



Short Communication

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A new species of *Cycas* L. (Cycadaceae) from India

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ABSTRACT

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A new species of *Cycas* viz. *Cycas bglswamyii* Praveen *et al.*, endemic to Bellur locality in Hassan District of the erstwhile Mysore State (now Karnataka State), is reported through this communication. The species seems to be restricted to Bellur area of Hasan district in Karnataka State of India which was under Mysore state of British India.

Keywords

Cycas
Karnataka
India
New species
Taxonomy

Introduction

During the studies on living Cycads (Cycadaceae *sensu stricto*) in India, the authors came across an un-named new species of an endemic species of *Cycas* (Cycadaceae) discovered and thoroughly worked out by the great Indian Botanist late Prof. B. G. L. Swamy during 1942.

In 1942, Prof. Swamy came across a few pure strands of *Cycas* in Hassan District of the then Mysore State of India. The area investigated by Prof. Swamy was about 3 sq. miles and the dominant plant type was *Cycas* without other tree vegetation. Prof. Swamy described this *Cycas* with details of its macro-morphology, habit, Habitat

and worked out its life history in a comprehensive manner. He prepared its habit sketch, branching pattern and other figures related to its life history: He found this *Cycas* related to *Cycas circinalis* but differing significantly. He ruled out his plant to be a *Cycas circinalis* or even *Cycas rumphii*, but did not give a Scientific (Botanical) name to it.

On the basis of scrutiny of the literature (Brandis, 1906; Lindstrom and Hill, 2007; Pant 2002; Pilger 1926; Sahni, 1990; Singh and Srivastava, 2013; Singh and Raadha, 2008; Swamy, 1948), study of specimens in different herbaria and field studies, the same is being described as a new species as under:

Cycas bglswamyi D. D. Pant ex P. K. Agrawal, M. Akhtar and R. C. Srivast. *sp. nova.* *Cycas circinalis* var. *swamyi* D. D. Pant (*nomen nudum*), *An Introduction to Gymnosperms, Cycas and Cycadales*, BSIP, Lucknow, India, pp. 52, 55.2002. Affinis *C. circinalis* (Swamy, 1948).

Type: *Iconotype:* India: Mysore State, Hasan District, Bellur, 27.12.42, *BGLSwamy*, 1 (Swamy, BGL in Amer. J. Bot. 35(2), 77-88. 1948). Figs. 1 (A-D).

The comparison of characteristics of three concerned *Cycas* species are given in Table 1. Allied to *Cycas indica* Lindstrom & Hill (Syn. *Cycas swamyi* Singh & Radha) but differs significantly in its habitat, height of trunks, length of leaves, numbers of leaflets, megasporophylls, number of ovules per megasporophyll and length of mature ovules.

Trunks c. 6.5m high, with 8-10 whorls of scale leaves alternating with 3-4 whorls of the compound foliage leaves. Compound foliage leaves 90-180cm long (3-6 ft. in length); rachis bearing 60-100 pairs of leaflets. The female cone (*apical*

cluster of megasporophylls) fairly compact; megasporophylls 12.5-17.5cm long, short-stalked, tawny-villous, with a more or less triangular serrate tip. Each sporophyll bears five or six ovules; mature ovules 2.5 - 3.75 cm long.

Habitat: The area where the plants were found consists of small hillocks with large granite-boulders and hard rocky soil. The plants occur more densely on the ridges and become sparser as the mounds slope down to the level. An accumulation of a large number of viable seeds in the rocky crevices, to which they are probably transported by rodents, seems a possible explanation for the development of young plants in such places. Often the roots of the old plants become exposed by the gradual but continuous washing away of the soil cover (Fig. 1). The roots traverse the soil horizontally to a distance of several meters and may occasionally produce new plants by suckers. Formation of vegetative buds on fairly old trunks is another method of propagation” (Swamy, 1948).

Regeneration/propagation: by suckers or vegetative buds on very old trunks.

Fig. 1 (A)



Fig. 1 (B)

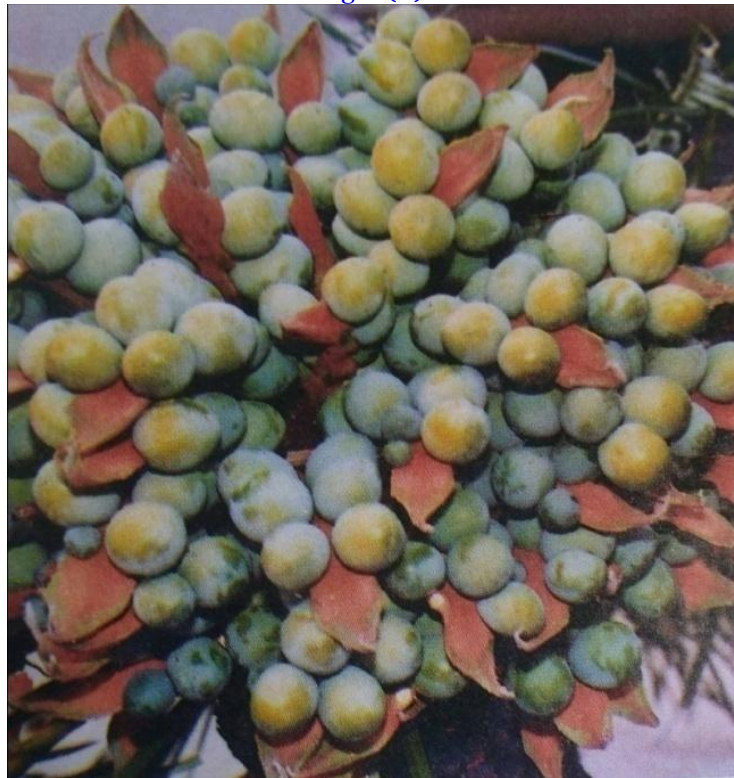


Fig. 1 (C)



Fig. 1 (D)

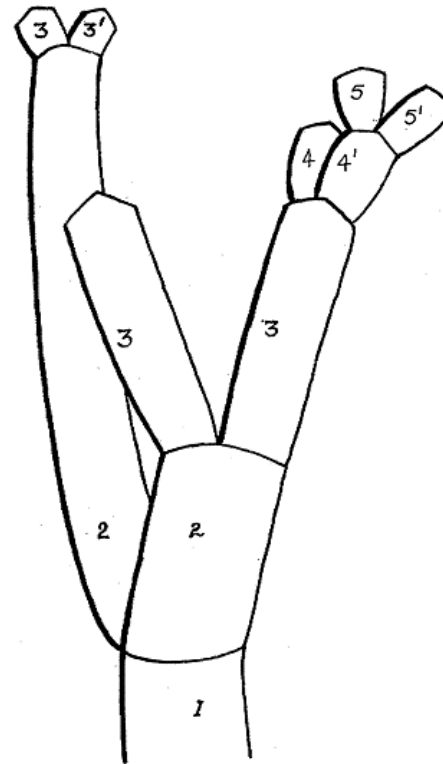


Fig. 1: (A) *Cycas bglswamyii* – male cone (Photo: D. D. Pant); (B) *Cycas bglswamyii*: apical cluster of megasporophylls (Photo: D. D. Pant); (C) Habit sketch (Swamy, 1942); (D) Branching pattern (Swamy, 1942).

Table 1. Comparison of different characters of the three concerned species.

Character(s)	<i>C. bglswamyii</i>	<i>C. indica</i>	<i>C. swamyi</i>
Habitat	Small Hillocks	Open rocky habitats	Flat sand-stone
Tree height	6.5 m	4 m	0.7-8 m
Leaves length	90-180 cm	97-137 cm	75-150 cm
Leaflets pairs	60-100	50-71	55-100
Megasporophylls			
Length	12.5-17.5 cm long	18 cm	12-25 cm
No. of ovules	5-6	6	4-10
Ovules length (mature)	2.5-3.75 cm	3.2-3.5 cm	2.5-5.2 cm

Notes: “According to Pilger (1926) and Brandis (1906), *Cycas circinalis* is characterized by: Leaves 5-9 ft., rachis bearing 100-120 pairs of leaflets, female cone fairly loose; carpophylls 6-12 in. (sometimes 18-20 in.), long-stalked, the sterile portion scarcely broadened, long-pointed; upper portion of the carpophyll bearing six-eight ovules. A noteworthy feature of this new *Cycas*, in the field is the shedding of the foliage leaves at the time of the bearing of the female cones which has never been described in cultivated specimens of either *C. circinalis* or *C. rumphii*. A greater

resemblance to *C. rumphii* is indicated in the characters of the leaves and megasporophylls and, most of all, in the type of branching but the character of constant occurrence of larger size and the compressed shape of the ovules (2-3 inches in length) of this species rule out the possibility of this plant to belong to *C. rumphii* (Swamy, 1948).

Conflict of interest statement

Authors declare that they have no conflict of interest.

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