

TABLE II

Changes in chlorophylls, proteins, phenols, lignin and dry weight during the growth of cucumber seedlings treated with α -tocopherol

(Values are means \pm S.D. of 3 replications)

Aspects	TREATMENTS				
	Control	10 ppm	20 ppm	50 ppm	100 ppm
1. Total chlorophylls	1.5 \pm 0.1	1.7 \pm 0.1	1.7 \pm 0.1	1.7 \pm 0.1	1.6 \pm 0.3
2. Total Proteins	47.9 \pm 3.8	52.2 \pm 5.8	58.2 \pm 4.4**	46.4 \pm 6.1	39.8 \pm 4.0**
3. Total Phenols	20.3 \pm 3.6	19.0 \pm 4.2	16.1 \pm 3.7	25.4 \pm 2.3*	28.8 \pm 5.7*
4. Total Lignin	920.5 \pm 68.4	980.2 \pm 45.7	1106.6 \pm 62.5***	786.7 \pm 62.8**	653.4 \pm 79.3****
5. Dry weights (mg)	22.3 \pm 3.2	23.9 \pm 1.5	25.8 \pm 2.9*	22.1 \pm 3.5	21.0 \pm 3.4

Note: 1. expressed as mg/g fresh wt., 200 mg of cotyledonary leaves per replication.
2. expressed as mg/g dry wt., 100 mg of dry powder per replication.
3. expressed as μ g of caffeic acid/g fresh wt., 10 g of fresh material per replication.
4. expressed as μ g of caffeic acid/g dry wt., 50 mg of dry powder per replication.
*P = 0.05 **P = 0.02; ***P = 0.01; ****P = 0.001; P = Probability.

10 and 20 ppm was correlated with increase in seedling growth. Combs and Scott¹¹ observed that vitamin E maintains the integrity of cell membranes. It appears from the present study that vitamin E is closely associated with lignin biosynthesis in plants. This observation clearly indicates that vitamin E maintains not only the integrity of cell membranes but also that of the cell wall. The total phenols were less (-5.9 and -20.5% over control) in growth promoting concentrations of vitamin E, i.e., 10 and 20 ppm while they were more (+25.4 and +42.3% over control) in growth inhibiting concentrations (50 and 100 ppm) respectively. This indicates that vitamin E is probably associated in retarding the synthesis of inhibitory phenols.

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Department of Botany,
S.V. University, Tirupati,
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P. GOPALA RAO,
Y. KALPALATH,
J. K. RAMAIAH.

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A NEW SPECIES OF MYROTHECIUM FROM INDIAN ALKALINE SOILS*

Myrothecium viride spec. nov. (Fig. 1)

Hyphae hyaline, tenues, bis 2.4 μ in diam. Sporodochia rotunda—a vel irregularia, bis 2.0 mm diam, primo viridia vel demum leviter nigra, setae destitutae. Conidiophora ex hyphis fertilibus phialidibusque composita. Hyphae fertilis septatae, subhyalines, aggregatovirides. Phialides hyalines vel subhyalines, rectae vel levites curvatas, clavatae. Conidia continua, cylindrica, subhyalina vel leviter viridia, saepe 2-3 guttulatae, 3.1-9.2 μ \times 1.5-2.3 μ .

Lectus mense decembri anni 1967 ex solo 'Usar' (pH 8.0-9.5) ad Aligarh.

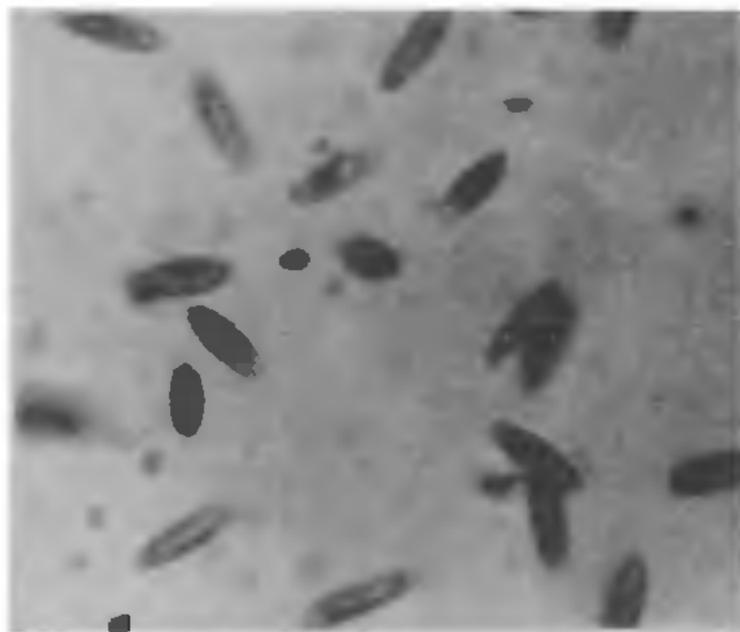


FIG. 1. Conidia, $\times 1,050$.

Colonies on potato-dextrose agar at 30°C after 12 days attaining a diameter of about 5.0 cms, creamish white, forming a dense mycelial growth with well defined margins, reverse yellowish. Hyphae hyaline, thin-walled upto $2.4\ \mu$ in diameter. Sporodochia produced after 4 weeks, without setae, circular or slightly irregular upto 2.0 mm in diameter, green at first then dark green and finally becoming slightly black in age. Conidiophores composed of fertile hyphae and phialides. Fertile hyphae subhyaline, green in mass, septate and so closely intertwined as to be almost inseparable and forming a very compact disc. Phialides hyaline to subhyaline, straight or very slightly curved and slightly clavate. Conidia continuous, subhyaline at first, becoming light greenish in age, generally 2-3 guttulate, cylindrical with blunt tapering ends, measuring $3.1-9.2\ \mu \times 1.5-2.3\ \mu$.

Isolated in December, 1967, from 'Usar' soils (pH 8.0-9.5) collected from Aligarh. Type, in the form of dried culture deposited in the Department of Botany, Lucknow University, Lucknow, India. A subculture has also been deposited in the Commonwealth Mycological Institute, Key, Surrey, England, as IMI-132173.

Myrothecium viride spec. nov. comes closest to *M. roridum* in the non-setose sporodochial section of the genus with cylindrical spores but differs from it clearly in the shape and size of spores. In *M. roridum* the spores have rounded ends with a median constriction¹⁻³ whereas, in the new species described here, the spores have blunt tapering ends and no median constriction.

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Division of Fermentation
Technology,
Central Drug Research Institute,
Lucknow 226 001, November 5, 1979.

S. C. AGARWAL.

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A NEW SPECIES OF *MYSTROSPORIELLA* (HYPHOMYCETES) FROM INDIA

Mystrosporiella was erected by Munjal and Kulshrestha³ with *M. litseae* Munjal and Kulshrestha as type species and since then it has been a monotypic genus (Ellis,¹⁻²). During October-November, 1976, the author collected a leaf spotting fungus on *Litsea chinensis* while making a survey of parasitic fungi of Gorakhpur region (U.P.) which after examination proved to be a *Mystrosporiella*. Since the type species of this genus has already been described on the same host, a large number of samples were examined. This led to the conclusion that the present collections are not assignable to *M. litseae* and should be a new species which is described here under the name *Mystrosporiella denticulata* sp. nov.

Conidiophori macronemati, mononemati, ex apicibus vel lateribus hypharum, plerumque gregatim (nonnumquam ad viceni) raro singillatim orientes, apicem versus valde ramosi, arboriformes, e stipite et capite complicato compositi; stipes cylindricus, crasse tunicatus, rectus vel parum flexuosus, distincte (ad quindecies) septatus, obscure olivaceo-brunneus, vulgo ad $665 \times 3.5-6\ \mu\text{m}$; cellulae conidiogenae polyblasticae, integratae, in ramis terminales, discretae, sympodiales, cylindricae, cicatricibus conspicuis notatae, denticulatae, valde geniculatae; conidia singularia, ut apices inflati orta, sicca, acropleurogena, simplicia, vulgo recta, nonnumquam arcuata, plerumque pyriformia vel clavata, aliquando cylindrica, crasse et leviter tunicata, interdum paulo ad septa constricta, apice obtuso vel rotundato, basi conicotruncata, septis transversis numero ad 10, longitudinalibus 1-3, et obliquis divisa, $23.5-62$ (vulgo 25-36) $\times 5.4-11\ \mu\text{m}$.

In foliis vivis *Litseae chinensis* Lam. (Lauraceae); Gorakhpur; Oct.-Nov. 1976; leg. R. P. Singh, 273; IMI 212579 Typum.

Infection spots amphigenous; colonies hyphohyllous, effuse, covering most of the leaf surface with age, brown to dark brown; mycelium partly immersed, partly superficial, composed of branched, septate, smooth walled subhyaline to pale brown hyphae measuring up to $3.5\ \mu\text{m}$ in thickness; conidiophores macronematous, mononematous, arising terminally or