

TABLE I

Total yield in Kg per treatment in sterile and fertile group of potato varieties

Group	Variety		Total yield in Kg per treatment	S.E.
Sterile group	Up-to-Date	T <sub>1</sub>	229.30 ±	1.10
		T <sub>2</sub>	189.20 ±	4.51
	Kufri Kumar	T <sub>1</sub>	184.50 ±	2.05
		T <sub>2</sub>	175.70 ±	0.99
	S.E. for treatment means = 3.00 Kg C.D. at (0.05) = 9.55 Kg			
Fertile group	Kufri Safed	T <sub>1</sub>	138.40 ±	1.90
		T <sub>2</sub>	127.60 ±	0.55
		T <sub>3</sub>	138.50 ±	3.40
	President	T <sub>1</sub>	147.00 ±	3.55
		T <sub>2</sub>	149.00 ±	5.95
		T <sub>3</sub>	157.40 ±	6.00
	S.E. for treatment means = 1.10 Kg C.D. at (0.05) = 3.34 Kg			

gave higher yield than where normal flowering took place.

In fertile group of varieties, reverse effect on yield was observed among the treatments though it was not significant. In variety Kufri Safed slight gain in yield was observed in the treatments where the buds were nipped over the treatment where the flowering was allowed.

Berry formation in both the fertile varieties has shown a little increase in yield over the treatments where only flowering was allowed. In variety, President the treatment with normal fruit setting has shown an increase in yield of about 6% over the treatments where flowering took place or where the flowering was checked by nipping the buds.

It is evident that the effect of the phenomenon of flowering and/or berry formation is different in sterile and fertile varieties of potato. In sterile varieties of potato flowering influenced the tuber yield. However, in fertile varieties flowering, berry setting and tuber yield have a very different relationship. It is evident that at least in cultivated potato varieties, berry formation does not reduce the tuber yield but in some way has shown a slight increase. In *S. demissum*, however, a very significant reduction in tuber yield has been shown following berry development<sup>4</sup>.

We are thankful to Dr. M. D. Upadhyaya for his helpful suggestions.

Central Potato Research  
Institute,  
Simla-1 (H.P.),  
December 14, 1971.

J. P. SINGH.  
V. K. GARG.  
T. R. DAYAL.

1. Bartholdi, W. L., *Min. Agric. Expt. Stn. Tech. Bull.*, 1942, p. 150.
2. Mitra, A. K. and Bose, C. C., *Ind. Jour. Agri. Sci.*, 1953, 23, 13.
3. Snell, K., *Angew. Bot.*, 1923, 5, 23.
4. Provdfoot, K. G., *Eur. Potato J.*, 1965, 8, 118.

### **RICCIA PERSSONII KHAN—A NEW RECORD FROM INDIA**

*Riccia perssonii* was instituted by Khan<sup>2</sup> from East Pakistan. Subsequently, it was reported from South Africa by Arnell<sup>1</sup>. A species of *Riccia* answering to the description of *R. perssonii* has been collected from a suburb of Gorakhpur. This species has not been reported from India so far.

The species is restricted to the swampy margins of 'Turra Nala'—a broad channel of water which originates in the foot-hills of Nepal and flows through Tilkonia and Ramgarh forest ranges of Gorakhpur. The plant grows well in exposed and shaded areas, mixed with other species of *Riccia*, such as *R. cruciata* Kash., *R. billardieri* Mont. et N., *R. crystallina* Linn. and *R. plana* Taylor. It prefers neutral sandy or loamy well aerated soil with low nutrient content.

The species makes its first appearance during the midwinter season (January) as a small yellowish-green, spongy thallus, distributed irregularly on the swampy substratum. The production of sporophytes on the thallus starts towards the end of February or early March and continues till the advent of unfavourable summer season. The plants disappear by mid-April.

The species is dioecious and possesses dimorphic thalli. The male plants are smaller than the female and grow adpressed over them. The thalli are light green, 0.8 to 1.3 cm long; 2 to 3 times or more dichotomously branched (Fig. 1, a) and never form a complete rosette. The dorsal groove is marked near the apex only. Scales and cilia are indistinct. The assimilatory zone comprises of irregularly placed polyhedral air-chambers, surrounded by one-celled thick parenchymatous partitions whose cells are full of chloroplasts (*Ricciella* type thallus). The storage zone is compact and its lower-most layer bears the usual two types of rhizoids.

The sporogonium, which is nearly spherical (1.0 to 1.02 mm in diam.), becomes dark-brown or black in colour at maturity. It is completely embedded in the thallus and



contains tetrads of characteristic isobilateral spores (Fig. 1, b and c) which are unlike any

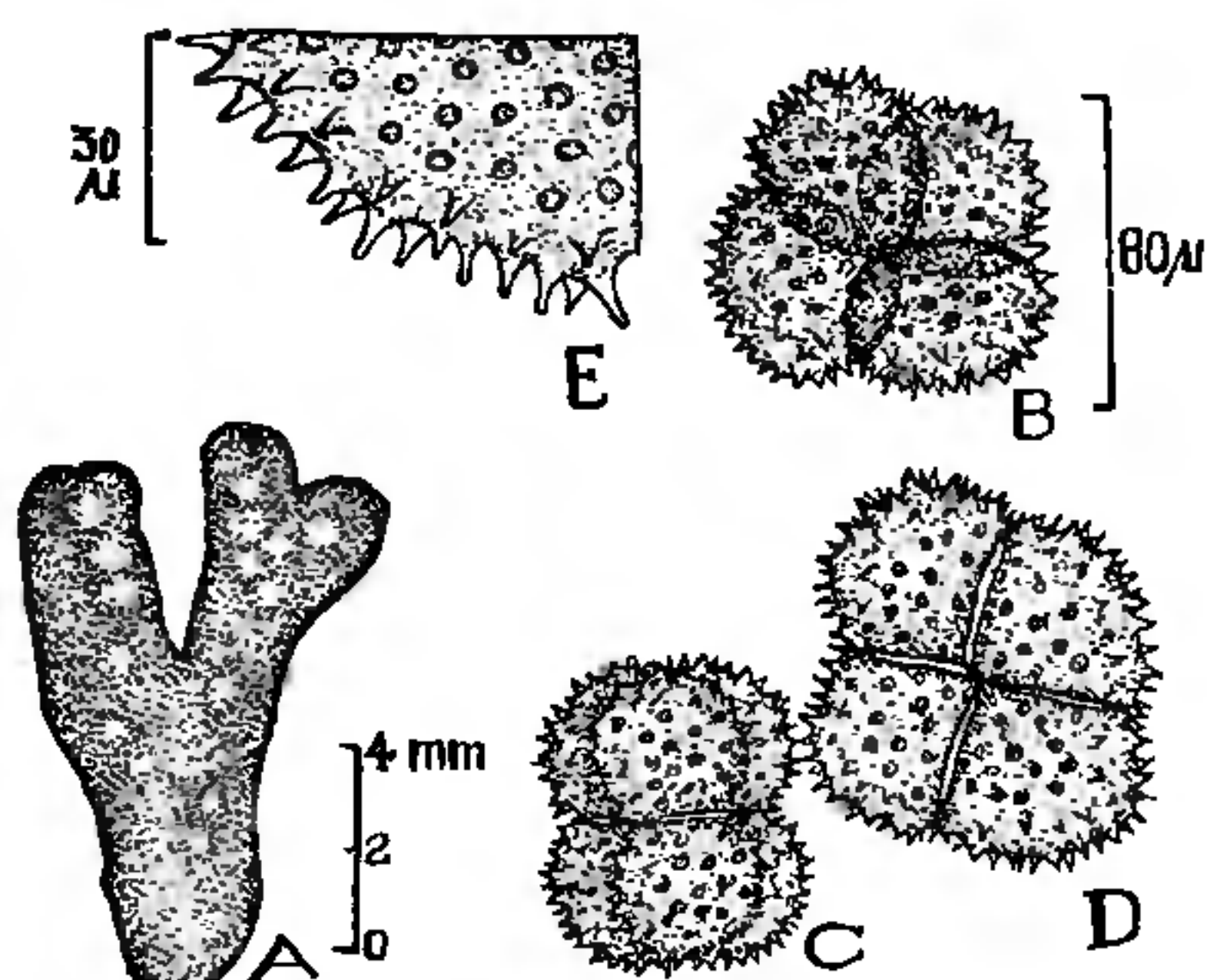


FIG. 1  
*RICCIA PERSSONII* KHAN

FIG. 1. a-e. *Riccia perssonii* Khan. a, A female plant; b-d, Spore tetrads in different views; e, Detail of papillate outgrowths on the exosporium of a spore.

other species of *Riccia*. The spores were always found adhered in tetrads. In size, the tetrads range from 100 to 110  $\mu$ . The mature spores are 47.5–50.0  $\mu$  in diameter, dark brown in colour and have numerous well-marked papillate projections on their exosporium. The projections are 45 to 60  $\mu$  long.

The authors are thankful to Professor K. S. Bhargava, for providing laboratory facilities and to Dr. R. Udar, for his kind help in the identification of the material and preparation of the manuscript.

Department of Botany,  
Gorakhpur University,  
Gorakhpur (U.P.), India,  
December 14, 1971.

R. SAHAL.  
A. B. SINHA.\*

\* Present Address: Department of Botany, St. Andrew's College, Gorakhpur.

1. Arnell, S., *Hepaticae of South Africa*, Stockholm, 1963.
2. Khan, S. A., "*Riccia perssonii*, a new and interesting species from East Pakistan," *Sr. Bot. Tidskr.*, 1956, 49, 433.

## A NEW SPECIES OF *TREMATOSPHERA*

In August 1971, during a general survey of fungi at Mt. Abu, the authors observed an interesting ascomycetous fungus on drying leaf bases of *Phoenix sylvestris* Roxb. The collected specimen was sent to the CMI, Kew, where it was identified as *Trematosphaeria* sp. Earlier,

Chona *et al.*<sup>1</sup> had observed *Trematosphaeria jasmini* on dead and drying twigs of *Jasminum* sp. from Simla. However, the present fungus differs from the other species of *Trematosphaeria* in the size and general morphology of the perithecia, asci and ascospores. It is, therefore, described as *Trematosphaeria abuensis* sp. nov.

*Trematosphaeria abuensis* SP. NOV.

Perithecia separate, gregarious, erumpent, globose with pointed tips, carbonous, black, measuring 1–1.6 mm in diam. (Fig. 1);



FIG. 1, Photograph of perithecia,  $\times 10$ .

asci clavate, bitunicate, tapering at the base, 220–363  $\times$  27–32  $\mu$ ; paraphysate, paraphyses filiform, hyaline; ascospores 8 in each ascus, biseriate, olive-green, fusiform, straight or curved, at first bicelled, later becoming 3–7 septate, obtuse at the ends, 75–84  $\times$  14–16  $\mu$  (Fig. 2).

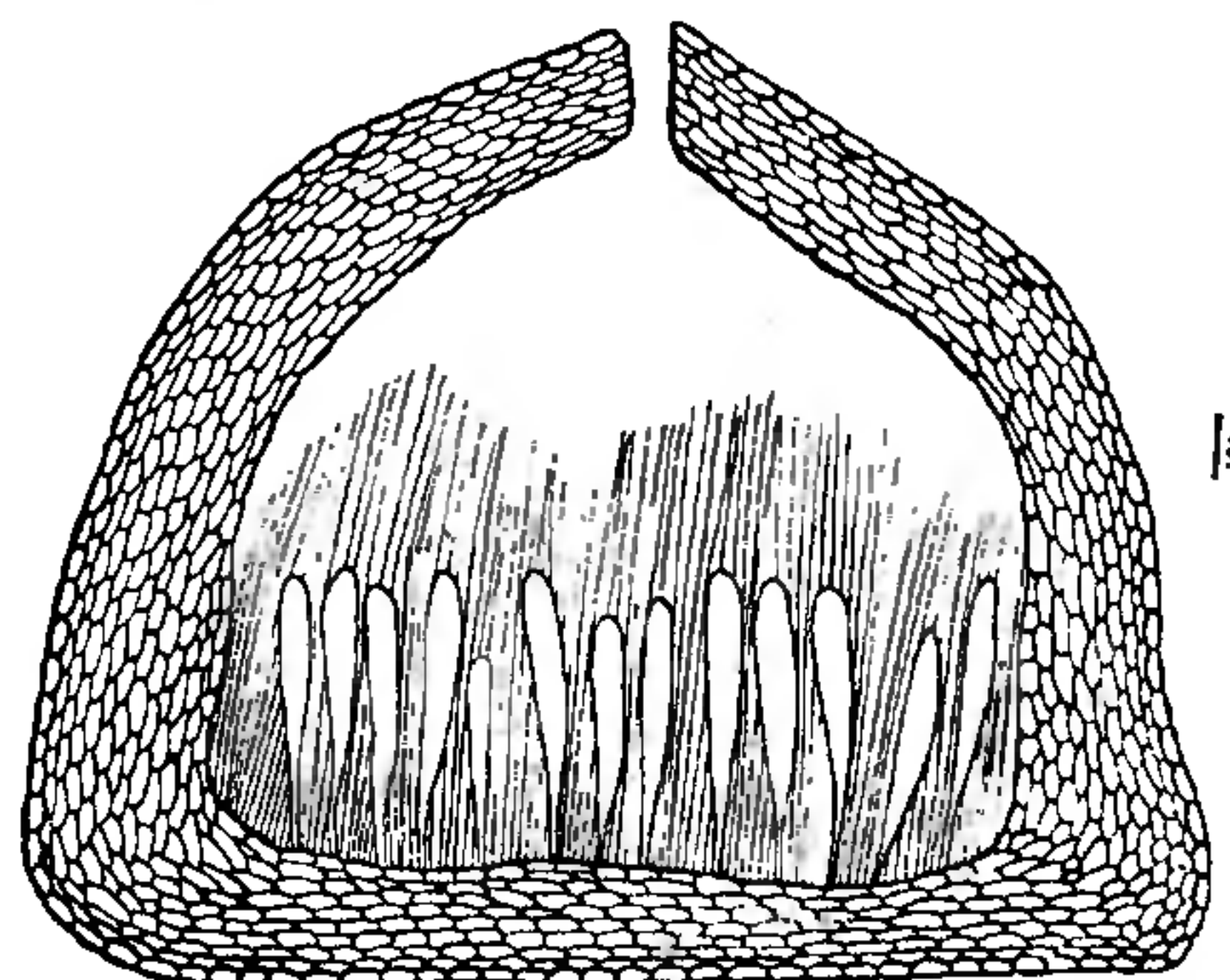


FIG. 2. Camera lucida drawings of (a) Ascocarp.

Specimen deposited with CMI, Kew, No. IMI 159622.

Coll. No., J.U.M.L. 68.

On drying leaf bases of *Phoenix sylvestris* Roxb., Mt. Abu, August, 1971.