

**Research Article**

## NOTES ON GREEN DIAMONDS OF AJC BOSE INDIAN BOTANIC GARDEN HOWRAH

**R.C. Srivastava**

Botanical Survey of India, Kolkata-700064

\*Author for Correspondence

### ABSTRACT

Brief illustrated account of some unique Gymnosperm trees of Acharya Jagdish Chandra Bose Indian Botanic Garden, Howrah (West Bengal) are given in this communication. One new species of Cycas (*Cycas darshii* R.C.Srivast. & B. Jana, *sp. nova*, has been described.

**Keywords:** Gymnosperms, IBG, Cycas

### INTRODUCTION

Acharya Jagdish Chandra Bose Indian Botanic Garden, at Shibpur in Howrah district of West Bengal (India) is one of the oldest and biggest Gardens. It has a great history. The ‘Great Banyan Tree of India’ which is the most popularised tree in world, the ‘Giant water lily’ (*Victoria amaranica*) and the ‘Double Coconut tree’ or ‘Coco-de-mer’ (*Lodoicea maldivica*) are the main attractions. But in addition to these, there are innumerable curious/eye-catching/biologically interesting/economically important plants in this great Garden of India.

Present communication, throws light on some naked-seeded plants (gymnosperms) growing in this garden.

**Taxodium distichum** (L.) Rich.

**Plate - I**

‘Marshy Gymnosperm’ (*Taxodium distichum*) is a member of the Taxodiaceae family of the Gymnosperms. It is perhaps the solitary individual tree of this species (growing in this garden) in India which is so well protected and growing well exhibiting its knee-roots due to which some people think it to be a mangrove plant. It is known by various names viz., bald cypress, southern-cypress, white-cypress, tidewater red cypress, Gulf-cypress, red-cypress or swamp cypress etc. It is interesting to note that during winters, the leaves of this tree get dried and it appears that plant is dead but with the arrival of the autumn, it again becomes green and looks as atypical coniferous tree. But the presence of several peg like structures (called knee- roots) around the base of the trunk (Plate I) create a curiosity in one’s mind. This deciduous conifer is a native of United States where it grows on saturated and seasonally inundated soils of the south-eastern and gulf coastal plains. Over 1620 years old tree of this species are there in Bladen County, North Carolina (USA). It is the ‘State Tree’ of Louisiana. It is a popular ornamental tree, grown for its light, feathery foliage and orange-brown to dull red fall colour. ([http://en.wikipedia.org/wiki/Taxodium\\_distichum](http://en.wikipedia.org/wiki/Taxodium_distichum)). Its wood being water resistant is highly valuable. Fruiting has not been recorded in this tree in AJC Bose Indian Botanic Garden since Nov.1978.

**Cycas circinalis** L.

**Plate-II( Photos 7-9)**

*Cycas circinalis* – a species described by Sir Carl von Linnaeus in 1753, is commonly known as the ‘Queen Sago’. It belongs to the gymnosperm family Cycadaceae and is endemic to the Western Ghats and hills of the southern peninsula (Kerala, Karnataka, Tamil Nadu and the south of Maharashtra cf. Hill 1995). De Laubenfels & Adema (1998) recorded its distribution in Sri Lanka also, but Lindstrom & Hill (2007) consider it to be an Indian endemic, restricted to the Western Ghats, in the states of Kerala, Karnataka, Tamil Nadu, and the south of Maharashtra. It is locally known as *Janglimadan must kaphulin* Hindi; *Mundisalu, Mundicalu, Goddueechalu* in Kannada; *Eenthapannain* in Malayalam; *Malabaripurari* in Marathi; *Hintalah, Varagunain* Sanskrit; *Madanakamaraja, Salaparai, Eenthapanai, Canningay.*, in Tamil; *Ranaguvva, Per ita, MadanaKamakshi, kamkshi, per ita*, in Telgu and *asorguna, odasa-mari* in Oriya. It usually grows in dry deciduous forests, sometimes in wet hill forest, upto 1070m.

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There are two main *Cycas* groves in AJC Bose Indian Botanic Garden, Howrah wherein over 75/100 years old trees are there (Plate-II Photos 7,8,9)). The tree in the *Cycas* grove opposite to Bambusatium produced the female cone in August 2013(photo-8). Other trees in the *Cycas* grove near Kyd Monument, are producing numerous bulbils only. These trees are very old and magnificent. Such trees are perhaps nowhere else in the country. These are very precious assets of Botanical Survey of India.



**Plate I : Photos 1-6: *Taxodium distichum*.1-Tree in Jan.2014(knee roots at base in water);2-tree in late March 2014(knee-roots at base);3-part of trunk showing bark;4-young leaves;5-young knee roots;6-old knee roots.**

***Cycas darshii* R.C.Srivast.& B.Jana, *sp. nova***

**Plate II (Photos 10-11)**

Allied to *Cycas rumphii* Miq., but can be easily distinguished by its dorsoventrally flattened Cobra-hood shaped bright green apical portion of the megasporophyll shaving 4-5 distinct lamellae on both sides and a characteristic tip (Photo 11).

Trees; trunk c.2m high; crown of leaves up to 3m high. Leaflets c.30x2cm, acute, dark green glabrous above, paler below. Megasporophylls cylindrical brown tomentose below; bright green, broadly ovate,

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dorsoventrally flattened, (like Cobra-hood) above, with 4-5 deeply dissected lamellae on each side; apex cylindrical with slightly thinner but similar solid tip and brown thick ridge in centre at the base of the lamina (photo 11).

*Holotype*: India: West Bengal; AJCBIBG, R.C.Srivast. cy 202 dated 06 Feb.2014 (CAL).

*Etymology*: The species is named in honour of my grandson (Nati) Darsh.

*Notes*: The trees are grown in AJC Bose Indian Botanic Garden, Howrah. Perhaps these were introduced from Andaman & Nicobar Islands.



**Plate-II: Photos 7-9: Magnificent *Cycas* trees at AJCBIBG; 10-*Cycas darshii* R.C.Srivast. & B. Jana *sp. nova*: Habit;11- *Cycas darshii* R.C.Srivast. & B. Jana *sp. nova*: Megasporophyll**

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