchids are the only orchids growing naturally in the ACT and the surrounding districts. Many appear in the spring, but a few terrestrials can be found in flower for most of the year.

In my walks around the ANBG since I began training to become a volunteer guide last year, I have come across the following terrestrial orchids in the Gardens.



*Diuris chryseopsis* Photo by Tony Wood.

*Diuris chryseopsis*, Snake Orchid or Golden Moths. A lemon yellow orchid found growing in the Grasslands (Section 175). I have also found these orchids growing naturally on the lower slopes of the western side of Mt Taylor, Gungahlin Hill and in the cemetery at Majors Creek.

*Diuris sulphurea*, Tiger Orchid, came next in the Grasslands. These spectacular orchids are bright yellow with dark brown markings and grow naturally around Black Mountain outside the ANBG.

*Gastrodia sesamoides*, Cinnamon Bells or Potato Orchid. These cinnamon/white leafless orchids grow in many areas of the Gardens, including one colony in Section 31 opposite the CSIRO gate. The orchids grow naturally at Mt Ginini, at the locked gate walk, where they flower a little later than the orchids in the ANBG.



*Chiloglottis trapeziformis* Photo by Tony Wood.

*Chiloglottis trapeziformis*, Dainty Bird Orchid. I found these orchids growing in Section 33 under a tree. They can be found growing naturally on the locked gate walk at Mt Ginini and on areas of Black Mountain outside the ANBG.

*Microtis* sp. grows very well in many areas of the ANBG, one colony growing in Section 15 in open ground. This orchid also

grows naturally in the grassy area of Black Mountain, at the lower end of Caswell Drive. The flowers are green, almost the same colour as grass.

*Simpliglottis valida*, Large Bird Orchid. A large colony is growing happily in Section 18, in a shady area under *Acacia prominens*. The purple/green flower grows between two leaves, very close to the ground. I have seen this orchid in a gully further around Black Mountain and also at Tidbinbilla.

*Spiranthes australis* is a beautiful orchid with small pink and white flowers spiralling up the stem. They can be found growing at the bottom of the Tasmanian Garden, many in the ground around the area under the tap (Section 233). I have seen them growing at Jamberoo (just past Robertson). The ground in which they were growing was so wet that as I got down to photograph them leeches attached themselves to me! There were some completely white ones there as well.



*Spiranthes australis* Photo by Tony Wood.

All of these orchids were seen in the ANBG from spring 2005 until January 2006. None of the flowers were very tall, the shortest being *Simpliglottis valida* and the tallest *Gastrodia sesamoides* at about 25-30 cm tall.

Sheila will be talking about orchids to the Friends on 28 September 2006.

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## Matthew Flinders... (cont.)

essay about his much loved cat named Trim, the first cat to circumnavigate Australia. It is titled *A Biographical Tribute to the Memory of Trim*.

Some source material may now be accessed via the internet. The Matthew Flinders collection of the State Library of New South Wales, including facsimiles of manuscripts and full transcriptions is at <http://www.sl.nsw.gov.au/flinders>.

Britain's National Maritime Museum has transcripts of over 150 documents about Flinders' life and work at <http://www.nmm.ac.uk/flinders/>.

*Matthew Flinders and his Scientific Gentlemen: the Expedition of HMS Investigator to Australia, 1801-05*, edited by Juliet Wege, Alex George, Jan Gathe, Kris Lemson and Kath Napier. Western Australian Museum, Perth, WA 2005. ISBN 1920843205 RRP \$59.95.