

damage<sup>5</sup>. Despite several attempts to combat its menacing effects, this grub has not been found susceptible even to higher dosages of the commonly used soil insecticides<sup>5</sup>. There is therefore an immediate need for biological control of this pest.

From our fungal cultures isolated from saline soils (ECe 14.0 mmhos/cm) a fungus was identified by CMI, Surrey, Kew, UK as an entomophagous form of *Verticillium lecanii* (Zimmerm.) Viegas. The fungus culture was maintained on PDA slants and the seven-day-old culture was used throughout the experiment, which consisted of four treatments. For each treatment, 100 mg of fungal mass was macerated in 50 ml sterilized distilled water (SDW) giving two thorough washings each of 25 ml, thus making the total volume of fungal suspension (FS) to 100 ml. The roots of 20-day-old pearl millet plants were used as food material for white grubs in pots (diameter 37.5 cm, depth 10 cm) for all experimental work. Five second instar grubs were released in each replication. The first and second sets consisted of six and seven replications respectively. In the first treatment grubs were treated with FS for 5 min and released in pots; in the second treatment the root system of food material was dipped in FS for 15 min and in the third treatment the soil weighing 4 kg was treated with 100 ml FS. Control pots received SDW. The insecticidal effects of fungus were observed 10 days after the treatments.

The mean mortality of white grub was significantly superior over the control at 1% level of significance in all the three treatments (table 1). Interestingly, the fungus was more insecticidal to white grub through soil treatment, the mortality being 53% and 48% in the first and second sets respectively. The second set confirms the results of the first set.

**Table 1** Efficacy of *Verticillium lecanii* (V1) for the control of white grub

Treatments	Mean per cent mortality	
	I set	II set
	21.9.86 to 1.10.86	7.10.86 to 17.10.86
Grub + V1	26.61 (30.79)	17.14 (20.79)
Food + V1	33.33 (35.01)	28.57 (32.00)
Soil + V1	53.33 (46.92)	48.57 (45.82)
Control	00.00 (00.00)	00.00 (00.00)
C.D. at 1%	10.83	15.58

Figures in parentheses are angular transformed values.

*V. lecanii* is an established entomophagous fungus against several insect pests<sup>2,6</sup>. These results with white grub and *V. lecanii* are highly encouraging. It could be one of the several successful attempts for biological control of insect pests. It is hoped the present results would help encourage further experiments with white grub and *V. lecanii*.

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1. Battu, G. S., *Indian J. Entomol.*, 1978, **38**, 225.
2. Thoms, E. M. and Watson, T. F., *J. Invertebr. Pathol.*, 1986, **47**, 178.
3. Dabi, R. K., Mehrotra, P. and Shinde, V. K. R., *J. Entomol. Res.*, 1980, **4**, 231.
4. Ranganathaiah, K. G., Veeresh, G. K. and Govindu, H. C., *Curr. Sci.*, 1973, **42**, 432.
5. Anonymous, Final Research Report on Integrated Control of white grub, University of Udaipur, Campus Jobner, 1981, pp. 219.
6. St. Leger, R. J., Cooper, R. M. and Charnley, A. K., *J. Invertebr. Pathol.*, 1986, **47**, 167.

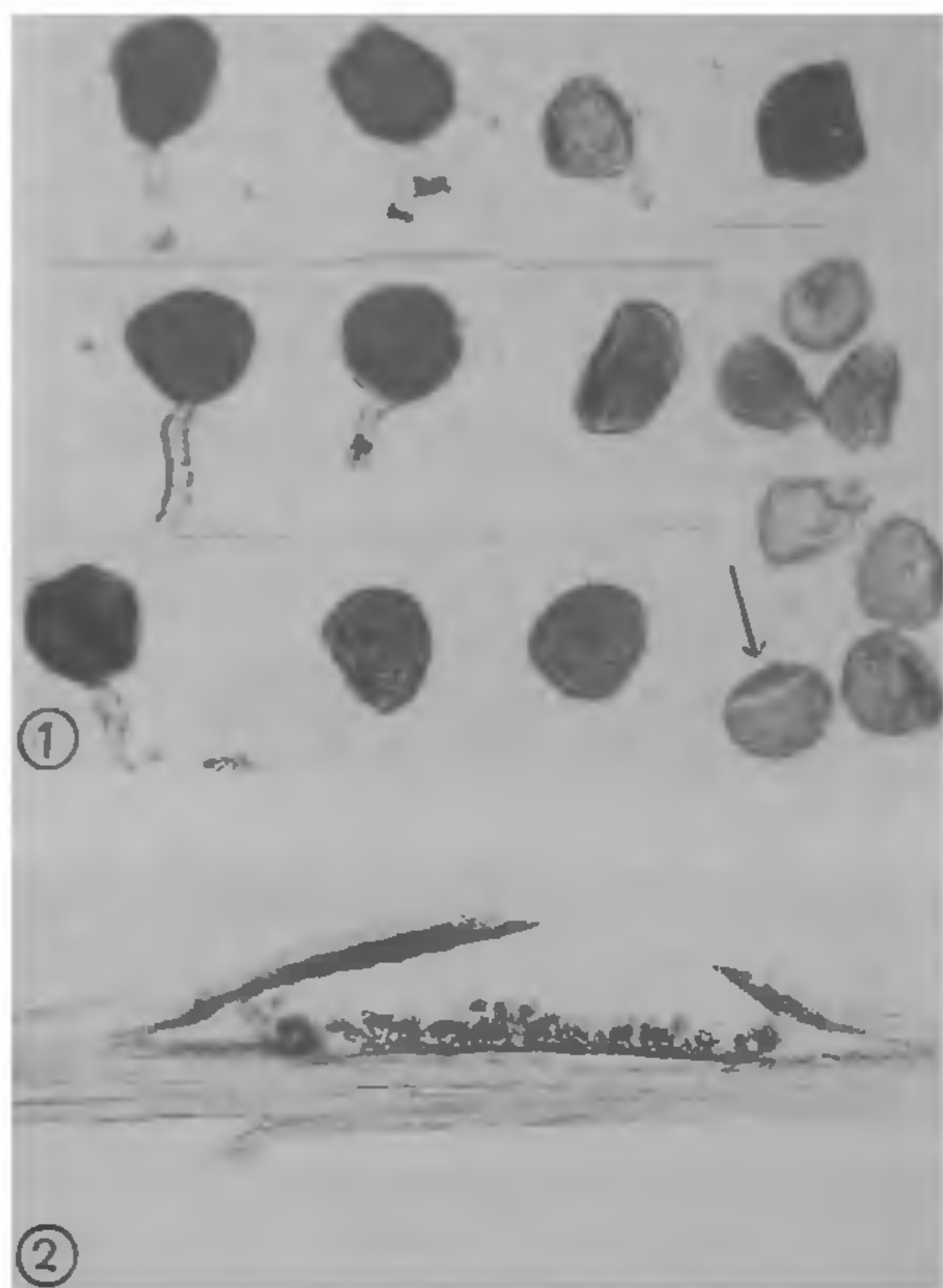
### SCYPHOSPORA PHYLLOSTACHYDIS KANTSCHAVELI, A NEW GENERIC RECORD FOR INDIA

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DURING a collection trip to Kerala an interesting Coelomycetous fungus was collected on bamboo. This was identified as *Scyphospora phyllostachydis* Kantschaveli<sup>1</sup>. The genus *Scyphospora* Kantschaveli is monotypic<sup>2</sup>. The fungus is briefly described in the present paper.

Conidiomata stromatic, linearly arranged, black, sub-epidermal, unilocular, flattened, 800–950 × 200–250 μm, glabrous, dehiscing irregularly (figure 2); wall tissue made up of pale brown, textura angularis in the outer layers, becoming hyaline in the inner layers. Conidiogenous cells arising from the inner most layers of the cells lining the bottom of the cavity, holoblastic, ampulliform to cylindrical, pale brown, smooth to slightly verrucose near the tips, 10–20 × 5–6 μm. Conidia amerosporous, brown, thick-walled, spherical to nearly triangular, with a longitudinal hyaline band on the flat surface, 25.5–37.5 μm in diam., often with an appendage at the base measuring 25–30 μm long and 3–5 μm wide (figure 1).



Figures 1 and 2. 1. Mature conidia ( $\times 450$ ). (Arrow shows the longitudinal hyaline band on the flat surface of conidium), and 2. Vertical section of the conidioma ( $\times 75$ ).

**Habit:** On dead *Bambusa arundinacea*, collected at Dam site, Silent Valley, Kerala, 6-12-1978. G. Sekar, Herb. MUBL. No. 2921.

Hino and Katumoto<sup>3</sup> briefly redescribed and illustrated the species, and Nag Raj<sup>4</sup> provided accurate details of conidiogenesis. The species was earlier reported on stems of *Phyllostachys nigra* var. *henosis* *Phyllostachys* sp. and *Shibataea kumasaca* from Japan and USSR. In the present study it is reported for the first time on *Bambusa arundinacea* from India.

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1. Sutton, B. C., *The Coelomyces*, CMI, England, 1980.

2. Kantschaveli, *Bol. Rast.*, 1928, 17, 87.
3. Hino, I. and Katumoto, K., *Icones Fungorum Bambusicolorum Japonicorum*, The Fugi Botanic Garden, 1961.
4. Nag Raj, T. R., *Icones Generum Coelomycetum VI*, University of Waterloo, Biol. Ser., 1974, Vol. 13.

### *ASPERGILLUS TERREUS* THOM. — A NEW RECORD AS FISH PATHOGEN

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*ASPERGILLUS TERREUS* Thom. has been isolated from stored grains<sup>1</sup>, some Egyptian cotton varieties<sup>2</sup>, birds<sup>3,4</sup>, nails and skins<sup>5</sup>, and many other living organisms. The present study is the first report of isolation of this fungus from haemorrhagic ulceratic patches of *Channa gachua* collected from a place in Chakia (North Bihar) where sugar factory's effluents are disposed off.

The infected fish showed dull grey-white fungoid patches over the body. Haemorrhagic ulceratic patches were observed on the gill and skin (figure 1). Fungus growth was seen on microscopic examination of gill and skin scraps stained with cotton blue. Small pieces of infected gill and skin, after crushing with glass rod in a watch glass containing water was centrifuged at 5000 r.p.m. for 3 min. The supernatant



Figure 1.