



# The Garden Clubs of Australia Inc.

'Friendship through gardens'

## Southern Tasmania Zone

Newsletter 7, 2022

### Dear Southern Tasmania Zone Members,

Spring is just around the corner and so it's time to get busier in your garden or balcony. Have you been on the lookout for glorious early spring blossom?

Members please remember that the next **Zone Meeting** is being held on Saturday 17 September, 2022. Our host club, the Coal River Valley GC will be happy to welcome attendees at the Richmond Football Club, Victoria Street, Richmond from 10am for a 10.30am start. \$15 pp payable on arrival. Please RSVP your club's representatives to me by **Saturday 10 September** to assist the host club with catering, etc.

Various clubs are holding special anniversary events during August. Please remember to take photos and send them to me for inclusion in the Zone Newsletters.

September will also be a busy month for various Society Shows (see Diary Dates!). Please do your bit to ensure that these Shows are successful – either by entering in the various horticultural classes or attending the Shows. See you all again soon!

Cheers for now, *Heather Pryor*



## Timely Reminders for Your August Garden

- Give your **garage and garden shed** a thorough cleaning. Take any half-used bags of potting mix and spread them into existing garden beds to lighten the soil. Check the dates on any sprays or chemicals and responsibly dispose of any that have expired. Spring clean your gumboots by cleaning with a mix of water and mild detergent and use a small, soft brush to remove any stains or mud. Either store them upside-down or put a shower cap over each boot opening to keep out any spiders looking for a new home.
    - Didn't **sharpen your gardening tools** before winter? Well, now is a good time to attend to that task and be ready for spring. Use methylated spirits and steel wool to clean and disinfect secateurs and trowels. Sharpen them with a whetstone or powered sharpener and spray all moving parts with oil or WD 40.
    - After your **camellia** has finished blooming, lightly trim the plant to bring on a new growth flush and to further develop density. Tip prune young plants to encourage bushiness.
  - Wait until early to mid summer to take cuttings of your camellias. The more reliable cuttings are semi-hardwood, that is, when the colour of the bark starts to change from green to brown. Dip the end into honey or a cutting gel/powder and then place into propagating mix. Keep warm and moist as the shoots develop.
    - **Perennials** can still be divided and replanted, especially perennial asters, chrysanthemums and waterlilies.
    - Your **houseplants** will benefit from some attention now. Perhaps by potting-on or even removing the old, tired soil and replenishing it with fresh mix.
- ### August in Your Vegie Garden
- **Seedlings to plant now:** Broccoli, cabbage, cauliflower, globe artichoke off-shoots, Jerusalem artichoke tubers, kohlrabi, oca (New Zealand yam, *Oxalis tuberosa* - to harvest in summer), onions, silverbeet and shallots.
  - **Plant:** Certified seed potatoes, divisions of chives, rhubarb and asparagus crowns. Strong seedlings of broccoli, cabbage, cauliflower, celery, broccoli, lettuce, onion and leeks. Plant garlic cloves.



- **Seeds:** Sow directly where they are to be grown: Asian brassicas, broad beans, cape gooseberry, carrots, cauliflower, English spinach, globe artichoke, kohlrabi, onions, parsnip, peas (including snow peas). In warm, well-drained soil or containers, sow broccoli, cabbage, carrot, cauliflower and lettuce.
- **Harvest:** Oca planted in December.
- **Spray:** Stone-fruit tree stems and trunks with fungicide which includes copper hydroxide/lime sulphur to prevent curly leaf and brown rot. Do not ever use this on the leaves.
- **Manure and fertilisers** should be spread over your veggie bed and growing plants now along with feeding all fruit trees and berry plants.
- **Prune** black passionfruit vines to tidy up any tangled growth. But it is too late to prune grapes now as this will cause them to bleed.
- **Tomatoes:** do not buy them yet even though we might be having some lovely sunny days and they are plentiful in stores. The soil is far too cold for them to thrive and you will have stunted growth and little yield later on in summer. Be patient and wait a few weeks until the Tasmanian soil is warmer. If you do buy them, place them in a sunny location (on a windowsill) inside the house. You might even pot them on a little but the outside weather is not suitable yet. Do not overwater at this stage and do not feed more than a very mild mix of seaweed.



## How Botanists Name Plants

In the 1700s, Swedish botanist Carl Linnaeus developed the binomial (two names) system for naming plants. Nomenclature (the naming of plants) can be complex at first, but some basic understanding of how it is done might be useful:

**Family:** This term is an 'umbrella' one that is used to classify plants into groups that exhibit similar characteristics, such as flower and foliage form. These names usually end in '-aceae', for example, Iridaceae for the iris family and Liliaceae for the lily family, Rosaceae for roses, etc.

**Genus:** This is a group of similar species. Each genus has a Latin name which is written in italics and which has its first letter in capitals and which forms the system by which all plants are identified, for example, *Lilium formosanum* — where *Lilium* is the genus or generic name. The name *Eucalyptus* was created from the Latin 'eu' meaning 'well' and 'calyptus' 'covered' which refers to the flowerbud with is covered by a small cap (- see picture right of *Eucalyptus gunnii* showing the open bloom and the small caps on the buds about to burst).



If using a list or multiple use of the same genus, the first letter only of the genus can be used in subsequent species, for example: *Eucalyptus camaldulensis*, *E. leucoxylon*, *E. porosa* and *E. baxteri*.

**Species:** (that is, the specific epithet). Adding a species name to the genus name, means that people can more closely identify exactly to which plant you are referring, such as *Aquilegia vulgaris*, *Lobelia cardinalis*. The species name usually indicates a characteristic of the plant, for example, *lanceifolia*, refers to leaves that are lance-shaped or spear-shaped; *cardinalis* referring to red flowers leaves; *formosanum* meaning 'found in Formosa' (similarly '*sinensis*' found in China or '*japonica*' found in Japan). *Magnolia wilsonii* was named for the 19<sup>th</sup> century plant explorer, Ernest Wilson.

A species grows wild somewhere in the world and usually all forms of it are uniform in appearance and growth habit. These can also be propagated from seed and result in offspring looking the same as the parent plant.

Further adaptation can be where a species might have a different colour or form and so you find another word that indicates that, such as *Aquilegia vulgaris alba* – 'alba' referring to the white form of the species (that is a white Columbine or Granny's Bonnet) – see photo right.



**Subspecies:** This denotes naturally occurring plants that have subtle differences from the species. The name is written in italics, but the word 'subspecies' is abbreviated to 'subsp.' (or 'ssp.') and italics are not used, for example, *Aconitum napellus* subsp. *vulgare*.

**Variety:** This describes a variation between a subspecies and a form that is sufficiently distinct to have its own name. The word 'variety' is not written in italics and is abbreviated to 'var.', for example, *Heuchera micrantha* var. *diversifolia* (- pictured at right).



**Hybrids:** These are the result of union between two species or two genera, and are distinguished by having an 'x' in their name. When the cross is between two interspecific varieties, the 'x' is placed before the specific name, e.g. *Geranium* x *riverleaianum*.

This is rare, but the 'x' is placed before the generic name when it is an intergeneric hybrid, e.g. X *Solidaster luteus*. As another example, English ivy (*Hedera helix*) has been crossed with Japanese fatsia (*Fatsia japonica*), and the resulting plant has the common name Fatshedera. Its botanical name is X *Fatshedera*, you would just say, "the hybrid genus *Fatshedera*". In alphabetical listings, the X is always silent.

Hybrids must be propagated vegetatively from cuttings or off-shoots if they are to come true to type. Any seed will only have a percentage of the pod parent plant and a percentage of the pollen parent plant. Therefore only a small percentage of any progeny will be true to type.

**Cultivars:** Horticulturalists have a separate system for naming cultivars ("CULTIVated VARieties"), aka selections. Plants that are in cultivation, usually by vegetative reproduction, because they are especially useful, especially beautiful or especially unusual specimens that are worth preserving. They could be hybrids or selections discovered in nature or found in the garden.

Cultivar names may or may not be Latinised or italicised, but they are set off in 'single inverted commas' and Capitalised, e.g. *Dianthus* 'Doris'; *Iris Louisiana* 'Her Excellency Kate Warner' (- pictured right)



Expanding the information above, a cultivar can also be named this way: *Phlox* x *procumbens* 'Variegata' (which is a hybrid cultivar with variegated foliage); also X *Heucherella alba* 'Bridget Bloom'.

**The advantage of using Linnaeus's binomial system** (explained above) to name plants is that once a plant is given a name it refers to that one plant only, making discussion and communication about that plant much more effective. One can communicate with someone in the USA or Africa using the botanical name of a plant and each party knows what plant is being referred to.

The trouble with **Common names** is that they may refer to more than one plant. A widely used example of this is the Rose of Sharon which is the common name of *Hypericum calycinum*, *Lilium candidum*, *Tulipa agenensis* and *Hibiscus syriacus*.

## Wellington Park

In 1993 Wellington Park was established to protect the values of kunanyi / Mount Wellington and the surrounding area as a natural and cultural landscape. Did you know that in Wellington Park there are distinct microclimates due to topography, altitude, and access to sun and moisture? Geological activity has resulted in varied soil types, hence the vegetation across the Park is highly diverse.

Recent research has found that there are over 500 native plant species, representing about 30% of Tasmania's native vascular flora in the Park; along with over 80 species only found in the State representing about 30% of the total number of Tasmania's vascular endemics (in particular, the mountain is recognised as one of Tasmania's richest sites in terms of number of endemic species, with two species being found only in this area). The Park has a total of 164 mosses, 130 liverwort (60% of Tasmania's 'bryoflora') and 95 macrolichen species. The mountain shrimp, *Anaspides tasmaniae*, first found in tarns and streams in the Park in the 1890s, tells an ancient story of crustacean evolution. New discoveries of enduring life forms are ongoing.

# Admiring Mount Field National Park

The twin cascade of **Russell Falls** is the reason that Mount Field was declared as Tasmania's first nature reserve in 1885. At the time, 120 hectares were protected; however, today Mount Field National Park covers 22, 514 hectares.

In 2013, it became part of the Tasmanian Wilderness World Heritage Area. This 1.38 million hectare estate was declared in 1982. Along with Mount Taishan in China, this Area holds the world record for holding the most criteria required for having such a declaration.

In the Park, ***Dicksonia antarctica*** (Soft Treefern) can live for up to a thousand years. The oldest ones seen along the track to the Falls are around 120 years old. Their trunk is comprised of continuous circles of aerial roots and old fronds spiralling together. Their funnel-shaped fronds channel water to feed aerial roots.

Although seen nowhere else in Australia, another commonly seen tree there is ***Pomaderris apetala*** (Common Dogwood) whose name 'apetala' means 'without petals'. Constantly shedding leaves that are deep-veined, wrinkled and hairy. Their seeds only germinate when there has been a bushfire or when a tree falls and there is a break in the tree canopy. Scientists can count the growth rings in a dogwood to determine how many years have passed since the last bushfire.

***Nothofagus cunninghamii*** (Myrtle Beech) should not be confused with the smaller alpine, deciduous beech or fagus (*Nothofagus gunnii*). Myrtle Beech are wet forest giants whose timber is popular with wood crafts people and furniture cabinetmakers.

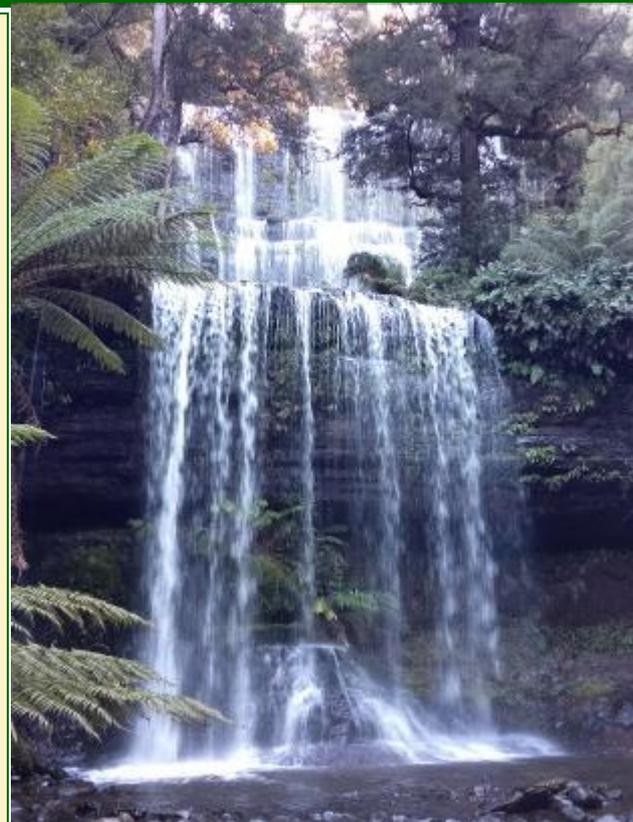
Sassafras (***Asherosperma moschatum***) is also a wet forest tree with strongly nutmeg-scented blooms in September and October. Highly prized by furniture makers, its black-streaked timber has stains caused by bacterial infection.

Giant Ash (***Eucalyptus regnans***) is the tallest tree species in Australia and the tallest flowering plant in the world. The name 'regnans' comes from the Latin meaning 'to rule'. Along the Russell Falls track, there are several Giant Ash trees more than 70 m high which are estimated to be 350–450 years old.

Stringybark (***Eucalyptus obliqua***) is referred to as 'Tas oak', the most popular hardwood in Australian building. A similar height to the Giant Ash, their bark is quite different in that Stringybark is rough-barked, while the Giant Ash sheds its bark in long ribbons.

The name for Musk Daisybush (***Olearia argophylla***) comes from 'argo' meaning 'silvery white' and 'phylla' meaning 'leaf'. The leaves are glossy-green above and white and furry below.

Whilst hiking or strolling the pathways, keep an eye out for Macleay's Swallowtail butterfly, Tasmanian tree skinks, Green Rosella, Grey Shrike Thrush, many forms of fungi and lichen, Jewel Beetles and Tawny Frogmouth (owls).



# Designing or Redesigning Your Garden

## Backyards and Small Gardens

- Forget having a lawn in a smaller area to save yourself mowing, feeding, trimming edges, etc. Instead, pop in pavers, gravel, grit, stone chips or paving of some forms (e.g. bricks, pavers) - see picture right.
- Break up an area of pavers by leaving out the odd paver and plant a small growing groundcover, such as a violet.
- Concentrate on vertical-growing plants to add height and depth. Try a trellis or wire frame on walls to train interesting climbers up them.
- A trellis can block out an ugly wall or view.
- Specimen plants and trees in pots add drama and visual impact. Try using leaves of all shapes, sizes, colours and textures. Why not topiary a few?
- Paint garden walls/fences a light colour to make the area look bigger.
- Group containers of various heights together and attach pot rings to walls to hold seasonal flower pots.
- Deep window boxes on sills, ledges and low walls provide good planting areas for displays or favourite plants.
- Make a lilypond out of a large bowl and use oxygenating plants to keep water fresh.



## Remember to Fertilise in Winter

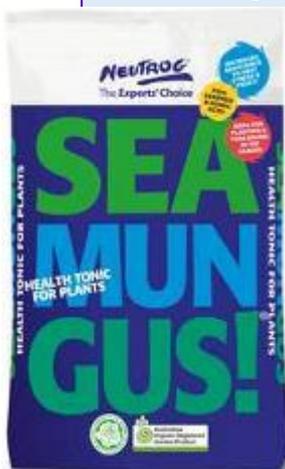
The plants grow best when they are well-nourished and fed regularly. Healthy plants are more resistant to disease and are less likely to be affected by harsh weather conditions.

Year-round fertilising is not about applying more fertiliser but rather applying smaller amounts more regularly. Consider taking the quantity recommended for feeding your plants for the season and dividing it into equal parts and applying 1 part in each month of the season.

Above ground there is little happening, but below ground, plants are establishing themselves for the coming seasons. Now is a suitable time to apply a product like Neutrog's *Seamungus* to your entire garden. There are numerous benefits for doing this as *Seamungus* contains natural plant growth hormones which encourage strong root development (resulting in a greater root surface area for plants to take up nutrients). It encourages beneficial bacterial activity in the soil, and the seaweed component helps strengthen plant cell walls to cope with winter stress, particularly frost.

August is the time to really begin your fertilising program. Feed your bearded irises, roses and helleborus this month with commercial rose fertiliser. This will create more bloom and better quality and longer lasting bloom. Neutrog's *Sudden Impact for Roses* is an outstanding product.

Beardless iris (such as Siberian, Louisiana, Japanese, etc.), camellias, azaleas, deutzias and rhododendrons should be fed now with commercial camellia/azalea mix. Such specific fertilisers have the correct amounts of NPK that your plants need and are not all just nitrogen (= more leaves).





## Dinosaur extinction changed plant evolution

Effects of missing large herbivores on food plants still detectable today

Megaherbivores impacted terrestrial ecosystems at least since the Jurassic period, approximately 201 million years ago, and non-avian dinosaurs occupied this megaherbivore niche for most of the Mesozoic era. With the extinction of large, non-flying dinosaurs 66 million years ago, large herbivores were missing on Earth for the subsequent 25 million years. Since plants and herbivorous animals

influence each other, the question arises whether and how this very long absence and the later return of the so-called "megaherbivores" affected the evolution of the plant world.

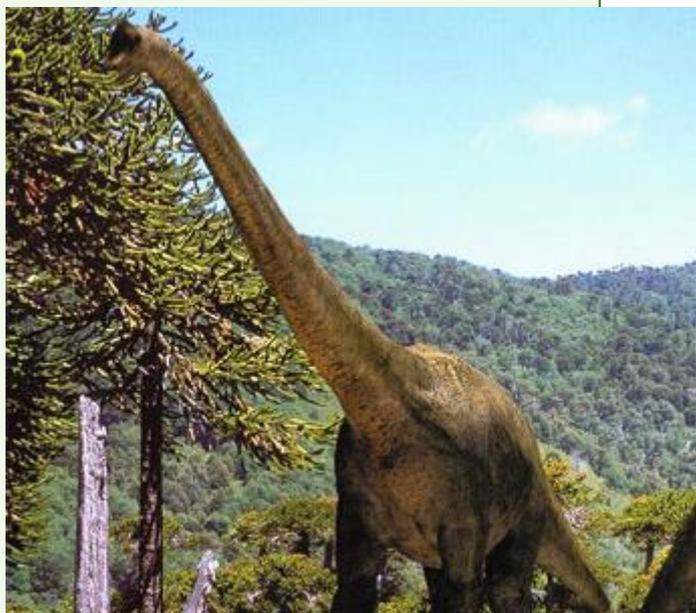
To answer this question, a research team led by iDiv and Leipzig University analysed fossil and living palms today. Genetic analyses enabled the researchers to trace the evolutionary developments of plants during and after the absence of megaherbivores. Thus, they first confirmed the common scientific assumption that many palm species at the time of the dinosaurs bore large fruits and were covered with spines and thorns on their trunks and leaves.

However, the research team found that the "evolutionary speed" with which new palm species with small fruits arose during the megaherbivore gap decreased, whereas the evolutionary speed of those with large fruits remained almost constant. The size of the fruits themselves, however, also increased. So, there were palms with large fruits even after the extinction of the dinosaurs.

Apparently, much smaller animals could also eat large fruits and spread the seeds with their excretions. The researchers thus refuted the previous scientific assumption that the presence of large palm fruits depended exclusively on megaherbivores. They initially assumed that the lack of influence of large herbivores led to denser vegetations in which plants with larger seeds and fruits had an evolutionary advantage.

However, the defence traits of the plants; spines and thorns on leaves and stems, showed a different picture: the number of palm species with defence traits decreased during the megaherbivore gap. However, they returned in most palm species when new megaherbivores evolved, in contrast to the changes in fruits, which persisted.

With their work, the researchers shed new light on evolution and adaptation during one of the most enigmatic and unique periods in the history of plant evolution, during and after megaherbivore extinctions. Understanding how megaherbivore extinctions affected plant evolution in the past



can also help predict future ecological developments. For example, the authors have noted the loss of traits during the megaherbivore gap. This loss can affect important ecosystem functions and processes, such as seed dispersal or herbivory.

The ongoing extinction of large animals due to human hunting and climate change may thus also affect trait variation in plant communities and ecosystems today and in the foreseeable future.

[Click for full story.](#)



## Featuring Glorious Camellias



In the language of flowers, camellias represent faithfulness and longevity and make a lush addition to flower arrangements or dinner table arrangements.

*Camellia japonica*, *C. sasanqua* and *C. reticulata* are the three species most commonly found in nurseries and catalogues in Australia. You may also find hybrids between species, developed by breeders who wish to add new colours and cold hardiness to the market. This flowering shrub has been in cultivation for more than 3000 years and happy shrubs can live for more than a century. Camellias are evergreen shrubs with dark green, glossy leaves that are oval-shaped with slightly serrated edges. They have a naturally neat growth habit and are strikingly handsome plants even when not in bloom. Flowers may be white, pink, red, yellow or streaked, and bloom forms can be single, double or anemone.

### Where do Camellias Grow Best?

Gardeners in cold climates can increase the chances of their camellias surviving the winter by carefully selecting their permanent site in the landscape. *Camellia sasanqua* cultivars can take more sun than *japonica* types. For *C. japonica* and *C. reticulata*, a cooler, southern-facing planting site has an advantage over a hot northern site in the garden. A south-facing site combined with a building, hedge or fence that acts as a windbreak will give Tasmanian gardeners the best rate of success.

### How Tall are Camellias?

Dwarf camellias can reach 40cm in height, but many camellias grow to a mature height between 2–4m. Camellias are slow growing and specimens in the *reticulata* range can reach 7m after many decades if they have excellent growing conditions.

### Planting Camellias

Smaller-growing camellias are very suited to pots. Camellia plants enjoy light or dappled shade, but they do not like to compete for water and nutrients with trees in close proximity.

Know the mature size of your camellia and plan accordingly if planting close to a window or home foundations. Plant camellias anytime except in the hottest summer months. If planting multiple camellia shrubs, space them at least 1.5m apart.

Camellias require well-drained soil. An ideal soil pH for camellias is acidic within the 6.0–6.5 range. If your soil is dense clay and doesn't drain well, consider container culture. Select at least a 45cm container and a rich, loamy potting soil suited for camellias and azaleas. No lime please.

### Fertilisation

Proper fertilisation is important for a large flower count. Apply a potassium-rich fertiliser in summer to facilitate petal development. Apply fertiliser specifically designed for camellias, azaleas and rhododendrons or a slow release nitrogen fertiliser in the spring (not during flowering) to keep foliage dark green and lush. No lime please.

### Pruning

Prune camellias after flowering to keep the interior of the shrubs free of dead and non-blooming branches. Remove any branches that droop on the ground.

### Watering

Water camellias so that they are consistently moist. Dry periods that occur during bud development result in bud drop or fewer flowers with a lower petal count. Drought stressed plants can encourage red spider infestation. Apply a good layer of mulch to moderate soil temperatures, retain soil moisture and stifle weeds.

**Left:** *Camellia reticulata* 'Valentine Day'.

Water the roots AND the foliage for good results.



## Pests and Diseases

If your camellia develops yellow leaves, this can be due to a couple of causes. First, inspect the undersides of leaves for scale, an insect pest that feeds on leaf juices. Although the leaves will appear yellow on top, the undersides will look white or fuzzy. Treat scale with horticultural oil. An iron deficiency can also cause yellow leaves. Test your soil with a soil kit obtainable from your local nursery and feed your camellias with an iron supplement if needed.

## Garden Design Ideas With Camellias

- In large gardens, place camellias as anchor points along the garden path.
- Try using a camellia as an espalier specimen, where you train the shrub to grow flat against a fence or wall.
- Pair camellias with azaleas for continuous blooms from winter through late spring.
- Camellias are very effective potted plants for large pots, urns and tubs. Try a lovely glazed pot to complement the colour of the blooms.
- Try planting a blooming blanket of violas or pansies under camellias.
- Coordinate camellia blooms with complementary or contrasting spring bulbs, such as a mix of crocus, snowflakes and bluebells.



**Above:** Jennifer Stackhouse with Garden Clubs Southern Tasmania Zone Coordinator Heather Pryor, both in autumnal-toned attire, in a reception room at Government House.

## Government House Lectures

Gardening guru, **Jennifer Stackhouse** of Sheffield gave a delightful presentation at Government House in early July. Below are a series of points that should inspire you to revel in gardening in winter and throughout the year:

- ◆ Challenge yourself to create a winter floral arrangement for your home using berries and any interesting winter foliage or blooms that you can discover.
- ◆ Strategically position plants in your garden so that they are clearly visible from your windows in the middle of winter. Jonquils are important winter flowers with their early blooms, followed soon after by daffodils.
- ◆ Marguerite daisies are a joy as they keep blooming from summer through autumn and into winter, along with 'Iceberg' roses, fuchsias, Japanese flowering quince (– just one or two stems in a vase look artistic), the vivid blooms of polyanthus, and red hot poker 'Winter Cheer'

reliably blooms in winter.

- ◆ Camellias are a constant joy throughout winter months and the various forms of sasanqua, japonica and reticulata can extend the bloom season.
- ◆ *Anisodonta capensis* (pictured right) comes in various tones of pink (a 2–3 m shrub) and is constantly in bloom throughout the year.
- ◆ Try pruning penstemons at different times so that you have a succession of bloom.
- ◆ Paper daisies flower frequently and can easily be dried for indoor floral arrangements or to bunch together as a posy for a friend.
- ◆ The 'Matilda' strain of poppy has been bred in Australia by Bob Cherry and has stout stems that are excellent for picking and enduring Tassie's strong winds.
- ◆ If you have summer-blooming liliiums planted out, protect them from the dangers of a late frost.



- ◆ Ranunculus and anemones are best treated as annuals as they become spindly if regrown. So invest in a new pack each year. They are an excellent cut flower. Plant them in full sun and tuck them in amongst other perennials.
- ◆ Coming back into fashion are gladioli, that are wonderful as cut flowers. Plant them for special occasions knowing that they come to bloom 90–100 days after planting and you can be clever by successive planting and have a display over quite a period of time. A stake is essential to cope with our gusty winds.
- ◆ Also very much back in fashion are dahlias. They must be staked well and need to be well watered and well fed. They bloom all throughout late summer and well into late autumn. Disbudding will give you stronger and better blooms.



**Above:** Liz Fraser (left) and Annette Clarke (right) of Derwent Valley Garden Club with Heather Pryor (centre) after the lecture at Government House.

Jennifer also had advice about **annuals** for use as cut flowers:

- ◆ Place calendulas or pansies in a saucer or shallow bowl for a pretty display.
- ◆ Cosmos make an excellent cut flower. They are best from seedlings rather than see. 'Purity' is a pure white, shorter form than copes better with windy weather.
- ◆ More modern varieties of snapdragon and stock are more disease-resistant.
- ◆ Try dwarf varieties of sunflowers (available from Diggers Seeds) and some are without pollen so for those with allergies, there are clear benefits.
- ◆ Grow zinnias from seed. Try 'Envy', a lovely lime green variety (pictured right).
- ◆ Other very good cut flowers are: *Nigella* (which give a lovely touch of blue in the garden), *Limonium* (Sea Statice), sweet peas; cornflowers now come in shades of pink, white, violet and blue; nasturtium, and *Gypsophila* (Baby's Breath, coming as both an annual or a perennial form) is excellent for 'fill' in a vase when few other flowers are available in your garden.



**Perennials** that are a boon in the garden are:

- ◆ Spectacular delphiniums come in white and lovely blue tones, but must be staked.
- ◆ Salvias come in dozens of different varieties, some with dark calyxes that add impact or contrast to the colour of the bloom. Excellent for a warm, sunny position.
- ◆ Dianthus like a slightly limy soil and make good companions for roses.
- ◆ In autumn, Japanese anemones are lovely and fresh in white or pink; Michaelmas daisies hate being overcrowded, so clear away any competition (see below left); chrysanthemums are fabulous but must be staked well; Honesty (below right) has both flowers in early spring and later lovely seed-heads that are easy to dry and use for years as fill among other flowers in a vase or even by themselves for a lovely display.





## Rice, the World's Most Indispensable Grain

Plants -- they're just like us, with unique techniques for

handling stress. To save one of the most important crops on Earth from extreme climate swings, scientists are mapping out plants' own stress-busting strategies.

A University of California Riverside-led team has learned what happens to the roots of rice plants when they're confronted with two types of stressful scenarios: too much water or too little. These observations form the basis of new protective strategies.

While it is possible for rice to flourish in flooded soils, the plants yield less food or even die if the water is too deep for too long. This work simulated prolonged floods of five days or longer, in which plants were completely submerged. It also simulated drought conditions.

In particular, the researchers examined the roots' response to both types of conditions, because roots are the unseen first responders to flood and drought-related stress.

One key finding is about a cork-like substance, suberin, that's produced by rice roots in response to stress. It helps protect from floods as well as from drought. Suberin is a lipid molecule that helps any water drawn up by the roots make it to the shoots and helps oxygen from shoots to reach roots. The researchers were able to identify a network of genes that control suberin production and can use this information for gene editing or selective breeding.

Carbon that the plant puts into suberin molecules in the roots is trapped in the ground. This means that increasing suberin could help combat climate change by removing and storing carbon from the atmosphere.

The researchers also identified the genes controlling some of rice's other stress behaviours.

The research team plans to test how modifying these stress responses can make the plant more resilient to both wet and dry conditions. They now have a roadmap to make targeted changes to the rice genome that will result in a more stress-tolerant plant. Though our crops are threatened, new technologies give us more reasons to hope. [Click for full story.](#)

## Domesticated Olive

A joint study by researchers from Tel Aviv University and the Hebrew University unraveled the earliest evidence for domestication of a fruit tree. The researchers analysed remnants of charcoal from the Chalcolithic site of Tel Zaf in the Jordan Valley and determined that they came from olive trees. Since the olive did not grow naturally in the Jordan Valley, this means that the inhabitants planted the tree intentionally about 7,000 years ago.

Tel Zaf was a large prehistoric village in the middle Jordan Valley south of Beit She'an, inhabited between 7,200 and 6,700 years ago. Large houses with courtyards were discovered at the site, each with several granaries for storing crops. Storage capacities were up to 20 times greater than any single family's calorie consumption, so clearly these were caches for storing great wealth. The wealth of the village was manifested in the production of elaborate pottery, painted with remarkable skill. In addition, articles were found that had been brought from afar: pottery of the Ubaid culture from Mesopotamia, obsidian from Anatolia, a copper awl from the Caucasus, and more.

Trees give fruit only 3-4 years after being planted. Since groves of fruit trees require a substantial initial investment, and then live on for a long time, they have great economic and social significance in terms of owning land and bequeathing it to future generations -- procedures suggesting the beginnings of a complex society. Moreover, it's quite possible that the residents of Tel Zaf traded in products derived from the fruit trees, such as olives, olive oil, and dried figs, which have a long shelf life. Such products may have enabled long-distance trade that led to the accumulation of material wealth. [Click for full story.](#)



## Gardening D.I.Y. Advice

There is a tremendous amount of advice on the **Bunnings website** for gardeners and for advice on all sorts of DIY jobs. Try visiting the gardeners' section: [Garden Corner – Gardening Ideas - Bunnings Australia](#)

If you have ever wanted to know how to use a power drill, then this site and the video will be helpful: [Power Drill.](#)

Click for advice using a [Power Saw.](#)

Click for advice using a [Power Sander.](#)

Click for advice on a huge range of [DIY skills.](#)



## New Life Members of the Hobart Horticultural Society Inc.

HHS Vice President, Joe Neuschwanger took great pleasure in presenting three new Life Members of the Society with their Life Member badges and certificates at the Society's Annual General Meeting on 23 July at The Carlyle Hotel, Glenorchy. Recipients were Immediate Past President Mary Crowe of Howrah and renowned dahlia experts Greg Fooks of Old Beach and Ian Joseph of Glenorchy.

**Above left:** Member Susie Cooper with new HHS Life Member Mary Crowe and husband Kevin Crowe at the Annual General Meeting.

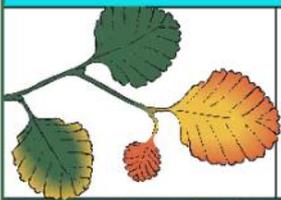


**Left:** HHS VP Joe Neuschwanger of Sandy Bay with new HHS Life Member Greg Fooks.



**Right:** (from left) Joan Joseph with her husband, a new HHS Life Member Ian Joseph with Society VP Joe Neuschwanger.

## Garden Trail



*Friends of the  
Royal Tasmanian  
Botanical Gardens*

Visit three gardens in Kingborough

Sunday 9th October  
9am to 5pm  
\$25

Tickets at [Eventbrite](#)

Morning Tea | Plant Sale  
Garden Art | Specialty Garden Tools Stall

no gate sales

## Friends of the Royal Tasmanian Botanical Gardens 2022 Garden Trail

Revel in a day exploring the lovely Kingborough region by purchasing a ticket through Eventbrite to visit the **three open gardens**. Ticket numbers are limited to 400, so don't delay your booking.

**[Click here to book.](#)**

There are no tickets available at the gate.

Plus there will be homemade morning/afternoon tea to purchase along with finding treasures on the plant stall, the garden tools stall, and garden art – each in different gardens.

Carpool with friends and enjoy the adventure together.

**Sunday 9 October from 9:00am to 5:00pm.**

## Lots of Great Diary Dates!

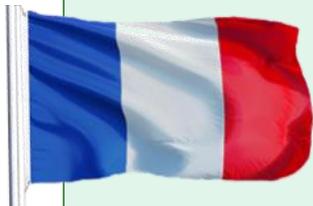
### Winter Series of Horticultural Speakers at Government House

Wonderful speakers including:

**10:30 am on Monday 8 August 2022: Tom & Jane Tenniswood**

**'Tasmania is My Garden - Biophilic State'**. Exploring evolving concepts of the future - the reinventing of garden spaces as we move towards underground parks, vertical cities, rooftop honey pots, sky terraces and 'gardens in the sky'. To book: <https://www.trybooking.com/BZIYG>

Morning tea provided at the conclusion of the lectures.



**The French Connection Tour:** As part of Tourism Tasmania's Off Season winter campaign, the Royal Tasmanian Botanical Gardens are partnering with Government House to offer a unique tour experience.

Led by experienced guides, rug up for a wintertime walk and discover the legacy of French botanists, learn about French collections of flora and sneak through the fence to delight in the recreated Lahaye's Garden at Government House, Hobart. The tours start at 10:00am and is available on **every second Thursday** from 28 July onwards and during August 2022. \$30 per person. (1 hour tour, including hot drink and baked treats). Bookings essential, please call 03 6166 0451 or email [visitorservices@rtbg.tas.gov.au](mailto:visitorservices@rtbg.tas.gov.au)

### Sunday 14 August Gardening Seminar by Hobart Horticultural Society

– 10:00 for 10:30am at the Glenorchy District Football Club, 1A Anfield St, Glenorchy.

Cost: Only \$10 per person, includes morning tea. Please bring your own lunch.

Come along and enjoy the pleasure of listening to three highly experienced, knowledgeable guest presenters: **Noel Button** on growing and showing perennials on the showbench; **David Gliddon** on paeonies; **Joe Neuschwanger** on growing camellias and staging them. Noel Button will have his marvellous **plant stall** laden with interesting and hard-to-get treasures.

Enquiries, booking and RSVP for catering by 11 August: [hobarthorticulturalsociety@outlook.com](mailto:hobarthorticulturalsociety@outlook.com)



**Tas Bulbs Open Gardens:** 11 Summit Drive, Devon Hills. Open to the public days on Saturday 20 August, Sunday 21 August, Saturday 3 September, Sunday 4 September, Saturday 24 September & Sunday 25 September. Opening times 10:00 am – 3 pm daily. All garden clubs or individual members are welcome to attend any of these days. Additionally we have set aside Friday 19 August, Friday 2 September and Friday 23 September for garden club groups. Over 300 different products from our range planted Contact Craig Waldron 0488 063 926

**Claremont Show Society Daffodil, Camellia & Spring Flower Show Sat 3 Sept. 12pm–4pm and Sunday 10am–3pm.** \$3 adult entry. For schedule, visit: [claremontflowershowgroup.org](http://claremontflowershowgroup.org)

Exhibiting is free and open to all gardeners: Fri 2:00–6pm or Sat 8:00 –9:45am. Claremont Memorial Hall, Cnr Main and Bilton Sts.

**Hobart Horticultural Society Early Spring Show 9 – 10 September.** Hobart Town Hall. See **glorious camellias, daffodils and a wide range of spring flowers**. Free entry. All exhibitors are welcome. Exhibiting is free and open to all gardeners. Set up Thursday evening 4 – 8pm and Friday 8 – 10:00am. Show opens on Friday 1 – 5pm and Saturday 10am – 4pm. Official opening by Her Excellency, the Hon. Barbara Baker AC, Governor of Tasmania on Friday at 1:15. Plant stall.

**Tasmanian Orchid Society Annual Spring Show 29 September – 2 October.** Hobart Town Hall. Free entry.

**Saturday 3 September to 25 September Botanicals Our Way** – Exhibition by Patricia Sabine at Lady Franklin Gallery, Lenah Valley from 11:00–3:30pm

**9 October Coal River Valley Garden Club** will hold a plant, craft & preserves stall in the supper rooms of the Richmond Hall, Richmond. Contact Sue Harmsen 0417 339 570.

**(Mrs) Heather Pryor**

Southern Tasmania Zone Coordinator, GCA  
6 Hickson Place, West Hobart TAS 7000

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