

STEP Newsletter JUNE 2025



From the President

Hello all,

After an unseasonably warm and dry Autumn, we are finally receiving some light rain this week at Forest 20. This has freshened up the gardens and led to the growth of some weird and beautiful fungi, which will be illustrated on the photo page.



Our STEP members said goodbye last month to our long-standing Newsletter editor and photographer, Andy Russell. Andy will be greatly missed, and we wish him and Janet well in their new home and city! We acknowledged Andy's contribution to the development of the Forest 20 gardens at a morning tea in May, where he was presented with a book of photos showing Andy participating in many activities at STEP. As well as being a foundation member, Andy was also our Membership Secretary and a great source of information about Australian plants, weeds and insects.



Photos: Judy Smith

As a result of Andy's departure, we are changing the format of the quarterly newsletter to now include the photo sheet titled "*Of Interest at Forest 20.*" Jennie W. has kindly taken on the role of compiler and editor and is also knowledgeable about the native flora and fauna found in the region. Our new membership secretary is Yvonne, and we are grateful also to her for taking on this role.

We have also welcomed several new active members to our weekly working bees, so it is wonderful to have some differing expertise among the group. Our working bees continue tackle a range of tasks, and we will include some photos of these in the rest of the newsletter. We have also taken some guided walks during May for *ACT Tree Week* and will be planning more walks at the end of August for Wattle Day. The newly installed Wattle Walk sign will enhance the walkers' experiences.

All the best,

Jane Cottee

STEP President

Forest 20 Activities



One of the focuses of activity over the last few months has been the Ephemeral Wetland area which is situated at the back of Forest 20 near the Boundary Road. It has suffered from weed infestations and loss of specialised plants during the successive droughts and deluges of 2019-2023. Dedicated teams have been clearing unwanted biomass, rechanneling drainage and creating habitat for flora and fauna. Several new species have been planted and now all we need is a few days of soaking rain to really give the area a lift. We have also been adding new plants to the Wattle Walk and Parade of Peas, so hand watering has been a priority.

The grassland areas below the rows of Eucalypts have been recently mown and the sweeping views through the tree trunks are being shown off to their full potential. There has been a lot of thinning and pruning of sedges and grasses, as their seed heads wither and die. Some grasses are left to show their graceful habits - of note is the Slender Bamboo Grass *Austrostipa verticillata* at the STEP entrance, which has been putting on a show. We have refreshed the mulch in several beds and weed control has been successful in most areas, thanks in no small part to the dedication of our members! Several of the winter-flowering plants have begun to bloom, including *Correa reflexa*, *Crowea exalata* and *Acacia lanigera* - there is always something to admire down in Forest 20!



Jane Cottee

Tree week

This event started in Canberra in 2014 as an annual celebration of trees and their value. The National Arboretum organised several forest walks and as STEP's contribution, Jane led a walk through the eucalypts on May 10. The route used the newly created 'Eucalypt Walk' which is a mown path running from the top of STEP starting near the entrance to the lowest point ending next to the Wetland. It passes 12 different species of local eucalypts - all named to help with identification. There are a further 3 species of eucalypts in the Central garden and 3 other species growing elsewhere in Forest 20.

Some Eucalypt facts!

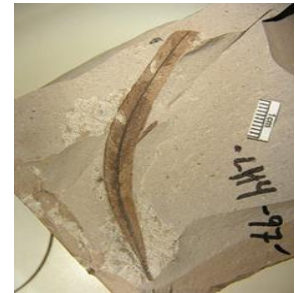
There are 822 species of eucalypt according to the IUCN (International Union for the Conservation of Nature) in 2020. Of these only 16 species are found outside Australia mainly in the tropical rainforests of New Guinea, the Philippines and Indonesia. Eucalyptus deglupta, the rainbow gum is one species found in these tropical locations.

193 (23%) of all eucalypt species are threatened mainly due to climate change and land clearing. At STEP there are 18 different Southern tablelands species. 5 of the species have been assessed by the IUCN as endangered (3 are vulnerable, 2 are near threatened) and a further 7 species may become endangered in the future so STEP is playing an important part in helping to preserve endangered species.



Fossil imprints of eucalypts have been collected in Patagonia which are about 52my old, but eucalypt species may have existed for over 100mya according to an analysis of their genome.

Photos: Wikimedia



Eucalyptus deglupta JW

Eucalyptus day is celebrated each year on 23rd March on the birthday of Bjarne K. Dahl (1898-1993) who was a Norwegian born forester who came to Victoria at the age of 30 (in 1928) to map and measure tree resources for the Victorian forestry commission. He was so impressed by Australia's eucalypts that he bequeathed a trust now known as the Eucalypt Australia Trust to be used for the promotion, education, conservation and planting of eucalypts.

***Acacia lanigera* The Woolly wattle**

As mentioned by Jane, the Woolly wattle is providing a stunning display at the moment so I thought it might be of interest to add some background information about this plant.



Woolly wattle



Closeup of flowers



Leaves and stem showing hairs

The Woolly wattle was named because of the many hairs found on its stems, leaves and seedpods. If you feel the leaves, they have a rough texture and a close photograph shows the abundance of hairs. Its Latin 'species' name comes from the words 'lana' meaning wool and 'gerus' meaning bearing.

This is a medium sized shrub growing to about 2m in height with straight or slightly curved hairy phyllodes – flattened leaf-like branchlets that are not actually leaves, but look like leaves. The flowers are a bright golden yellow, globular or ovoid in shape and occur prolifically with 15-30 flowers on each branch. The seed pods are about 10cm long and curved or coiled and covered with white hairs. This wattle typically flowers between May and October. One group at STEP (near the entrance path) started flowering about mid May while another group in the Central garden in section B are just showing small buds. This shows the natural variations that can be caused by different planting positions and perhaps obtaining plants from different sources.



Woolly wattle leaves and buds in Section B

The Woolly wattle typically grows in woodland and dry sclerophyll forests in poor soil but can make a good garden plant for a sunny position. It is frost hardy to about -7°C and quite long lived for a wattle. It is often used as a windbreak because of its leafy and branching habit and is a good pollen source for native insects, European bees and honeyeaters. Insect eating birds are also attracted to the woolly wattle to feast on the visiting insects.

TRAVELLERS TALES

From Judy - Antarctic Expedition

In March, we had a most amazing experience visiting Antarctica. This is a richly diverse place and we were fortunate to have highly qualified staff on the expedition ship. They provided passengers with a wealth of knowledge about the history, geology, glaciology, oceanography, marine and land environments and the many bird and mammal species. As the windiest, driest, oldest continent which has the greatest solar radiation, Antarctica's ecosystem is a testament to the miracle of life which can establish itself under the harshest of conditions.



Antarctic scenery JES

Our expedition ship sailed from Ushuaia, east along the Beagle Channel then south across the Drake Passage, humorously referred to as Lake Drake or Shake Drake according to conditions. We experienced the latter with a 7m swell and winds of up to 68 knots. Our first destination was Marguerite Bay, 68 degrees S. and from there journeyed back north along the Antarctic Peninsula, visiting islands and the mainland.



Icebergs JES

Expedition tourism in Antarctica is highly regulated through the International Association of Antarctic Tour Operators which comes under the umbrella of the Antarctic Treaty. Our tour operator was very conscious of protecting this fragile environment. Any outer layers of clothing which would be worn on shore had to undergo a biosecurity

inspection. While Avian Influenza has yet to appear in the area we were visiting, some of the Falkland and South Shetland islands had reported distressing numbers of penguins and other birds being killed. All landfall tours required us to walk through disinfectant when disembarking and re-embarking, and to use boot brushes with water sprays.

It was fascinating to learn about the self-sustaining cycle of life in this icy world. Whales eat the krill, whale excreta (high in iron) feeds the phytoplankton which also absorb carbon dioxide, and krill feed on the phytoplankton. The statistics about krill are staggering. In one 450sq km site, it was estimated there would have been 2 million tonnes of krill. The world weight of all krill in oceans today is estimated at 379 million tonnes.



Humpback whale and raft of Gentoo penguins MSS



Humpback whale MSS

One of the citizen science activities was to measure water clarity. A white plate-like device with a measuring tape attached was lowered into the water.

The depth at which the plate could no longer be seen was recorded and the smaller the depth, the higher the concentration of krill in the water. Water samples were also taken to the on-board laboratory to identify types of phytoplankton, diatoms and krill. Other citizen science activities included recording bird species and numbers, and identifying humpback whales by tail shape and markings.

Having been intrigued for a long time by penguins, seeing them in the wild was a highlight of the trip. The species we observed were Adelie, Gentoo, Chinstrap and Magellanic (but the latter not seen in the Antarctic part of the trip). A penguin colony has an awful smell and also can be seen from a distance because the orange-coloured excreta stains the snow. Penguins are frequently seen at the top of high ridges as they rely on wind to clear snow from the rock which is needed for nesting. Excreta also absorbs sunlight and aids in melting snow to expose more rock. In a scientific experiment some years ago, rocks of some nests were painted different colours. When the researchers returned 12 months later, all of the coloured rocks were mixed up; clear evidence of nesting material theft.



Adelie penguin rookery MSS



Penguins and pancake ice JES



Chinstrap penguin MSS

Another type of theft is practised by skuas who harass birds to make them regurgitate their catch of fish: kleptoparasitism.



Weddell seal MSS

We saw many types of seals: sea lions, Weddell, crabeater, leopard and furred. Crabeaters are the most abundant of all the species, so called because their diet is largely krill and their teeth are adapted to filter the krill out of the water. The Norwegian name for “crustacean” is “krill” hence these seals are “crabeaters”. They are prey for leopard seals and orcas. Penguins and squid are also prey for leopard seals. The Weddell seal is the most southerly breeding mammal in the world (below 70-80 degrees south).

This adventure excursion was amazing on so many levels. On return to Ushuaia, there was another adventure awaiting: a trip up the Chilean coast into many of the fjords, but that is a story for the next newsletter.

From Max - Japan

Now I just love nurseries and I thought I had seen many interesting examples. Then came a garden tour to Japan.

On the 21st of each month a huge, and I mean enormous market, is held in the grounds of the Toji Temple in Kyoto. It sells a vast range of products, mostly handmade artisan ware ranging from clothing, furniture and food to...plants. Among the nurseries selling products were a few selling *Callistemons*, and *Banksias*, as well as surprisingly *Actinotus helianthii* (Flannel flowers) in full bloom.

But the really big surprise were the two sellers of mosses and lichens. As the photos show there were many species of moss in neat little tubs but what fascinated me most were the lichens, also in little tubs. Now these latter, which all readers of this Newsletter will know, are a strange beast made up of symbionts between algae or cyanobacteria, living with multiple species of fungus and other bacteria embedded in their cellular folds. They seem to have the capacity to extract energy and nutrients from just about any substrate and I have seen them on abandoned glass panes in a building and chrome fittings on abandoned cars doing so, let alone on claypans in the Australian arid zone.

So how do you sell tubs of them, indeed how do you get them to ‘release’ from their substrate? They do not have roots but some of the filamentous fungal parts of the association anchor them to their substrate. Unfortunately the language barrier stopped me from getting this information.

Nevertheless some of the superb moss gardens of Japan have, besides of course many moss species, especially in the colder mountain regions, but also trees, buildings and furniture covered in lichen so of course there is a ‘market’ for these curious but intriguing organisms. They are classified, correctly as cryptogams.



Many lichens interestingly are quite allelopathic, stopping the growth of plants, including in some cases on bare rocks, mosses. So it is also intriguing that they are sold together.



Max Bourke AM

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The STEP Newsletter is produced quarterly in March, June, September, and December. Contributions, comments and suggestions are welcomed.

Thank you to Jane Cottee, Judy Smith and Max Bourke for their contributions this month. Also thank you to Jane Cottee (JC), Judy Smith (JES) Mike Smith (MSS) and Max Bourke (MB) for their photos. This newsletter has been edited by Jennie Widdowson.

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