Arenga pinnata

[Synonyms : *Arenga gamuto, Arenga saccharifera, Saguerus gamuto, Saguerus pinnatus, Saguerus rumphii, Sagus gomutus*]

SUGAR-PALM is a palm. Native to Malaysia, India and the Philippines it has green to bronze flowers.

It is also known as *Arèn* (Javanese), Areng palm, Atap fruit, *Barú* (Spanish), *Bary* (Spanish), Black fiber palm, Black sugar palm, Ejow palm, *Gomuteira* (Portuguese), Gomuti, Gomuti palm, *Guang lang* (Chinese), *Kabung* (Malay), *Kabung enau* (Malay), *Kaong* (Filipino/Tagalog), *Kichilippanai* (Tamil), *Lirang* (Indonesian), *Palma da zucchero* (Italian), *Palma de azúcar* (Spanish), *Palmera del azúcar* (Spanish), *Palmier à sucre* (French), Sago palm, *Satou yashi* (Japanese), *Sha tang ye zi* (Chinese), *Tang shu* (Chinese), *Tarèn* (Sundanese), *Toungong* (Burmese), and *Zuckerpalme* (German).

The palm blooms once only when it is 7-10 years old and then dies. The flowering period can last up to 10 years and the extremely long flower heads appear successively down the tree before its death – although continuous tapping can kill it from exhaustion within about 2 years. The trunk yields a limited amount of starch which is much reduced when the sap has been encouraged to flow by bruising the base of the young flowering spike (it is usually the male spike that is beaten with a wooden mallet) for sugar, wine, arrack or vinegar. Tapping the sap that flows from a particular shoot can continue for as much as two months.

Warning – the fruit wall, pulp and juice contain needle-like crystals that can cause dermatitis.

Pinnata is a botanical reference to the leaf-shape meaning ‘a feathery arrangement of leaflets on each side of the common stalk’.

The fruit are enjoyed by wild pigs, civet cats and fruit bats that all help to distribute the seed.

The tapped unfermented sap was/is boiled and left to evaporate in fresh bamboo containers to obtain the brown palm sugar or jaggery – once a common local product. However both the sap and the palm sugar it can produce are unstable and will deteriorate relatively rapidly. Thus not only does its preparation demand well sterilised vessels but its storage also requires care and even then this sugar will ferment quickly. Commercially produced cane sugar, *Saccharum officinarum*, (more widely accessible in recent decades for those poorer families in south-eastern Asia who can afford it) is much preferred as it is far-less demanding in time and energy. As a result the sugar from sugar-palm is only prepared nowadays by the very poorest families or is enjoyed by those who are wealthier who prefer its taste and view it as a delicacy. After fermentation (to which as already mentioned the sap readily succumbs) palm wine or toddy are produced and if the liquid is left to ferment even longer it becomes what is understood to be a good quality vinegar. The palm wine or toddy is distilled to obtain arrack.

In the 1960s authorities noted environmental drawbacks in connection with the traditional practices for making sugar from this palm. It seems that dead or dying sugar palms were left to moulder and these offered ideal sites in which coconut beetles could establish colonies to the detriment of any nearby coconut palms (*Cocos nucifera*). Thus attempts were made then to encourage the tappers to remove the wasted sugar palms instead of leaving them to founder.

The fibrous inner trunk of this palm, particularly when it is not tapped for its sugar (which diverts energy from producing starch) can be processed to provide an edible sago-like (*Metroxylon sagu*) starch or flour. (But it should be said that the starch from sugar palm is held to be responsible for bowel complaints if it is eaten to excess.)

In the Philippines the flower buds and unripe seeds have also offered a source of food. The former have been added to salads (raw or cooked) and the unripe seeds (with every scrap of the outer wall removed) have been boiled with sugar for a sweetmeat. In some parts of south-eastern Asia the cabbage has also been eaten (raw or cooked) and this is said to have a sweet taste.

The palm wine from sugar palm has provided a regular source of yeast in Borneo and elsewhere – and in Java (now part of Indonesia) it has played a role in the indigo-dyeing process.

Passing reference has already been made to the poisonous outer walls of the fruit. Apart from criminal use (It is claimed that in Malaysia the fruit juice has been surreptitiously added to a victim's coffee) they are said to have been used as a weapon. In days gone by Filipinos are believed to have repelled marauding Moslem pirates with the liquid produced from leaving the fruit to rot in water – and it is told that Surabaya (today the second largest city in Indonesia after Jakarta) was captured in 1545 by tossing the pulped fruit and animal carcases into the community's water supply, the river. Records show that the fruit have been thrown into streams to stun fish, and they have also provided an unusual form of protection for fish ponds. Scattered around the pond edges unwary nocturnal poachers approaching on bare feet were supposed to be unpleasantly deterred.

The leaves yield a useful fibre. They have also been said to have been worn as thatch-like raincoats in the Philippines – as well as offering material for more conventional thatching. Additionally the leaves'mid-ribs have been used to make designs on light furniture, have been bound into bundles for use as brooms and have been woven in basketry.

One part of the palm that as yet remains unmentioned is the soft, dry and durable substance found in tufts at the base of the stems. This is waterproof (in both fresh and salt water) and includes some stout, horsehair-like black bristles. In the Philippines it was used amongst other things for caulking boats, for making very strong rope, and as tinder. (In fact it was sufficiently highly sought after as tinder that there was once a trade in it between some countries in south-eastern Asia.) For a time some of the Malaysian villages also used the stiff bristles as pens.

Very hard durable wood is left when the trunks are gouged-out and this has furnished material for items ranging from water pipes or conduits to walking sticks.

Medicinally, the palm wine has been used in Malaysia in remedies for dysentery and constipation, and in the Philippines it has been prescribed for treating some forms of tuberculosis.