

**ASSEMBLAGE OF
RARE, ENDEMIC AND THREATENED RATTANS
IN RFRI CAMPUS**

Compiled by

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Introduction

Rattans belong to a group of spiny palms of the sub-family Calamoideae under Areaceae, characterized by fruit bearing scales. The word rattan is derived from the Malay “rattan”, the local name for climbing palms (Sunderland & Dransfield, 2002). It is a large and diverse group of climbing and non-climbing palms, comprising an important group of NWFPs that are extensively collected for household uses and cash income in the humid tropics (Sastry, 2002).

Worldwide, 14 genera of rattans comprising 600 species have been reported (Dransfield, 1981, Basu, 1985). These are naturally distributed in the South East Asia from Fiji Island to Africa and from southern China to Queensland (Australia) with the greatest concentration in the Dipterocarp rain forests of the Malaysian Archipelago (Weidelt, 1990).

In India **60** species representing **5** genera while from North-eastern region of India a total of **20** rattan species and 3 varieties under 4 genera have been reported. Among these, *Calamus* accounts for 14, *Plectocomia* for 4 and *Daemonorops* and *Salacca* for 1 species each. The species are distributed in the evergreen, semi-evergreen to deciduous forests of the region. Out of these 20 species, 14 species are being threatened including eleven endemic species (Basu, 1992).

Rattan distribution in India

SI No	Genera	No. of species distributed in		
		NE Region	Andaman & Nicobar Island	Western Ghat
1	<i>Calamus</i>	14	11	23
2	<i>Daemonorops</i>	1	3	-
3	<i>Plectocomia</i>	4	-	-
4	<i>Karthalsia</i>	-	3	-
5	<i>Salacca</i>	1	-	-
Total		20	17	17

RATTANS OF NORTH-EAST INDIA - AT A GLANCE

S. No	Name of Species	Local Name	Present status (Basu, 1992)
1	<i>Calamus inermis</i> *	Paharia raidang	Endemic and rare (<i>Red Data Book, 1990</i>)
2	<i>Calamus erectus</i>	Sungotta bet	Restricted distribution
	<i>C. erectus</i> var. <i>schizospathus</i> *	<i>Phekeri bet</i>	Threatened
3	<i>C. tenuis</i>	<i>Jati bet, Pani bet.</i>	Common
4	<i>C. gracilis</i> *	Oahing bet, Mopuri bet.	Endemic and Threatened
5	<i>C. khasianus</i> *	Putli bet	Endemic and threatened
6	<i>C. latifolius</i> *	Phekeri bet	Threatened
	<i>C. latifolius</i> var. <i>mormoratus</i> *	Phekeri bet	Threatened
7	<i>C. kingianus</i> *	Chuli bet	Endemic and threatened
8	<i>C. floribundus</i>	Lejai bet	Restricted distribution
	<i>C. floribundus</i> var. <i>depauperatus</i> *	Lejai bet	Threatened
9	<i>C. guruba</i>	Sundi bet, Tita bet	Restricted distribution
10	<i>C. nambareinsis</i> *	Houka bet	Endemic and rare (<i>Thomas & Haridasan , 1997</i>)
11	<i>C. flagellum</i>	Raidang bet	Restricted distribution
12	<i>C. leptospadix</i>	Dangre bet, Rabi bet	Restricted distribution
13	<i>C. acanthospathus</i> *	Gouri bet	Endemic and Threatened
14	<i>C. viminalis</i>	Pahari jati	Restricted distribution
15	<i>Daemonorops jenkinsianus</i> *	Bara bet, Gola bet	Endemic and threatened
16	<i>Plectocomia khasianus</i> *	Paharia ridang	Endemic and threatened
17	<i>P. himalayana</i>	Dorrey	Endemic and threatened
18	<i>P. bractealis</i> *	Bara bet	Endemic and Threatened
19	<i>P. assamica</i> *	Hati bet	Endemic and threatened
20	<i>Salaca secunda</i>	Jeng bet	Restricted distribution

Species with (*) marks are endemic and threatened to the North-eastern region of India (Basu, 1992)

Though rattans are economically viable not much is known about the group. There is no sufficient commercial rattan plantation in India as well as in Northeastern region and natural forests are sole sources of its supply. Due to its versatile and increasing uses and shrinking natural habitat cane resources are reducing at an alarming rate. Most of the rattans are in threatened state, some are on the verge of extinction (Basu, 1985) and many of the species reported earlier from this region are not present now (Renuka, 1996)

PRESENT DISTRIBUTION/ OCCURRENCE OF RARE, ENDEMIC AND THREATENED SPECIES

More than 50% of rattans flourishing in the region have restricted distribution and endemic to the region. Due to over exploitation, reduction and destruction of natural habitat, existence of many of them is threatened (Basu,1986). *Calamus inermis*, a rare rattan had earlier reported from Sikkim (Basu,1992), recently explored from Manipur and Mizoram state. *Calamus nambareinsis* was found in the Nambor forest of Assam and has recently been reported from Changlang district of Arunachal Pradesh (Thomas and Haridasan, 1997) and Gibbon Wildlife sanctuary, Assam. *Calamus khasianus* is an endemic to Khasi hills and *C. erectus*, a strong cane growing in the lower hill valley forests of the region. Both these species are also explored from Karbi-anglong Wildlife Sanctuary, Assam. *Calamus gracilis* was found in upper Assam and in lower and middle hill forests of up to an altitude 1000-1500 meter above mean sea level. Distribution of *Calamus gracilis*, is also reported from Karbi-anglong Wildlife sanctuary, Assam. *Calamus kingianus*, a thin stemmed rattan is restricted to the fertile and annually flooded valley forests of Assam, very recently its occurrence is reported from Nambor-Doigrung Wildlife Sanctuary, Assam. *Calamus floribundus* var. *depauperatus* was reported from the foot valley of Garo hills up to 400 m altitude and also explored from Gibbon Wildlife Sanctuary, Assam. *Calamus acanthospathus*, a strong cane is distributed in the valley forests of lower and middle hills of Arunachal Pradesh, Manipur, Meghalaya and North Cachar of Assam. *Plectocomia assamica* is an endemic species, distributed in Barak valley of upper Assam and plains of Arunachal Pradesh. *Plectocomia khasianus* is found in semi-evergreen -deciduous forests of Khasi hills (Basu,1992) between 600-1200 m altitude. *Daeonorops jenkinsianus*, a strong cane has restricted distribution in the evergreen forests of Assam and Khasi hills and recently recorded in Karbi-anglong Wildlife Sanctuary and Kaziranga National Park of Assam.

CONSERVATION OF RATTANS AT RFRI

Total 17 different rattan species out of 20 species so far reported from the Northeast India is being conserved in Botanical Garden, RFRI, Jorhat. The species – *Calamus erectus*, *C. enermis*, *C. gracilis*, *C. tenuis*, *C. floribundus*, *C. flagellum*, *C. latifolius*, *C. nambareinsis*, *C. khasianus*, *C. kingianus*, *C. leptospadix*, *C. guruba*, *C. acanthospathus*, *Daemonorops jenkinsianus*, *Plectocomia assamica*, *P. khasianus*, and *Salaca secunda* are conserved in the garden.

This is not only a conservatory of rare, endemic and threatened rattans, but also serving as a seed source. This may be a good repository to fulfil the requirements for extensive plantation in near future.

Conserved species and their source of collection			
S. No	Name of Species	Local Name	Source of collection
1	<i>Calamus inermis</i> *	Paharia raidang	North Cachar Hills District
2	<i>Calamus erectus</i> *	Sungotta bet	Karbi-anglong ,Assam
3	<i>C. tenuis</i>	<i>Jati bet, Pani bet.</i>	Sibsagar, Assam
4	<i>C. gracilis</i> *	Oahing bet, Mopuri bet.	North Cachar Hills District
5	<i>C. khasianus</i> *	Putli bet	Tabanglong ,Manipur
6	<i>C. latifolius</i>	Phekori bet	Gibbion wildlife Sanctuary , Jorhat
7	<i>C. kingianus</i> *	Chuli bet	Nambor Wildlife Sanctuary, Golaghat
8	<i>C. floribundus</i>	Lejai bet	Nambor Wildlife Sanctuary, Golaghat
9	<i>C. guruba</i>	Sundi bet, Tita bet	Karbi-anglong Wildlife Sanctuary
10	<i>C. nambareinsis</i> *	Houka bet	Nambor Wildlife Sanctuary, Golaghat
11	<i>C. flagellum</i>	Raidang bet	DihingPatkai Wildlife Sanctuary,Dibrugarh
12	<i>C. leptospadix</i>	Dangre bet, Rabi bet	DihingPatkai Wildlife Sanctuary,Dibrugarh
13	<i>C. acanthospathus</i> *	Gouri bet	Tabanglong , Manipur
14	<i>Daemonorops jenkinsianus</i> *	Bara bet, Gola bet	Karbi-anglong ,Assam

15	<i>Plectocomia khasianus*</i>	Paharia ridang	Mizoram
16	<i>P. assamica *</i>	Hati bet	Arunachal Pradesh & Barak valley
17	<i>Salaca secunda</i>	Jeng bet	Karbi-anglong Wildlife Sanctuary

DEVELOPING PLANTING STOCK OF PRIORITIZED RATTANS

The species- *Calamus latifolius*, *C. nambareinsis*, *C. enermis*, *C. khasianus*, *C. gracilis*, *Daemonorops jenkinsianus* are most preferred for furniture industry in the Northeastern region. A good number clumps of *Calamus latifolius*, *C. nambareinsis*, *C. khasianus*, *C. gracilis*, *Daemonorops jenkinsianus* are being raised in the Botanical Garden at RFRI Campus. A multiplication nursery is also being established to raise quality planting stocks of the preferred species.

Rare species of Rattan



Calamus inermis



Calamus nambareinsi

Endemic and threatened species of Rattans



Plectocomia bractealis



Calamus gracilis



Calamus kingianus



Deamonorops jenkinsianus



Plectocomia assamica

Seedling stock at Nursery



Calamus floribundus



Calamus tenuis



C. nambareinsis



Calamus gracilis

Fruits of *Calamus* sps.



Calamus flagellum



Calamus khasianus



Calamus floribundus



Calamus gracilis

Spine character of different rattans



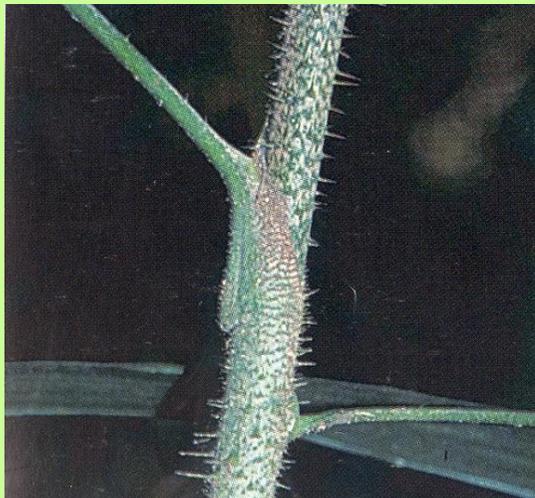
Plectocomia himalayana



Calamus latifolius



Calamus khasianus



Calamus kingianus



Calamus nambareinsis



Daemonorops jenkinsi

Photos : Dr. T C Bhuyan and H R Bora, RFRI

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