of the presence of univalents and multivalents, meiosis was surprisingly regular in the induced polyploid.

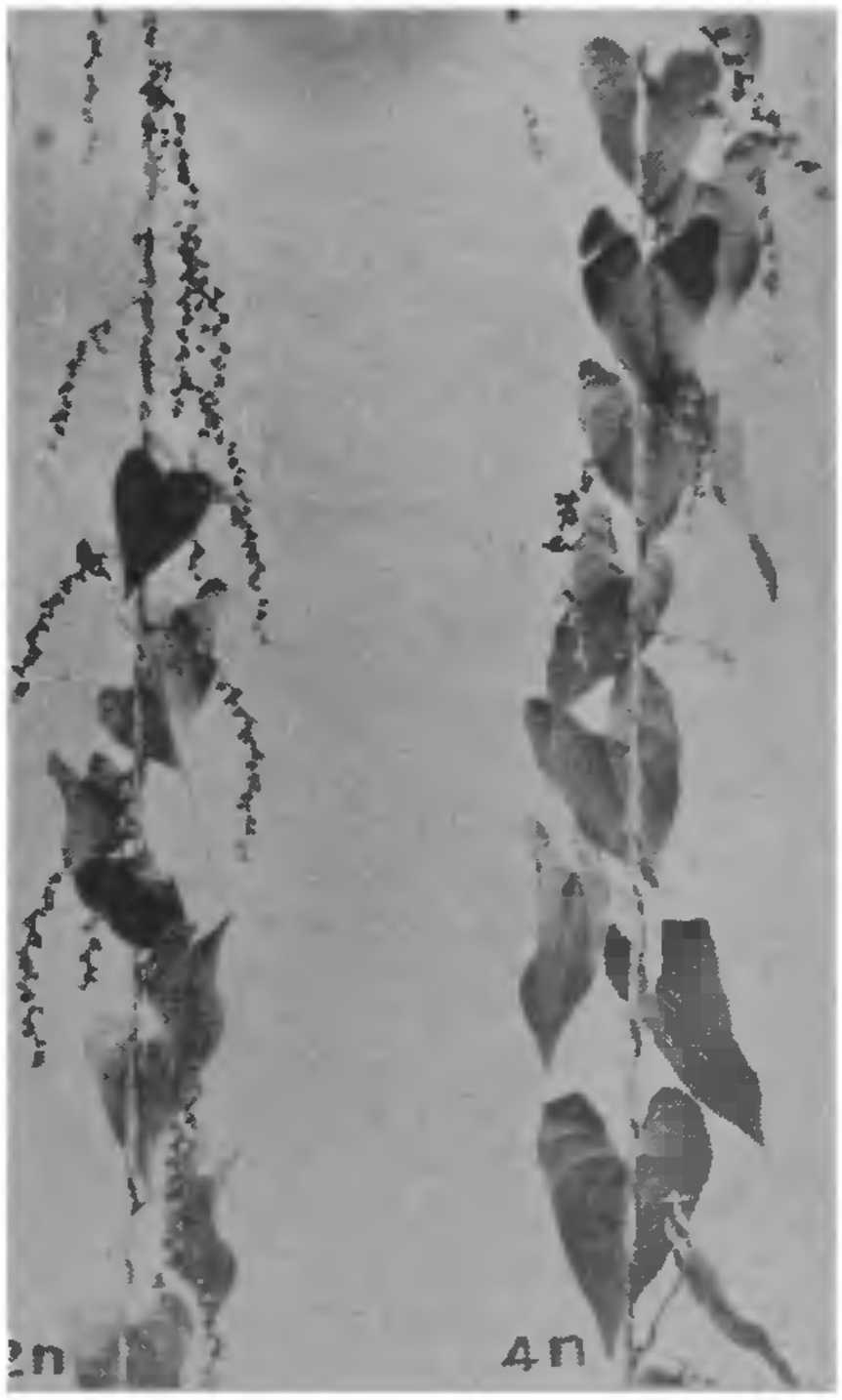

FIG. 1. Diploid (2*n*) and induced tetraploid (4*n*).

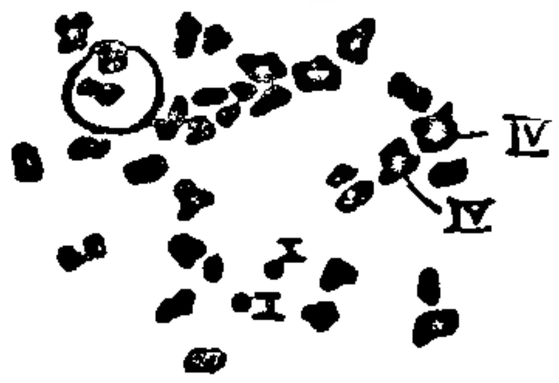

FIG. 2. Camera lucida drawing of a PMC at diakines is in the induced tetraploid (I: univalent; IV: quadri valent).

TABLE II

Chromosome configurations in the induced tetraploid

	Chromosome configurations			
	I	II	III	IV
Range	0–6	18–36	0–2	0–9
Total	38	1280	14	240
Mean/Cell	0·76	25·6	0·28	4·8

No laggards could be observed at any stage in spite of the presence of univalents at diakinesis. This may be due to a genetic control of the orientation of the univalents resulting in their regular disjunction. Pollen tetrads were normal and pollen fertility is the same as that of the diploid (80–100%). The practical utility of the induced tetraploid is under study.

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A NEW SPECIES OF *TERMITOMYCES* FROM INDIA

DURING the summer of 1976 a species of *Termitomyces* was collected in the lawns of the Regional Research Laboratory, Jammu and it is described here as a new species. Colour terminology used is that of 'Methuen Handbook of Colour'[1].

Termitomyces radicatus Natarajan sp. nov (Fig. 1 *a–d*).

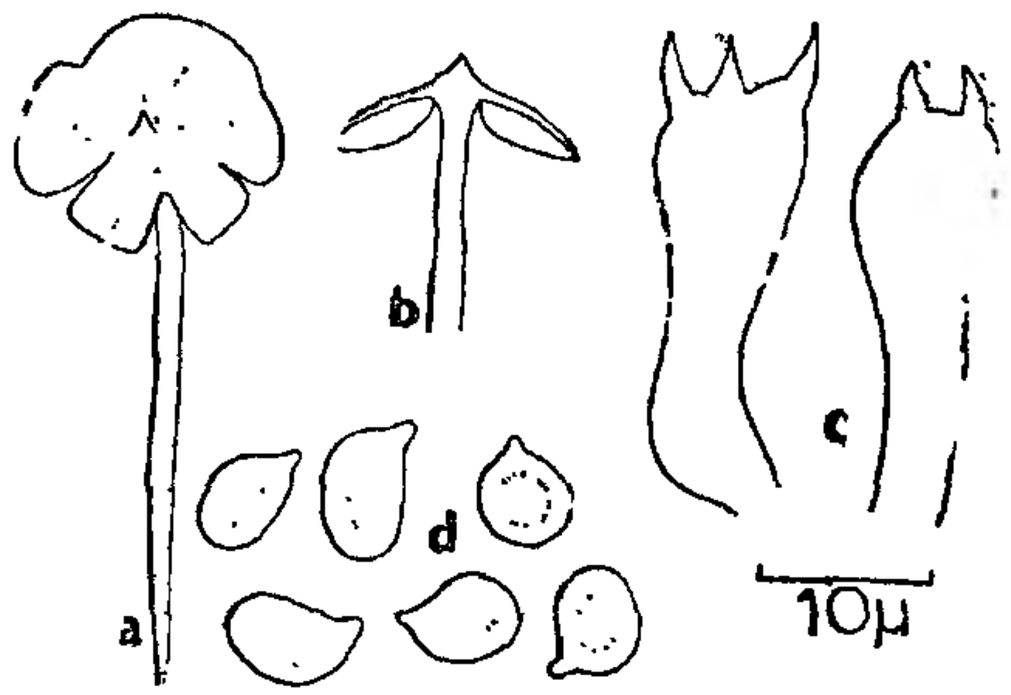

FIG. 1. *a*, Habit, × 2; *b*, Section, × 2; *c*, Basidia; *d*, Basidiospores.

Pileus ad 3·5 cm diametro, primo convexus, postea planconvexus, postremo vero planus, perforatorio spiniformo prominente, superficie croceo-alba (5A2), matrescente vero croceo-cinerea, laevis. Centrum pilei apud perforatorium vandyke brunneum (6F6). Superficies pilei epicutis hyphis repentibus, 1·5–4·0 μ latis, radiatim constantibus. Contextus ab epicute, strato hypharum hyalinarum inflatarum tenuidermarum

ad 37·5 μ, separabilis. Contextus succulentus, albus, ex hyphis tenuidermarum intextarum constantibus.

Lamellae discretae, albae, erubescentae, ad 4 mm latae. Lamellulae adsunt. Stipes ad 4·5 cm longus, uniformiter crassus, glaber. luteo-albus (4A2), ad croceo-albus (5A2), cylindraceus, solidus, sine annulo. Pseudorrhiza adsunt, ad 2·5 cm longa. Trama hymenophoralis regulares, hyphis tenuidermarum parallelarum ad septa constrictarum, constantibus. Basidia 20·0–22·0 × 6·0–9·0 μ, clavata, 4 sterigmata ferentia. Et cheilocystidia et pleurocystidia nulla. Sporae 6·0–9·0 × 4·0 – 5·0 μ, ellipsoideae, laeves, submicroscopio hyalinae, non amyloideae. Fibulae nullae.

In terra, in solo argillaceo, prato Regional Research Laboratory, Jammu, 7 August 1976. Coll. K. Natarajan.

Pileus up to 3·5 cm in diameter, convex, becoming plano convex to plane with a prominent spineform perforatorium, surface orange white (5A2) becoming orange grey (5B2) when mature, smooth. The centre of the pileus in the region of perforatorium vandyke brown (6F6) in colour. Pileal surface an epicutis, consisting of radially arranged repent hyphae 1·5–4·0 μ wide. The context is separable from the epicutis by a layer of inflated thin walled hyaline hyphae which are up to 37·5 μ. Context fleshy, white, consisting of thin walled interwoven hyphae. Lamellae free, white, becoming pink, up to 4 mm broad. Lamellulae present. Stipe up to 4·5 cm long and 5 mm broad, uniformly thick, glabrous, yellow white (4A2) to orange white (5A2), cylindric, solid and without annulus. Pseudorhiza present, up to 2·5 cm long. Hymenophoral trama regular, consisting of thin walled parallel hyphae, constricted at septa. Basidia 20·0–22·0 × 6·0–9·0 μ, clavate, bearing 4 sterigmata. Both cheilocystidia and pleurocystidia absent. Spores 6·0–9·0 × 4·0–5·0 μ, ellipsoid, smooth, hyaline under the microscope, non-amyloid, clamp connections absent.

On ground, clayey soil, Lawn of Regional Research Laboratory, Jammu, 7th August, 1976. Coll. K. Natarajan, Herb. MUBL No. 2353.

The presence of a dark coloured spiniform perforatorium and a short pseudorhiza and absence of pleurocystidia and cheilocystidia differentiate this species from other species of the subgenus Praetermitomyces like *T. microcarpus*,[2] *T. medius*[2], *T. orientalis*[3], *T. narobiensis*[4], *T. tyleriana*[1], *T. badius*[5] and *T. indicus*[6].

This species which occur in abundant quantities is edible.

Thanks are due to Rev. Fr. K. M. Matthew S.J., St. Joseph's College, Tiruchirapalli, for correcting the Latin diagnosis and to Dr. E. Horak, ETH, Institut für Spezielle Botanik, Zürich, for his valuable comments.

University Botany Laboratory, Madras 600 005, *July* 21, 1977. K. NATARAJAN.

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THE EXOCELLULAR UREASE IN RICE ROOTS

SEVERAL workers[1,3-5] have reported the occurrence of free exocellular enzymes in soils which can solubilize macromolecular constituents of organic soils permitting uptake and utilization of the resultant low molecular weight organic compounds by the plants. But the exocellular accumulation and nature of urease (EC–3.5.1.5) in the rice root tips has not so far been reported. The present work deals with the exocellular accumulation of urease, in 5 high yielding varieties of rice. The distinction has been made between (A) urease apparently bound to the root surface, (B) exocellular urease released into the culture medium.

Improved varieties of rice (*Oryza sativa* L. var. Ratna, Kaberi, CO–13, TN–1 and MTU–17) were soaked in water for 12 hrs followed by surface sterilization with a soak in 0·1% mercuric chloride solution for 15 minutes and finally washed several times with sterile distilled water. The soaked seeds were germinated in a sterile moist chamber at room temperature and used at an age of 4 to 5 days when the roots of the seedlings were *ca.* 50 mm in length. The inorganic nutrient solution was prepared as described by Yoshida *et al.*[6].

Two incubation methods were followed[1]. For method (A), 8 intact seedlings each *ca.* 50 mm in length, were incubated at 27° C with 2 ml of 10% urea and 13 ml of inorganic nutrient solution. At 3, 6, 9, 12 hours intervals one ml of the reaction mixture was removed and the amount of urea hydrolysed was determined by the standard method[2]. In the second method (B) the eight seedlings were suspended in tubes containing 13 ml of inorganic nutrient solution. Samples of 1 ml of the nutrient were removed from the tubes at 3, 6, 9, 12 hours intervals and incubated with 2 ml of 10% urea solution. Rates of the reaction were determined as per method (A) above.