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5. Ground Covers: To Do or Not To Do?

Fred Moody

Whilst I find the use of many ground covers to be very aesthetic to a garden's presentation, I also find the use of many of them to be impractical. During more than 30 years of gardening in my current location I have found that the most beneficial ground cover is a good layer of mulch to retain moisture and organically improve the existing soil. An added bonus is also that mulching suppresses weed growth. I find that the importance of mulching can not be over stressed, and most of what comes out of my garden is mulched and goes back on to the garden just as it would in nature. The microbial breakdown of this mulch also creates an organically enriched nutrient loam to

the top layers of the garden bed, assisting in the symbiotic germination of seed.

However when one has a very successful ground cover planting, mulching can become very difficult as the only way to 'top up' is to cover all but the taller plants, because it is impossible to lay mulch around every little individual plant.



Peristrophe angustifolia Photo: Ian Edwards

Some of my more successful ground cover plantings have been the use of *Peristrophe angustifolia* with its silver-green patterned leaves topped by dark mauve flowers on maroon backing bracts. Seedlings of this plant are often requested by visitors to the garden. Also successful has been the use of *Syngonium c.v 'White Butterfly'* (the normal green form, similar to 'White Butterfly' tends to get out of control and is difficult to remove). Some of the small forms of *Neoregelia* (bromeliads) are also good at forming colonies, but have to be maintained at least twice a year to remove unwanted offshoots and remove spent flowering plants. Other possibilities that I have used are *Peperomia sandersii* and its cultivars (leaves are brittle but can be used to propagate further plants).

My more unsuccessful ground cover plantings have been black mondo grass (failed due to insufficient light below the canopy), variegated ivy (*hedera sp.*) grew like wildfire but started to strangle other plants and it was very time consuming trying to remove all of it. I am also using *Cryptanthus bivittatus* (a small bromeliad) which grows well but has to be lifted and replanted each time the garden is mulched.

To conclude, it may be worth the challenge for the keen gardener to persevere with both mulching and finding the appropriate ground cover that suits them and in return create diversity, colour, texture and interest in what could otherwise be a neglected and less attractive part of the garden.

Ground Covers

6.

Norma Edwards

With the idea of writing about ground covers I walked around our garden and discovered that many plants could be so described. As it is an old garden with plenty of space, plants that have been left alone have spread naturally and become ground cover. We seldom need to weed.

There was grass of course, and then Mondo (*Orthiopogon japonicus*). The miniature variety has covered very quickly after close planting of little plants separated from a clump. It took about a year and a half.

Many of the broms left to grow have covered quite big areas, such as over a mound left after a big clump of *Bambusa ventricosa* was cut down. In another planting, some *Neoregelia carolinae* cultivars turn into a red and green Christmas show at this time of the year.



Mini Mondo Grass



Neoregelia carolinae cultivars

7.

Native violets (*Viola hederacea*) have spread around the garden and now shady areas of lawn have become a carpet of flowers.



Native violets taking over the lawn, with Mondo Grass covering the garden edge.

Ctenanthe burle-marxii always looks good and grows easily, if not quite as quickly as many of the other kinds of ground cover.



Ctenanthe burle-marxii

8.

An iris, *Iris japonica*, grows in full shade. It spreads by stolons, and has to be controlled with the lawnmower. Flowers appear for a few weeks in the spring.



Iris japonica

Ferns used as ground cover create quite a different, textured, effect. *Nephrolepis exaltata* cv. Hillii grows in a sheltered damp area, covers slowly but its light-yellow colour is a nice contrast. In another part of the garden with only a little morning sun is another fern, *Microsorium diversifolium* (Kangaroo Fern). It grows over rocks, receiving some moisture from underground seepage.



Nephrolepis exaltata cv. Hillii



Microsorium diversifolium



Tradescantia pallida

The purple ground cover which can be seen growing in full sun in public gardens, *Tradescantia pallida* "Purple Heart", must be very hardy and could be useful. There are other things I prefer.

In contrast, a blue-grey succulent which also spreads in full sun over a hot dry area is very attractive. Could it be a *Sedum sp.*? See photo below.



? Sedum sp.

Many years ago I read that a ground cover called dicondra (*Dicondra repens*) would grow in shade, where grass died. With some difficulty I got seed. It didn't grow where intended, but now can be found anywhere in the garden and is a perfect pest. No visible flower, but it must spread from seed. A few years ago I wrote to one of the garden writers after she recommended dicondra, describing my experience with it, and got a reply saying that all the experts recommended it. Don't fall for dicondra!

Zamia need to be hand pollinated in Australia (and most places away from habitat) to produce seed. This means their conservation is reliant on botanical gardens and collectors to keep this genus continuing. Those who have a passion to do so can help achieve this. It is genus that can be saved in any home, townhouse or unit balcony, as most are small cycads.

Zamia angustifolia

This is something different, it comes from the island of Eleuthera in the Bahamas, and it has a subterranean spindle shaped trunk 20 cm long. It has very fine grass-like leaflets which are a deep bronze on the new flush, five to seven leaves, arching when growing in sun, to 50 cm long and 12 cm wide. When grown in the shade they have 80 cm-long leaves that are 35 cm wide.



Zamia angustifolia

Photo: Cameron Walkley, Plantation 2000

Here is a cycad that you can design for the size of a given space. Its fine leaflets set it aside from all other cycads so it can become quite a conversation starter.

It grows easily in the garden. It is a good one for pots, has the ability to be grown in open, sunny spots and is more cold hardy than many.

Available Utopia palms and Cycads. Some sold at last meeting.

Zamia skinneri

From Panama, Caribbean northern coast also from the Canal Zone, growing in very wet, tropical rain forests with 4000-6000 mm of rain a year. Stems are 1-2.5 m high, with three to six erect to arching leaves 1 m long. New leaves are either bright green or reddish brown.



Zamia skinneri In Sydney RBG
Photo: Ian Edwards

11. *Zamia skinneri* is spectacular to look at in maturity, due to its very wide glossy, deeply grooved leaflets.

Many *Zamia* that were sold in the past under the name *Zamia skinneri* were actually *Zamia neurophyllidia*. When you see *Z. neurophyllidia* and *Z. skinneri* side by side it is easy to tell them apart. (*Z. neurophyllidia* has a narrower leaf.)

It needs to be in the warmest area of the garden, the warmer the area the better it becomes, looking definitely a favourite. It grows well in a pot. Worth the effort if you can find one.

Zamia fairchildiana

From Costa Rica, growing in rocky limestone sites, near streams in tropical rainforest. Trunks up to 1m high and 10-14 cm in diameter, with attractive numerous glossy, bright-green leaves, 0.9-1.8 m long. Lots of leaflets, up to thirty pairs.

Although this is a tropical *Zamia* it grows very well here and appears to be one of the faster growers. It is definitely worth growing: it is attractive and appears to grow in all soil types, and rewards quickly. It is another *Zamia* that is hard to obtain but worth searching for.



Zamia fairchildiana
Photo: Fred Moody

Zamia neurophyllidia

12.

From Costa Rica, in the catchment area of Rio Reventazon. Grows to an elevation of 700 m in an area of 4000 mm rainfall a year. A very old plant will have a round trunk up to 1.5 m high with a diameter of only 7-10 cm. From two to twenty-four leaves which have an attractive, glossy, grooved leaflet.



Zamia neurophyllidia, two plants with cones Photo: Fred Moody

Needs a well drained area that does not dry out, in the warmest area in your garden and takes a little more looking after. If it is a wet winter, spray a few times with fungicide for it to look its best. Plant in shade to partial shade. It looks great with coloured foliage around the stem.

This species is threatened in the wild. A project involving twelve peasant communities, living in the rainforest, is propagating it, along with other local rainforest plants. Hard to find at the moment, but there will be seedlings available next year from Utopia.

Zamia prasina

From Belize, growing in wet cloud forest on steep slopes and cliffs and sometimes in limestone sink holes. Subterranean stems. 3-6 bright green arching leaves 50-100 cm long.

Zamia prasina is threatened and is only known from one location. It has interesting leaflets that have a fold along their length. It is extremely rare: fortunately we got some seed and will bring a few seedlings to the meetings in the future. It is said to be similar to *Zamia tuerckheimii* except with wider leaflets. Looking forward to them growing to maturity.

13. *Zamia portoricensis*



Zamia portoricensis

This is one of the Caribbean species of *Zamia* that is found only in western Puerto Rico. Has a 25 cm-long tuberous subterranean trunk with arching leaves up to 1.5 m long, grows in limestone hills in heavy but permeable clay soils.

It is one of the easiest *Zamias* to grow, liking more light than the average and is a nice one to grow in small places. This is another one growing well in our garden. Available at Plantation 2000.

Zamia lucayana

From Long Island in the Bahamas, growing near and along the sand dunes. Subterranean tuberous stems, with short (up to 76 cm) four to six stiff, erect leaves. They have a symbiotic relationship with the sand crabs of their locality, which live off the flesh and spread the seeds, carrying them into their burrows in the sand. The seeds sprout up from 20 cm deep. They make a nice pot plant because of their size and style. I have tried them in the ground but they seem to do better in a free draining pot. In hindsight I probably needed to amend the soil as one died of rot. Hard to find but is a nice one to have in the collection.

Zamia pseudoparasitica

From Panama, growing in tropical rainforest at an altitude of 925-1075 m. It has a stem 30-60 cm, with three to ten hanging leaves 2-3.5 m long.

This *Zamia* has a wow factor: it is the only cycad that is an epiphyte, like many bromeliads and orchids. It grows in trees with a lot of air movement around them. It needs to be in a hanging wire basket lined with sphagnum moss with a light orchid mix. Grown outside, it needs a warm place, the warmer the better in our area. Growing it in a warm greenhouse or shaded area will give good results.

When seen as a mature cycad it will be something you will never forget. For the experienced collector. Great to grow when you can find one.



Zamia pseudoparasitica

at Fairchild Tropical Gardens, Florida
Photo: Ian Edwards

14.

Zamia vazquezii

Its native habitat is Mexico, in wet lowland forest in deep shade to about 600 m. This species grows in three locations, each location with a different form. It is the most divergent species in the genus. Two forms occur in San Luis Potosi and Hidalgo, one form having light-green wedge-shaped leaflets, prominently serrate along the margin, the other long, almost linear leaflets, deeply serrate. The third form is from Veracruz and is very rare and is twice the size of the other forms. This form seems to be extinct through over-collecting and habitat-clearing. The Hidalgo form seems to have suffered the same fate.



Zamia vazquezii (Three plants)

Photo: Ian Edwards

A temperature range in winter of 10-20 °C and in summer 20-20 °C makes this cycad a good choice for our region.

The roots are subterranean. There are up to five upright leaves about 1 m long, with more than twelve pairs of leaflets (compared with less than twelve in *Z. fisheri*.)

The fern-like appearance and the ability to grow very well in cultivation has made this species very popular with gardeners. The plants have no spines and can adapt to full sun and take several degrees of frost.

This species has been and is being sold commercially as *Zamia fisherii*, as some of them have the leaflet characteristics of *Zamia fisherii*. Many decades ago it was incorrectly named when collected from the wild and sold commercially.

The true *Zamia fisherii* is much smaller and petite. See last issue of *Tropica*, p. 16. It is widely available from specialist nurseries.

15. Two beautiful, rare and endangered *Dypsis*

Bill Beattie

Dypsis elegans



***Dypsis elegans* in habitat - crown**

These photos are probably the first published pictures of *Dypsis elegans*, a small, graceful, clustering palm that is exceedingly beautiful. The leaflet arrangement is quite distinctive. This palm is very rare. It is confined to a very small area of coastal rainforest in south east Madagascar. It is not in cultivation and its conservation status is critical.



Juvenile plant

Dypsis integra



***Dypsis integra* in habitat**

Dypsis integra is from the same coastal zone as *Dypsis elegans*. This species is also critically endangered although a few are in collectors' hands in Australia.

The Gardens of Bali

16.

Brian Kennedy

Tropical landscaping ideas were constantly in our thoughts while on holiday again on this beautiful island, be it just walking in the back streets and lanes of Legian, enjoying the restaurants in Monkey Forest Road at Ubud, or seeing the Balinese homes while travelling through the villages in the country. The large professionally-designed international hotels and also some of the smaller hotels have beautiful gardens where great landscaping ideas can be obtained. If one should be looking for inspiration, motivation and ideas on how to design a tropical garden then look no further than a holiday in this island paradise.



Pathway alongside rice paddy Tegal Sari Hotel Ubud

The rich volcanic soil washed down from the mountains together with high humidity (80-100%) and high annual rainfall have contributed to the lushness of the island. Most striking is the intricate patchwork of rice paddies, which work their way down towards the lowlands in tier after tier. This creates one of the most harmonious and beautiful meldings of the natural and man-made on Earth. Adding to this beauty are tall coconuts, Lontar Palms (*Borassus flabellifer*) with their fan-shaped leaves and the rustling foliage of banana leaves.

Trees and plants play a huge part in Balinese culture especially the giant Banyan tree which can be seen in every village in close proximity to their temples. It is regarded as an abode of spirits. Flowers also play a cultural role. Everywhere white plumeria trees emit their fragrance. Colour is in abundance, tropical hibiscus, highly colourful crotons, cordylines, heliconias and gingers of all varieties growing wild on the side of the road. Bougainvilleas flutter lightly in the small breeze.

17.

Traditional Balinese homes consist of a compound surrounded by brick or stone walls, inside there is a series of bales (pavillions) and enclosed rooms for sleeping. The main entrance or courtyard gate is a welcoming element, not a barrier to the visitor. The courtyard exhibits a mixture of artful naturalism and ornamentation, alive with sensual silhouettes, shrines, accent plants and stone statues, with pots snuggling up to a wall or a tree. The use of stone in the design is one of the main features of their gardens; mossy statuary is Bali's signature decoration.

Their gardens are quite sparse, consisting of one or two small trees with orchids or ferns attached, with the rest open space located inside a compound. It very common to see multicoloured, grafted Bougainvilleas planted in small pots. Desert Roses are also highly favoured. They can be seen everywhere growing in small stone pots with only a few handfuls of street sand thrown in, apparently thriving on neglect.

Tegal Sari Hotel Ubud

The grounds are in keeping with traditional rice paddies, each paddy stepped to a slightly lower level than the preceding one. Water features in the grounds of the Tegal Sari complement this by appearing to run into the rice paddies. The garden is semi-shaded for most of the day by tall palms and trees. The grounds appear to be quite damp from seepage. You could almost see the plants growing in front of you. No need to water this garden. (See photo opposite page).

Private home of the Mask-maker in Celuk



18.

The Restaurant Cafe Wyan at Ubud

One of the better-landscaped restaurants in Bali, about as large as two normal city home blocks. It contains a huge variety of foliage plants, hibiscus, colourful cordylines, orchids, ferns, lipstick palms, calatheas, caladiums; many climbing plants growing up palm trees, palm grass and brightly-coloured coleus. It is narrow but quite deep with a number of authentic Balinese bales stretching down both sides of the path, serving as dining areas. The pathway which meanders all the way down to the bottom of the garden has Balinese lanterns located strategically along the way. It is immersed into the deep foliage, with elephant grass acting as a frame. Water features are well featured with some small and some quite large ones of many different designs. The ambience of the gardens makes this a truly wonderful experience; I am quite sure that gardeners could gain a lot of inspiration from the design and attention to detail of this wonderful garden.



Cafe Wyan at Ubud

A beautiful stone water feature covered with moss and filled with water lilies and lotus plants situated at the side of the pathway, demands your attention. Ancient frangipanis with ferns attached lean dramatically toward and over the pond, seeking the sun.

Some other gardens visited on this trip included:

- The Ubud Botanical Garden
- The Tegal Sari hotel garden and surrounding rice paddy of the hotel at Ubud
- The Kumala Pantai Hotel at Legian
- The Bali Hayatt at Sanur
- The Water Palace at Tirtagangga
- The Bali Orchid Garden at Sanur
- Several private traditional home gardens
- The Bali Bird Park
- The Bali Zoo

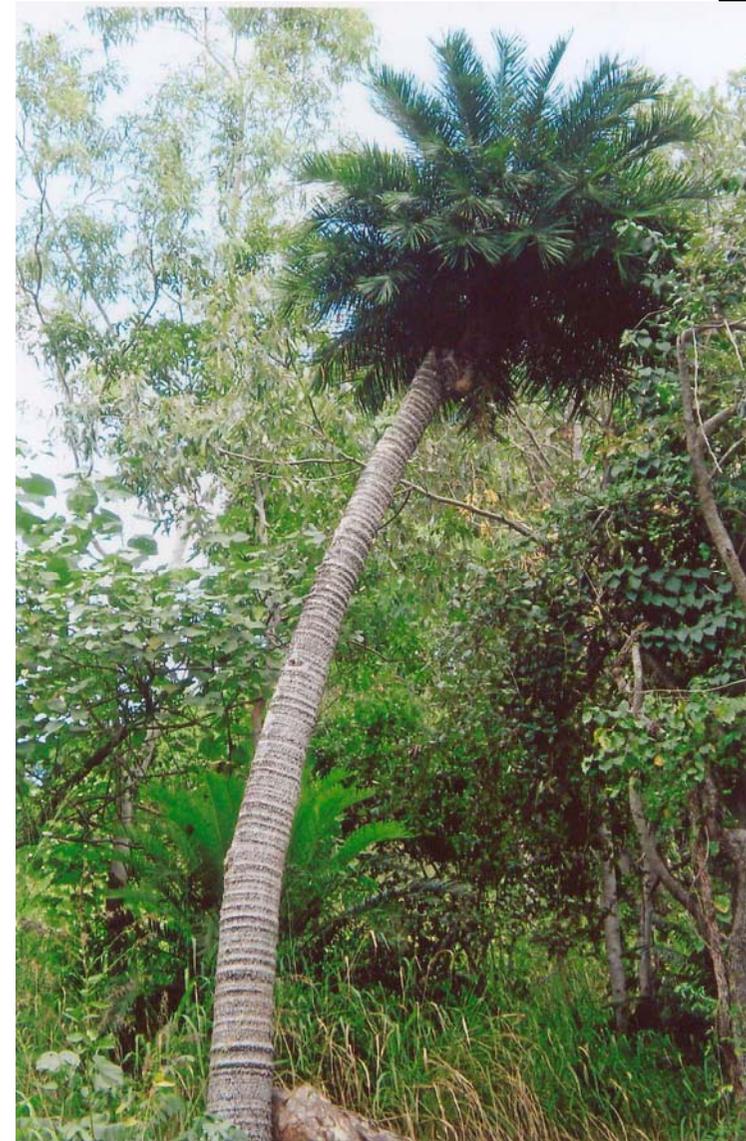
Cycas media on Hayman Island**Jennie Larucci****Cycas media**

On a recent trip to Hayman Island, I was fortunate to be invited by one of the resort gardeners to a tour of the magnificent gardens at the resort. Little did I know that I would be treated to the sight of the most amazing and majestic cycad that I have ever seen. I am aware that this issue of the magazine is aimed at discussion of small cycads, but I just have to share this experience with you. The cycad's name is *Cycas media*. It is said to be 600 years old, and is 4.5 to 6 m high.

As can be seen, the top of the plant is so heavy that it is causing the plant to lean. I was informed that the plant is creating some concern at the moment, as these plants are prone to only live until about this age, and there are real fears for its future survival.

The photo does not do the plant justiceit is awesome.

Editor's note: *Cycads of the World* by David Jones says that *Cycas media*, widespread in north-east Queensland, was described in 1810 from the Cumberland Islands offshore from Mackay and usually grows to 3.5 m, rarely to 6 m.

***Cycas media*** on Hayman Island – see p. 19**Photo: Jennie Larucci**

