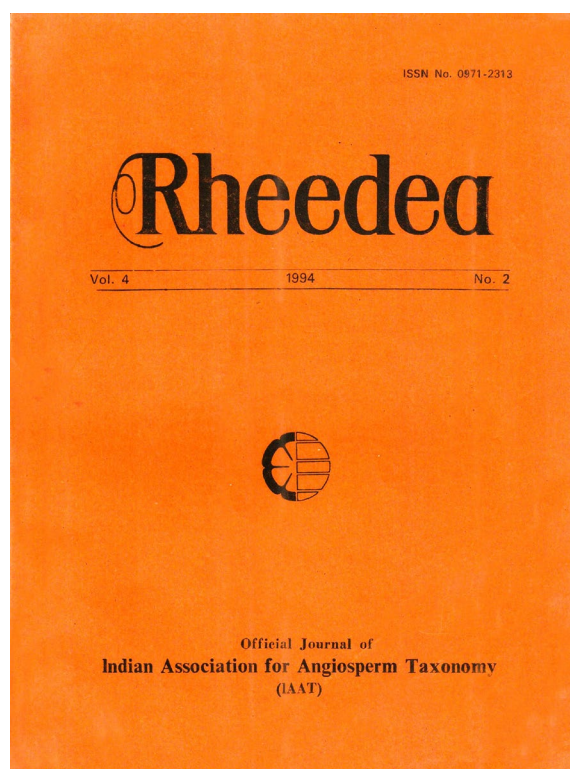




## Notes on the identity of *Calamus pseudorivalis* Becc. (Arecaceae) with a new species of the genus from Andamans.

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**Notes on the identity of *Calamus pseudorivalis* Becc.  
(Arecaceae) with a new species of the genus  
from Andamans**

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**Abstract**

*Calamus Pseudorivalis* Becc. was originally reported from Nicobar islands based on a fruiting specimen. Later on, Parkinson described the vegetative features of the species based on collections from Andaman islands. A detailed study of the rattan flora of Andaman and Nicobar islands has proved that the Nicobar and the Andaman materials are not conspecific. In this paper the two species are separated and the species collected from Andamans is described as a new one.

Rattans are taxonomically one of the most difficult groups. Occurring in remote forest areas, they do not yield to adequate field studies. Because of the spiny leaf sheaths, difference in juvenile and adult plants, and organographic variations in individual plants and their flowering and fruiting cycles, they are not adequately represented in herbaria. The available specimens are too poor and often contain only fragments, either of vegetative or of reproductive characters. Consequently the description of species are either fragmentary or are reconstructed based on features of several collections by various workers and from different areas and are often erroneous and misleading. This paper deals with such an Indian species, *Calamus pseudorivalis* Becc.

*Calamus pseudorivalis* was originally described and illustrated by Beccari (1908) based on a specimen sent to him by E. H. Man in 1888. The material (*Man* s. n., Herb. Becc. K. Cibachrome seen) consists only of a fruiting spadix. Beccari described it under the above name because of its great affinity with the Sri Lankan endemic, *Calamus rivalis*, from which it differs in the much larger spadix and in the scales of the fruit being entirely of one colour. Later, however, Parkinson (1921) supplemented this with a detailed description of the vegetative features of the species, presumably based on his own and Rogers' collection from Andamans, as is obvious from his note. Our efforts to locate Parkinson's specimens have been futile, but we have now studied two specimens

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of Rogers (*Rogers* 48, 49, K, Cibachrome,) collected in 1904 from Baratang island in Andamans which have been annotated as *Calamus pseudorivalis* by Beccari himself. The sheets contain only vegetative parts and male spadices. In all probability, Parkinson thought that these specimens and Man's belong to the same species. Later authors like Blatter (1926) and Basu (1992) have followed Beccari and Parkinson in the delimitation and identification of the taxon.

Recently we have undertaken an exhaustive exploration and field study of the canes in Andaman and Nicobar islands, during which we have been able to recollect both Man's material from Nicobar and Roger's material from Andamans. Our observations, however, go to contradict Parkinson's and subsequent authors' idea that both Nicobar and Andaman materials are conspecific. In fact, they look very different in the field and can easily be recognised by the armature of the sheaths, the nature, size and armature of the leaves and leaflets and the size of partial inflorescence and fruits. Nicobar specimens have profusely and persistently spiny sheaths. The leaves do not have a distinct petiole, the rachis is closely beset with prickles at base and the leaflets are closer and narrower.

In the Andaman specimens, the younger sheaths are profusely spiny, but become sparsely spiny or naked as they mature. The leaves have a distinct petiole (up to 14 cm long). The rachis is unarmed at the basal part, but towards the tip, there is a single row of short spines. Leaflets are broader and are more distant. The partial inflorescence, secondary sheaths, the rachilla and the fruits in Nicobar specimens are larger than in Andaman material.

From our observations, it become apparent that Parkinson's superposition of Andaman and Nicobar specimens and their treatment as conspecific is erroneous. They are, indeed, slightly variable but the variations and distribution do not overlap. Nicobar materials are not seen in Andaman and vice versa.

From our studies, we are convinced that the specimens from Andaman and Nicobar have to be assigned to two different species. While the Nicobar specimens have to be assigned to Beccari's *Calamus pseudorivalis*, the Andaman specimens have to be separated. This is here described as a new species, *Calamus baratangensis*, after the type locality from where Rogers also collected his specimens. A revised description of *Calamus pseudorivalis* is also provided.

**Calamus pseudorivalis** Becc. Ann. Roy. Bot. Gard. Calcutta 11: 222., pl. 68. 1908. (Fig. 1)

Clustering, high climbing rattans. Stem to 30 m long, with sheaths

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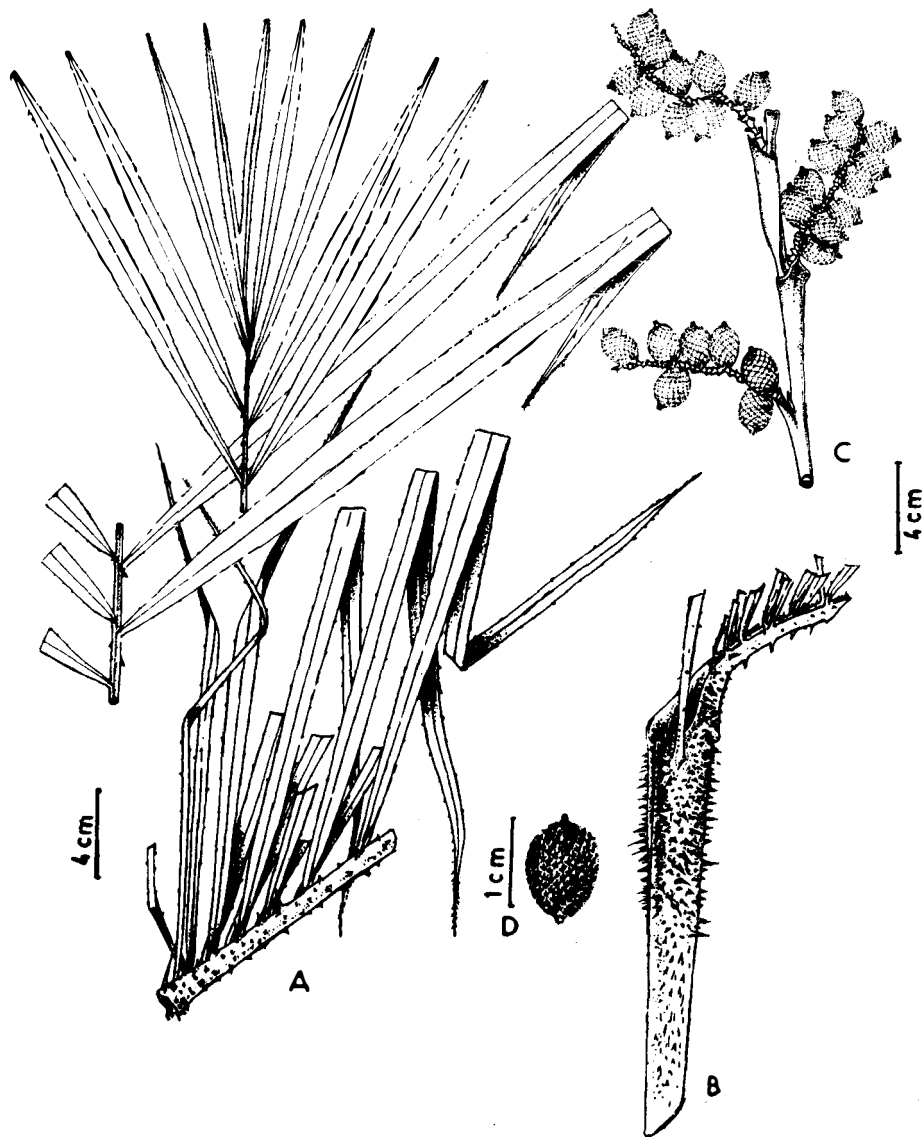


Fig. 1. *Calamus pseudorivalis* Becc. A. leaf (basal, middle and apical portions), B. Leaf sheath, C. partial infructescence, D, Single fruit.

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1—1.25 cm in diameter, without sheaths 0.5—1.3 cm. Sheath green, densely armed with spines; spines persistent, dimorphic with broad-based, triangular-acute and slender, bristly spines interspersed, the latter shedding off at a later stage, spines to 0.8 cm long; knee present; ocrea not seen. Leaf to 1 m long, ecirrate; petiole absent; rachis triangular, spiny; leaflets ca.  $45 \times 2$  cm, gradually becoming smaller towards the tip, terminal, midvein spiny. Male inflorescence not seen. Female inflorescence to 60 cm long; secondary sheaths tubular; partial inflorescence to 60 cm long; secondary sheaths tubular; rachilla to 13 cm long; involucre cup-shaped; fruiting perianth 0.3 cm long. Fruit ovoid, ca.  $1.5 \times 1$  cm; scales in 21 vertical rows, deeply channeled, shiny yellow, turning violet on ripening. Endosperm not ruminant.

**Distribution:** Evergreen forests in Great Nicobar.

**Flowers:** November - December. **Fruits:** April - May.

**Uses:** Used in furniture industry. Not exploited much.

**Specimens examined:** Nicobar, *Man s. n.* (K, Cibachrome); 13th Km. East West Road, Nicobar, 14.4.1993, fr; *Renuka & Vijayakumaran*, 7040 (KFRI).

**Note:** In the same clump thick and very thin canes can be seen.

***Calamus baratangensis*** Renuka & Vijayakumaran, *sp. nov.*

*C. pseudorivalis* auct., non Becc., 1908; Parkinson, For. Fl. Andam. Isl. 265. 1921; Basu, Rattans (Canes) in India, Monogr. Rev.: 90. 1992.

(Fig. 2)

Vagina viridis spinis sparsis armata. Inflorescentia partialis ad 30 cm longa. Fructus ovoideus, c. 1.25 cm longus, 0.9 cm latus, viridis tum cinereo-albescens pallide violaceus ubi maturus, squamis in seriebus 21 verticalibus. Endospermium homogenum.

**Typus:** Andamans, evergreen forests, 50 m, 19.4.1988, fr., *Renuka* 4066 (KFRI).

**Local Names:** *Safed beth*, *Razi beth*, *Malay beth*.

Clustering, medium diameter rattan. Stem to 25 m long or more, with sheaths 2 cm in diameter, without sheaths 1.2 cm. Sheath green, armed with spines to glabrous; spines, when present brown or black, flat, rather short on the distal sheaths, to 2 cm long on mature sheath; knee prominent; ocrea slightly developed. Leaf to 1 m long, ecirrate; petiole 14 cm long, margins armed with small spines to 0.3 long; rachis with a row of small spines underneath; spines to 0.5 cm long; leaflets  $30 \times 2.5$  to  $56 \times 4$  cm, gradually becoming

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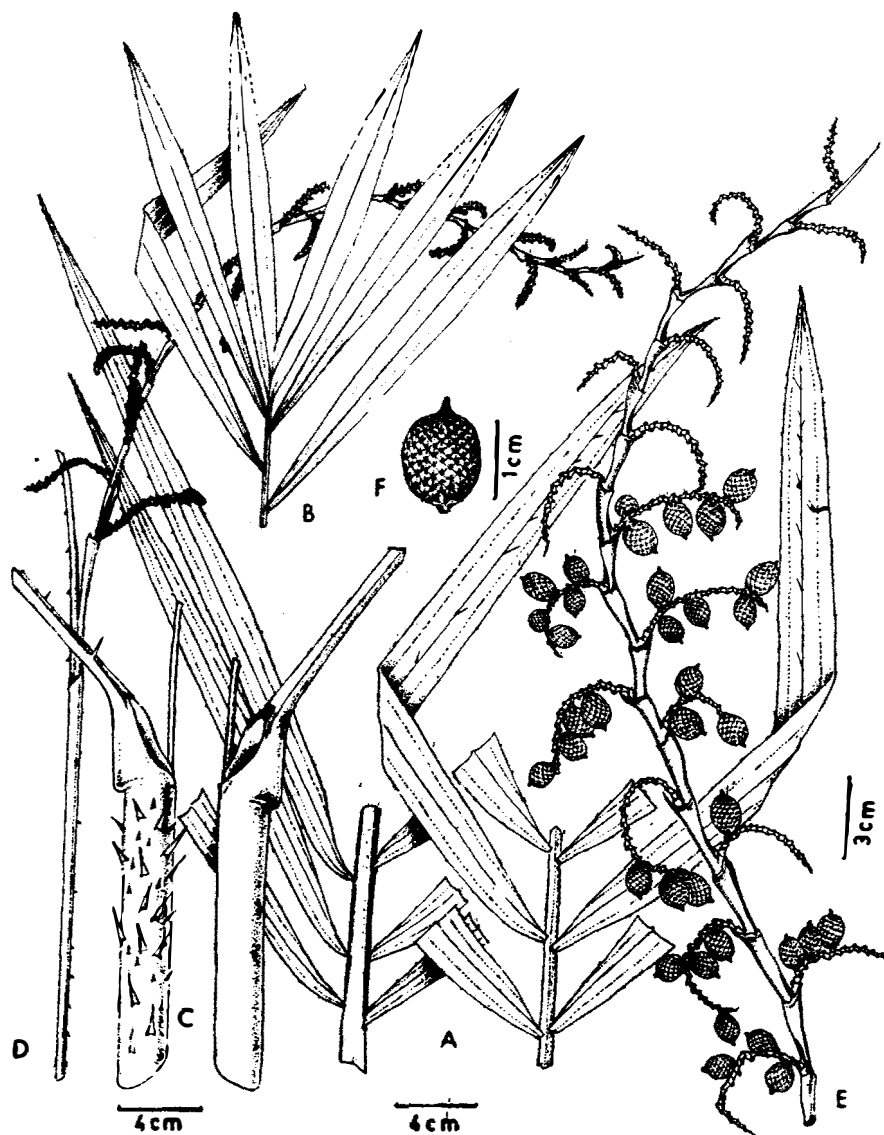


Fig 2. *Calamus baratangensis*. A. leaf (basal and middle portion). B. Leaf (apical part), C. Leaf sheath variation, D. Male inflorescence, E. Female inflorescence, F. Fruit.

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smaller towards the tip, basal part of the terminal pair united, dark green, linear lanceolate, regular, midvein prominent. Male inflorescence long flagellate; partial inflorescence to 55 cm long; secondary sheath funnel-shaped; rachilla to 7 cm long. Female inflorescence long flagellate; primary sheath armed at the sides; partial inflorescence to 55 cm long; rachilla to 7 cm long, distal ones shorter; involucre cup-shaped; fruiting perianth 0.4 cm long. Fruits ovoid, ca. 1.25 × 0.9 cm; scales in 21 vertical rows, green when young, turns grey-white and light violet on ripening, channeled at the middle. Endosperm not ruminate.

*Distribution:* Andamans

*Flowers:* November - December, *Fruits:* April - May.

*Uses:* Commercially important for furniture, rafts etc.

*Specimens examined:* Baratang islands, Andamans, 12.4.1988, fr., *Renuka* 4066 (Type, KFRI); Pudumadurai, North Andamans, 30.4.1992, fr., *Vijayakumaran* 6640 (KFRI); Mannarghat, Andamans, 1.4.1993 male infl., *Renuka & Vijayakumaran* 7029 (KFRI); *Rogers* 48, 49 (K, cibachrome).

The species displays some morphological variation in the area. Rogers himself has made a note of such variations on his sheets. We have found that diameter of the cane varies from 0.5—1.7 cm in the same clump.

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## Literature cited

- Basu, S. K. 1992. *Rattans (Canes) in India-A Monographic Revision*. Kuala Lumpur.
- Beccari, O. 1908. Asiatic palms. Lepidocarpaceae. Part 1. The species of *Calamus*. *Ann. Roy. Bot. Gard. Calcutta*, 11: 1-518. pl. 1-11, 1-238.
- Blatter, E. B. 1926. *The Palms of British India and Ceylon*, London.
- Parkinson, C. E. 1921. *A Forest Flora of the Andaman islands*, Simla.