

## *Phoenix pachmarhensis* K.L. Meena (Arecaceae): A New Species from India

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### Abstract

A new species of *Phoenix* L. of family Arecaceae

(*Phoenix pachmarhensis* K.L. Meena) has been described from Jatashankar areas of Pachmarhi Biosphere Reserve, of Madhya Pradesh state, India. The morphological features, time of flowering - fruiting, ecological notes and photographs of this species have been presented in this paper.

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## 1. Introduction

During botanical explorations in the Malwa region of India, author reported some plant specimens of the genus *Phoenix* L. from Pachmarhi Biosphere Reserve of the Hoshangabad District of Madhya Pradesh state, India. Geographically, the study area is situated between 20°10' to 22°50' N latitude and 77°45' to 78°56' E longitude. The genus *Phoenix* L. (Phoeniceae: Cayphoideae) is a distinctive and well known Palm genus comprising 13 species distributed in the old world from Canary Island through subtropical and tropical Africa, the Mediterranean, the Arabian Peninsula, the Indian subcontinent and Indo-China to Hong Kong (Barrow 1998). A through search of literature revealed that the genus *Phoenix* L. has been studied by several workers from the world (Griffith, 1845; Roxburgh, 1832; Beccari and Hooker, 1892-93; Gamble 1902 and Moore, 1963). According to recent monograph of *Phoenix* L. written by (Barrow, 1998) included 13 species namely; *Phoenix acaulis* Roxb. ex Buch.-Ham., *Phoenix andamanensis* S.C.Barrow, *Phoenix humilis* Royle ex Becc. Var. *lourierii* (Kunth) Becc., *Phoenix humilis* Royle ex Becc. Var. *humilis* S.Barrow, *Phoenix lourierii* Kunth, *Phoenix paludosa* Roxb., *Phoenix pusilla* Gaertn., *Phoenix reclinata* Jacq., *Phoenix robusta* (Becc.) Becc. & Hook. f., *Phoenix roebelenii* O'Brien, *Phoenix rupicola* T. And., *Phoenix sylvestris* (L.) Roxb. And *Phoenix theophrasti* Greuter from the world but present species is not included in the available source.

Barrow in his monographic work describe invalid or unpublished thirteen species includes a new species from Andman Islands and two varieties of *P. loureiri* of *Phoenix* now recognized with 33 synonyms and 57 nominanuda.

The species of *Phoenix* L. has described on the basis of stems height and clustering, colourous of leaflets and fruit length. But the fruit structure has not been studied by earlier workers. In India 7 species and 2 varieties of the genus *Phoenix* L. has been included by Botanical Survey of India in his check list namely; *Phoenix acaulis* Roxb. ex Buch.-Ham., *Phoenix humilis* Royle ex Becc. Var. *lourierii* (Kunth) Becc., *Phoenix humilis* Royle ex Becc. var. *pedunculata* (Griff.) Becc., *Phoenix lourierii* Kunth, *Phoenix paludosa* Roxb., *Phoenix pusilla* Gaertn., *Phoenix robusta* (Becc.) Becc. & Hook. f., *Phoenix rupicola* T. And. and *Phoenix sylvestris* (L.) Roxb. On the critical studies it became apparent that this species has not been described by earlier workers. Thus, present findings constitute to be a novelty from India. Hence, it is described as a new species.

## 2. Enumeration

### 2.1.

During Intensive and extensive botanical explorations in Pachmarhi Biosphere Reserve, India, the author identified some plant specimens

of genus *Phoenix* L. India. The reported photographic specimens were preserved as per standard norms in the herbarium of the, department of botany, MLV Government College, Bhilwara. The observed plant specimen were identified with the help of reputed literature

## 2.2. Citation

*Phoenix pachmarhensis* K.L. Meena (Plate 1 A-D)

## 2.3. Description

Stem acaulous, up to 20 cm high, covered with leaf base stumps. Leaves 50 to 120 cm long; leaf sheath reddish-brown, fibrous, rachis 20 - 120 cm long and 1 - 3 cm wide; spines (Acanthophylls) closely arranged in more than one plane, to 9 cm long, leaflets arranged in sub-opposite groups of 1-3 in orientation, 12 - 30 on each side of rachis; linear 6 - 30 X 1-1.5 cm, flaccid with strong marginal nerves; lamina concolorous, pale green. Inflorescence arise from apex of trunk, shifted in side along with maturity of fruits. Staminate inflorescence included in prophyll; prophyll papery and longitudinally splitting from many places, 15 X 2 cm; peduncle about 0.6 to 0.7 cm long. Pistillate inflorescence not extending beyond prophyll; prophyll same as in male flower. Pistillate inflorescence extending

during maturation of fruits. Rachillale arranged in one compact whorl. Flower 10 – 40 per rachilla, each rachilla sometime divided at several places and subtended by a distinct swelling. Calyx cupule 1- 5 mm long. Petals whitish, 5X4 mm. Fruit obovoid, apex slightly curved, arranged in cluster of 1-4, 10 - 20 X 6 - 8 mm, yellow green when young, reddish black on maturity; with mesocarp scarcely fleshy and stigmatic remains prominently pointed. Seed elongated, with rounded apices, up to 10 mm long.

## 2.4. Ecological notes:

Rare on hill top of the forests. The species is resemble with *Phoenix acaulis* Roxb. ex Buch.-Ham. and *Phoenix humilis* Royle ex Becc. But differ on the basis of number, arrangement and shape of fruits.

## 2.5. Flowering and Fruiting:

March – July

## 2.6. Specimens examined:

India, Madhya Pradesh, Pachmarhi, Meena M-1397 (MLVGC Herb; Photographic specimens)

## 2.7. Distribution:

Endemic Pachmarhi, India

**Plate 1 (A-D):** *Phoenix pachmarhensis* K.L. Meena. A. Habit, B. Fruiting inflorescence, C. Fruiting cluster of 4 fruits, D. Young mature seed.



## Conclusion

On the field studies author reported a new species of genus *Phoenix* L. from India. At first glance it is similar to *Phoenix acaulis* Roxb. ex Buch.-Ham.

But after critical studies the fruit formation is different in natural conditions and it became apparent that this species has not been described by earlier workers (Griffith, 1845; Roxburgh, 1832; Beccari and Hooker, 1892-93; Gamble 1902 and

Moore, 1963; Barrow, 1998). Thus, present findings constitute to be a novelty from India. Hence, it is described as a new species. The species is reported from biosphere reserve but special attention is required for this of species.

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