

Nypa palm : cultivation and uses

V. ARUNACHALAM Horticulture Unit, Genetics Section, Division of Crop Improvement, C.P.C.R.I., Kasaragod, Kerala and
B. AUGUSTIN JERARD, World Coconut Germplasm Centre, C.P.C.R.I., Kasaragod, Kerala, India

Introduction.

Nypa (Nipah) palm (*Nypa fruticans* Wurm.) belongs to the tribe Nypoideae of Arecaceae family of flowering



plants. The plant is commonly found in brackish, estuarine locations inside the mangrove forests of Southeast Asia Northern Australia and Pacific region. Isolated populations of this palm is believed to have been introduced to Nigeria and Panama regions (Duke, 1991).

Habitat

It is well distributed in the humid tropics of Asia, Pacific and Oceania region. It is a part of mangrove ecosystem. The plant establishes well in marginal lands of swampy or brackish areas. It is known for its tolerance to cold, wind and salt (Loomis, 1957). *Nypa* forests of Indonesia are seen in the tidal swampy areas and the soil being acidic with pH of 4.5 to 5.5 (Alrasjid, 1994).

Habit

The plant is prostrate in nature with a stout branching root-stock. It has a

rhizome and produces leaves alternatively on either side of the rhizome. It develops to a bushy form unlike other palms. It maintains its leaves in erect position till they dry away. Leaf is regularly pinnate, leaflets sub-opposite, lanceolate, reduplicate with prominent adaxial midrib.

Propagation

This plant is multiplied by the subterranean rhizome. Seeds are also produced but the germination levels are very low.

Tapping

Inflorescence and floral morphology has been described by Uhl (1992). The beautiful flowers produce nectar which is utilised by the sting less bees. Only 30% of palms were found to produce flower. The plant produces 1-2 stalks every year. Tapping is done by pressing the inflorescence (Paivoke, 1984).

Palm maintenance by shaking, twitting and hitting every morning and afternoon had shown to improve the sap yield per palm. Application of ethrel could not improve the sap yield (Effendi, 1997). To reduce the



labour and improve the recovery mechanical tapping was tried in Philippines. This method could increase the sap yield from 57,750 lit./ha. to 1,01,287.5 lit./ha. (i.e. 43% more from one ha.) (Quimbo, 1991). Tapping is carried out from July to November from the pre-fruiting stages of the inflorescence (Fong, 1989).

Problems

Harvesting in the mud creates the problem. Damage by Grapsid crabs, monkeys and wild pigs were reported in cultivating this palm (Fong, 1987). About 30 species of insects belonging to insect orders Coleoptera, Diptera, Lepidoptera, Orthoptera were known to damage the palm (Fong, 1990).

A serious incidence of bagworm (*Mahasena corbetti* Tams of family Psychidae; order Lepidoptera) was reported at Philippines. It feeds on leaflets and scarifies the surface. The affected



leaves turn yellow or brown and shrink or dry away. To control this pest, phyto-sanitation by removal and burning

of infected tissues, prevention of transport of affected leaves could help. Biocontrol using parasitic Trachinida



and Shalucida is recommended (Molina, 1997).

Uses

It is known for its property to protect coastlines, river banks and lagoons as it prevents soil erosion. Fruit of the plant is edible and contains a jelly like endosperm which is delicious. In Philippines, it is known as "water coconut" due to sweet edible fruits. Inflorescence is used for table decoration. Soap extracted from the inflorescence by tapping gives a sugary solution which could be fermented to obtain beverage or fuel alcohol. Vinegar is also produced from this. Roof thatching using the leaves is a common practice, thus giving the name "thatch palm". Petioles are used for making mats, floats for fishing nets and as rafters for partitioning room or roof.

Dried leaflets are used as cigarette wrappers (10 leaves yield 5kg dry leaflets) in Malaysia. Main axes of the palm have potential use as fish poles. Midribs of leaves are soaked and twisted to get ropes. Fibers are used for weaving coarse baskets (Fong, 1987; Davis et al 1990). The palm is commercially used in Indonesia, Malaysia and Papua New Guinea for obtaining sugar and alcohol. Common salt, which is secreted in quantity by this palm is extracted by Malays from the ash of the leaflets.

Extensive review on uses of this palm was made by Hamilton and Murphy (1988). Tinambunan (1992) lists the resources and utilisation of this plant in Indonesia.