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COVER: *Zamia purpurea*, new leaf (See p.16)

Photo: Michael Edwards

Editor's Corner

The subject of small cycads has proved to be too big for one magazine, and will continue into the next two magazines, giving palms a rest for the time being. There will be more about *Zamia fairchildiana*, *Z. neurophyllidia*, *Z. roezlii* and *Z. loddigesii*, as well as some *Ceratozamia*s and *Stangeria*. Further contributions and pictures of experiences with small cycads will be welcome and, as always, the sooner the better. The topic for the other half of the next magazine will be given in the Newsletter for September.



Tropica

**Tropical Garden Society
of Sydney Magazine**

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4. Growing Bamboos in Sydney

Norma Edwards

There are two things to know when deciding to grow bamboo. First, is it a clumper or a runner, and secondly, how tall might it grow. The common running bamboo *Phyllostachys aurea* developed such a bad reputation – invasive and very difficult to remove – that the idea of growing bamboo became a definite “no-no”. Its relative, *Phyllostachys nigra* has attractive black stems, but it needs to be grown in pots or robust containers in the ground. Nowadays, it is well known that there are many clumping species, including all *Bambusa* species, that do not run.

Our first bamboo was a giant clumper, *Bambusa balcooa*, which was being removed from an old garden nearby. A piece was ours for a couple of bottles of beer. Apparently this species came to Australia with the First Fleet, from Cape Town, where it had been taken by Dutch traders from Asia. There are stands at Government House and Bronte House in Sydney that were planted in 1842-44 and many more along the north coast of NSW. After forty-odd years ours is quite a big stand, kept under some control by kicking off unwanted new shoots. Old culms are not easy to remove because of extremely long, tangled branches which are too high up to be accessible. Surface roots extending at least four or five metres do compete strongly with any other plants in the vicinity.



Chusquea coronalis

In the 1960s to the 1980s bamboos were not easy to find, and there were no books from which to learn about them. A friend bought us *The Book of Bamboo* by David Farrelly from the USA in 1987, a book which has remained a classic and keeps being reprinted. During the 1970s we found a runner called *Pseudosasa japonica* which ran 12 m along a fence. It eventually flowered and died without setting viable seeds. Some bamboo species do this, having an internal genetic clock. After a variable interval of perhaps 15 or in some cases more than 100 years, plants of the same species flower simultaneously, even when transplanted half a world away from their native habitat. Predators will then be unable to eat them all, as might happen if they flowered one at a time.

Much smaller runners were *Arundinaria fortunei* which is variegated and easily controlled, and *Shibataea kumasasa* which is hemmed in by a driveway on one side and a paved path on the other. The latter species looks best if the old shoots are cut down by a lawnmower as soon as new shoots appear each spring, allowing fresh new shoots to take over.

On a trip to Cairns in 1988 we found a bamboo grower at Mossman who had been importing Asian species: we bought four. My favourite is *Gigantochloa atrovioleacea* “Tropical Black”, tall, with culms to about 5 cm diameter, but often less. It is probably at its southern limit for cold tolerance and does not put up new shoots in the drier years.



Shibataea kumasasa (and Zamia furfuracea)

A clumper, *Nastus elatus* “New Guinea Edible”, very tall and rather slender, just plugs along here. *Chimonobambusa marmorea* “Marbled Bamboo” is a slender stemmed runner about 2 m tall which is contained in a buried drum. Another runner is *Indocalamus tessellatus*, which is in a corner of two brick walls and needs a little trimming of new runners each year. It is said to make a good pot specimen. Thin culms are up to 1 m tall, and it has the largest leaves of any bamboo in cultivation, in our plant about 40 x 6 cm. *Otatea acuminata* ssp. *aztecorum* “Mexican Weeping Bamboo”, is a clumper with slender stems which hang softly and is a really good garden plant. It used to be hard to find, perhaps because of its Mexican origin. Ours came from a Friends of the Gardens sale in 1996.



Otatea acuminata ssp. aztecorum

Even harder to find, and expensive, was another Mexican, *Chusquea coronalis* with its long arching culms. Numerous tiny leaves are on short branchlets encircling the culms.

Bamboos now readily available, but never cheap, include *Bambusa vulgaris* “Vittata” with its tall yellow culms. It is easy to grow, as is *Bambusa vulgaris* “Wamin” which is supposed to grow bellies between the

6. *Bambusa multiplex* is a small weeping bamboo with thin culms, commonly available and easy to grow. Cultivars include “Fernleaf” with smaller leaves, “Silver Stripe” which is variegated, and “Alphonse Karr” which is more robust, with yellow culms that are just right for vegetable garden stakes.

Drepanostachyum falcatum is a small bamboo from the Himalayan mountains, which has thin stems and grows to 3 m. It should be more suitable than most for small gardens.

We have high hopes for *Bambusa lako* “Timor Black” bought in 2006 at a Tropical Garden Society auction, and now growing very well.



Bambusa oliveriana

Experiences Growing Bamboos

Anthony Hillin, Cronulla, NSW

Bamboos are versatile plants providing quick height, shade and screening, canes for staking and construction and some varieties have a bonus of edible shoots. I have had success in growing a number of varieties in Cronulla and also at my block at Booyong, near Bangalow in north-east NSW. They have survived on neglect and thrived in wet years.



B. multiplex “Alphonse Karr”

Photo: Ian Edwards

Cultivation: According to the literature, the ideal growing situation is well drained soil with abundant water and that has been my experience. However, I have seen bamboo thriving next to ponds and on river flats where the water table would be high. My bamboos have survived well but have not grown much when water is scarce. During establishment (first year) I’d recommend regular watering and / or particularly heavy mulch. Water seems much more important than fertilizers for growth. However, if you want to fertilise, being grasses, concentrate on nitrogen. As much mulch as you can manage seems to make the difference between survival and thriving during establishment. Grass clippings work well.

The varieties below are all clumping and thus noninvasive. The heights indicated are for moist, sub-tropical to tropical situations. As would be expected, the less cold-hardy varieties will not grow as tall in cooler, drier gardens.

Cronulla:

Bambusa multiplex ‘Alphonse Karr’, 4-6 m green-striped gold stems. Not particularly upright so don’t plant too close to a path, drive or fence line. From south-east China.

Bambusa oldhamii, 10-15 m very upright, commonly used as hedging, especially in New Zealand. Stems initially are green with a thin white bloom but age to yellow in strong light. One of the more cold hardy varieties, it is grown for the shoots which are supposed to be of excellent flavour and for use in furniture. From south-east China.

Bambusa ventricosa, Buddha’s Belly, 6-15 m, large swelling between the lower nodes. Clumps which are thinned to several stems can accentuate the swellings. From southern China.

Booyong:

Dendrocalamus asper cv hitam, black, 20-25 m, tolerates -2 °C. An impressive plant with large leaves. Probably my favourite.

Dendrocalamus minor amoenus, 6-8 m in most gardens, 8-9 m in rainforest, 7 °C, very hardy – described to me as ‘bullet proof’. Known as ‘ghost bamboo’ due to pronounced white powdery finish on lower timbers. Good for lightening a dark part of the garden.

Bambusa lako, Timor Black or Tropical Black, stems are at first green but age to brown/black 10-15 m, -3 °C to 4 °C. Easily controlled for its size.

Bambusa textilis glabra, 10-12 m, -12 °C, slim stems (5 cm). As the name suggests, it is used in weaving. From southern China.

Nastus elatus, 20 m, -1 °C, can be eaten raw. Soft timber with a light white dusting on the lower stems. From New Guinea.



Bambusa vulgaris “Vittata” (Podocarpus on left)

Photo: Ian Edwards

8. *Bambusa vulgaris* cv vittata (syn Striata) 15 m, -2 °C, thick (to 12 cm) golden stems with vertical green striations – regarded by some as very tropical looking. There is a nice clump at the Sydney Botanic Gardens next to the north-east toilets.

Bambusa balcooa is the big clumping bamboo commonly planted on pasturelands in the Northern Rivers area of NSW to provide shade for stock. It forms huge thick clumps to 25 m. It seems to be virtually indestructible. I grew it from a piece of root thrown out of Vaucluse house. It was desiccated and looked as if it had been languishing in the sun for weeks. After a few months of moisture it sprouted. I planted it under a large mature wind-break of *Pinus radiata* in an attempt to tropicalise its appearance. Nothing had thrived here due to fierce root competition but this bamboo has, sending its stems up through the branches to the canopy. Although described as clumping, new stems can emerge 1 m from the clump. The leaves are large, to 25 cm. Probably from southern India originally, but widely grown and used in construction.

Bambusa arnhemica (probably).

An Australian native, which is still under 1 m but grows to 8 m in the tropics.

Last winter my block was hit by severe frost to -7 °C. The stems of the more tropical varieties were badly damaged. A year later the clumps seem to have fully recovered.

Although the days are warmer the nights are considerably cooler than in Sydney. I think all these varieties would grow well in the less frosty parts of Sydney.

Propagation

Bamboo propagates easily from root division - easy in terms of striking, not digging! If you intend to propagate then keep a root stem in a pot for this purpose. You'll probably have enough material to divide every couple of years and it's much easier than trying to dig up a well established clump.

Some varieties strike relatively easily from stem cuttings. Roots develop from nodes, so make sure one or two are beneath the soil or sand.

Pricing

The rarer forms can be expensive - several hundred dollars from nurseries. I've paid \$50-\$100 for some of mine from relatively inexpensive market stalls. I'm happy to try propagating if any members are interested (email to cbisset@froggy.com.au).



Bambusa oldhamii

Photo: Ian Edwards

Greg Jones, Taree, NSW

9.

While many clumping bamboos are spectacular accent plants for a tropical-look garden, and it takes a brave gardener to plant one of the larger varieties in a suburban garden, many of the smaller types will easily fit into any garden, even if it is only as a pot plant.

The *Bambusa multiplex* varieties which include the popular "Alphonse Karr" and "Silverstripe" which grow to about 6 m and the smaller "Fernleaf" and "Riviereorum" at around 3 m make ideal screens especially when grown in rows. Other small clumpers such as *Bambusa eutuldoides* "China Gold", *Bambusa heterostachya* variegated, *Chusquea coronalis*, *Himalayacalamus portacus* and the *Otatea* species are beautiful feature plants in any garden. Larger bamboos such as the spectacular *Bambusa lako* "Timor Black" can be grown if clumps are kept at a manageable size and shape.

While some clumping bamboos are becoming readily available they are generally expensive so it pays to carefully split them, as long as there are more than four stems or culms to a pot, if more than one plant is needed. If you have access to growing bamboos it is feasible to propagate most of the smaller varieties by removing mature stems or culms with some roots from a large clump preferably in spring or summer. This method can also be used on larger bamboos but the effort required can be prohibitive. Getting mature culm or stem cuttings to shoot is often used for propagation but this can be hit or miss and may take a year or more in our climate. Large sideshoots can sometimes be induced to root, with *Bambusa vulgaris* "Wamin" being a quick and easy example. I have also tried to get cuttings to root in water but except for normally easy types I have had only failures. Generally the cheaper a bamboo is to buy the easier it is to propagate by cuttings.

Clumping bamboos are attacked by a number of pests such as scale and mealy bug but in most cases do little to deter their vigour and no treatment is needed.

If a quick garden is needed clumping bamboos are useful with many of the hardy types taking less than two years to form a sizable clump, although some of the less cold tolerant types can be a bit of a challenge to grow in our climate. Good soil preparation, mulching and fertilisers are usually rewarded with extra quick growth.

Alan Collins, Pymble

Bambusa glaucescens "Alphonse Karr", given to us as a potted specimen mid 1997, and kept in a pot for nine years, languished and did not attain more than 2 m. Two years ago it was planted in the garden and has now reached 4 m and is looking very happy. Being a clumping species it should look very good against its backdrop of a 2.5 m brick fence.

Bambusa glaucescens "Fernleaf", an attractive thin stemmed clumping bamboo with fine leaves has done a very good job as a hedge. Normally growing to 3 m, it has been clipped to 2.5 m and responds quite well to hedging. Over 15 years it has formed a clump 60 cm x 1.5 m and has shown no tendency to wander.

Bambusa vulgaris "Vittata" caught my eye when visiting the garden of a society member about 25 years ago. Having yellow culms (stems) and green stripes it is, to me, a "must have" bamboo. A small division was planted in our front garden and has never looked back. Very tall with attractive arching habit, it does not present a problem by spreading: if desired, emerging culms can be kicked over. It has only enlarged to about 1.5 m. and shows no tendency to develop a wandering habit.

Experiences continued p.19

10. Cycads - the forgotten garden feature (Part 1)

Colin Wilson

When I first saw cycads at a number of overseas botanical and private gardens, they were so large that the idea of having them in a suburban garden seemed remote. Primarily they were of the *Encephalartos* and *Dioon* genera and would make an outstanding feature for a larger garden. Sometime later, when browsing the PACSOA website (<http://www.pacsoa.org.au>) in the "New" section, I noticed pictures of species of the genus *Zamia* that had just been added. That is when the realisation dawned that not all cycads are large. They have a variety of sizes and leaf shapes; some form trunks above ground and some below ground, and they can fit in most gardens, in the ground or in a pot. Cycads generally require cool but frost-free, dry winters, summer rainfall. That description seems to allow for most of them to grow in Sydney and surrounding regions. Cycads are dioecious (male or female) and therefore require one of each to produce viable seed.

The sizes of the stems and leaves are given so that you can picture them in your garden. The article starts with *Bowenia* as they are an Australian genus and will fit into any garden position and appear quite hardy. In Part 1 the cycads have been limited to *Zamia* and *Bowenia*, and only a small number of the many *Zamia* species, but both species of *Bowenia*.

Note: all the species mentioned are available in Australia, but in some cases very rarely so, and therefore hard to find. They are currently available and sources of supply will be mentioned. All but one of those mentioned will be available at next meeting's auction.



Zamia fischeri at the last PACSOA show

Bowenia spectabilis

Native habitat is north-east coastal Queensland, on the edges of rainforests. Subterranean stems, tuberous when old, up to 30 cm long in ideal conditions. One to several branching leaves with bipinnate, upright, and 1-2 m long leaves.

These cycads are attractive and tough. When damaged or in drought they can decide not to grow a new leaf until better conditions are available. They have been known to have no new flush for up to four years in drought; this is not likely to happen in a home garden. They will fit in a small space and are good for a foliage feature. There are two forms, wide and narrow leaf.

Available from Utopia Palms and Cycads



Bowenia spectabilis

Bowenia serrulata

Native to north-east coastal Queensland in dense, wet forest. One form comes from the Atherton Tablelands. Once known as the Byfield fern because of its fernlike appearance. The leaves were used in butchers shop windows many years ago because the cut leaves last many days.



Bowenia serrulata

Subterranean trunk, 20-50 cm long. Leaves 5-30, bipinnate and serrated. These cycads make a nice feature around a rockery, water feature, and footpath and can fill in an area when mature. Very easy to look after, just plant and enjoy.

Both species are growing in our garden and do best with about 50% light.

They require excellent drainage and do not grow well in a heavy potting mix. Space requirements are minimal, ideal for a townhouse or a larger size garden. Available at Utopia Palms and Cycads.

12. *Zamia*

Grow from North to Central and South America, including the Caribbean. They are fern-like shrubs with aerial or subterranean stems. New leaves emerge singly or in flushes. *Zamia* cover the broadest spectrum of habitat of any cycad genus, with plants found in rain forest, savannah, coastal stabilised sand dunes, tidal swamps, and desert, and sea level to more than 2,500 m. One, *Zamia pseudoparasitica*, grows only in the branch of trees. Others grow only on cliffs and have long, pendent leaves. Generally they only require a small space to grow. So, there is something for everyone to enjoy in this genus.

Zamia integrifolia (Syn. *Z. floridiana*)

Grows from open coastal areas and sand dunes to pinelands and closed canopy oak hammocks to tropical forest. This cycad is most commonly found in soil over limestone and in sand near sea level or in pinelands subjected to periodic wildfires. It grows in a variety of forms over much of the northern *Zamia* habitat.



Zamia integrifolia

Photo: Fred Moody

Stems subterranean and often branched. Usually three to five upright glossy medium to dark green leaves 40-90 cm long in mature plants. Most grow in the United States where they are known as the Coontie. They were common in most habitats until the roots were processed into Florida arrowroot for making biscuits and cakes. The last factory closed in 1925 and at its peak was processing 9100-14000 kg per day! They are usually readily available but some forms are now rare. Unfortunately they have not recovered in habitat. Fortunately they grow well in cultivation so their survival looks promising. In Florida they have begun to plant them along the highways. They are nice planted together or singly and are happily growing in our garden, requiring little space.

Available from Palms for Brisbane, and from Plantation 2000.

Zamia boliviana

Known only from a limited area of Bolivia where it grows in sandy well drained soils. It basically grows under conditions similar to those for Caribbean species of *Zamia*, usually a drier climate. A very rare species, with a tuberous trunk about 25 cm long with 3-5 leaves with pale green leaves, glabrous, upright 40-50 cm long. One for the collector, as it seems to be a slower grower than *integrifolia*.

Zamia amblyphyllidia

From Puerto Rico. Grows on steep forested limestone hills among limestone rocks. Subterranean stems up to only 15 cm long. Three to eight erect to spreading leaves, 0.7-1.5 m long, 30-40 cm wide.

This *Zamia* has lovely broad leaflets that are notched, almost forked. It is cold-tolerant and is growing well in cultivation. Not always available.

Available from
Plantation 2000, Palms for
Brisbane.



Zamia amblyphyllidia

Photo: Clayton York

Zamia splendens

From Chiapas state rainforest, Mexico, in wet areas up to 1500 m. Has subterranean trunks 25 cm long 5 cm wide. This species is one of the most beautiful, with its very glossy, broad, flat, slightly arching leaves, two leaves per crown, 0.3-1 m long that are 32-27 cm diameter, flat and dark green, and as a bonus have very attractive glossy, bright red to brown or bronze emergent leaves.

Although suited to warmer climates than Sydney it does grow well here, albeit not as fast as in Queensland. Needs to be grown understory for the best colour and needs protection in temperate climates. Not a rare *Zamia* but a must for the garden. Available Utopia Palms and Cycads, Palms for Brisbane, and Plantation 2000



***Zamia splendens*, new leaf.**

Photo: Michael Edwards

14. Zamia pygmaea

From Pinar del Rio, Cuba on the western side of the island where it grows in dry bush covered pinelands on areas of white sand. This is a small cycad; everyone has room for one of these. The trunk is 10-15 cm long and only 3-4.5 cm diameter, having one to three leaves per crown, only 20-30 cm long.



Zamia pygmaea

The leaves are wide compared with the size and are overlapping. With maturity they can have multiple crowns. Great for pot plants and borders. However they are very rare, seeds from Cuba are hard to get and there are not many are seeding in cultivation yet. It likes full sun and is cold tolerant, grows happily in the garden and is a very neat, attractive and compact Zamia. Available at next meeting. Available from Utopia Palms and Cycads, Plantation 2000

Zamia inermis



Zamia inermis

Photo: Clayton York

From the state of Veracruz in Mexico. Grows in dry coastal hills on poor volcanic rock. Stems 12.5-20 cm to 1 m tall. Ten to twenty upright smooth leaves, 0.5-1.3 m long, 45-60 cm wide.

Only known from one location and has an extremely low regeneration rate, so low it will become extinct in the wild. Fire, land clearing and crop dusting appear to have killed the natural pollinator

Due to its distinctive funnel like leaf arrangement it would look good surrounded by colourful foliage plants or as a backdrop planting.

Available at next meeting and from Plantation 2000. These are the first and only ones available in Australia

Zamia picta variegata

From Guatemala on the Caribbean coast, growing in wetland forest to higher elevation pine forest and in coastal areas of Mexico, Honduras and Belize. It has a 20-25 cm subterranean tuberous trunk. One to four leaves, erect, arched, 48-65 cm long and 20-30 cm diameter.

There appear to be different forms, some having long leaflets, some with oval shorter leaflets that are mid green, while others have dark-green glossy leaves. The ones seen for sale in Australia are, in the main, the long-leaflet type.

Very attractive with spotted yellow dots and dashes on the leaves. As the plants grows older the variegation increases.

They need to have a warm semi-shade to shade spot in the garden and do not tolerate cold or frost. Ours are growing in 75% sun to full shade, time will tell which ones become the most attractive. When visiting the US we came upon a form that has dark glossy leaves with a gold mosaic pattern. It is the most spectacular cycad seen so far, shame that form is not available here. Luckily the form we have available is still most attractive, something different for your enjoyment. Available from Utopia palms and cycads



Zamia picta variegata

Photo: Clayton York

15.



Zamia muriatica, new leaf

Zamia muricata

From Venezuela, grows in tropical deciduous rainforest at 300 m, on slopes in rocky soil. It has a subterranean stem 25-30 cm long. One to six leaves, erect, dark-green, glabrous, 1.8-2.2 m long.

This Zamia has longer leaves than the others mentioned. Growth rate in the garden also appears to be quicker than the others. Due to the longer leaves it requires more room but has been mentioned because it makes a nice Cycad planted amongst palms to break up tall trunks, or as centre piece amongst bromeliads. It has a colourful bronze new leaf and it is easy to see why it is popular in cultivation. It is usually readily available and it grows well here. Available from Utopia Palms and Cycads.

16 *Zamia polymorpha*

From Mexico and Belize eastern coasts. Grows in flat to slightly hilly areas. Will grow in full sun or shade. It has subterranean stems to 10 cm in diameter. There are two to three lanceolate and finely serrated leaves, erect to spreading, 1.5 m long.

Easy to grow, the more light the faster it grows. Those plants that are exposed to full sun have leaves that are shorter and narrower and have leaflets that are lanceolate and finely serrated.

In contrast, those plants that are in deep shade have longer, broader leaves and have leaflets that are elliptic. Plants growing under intermediate conditions have leaves intermediate between these extremes. It is nearly a designer Cycad: you get to determine what it will look like. Available from Plantation 2000, Palms for Brisbane.

Zamia purpurea (See photo front cover)

From Mexico, southern parts of Veracruz and Oaxaca states, grows in evergreen or nearly evergreen forests, hot and humid climate. Habitat has been dramatically reduced due to land clearing. Has a 20-25 cm subterranean stem, 4-5 cm diameter. 1-2 pale green glossy leaves 10-83 cm long, leaflets 3-4 pairs. This is a rare cycad. It is rarely available and is something special. Its new leaves are a purple brown colour and the colour lasts for up to a year. In this region the leaves appear to be shorter. I have found the best way to grow them is in a warm area under the eaves of the house where the water can be controlled so they are not too wet in winter. Since planting them in this area they have grown easily, slow growing compared to some others, but very rewarding. Available from Palms for Brisbane.

Zamia fischeri (the real one – see photo p.10)

From Tamaulipas state in Mexico. Grows in oak forests in areas of deep shade. Rarely available, nearly all the cycads sold as *Zamia fischeri* are actually *Zamia vazquezii*. I tried for five years before getting the genuine species. They are very fern like with up to ten leaves which have extremely attractive dark green, spreading, flexible leaves about 33-66 cm long and 10-16 cm wide. Subterranean stems are 10-30 cm long. If you can get enough of them they are very good along path areas and make nice borders. Nice planted in a pot. Everyone will like these. They will adapt to more sunlight with more watering. Available from Plantation 2000.



Zamia polymorpha

The *Zamias* mentioned are all growing in our collection. Some are now coning 17. and have a variety of pleasing colours. They do not take up much space and are easy and rewarding to grow. They are the easiest cycads to look after as they do not suffer from many pests or diseases. From pots and planter boxes, to around the garden, they can be enjoyed anywhere. Nearly all mentioned are non trunking. There are some extremely nice trunking ones also growing in the garden, to be mentioned in Part2..

Experiences Growing Small Cycads

Alan Collins, Pymble, NSW

At Pymble we have had four small cycads for at least 10 years, namely *Zamia vazquesia*, *Zamia fischeri*, *Zamia integrifolia* and *Zamia floridiana*. We also have four plants of *Stangeria eriopus* about the same age. (*Zamia floridiana* is now considered to be a synonym of *Zamia integrifolia*. – Ed.)

The *Zamia floridiana* is planted in shade and has thrived where it receives good watering. The other *Zamias* have been left in their pots and are located in a semi shaded position where they also receive good watering. All *Zamias* thrive but unfortunately attract snails. They cone from time to time but to date have not set seed.

Fred Moody, North Rocks, NSW

Ah, if only *Zamias* would exhibit an annual flush of new leaves like *Cycas revoluta*, they would be perfect, for at least they do not take over their patch of the garden like some of the larger *Cycas*, *Macrozamia* and *Lepidozamia*. Whilst some *Zamias* do have small thorns on their petioles, they certainly do not shred one's arms whilst laying mulch like many of the *Encephalartos* species.

Many of the *Zamia* family are just great for group planting along edges of the garden beds because of their compact nature and longevity of their showy foliage. The most disappointing feature to me is that they are inconsistent with the production of new leaves.

Although *Zamias*, *Ceratozamia*s and *Bowenias* may all go for a few years with no new leaves, the old leaves still remain in good condition.



***Z. splendens* at centre with *Ceratozamia* sp.**

18. considered reasonably small in the garden, I have seen *B. spectabilis* in the wild with fronds up to two metres high and one metre wide.

In the *Zamia* group, I am growing the following in the garden (note winter minimum of 3 ° C):

Z. integrifolia (purchased as *Z. floridana* in 1996) I have a group planting of three of these little gems and two have been coning for about five years. The leaves are 45 cm long with an average of 32 glossy leaflets each up to 80 mm long and 10 mm wide.

Z. pumila is similar to *Z. integrifolia* but with longer leaves, the leaflets of which are slightly serrated near the tip.

Z. neurophyllidia is one of my favourites with its deeply-veined glossy leaflets. I have a group planting of four including two females and one male. The leaves are 80 cm long with 18 leaflets up to 20 cm long and 6 cm wide.

Z. splendens is another favourite which maintains its leaves in a highly glossy state until it dies. These plants also exhibit an exquisite bronzy red maturing leaf. Leaves are up to 60 cm long (half of which is petiole) with around eight large leaflets each about 24 cm long and 8 cm wide.

Z. fairchildiana is a larger species with leaves around 1.4 m long (about one-third of which is a spiny petiole). It has around 40 leaflets each of which are 20 cm long and 40 mm wide. This plant has an above ground caudex which 10 cm high and 10 cm wide.

Z. fischeri. I have a group planting of five coning plants with leaves up to 60 cm long bearing thirty thin, textured leaflets each 8 cm long by 15 mm wide. *Z. fischeri* is quite different from the aforementioned zamias all of which have leaves with a thick texture.

Also planted in the garden I have more juvenile plants of *Z. muricata*, *Z. loddigesii*, and *Z. roezlii*.

All of the above plants are planted in an open compost where they receive some sun in winter but are shaded from the heat of summer. They respond well to a fertiliser dressing in spring and summer and mulching.

Norma and Ian Edwards, Cronulla, NSW

Being beginners with small cycads, when we bought a few young ones two years ago we planted them where they should look good, which happened to be a fairly sunny place. *Zamia amblyphyllidia* has forged ahead, loves the sun, but *Z. skinneri* and *Z. splendens* dropped many of their leaflets. Hastily moved into full shade they soon recovered and each produced a new frond, light bronzy in the case of *Z. splendens*. Another seeming to prefer plenty of shade has been *Z. neurophyllidia*, while *Z. vasquesii* is fine in semi-shade.



Zamia splendens new leaf

Experiences Growing Bamboos (Continued from P.9)

19.

Helen and Neil Curran, Seven Hills, NSW

Helen: Years ago, I decided to plant bamboos, they are quick growing and help provide the essential microclimate for our tropical plants. This was working well for quite a few years, until I realised that the Giant Timber Bamboo, *Bambusa oldhamii* was reaching for the stars and that the plants around it had been gradually dying. After removal of the bamboo, I was surprised to see some of cordylines that I thought were dead starting to reshoot. Another bamboo, the Buddha's Belly, *Bambusa vulgaris* 'Wamin', was planted in a planter box against our garage. After a few years it too, started to create problems as it gradually broke the brick wall of the planter box.

If a decision is made to plant bamboo, it would be best to look into containing it, even in the garden. Even clumping bamboos will gradually expand as new culms will come up from outside the clump. Our smaller bamboos are not causing many problems at the moment but I know that in a few years time they will also start to invade the garden beds, killing the surrounding plants.

Neil: Our *Bambusa oldhamii* was planted very close to our southern fence. When we decided to remove it, I cut it down to the mound and applied Roundup. Application to every new shoot soon had the bamboo under control, however, the work was in front of me to remove the mound. Plan A was to use the mattock, but that only resulted in the tool bouncing off what was one piece of solid wood about 1.5 m in diameter.

Plan 2 was more successful. I used my chainsaw to attack the mound, cutting into the rhizome horizontally, slicing off layers some 50 mm at a time. Anything greater than 50 mm would stall the chainsaw and wedge the bar within the mound. What I found was that the rhizome and root ball contained a lot of pebbles captured from the garden bed. This meant that after some 10 minutes the chain would need to be replaced. In all, I used 4 chains to lower the ground to the garden bed. The result has been that the bamboo has never grown back.

NB After this bamboo had been removed and I started planting again, I was surprised to find that the fine fibrous roots had extended over a metre into the garden.



***Bambusa vulgaris* Vittata**

Photo: Norma Edwards