diophori micronematosi demonstro azure pigmentum in cytoplasma; conidia grandis, irregularia, multispetata oleagineo-ravae vel nigra, demonstro azure pigmentum in cytoplasma, ad $75 \times 65\ \mu m$ in diametrum. Typus positus in Herbario CMI Kew No. 244074.

Key to the taxa of Monodictys[3]

Conidia few celled, $10 \times 20 \times 7 - 14\ \mu$ . . . *asperospora*. Conidia many celled more than 20 μ wide . . . 1

1. Lower half of conidium paler than upper half . . . . . *melanopa*
   Lower half not paler 2
2. Conidia often quite deeply lobed, verruculose . . . . . *antiqua*
   Conidia not deeply lobed, mostly smooth 3
3. Conidia roughly oblong rounded at the ends . . . . . *lepraria*
   Conidia irregular in shape but roughly sub sphaerical . . . . . *fluctuata*
   Conidia irregular in shape and conidia and conidiophores showing blue green pigmentation. . . . . *indica* sp nov

Thermotolerance studies showed that *Monodictys* sp grew well at 26°C; the colonies attained 38 mm diameter by the end of 10 days of growth period on SDA medium. On the contrary, colony at 37°C measured 10 mm in 10 days. Rayner[4] colour chart was used in the description of the fungus.

Invasion of the already damaged skin by filamentous non-dermatophyte is not uncommon. In such cases the fungus survives in the necrotic tissue purely as a saprophyte[5]. The saprophytic nature of *M. indica* in the present case is emphasized by its spontaneous disappearance within two months, without any specific antifungal therapy. Such saprophytes but transitory fungi have also been reported[6]. The significance of such transients has not been understood. Nevertheless, the ability of *M. indica* to tolerate and grow fairly well at 37°C (10 mm in 10 days) and its survival on the skin suggest that this fungus may have the potential to parasitize man and animal tissues. However, we have at present no direct or indirect evidence of its pathogenic nature.

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ASSOCIATION OF *FUMAGO VAGANS* ON COCONUT LEAVES

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AN epiphytic association of *Fumago vagans* was noticed on the leaflets of 10–15 year old coconut palms (*Cocos nucifera* L) in the coconut groves of the Regional Agricultural Research Station, Pilicode, Kerala.

The fungi were found to occur as a sooty growth covering the dorsal surface of the individual leaflets. Occurrence of infection before separation of the leaflets resulted in webbing together of the leaves by the fungal mycelia. The infection persisted on the leaflets till the leaf matured without causing any deformation of the leaves. The fungi did not enter the host tissues to cause direct damage to the leaf.

A preliminary survey revealed that the extent of infection varied from 0 to 40% of the leaves.

The specimen was sent to CMI, Kew, England for isolation and identification. It was found to consist of a mixed culture of hyphomycetes and also *Cladosporium* sp. The term *F. vagans* is generally used for such mixed cultures (IMI No. 292571).

Leaf tissues of the infected portions of the leaflet were analysed for the chlorophyll content[1] and the

reduction in chlorophyll content varied from 3–30% depending on the extent of infection.

The authors thank Dr K. W. Minter, CMI, England for identification of the specimen.

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DIFFERENTIAL SENSITIVITY TO VARIOUS FACTORS OF AKINETE AND VEGETATIVE CELL IN GREEN ALGA *STIGEOCLONIUM PASCHERI* (VISCHER) COX AND BOLD

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STUDIES relating to differential sensitivity to various factors of green algal spores and vegetative cells are meagre. The present work incorporates the differential sensitivity to factors such as penicillin, streptomycin, chloramphenicol and extreme temperature, of akinetes and vegetative cells in *Stigeoclonium pascheri*.

The alga isolated from a freshwater pond at Sarnath, Varanasi, was grown in Bold's basal medium[1] at 22 ± 1°C under illumination of 2 K lux for 16 hr per day. The vegetative cells form discrete Caespitose or matted colonies on 1% agar plates. The akinetes appeared after 30 days from the day of inoculation of filaments and required another 30 days for maturation. The akinete harvested from the basal medium when transferred to fresh medium directly germinated into new filaments.

It has been reported that 8000 ppm of penicillin, and 400 ppm of each of streptomycin and chloramphenicol are lethal concentrations to the present alga[2]. In the present study akinetes were taken from 60-day old culture, whereas vegetative cells were obtained before the onset of sporulation from a 10-day old culture. Each sample was separately exposed at different time intervals, to a lethal concentration of penicillin, streptomycin and chloramphenicol. In another set of experiment they were at different time intervals exposed separately to extreme temperatures of 0, 45 and 50 C. Later they were inoculated on fresh mineral agar plates and transferred to culture chamber. The sensitivity of akinetes was estimated by measuring the percentage of germinated akinetes to the total number of akinetes. The sensitivity of vegetative cells was determined by counting the number of colonies that appeared on mineral agar plates.

The levels of sensitivity of akinetes soaked in each antibiotics for a particular time period to germinate and of vegetative fragments to form colonies were more or less similar (see table 1). The inhibition of the growth of the microorganisms by antibiotics is a result of interference with reactions that are essential for growth[3,4]. The same levels of sensitivity of akinetes and vegetative cells toward a particular antibiotic are probably due to the sensitivity toward the same levels of action of that antibiotic. It might also be due to the equal rate of penetration of a particular antibiotic into vegetative cells and akinetes responsible for the same level of sensitivity to that antibiotic.

The results of the exposure of akinetes and vegetative cells of *S. pascheri* to extreme temperature show that whereas the akinetes receiving exposure at 50°C for 6 hr retained viability, the vegetative cells exposed at 45°C for 12 hr died. The akinetes, similarly, were able to tolerate an exposure of 0°C for 3 days whereas the vegetative cells died when subjected to exposure with 0°C for only 1 day (see table 2). The akinetes of *S. pascheri*, therefore, can withstand extremes of temperature than the vegetative cells as seen in *Anabaena cylindrica*[5].

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Table 1 *Effect of pretreatment of antibiotics on germination of akinetes and survival of vegetative cells of S. pascheri*

Antibiotic	Time (hr)	Akinete germination (%)	Vegetative cell survival (%)
Penicillin (8000 ppm)	3	49.1	48 0
	24	13 6	13 2
	48	4 5	4 1
	72	2.7	2 3
	168	0.93	0.82
	240	0.00	0 00
Streptomycin (400 ppm)	3	42.9	41.3
	24	21.0	19 9
	48	0 82	0.87
	72	0 29	0.27
	168	0 00	0 00
Chloramphenicol (400 ppm)	3	40.3	39 7
	24	13 8	13.5
	48	2 1	2.4
	72	0.84	0 80
	168	0.00	0 00