



Status of research on rattans: a review

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ABSTRACT

Rattan forms one of the major biotic components in tropical and sub-tropical forest ecosystem. Contributions made by the researchers on the distribution, taxonomy and uses of rattan species in the world with special reference to India are reviewed here.

Key words: Rattan; distribution; taxonomy; utilisation; N.E. states.

INTRODUCTION

The name 'cane' (rattan) stands collectively for the climbing members of a big group of palms known as Lepidocaryoideae, fruit bearing scales. Rattans/canes are prickly climbing palms with solid stems, belonging to the family Arecaceae and the sub-family Calamoideae. They are scaly-fruited palms. The rattans/canes comprise more than fifty per cent of the total palm taxa found in India.¹ They are distributed throughout South-East Asia, the Western Pacific and in the humid areas of Africa. Rattans/canes are hapaxanthic to pleonanthic in their mode of flowering.

WORLD STATUS

Most rattans are moist tropical plants. This genus form one of the major components in tropical and subtropical forests ecosystem. They are distributed in Latin America, Mexico, Chile,

Argentina, the Caribbean, Africa and South-East Asian regions. Rattan diversity is rich in Malaysia, Indonesia, Philippines, China, Bangladesh, Sri Lanka, Myanmar and India. Rattan is of great economic importance in handicraft and furniture making because of its richness in fibre, with suitable toughness and easy for processing. The innumerable pinnate leaves, which extend up to two metres in length, with their mosaic arrangement play a major role in intercepting the splash effect of rains and improve the water holding capacity of the soil. Rattans also play a vital role in enriching the soil by their leaf litter, which adds to the organic content of the soil. Modern Rattan development was initiated in 1975 with a Rattan project in Peninsular Malaysia. Four years later, the first Rattan workshop was held in Singapore sponsored by International Development Research Centre (IDRC) of Canada.²

Rattans of Indonesia was studied and reported by Stockdale;³ the Malayan rattans by Dransfield;⁴ and Philippines rattans by Tandug.⁵ Indonesia is the world's largest supplier of raw

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rattan which accounts for 90 per cent of the trade. About 300 species belonging to 7 genera are reported from Indonesia alone. The genera are *Calamus*, *Ceratolobus*, *Daemonorops*, *Korthalsia*, *Plectocomia*, *Plectocomiopsis* and *Myrialepis*.⁶ Dransfield⁴ has reported 104 species belonging to 9 genera, viz., *Calamus*, *Calospatha*, *Ceratobolus*, *Daemonorops*, *Korthalsia*, *Myrialepis*, *Plectocomia*, *Plectocomiopsis* and *Pogonotium* from the Malay Peninsula, which is considered to be the centre of diversity of rattans. Mohammad and Mohmod⁷ reported 106 species under 8 genera, viz., *Calamus*, *Calospatha*, *Ceratolobus*, *Daemonorops*, *Korthalsia*, *Myrialepis*, *Plectocomia* and *Plectocomiopsis* from Peninsular Malaysia.

Quimbo⁸ estimated that 70 species of rattans belonging to four genera, viz., *Calamus*, *Daemonorops*, *Korthalsia* and *Plectocomia* are found in the Philippines. De Zoysa *et al.*⁹ reported 10 species of rattan belonging to the genus *Calamus* from Sri Lanka and 7 species are endemic to the island. Huangcan *et al.*⁶ reported 40 species of rattans belonging to the genera *Calamus*, *Plectocomia* and *Daemonorops* from China. Taxonomic surveys have been conducted in Hainan, Guangdong, Guangxi, Fujian, Yunnan, Jiangxi and other provinces since 1985. Myanmar accounts for 30 species under 5 genera, viz., *Calamus*, *Daemonorops*, *Korthalsia*, *Myrialepis* and *Plectocomia*. Beccari's (1892-1911) contribution is still considered as the standard work for the rattans of Asia.¹⁰⁻¹² Huangcan *et al.*¹³ reported 24 species under 4 genera, viz., *Calamus*, *Eremospatha*, *Laccosperma* and *Oncocalamus* from Western Africa, 8 species under the genera *Calamus* from Australia, and 3 species under the genera *Calamus* from Solomon Islands.

INDIA

Griffith in 1844 had described 11 species of rattans from India.¹⁴ Martius published an account of Indian Palms;¹⁵ Beccari and Hooker¹⁶ reported 8 species (*Calamus thwaitesii*, *C. rotang*, *C. latifolius*, *C. pseudotenuis*, *C. gamblei*,

C. travancoricus, *C. brandisii* and *C. hookerianus*) from South India. Cooke¹⁷ reported two species of rattan from Kannada and one species from Western Peninsula. Beccari in the systematic enumeration of the species *Calamus* and *Daemonorops* described 164 species of *Calamus* and 77 species of *Daemonorops* with their diagnostic characters (including new one, with doubtful, imperfectly known or recognized species) from Asia.¹⁸ Blatter reported some information on rattans of Indian Sub-Continent.¹⁹ Gamble and Fischer reported 11 species (*C. gamblei*, *C. rheedi*, *C. stoloniferus*, *C. rotang*, *C. hookerianus*, *C. dransfieldii*, *C. pseudotenuis*, *C. travancoricus*, *C. thwaitesii*, *C. metzianus* and *C. huegellanus*) of rattans from South India.²⁰⁻²¹ All these works in the early 19th and 20th century threw light on the systematizing of Indian Rattans.

Renuka published systematic accounts of rattans of Western Ghats, and Andaman and Nicobar Islands in 1992 and 1995, respectively.²²⁻²³ "A Monograph on Indian Rattans" contains systematic account of 7 species of rattans from Arunachal Pradesh.²⁴ Lakshmana documented the taxonomy, conservation and regeneration aspects of South Indian Rattans.²⁵ During the 20th Century major contribution on Rattan taxonomy are made by Renuka;²⁶⁻³⁴ Renuka and Bhat;³⁵ Renuka *et al.*;³⁶ Renuka and Lakshmana;³⁷ Renuka and Sasidharan.³⁸ Renuka and Vijayakumaran reported many new species from Western Ghats and Andaman and Nicobar Islands.³⁹⁻⁴⁰ Two species of *Calamus*, viz., *C. rotang* and *C. viminalis* were reported by Pullaiah from Andhra Pradesh.⁴¹ Lakshmana has reported some new species like *C. karnatakensis*, *C. lakshmanae*, *C. lacciferus*, etc., from South India.⁴² Lakshmana *et al.*⁴³ and Shiva⁴⁴ have reported the status of canes in Karnataka and Kerala. The research work carried out by Basu;⁴⁵⁻⁵⁰ Basu and Basu;⁵¹ Basu and Chakraverty⁵² described palms in details along with rattans. Some new species of *Calamus* are reported by Lakshmana and Renuka⁵³ and Lakshmana.⁴² Canes of West Bengal have been reported in detail by Sultan.⁵⁴

With the revival of interest in rattans in India, a good number of comprehensive works on other aspects of canes such as utilization, management, etc., have appeared in different parts of the country, especially in the Western Ghats, Andaman and Nicobar Islands. The contributions made by Badhwar *et al.*;⁵⁵⁻⁵⁶ Renuka;⁵⁷⁻⁶⁰ Renuka *et al.*;⁶¹ Renuka and Anto;⁶² Basu;^{48,63} Bhat *et al.*;⁶⁴ Bhat;⁶⁵ Bhat and Dhamodharan;⁶⁶ Muraleedharan and Seethalakshmi;⁶⁷ Menon;⁶⁸ Nandakumar and Menon;⁶⁹ Sanyal and Mishra;⁷⁰ and Kumar⁷¹ are worth to mention here.

NORTH-EAST INDIA

The flora of Assam is still regarded as a major floristic account of the North East region.⁷² Andersons enumerated 7 species of rattans of Sikkim (viz., *Calamus erectus*, *C. flagellum*, *C. leptospadix*, *C. tenuis*, *C. acanthospathus*, *C. guruba* and *C. latifolius*).⁷³ In-depth studies on rattans have been started recently in the region. Thomas and Haridasan⁷⁴ reported 24 species of rattans under 4 genera (*Calamus*, *Daemonorops*, *Plectocomia* and *Zalacca*) from Arunachal Pradesh.

Singh *et al.*⁷⁵ reported 13 species, viz., *C. acanthospathus*, *C. arborescens*, *C. collina*, *C. erectus*, *C. flagellum*, *C. floribundus*, *C. guruba*, *C. inermis*, *C. latifolius*, *C. leptospadix*, *C. tenuis*, *Daemonorops jenkinsianus* and *Plectocomia bractealis*, under 3 genera (*Calamus*, *Daemonorops* and *Plectocomia*) from Manipur. Deb reported 6 species, viz., *C. viminalis*, *C. floribundus*, *C. tenuis*, *C. leptospadix*, *C. guruba* and *C. erectus*, belonging to the genus *Calamus* from Tripura.⁷⁶ Haridasan *et al.*⁷⁷ reported the presence of 3 species of *Calamus* (viz., *C. leptospadix*, *C. tenuis* and *C. erectus*) from Meghalaya, 1 species of *Daemonorops* (viz., *D. jenkinsianus*) from Nagaland and 6 species of *Calamus* (viz., *C. leptospadix*, *C. inermis*, *C. latifolius*, *C. flagellum*, *C. erectus* and *C. acanthospathus*); 1 species each of *Daemonorops* (viz., *D. jenkinsianus*) and *Plectocomia* (viz., *P. himalayana*) from Sikkim.

MIZORAM

Lalramnghinglova⁷⁸ has reported 7 species under the genus *Calamus* whereas Pradhan⁷⁹ mention the presence of 9 species under the genus *Calamus*; and Sawmliana⁸⁰ reported 6 species belonging to the genus *Calamus* and one species of *Daemonorops*.

CONCLUSION

Contribution made by researchers in the field of canes distribution, taxonomy, utilisation and propagation are scanty and proportionately very less. Thus, need is felt to study in-depth on cane species, which is recognised as one of the important minor forest products, having potential to improve socio-economic condition of forest dwellers and people of adjoining area.

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