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Cycas sphaerica Roxb.: A Little Known Endemic Species from Eastern Ghats, India

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Abstract: *Cycas sphaerica* Roxb., is a little known endemic species found in Eastern Ghats of northern Andhra Pradesh and Orissa, India. Description and geographical distribution of the species was discussed here.

Key words: *Cycas sphaerica* Roxb., endemic, Eastern Ghats, India

INTRODUCTION

Cycas sphaerica was first described by Roxburgh (1832). Two Roxburgh collections from the Calcutta gardens is now in the Natural History Museum, London (BM), represent *Cycas sphaerica* and *Cycas rumphii*, respectively. The latter is annotated *Cycas circinalis* and the former bears only the annotation *Cycas planifolia* Solander MS.

Haines (1924) also described this taxon as a variety closely related to *Cycas circinalis*. No type was cited, but Haines (1924) stated "Wild in the hill forests of the Mals of Puri, especially on the tops of ridges with heavy rainfall ! extending to Angul, in open forest, where it is less common! Fl. July-Aug'. Haines' practise was to add the ! when he had seen the plant in the wild in that locality and does not record the existence of a specimen. In Flora of Srikakulam it was mentioned under the name of *Cycas circinalis* (Rao and Sreeramulu, 1986).

Cycas sphaerica Roxb., Fl. Ind.: 747 (1832). TYPE: ex hort. Calcutta, Roxburgh s.n., 1808 (lecto (fide Hill 1995) BM). (Ken, 1998-2002).

DESCRIPTION

Stems arborescent; leaves bright green, semiglossy, 150-270 cm long, tomentum shedding as leaf expands. Petiole 45-60 cm long, glabrous, spinescent for 90% of length. Basal leaflets not gradually reducing to spines. Median leaflets simple, weakly discoloured, 20-30 cm long, 0.6-1.2 cm wide; section flat; margins flat; apex softly acuminate, not spinescent; midrib raised above, flat below. Cataphylls narrowly triangular, soft, persistent. Pollen cones narrowly ovoid, orange, 45 cm long, 10 cm diameter; microsporophyll lamina firm, not dorsiventrally thickened, 3.2-3.8 cm long, apical spine prominent, gradually raised, 1.7 cm long. Megasporophylls 15-25 cm long, brown-tomentose; ovules 2-5, glabrous; lamina lanceolate, 38-55 mm long, regularly dentate, with pungent lateral spines 0.5-1 cm long, apical spine distinct from lateral spines, 1.7-2.5 cm long. Seeds subglobose, 25 mm long; sarcotesta yellow; fibrous layer present; sclerotesta smooth. Spongy endocarp absent (Fig. 1) (Saxena and Brahmam, 1996).

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Fig. 1: Habit of *Cycas sphaerica* Roxb.

Local Name

Arjuna chettu, Naasi chettu (Telugu), Oruguna (Oriya).

Habitat

Generally it is found in tropical moist deciduous forests and woodlands on hills.

Geographical Distribution

It is distributed along the hilly tracts of Eastern Ghats of Northern Andhra Pradesh and Orissa (Fig. 2). The location of the species found in two states is given below.

Andhra Pradesh

Occasional in Northernmost part of Srikakulam district in deciduous forests and woodlands of Palakonda, Donubayi, Seetampet areas.

Orissa

Occasionally found in the woodlands of Gajapati (Mahendragiri hills), Ganjam, Khurda (Chandaka wildlife sanctuary), Cuttack and Dhenkanal districts; sparse in moist deciduous forests of Phulbani, Boudh (Khondmals), Nayagarh, Angul, Keonjhar (Hadgarh), Balasore (Kuldiha) and Mayurbhanj districts (southern part of Similipal Biosphere Reserve).

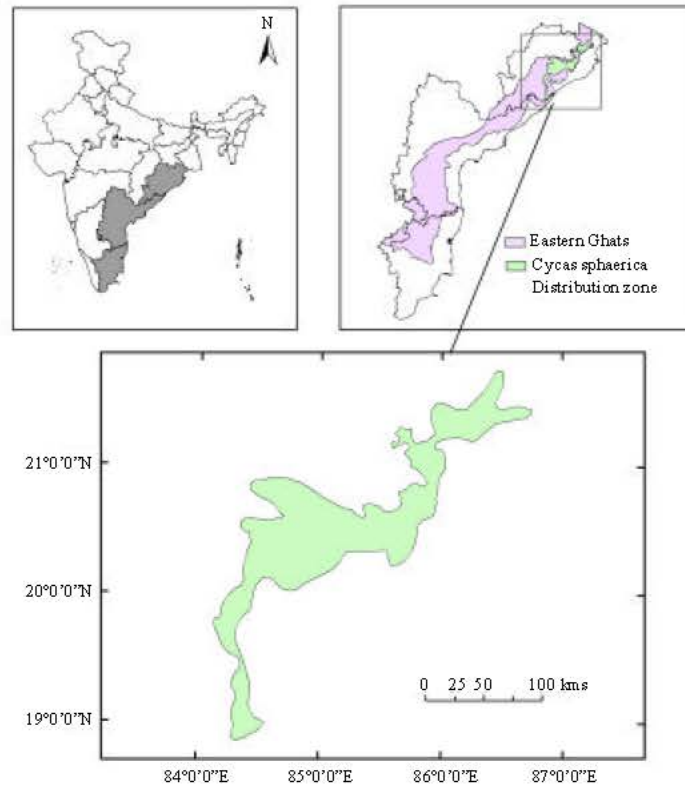


Fig. 2: Location map of *Cycas sphaerica* in Eastern Ghats of India

Elevation Range

Spatial Distribution pattern of the species is random and apparently found in the elevation ranges in between 200 to 1100 m.

Threats

Habitat loss, anthropogenic pressure, severe forest fragmentation, presence of less number of female plants in comparison to male and illegal exploitation are the major depleting factors for its survival.

Uses

The very young leaves are edible. The plant yields a gum. Pith pieces are used to make sago flour (Reddy *et al.*, 2006). It is often planted in gardens.

Potential Value

The species has botanical, economic, ornamental and distributional interest.

Conservation Status

Poorly known. Red List status: Data Deficient (IUCN, 1994).

Note

Cycas sphaerica Roxb. is closely resembles to *Cycas circinalis* L. and can be distinguished based on following characters (Table 1).

Table 1: Distinguishing characters of two *Cycas* species

<i>Cycas circinalis</i> L.	<i>Cycas sphaerica</i> Roxb.
Megasporophyll 30-40 cm long	15-25 cm long
Ovules 4-12	Ovules 2-5
Lateral teeth of megasporophyll less than 6mm long	More than 6 mm long
Megasporophyll lamina 7.4 to 10 cm long	3.5 to 5.5 cm long
Microsporophyll lamina 3.8 to 5 cm long	3.2 to 3.8 cm long
Female cone with 6-12 carpophylls	Female cone with more than 50 carpophylls
Endemic to Western Ghats (Kerala, Karnataka, Tamil Nadu and southern Maharashtra)	Endemic to Eastern Ghats (Orissa and Srikakulam of Andhra Pradesh)

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