

Case Report

THE RARE BRANCHED PALM *HYPHAENE THAIBECA* (L.) MART. IN AN UNUSUAL SITE OF INDIA

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INTRODUCTION

While the 'Tree of Life' in Bible refers to *Borassus flabellifer* L. and the coconut fruit of *Cocos nucifera* L. is considered most sanctifiable offering to God by the Hindus, the grace, beauty, elegance and commercial importance of Palms is fascinating and immense for which they are widely cultivated. Introduction and cultivation of exotic palms in India began at the time of first Mohammadan invasion to Sind (undivided India) in the early eighth century when the Arabian Date Palm *Phoenix dactylifera* L. was brought for cultivation in some parts of western India (Basu SK and Chakraverty RK, 1994).

Dichotomously branched palms are assigned to the genus *Hyphaene* Gaertn. with c. 30 species, distributed in Africa, Madagascar, India, and Arabia. The name 'Hyphaene' is derived from the Greek word 'hyphaino' (web), referring to the fibres from the leaves, which are used for weaving. The Indian doum Palm, *H. dichotoma* (White) Furtado, commonly known as 'Ravana Tal' is the only wild species of *Hyphaene* in India, occurring on the west coast in Maharashtra (between 18°-23° latitude). Native to the Nile Valley of northeast Africa, *Hyphaene thebaica* (L.) Mart., commonly known as the 'Doum' Palm of Egypt (Blatter E, 1926) occurs in regions of coastal, northern and eastern Africa. This species was introduced in India by Arab ship traders, long before the arrival of Europeans.

After the establishment of East India Company's Garden in Bengal in 1787, *H. thebaica* was cultivated there on a scientific basis and continued to thrive in the moist climate of West Bengal, with about 10 trees of the species currently existing in the Acharya Jagdish Chandra Bose Indian Botanic Garden (AJCBIG) under the aegis of the Botanical Survey of India (Burkill IH, 1908). This being the only report on the sustenance of the rare (Jain SK and Sashtry ARK, 1984) palm species in India, the authors report here, another site with about five such trees forming two close groups, in the district Harauni of the state of Uttar Pradesh (Figure 1). The species is recognized by the distinctive branching patterns as the stem apex divides recurrently into two equal halves, successively at right angles. The branching is actually by division of the apical bud, not by development of lateral shoots (Whitmore TC, 1998) and the trees form up to 16 crowns.

The palm species flourishes best in mean annual temperature above 28° C, annual rainfall of 100-600 mm, tolerant of a wide variety of soils, and is an indicator of good soils with a high water table.

Taxonomic description: (Figure 2; 1-4)

Deciduous palm, 10-17 m high, with a girth of 90 cm. Trunk is Y-shaped, bole fairly smooth but clearly showing the scars of the fallen leaves; bark dark grey (Figure 1, C). Leaves 120 x 180 cm, fan shaped, in tufts at the ends of branches, blade divided into segments about 60 cm long, margins entire; leaf stalk c. 60 cm long, armed with curved thorns; petiole more than 1 m long, sheathing at the base with numerous upwardly curving hooks. Male and female flowers on separate trees. The inflorescence up to 1.2 m long, with short branches at irregular intervals and 2-3 spikes arising from each branch. Male flowers shortly stalked, solitary in pits of the spadix, spathe-bracts encircling the spadix, pointed. Branches of female spadices stouter, in fruiting stage marked by densely tomentose cushions after the fall of the fruit. Female palm produces woody fruits, persistent for a long time, 6-10 x 6-8 cm, smooth, rectangular to cubical, with rounded edges, shiny brown when ripe, about 120 g each when fresh, 60 g when dry, each containing a single seed. Seeds 2-3.5 x 3 cm, ivory in colour, truncate at base, apex obtuse.

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Figure 1: Site Location Map of *Hyphaene thebaica* (L.) Mart., in U.P., India.

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Figure 2: *Hyphaene thebaica* (L.) Mart., in village Sahjunpur, District harauni, U.P.

1. The palm showing branching with four leaf crowns, the rest cut/fallen off.
2. Fan shaped leaf
3. Tree trunk with leaf base scars.
4. A fallen trunk.

Status of H. thebaica in the reported site:

The curious looking, c. 50 ft tall, highly ornamental, multiheaded palm tree, figures an attractive sight in the area, with a pair of trees, adjacent to the railway tracks of Harauni (U.P.), and three trees at c. 50 meters distance from this, in the village Sahjunpur, on private land of farmers. Detailed information revealed that all these were brought from a local nursery (of Misri Balvar) in Lucknow, about two centuries back, and planted by the then Gram Pradhan and his friend (Iswari Prasad and Bulaki Rawat) in their village, on self-owned agricultural land perhaps mistaking the saplings to be of the date palm, to

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harvest 'toddy', a local beverage, (the availability of such saplings in the local nursery remains an unsolved mystery). However, when the trees attained maturity they understood this misidentification. Since then, the local people plan to fell down these trees slowly as for them, it hampers their routine agricultural output and have no other utility, except for yielding fibres. Hence this rare palm, which is also valued for its fire-resistant character, is at present under the risk of destruction and elimination from this stray site in Uttar Pradesh.

Fortunately, till date, the rare palm was protected by the farmers inadvertently and thrived for more than 200 years adding to the palm wealth of India. Now after understanding the farmers' intentions to eliminate it from their private land, the authors initiated instant preventive measures to salvage it from short term adversities by educating them about the National and Botanical significance, Biodiversity significance and extent of rarity of their valued contribution to the scientific assets of our country. Nevertheless, more reliable measures are required to be undertaken by the Government for its sustenance in this site. The species is also listed in Appendix II of the CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora), along with other plant species, whose trade or destruction in any form is strictly banned. We therefore, urge that the existence of this branched palm species in district Harauni of Uttar Pradesh is under immediate threat, till the concerned agencies and forest departments are mobilized to adopt all possible protective measures to prevent its destruction from the present site, representing the only other existence of this rare palm *Hyphaene thebaica* (L.) Mart. in India, apart from AJCBIBG in West Bengal.

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