TABLE II

Name of the Species	Conidiophores		Stroma		Conidia		
	Colour	Size (μm)	Diam. (μm)	Shape with wall configuration (μm)	Size	Colour	Septa
P. murrayicola (Present sp.)	Paleolivaceous brown	120 × 3·6–5·5	22–26	Mostly obclavate with smooth wall	61·5 × 4·7	Pale brown	4–8
P. fagarae (Yamam.) Deighton	Brown	34–59 × 3·4–4·1	34–102	Obclavate to cylindric obclavate with sinuous wall	23·8–79·9 ×4·2–5·1	Pale brown	0–6

transversely 4–8 septate, commonly 61·5 × 4·7 μm (Fig. 2 *a*, *b*).

On living leaves of *Murraya koenigii* Spreng. (Rutaceae); Gorakhpur, Jan. 1978; leg. P. Kumar 80 Type, IMI 227049.

Coloniae hypophyllae, effusae, floccosae, velutinae, pallide brunneae; mycelium plerumque immersis, ramosis, septatis, sub-hyalinis compositum stroma pseudoparenchymaticum, sub stomate situm, obscure brunneum, 22–26 μm diametro; conidiophori macronemati, mononemati, caespitasi vel raro synnematici, vulgo non ramosi, recti vel paulum flexuosi, erecti, leves, geniculati, pallide olivaceo-brunnei, plerumque ad 120 × 3·6–5·5 μm; cellulae conidiogenae terminales, integratae, mono-vel polyblasticae, sympodiales, plus minusve geniculatae, geniculatis conidialibus brevibus, crassia; conidia simplicia, singularia, acrogena, maximum partem obclavata, apice paulum acuto, levia, recta vel paulum flecuosa, pallide brunnea, transverse 4–8-septata, vulgo 61·5 × 4·7 μm.

As evident by a thorough survey of literature, the only species formerly described on Rutaceae is *P. fagarae* (Yamam.) Deighton[1]. A comparison of this fungus with present one is given in Table II.

It is gathered from Table II that the present form is different from the reported species *P. fagarae*.

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MUTABILITY OF *SR* LOCUS IN JUTE (*CORCHORUS CAPSULARIS*)

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A WILD strain of jute (*Corchorus capsularis*), known as 'Tripura' and having deep serrated narrow leaf, was found often to produce spontaneous somatic mutation of normal leaf and a brief account of the frequency and nature of this mutation is reported herein. Genetically controlled somatic mutations are known in maiz.[1], *Antirhinum majus*[2], *Nicotiana*[3] and many other plant species. A large number of spontaneous and induced mutants are known in jute (*Corchorus capsularis*), but the mutation reported presently was not comparable to any of the existing ones and thus it deserved detailed investigation.

Deep serrated narrow leaf is a monogenic recessive (*sr*) character in this species[1]. Plants were scored from the inbred population of 'Tripura' (*sr sr*) and from a recombined line, homozygous for *sr*, isolated from F_6 of 'JRC 212' × 'Tripura' cross. 'Tripura' and the recombined line were grown in the field. Till flowering all the plants produced leaf phenotype characteristic of homozygous recessive, *sr sr*, but at flowering stage some of them produced one or two branches with normal leaves (Fig. 1) indicating that the branches were either genotypically homozygote or heterozygote for *sr* allele. The frequencies of deep serrated narrow leaved plants producing normal leaved branches in different years are presented in Table I. The frequency of plants with normal leaf branch in wild type, 'Tripura' and in the derived recombined line did not differ much indicating mutability of this particular gene in question is independent of altered genetic background and the mutability is associated with *sr* allele itself. The percentage of overall mutation was 0·05, which is considerably higher than what is normally expected in the case of spontaneous mutation. The selfed progenies from the normal and mutant leaved branches were found to be true breeding in the following generation indicating that both the homologous *sr* alleles in the parent plants mutated to *Sr* before flowering, a stage of active growth. Bulk population from the normal leaved (*Sr Sr*) plants in the next generation showed that out of 530 plants 39 or 7·36% had deep serrated narrow leaf, a phenotype of *sr sr* and the rest

TABLE I

The frequency of plants showing mutation in sr *locus of* Corchorus capsularis

Material	Year	Number of mutant plants showing normal branch*	Total number of mutant plants observed
Tripura	1976	1 (0·11)	900
sr sr	1977	1 (0·08)	1245
	1978	1 (0·05)	1870
	1979	1 (0·05)	1889
	1980	2 (0·08)	2378
Total		6 (0·07)	8282
Recombined line	1979	1 (0·02)	4867
sr sr	1980	3 (0·07)	4122
Total		4 (0·04)	8989
Grand Total		10 (0·05)	17271

* Figures in parentheses are percentages.

FIG. 1. A plant of 'Tripura' at flowering stage showing (→) a branch with normal leaves.

491 or 92·64% were of normal phenotype. These observations suggest that the *Sr* alleles originating from *sr* mutated back to *sr* alleles in the later generation. However it is not certain whether the mutation of *Sr* to *sr* occurred at pre- or post-meiotic stage.

The high frequencies of mutations as observed in the experimental populations are not usually expected in the case of a spontaneous mutation process. The nature of mutation and the transmission of mutability strongly suggest that *sr* allele presently reported is unstable one. The occurrence of mutation in either direction $sr \rightleftharpoons Sr$, further suggests that *Sr* allele in association with a controlling element expresses the mutant phenotype. This controlling element, on association or dissociation with the allele, renders change in the expression of the allele and its stability, characteristic of a controlling element. Further elucidation of this mutable system is being attempted.

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