

Nypa fruticans

Nypa fruticans, commonly known as the **nipa palm** (or simply **nipa**) or **mangrove palm**,* [4] is a species of palm native to the coastlines and estuarine habitats of the Indian and Pacific Oceans. It is the only palm considered adapted to the mangrove biome. This species is the only member of the genus *Nypa* and the subfamily *Nypoideae*, forming monotypic taxa.* [5]

1 Description



The trunk or stem of the nipa palm is under the mud. Only the leaves project upwards



A globular flower cluster on a nipa palm



The northernmost distribution of *Nypa fruticans* is seen on Iriomote Island, Japan. The nipa palm's trunk grows beneath the ground and only the leaves and flower stalk grow upwards above the surface. Thus, it is an unusual palm tree, and the leaves can extend up to 9 m (30 ft) in height. The flowers are a globular inflorescence of female flowers at the tip with catkin-like red or yellow male flowers on the lower branches. The flower produces woody nuts arranged in



A globular fruit cluster of the nipa palm

a globular cluster up to 25 cm (10 in) across on a single stalk. The ripe nuts separate from the ball and are floated away on the tide, occasionally germinating while still water-borne.* [6]* [7]

2 Distribution

Nipa palms grow in soft mud and slow-moving tidal and river waters that bring in nutrients. The palm can be found as far inland as the tide can deposit the floating nuts. It is common on coasts and rivers flowing into the Indian and Pacific Oceans, from Bangladesh to the Pacific Islands. The plant will survive occasional short-term drying of its environment. It is considered native to China (Hainan region), the Ryukyu Islands, Bangladesh, India, Sri Lanka, the Andaman and Nicobar Islands, Cambodia, Thailand, Vietnam, Borneo, Java, Maluku, Malaya, the Philippines, Sulawesi, Sumatra, the Bismarck Archipelago, New Guinea, the Solomon Islands, the Caroline Islands, Queensland, and the Australian Northern Territory. It is reportedly naturalized in Nigeria, the Society Islands of French Polynesia, the

Mariana Islands, Panama, and Trinidad.* [3]

Japan's Iriomote Island and its neighboring Uchibananari Island are the most northern limit of the distribution.* [1]* [8]

3 Uses

The long, feathery leaves of the nipa palm are used by local populations as roof material for thatched houses or dwellings. The leaves are also used in many types of basketry and thatching. Large stems are used to train swimmers in Burma as it has buoyancy.

On the islands of Roti and Savu, nipa palm sap is fed to pigs during the dry season. This is said to impart a sweet flavour to the meat. The young leaves are used to wrap tobacco for smoking.

3.1 Food and beverages

See also: Palm wine and Arrack

In the Philippines and Malaysia, the flower cluster (inflorescence) can be tapped before it blooms to yield a sweet, edible sap collected to produce a local alcoholic beverage called *tuba*, *bahal*, or *tuak*. *Tuba* can be stored in *tapayan* (balloon vases) for several weeks to make a kind of vinegar known as *sukang paombong* in the Philippines and *cuka nipah* in Malaysia. *Tuba* can also be distilled to make *arrack*, locally known as *lambanog* in Filipino and *arak* or *arak nipah* in Indonesian.

Young shoots are also edible and the flower petals can be infused to make an aromatic tisane. *Attap chee* (Chinese: 亞答子; pinyin: *yà dá zǐ*) (*chee* meaning “seed” in several Chinese dialects) is a name for the immature fruits—sweet, translucent, gelatinous balls used as a dessert ingredient in Thailand, Malaysia, the Philippines, and Singapore.

In Indonesia, especially in Java and Bali, the sap can also be used to make a variant of Jaggery called *gula nipah*. Also in Sarawak, where it is called *gula apong*.

3.2 Biofuel

The nipa palm produces a very high yield of sugar-rich sap. Fermented into ethanol or butanol, the sap may allow the production of 6,480–15,600 liters (per year) of fuel per hectare. Sugarcane yields 5,000–8,000 liters per hectare (per year) and an equivalent area planted in corn (maize) would produce just 2000 liters (per year) per hectare, before accounting for the energy costs of the cultivation and alcohol extraction.

4 Fossil record

While only one species of *Nypa* now exists, *N. fruticans*, with a natural distribution extending from Northern Australia, through the Indonesian Archipelago, the Philippine Islands up to China, the genus *Nypa* once had a nearly global distribution in the Eocene (56–33.4 million years ago).* [9]

Fossil mangrove palm pollen from India has been dated to 70 million years.* [10]

Fossilized nuts of *Nypa* dating to the Eocene occur in the sandbeds of Branksome, Dorset, and in London Clay on the Isle of Sheppey, Kent, England.* [11]

A fossil genus of *Nypa*, *N. australis*, has been described from Early Eocene sediments at Macquarie Harbour on the western coast of Tasmania.* [12]

Fossils of *Nypa* have also been recovered from throughout the New World, in North and South America, dating from at least the Maastrichtian period of the Cretaceous, through the Eocene making its last appearance in the fossil record of North and South America in the late Eocene.* [13]

Assuming the habitat of extinct *Nypa* is similar to that of the extant species *N. fruticans*, the presence of *Nypa* fossils may indicate monsoonal or at least seasonal rainfall regimes, and is likely indicative of tropical climates.* [12] The worldwide distribution of *Nypa* in the Eocene, especially in deposits from polar latitudes, is supporting evidence that the Eocene was a time of global warmth, prior to the formation of modern polar ice-caps at the end of the Eocene.

5 See also

- Mangroves

6 References

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