Table 1 *Important characters of Varuna and TM-18*

Characters	Varuna	TM-18
Plant height (cm)	135.9 ± 4.97	109.9 ± 2.26
Days for first flowering	34.0 ± 1.00	28.3 ± 1.46
Days for harvest	93.3 ± 0.88	74.7 ± 1.20
Pod no. per plant	290.8 ± 19.60	261.9 ± 24.10
1000 seed weight (g)	3.30 ± 0.12	2.71 ± 0.16
Oil content (%)	29.42 ± 0.23	31.83 ± 0.08
Per plant yield of best five plants (g)	9.59 ± 1.62	7.97 ± 1.29
Plot yield per m^2 (g)	125.00 ± 17.45	116.60 ± 13.48
Per day yield (kg/ha)	13.22 ± 1.43	15.64 ± 1.46

developed at this centre, while the other parent Lethbridge was a Canadian variety also with yellow seed coat. The effects of day length and temperature on the flowering of TM-18 and Varuna sown on the first day of every month were studied on plants grown in pots for one year. The number of days required for first flowering in TM-18 ranged from 24–38 days compared to 33–56 days for Varuna. Thus throughout the year, TM-18 was earlier to Varuna. The important characteristics of TM-18 in comparison to Varuna are given in table 1 and the plant types are shown in figure. The main advantage of TM-18 is its earliness.

Figure 1A, B. Plant type in Varuna and cultivar TM-18. **A.** Varuna, **B.** TM-18.

Early types, though lower in yield, are suitable for multiple cropping. At present toria (*B. campestris* var. *toria*) is being grown in the hill, the north-western and central zones of India. The toria cultivars require 84 days for maturity. Considering the advantages of yellow-seeded mustard over toria, the early maturing mustard can replace toria in these zones. In addition, early sown mustard escapes from pests and diseases[2,3]. Early varieties usually escape frost and also have better opportunity under moisture stress to attain their full potential.

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A NEW SPECIES OF THE GENUS *CALAMUS* LINN. (ARECACEAE) FROM INDIA

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DURING a survey in the Kerala forests a new species of *Calamus* was collected which is described here.

Calamus vattayila Renuka sp. nov.

Rattanus alte scandens, caule vaginis tectis ad 2.5 cm diam., nudo ad 1.5 cm diam., internodiis ad 20 cm longis, vaginis atrovirentibus, sparse spinosis, spinis interdum acroscopicis, genu conspicuo, ocrea parva 0.5 cm long, foliolis atrovirentibus ad 40 cm longis 10 cm latis venis 6, inflorescentia 60 cm longa, bracteis omnibus arcte vaginantibus spinis armatis, floribus femineis ad 5 mm longis, fructibus ignotis. -Typus: Moozhiyar. Renuka 4001 (♀ ; holotypus MH).

Solitary high climbing rattan. Stem to 15 m long, with sheaths 2.5 cm in diameter, without sheaths 1.5 cm, internodes to 20 cm. Leaf sheath dark green, sparingly spiny; spines to 2 cm long, sometimes pointing upwards. Knee conspicuous. Ocrea small, 0.5 cm long. Flagellum dark green, 4 m long. Leaf ecirrate, to 1 m long; petiole to 25 cm, armed with spines to 1 cm; rachis armed with claw-like spines in 3 rows; leaflets dark green, with 6 veins, arranged alternately, 40×10 cm; leaftips armed with short bristles. Inflorescence flagellate, to 60 cm long with up to 5 partial inflorescences, each to about 28 cm long, branching once in each type, subtending bracts closely sheathing, prolonged at the distal end into a lanceolate point, armed with small spines to 3 mm long, rachillae to 5 cm long, subtending bracts expanded into a cup at the upper region. Female flowers to 5 mm long, outer tepal to 3 mm, inner tepal to 4 mm, staminodes 6, basally united, ovary tricarpellary. Fruit unknown (figures 1–4). Kerala , Wynad, Nilambur and Thenmala Forest divisions, evergreen forests, 225–750 m. 9th Feb. 1983, 23rd Feb. 1984, 9th Oct. 1985. Renuka 4001 (♀). Holotypes MH, Isotypes K, Herbarium of Kerala Forest Research Institute; paratypes Renuka and Nambiar 2907 (sterile), Renuka and Nambiar 3029 (sterile), Renuka 4003 (sterile) Herbarium of Kerala Forest Research Institute.

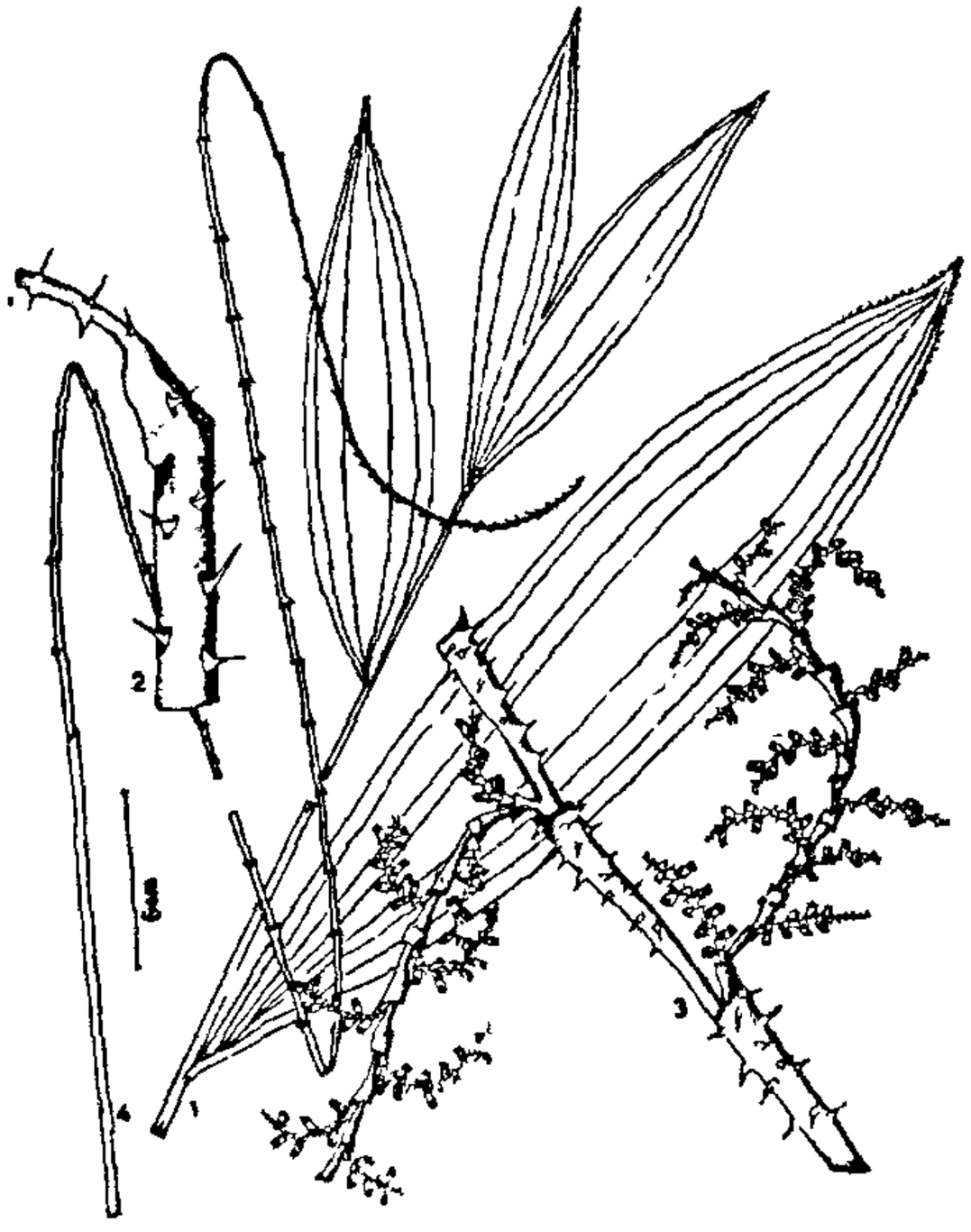
This species approaches *C. acanthospathus* of Burma and Northern India. It can be differentiated from *C. acanthospathus* by its solitary nature, the sparingly spiny, dark green leaf sheath, rachis and petiole being not scurfy and all bracts of the inflorescence being densely armed with small spines.

Etymology:

The new species is named after its Malayalam name 'Vattayilayan'.

The author thanks Dr S. Dransfield for determining the novelty of the species and Dr S. Kedharnath for encouragement. Thanks are also due to Dr J. F. Veldkamp, Rijksherbarium for the Latin diagnoses.

4 March 1987



Figures 1–4. 1. A portion of the leaf; **2.** Leaf sheath; **3.** A portion of female inflorescence, and **4.** Flagellum.

EVIDENCE FOR THE 'DISSOCIATION' HYPOTHESIS OF M.J.D. WHITE

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THE replacement of a metacentric chromosome by two acrocentrics increases the chromosome number in karyotypic evolution. Some cytogeneticists considered that simple fission through the centromere (centric fission or misdivision) would produce this; the resulting chromosomes would be *telocentric* and not acrocentric. But this interpretation was not accepted by White[1] as it involved the denial that a telomere *must* be present at each end of a chromosome. As an alternative mechanism, White[1–4] postulated the 'dissociation' hypothesis; dissociation involves a mutual translocation between a large metacentric and a small supernumerary, called 'donor' chromosome, which supplies a centromere and two telomeres. Although John and Lewis[5] conceded the probability of dissociation, they stated, "... as yet, really critical evidence for this does not exist". Dissociation hypothesis was challenged by other workers[6–8]. The present work on the chromosomes of a natural population of tettigoniid grasshoppers, *Elimaea securigera* (Brum.), from Alwarkurichi in peninsular India attempts to offer some critical evidence.