

Talipot: A Forgotten Palm of the Western Ghats

A Plea for its Conservation

M D Subash Chandran

A beautiful monocarpic palm of the Western Ghats, talipot which through the ages played a silent role in the culture, economy and ecology especially of the west coast of South India, is facing an uncertain future mainly due to negligence. Much could be done to bring back this palm from obscurity into the mainstream of conservation .

Introduction

In the outskirts of Palakkad in Kerala, not far away from my home, amidst the rice fields and swaying palmyras, an unusual sight appeared one day – a talipot or tali palm in bloom. A gorgeous, creamy yellow inflorescence, perhaps unmatched in size by any other plant on earth, sprang from the crown of the palm. The pompous display lasted for several weeks; a profusion of tender green tiny fruits followed, gradually reaching the size of ping-pong balls. As months passed the enormous leaves drooped and died one by one. After nurturing the fruits to maturity, the palm itself died!

Years ago, though rare in Palakkad, the tali palm occurred in the hamlets of weavers who made leaf mats and umbrellas. In the evenings of late May, as lightning flashed and thunder roared, heralding the imminence of monsoon rains, people would throng around a bullock cart heaped with leaf umbrellas, making their selections. In the gusty winds of the rainy months, it was not unusual to see school children chasing their leaf umbrellas spinning away on the veranda. Today, except for a dome like version used by the women workers in the rice fields, tali leaf



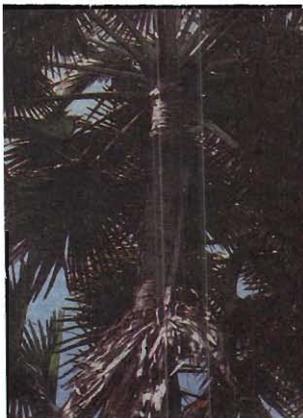
M D Subash Chandran combines the teaching of Botany to undergraduate students with an active interest in vegetational changes and forest history especially of the Western Ghats. He is an associate of the Centre for Ecological Sciences of the Indian Institute of Science, Bangalore.

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Figure 1 Talipalm, *Corypha umbraculifera* in flowers.



Figure 2 Talipalm, Vegetative.



umbrellas are not found anymore. The tali palm has become rarer too in the otherwise palm fringed skyline of Kerala.

Years later, I was thrilled to see hundreds of tali palms in Yana, a forested village in the Kumta taluk of Uttara Kannada (North Kanara) district of the central Western Ghats. Prominent in the semi-evergreen hill forests, and clearances, tali palm also occurred in the dwellings of Kumri Marattis, who were once shifting cultivators. Mature palms in bloom could be spotted from kilometers away. I was in the home-range of tali palm which is indigenous to some of the forests of Kumta and Honavar taluks in Uttara Kannada.

Corypha umbraculifera, the talipot or tali palm, mostly planted, occurs along the east coast of India upto West Bengal and also in Sri Lanka and Myanmar. The palm is tali in Bengali, Kannada and Marathi. In Bengali it is also called 'bajarbatur'. It is 'kodapana' in Malayalam and 'kudaipanai' in Tamil; both mean 'umbrella palm'. The Telugu name is 'shritalam'. The tali palm is not to be mistaken for the palmyra, *Borassus flabellifer* which too shares the local name 'tali'.

Habitat and Morphology

The tali palm in Uttara Kannada generally favours the semi-evergreen forests along the spurs and slopes of the Western Ghats, from near the sea level to 600 meters. It occurs both on good soil as well as on the eroded and stony slopes with granite, schists and quartz rather than on exposed laterite. Rainfall in its natural zone in Uttara Kannada is between 3000 to 5000 mm.

The trunk of the palm is 0.6 to 0.9 m in diameter and 15 to 24 m tall. The leafy crown adds 6 to 8 m more to the total height. The fan-shaped leaves have a diameter of 3 to 5 m. They are cleft half way upto the middle into 80–100 linear segments. The specific name 'umbraculifera' means 'open umbrella', obviously an

allusion to the leaves. The petiole, about 3 m long and channelled along its upper side, has sharp and saw like margins.

The tali palm is monocarpic since it dies after flowering and fruiting. The inflorescence, a pyramidal spadix 3 to 6 m high, springs from the centre of the leafy crown. The several branches of the spadix are covered with millions of minute flowers. The flower has a three toothed calyx and 3 petals, each about 2 mm long. It is bisexual with six free stamens and a gynoecium of three fused carpels. The three chambered ovary has an ovule in each chamber. The ovary narrows into a style which ends in the stigma. The flowering begins with the hot season, although an occasional palm might flower at any time of the year.

Only one of the three carpels matures into the fruit, a drupe 4 cm in diameter. It has a single hard, white, smooth and polished seed with the texture of ivory. The seed is dispersed by birds, bats, squirrels, porcupines, and many other herbivores, which feed on

Figure 3 A bunch of young fruits.

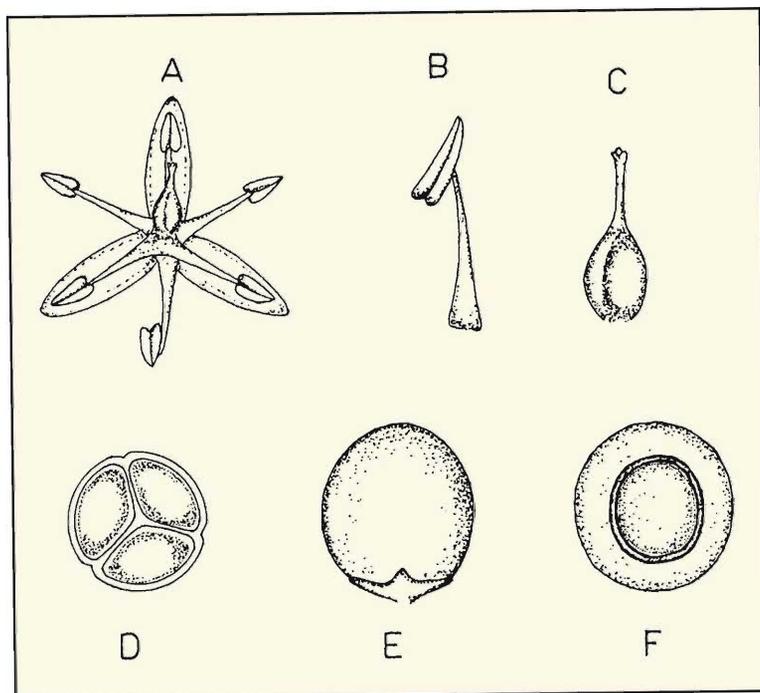
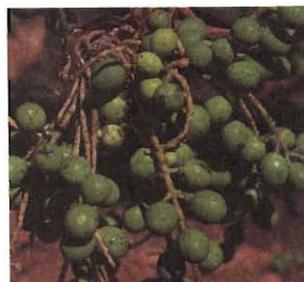


Figure 4 A. Flower; B. Stamen; C. Gynoecium; D. Cross Section of Ovary; E. Fruit; F. Cross Section of Fruit.

the fleshy fruit. The rain water rushing down the steep hill slopes also disperses the seeds.

Economic Importance

The many uses of the tali palm made it popular in the past. The leaves are used for making umbrellas, baskets, mats, fans, coverings for fire-crackers, and for thatching. The leaves were once used for writing. Sacred Buddhist and Hindu texts and ancient medical works were written down on palm leaves which are still to be found in museums, archives, temples and in the households of traditional scholars and medicinal men of South India.

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In the mature tali palm the stem swells towards the centre storing starch. Over 250 kg of edible starch could be extracted from the pith of a fully grown palm. The light brown starch once formed an important item of food for thousands of people in Uttara Kannada, mainly the forest dwelling Kumri Marattis and many poorer people of the coast. The starch is cooked into a gruel or flattened into bread. It was once used for making 'gula', a red coloured decorative powder used for ceremonial occasions, for the making of which there was a factory in Honavar. Forming a substitute for ivory, the seeds were once used for making buttons and beads and for miniature carvings. These were also exported from the region. The pounded fruit paste is a fish poison. The handsome palms are good for landscaping.

On the Conservation of Tali Palm

Due to greater availability of food grains, for the last many years, the Uttara Kannada people have hardly cut down any tali palm to extract starch. Whereas the palm is having a new lease of life in its natural habitats of Kumta and Honavar, in other places where it used to be planted, it is almost forgotten. Moreover the strengthening cult of exotic trees has pushed the tali palm into obscurity.



At one time both the British conservationists and the users of tali palm along the west coast, like the umbrella makers and weavers, had planted and protected these trees. In 1878 Colonel Byrde saved several young palms from getting destroyed by a railway line in Sri Lanka and planted them in the market grounds of Kandy. Tali palms were at one time found frequently in the gardens of Kerala. In 1880 some palms were planted by the Sirsi municipality in Uttara Kannada. They used to be present in the gardens of Honavar town. A P Benthall states that in Bengal the palm was more common once and later it vanished except from the Royal Botanic Garden and Eden Garden in Calcutta. In 1942, the last palm outside these gardens, a 12 year old one near Alipore police station, was cut down.

In Uttara Kannada, shifting cultivation was totally forbidden by the close of the last century creating hardships to the poorer peasants like the Kumri Marattis. From the hill tops and slopes, where they grew millets, legumes and vegetables, they had to come down into the valleys to work for others or for settled farming. As a consequence several villages got deserted and fields turned into fallow land. The need for palm starch shot up phenomenally among the forest dwellers as well as poorer people of the coast. To alleviate their miseries certain concessions were allowed. In 1903 the Kumri Marattis of Honavar and Bhatkal were allowed to take one palm each (for the sake of flour) every year free of charge. A total of 1477 Marattis were eligible for this concession. These rules were soon changed allowing one palm to an adult and one-third of a palm to every child under 12 years of age. Excess palms were allowed to the Marattis at Rs.1 per tree and for others at Rs.2 per tree.

About 15,000 palms, yielding an estimated 150,000 headloads of pith, were cut down in the Honavar forests during 1899-1901. At one time palms were seldom cut unless they yielded 16 or more headloads of pith. But soon palms much younger, yielding just 5 to 10 headloads were felled. Mature palms survived only in

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almost inaccessible places. Awakened by this threat to the tali palm the Government of Bombay designated a forest officer, R S Pearson, to make a plan for conservation and sustainable use of the palms. Pearson commenced his work in 1906; but it seems to have been completed by P E Aitchison in 1908. Their work titled *Working Plan for the Honavar Tali Palm (Corypha umbraculifera) Forests* may be considered as one of the earliest conservation documents from our country. The plan aimed at systematizing the exploitation of the palm so that there would be a regular and unflinching supply to meet not only the wants of the local people but to ultimately bring the forests into their normal condition.

Pearson classified the tali palms of Honavar under four classes: Class I - palms containing at least 8 head loads of pith (18,559 palms); Class II - full-grown palms with less than 8 head-loads of pith (58,230 palms); Class III - half-grown palms (91,615 palms) and Class IV - young palms past the seedling stage (184,113 palms). The plan prescribed exploitation of only the 'mature' palms. In the Kandy market grounds of Sri Lanka some of the palms were reported to have flowered after 38 years while others did not. Pearson initiated an experiment to estimate the age of the palms. The trunks of the palms are covered with petiole scars. If the number of leaves produced by a palm in a single year was known one could probably arrive at their approximate age by counting the total number of leaf scars. The study was continued by Butterworth, who reported in 1915 that the flowering age would be about 88 years. Opinions still differ about the flowering age of tali palm, which is put between 40 and 90 years.

Due to the strict regulations on the exploitation of tali palm and the greater availability and production of food grains the people in the palm belt of Uttara Kannada do not cut down the palms for food anymore. The tali palm forests appear to be well stocked. Yet it should be noted that the palm was once associated with the shifting cultivation areas. Since the last one hundred years there



is no slashing and burning of forests in the palm belt and the evergreen forests are on the return. It is not clear what is going to be the fate of the tali palm. What are the other threats to the palms today? Population studies need to be urgently carried out on the palm in its natural areas.

The potential area for its cultivation is vast consisting of the humid parts of the Indian peninsula, and perhaps the Assam region. The tree with its very useful leaves and the stem stocked with starch holds great promise to sustain native arts and crafts and supplement nutrition in the tribal areas of tropical India. The very presence of mature tali palms could be a reassuring sight in the famine prone areas. If the starch is not extracted before flowering the large output of fruits (over 200 kg per palm) offers food to a variety of wild life such as birds, bats, porcupines, squirrels, boars, deers and sambar. Sadly tali palm as an ecological resource is almost forgotten in the forestry circles. Since the fruits which take nearly a year to ripen are consumed at all stages by a variety of animals the tali palm has also the potential to be developed into a keystone resource in the tropical forest belt of India.

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Suggested Reading

- ◆ R S Pearson and P E Aitchison. *Working plan for the Honawar Tali Palm (Corypha umbraculifera) forests*. Forest Department of the Bombay Presidency, 1908.
- ◆ W A Talbot. *Flora of the Bombay Presidency and Sind*. Vol. 2. Government Photozincographic Press. Poona, 1909.
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Address for Correspondence

M D Subash Chandran
Department of Botany
Dr Baliga College of Arts and
Science
Kumta 581 343, Karnataka,
India

