

TREASURES OF CITATION HILL

ANGELA KIRSNER REPORTS

It was BERGER Fran Dedrick who drew my attention to the rich diversity of indigenous plants now flowering on and below Citation Hill. After sending me a photo of the **Wax-lip Orchid**, *Caladenia major*, below, she took me on a guided tour among the maze of bushland tracks. It was early October.

The orchid was hidden among the Teatree, one single bloom. It has been known as *Glossodia major* since its description by Scottish botanist Robert Brown in 1810, but recent discoveries suggest its inclusion in the genus *Caladenia*, and Royal Botanic Gardens Kew accepts both names. It is found in all states of Australia except WA and NT, and it is



common and widespread in Victoria from coastal heath to woodland and dry open forest.

Common Apple Berry *Billardiera scandens* (below right) was twining its way through various other shrubs, while **Milkmaids** *Burchardia umbellata* (left) were just starting to show their faces among the Teatree. *Continued on page 2*



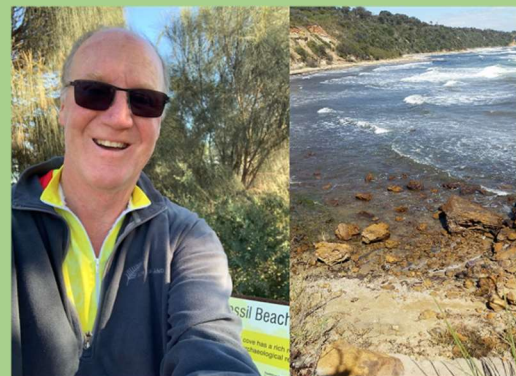
Diary date!

Fossil Beach Mornington

Our local treasure with many rich layers

Ian Stevenson

Saturday 22nd October



Fossil Beach is a State/Nationally significant treasure on our doorstep. Learn about local geological features including Bay formation and fossil evolution, and the area's cement works history.

Ian's talk will be followed by a brief AGM PLUS another delicious BERG morning tea!

When: Saturday 22 October 2022, 9.15 am,

Where: Mt Martha House Rm 18

Please register via Try Booking to assist with catering and organization –

<https://www.trybooking.com/CCUKM>

If you can't attend, please complete a proxy form. Nomination and Proxy forms are on our [website](#)

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CITATION HILL CONTINUED

At ground level there were many delicate patches of **native violets**, and in places, **Sundew** species; both the low ground-hugging variety with green foliage, pictured to the right, that tends redder in the shade (*Drosera aberrans* - this one not yet in flower), and the taller species (below) with its soft pink flowers. Despite their delicate demeanour, both are carnivorous, using the sticky material on the foliage to trap tiny insects, from which they obtain essential nutrients such as nitrogen.



Top right: **Bracket fungi** among rotting logs.

Above: Surprisingly in this woodland, a few bushes of **Swamp Melaleuca**, sunlight glinting through the flowers. Left: at the bottom of the track, near the Uralla Bridge, a spectacular bush of **Twiggy Daisy**, *Olearia ramulosa*. And below, twining everywhere – here through a Gahnia flower head – the gorgeous blue **Love Creeper** *Comesperma volubile*

Above, you can see droplets of sticky insect-catching liquid on this enlarged photo of the Sundew foliage. Below, look carefully for the tiny insect, maybe potential prey, on the flower petal.



Below: Carpets of springy **moss** in shaded, dampish areas beside the track.



RATS IN AUSTRALIA

Australia's native rat race began 5 million years ago, DNA study suggests

This article is largely taken from an ABC Science report by Genelle Weule, posted Sat 3 Sep 2022. See [Australia's native rat race began 5 million years ago, DNA study suggests - ABC News](#)

Around a quarter of all Australian mammals are rodents. Not the long-tailed, pointy-nosed black and brown rats associated with pestilence, which arrived with the First Fleet, but native rodents, which have come to occupy every nook and cranny of our landscape. There are more than 150 species in Australia and New Guinea that aren't found anywhere else in the world.

How did they get here?

A DNA study led by Dr Emily Roycroft, of ANU, together with colleagues from Museums Victoria and the University of Melbourne, has found that native rats first set foot on the continent around 5 million years ago. Their family tree is intimately tied to the geological transformation of Australia and New Guinea over time.

The researchers mapped the DNA of more than 150 living and extinct species from Australia, New Guinea and the Melanesian Islands.

The DNA showed the earliest ancestor of today's species diverged from Asian species in the Philippines around 8.5 million years ago. The lineage possibly started with a single pregnant rat that floated across the seas to New Guinea on driftwood.

Probably tree-dwellers, these rodents stayed put in New Guinea for 3.5 million years, until buckling of Earth's tectonic plates created New Guinea's mountain ranges and a land bridge to Australia, forming a prehistoric continent called Sahul.

The first rodent in Australia 5 million years ago was the ancestor of the *Pseudomys* group, which includes most of Australia's living species today. As sea levels fluctuated over 4 million years, at least four to five waves of native rats moved here.

Rakali – a relatively recent arrival

The rakali or native water rat (whose species name *Hydromys chrysogaster* refers to the golden fur on its belly) is one of the most recent colonists, arriving about a million years ago. Rakali has not been identified within our reserves, but BERGER Sue Brabender, ex-ranger from The Briars, is convinced they are in our creek somewhere. Rakali have the very desirable distinction of being adept at killing cane toads, the toxic introduced pest found in Australia's tropical north. By flipping the toads over before biting them, they avoid the poisonous parotid glands found on the toad's neck region.

Mt Martha does, however, have a healthy population of Swamp Rats *Rattus lutreolus*, another recent arrival, from about a million years ago.



A Swamp Rat, Rattus lutreolus, indigenous to Mt Martha Photo Sue Brabender

It wasn't a one-way ticket for the rodents. There were also movements of Australian species back to New Guinea and the islands between three and five times.

A population explosion

Once here, native rodents thrived in habitats that were very different to those they would have experienced before. They quickly adapted to arid areas. The hopping mouse, for example, deals with dry conditions by having the most efficient kidney of any mammal in the world.

They were not competing for marsupials for food, having very different diets and lifestyles. Unlike marsupials, they have incisor teeth, which continually grow and can chomp through just about anything.

But the fortunes of native rodents changed after European settlement.

Species loss, ecosystem imbalance

Today, 11 of the 60 species that were endemic to Australia have been lost, victims of land clearing, foxes and cats. Most of the extinct species were ground-dwellers living in arid areas.

Indeed, Australian rodents have the highest rate of extinction of any mammal group. Information about the evolution and genetics of these animals is vital for their future.

Native rats are integral to the environment: not only do they help maintain soil and disperse seeds, but they are a vital part of the food chain for other native predators. The loss of even one native species can throw off the balance in an ecosystem.

Furthermore, native rodents like rakali could help keep pest rodents at bay. If an ecological niche is already occupied by a native rat, it's hard for other species to come in.

How do you tell the difference?

Native rodents are more reclusive and look different to invasive species. Many are much smaller (the Delicate Mouse, *Pseudomys delicatulus*, weighs just 8 grams). Many are nocturnal, so rarely seen in the day.

Invasive rats sport long tails, big ears and a pointy nose. They also have up to six pairs of nipples, able to support twelve offspring. Native rodents often have only two or three pairs of nipples, and they have adapted to lower resources in the Australian environment so they breed more slowly.

Rodents in Australia: three groups

- **Older native rodents** arrived from New Guinea between 5 and 1 million years ago – about 49 different species in four major groups: Pogonomys, Hydromys, Pseudomys, and Uromys.
- **Newer native rodents** include eight species of *Rattus*, including Bush Rats (*Rattus fuscipes*) and Swamp Rats (*Rattus lutreolus*). These arrived from Asia about 1 million years ago and live in coastal areas.
- **Pest rodents** include the common brown rat (*Rattus norvegicus*), the black rat (*Rattus rattus*) and the house mouse (*Mus musculus*). These arrived on the First Fleet.

SEWAGE SPILL

On 7th September, South East Water advised BERG Mt Martha of a sewage spill into Hopetoun Creek near Uralla Drive the previous night. About 200L of untreated waste had washed towards Balcombe Creek and Mt Martha North beach. EPA Victoria attended the spill and were kept updated.

SE Water put up warning signs advising that people and pets not use or handle the water in Hopetoun Creek, Balcombe Creek and Mt Martha Beach North. They also ran paid advertisements on social media.



With daily water quality testing, on 7th September SE Water reported 'high results' in Hopetoun Creek at the ovals, at the Balcombe Creek Estuary and at the creek mouth. By 14th levels were 'almost but not quite back to normal'. No impact was detected at five sampling points along the beach.

By 16th, after heavy, flushing rain on 13th, SE Water reported, 'levels at all sampling locations at the creek had been affected by the recent rain, and showed negligible impact from the spill'. Sampling was stopped on the 18th and the warning signs removed.

A faulty siphon

It seems that the spill resulted from a siphon failure. Repairs have been carried out, and we were advised on 26th September that 'the cause of siphon failure is under investigation and a plan to prevent a future occurrence will be prepared once investigations are complete'. SE

Water has also carried out flushing, site washdown and education at Hopetoun Creek.

EstuaryWatch readings

Our EstuaryWatch coordinator Bruce Ferres noted that in the days following the spill, the 24-hour monitoring station on the campground jetty showed spikes in ammonia levels, a substance that can be very toxic to aquatic life.

EstuaryWatch turbidity readings on 14th at the jetty and oval test sites (both downstream of Hopetoun Creek outfall) were the highest recorded in the last five years. Balcombe Creek remained discoloured by suspended matter, browner and more opaque than usual. So although Conductivity, pH and Dissolved Oxygen remained within normal parameters, BERG MM continued to hold grave concerns for aquatic life.

Remaining concerns

Bruce is seeking answers from SE Water to a number of questions: Was the siphon faulty or unable to handle the flow volume? Was it repaired or replaced? Do the 'elevated levels' reported from water quality testing refer to *E. coli*? How will the impact on aquatic life be assessed? Will SE Water undertake any rehabilitation measures? What steps will SE Water take to ensure we do not have another event like this in the future?

TEAMS MEETING

On 10th September BERG MM held a 'Teams Meeting' of our Citizen Science and our Bushland and Coastal volunteers.

ESO update

Peter McMahon reported the Shire Councillors' decision to accept recommendations for an Environmental Significance Overlay to protect our 73 hectare reserves, with a resolution to apply to the Planning Minister for approval. For more, see <https://shape.mornpen.vic.gov.au/c241morn-balcombe-estuary-and-associated-reserves>

Schools program

BERG's schools program has long been an integral part of involving and educating the wider community. Currently, however, we do not have a Schools Program Coordinator. It is a

high priority to find a suitably qualified and interested person to take up this role, and to attract more volunteers to assist in the program.

EstuaryWatch / Waterwatch

Illegal opening of the estuary mouth is a continuing issue, with potential effects on water quality and estuarine fauna. Suggestions to address this intractable problem included community education that involves school students, and higher profile signage on the damaging effects.

On-ground activities

Liz Barraclough highlighted yet again how onerous grant application and reporting has become. We need to be strategic with our applications, going for those grants with the best potential outcomes for effort expended. The meeting also flagged the need to target Bunurong-related grant opportunities to support our relationship with the Bunurong.

Volunteer resources

COVID has reduced volunteer numbers across the board, BERG included. We still have a terrific band of workers at our regular working bees, and a small but dedicated band of Water and Estuary Watchers.

We'd love more volunteers to share the load, particularly for Waterwatch and EstuaryWatch, plus people with marketing and administrative skills. How to attract and retain them? We need to identify and address the interests of our members and supporters, and continue to work creatively through use social media.

New playground planned

We are working with the Shire towards a proposed 'ECO' upgrade to the Campground playground, to make it more interesting, creative and relevant to the reserves.

Coastal Group

Cate Clark flagged the need for broader community awareness of introduced versus indigenous species for both gardens and foreshore. This could be supported by a database with links to information on weeds for identification and management.

Ideas and help welcome with any of these issues! Please email us at info@berg.org.au or call 0447 160 288!

EARLY INVADER WEEDS ON THE PENINSULA

This is a slightly shortened version of an article in the Shire's Friends Group Newsletter Winter 2022 – see www.environment.vic.gov.au/invasive-plants-and-animals/early-invader

Spring is fast approaching, which means wildflowers, butterflies, and... Early Invader Weeds!

What are Early Invader Weeds?

Mornington Peninsula Shire defines them as environmental weeds known only from a few locations on the Peninsula, that would cause significant impacts on bio-diversity if they became established and widespread.

Managing Early Invader Weeds

The Shire's Bushland Management Teams are actively monitoring and treating infestations to prevent them establishing and spreading.

The work is driven by Parks Victoria's WESI (Weeds at the Early Stage of Invasion) Project, which guides public land managers in using best-practice approaches (see www.environment.vic.gov.au/invasive-plants-and-animals/early-invaders).

Early invaders on the Peninsula

Five species are the focus of this year's program: Chilean Needle Grass, Serrated Tussock, Spiny Broom, Petite Liquorice and South African Weed Orchid.

Four of these have been found at very few locations on the Peninsula and feasibility tools indicate they can be eradicated in the long-term with careful treatment and monitoring.

The fifth, South African Weed Orchid, pictured below, is highly

invasive, producing millions of dust-like, highly viable seeds. It spreads easily, forms dense colonies, and is widely distributed across the Peninsula. It will be monitored and treated in areas of high-biodiversity value (eg where FFG or EPBC-listed orchid species may be impacted).

If you spot an Early Invader Weed...

Don't try to dig it up and remove it. This could unintentionally contribute to the weed's spread by dispersing seed and vegetative material. It is vital that plants and reproductive material be disposed of properly.

There is also a risk of mis-identification, with several look-a-like indigenous species. For example, Rough Bush-pea (*Pultenaea scabra*) may be mistaken for Spiny Broom and Spear Grasses (*Austrostipa* spp.) for Chilean Needle-grass.

If you suspect you have discovered an Early Invader Weed, leave the plant in-situ and report the sighting via the Mornington Peninsula Shire iNaturalist page or by getting in touch with your site coordinator, so they can enter a report.

With alerts set for Early Invader Weeds on iNaturalist, suspected sightings can be promptly investigated, verified and treated by the Shire's Bushland Management Teams. You are of course welcome to get in touch with the Natural Systems Team to report suspected sightings or suspicious looking individuals.

Finally, as a rule of thumb - IF IN DOUBT, DON'T PULL IT OUT!^s

South African Weed Orchid flowers (left) & plants (right)

Photos Richard Hartland, from Victoria Resources Online website, State of Victoria (Agriculture Victoria)



OUT AND ABOUT IN THE RESERVES

Climbing Lignum



Photo Angela Kirsner

Climbing Lignum *Muehlenbeckia adpressa* is in flower in various places through the reserves. This photo is from the fenced area next to the Bunyip.

Climbing Lignum is a creeping or twining shrub with thin red-brown stems growing 2-4 m long. Its leaves have wavy margins, and it carries spikes of small greenish-yellow flower from September to December, followed by small, dark reddish fruit. Indigenous peoples ground the seed into flour. It is dioecious: male and female flowers occur on separate plants.

In cultivation, it is a fast-growing climber for coastal areas, a screening plant that can be pruned if needed.

Climbing Lignum occurs in Coast Banksia Woodland and along coastal dunes across southern Australia. It likes well-drained sandy soil, in full sun, though it is happy in filtered light. It tolerates dryness and salt spray, making it a useful climber to cover a coastal fence or retaining wall.

Muehlenbeckia belongs in the Polygonaceae or knotweed family. The genus is named after the French physician Henri Gustav Muehlenbeck, 1798-1845, who investigated the flora of Alsace. The species name *adpressa* means pressed against, referring to the leaves encircling the stem.

Continued next page

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MT MARTHA CHIROPRACTIC & SPORTS INJURY CLINIC



Did you know that sitting for hours every day can cause severe strain on your spine? Or injure your muscles, ligaments and tendons?

Tips to reduce strain on your body:

- ◆ Take regular breaks
- ◆ Get moving
- ◆ Stretch
- ◆ Take a moment to breathe deeply.

Pandemic pain! Since the pandemic began, Australians have reported more neck pain & headaches, shoulder stiffness, low back pain, & general discomfort. Much of this is easily fixed by adjusting your workspace set up - working from home shouldn't mean using your laptop in bed!

Call us on 5974 3477 to organise a time to talk to one of our chiropractors, Dr Rach Duncan & Dr Roxanne Daniels, to get the best advice for you. We are at the corner of Bay Rd & Langrigg Ave. Find out more at: www.mtmarthachiropractic.com/

***Do you have a Ritchies Card?
Name BERG Mt Martha as your nominated beneficiary!***

OUT AND ABOUT IN THE RESERVES CONTINUED

Lichen and Slime Mould

Marg Knight spotted this pine log with purple lichens and a brilliant patch of red Slime Mould – those strange organisms that are neither plant nor animal nor fungus, but behave like a giant amoeba – during a Friday working bee between the Watson Road tennis courts and kinder.



Nodding Greenhoods

Graham Hubbard provided this photo of what he described as 'the enormous clumps of orchids in the Reserves'. Indeed, they do seem to have been particularly prolific this year.



FIELD NEWS

Field Officer Liz Barraclough reports

Naturelinks, our fabulous contractors, are the backbone of our ongoing weed control, working under our various grants. Recently, their targets have included Bridal Creeper (sprayed), Vinca, weeds below the bowling greens, and woody weeds below Maude Street. And more! They pave the way for the stunning work by our Sunday, Friday and Wednesday (coastal) volunteers.

Angled Onion

The Friday group has again tackled flowering Angled Onion along the boardwalk below Ferrero Ovals. We are chipping away at the many patches of it year by year – a difficult weed, particularly when its bulbs are deep down among Kikuyu. It reproduces by both bulbs and seeds,

so it’s important to remove the bulb, not just the top.

Forget-me-nots – again!

Follow up and more follow up – it seems endless! They keep coming, but if we can get on top of flowering ones this year, we hope surely there’ll be a great reduction next year!

The Friday group has tackled them a number of times, among the Swamp Paperbark below the Ovals down to the boardwalk, and also along Lower Hopetoun at the bottom of Rabbit Paddock. And they were a target yet again at the October Sunday working bee – another huge pile removed!

Sunday on Citation Hill

In September, the Sunday workers tripped over fallen Teatree and fought our way through tangled *Gabnia* (aptly called Saw-sedge!) to remove Boneseed, Polygala, Flaxleaf Broom and Pittosporum.

Grants

We have not applied for any new grants this year as, very satisfyingly, we have enough grant funding to cover priority areas for the next 12 to 18 months. Our Melbourne Water ‘Liveable Waterways Liveable Community’ grants cover work along Hopetoun and Balcombe Creeks until late 2023, and our Mornington Peninsula Shire Biolinks Support Grant 2022-2023 covers works to extend eastwards below Citation Oval and above the Pistol Club.

Rabbit Paddock – Friday group...

The Friday group has planted masses in the Rabbit Paddock to re-vegetate some of the bare old BMX tracks and restore wildlife habitat, placing logs and branches to reduce runoff and erosion. The area had previously been sprayed for Capeweed by Naturelinks. Our aim is a diverse area of bushland here.

...and Somerville Secondary College

Natalie Lees, a teacher from Somerville Secondary College, brought a class of Year 12 students in late August to help with planting in the Rabbit Paddock. They put in some 250 plants. Many thanks to Jock McMillan and David Keystone, who helped with the group. David’s teaching experience and skills were particularly useful.

Weedbuster stall

On Saturday 1st October we joined the Sunshine Reserve Group outside the IGA to run this annual event. There was lots of interest in the weeds we had on display, as well as in our groups and activities, and BERG MM signed up one new member.



Above: Lynette Dell with a pile of Forget-me-nots at the October Sunday working bee Photo Marion Orchison



Works in the Rabbit Paddock:

Above: Terry Moar, our Friday Group hole digger at work, with a host of new plantings behind him.

Left: The Year 12 group of planters from Somerville Secondary College.
Photos Liz Barraclough





Left: Friday group removing Angled Onion

Right: Weed buster stall on 7th October

Photos Liz Barraclough



BERG Mt Martha
welcomes new members
Geraldine Powell & family

Come along to our Bushland Activities	Join us at Waterwatch & EstuaryWatch	Other Local Groups
<p>❖ 2nd Sunday of the month: between 9.30am & noon. Details emailed a few days ahead, or call Liz Barraclough 0408 388 430.</p> <p>❖ Coast Group: fortnightly on Wednesdays, between 9.30am & noon. Call Suzanne Ryan 0418 387 604. Details emailed a few days ahead.</p> <p>❖ Friday Group: weekly between 9.30am & noon. Call Liz Barraclough 0408 388 430. Details emailed a few days ahead.</p>	<p>First Sunday of each month:</p> <p>❖ Waterwatch testing: meet 9.15am at Uralla Rd bridge. Enquiries to Franc Amendola 0433 626 007.</p> <p>❖ EstuaryWatch testing: meet 9.00am at the Rotunda. Enquiries to Bruce Ferres 0435 389 804.</p>	<p>❖ BirdLife Mornington Peninsula bird-watching 2nd Wednesday and 3rd Sunday. Enquiries to Max Burrows mornington@birdlife.org.au or 0429 947 893, or visit www.birdlife.org.au/locations/birdlif-e-mornington-peninsula.</p> <p>❖ Sunshine Reserve working bee 9.30am, last Sunday of month. Call Pia Spreen 0437 299 847.</p>
<p>BERG MT MARTHA PATRON: TERRY DENTON</p> <p>COMMITTEE: PRESIDENT PETER MCMAHON • VICE PRESIDENT ERIC SMALLEY • SECRETARY DIANNE LEWIS • TREASURER & BUSINESS PARTNERS COORDINATOR JULIE ZAMMIT • FIELD OFFICER LIZ BARRACLOUGH • ESTUARYWATCH BRUCE FERRES • WATERWATCH FRANC AMENDOLA • NEWSLETTER ANGELA KIRSNER • SUE MILTON • MARION ORCHISON</p>		
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