

ture is essential but, most of all, correct timing of operations and procedures must be strictly followed.

THE RE-DEFINITION OF BOTANICAL NOMENCLATURE OF PALMS

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Since the 1800's misspellings and confusion among genera and species has led to confusion in the culture of palms. I think it is important that these corrections are noted in New Zealand as many seedlings are now being raised, especially in the Auckland region. Firstly, I will summarize the genera and then the species with corrections as necessary.

Archontophoenix. A comparatively fast growing palm of which both species are fairly hardy. This genus bears some broad resemblance to *Veitchia*, *Ptychosperma*, and *Dictyosperma*. *A. alexandrae* has leaflets which will help to distinguish it from these genera; *A. cunninghamiana* does not have this distinguishing feature.

A. alexandrae — King palm or bangalow palm. Origin Australia. The trunk grows to a height of 60 to 70 feet, with a 6" crown shaft. It has often been confused with *Seaforthia elegans* which now is an obsolete genus.

A. cunninghamiana — Magestic palm — Origin Australia. Similar to *A. alexandrae* except for these differences. The trunk is not swollen at the base and can be subject to individual variations.

Areca. Most *Areca* palms have multiple trunks, but the best known one, *A. cathecu*, the betel nut palm, has a tall, thin solitary stem.

A. cathecu (sometimes spelled *catechu*).

Betel palm — Origin Malaya.

Usually the trunk grows to 30 ft high and is 2" to 5" thick. The name *Areca* has been much used in error. Many nurseries incorrectly speak of *Chrysalidocarpus luscens* as the areca palm. There are many other species of *Areca* that are not cultivated widely and are little known in New Zealand.

Arecastrum. Known in many places and for many years as *Cocos plumosa*, this palm is an example of true confusion of nomenclature. In 1823 this palm was discovered and was named

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Cocos romanzoffianum. In 1860, unaware of the above naming, it was re-discovered and described in a botanical magazine, and was named *Cocos plumosa*, under which name it was widely cultivated. In 1916 the *Cocos* family was broken up into seven genera and this particular palm was given the genus name *Arecastrum*. The palm has now become *Arecastrum romanzoffianum*. Following the rules of botanical nomenclature the species name first published has been used.

A. romanzoffianum

Queen palm — Origin Brazil.

The trunk grows to 25' high, is 1 to 2' in diameter, and is smooth and plainly ringed.

Butia. A genus, originally segregated from the once greatly varied genus *Cocos*. Many species have been studied, but there is so much variation in plants within a species that distinguishing characteristics are little more than tendencies. The confusion is increased, no doubt, by cross pollination.

B. capitata. Yatay palm or Jelly palm — Origin South America. The trunk grows to 20 ft high, about 18" thick; the bottom of the trunk has a round knob, from which roots grow.

Caryota. The famous fishtail palms. The two best-known species are *C. mitis* with clustered multiple trunks, and the single-trunked *C. urens*. Both species can be grown successfully in New Zealand, being reasonably quick growing. Botanical naming has been straightforward with no confusion in naming.

C. mitis

Fishtail palm — Origin India and Malaya. It produces several trunks, growing to 25' to 40' high.

C. urens

Single trunk species, 40 to 60 ft high.

Chamaedorea. A group of shade-loving, small, graceful, and delicate palms. The slender, green trunks, which may be single or clustered, are often attractively ringed or jointed. *Chamaedorea* is a large and imperfectly-known genus with over 100 species being described in Mexico and Central South America alone. True breeding requires a male and female of the same species and the positive identification of most cultivated species is puzzling and hazardous.

C. erumpens — Origin Mexico; the trunk grows up to 10' high with 40 or 50 canes in a clump.

C. geonomiformis. Grows to 4 ft high with individual leaves.

Chamaerops. The European fan palm is the only palm native to Europe. It is amongst the hardiest of palms, and very widely planted. It is an oddity in nomenclature because, as one species

of one genus, it grows in much more variable forms than one would ordinarily expect. Under the same specific name, it may have one trunk, or many; it may be 4 ft tall or 20 ft tall; it may have green leaves, or glaucous — blue leaves. Certain forms have at times been given other names, but only as varieties of the species *C. humilis* and not as separate species.

C. humilis is usually a low, bushy palm, forming a clump of several trunks. Its deeply cut leaves are palmate.

Chrysalidocarpus. Unfortunately, nurserymen often still refer to this *Chrysalidocarpus* plant as the *Areca* palm. Although this name has been erroneous for many years do not confuse the genus *Chrysalidocarpus* with the genus *Areca*. Both are valid.

C. lutescens. Origin Madagascar. The trunk often growing up to 25' high, 4-6 in. in diameter, often clumping.

Cocos nucifera. Coconut palm; origin Pacific Islands. The coconut is the most important of all the cultivated palms. It is a typically tropical plant and thrives best where the mean average temperature is above 72°F, where there is no seasonal differences in temperature, and where there is an annual rainfall of well over 40 inches. Many varieties are cultivated.

Collinia elegans. (Formerly *Chamaedorea elegans*). A graceful, dainty palm, well known in New Zealand for its indoor use and once under the incorrect name of *Neanthe bella*. Growing to about 4 ft tall.

Hedyscepe canterburyana. Very similar to *Howea*, from which it differs only in some details of the flowers. Native to Lord Howe Island in the South Pacific. It grows more slowly than *Howea*. Seldom grown under cultivation except perhaps mistakenly as *Howea*.

Kentia. As currently understood, there are only two true species of the genus *Kentia*. They are *K. procera*, native to New Guinea, and *K. ramsayi*, native to northern Australia. Some 50 species names have been claimed as *Kentia*, but most of them upon closer study have been transferred to other genera. Consequently for years many palms have been erroneously grown and sold as *Kentia*.

K. baurei is correctly *Rhopalostylis baueri*

K. belmoreana “ *Howea belmoreana*

K. canterburyana “ *Hedyscepe canterburyana*

K. forsteriana “ *Howea forsteriana*

Howea belmoreana. Origin Lord Howe Island. Sentry palm. The history of confusion in nomenclature dates back to 1870; the naming is still under confusion and only further study will clarify this. Trunk growing to 20 ft or more and expanded at base.

Howea forsteriana. Origin Lord Howe Island. Sentry palm. The trunk growing to 40 ft or more, and not enlarged at base. This species is much more common in cultivation than *Howea belmoreana*.

It may prove easy to remember that the species beginning with "f" is the flat palm, with flat and not upward arching leaves.

Jubaea spectabilis. Origin Chile — Chilean wine palm. *Jubaea* has only one species, *J. spectabilis*, which in South America grows further south of the equator than any other palm. *Jubaea* trunks are probably the thickest of all palm trunks; growing to a height of 80 ft or more, 4 to 6 ft in diameter, studded with scars of old leaf bases. Some of the best specimens in New Zealand are growing on Kawau Island.

Livistona. A group of palms native to Asia, Malaya, New Guinea; and Australia. The species show great variety but almost all have spiny, slender, fairly long petioles, with toothed edges, and circular palmate leaves.

L. australis. Origin — Australia, trunk growing to 60 ft or more in height.

L. chinensis. Origin — Central China — Chinese fan palm. Trunk growing 20 to 30 ft in height, 8 to 10 in thick.

L. rotundifolia. Origin Malaya. Trunk growing to 50 ft in height and up to 7 in in diameter, slender, brown.

Phoenix. Native only to tropical Africa and Asia. *Phoenix* is easily recognized by two characteristics that are always present in the genus.

1. The lower few, basal leaflets of each leaf are long green spines.
2. The leaflets are always folded into their stems in such a way that the edges turn upward, the inside of the pleat facing the sky.

It is difficult to identify the exact species of any *Phoenix*. The surest identifying characteristics are in the male flowers and in the fruit. Since trees are unisexual, these two parts are not found on any plant. Except in areas where only one species occurs, or where special precautions are taken cross-pollination is frequent and there will be more hybrids than thoroughbreds.

P. canariensis — Canary Island date palm. Origin — Canary Islands. Trunk 50 to 60 ft in height, very stout; leaf bases adhere for many years, forming a mass 4 ft in diameter.

P. dactylifera Date palm — origin West Asia and North Africa. Trunk growing to 100 ft or more, often suckering at the base. The only *Phoenix* species that bears commercial dates. Will grow in New Zealand but does not fruit.

P. roebelenii — Dwarf date palm. Origin — China or possibly Vietnam. Trunk growing to 2 to 6 ft tall, often clustered.

P. sylvestris Wild date palm, silver date palm. *P. sylvestris* is supposed by some to be the parent stock of all the species of *Phoenix*. Trunk 30 to 50 ft in height; trunk is usually set on a mass of exposed root-like structures several feet high.

Ptychosperma. A genus whose name has been surrounded with confusion and whose history is too involved to be traced. The confusion is due to honest mistakes made long ago and compounded when new genera were formed.

P. elegans Solitaire palm — Origin — Queensland Australia. Trunk 20 ft in height, slender up to 3 to 4 in thick, very smooth and prominently ringed.

P. macarthurii MacArthur Palm — Origin New Guinea. Trunk usually to 10 ft tall, sometimes up to 20 ft; 1 to 3 in thick with clustered trunks.

Rhapis. Because of frequent cross-pollination, the two species usually cultivated are sometimes difficult to distinguish. These palms seem to grow very differently under varying circumstances. No really complete and final study can be made, since there is no assurance that it bears the correct original name.

R. excelsa Lady palm — Origin Southern China. Trunk, multiple up to 15 ft tall, forming delicate graceful clusters.

R. humilis Trunks are more slender than *R. excelsa* and do not reach as great a height.

Rhopalostylis

R. baueri var. *cheesmanii* Origin Kermadec Islands. Similar to *Archontophoenix* type foliage now been grown in Auckland successfully.

R. sapida Nikau palm — Origin New Zealand and Norfolk Island. Well known in New Zealand, probably growing as far south as Akaroa in the South Island.

Seaforthia elegans — Genus now obsolete.

Syagrus weddelliana — (formerly belonging to the *Cocos* genus). Origin — Brazil. This small graceful palm, the most common of the species, is generally seen as a potted plant for indoor use. In the juvenile state, the slim leaflets are only 3 to 6 in long and the general appearance is very delicate. Trunk 6 to 7 ft tall, slender, 2 in thick.

Trachycarpus fortunei. Origin — Central and Eastern China. Chinese windmill palm. Sometimes still found in nurseries as *Chamaerops excelsa*. Trunk growing to 10 to 40 ft high.

Ptychosperma Macarthurii

Rhapis excelsa — Often misspelled *Rhaphis*, or confused with *Raphia-fuffia* of Madagascar

Phapis humilis

Rhopalostylis sapida

Rhopalostylis baueri var *cheesmanii* — Often sold as *Seaforthia* in Auckland.

Syagrus weddelliana — confused with *Cocos plumosa* and (Syn. *Cocos weddelliana*)

Trachycarpus fortunei — has been named *T. excelsa* and *Chamaerops excelsa*.

Washingtonia filifera — has been confused as *W. robusta* and *Pritchardia filifera*.

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PRODUCTION OF *ULMUS PROCERA* 'VAN HOUTTEI' BY CUTTINGS

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The golden elm, *Ulmus procera* 'Van Houttei' is native to southern England and has been used in their landscape being a good contrast planted amongst other types of trees. An established tree is resistant to wind, drought and excessive moisture. This tree is a difficult subject to produce but is worthwhile as it is a popular garden plant. Up until 1971 we used to root-graft elms with an 80% success rate. They were grafted by the whip and tongue method onto roots of 2 year old *Ulmus parviflora* seedlings. They were tied with raffia and planted *in situ* in the field where it was important to bury the graft union below ground level to prevent dehydration. Plants were saleable in 1 to 2 years from grafting.

In 1971 trials were made producing them from softwood and hardwood cuttings. For softwood cuttings half-ripe tips and firmer stems were used dipped in various hormones. The results were: with 0.37% NAA, 60% rooting; 0.6% IBA, 70% rooting; a 50/50 mixture of 0.37% NAA and 0.8% IBA, 75% rooting; Rootone C, 50% rooting; 0.125% IBA liquid, 50% rooting, and no hormone, 5% rooting. We now use the mixture of NAA and IBA on tip cuttings. For hardwoods, heavier wood was used, with a 70% take using 0.8% IBA; 40% rooting with 1% IBA; 50% rooting with the mixture of IBA and NAA; and 5% rooting with no hormone. We now use 0.8% IBA, with an average take of 60%+ over the years. Both methods have proved successful as they are