

# Pandanus plants as food Brief notes by Bruce R French







# Pandanus as food



### Pandanus

Pandanus are usually large spiky plants with large fruiting heads and are therefore hard to collect and are often poorly represented in herbarium collections. Harold St John and Benjamin Stone were 2 Botanists who collected, studied and named many of these plants. Most pandanus are shrubs or trees with slender trunks and only a few branches. Pandanus are usually in the tropics and often they grow in damp or swampy ground. Some grow in drier forests.

There are about 600 species of Pandanus. These naturally grow in Africa (25 species), Madagascar (85 species), Asia Australia (25 species) and into the Pacific.

# Pandanus

Pandanus leaves are long and usually spiny and arranged in spirals . That is why they are often called screwpines. These leaves are usually clustered near the ends of branches. The veins run along the leaves and often there are spines along the midrib of the leaf. Often Pandanus plants have spiny aerial or stilt roots near the base.

The fruit are produced near the ends of the branches and usually these have large bracts around them. The flowers are small and the female flowers are hidden among the leaves. The male flowers are often on long stalks. The fruiting head is normally a large round or oblong cluster of fused fruit. These are often 3 sided and can be soft or hard and woody. The outside is fleshy and inside there is a fibrous or woody covering containing the kernel or nut.

It is most likely that all pandanus species have edible nuts but some are too small or hard to be worth harvesting.

## Pandanus

Most pandanus can be grown from seed. The seeds need to be sown fresh. Seeds can take 6 to 12 months to germinate.





### Pandanus antarensensis St John

This is a tropical plant, with no common English names but several local names and a scientific name. It grows in the highlands of Papua New Guinea from about 1600 to 2500 m altitude. It is a branched screwpine with the crowns normally at the same height. The fruit are large clusters made up of groups of 5 nuts. The kernels are small and hard to extract. When ripe the fruit turn red and the nuts drop individually.

Plants are often self sown but are also planted from seed. Nuts are usually harvested after they fall. Production is not distinctly seasonal. The outside fibres are burnt off then the shell splits. The kernels are eaten.

### Pandanus antaresensis











A fruiting head

### Pandanus antaresensis

Male flowers











# Fragrant pandan

Pandanus amaryllifolius Roxb.

A tropical plant. It is native to SE Asia. It is a shrub 2-4 m tall. Often the plant is small due to repeated cutting. It can grow 8 m tall. There are stilt-like aerial roots on the stems near the base. It develops suckers and forms clumps. The leaves are arranged in spirals. The leaves are narrow and folded like a fan. They have sharp edges. They are 75 cm long and 2.5 cm wide. They droop about half way along. The plant rarely flowers. The flowers are white and the fruit heads are 20 cm across.

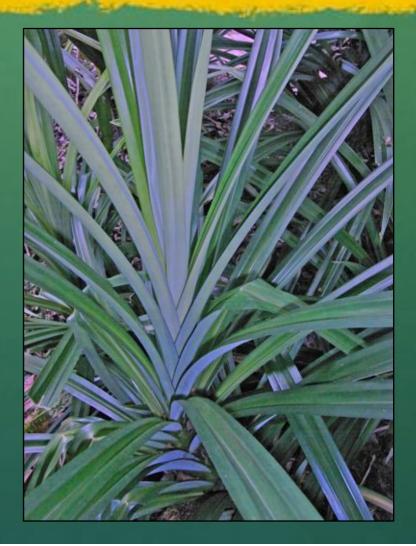
Plants are grown from cuttings. These root easily. They can also be grown from suckers. The young leaves are used to scent rice or colour cakes green. Chicken is also wrapped in pandan leaves and deep fried.

It has several other local names such as: Toei hom, Fragrant screw pine, Taey, Pandan wangi, Ban lan ye, Daun pandan, Pandano, Bai toey hom. It grows in Asia, Australia, Cambodia, Hawaii, India, Indochina, Indonesia\*, Madagascar, Malaysia, Maldives, Pacific, Philippines, Singapore, Sri Lanka, Thailand, USA,

# Fragrant pandan

Pandanus amaryllifolius Roxb.





# **River pandanus**

Pandanus aquaticus F. Muell

It is a tropical plant that grows in northern Australia. It grows in shallow water along the edges of streams. It requires a sunny position and an abundance of water. It suits hardiness zones 11-12.

It is a tall shrub or small tree. It can grow singly or form a slump. It may or may not have prop roots. The leaves are long and narrow. They are 100-140 cm long and 5-6 cm wide. The leaves can be strap like or slightly triangular. There are brown-tipped spines long the edge.

The male flower arrangement is branched and 20-30 cm long. There is a whitish bract below each flower branch. The male flower spikes are 4.5 cm long. The male flowers are pale yellow. The female flower arrangement is unbranched. They have 100 cm white bracts below them. The fruiting head is 10-15 cm across. They ripen yellow. The drupes separate and are 3-4 cm long by 0.5-0.9 cm wide and are club shaped. They are fleshy when ripe. The seeds are 0.6 cm long. Plants can be grown from fresh seed.

### River pandanus Pandanus aquaticus F. Muell

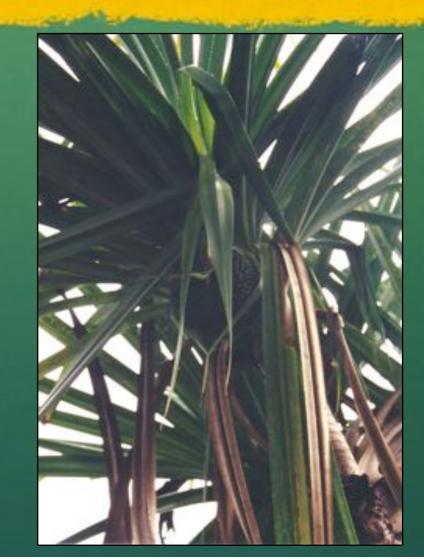






# River pandanus Pandanus aquaticus F. Muell





# Rock pandanus

Pandanus basedowii C.W. Wright

It is a tropical and subtropical plant. It needs a sunny position. Plants need well-drained soil. It grows on rocky cliffs in Arnhem land in Australia. It is a medium shrub or small tree. It grows 4-7 m tall and spreads 2-4 m wide. It has a rounded crown. The branches are often horizontal. It has prop roots. The leaves are strap-shaped and 30-80 cm long by 1-5 cm wide. They are dull green, stiff, leathery and with spines along the lower edge. The tip is drawn out.

The male flower arrangement is branched and 10-20 cm long. The male spike is 2-3 cm long and with whitish bracts below them. The female flower arrangement is unbranched with whitish bracts. The fruiting head is 15-20 cm across. It is more or less round. It is light in weight and creambrown. There are about 10 fingers in a fruiting head. Each contains 1 or 2 seeds. The seeds are 2.5 cm long. Plants can be grown from fresh seed. The roasted seeds are eaten.



# **Rock pandanus**

### Pandanus basedowii C.W. Wright





Pandanus brosimus Merrill & Perry

It is a tropical plant that grows at very high altitudes in Papua New Guinea. The usual range is from 2500 to 3100 m altitude. Some are transplanted to lower altitudes.

It is a screwpine with erect leaves which are normally not bent at the tip. The wild Karuka plant looks a lot like the cultivated Karuka (*P. jiulianettii*) except that the leaves are bigger and normally they point straight up instead of bending over at the top. The trunk of the tree is straight like a palm but it can have some branches near the top.

The leaves are long and have thorns along the edge. Dead leaves normally hand down around the top of the tree. The leaves are close together. The leaves at the centre turn red then white at fruiting time.

The fruit is a round cluster of nuts. The ends of the individual nuts come to a sharper point than in cultivated karuka. The shell of the nuts is very hard. The large fruit is made up of about 1000 nuts. The fruit hangs on a stalk against the trunk.

Pandanus brosimus Merrill & Perry



### Pandanus brosimus Merrill & Perry

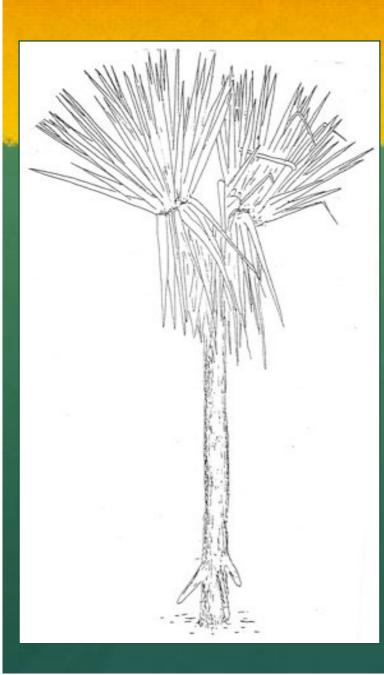




Pandanus brosimus Merrill & Perry

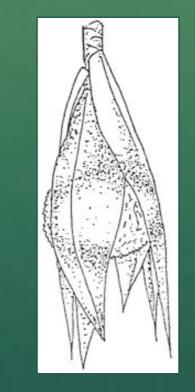
Different varieties of wild karuka are recognised. These have different shaped nuts. Other small differences are also noticed by village growers.

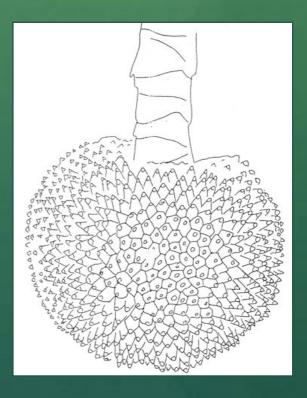
Trees are normally self sown but some are transplanted. Self sown plants are weeded, protected and owned. The wild karuka is disseminated throughout the high altitudinal forest as individual widely spread trees and the dispersal agent is claimed to be marsupials (tree kangaroos etc). Some are transplanted to lower altitudes. The fruiting is seasonal and often a good season occurs every second year. Individual people within the clan are given permission to look after different sections or trees and these people clear the bush near the base of the tree and build traps to stop tree kangaroos.



### Pandanus brosimus Merrill & Perry







### Mace screw pine

Pandanus conicus St John

It is a tropical plant. It grows naturally in rainforests in NE Queensland in Australia. It grows near mangroves and up to 400 m altitude. The tree grows up to 6-10 m high and spreads 3-5 m wide. It has a few branches. The trunk is covered with flat spines. It has prop roots. The leaves are simple and about 3 m long by 4-6 cm wide. The edges of the leaves have teeth. There are also teeth on the midrib towards the end of the leaf.

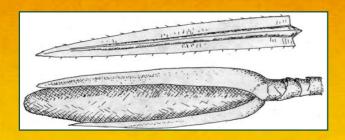
The male flower is branched. It is 30-40 cm long. It hangs over and has white bracts. The male spike is 8-10 cm long. The female flowering stalk is not branched. The fruiting heads are 15-24 cm long by 11-16 cm wide. They occur singly and hang down. It ripens to orange or red. The fruit is edible. The seeds are 1.2-1.4 cm long. It can be grown from seed and from stolons or runners. The fruit are edible but can irritate the throat and mouth.

# Mace screw pine

Pandanus conicus St John







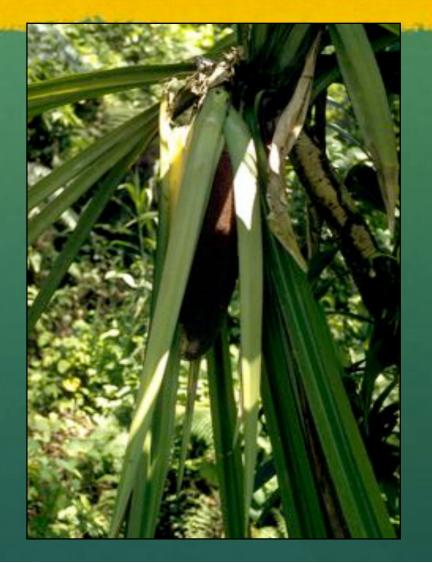
### Pandanus conoideus Lamarck

A tropical plant. It grows throughout Papua New Guinea from sea level up to 1650 m altitude. It becomes common above 500 m. It occurs in Papua and Maluku in Indonesia. A short muchbranched screwpine with many prop roots. The prop roots have prickles. Trees may have up to 8 or 10 main branches. Trees grow up to about 5 metres tall. There are many short sharp spikes on the trunk and branches. The leaves are between 1 and 2 metres long and about 10cm wide. The leaves grow opposite each other but are twisted to look like a spiral. There are thorns along the edges of the leaf.

It produces a large (1 m long) dark red to yellow fruit with a hard rough/spiky surface. The fruit is hard and has small lumps or spikes over the surface. The fruit grows at the ends of the branches between the leaves and it has 3 straight leaf-like bracts along the edges.

### Pandanus conoideus Lamarck













### Pandanus conoideus Lamarck

Marita pandanus are normally planted from suckers or cuttings. The cuttings use ends of branches. Suckers produce more quickly. A new shoot normally sprouts out of the branch just below where the end was cut off. The cutting will soon develop roots and become established when it is planted. A more popular method is to use a sucker or shoot growing from the plant down near the ground. The sucker is separated from the parent plant then replanted in its new place. These suckers grow more quickly and can bear fruit after 18 months to 2 years. A cutting off a branch may take up to 4 or 5 years before it produces a fruit.

Marita is often planted along the roads and walking tracks. It is also planted in most gardens and serves as a reminder that the land is owned by the person who planted the marita. So plants are dispersed instead of being grown in a plantation.

A marita fruit is harvested when the colour starts to change to a brighter red or yellow. Sometimes it also starts to crack slightly at this stage. The fruit is cut from the branch.



### Pandanus conoideus Lamarck



#### Pandanus conoideus Lamarck

The ripe fruit is cooked then the juice mixed with water to make a sauce. To do this, a ripe marita fruit is normally split into 3 sections along its length. Then the central yellow stalk and pith area are dug out. The outside hard red layer is then cooked. Preferably it is cooked using hot stones although sometimes it is boiled in a saucepan. After cooking for about half an hour the hard pits are squeezed from the soft red juice by squeezing through the hands. Water is added to make an oily red soup. The soup is then eaten.

Sometimes it is eaten by dipping green leaves or sago into the soup. At other times it is eaten with a spoon made from the marita leaf. Some people just suck the cooked juice from the seeds. As well, some people use the oily juice to cook food in. The pits or seeds are thrown away, normally to pigs. A harvested marita fruit will only keep for about one week. After cooking it will only last for about 12 hours.

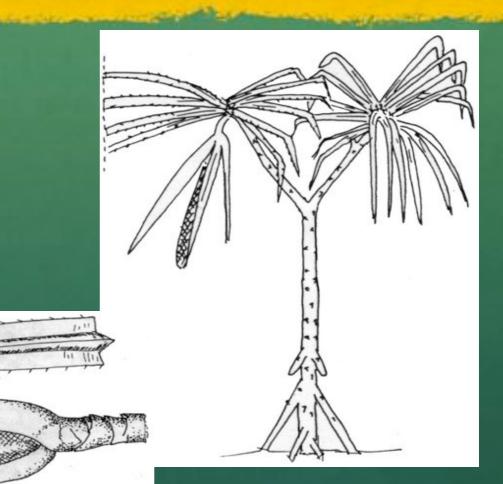


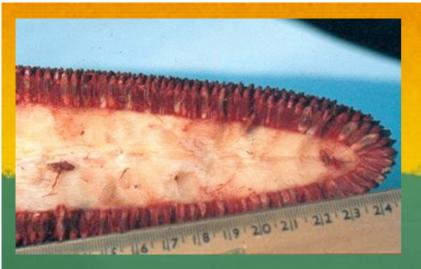
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### Pandanus conoideus Lamarck





### Pandanus conoideus Lamarck





#### Pandanus conoideus Lamarck

Marita is a seasonal crop but the fruiting season is not a short clearly marked one. The main season goes from about October to March but individual trees can bear almost throughout the year. Near the sea the marita season is longer and more spread out but as the places increase in altitude above sea level the season becomes more distinct. The marita season is an important occasion. During the season people often use marita twice a day. The ripe fruit is cooked then the juice mixed with water to make a sauce.

In the past, several other coastal pandanus trees similar to marita were given other scientific names but now they are all considered kinds of marita.

### Pandanus conoideus Lamarck



# Poroporo

Pandanus dubius Spreng. (Syn P. compressus Martelli)

It is a tropical plant. They are widely distributed in wooded areas along the seashore in Pacific countries. They also occur in Asia, Australia, Guam, Hawaii, Indonesia, Kiribati, Marianas, Micronesia, Pacific, Palau, Papua New Guinea, Philippines, Rotuma, Solomon Islands, USA, Vanuatu.

- It has local names such as Bakong, Taboan, Pahong, Tekaureiko, Mweng kaki Kipar-n-ai, Fa'u da'i, Nyiu nailo, Fao, Nonivo, Lou lou, Tobi, Kaufadai, and Kaufa tolo.
- It is a large erect and branched screwpine with prop roots. The trunk has sharp prickles. The roots are covered with vertical rows of pores. The leaves are numerous and spirally arranged and crowded towards the ends of branches. The leaves are broad (20 cm) and about 2 m long with sharp thorns. It has a long fruit stalk. It has a large roughly round heavy fruit about 30 cm across. The fruit has about 50 fibrous segments. They are large and white.
- It is grown from large cuttings of the ends of branches. The fruit are ready to eat when the fruit looses its white mat like appearance and becomes green. The nut-like edible seeds inside the segments are eaten raw or cooked. They can be stored.





# Poroporo

### Pandanus dubius Spreng







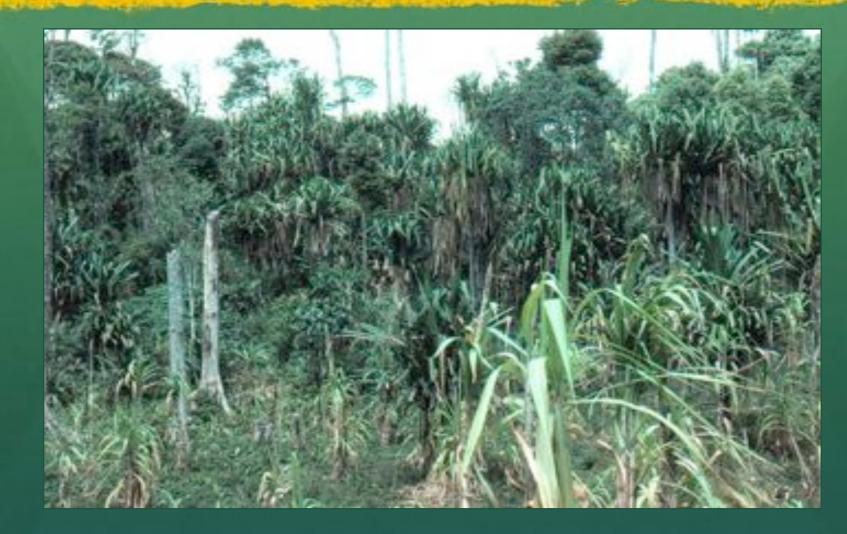
### Pandanus jiulianettii Martelli

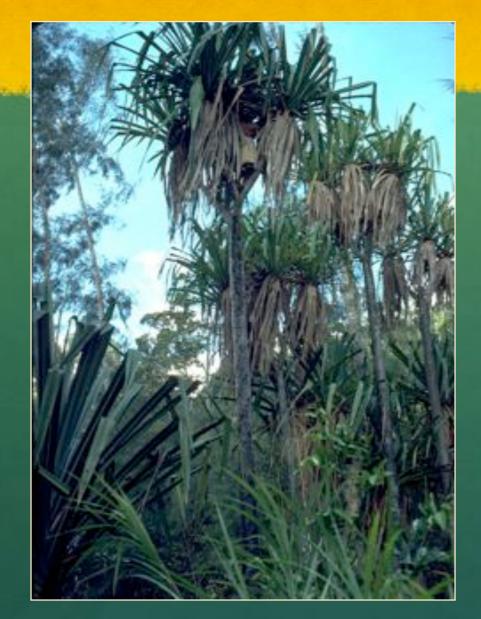
A tropical plant that grows in Papua New Guinea and Papua. Trees grow between 1800 and 2500 m altitude. They do best in the forest clearings. Outside this range it often does not grow well. They do best in the forest clearings. The microenvironment for karuka to grows best includes fairly good soil fertility such as along the banks of small creeks; in the natural hollows that occur around the edges of hills, and around the edges of small clearings in the bush. Karuka on knobs in the grassland often only bear small nuts.

Pandanus trees are separately male and female. With cultivated karuka, male trees are rare. About 25-30 cultivars of cultivated karuka are recognised and named within an area of cultivation. The karuka tree is a tall palm like tree with a straight trunk and aerial prop roots at the base. Sometimes it branches near the top to produce 3 or 4 crowns of leaves. The leaves grow in pairs opposite each other and they are twisted to look like a spiral going up the trunk. The leaves are long (3 m), narrow, have spikes along the edges and are often bent at the tips

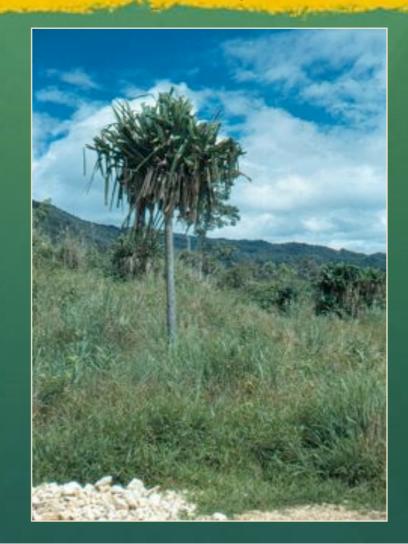


### Pandanus jiulianettii Martelli





### Karuka





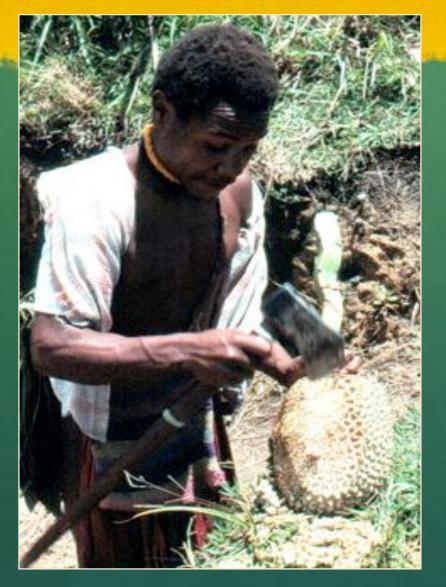




The fruit is a round composite fruit 15 to 30 cm across which is made up of about 1,000 individual keys which contain the nut which is eaten. On a branch that is about to bear fruit, the leaves are upright and clumped slightly together. The fruit bunch emerges from the centre of these leaves. It hangs close to the trunk amongst the dead hanging leaves. Large leaves (bracts) almost cover the fruit bunch while it hangs there.

Commonly vegetative cuttings of the top section of a branch is used for planting. This is suitable for a tree that has several branches. When planted in moist fertile soil it quickly develops roots and becomes established. This maintains the trees true to variety. Old trees with a number of branches tend to have smaller clusters of fruit because the fruit are competing on the same plant for their requirements so this pruning improves production. Sometimes karukas develop young suckers or shoots near the ground. When these are seen, they are broken off and replanted from these vegetative suckers. Trees from cuttings produce after 5-8 years.

## Karuka









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All cultivated karuka are planted. Karuka can be grown from seeds. Seedling trees are slower to produce and have a taller straighter trunk. It is best to wait till the nuts are fully ripe and start falling naturally from the tree. These nuts are taken and planted while fresh. They are planted in the shell with the bristles uppermost. Normally the seeds are established in a nursery and then transplanted to their permanent sites a few months later. To produce good sized nuts the karuka plantation needs to be kept free of weeds.



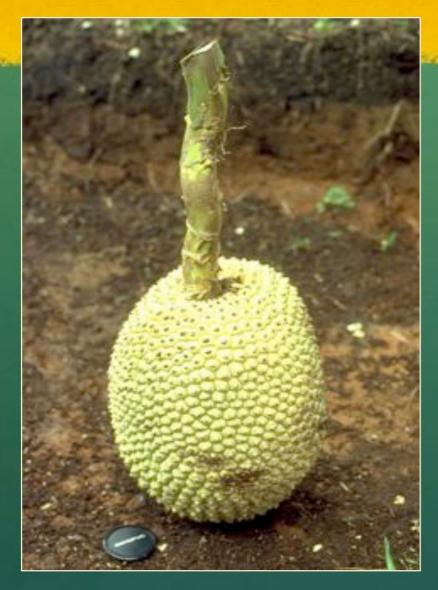














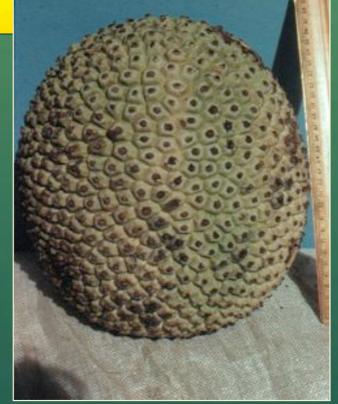
Fruiting is seasonal and probably biennial for any individual branch of the tree. One crown of leaves on the one branch of a karuka tree normally only produces one cluster of nuts (called a syncarp) during the one season. In fact, that particular branch normally only produces one bunch every second year. Both the kernel inside the individual nut is eaten and the mesocarp or fleshy centre inside the head or cephalium is eaten. Karuka nuts can be harvested before they are fully ripe by climbing the tree and cutting the whole bunch. When this is done, the fruit bunch is cut in half the central pink portion cooked and eaten and the two halves with the outside skin burnt off can be stored in a platform above the fire. These halves can be cooked over hot stones and the nuts eaten. The season is normally Dec to Feb but may occur in mid year. Trees last 50-60 years. The nuts can be eaten raw or cooked. Dried nuts store well.

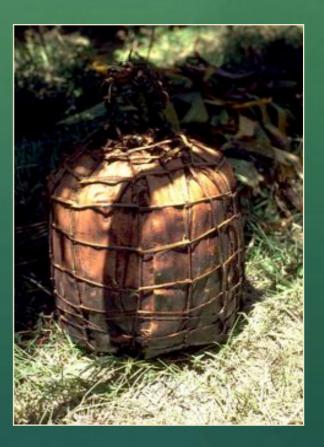
The season is normally Dec to Feb but may occur in mid year. Trees bear every second year. They take 5-8 years from planting to first harvest. Trees last 50-60 years. An average Karuka fruit can be about 6 kg weight. It is about 25 cm high and 20 cm across. It contains about 1000 separate nuts. After burning off the outside and removing the stalk, the weight is about 5 kg. A single kernel weighs about 0.5 g. The weight of edible kernels in a fruit is about 8% of the total fresh weight or about 0.5 kg. The nuts can be eaten raw or cooked. The flesh in the centre of the fruit can be eaten cooked.

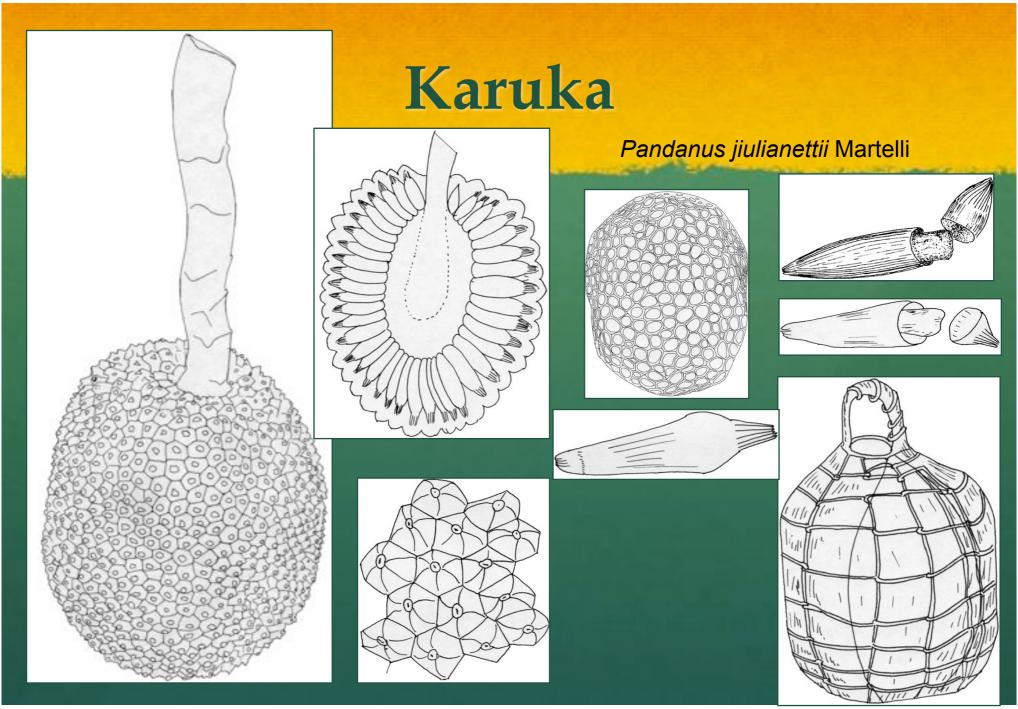






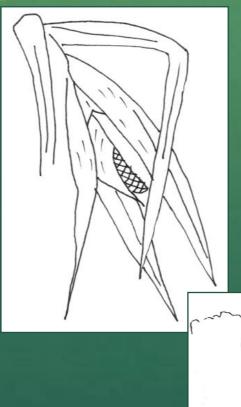


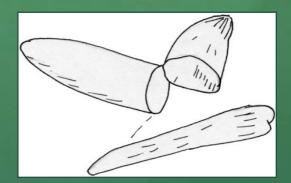






### Karuka







#### Lauterbach's pandan

Pandanus lauterbachii K. Schum & Warb

It is a tropical plant. It grows naturally in rainforests in NE Queensland in Australia, usually near streams. It is also in Papua New Guinea. It grows in rainforest near mangroves. A shrub or small tree up to 5 m tall. It spreads 2-3 m across the crown. It does not have prop roots. The leaves are simple and 1-2 m long. Leaves are 4-6 cm wide and strap shaped. They are dark green and shiny above and paler underneath. The edges of the leaves and the underside on the midrib have teeth.

Trees are separately male and female. The male flower is 50-90 cm long. It hangs down and has broad white bracts. The female flowering stalk is 70-90 cm long. It is branched and has 7-9 spikes. The fruit is up to 10-17 cm long by 8-12 cm wide. They hang in bunches of 7-9 heads. They contain several seeds. Each segment is tipped with a prickly point. The seeds are about 1.5 cm long. The flesh is edible. Plants can be grown from seed. They can also be grown from young plantlets near the base of other plants. The flesh is edible but it can sting the mouth.

## Lauterbach's pandan



Pandanus lauterbachii K. Schum & Warb







### Nicobar breadfruit

Pandanus leram Jones ex Fontana

It is a tropical plant. It is a large branched tree. It has aerial prop roots. The leaves are very large. They can be 10-15 cm wide. There are prickles along the edges and midrib. The bracts around the flower are cream. Trees are separately male and female. The male tree has a very large flower. The female flower develops a large round head made up of individual nuts. These are clustered in groups. These can be 12-15 cm long. The outside is yellow or orange. They are grown from stem cuttings. The fruit is normally eaten cooked. It is boiled. The lower portion of the fruit is used for making flour for bread.

### **Rainforest Screw Pine**

Pandanus monticola F. Muell.

It is a tropical plant that grows naturally in rainforest in NE Queensland in Australia. It grows from sea level to 840 m altitude. Plants grow in shade. Plants fruit better in sunny locations. It needs well drained soil. It is a shrub or small tree. It grows up to 3-5 m tall and spreads 1-4 m wide. The stems are slender and almost climbing. There are no prop roots. The leaves are simple and 1-2 m long by 5-7 cm wide. The edges of the leaves have teeth. The midrib also has teeth. The tips of the leaves are often drooping.

The male flowering stalk is branched and 10-15 cm long. The male spike is 5-7 cm long. It has cream or white bracts below it. The female flower is unbranched and has white bracts. The fruiting heads are up to 12 cm long by 8 cm wide. They occur singly and are very prickly. They contain many seeds. The seeds are 4-10 mm long. The flesh is edible. Plants are grown from fresh seed. The flesh is edible but it can irritate the mouth.

## **Rainforest Screw Pine**

#### Pandanus monticola F. Muell.





### Keura, Tarika

Pandanus furcatus Roxb.

A subtropical plant. It grows in Asia in Bhutan, India, Nepal and Pakistan. In Nepal it grows between 700-1100 m altitude. It grows in moist, shady places. An erect shrub. It has many branches. It grows about 5 m high. The leaves are in spirals towards the ends of branches. They are long and narrow and taper to the tip. They are leathery. The flowers are yellowish.

Plants are grown from seed. The juice of the fruit is sucked.

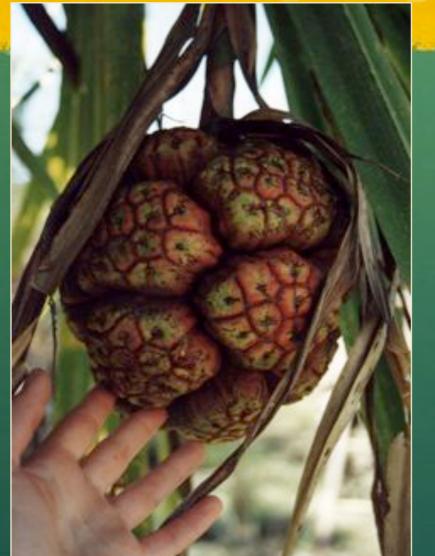
Pandanus spiralis R. Br.

It grows in tropical and subtropical places in Australia. It grows in a range of different sites. Often they are near the edges of swamps and ponds or along streams. It can grow in sun or light shade. It can tolerate salty locations. It does well in a humid climate. Plants are sensitive to frost. They can tolerate a wide range of pH values.

The tree grows to 10 m high. It has prickly leaves. The trunk is marked with leaf scars. It does not have prop roots. Trees are separately male and female. The leaves are crowded towards the ends of branches and are arranged in spirals.

They are stiff, leathery and V shaped. They are widest at the base and taper to the tip. Leaves are 1.5-2 m long by 4-7 cm wide. They are often bent downwards from about one third of their length. There are small thorns along the edge.

The flowers occur as male and female flowers on separate plants. The flowers are small and white. They occur in dense spikes near the ends of branches. These spikes are 3-7 cm long and enclosed with bracts.



Pandanus spiralis R. Br.



Pandanus spiralis R. Br.







Pandanus spiralis R. Br.

The fruit are wedge shaped. They are woody. Fruit are 5-7 cm long by 5-8 cm wide and occur in clusters of 8-25. These heads are 15-20 cm across.

Fruit hang below the crown and are orange red when ripe. There are several varieties.

Plants can be grown from fresh seed. They grow best if removed from the woody shells and soaked for 24 hours. Plants can be grown by removing suckers. There are about 15 seeds per fruit and there can be 30 fruit in a head. The fruit kernels are eaten raw but preferably roasted. The ends of the fresh fruit are sucked or chewed for juice. A preparation from the core of the stem is eaten. This may be as medicine. A drink is made from the crushed fruit.

Pandanus spiralis R. Br.







Pandanus tectorius (Solander) Parkinson

A tropical plant. It grows on the sandy edges of mangroves and along rivers. They are very common along the seashore throughout the islands of the Philippines. They are never found very far inland. It usually grows from sea level to 20 m altitude. In Samoa it grows to 300 m altitude. It usually grows in places with an average annual temperature range of 24-28°C. The rainfall is usually between 1500-4000 mm per year. It can grow in soils with a pH between 6-10. It can grow in salty soils. It suits hardiness zones 11-12.

An erect branched shrub 3 to 5 m high. It can be 14 m tall. The trunk has several prop roots. The stems are prickly. The leaves are spirally crowded towards the ends of branches and covered with waxy powder. They are up to 1.5 m long and 3 to 5 cm wide. The edges of the leaf and the midrib have sharp spiny teeth pointing towards the end of the leaf. Male and female flowers occur on separate trees. Male flowers have showy white bracts. The female plants produce woody, pineapple like fruit.



Pandanus tectorius (Solander) Parkinson



Pandanus tectorius (Solander) Parkinson

The fruit are alone and hang down. They are rounded and 20 cm long. They are composed of 50 to 75 fibrous fleshy fruit with a stone in the centre. They are somewhat angular. There are hundreds of local named varieties.

Plants are normally self-sown. They can be grown from seed. The preferred kinds are grown from cuttings. Cuttings of 30-40 cm are suitable. Plants grow slowly. It produces 8-12 fruit per year. The fleshy portion of the lower part of the mature fruit is eaten raw. It can be cooked or made into flour. The seeds are eaten.

The tender shoots or terminal buds are eaten as a vegetable. Flowers and pollen are edible.

The tip of the aerial root is eaten raw or roasted. They can be processed into a drink.

Pandanus tectorius (Solander) Parkinson

CAUTION: The seeds can contain calcium oxalate crystals. These can be removed by cooking and straining. They irritate the mouth.

It grows throughout Asia and the Pacific including Australia, Cambodia, Caroline Is., Fiji, Guam, Hawaii, India, Indochina, Indonesia, Kiribati, Kosrae, Malaysia, Marianas, Marshalls, Micronesia, Nauru, New Caledonia, Pacific, Palau, Papua New Guinea, Philippines, Samoa, Solomon Islands, Sri Lanka, Thailand, Tokelau, Tonga, Tuvalu, USA, Vanuatu, Vietnam, and Yap.

It has many local language names. Rumchek, Mogili, Mengkuang laut, Mengkuang duri, Mengkuang layer, Pandan laut, Pandan darat, Pandan todak, Pandan wangi, Pandan pantai, Hala, Lamchiek, Fara, Hala, Te kaina, Bob, Bop, Kipar, Kipal, Kepar, Fach, Tchob, Tchoi, Ongor, Akgak, Beach screw pine, Pandang, Fasa, Pibis, Pandan-dagat, Toei-hom, Toeidaang, Dua go, Nicobar breadfruit, Ajbwirok, Anewetak, Binu, Choy, Fach, Far, Deipw, Epo, Fa, Fafa, Laufala, Falahola, Kukuvalu, Lou'akau, Kafu, Mweng, Ongor, Vadra, Voivoi.

### **Common screw pine**

Pandanus utilis Bory

A tropical plant that grows from sea level up to 1,800 m above sea level in East Africa. It needs a sandy, well-drained soil. It needs full sun. It suits hardiness zones 10-12. It is a tall tree. It grows 12-18 m high. It forms many branches. It has aerial roots. The leaves are stiff and blue-green. They have red spines at the base. The leaves are arranged in spirals. The flowering head is made up of very small creamy white flowers. The fruit is a rounded compound head. The head is 15-20 cm across. It is made up of 100 long woody fruit. They are 25 mm long. They are edible when fully ripe. It is slow growing. The fruit yields a starchy food which is cooked and eaten. The male spadices are edible.

## **Common screw pine**



Pandanus utilis Bory





### Yalna pandan

#### Pandanus yalna R. Tucker

It is a tropical plant that grows in Australia. It grows in moist to wet sites. It can be in water 1.5 m deep. They form stolons or runners when growing in water.

It is a medium sized tree. It grows 10-20 m high and spreads 5-10 m wide. It has few branches. The trunk is 8 m high and 100 cm across. It has prop roots. The leaves are 2-3 m long by 6-10 cm wide. They are strap shaped and mid green. There are spines on the midrib and edges.

The male flowering stalk is branched and 15-35 cm long. It hangs down. The male spikes are 8-12 cm long. They are white and have white bracts underneath them. These can be 175 cm long. The female flowering stalks are unbranched. They have white bracts underneath them. The fruiting head is 18-25 cm long by 18-21 cm wide. It ripens to orange-yellow. There are 10-30 seeds in each of the fingers. The seeds are 2.2 cm long by 0.1 cm wide. Plants can be grown from seed or runners or stolons which develop roots.

### **Corncob Screw Pine**

Pandanus krauelianus K. Schum

It is a tropical plant. It grows naturally in the foothills of rainforest in NE Queensland in Australia. It does best in a sheltered location and with some shade. It needs well drained soil. It is a small tree. It grows up to 5-12 m tall. It spreads to 2-3 m wide. It has prop roots. The trunk and roots are prickly. It has an open crown. The leaves are simple and 1.65 m long by 4-5 cm wide. The edges of the leaf have teeth and spines. The leaves are strap like but M shaped in cross section. They are dark green above and waxy underneath.

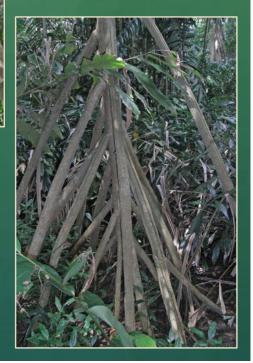
The male flowering stalks are branched and 25-35 cm long. They have cream bracts. The male spikes are 10-15 cm long and greenish-cream. The female flowering stalks are not branched. They are enclosed in large orange-yellow bracts. They look like a cob of corn in its husk. The fruit are 22 cm long by 7.5 cm wide. They contain many seeds. The seeds are 2 cm long by 0.9 cm wide. The inner flesh is edible when it is soft and ripe. Plants are grown from fresh seed. The inner flesh is edible when it is edible when it is not but it can irritate the mouth.

## **Corncob Screw Pine**

Pandanus krauelianus K. Schum (Syn. Pandanus zea H. St John)







# Food Plants International

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