

Chamaerops



45

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Cover: *Split coconuts (Cocos nucifera) drying in the sun for the production of copra in Tahiti. See page 5. Photo: Pierre-Olivier Albano.*

Chamaerops is the quarterly journal of The European Palm Society. The European Palm Society (EPS) is affiliated to the International Palm Society and was founded in 1991. The EPS is a nonprofit organization dedicated to sharing information about palms and other exotic plants across the continent of Europe. The main goal of the EPS is to communicate with other enthusiasts through *Chamaerops*, the EPS website, or personally at Society meetings, in order to share ideas and knowledge of the successful cultivation of exotic plants. Above all, the EPS and *Chamaerops* are run by members, for members.
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Editorial

The New Year comes with some good news that I hope you all will appreciate. CHAMAEROPS WILL LIVE! Due to the encouraging comments and help I received after the last issue from so many members, I decided to keep the Editor's job for now, until someone else can be found to take over. My main goal will be to get Chamaerops back on track by the middle of next year. As of the issue in front of you, we are more than 9 months behind with the magazine, so at least five issues will have to be put out before summer in order to complete 2002 and be on track with 2003. This is quite a lot and I will need everybody's support with plenty of publishable material to be able to achieve this goal.

Since renewals are due with this issue, I hope you will all sign up again for another year. If you have friends who are interested in palms and who are not yet members of the EPS, please encourage them to sign up with the EPS. If you know of previous members who have dropped out, please try to get them to rejoin. If you need application forms to hand out to friends or customers or anyone potentially interested, let us know and we will provide them for free. At £15/EUR 23, the annual fee is as low as ever, lower than any other palm society with a magazine of comparable quality, and, I think, affordable for everyone. If you want to save further, prices for online memberships are even lower: check out our website at www.palmsociety.org.

I would like to express my special gratitude all those members who have supported Chamaerops and recently sent in their comments and articles. To all those who would like to contribute but are not sure how, here are ten guidelines on how to support your editing staff best:

1. Everyone is welcome to write an article for Chamaerops. We are sure you have an interesting story to tell!

2. Write about any subject you like. We are not exclusively interested in palms and will publish

anything related to exotic plants.

3. If you do not have a computer, do not let that stop you from submitting; we will accept pen and paper submissions.

4. If you are using a computer, we can read all Windows and Mac files. You can use MS Word, Notepad, MS Works, AppleWorks, SimpleText or any other text program to create your article. Please keep the layout as simple as possible.

5. Put your name & address at the top of the article, together with a suggested title if you have one.

6. Article length should be at least 600 words (one page). Letters can be as short as you like.

7. Send lots of pictures! If you send prints and want them returned, just say so. Please put your name on the back, together with a description or caption (plant name, location etc.). Digital pictures are most welcome especially since newer digital cameras provide excellent sharpness and colours. Please use best quality setting when e-mailing pictures. The bigger the files, the better the quality.

8. Some non-native English speakers may think their English is not good enough. Don't worry! All articles are professionally edited and corrected and we will make sure your article will appear in the best possible fashion. Dutch, French, German and Spanish articles are also welcome if you feel more comfortable writing in your own language, and we will have these translated.

9. Please send your article by e-mail to mail@palmsociety.org or by post on paper, cd-rom or floppy to: (see address on page 23)

10. It's easier than you think, just give it a try.

Finally, my apologies to Angelo Porcelli for forgetting to name him as the author of the article on the Botanic Gardens in Rome in the last issue. Thanks Angelo for an article that I think everyone thoroughly enjoyed.

Please enjoy this issue of Chamaerops and have a great 2003. T.S.



Top left: Areca catechu, the Betel Nut Palm in Kandy, Sri Lanka.
Top right: Elaeis guineensis, fruiting prolifically in the Botanical Garden Santo Domingo, Dominican Republic.
Left: Betel leaves and Areca nuts.
Below: Serenoa repens fruit being collected in Florida
Photos: Pierre-Olivier Albano



For Your Health and Beauty

By Pierre-Olivier Albano, 81100 Castres, France

Palm trees supply an unbelievably diverse number of products. For centuries many of these have been used to heal us or to enhance our beauty. Although the *Areca* family is relatively poor in secondary metabolites, capable of producing pharmacological activity, certain traditional medicines used in tropical climates claim certain therapeutic virtues. Similarly, the fruit and seeds, often oleaginous, are an important source for traditional preparations, desired to beautify skin and hair. From a symbolic point of view, the palm tree has been the apothecary emblem in France since 1777.

Scientific knowledge of the palm tree and its attributes passed into the western pharmacopoeia, most notably the Betel Nut. This chewing mixture is largely used in southwest Asia, and is composed of several ingredients. The leaves or inflorescences of the Pepper Betel (*Piper betel*) is only one ingredient. Others are lime, tobacco, or other spices. In Asia, each region has its own recipe, but the Betel nut is ever present as it contains the pharmacological substances arecaine and arecoline. The first is slightly narcotic and has never been used in Europe. The second has worming properties and has been used for a long time in Europe for both animals and humans against parasitic intestinal worms. Today, it has been replaced by synthetic substances, less toxic and more effective. Even if it cannot be held responsible, it must be pointed out that regular chewing of the Betel Nut has been linked to throat cancer.

Another traditional substance is the resin extracted from the fruits of *Daemonorops draco*

(Willd.) also known as Dragon Blood because of its bright red colour. Reputed for its antiseptic and healing qualities, it was used until a few years ago in toothpaste in many European countries. Today, only Chinese medicine still uses this.

Today, many types of palm trees are used in large quantities by the pharmaceutical and cosmetics industries. The Saw Palmetto from Florida, (*Serenoa repens* (Bart.) Small) contains acids and sterols which are highly therapeutic. Before Europeans arrived in Florida, the Seminole Indians used the fruits to treat urinary problems. Early Americans used these fruits to treat such things as difficulty in urinating, as an aphrodisiac, and even to increase breast size! It wasn't until the 1970's that serious work was done with it, notably in French and German laboratories. Today, the extract of the fruit is the base of many products used in the treatment of the enlarged prostate. In most Latin and German countries it is treated as a medicine and refunded by the state. In Anglo-Saxon countries it is considered to be a food supplement and demand is rising rapidly. This international success has led to an increase in demand for these fruits. 4000 tons of fruit are harvested annually in Florida to satisfy demand. The fruits come from trees in the wild which are numerous. Their growth rate is very slow, and there are no artificial plantations. Other extracts from this palm enter into cosmetic products such as those created for oily skin and for the struggle against baldness. Homeopathic treatments use these fruit for prostatitis.

The coconut (*Cocos nucifera* L.) produces Copra oil, used to make the famous Tahiti "Mono_" (suntan lotion). One litre of oil is left to macerate with 12 gardenia taitensis flowers.

Web Page

Coconut oil is a base product for greases and wetting agents, used for soaps. In fact, every time you use soap or shower gel, coprah oil is almost certainly present as a wetting agent. Coconut milk is also used in cosmetics and homeopathic remedies for certain allergies.

The palm *Elaeis guineensis* Jacq, the famous African oil palm, gives us oil from the fruit pulp as well as from the stone. These are also widely used as fats, emulsions, and wetting agents in cosmetic formulations. The fruit pulp contains vitamins A and E. These have anti-oxygenating properties which are being investigated as food supplements.

The Brazilian wax palm (*Copernicia prunifera* (Miller) H. Moore), formerly known as *Copernicia cerifera*, produces the high quality Carnuba wax. This wax is on the fronds which have to be cut to harvest the wax. The younger the frond, the better the wax. The best wax is used for lip salves, lipsticks, and in pasta – it gives it body. It is also used to cover tablets and to lubricate dental floss. There are other industrial uses, but that's another story.

These examples have all been for mass international usage, but there are also local uses. In China they commercially use the *Trachycarpus fortunei* (Hook.) H. Wendl to stop bleeding. They also harvest the fibres which cover the trunk. After charring, it is used in many traditional Chinese medicines.

If the uses of this family of palm trees is still limited, they are indeed one of the major players in cosmetics, especially for fats and wetting agents coming from palm oils and coprah oil. The next time that you use soap or lipstick (ladies) or treat your prostrate (gentlemen), don't forget what you owe to palms !



In *Chamaerops* issue 43/44 we have introduced the EPS website in detail. I am glad to report that this has inspired many of you to upgrade their membership and subscribe to the website. This had a very positive effect on the site so we thought to have a regular feature about our web activities in the printed issue of *Chamaerops*.

The Facts

The website went online as early as 1997 as a private homepage at CompuServe and got its own domain name one year later: www.palmsociety.org. There were only a few sample articles taken from old *Chamaerops* issues and an online subscription form.

In spring 2000 the site was completely redesigned and got the looks it has today. A password-protected members area was created featuring a discussion forum, *Chamaerops* archive, classified ads and more. Subscription has become automated to get immediate access to the site. Visitor numbers are constantly increasing and have now reached 4000 per month. There are currently 230 online-members who have posted more than 2600 messages in the forum.

The *Chamaerops* archive - the 'heart' of the website - has been completed just recently and now features all the 360 articles that have appeared in *Chamaerops* since we started, the entire content of issues 1 to 45. The Picture Gallery currently contains 385 pictures. I think we can claim that the EPS website has more information to offer than any other palmsociety website. It currently consists of 2033 files, filling 60MB of disk space, and is hosted in Southern California by one the pioneers of webhosting.

You can upgrade your membership now for just £5/EUR8 per year at www.palmsociety.org/join/english1.shtml and get full access to the EPS website. R.M.S.

The Big D

By Tony Cerbone, Dallas, Texas, U.S.A.

Palm trees in Dallas, Texas! Most people, when thinking of the Big D, would rephrase this to query: Palm trees in Dallas, Texas???? Many of us have preconceived images of certain places and Dallas is of course one of them. Those kind of folks, when they think of my town, conjure up images of oil wells, cactus, Cowboys (both those on horseback and the football variety), JR Ewing, HOT summers, big hair, and cowboy boots.

Reality: there is not a drop of oil in Dallas County. JR Ewing is fictitious, but a real celebrity, George W., did make his millions here in North Texas. In addition, palm trees not only grow here but are natives!

Dallas is located about 300 miles from the Gulf of Mexico and has a continental climate. This means that it is prone to wide swings in temperature because we don't have a huge body of water to help moderate things. So averages are just that, and the reality is that it is best to describe the climate in generalities. An extremely wet, hot, cold, or dry year can be followed by the extreme opposite the following year. Dallas has a growing season that is a warm, humid, subtropical type, with an abundance of rain in spring, summer drought with high prolonged heat, followed by a return of rain in the fall.

This transitional climate allows North Texan gardeners to take advantage of a unique gardening experience. It is hot and dry enough in the summer for Southwestern natives like cactus, agaves, yuccas, Chihuahua desert flowers, and desert palms to thrive. With our lush springs, and with supplemental water provided during dry spells, plants from the Southeast are as pleased as punch. Fall brings spectacular fall color! This display comes not only from native trees but also from imported

varieties brought in to enhance the original prairies. Winters have enough chill to allow more northern associated plants—like apple trees—to grow and thrive. Overall, we have four distinct seasons.

Dallas, in general, has long, hot summers with an average of 15 days per year where the temperature will reach 100°F (38°C). This extended period of heat (accompanied by very little rain) is great for most cold hardy palms, provided water is supplied on a regular basis. Spring and autumn are long, and are the times when the most precipitation (38 in. / 965 mm per year) occurs. Winters are mild with brief cold spells usually not lasting more than three days at a time. Extreme cold temperatures can occur, and that is one of the limiting factors in palm cultivation in north Texas.

For long-term palm culture there is a way to overcome these periodic cold snaps: select the appropriate varieties and utilize microclimates. The palms that grow the fastest in Dallas are the *Washingtonias* and *Trachycarpus fortunei*. So, by planting these particular species within 10 ft. of a wall, fence, or some other wind blocking structure and providing them with regular water during the summer, it is possible to achieve long-term success here in USDA zone 8. The majority of the metro area (population five million) is zone 8a, but using a protected microclimate and being located within the city's urban heat island means that zone 8b and 9a winter lows can be achieved. In the past 12 years winter lows have fallen between 11°F (-12°C) and 25°F (-4°C) in these protected areas. My yard is one of these areas. My results and observations, therefore, are not typical for zone 8a.

I've had my garden for the past 15 years and have had lots of experience trialing very exotic and commonly available palm species. The following is a list of what work best for me, and what my



experience with them has revealed.

Washingtonia filifera: needs full sun, and is very drought and high heat tolerant. Produces over 25 fronds in a season. Leaves don't burn until the temperatures go below 10°F (-12°C), but are susceptible to ice and snow damage.

Trachycarpus fortunei: does best in afternoon shade, and is very fast growing with regular water, producing over 25 fronds a season.

Sabal minor: will grow in sun, shade, part sun, and grows to its largest size in habitat in Dallas' fertile, black, slightly alkaline clay soils.

Brahea armata: needs full sun, is a stunning powder blue color, produces about 8 fronds a season, and has leaves very resistant to ice and snow.

Sabal x texensis (Brazoria county) and Sabal minor var. louisiana: requirements similar to Sabal minor. It's very cold hardy, does well in heat, and is resistant to ice.

Sabal mexicana and S. palmetto: need full sun and are slow growers, producing only about 5-8 fronds a season.

Other palms that are doing well in Dallas include Phoenix dactylifera (fast-growing and very surprisingly cold tolerant), Chamaerops humilis, Trachycarpus wagnerianus, Jubaea chilensis, Chamaedorea radicalis, C. microspadix, Nannorrhops ritchiana, and Trachycarpus takil.

Palms that live but don't look their best in Dallas include Livistona chinensis (defoliates almost every winter but lives through most extreme cold, though doesn't look good until the end of the growing season) L. saribus, L. decipiens, Sabal rosei and Trachycarpus latisectus.

Palms that shouldn't be attempted in Dallas are Phoenix canariensis and Washingtonia robusta, as temperatures below 18°F (-8°C) kill them.

My final advice

- Use the appropriate recommended palms for your zone for your foundation plantings.

- Experiment with other types you enjoy, knowing that you may have to modify their environment.

- Protect ALL palms for the first two winters until they have had a chance to become established.

- Don't over water, over fertilize or over love them to death! Palms are pretty hardy once they are established.

- Be very cautious about introducing any palm specific pests. If you aren't in a major palm-growing area, don't introduce a pestilence along with a new addition to your palm collection.

- Have fun, and try to design your palm garden with beauty and restraint, or your yard will end up looking like mine—a jungle out-of-control!

So . . . rebuke those fire ants and killer bees and make Lady Bird Johnson's heart swell with pride and plant your corner of the Northcentral Texas prairie with a palm! Bubba won't know the difference between a Sabal and a Bradford pear anyway!

Don't forget to check out my website at:
<http://web.novaone.net/DallasPalms/index.htm>



*Top left: Beautifully colored Sabal uresana from Mexico.
Top right: A small Brahea armata among other Palms in the Cerbone garden.*

Bottom: View of the Cerbone garden from the street, Trachycarpus fortunei and Washingtonia filifera on the left.

Photos: Tony Cerbone



Palms on La Palma

By Ed Croft, Icklesham, East Sussex, U.K.

La Palma is the most westerly of the Canary Islands at 29° North and 18° West. It is one of the lesser-known Canary Islands and tourism has not taken off in the same way as it has on some of the other islands such as Tenerife and Lanzarote. Visitors to the island are mainly Spanish mainlanders and Germans, although there is a smattering of visitors from other northern European countries. La Palma is particularly attractive to rambblers given the mountainous and forested landscape.

In broad terms, the climate on La Palma is not the same as that which offers islands like Fuerteventura and Lanzarote long days of unbroken sunshine, but more like the climate seen in the north of both Tenerife and Gran Canaria, where cloudy days are common and rain is relatively frequent. As a result of this climate, La Palma is known as 'La Isla Bonita' (the pretty island) because of its lush green vegetation. The predominant wind direction is from the northeast and as a consequence the northern and eastern coasts are more breezy and cooler than the western and southern coasts.

The ridge of volcanoes running down the centre of the southern half of the island and the Caldera de Taburiente in the north of the island divides the island into two differing climatic zones which favour different palms. The northern and eastern sides of the island are cooler and wetter whereas the Southwest is noticeably humid, hotter, and distinctly less windy. This is important as *Cocos nucifera* is now being used by landscapers in increasing numbers. In other islands such as Fuerteventura and Lanzarote, *Cocos nucifera* will

grow but I think it is fair to say that they do not thrive because of the low rain fall, strong winds, and perhaps the cooler evening temperatures. Specimens in those islands often look wind battered and the fronds take on a dark, unhealthy appearance. The humid, wetter and less breezy conditions on La Palma suit this palm well and there are many thriving specimens to be seen. There are a group of about 50 contented *Cocos nucifera* thriving in a black sandy beach at Puerto Naos on the humid western side of the island and a number of others close to the beach at Tazacorte in a landscaped garden that also contains *Syagrus romanzoffiana*, *Phoenix canariensis* and many fine specimens of *Washingtonia filifera*. The dead leaves and leaf-bases have been completely removed from the *Washingtonias*, leaving a bare, rust coloured trunk. Also at Tazacorte are two good, but young, examples of *Sabal minor* at the northern end of the beach.

Moving inland there are several interesting and unusual sights west of Los Llanos at a village called Argual. For the first time ever I saw a mature *Phoenix dactylifera* which, at a height of three metres up the trunk, had actually produced a sucker. Nearby in the old village square were four *Livistona chinensis* with fine stout trunks and those lovely fan-shaped leaves with drooping tips. In the grounds of a house that bordered the square were two huge *Roystonea regia*, the tallest examples I had ever seen, thriving in the humid climate.

As is common in many European and North African holiday destinations, *Washingtonia filifera* were everywhere to be seen (there are some very mature examples in the gardens of the Sol Elite Hotel in Puerto Naos). Less common, however, is *Washingtonia robusta*. There are a few specimens dotted around La Palma, the best example being a 20 m one in the centre of Los Llanos behind the church. It is a real beauty, particularly if you haven't seen a mature *Washingtonia robusta* before.

South of Los Llanos is the Palmex Cactus

Top: *Livistona chinensis* at Argual.

Bottom left: *Brabea armata* at the Palmex Cactus Garden.

Bottom right: *Phoenix dactylifera* at Argual, suckering high up on the trunk.

Photos: Ed Croft

Artwork: Rudolph Maria Spanner

Garden, run by a very friendly (non-English speaking) German couple. At four euros it is well worth a visit to see the amazing variety of cacti and succulents, many of which were in flower at the time of our visit in November 2001. In particular there was a mature *Agave americana* with a huge 6 m flower that had gone to seed, but there were also many other examples of large cacti, other types of *Agave* and *Aloe*, as well as several varieties of cycad which would excite the exotic enthusiast. The most interesting specimen in the garden, however, was neither a cactus nor a succulent but a very sturdy *Brahea armata* that, at 2.5 m tall, had formed a stout trunk with a crown of very stiff, pale blue leaves all in beautiful condition. A real treat! Sadly this was the only one I saw on the island. (Incidentally, when you visit the Palmex Cactus Garden, as part of the entrance fee you receive a packet of cacti/succulent seeds to propagate so that you can start your own cactus garden.)

If you are a *Phoenix canariensis* fan you would be delighted to see many fine mature examples, with trunks up to 8-10 m, growing on the wetter and cooler eastern side of the island, viewed clearly from the LP1 and LP2 main roads. The regular rainfall has meant that these palms have formed a thick head of bright green fronds free from wind or drought burned tips. Super!

Near the centre of the village of Las Manchas, on the road to the wine museum, was the one and only mature *Trachycarpus fortunei* that I have seen in the Canary Islands, although I have heard that there are others around. There are few places where both *Trachycarpus* and *Cocos nucifera* will grow happily together, and the Canary Islands is certainly one of the them.

In shadier spots here and there were many *Howea forsteriana*, some with healthy green trunks up to 3 m in length. Rare, but also seen from time to time, were *Phoenix roebelenii* and *Rhapis excelsa*.

The biggest industry on La Palma is not tourism but bananas. Even as one flies into the airport, banana plantations are evident. Most of the arable land lower than 500 m altitude is occupied by banana plantations, except where the rocky terrain is too steep. Many people are

employed in what is a relatively labour intensive industry and you can almost always be sure that there is a plantation worker toiling in the small, one to two acre plots. In between these plots I found two wholesale palm nurseries. The first had over 100 large *Washingtonia filifera* of between 3 and 4 m, planted in the ground in rows, hundreds of 150 cm *Cocos nucifera* in pots, many young *Phoenix canariensis* also in pots, and a rather neglected clump of *Dypsis lutescens*. Sadly there was nobody around who I could talk to about these plants. The second nursery was more of a mystery as someone had planted, in rows, perhaps as many as 120 *Washingtonia filifera* with trunks of about 1 m in height and then, at some point, had simply abandoned the plot. Unfortunately, this was in the drier south west of the island and all but perhaps 15 of the palms had died through lack of watering. It was a very sad sight indeed to see this *Washingtonia* graveyard. Most of the 15 survivors, however, bordered directly onto one of the heavily watered banana plantations and I believe that water had seeped into the plot. These plants had continued to grow well and had reached a trunk height of 2 - 3 m when I saw them.

Ubiquitous on La Palma are both the blue and variegated forms of *Agave americana*, particularly on the eastern side. They appear to grow out of almost any surface at almost any angle and produce little suckers freely. Also common is *Agave attenuata*, one of the most beautiful of all succulents with a fine rosette of unarmed, lime-green leaves. Incidentally, if you are an *Agave* fan and live in the south east of England, there are some very large *Agave americana* on the seafronts at Hastings and Eastbourne. Both the blue and variegated versions are growing well in our cooler climate.

Lastly, whilst we may fuss and worry over our favourite plants, some of the locals on La Palma have a more casual approach. Most notably I saw a *Cocos nucifera* growing happily from an old, rusty oil drum and a fine *Aloe vera* growing in an old metal paint tin in a dive shop doorway.



Nannorrhops, The Enigmatic Palm

By Robert Lackner, Burggasse 1a, 2405 Bad Deutschaltenburg, Austria

When your interest in palms was awakened it was almost certainly caused by one of the many *Trachys*, by a *Phoenix*, or *Washingtonia*, all of which can be seen frequently in milder and sometimes even cooler parts of Europe. Then you learn and read more about several other species, some of which can also be grown under really harsh conditions, be it frost, drought, or heat. After a while you'll find a really good palm book and when flying over the pages you'll almost certainly make a pause at the page of *Nannorrhops ritchiana*, the Mazari Palm or, as it should be called, the Enigmatic Palm. You want to know why this palm is a mystery in my eyes? Well there are many good reasons:

Enigma No. 1

This palm is so common and abundant in its habitat and yet so few plants can be found in cultivation. On one hand everybody talks about it, but on the other hand only a few people grow these palms successfully.

Enigma No. 2

Also adding to its mystery are the areas where this palm grows. The deserts of Afghanistan, Pakistan and Iran are not on most people's lists for their family holidays, and even if they were, the current situation makes it even more difficult to visit these places than it was a year or so ago. Thus, only a few palm enthusiasts have seen this palm in habitat. This, in my opinion, has allowed many rumors about its climatic growing conditions

to arise, especially in the beginning. I possess four palm books where this mysterious palm (which is named after its original collector David Ritchie) is mentioned. Three of these books claim that these plants may be covered with snow for long periods during the winter. One book even mentions that it is covered with snow for months at a time. Climatic data on these areas indeed suggest that it can become really cold in some places where *Nannorrhops* grows, as far as the absolute extreme minimum temperature is concerned. This, however, only applies to some of *Nannorrhops*' habitats, not to all of them. The climatic data also show that these areas have a fairly high mean annual temperature and almost no precipitation. This suggests that the plants are normally not covered with snow for weeks or months because it rarely snows there, and if it does, the snow certainly melts soon in the warm desert sun of these southern regions. This brings us to the next enigma, and the question of how hardy this palm really is.

Enigma No. 3

All of the above mentioned palm books state that this is an "extremely cold-tolerant palm", which is a relative term, because you don't know from which (geographical) point of view this was written. Two books are even more precise, suggesting it can tolerate temperatures as low as -20°C or even -26°C. This is certainly a point which almost forces the inexperienced palm enthusiast to purchase this palm at any price, because in his day dreams he already sees a nice palm with its fan leaves swaying outside in a gentle arctic breeze at -25°C. I, too, thought "I must have this one" some eight or nine years ago when I first ran across the

Mazari Palm's description. In addition, many plant nurseries offer this as a palm that is hardy in many parts of central Europe. But is this really the case? Fact is, that hardly any Nannies are growing successfully outside in central Europe and you can read more about failures than about successes. Even in relatively mild areas, such as southern England, this hardy palm does not seem to grow satisfactorily. So what is true and what is not?

As for most exotic plants, this question does not have a straight answer. *Nannorrhops ritchiana* is indeed a very frost-tolerant palm in habitat, but the frosts there are very dry and, compared with central and western Europe, short lived. Many parts of Central and Western Europe, however, are rather moist and humid, especially during the critical winter months. This, in my opinion, makes this palm unsuitable for outdoor cultivation in many areas, unless you can create a good shelter to keep the plant completely dry while also allowing it to get enough light, as this palm requires bright conditions even during the winter. Furthermore, *Nannorrhops* requires very good drainage. It is odd that in England so many rather tender (which again is a relative term) palms can be grown without shelter (e.g. Phoenix, *Arenga engleri*), but the allegedly extremely frost-hardy *Nannorrhops* simply rots away and dies, unless of course it has either a very favourable and/or dry place.

In light of all this, I strongly disagree with nurseries selling this palm as being hardy in almost all parts of central and western Europe. If this palm can be grown in the cooler parts of Europe, then in my opinion more continental areas with cold, dry winters and hot summers have the best theoretical chances for outdoor cultivation, unless their winters are too cold for this palm to grow. That means that without special preparations this is not the ideal palm for countries that have mild but moist winters (e.g. England, the Netherlands, Belgium, the northwest of France and the northern parts of Germany). This palm would probably be better suited to Hungary, Slovenia, Croatia, Slovakia and maybe eastern Austria. But even in these parts a rain-sheltered place, good drainage

and during severe cold some frost protection is certainly necessary. (I need not mention that *Nannorrhops* has no problems growing in southern Europe, and therefore I hope you don't mind if I focus on the less favourable regions of Europe).

Regarding *Nannorrhops*' frost hardiness you should take into consideration that *Washingtonia filifera* is, in the Southwest of the States, regarded as being hardier than *Trachycarpus*. The reason is clear: *Trachys* are certainly not suited to desert climates and thus won't grow very well there. *W. filifera*, however, is really exceedingly hardy in such dry climates and can therefore indeed cope with -20°C for short periods. *W. filifera* is cultivated in areas (e.g. El Paso, Texas or St. George, Utah) where -20°C can be reached (although it does so very rarely), and where frosts down to -10°C are fairly common. But the frosts there are dry and short lived, which makes a huge difference. In central and western Europe, on the other hand, *W. filifera* (if you have the true type; many *Washingtonias* being offered as *W. filifera* are actually *W. robusta*) is rather difficult, because it needs fresh air and resents moisture, especially during the winter, and is therefore sometimes damaged at temperatures around -5°C. Again, the lower the humidity, the more cold it tolerates. *W. robusta*, although in habitat not nearly as frost tolerant as *W. filifera*, copes much better with moisture and is therefore better suited to our gardens and greenhouses. So you see, if a palm can cope with -20°C in a certain climate, this must not lead to the conclusion that it can be planted out in central Europe.

There's one thing my experience with *Nannorrhops* shows clearly: It is certainly better suited to our winters than *Washingtonia filifera* and thus it is certainly hardier. During the winter 95/96 I wintered a blue and a green Nanny seedling outside just with a plastic pot placed over it for rain protection. That winter was the longest and wettest winter I can recall (see my article in *Chamaerops* No. 30) with an absolute minimum

Right: A massive "green" *Nannorrhops* at Fairchild Tropical Garden, Miami.
Photo: Gibbons/Spanner



of -19°C. The green Nanny seedling just survived the winter and began to recover later, but very slowly. The blue Nannorrhops died. Formerly I was too inexperienced and thus too impatient and wanted to plant them out as soon as possible. Now I know that it makes no sense to plant out seedlings of any palm, let alone of a palm that needs much heat to achieve a good growth rate. I therefore dug up the surviving green Nanny and placed it in a pot again.

Enigma No. 4

As I mentioned before, there are Nannies with different leaf colours, which leads me to the next mystery: different species. It is still unclear if all the different forms of Nannorrhops can be lumped together into just one species. Formerly four species of Nannorrhops were recognized: *N. ritchiana*, *N. stocksiana*, *N. arabica* and *N. naudiniana*. H. Moore lumped them into just one variable species, namely Nannorrhops *ritchiana*. Now, doubts from experts arise, suggesting that some of the different forms found in habitat may indeed be separate species.

I can attest that the three forms I have look quite different from one another. I have the green form from Pakistan, the blue Pakistan form (also offered as 'Silver form'), and a silver form from Iran (sometimes referred to as *N. arabica* or *N. sp. 'Iran'*). It seems that the Pakistan silver form is by far the least hardy, which was also my experience, whereas the Pakistan green form and the Iran silver form seem to be hardier. The most obvious difference between the forms is their leaf colour, which ranges from an intense silver-white (Iran form), to a moderate silver-blue (silver Pakistan form), to plain green with bluish undersides (green Pakistan form). The varying amount of insect pests these plants attract also suggests there are differences between the forms. The green form is obviously the least tasty as I have hardly ever seen any insect pests on its leaves. The Iran form suffers only slightly, whereas the Pakistan silver form is sometimes moderately attacked by pests. The leaf bases of my three forms are also different. The

green form is partly covered with an orange fur that can be seen easily. The Iran form shows only a very light orange-brown fur, whereas the Pakistan silver form completely lacks this characteristic. Another distinguishing characteristic is the leaf form. The silver forms from Iran and Pakistan have costapalmate leaves, whereas the green Nanny has palmate ones. Taking all of this into consideration, one can see that my experience supports the theory that not all of the former Nannorrhops species should have been lumped together into just one, but of course more scientific proof and detailed examinations are needed—such as examining the flowering characteristics of these palms—before any solid conclusions can be made. Unfortunately, the necessary plant materials appear to be hard to come by, so it'll still be a while before we palm enthusiasts are better informed about Nannorrhops' scientific status.

As you can see, 'Enigmatic Palm' is really an appropriate title for Nannorrhops. It is certainly—especially in the cooler regions of the world—None of the most talked about palms, and despite that, so little is known about it. And what's more, some of the information given is simply wrong. This has led to the creation of legendary myths about the palm from the deserts of Afghanistan, Pakistan, and Iran. Hopefully these myths will give way to more reliable and scientific information that will certainly save the lives of many Nannies that would otherwise just rot away or barely grow in many of the colder regions of Europe.

Reading this article you might suppose that I want to convince you to leave Nannorrhops to the experts or for warmer climates. No, definitely not! I encourage you, in fact, to buy one or raise one from seed, but give it the growing conditions it needs. I have been experimenting with Nannorrhops for seven or eight years and I can assure you it's really a marvelous palm.

...continued on next page

Right: Some like it hot: a "green" Nannorrhops ritchiana in the desert in the mountains north of Sibi, Pakistan.

Photo: Gibbons/Spanner



Enigma No. 5

Another myth about Nannorrhops is that it is a slow-growing palm. It is just slow growing when given the wrong conditions! If you know how to raise them, however, you can have a splendid looking palm within only a few years. I purchased my green (Pakistan) Nanny as a 30 cm (1 ft.) seedling, still with seedling leaves. Now, not even six years later, I have a wonderful double trunked palm with a height of almost 150 cm (5 ft.) without the pot. The trunk diameter at the base of the taller stem is already 12-13 cm and it is still growing fast. Even much faster growing is my silver form from Iran. I raised it from seed three and a half years ago. Now it measures 100 cm in height!! Doesn't really sound like a slow growing palm, does it?

So what is the proper way to raise them?

- Use large pots.
- Keep them very hot (30 - 45°C).
- Keep them very moist during the hottest temperatures.
- Use (plastic) saucers during this time, so that the plants can stand in water.
- Allow them to soak up the water from the saucers before refilling them.
- Reduce the watering as it becomes cooler. The lower the temperature, the less water they need.
- Keep them very dry in winter if they are in an unheated greenhouse. If you keep Nannorrhops in a heated greenhouse do continue watering, but not as excessively as during the hot summer months.

Germination

I germinate Nannorrhops seed like any other palm, in a transparent plastic bag, but with two little differences: 1) I keep the seeds at temperatures between 30 and 45°C as these hot temperatures are necessary for good results; and 2) I take the seedlings out at an earlier stage than I would for *Trachycarpus*, for example. When germinating *Trachycarpus* it does not make a big difference if you leave the plants somewhat longer inside the

plastic bag. Nannorrhops, however, seems to bring slightly better results if you take them out and pot them up a little bit earlier, because of their strong root growth. I usually take them out when the first seedling leaf has just begun to appear. Then I plant it in a deep plastic pot to allow the first roots to grow unhindered for a while. Leaving the plantlets inside the plastic bag longer means that the roots of the seedlings get mixed up and the necessary separation of the plants afterwards causes some stress. Therefore it's better to pot them up while the roots are still small.

The first seedlings usually appear after three to six weeks. As far as the silver forms are concerned most of the seeds germinate within two months. I achieved a germination rate of 85 to 90% with both silver forms. The green form seems to germinate over a longer period. Some seeds can take over a year to sprout, some only a few weeks after sowing. But generally they also germinate satisfactorily.

Soil

I do not use any special type of soil. Nannorrhops seems to grow equally well in regular garden mold or soil for pot plants. To my surprise, however, they did grow much more slowly in sandy soil. While they grew nicely even in this sandy soil, the plants that had been growing in light soil types grew much faster. I also fertilize the Nannies like any other pot plant. As such, my treatment of Nannorrhops, *Washingtonia*, or *Trachycarpus* is the same, except that I keep them at different temperatures during the growing season.

Conclusion

All of the different types of Nannorrhops are wonderful plants. They are exceptionally good palms for the heated and unheated greenhouse and almost trouble free. The green form especially is completely trouble free, as I have never, ever had any problems with pests and diseases, despite the fact that this plant was, until last month, in the greenhouse year round. During the first three years

I kept it in an unheated greenhouse and afterwards it remained two years inside a heated one, where it grew side-by-side with a superb coconut palm. Would you believe that these two palms thrive under identical conditions? The Iran silver form is a must because of its beautiful colour, and it is nearly as trouble free as the green Pakistan form, in heated greenhouses as well as in unheated ones. The Pakistan silver form is probably the most 'tender' of my Nannies. If you keep it permanently in a greenhouse you'll surely fight sometimes against some insect pests, but that has never been a big problem. It is also an interesting palm because of its beautifully coloured leaves.

During the last summer the green Nanny became too broad to be kept in my rather small greenhouse, so I decided that I'd plant it out next year. Since then I have been keeping it outside in the pot, so that it gets used to the colder temperatures outside. I'll leave it outside as long as temperatures do not fall below -8 or -9°C, and then winter it in a cool place. Next spring I'll plant it out in the hottest and driest position I have in my garden. I feel it has a good chance in our climate in this favourable spot, as it would be completely rain sheltered and would see sun from dawn till dusk. Our hot continental summers will do the rest and our normally very dry winters will hopefully be dry enough.

During the last four winters we didn't see much snow here and temperatures never fell below -10°C. The summers were very long, hot, and very dry, which caused tremendous havoc agriculturally. To such conditions Nannorrhops would be ideally suited. However, I have no illusions that some really cold winters will come; it's just a matter of time. When it does become really cold (-20°C) again some winter (which happens about every 15 years or so), I'll be prepared to help the green Nanny through the worst of the cold.

If the green Nannorrhops grows satisfactorily during the next two or three years, then the silver Iran form will be the next to be planted out, as it'll be quite large then. According to their habitat, these two Nanny forms are hardy enough to

tolerate temperatures of -20°C in dry conditions. I'll see how they cope with the not-so-cold but rather foggy periods here, which can also occur during the winter. This is probably the only drawback of our climate as far as Nannorrhops' needs are concerned. Newer palm literature suggests, and my experience shows, that the silver Pakistan form is certainly the least hardy in terms of low temperatures. So this palm is, in my opinion, not suitable for outdoor cultivation in my area.

If you want to see some nice, mature Nannorrhops, you can find them at the Rome Botanic Gardens. Probably the best known, this green Nanny has a huge winding trunk. The most beautiful Nannies I have seen grow in the garden of Villa Thuret in Cap d'Antibes in the South of France. There you can admire a beautiful double trunked and upright green Nanny about 3 m in height, and, beside it, a somewhat smaller plant. I also saw plants in Huntington Garden in California, and I've heard of large plants in the Fairchild Botanical Garden in Florida and of one in a private garden in Florence.

The bottom line is that, if you can offer Nannorrhops the appropriate conditions, you should get one as soon as possible. You won't regret it! Although Nannorrhops will still remain somewhat of a mystery until experts do further examinations, I hope that I have given you a brief insight into this wonderful palm that might help you to grow them successfully. I'm not an expert as far as the classification of palms into their species is concerned, and therefore I don't know whether my observations of the characteristics of the different forms are useful or not, but I'm eager to know what will happen with the Enigmatic Palm in the future.

Photos on page 21:

Top: green Pakistan form. This plant has withstood -9°C outside in the pot during the last winter without problems.

Middle left: silver Pakistan form, green Pakistan form, silver Iran form with intense silver fans, silver Iran form with green-blue-yellowish fans.

Middle right: costapalmate fans of the silver Pakistan form.

Bottom left: Palmate fans of the green Pakistan form.

Bottom right: Trunk with ornage fur, green Pakistan form.

Photos: Robert Lackner

A Hardy Cordyline

By Marinus van den Berg, Veenendaal, Netherlands

Cordyline indivisa

In its native New Zealand, it grows mainly on the South Island, and reaches eight metres in height. The “mountain cabbage tree” or “broad-leaved cabbage tree” grows on mountain slopes, even along ski slopes. In Europe it can be seen in several botanical gardens in Cornwall, on The Isle of Wight, and in Northern Ireland in the arboretum in Castlewellan Forest Park and at Mount Stewart Gardens near Newtownards. The climate in these places is rather mild with no really hot summers. The Dutch summer can be rather hot and dry, so the plant needs protection from sunshine to grow well. East winds are always dry and warm in summer, and dry and cold in winter, so it also has to be protected from this wind.

Hard to get and to grow

Cordyline indivisa is a very impressive plant with a much more tropical look than any of the other Cordylines, and its level of hardiness is also better. Sounds good so far; but, unfortunately, it is very hard to obtain. Even the seeds are rare and I don't know why. Another problem is that the names are almost always mixed up, so sowing the seeds is like playing the lottery. In New Zealand suppliers are very slow or simply not offering these seeds—you can get *Dracaena indivisa* (a.k.a. *Cordyline australis*), but not *C. indivisa*, which looks different. The leaves are broader than any other Cordyline and it has obvious thin orange stripes on the green grey leaves. If you do manage to obtain a plant, you'll find that it dislikes summer heat very much, and most of the young plants will die with no plausible reason. Commercially growing *C. indivisa* is therefore seemingly impossible, and that's a shame, because every exotic

plant enthusiast should grow this very fine plant.

I was lucky enough to get a plant in the U.K. at Ventnor botanical gardens, and learned firsthand that it is hard to grow *C. indivisa*. It is beautiful together with *Dicksonias* and mountain bamboos, such as *Chimonobambusa*, *Fargesia* and *Drepanostachyum*. Look out for *Chimonobambusa* because it is a runner; don't let it disturb the *C. indivisa*. The bamboos are great for keeping out cold and hot winds.

How to grow

C. indivisa needs a well prepared soil with lots of humus which must retain moisture but not become water logged. It needs a lot of space as a mature crown of leaves will spread over two metres. It needs to grow in shade or light shade. Of course it is not fully hardy here, but it is hardier than the books tell you. I've had my plant for three winters now, and it has never shown any damage, even though many palms (even *Trachycarpus*) have had damage! I protect it with some bracken or straw at the base of the plant. When the temperature drops below -10°C , I put some fleece around the leaves, but remove it as soon as the frost is over. I also tie the leaves together with rope. This protects them from frost and keeps them from drying out because of the freezing. I untie the leaves somewhere in February when there is no longer any chance of severe frost.

Cordyline australis

Cordyline australis is much easier to grow and to obtain, but it needs a warmer and sunnier place than *C. indivisa* with better drainage, and is also less hardy here. Most of the winters are too severe and many of the plants die back to the ground. Even though difficult to obtain and grow, *C. indivisa* is the premier choice for colder climates.



Letters

Ideas

In the Editorial of *Chamaerops* no. 43/44 you said that you are having problems finding enough contributions to continue *Chamaerops* successfully. Here are some ideas that may help. One way to increase the number of articles you receive in the future is to include articles on other exotic plants. You already seem to have started this, as I noticed an article about yuccas in *Chamaerops*, which I liked very much. At the moment I am not a member of *Chamaerops* because my interest has started to move from *Trachycarpus* to other hardy exotics which are not discussed in *Chamaerops*. My suggestion is to broaden the magazine's focus by dramatically increasing the number of articles on related cold hardy exotics, adding one or two

articles in every issue of *Chamaerops* that discuss plants like *Acacia*, bamboo, *Ficus*, olives and so on. Another suggestion for new articles would be to write/design an article/map on cold hardy palm private gardens that are open for public visits. I noticed initiatives for this idea in both Dutch and German internet societies. You could choose one or more gardens from this map and add a description of all palms that can be found in this specific garden. The amount of hardy palm gardens with enthusiastic owners is inexhaustible so you would be guaranteed pages of palm information for years.

Of course, the ideas discussed above will only help to create some new ideas for articles. In the long term this may not be sufficient to continue *Chamaerops*. In my opinion, joining forces with the Pacific Northwest Palm and Exotic Plant Society would be the best option.

Maybe you could join forces with related European societies like the European Bamboo

Society or the European Rock Plant Society. Of course, the percentage of palm articles would be relatively decreased. I visit palm message boards daily and notice there is an extremely wide range of hardy exotic plants that are being discussed. I think you should make use of this broad interest. I hope my comments are useful for the future of Chamaerops.

Kind regards,
Oscar Salden, Beegden, Netherlands

Thank you very much for sharing your ideas. Even though our focus is on palms, we warmly welcome articles on any exotic plants and would be happy to publish whatever we receive. I think articles on private gardens is a great idea, but again, someone will have to take the initiative to write something up. As outlined in the editorial, we will work more closely with the Pacific Northwest Palm and Exotic Plant Society in the future, particularly through the exchange of articles, and I would be glad to use our members' contacts with other exotic plant societies to make similar connections. T.S.



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