

TABLE I  
Dry matter (percentage) of *Salvinia natans* treated  
with 2, 4-D

Duration of treatment (h)	Rhizome		Leaf	
	Control	Treated	Control	Treated
12	5.42	7.61	8.02	8.05
24	4.61	8.33	6.77	9.24
36	4.11	5.46	6.77	7.86
48	5.43	4.83	8.04	7.03
72	4.99	4.52	7.65	7.59
96	7.00	7.48	8.44	10.12

Variation in total and protein N in *Salvinia* may be due to the mobilisation and translocation of N from rhizome to leaves and *vice versa*. This becomes more pronounced in 2,4-D treated plants. Effects of 2,4-D treatment on various nitrogenous fractions have been reported and it was found that the turnover of total and protein N was more variable<sup>1-3</sup>. Other investigations indicate a lowering of N, break down of proteins and a temporary decrease in dry weight, followed by an increase<sup>4-7</sup>.

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#### OBSERVATIONS ON *PITHOMYCES ELLISII*

A cosmopolitan species of the genus *Pithomyces* Berk. & Br., viz. *P. chartarum* (Berk. & Curt.) Ellis causes facial eczema in sheep in New Zealand in addition to inhabiting in a wide range of plant substrates. While studying some *Pithomyces ellisii*<sup>1</sup> like forms, collected from various forest regions of Andhra

Pradesh and Orissa, the authors observed some noteworthy characters.

*Pithomyces ellisii* Vasant Rao and Chary<sup>1</sup> was collected on dead unidentified stems, twigs of *Lantana camara* Linn. and *Eucalyptus* sp., wood of *Tectona* sp., and bark of *Eugenia jambolana* Lam.; it also, grows as a mycoparasite upon the setae of *Excipularia naisapurensis* Subramanian. This is the first record of mycoparasitism in this species.

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#### ASSOCIATION OF THE CITRUS NEMATODE WITH GRAPE ROOTS IN A COMMERCIAL ORCHARD

A SURVEY of plant parasitic nematodes associated with grapes, *Vitis vinifera* Linn. undertaken during 1978 in commercial orchards around Bangalore revealed the presence of the citrus nematode, *Tylenchulus semipenetrans* Cobb, 1913 in Mane Estate, Kengeri, Bangalore, Karnataka. Adult females of the citrus nematode with egg masses were found attached to the roots of 'Anab-e-shahi' variety of grapes (Fig. 1).



FIG. 1. The Citrus nematode attached to the grape root.

Infected roots appeared encrusted, since soil particles adhered to the gelatinous matrix in which the nematode eggs are embedded. The nematode population in soil varied from 3,360 to 4,860 per 250 ml soil.



FIG. 2. The Citrus nematode detached from grape root.

Chona *et al.* (1965)<sup>1</sup> recorded the citrus nematode for the first time in India on grape roots from Abohar, Punjab. This is the first report of the citrus nematode on grape roots from South India.

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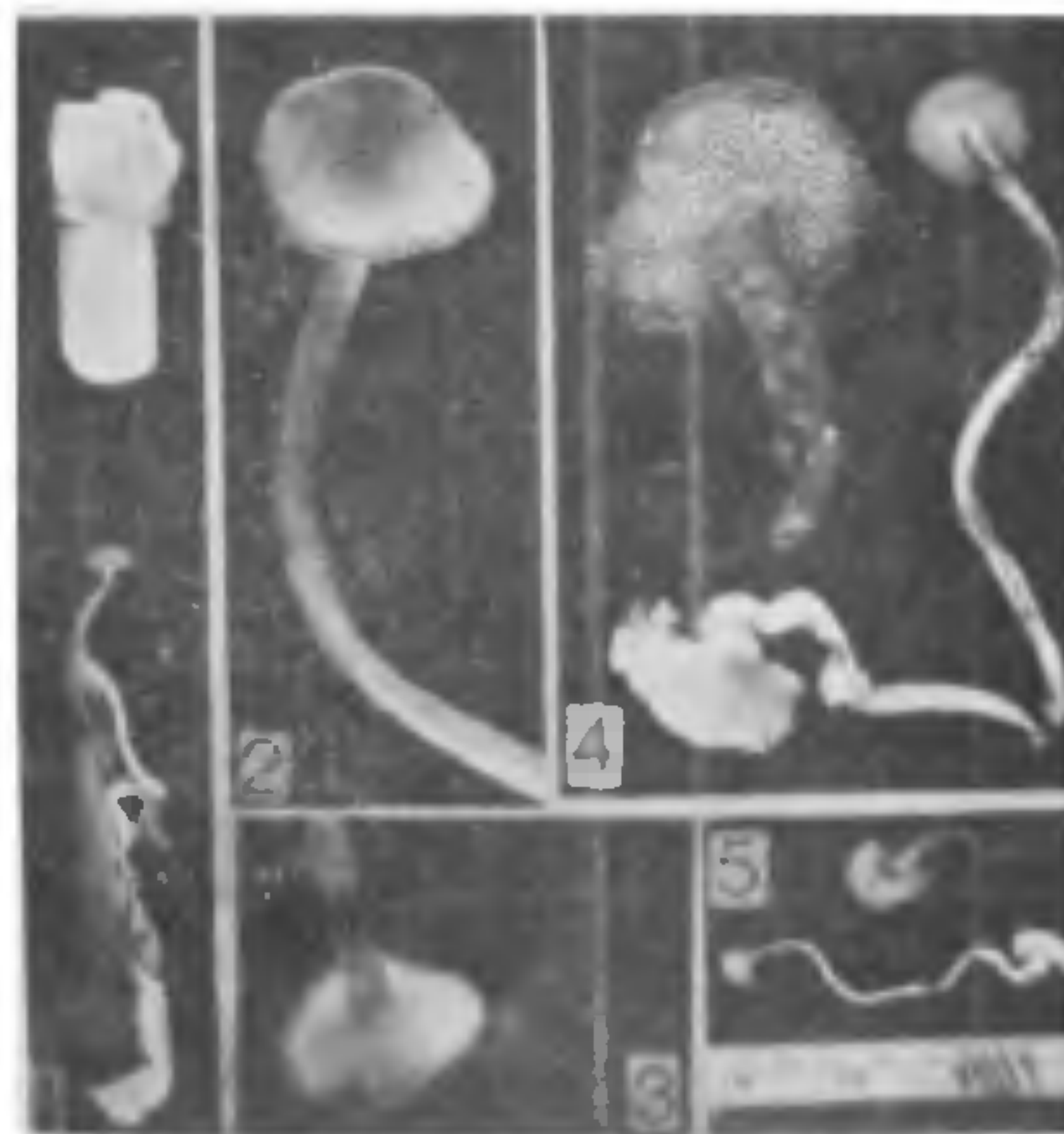
#### FORMATION OF TYPICAL BASIDIOCARP OF *POLYPORUS ARCULARIUS* BATSCH EX FRIIS IN CULTURE

THERE is no single set of optimum conditions for typical basidiocarp production in culture as virtually each species responds uniquely to environmental and nutritional conditions. Owing to this difficulty, report of success in this field of research is comparatively small<sup>1-8</sup>. In the present paper is described the typical basidiocarp production of *Polyporus arcularius* Batsch ex Fries in culture.

Sporophore of *P. arcularius* was collected from a dead wood of *Shorea robusta* Gaertn. Polysporous cultures were made from it on 2.5% malt agar slants. Some of them were incubated in complete darkness,

while others in the diffused light (alternating period of light and darkness) of the laboratory at room temperature ( $28 \pm 2^\circ \text{C}$ ). No stipe was found to develop in the dark-grown cultures even after 25 weeks, incubation. But diffused light of the laboratory induced stipe formation within 10-12 weeks of inoculation. At first the stipes were developed at right angle to the wall of the culture tubes, but soon they turned upwards and elongated vertically. The rate of growth of the stipes was rather rapid and reached a length of 7.5-8.0 cm within 48-72 hours when their further growth was stopped and their apical ends which were pointed became wider and knob-like. Within next 48-72 hours each knob-like apex gradually flattened and ultimately became transformed into a fully developed pileus (Fig. 1), developing pores underside and hairs throughout the edge.

The pilei were 0.7-0.8 cm in diameter with yellowish brown upper surface (Fig. 2) and white to cream coloured lower surface (Fig. 3). The stipes were straw coloured, cylindrical, 7.5-8.0 cm long and 0.1-0.2 cm in diameter. In comparison to natural carpophores, the pilei produced in culture were somewhat smaller and stipes much longer but less wider (Figs. 4, 5). However, all the hyphal elements, basidia and basidiospores produced in natural carpophores were also produced in cultural sporophores with similar morphology and measurements.



FIGS. 1-5. Fig. 1. Typical fructification of *Polyporus arcularius* Batsch ex Fries formed in culture tube (X 31). Fig. 2. Upper surface of the cultural sporophore (X 1). Fig. 3. Lower surface of the cultural sporophore (X 3). Fig. 4. Natural and cultural sporophore (X 2). Fig. 5. Natural and cultural sporophore (X 3/5).