



On the Occurrence, Distribution and Amended Description of *Calamus hookerianus* Becc. (Arecaceae), a Little-Known Endemic Rattan from Tamil Nadu, India

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Abstract

The present collection of *Calamus hookerianus* Becc from Varagaliyar area of Anamalai Tiger Reserve in southern Western Ghats shows its extended distribution in Tamil Nadu state. Earlier this species was reported only from Tirunelveli, Tenkasi and Kanyakumari districts of Tamil Nadu. Furthermore, for the first time, the morphology of male flower has been described and the description amended accordingly.

Keywords: *Anamalai, Coimbatore, Male flower, Western Ghats.*

Introduction

Palms exhibit a unique and complex pattern of species distribution besides possessing high economic, cultural and environmental values. *Calamus* L. is the largest genus of palm family Arecaceae, and its members are commonly called “rattan” palms or climbing palms. The stems of rattans are highly durable, elastic and used for making light-weight furniture. Consequently, the populations of rattans are drastically decreasing in the wild. Therefore, it is necessary to conserve the rattan germplasm. However, in most of the herbaria the rattans are poorly represented, as they are frequently ignored by the plant collectors due to their vicious thorny plant body (Lakshmana, 1993).

The genus *Calamus* with 414 accepted species has its native range from India to Fiji and tropical Africa (POWO, 2022). Its highest concentration of species is found in the Southeast Asia and New Guinea (Sreekumar and Henderson, 2014). The earliest treatment of Indian palms was done by Roxburgh, (1832) in his *Flora Indica*, wherein he reported 16 species of *Calamus*, seven of which are recognized now as distinct. Griffith, (1845) extended the number of palms of British East India by adding 35 species, of which 13 were from the present political boundaries of India, including 12 new species, four of which are

now recognized as distinct species. Basu, (1992) published rattans of India and documented 41 species of *Calamus*. Renuka and Sreekumar, (2012) made a field guide to the palms of India, in which they have recognized 46 species of *Calamus*. Recently, Narasimhan and Irwin, (2021) reported 9 species of *Calamus* from Tamil Nadu, but not included *C. hookerianus* Becc., which is inexplicable.

As a part of project on Flora of Tamil Nadu, a botanical exploration was conducted in the Anamalais of Coimbatore District, Tamil Nadu, during which a species of *Calamus* was collected from Varagaliyar in Anamalai Tiger Reserve. The collected specimen was later identified as *C. hookerianus* Becc. based on careful scrutiny of protologue (Beccari, 1908) and other pertinent literature, and comparison of specimens with the digital image of type specimen at K (K000687859). Earlier this species was reported only from Tirunelveli, Tenkasi and Kanyakumari districts of Tamil Nadu. Hence, the present collection from the Anamalais shows its extended distribution in southern Western Ghats of Tamil Nadu, and also forms an addition to the Flora of the Anamalai Hills in the Coimbatore District (Fischer, 1921). Furthermore, on detailed study it has been

found that the species description in the protologue and in other published literature available are lacking the description of male flowers hence the present study amends the description of the species by providing the description of male flowers for the first time.

Calamus hookerianus Beccari, O., *Ann. Roy. Bot. Gard. Calcutta* 11.1 (1908): 226; Gamble, Fl. Madras: 1568 (1931); Renuka, Rattans Western Ghats: 30 (1992); Lakshmana, Rattans South India: 44 (1993). Type: Courtallum, Febr. (1835), R. Wight 1142 (K [K000687859, digital image!]).

A clustering, moderate-sized rattan. Stems with sheaths c. 4 cm in diam., without sheaths to 2.5 cm. Leaf sheaths with flagella and somewhat conspicuous knee, base of the sheath armed with slender needle-like spines c. 20 cm long, intermingled with small black-tipped triangular spines; sheath light green to brownish interspersed with numerous small spines. Leaves c. 2 m long, ecirrate; petioles 0.75 m long, armed with triangular spines; leaflets lanceolate, subopposite to opposite, alternately arranged towards apex, 3-veined, midvein bristly on lower surface, from centre to upwards, tips with bristles; lateral veins wiry. Inflorescence c. 5 m long, sheath tubular, sparsely armed with spines; partial inflorescence c. 15 cm long, each attached near the mouth of respective primary bracts; secondary sheath to 5 cm long, closely sheathing, narrow at base, formed into a cup

at the upper portion, armed with 1 or 2 rows of small spines at the region where growth begins. Male inflorescence up to 13 cm long; rachillae to 1 cm long; flowers c. 3 × 2 mm, with a cup-like basal bract; perianth lobes 3, boat-shaped, c. 2 × 1 mm, base truncate, apex acuminate, glossy on upper surface, cream-coloured. Stamens 6, c. 2 mm long; anthers c. 1 mm, sagittate, ditheous; filaments c. 1 mm in long, thick. Fruits globose, 0.8–1 cm, with persistent style, covered by 18 rows of scales; scales yellowish, with dark brown margins; seeds subglobose, c. 1 cm across; endosperm homogenous with brownish tint.

Habitat: Evergreen and semi-evergreen forests, 400–1000 m.

Ecology: It grows along with species, such as *Elaeocarpus serratus* L., *Olea dioica* Roxb., *Baccaurea courtallensis* (Wight) Müll.Arg., *Otonophelium stipulaceum* (Bedd.) Radlk. and *Harpullia arborea* (Blanco) Radlk.

Distribution: Western Ghats of Kerala, Tamil Nadu (Tirunelveli, Tenkasi, Kanyakumari and Coimbatore).

Use: Used in furniture and basket-making.

Specimen Examined: India, Tamil Nadu state, Coimbatore district, Anamalai Tiger Reserve, Varagaliyar to Kumati, 16.03.2022, 10°24'55" N, 76°53'28" E, ± 800 m, S.S. Hameed & al. 151919 (MH).

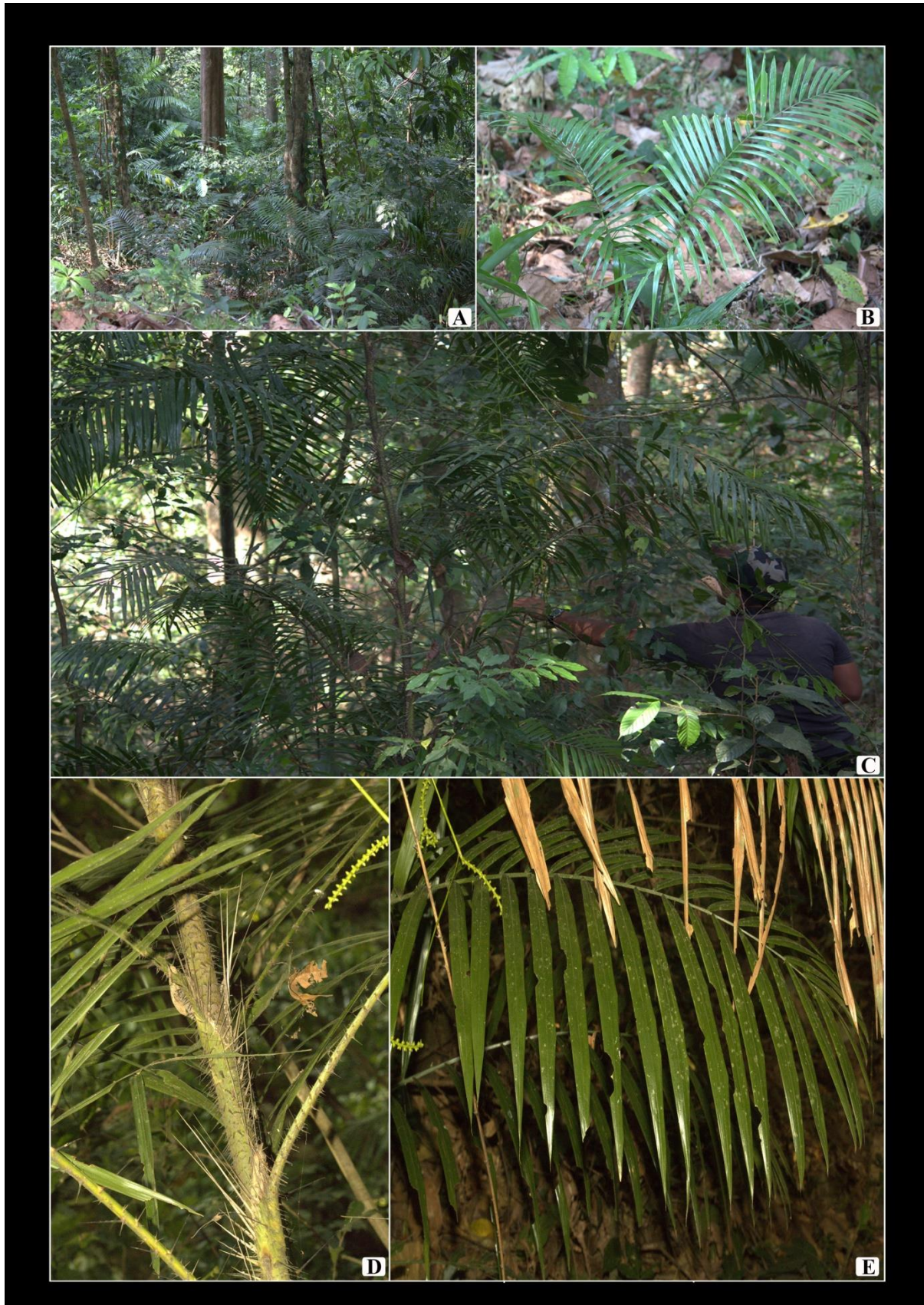


Figure 1: *Calamus hookerianus* Becc.: A. Habitat, B. Seedling, C. Habit, D. Stem, E. Leaf.

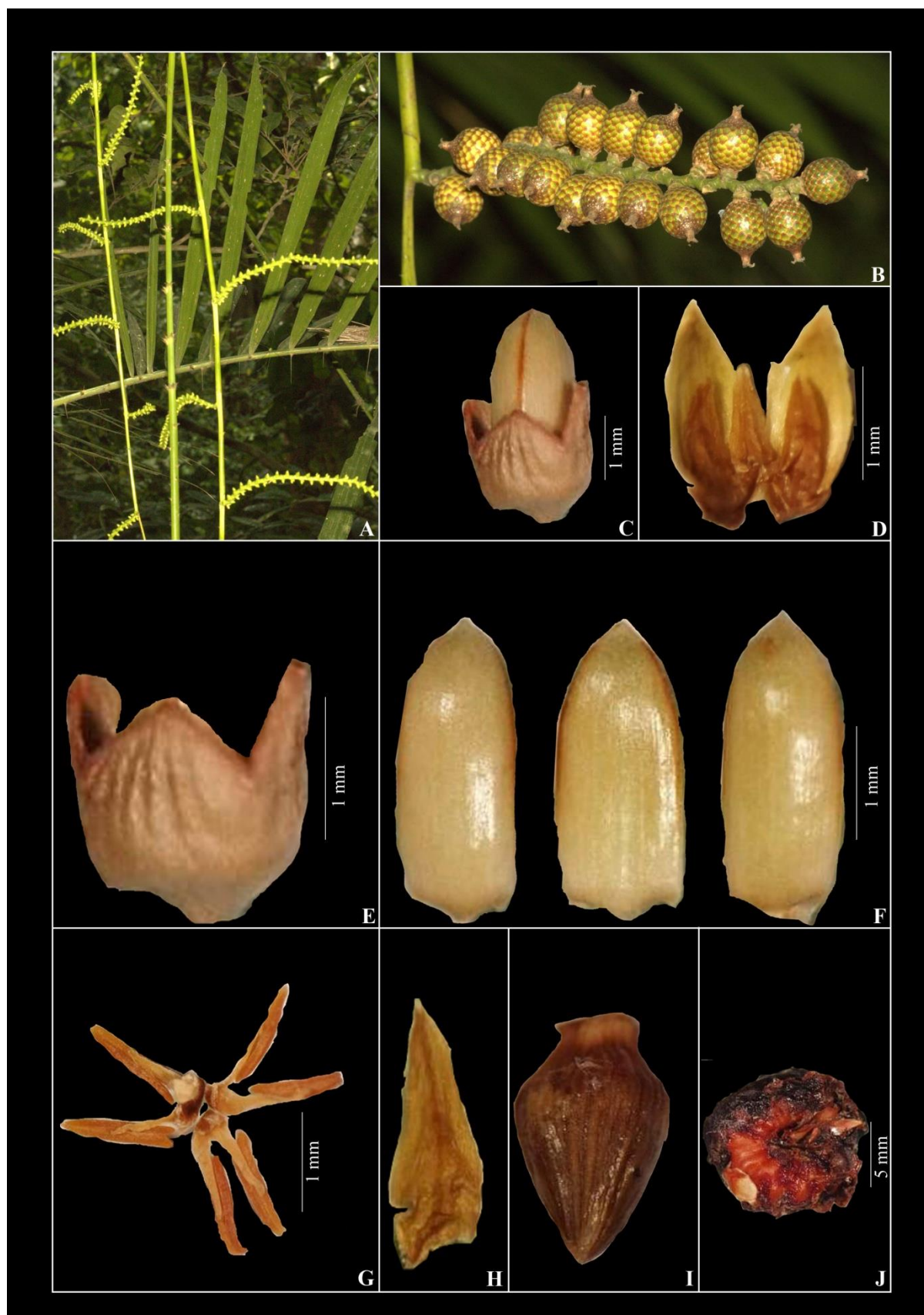


Figure 2: *Calamus hookerianus* Becc.: A. Inflorescence, B. Infructescence, C & D. Male flower (closed and opened), E. Bract, F. Perianth, G. Stamens, H. Anther, I. Young fruit, J. Seed.

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