The spine cell wall does not stain with protein. Pit connections between the cells stain darkly for protein (figure 6), showing the proteinaceous nature of pit connections[7]. The cytoplasm towards the periphery stains positively for protein. The central portion of the cells in the spine stains negatively for protein (figure 6).

The mode of development of spine in *C. clavulatum* is similar to that of *Ceramium* species[2]. The pit-connections between the cells of spine are similar to that of cortical and axial cells[10]. In certain members of *Ceramium* such as *C. fimbriatum*, *C. gracillium* var byssoideum and *C. tenerrimum*, large, thumb-like protrusions originating from the pericentral cells occur in the nodal bands of the thallus and persist for a long time[5]. The thumb-like protrusions correspond to the spines of other species of *Ceramium*[9]. Our observations on *C. clavulatum*, report for the first time, thumb-like protrusions which also correspond to the spines. This is also the first report on the histochemical nature of the spines. The copious extracellular polysaccharides secreted by spines are interesting and the exact function of such secretions and spines needs further studies.

The authors thank Professor M. R. Vijayaraghavan for guidance.

17 April 1986; Revised 8 July 1986

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A NEW SPECIES OF *PODOSPORIUM*

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DURING a survey of fungi from Aravalli hills, Rajasthan, the authors observed a growth on twigs of *Ficus religiosa* Linn. The fungus was found to be a new species of *Podosporium*. So far 3 species of this genus viz *P. rigidum* Schw, *P. nilgirense* (Subram) M. B. Ellis and *P. viticola* Munjal and Kapoor have been reported. The present fungus differs from the above species in having furcate conidia. The apical cell of the conidium is usually bifurcate to trifurcate. Due to these distinct morphological characters, the fungus is being described as a new species.

Podosporium furcatum sp nov Sharma *et* Panwar

Synnemata subulata, nigra, erecta, dispersa, 1–2.5 mm long, basi 80–250 μ lata, apice vero 30–60 μ. Filia conidiophora brunnea. 3–5 μ crassa per majorem longitudinem, apicibus cellulam conidiogenam ferentibus. Cellulae conidiogenae monotraticae, integratae, terminales. Conidia e poris apicalibus conidiophorum extrema inflata exorientia, obclavata ad fusiformia, pallidebrunnea, laevia, 5–15 septata, 70–160 μ longa, ad 11–23 μ lata, 4–8 μ

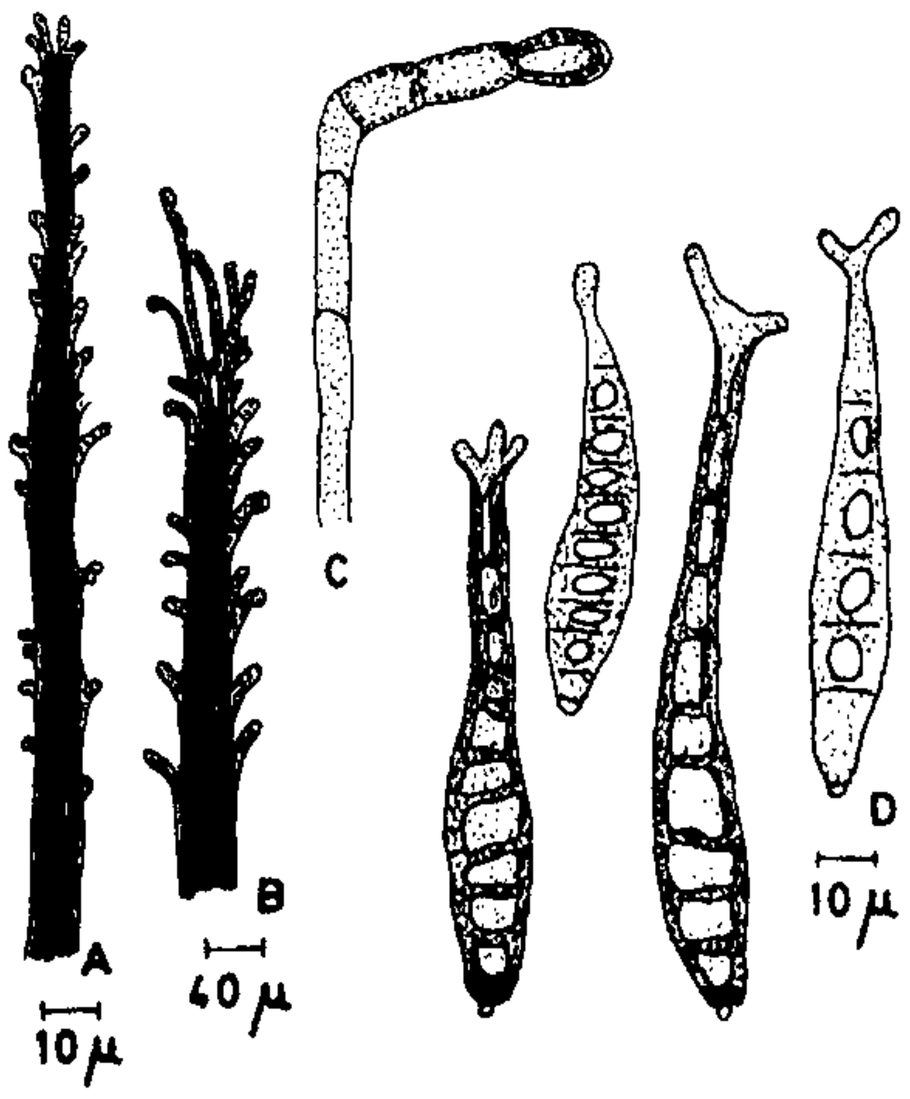

Figure 1 A–D. *Podosporium furcatum*. **A.** Synnema; **B.** A part of synnema with conidia; **C.** Conidiophores with conidium; and **D.** Conidia.

crassa ad basin truncatam, apice hyalina, 2-Vel 3-furcata.

Synnemata subulate, black, erect, scattered, 1–2.5 mm long, 80–250 μ at the base, 30–60 μ at the apex (figure 1A). Conidiophore threads brown, 3–5 μ thick along most of their lengths, bearing conidiogenous cell at the apex. Conidiogenous cells monotratic, integrated, terminal (figure 1B). Conidia arise as blown out ends from the pores at the apex of the conidiophores (figure 1C) obclavate to fusiform, pale-brown, snooth, 5–15 septate, 70–160 μ long, up to 12–23 μ broad, 4–8 μ thick at the truncate base with a hyaline apex bi or trifurcate (figure 1D).

On dead twigs of *Ficus religiosa* Linn collected from Gaumukh, Mt. Abu, August 1984.

Specimen deposited with C.M.I., Kew.

Herb. IMI 289328 and Botany Department, University of Jodhpur. Coll. No. JUML 955.

The authors are grateful to Dr P. M. Kirk for his help in identification of the fungus. Thanks are also due to Rev Fr K. M. Mathews for the Latin translation. Financial assistance from CSIR, New Delhi is gratefully acknowledged.

21 April 1986; Revised 11 July 1986

EFFECT OF AFLATOXIN B_1 ON MITOTIC INDEX

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AFLATOXIN B_1 (AF-B_1) is one of the most common and widely prevalent mycotoxins. It is a very strong carcinogen, liver being the most preferred target of attack[1]. As the carcinogenic property is a manifestation of the genetic damage and impairment in the mitosis-regulating system, it was considered essential to study the effect of this toxin on mitotic-index.

Two test-systems were selected for this purpose: (i) meristematic cells of onion (*Allium cepa*) root-tip, and (ii) bone-marrow cells of young weaning guinea pigs. For the first system, the bulbs (40–50 g wt) were grown for 48 hr over various concentrations of the AF-B_1 aqueous solution. Thoroughly washed tips were fixed in aceto-alcohol, and aceto-carmine stained squash preparations were made. Total number of cells in a particular field, and among them those undergoing mitosis were counted for calculating the mitotic-index. For the second system, the guinea-pigs were orally administered with aqueous solution of AF-B_1 daily for 16 weeks. At the end of this period, flame-dried giemsa-stained preparations of bone-marrow cells were made. The total number of mitotically dividing cells out of the erythroblasts seen in a certain focus was recorded. Randomness in both the experiments was achieved by standard procedure[2].

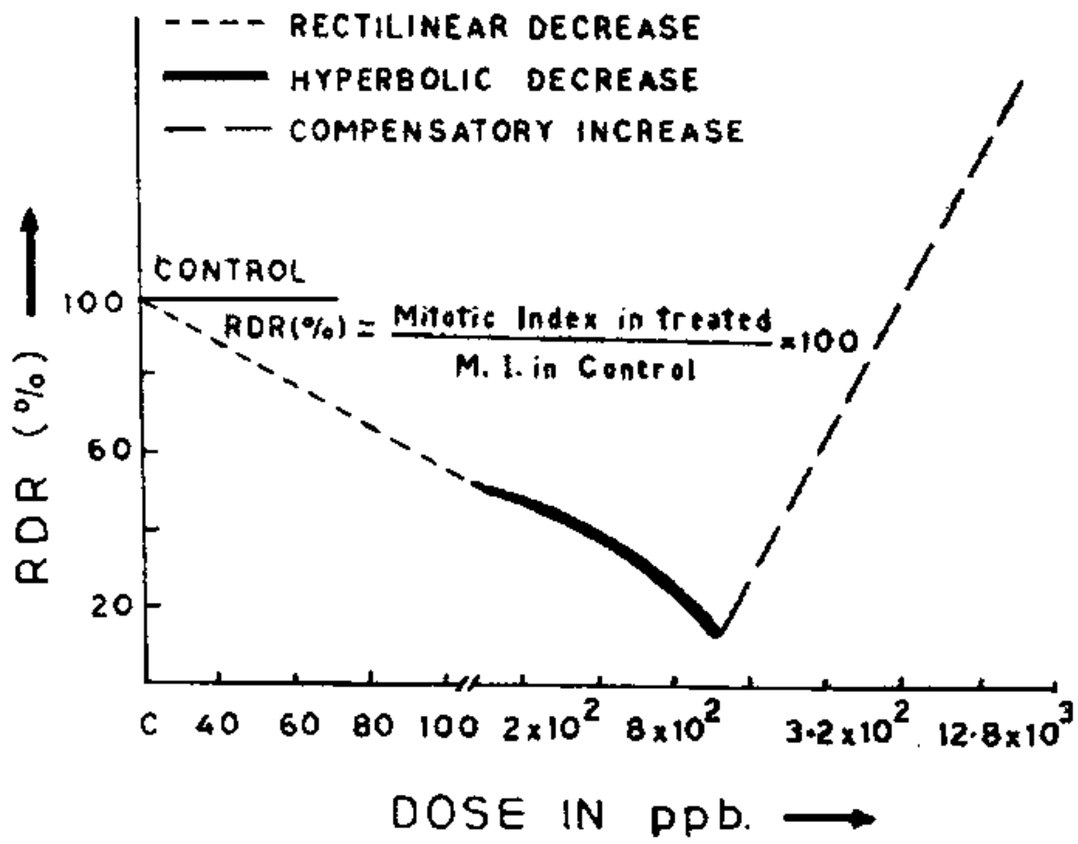

Figure 1. A diagrammatic representation of dose-rate dependence of mitotic-index after aflatoxin treatment.

A series of doses of the AF-B_1, ranging from 10^1 to 12.8×10^3 ppb were used in both the systems. The mitotic-index was expressed in terms of the relative division rate (RDR) which was, in fact, a percentile ratio of mitotic indices in treated organisms with respect to those in the corresponding control variants.

The results show a gradual decline in RDR value in the concentration range of 10^1 to 10^2 ppb, and this decrease was almost rectilinear in nature. In the concentration range of 1×10^2 to 8×10^2 ppb, although a further fall was recorded the nature of the curve was hyperbolic, and a stage was reached when the mitosis almost ceased. However, a sudden increase in RDR was noted at about 10^3 ppb concentration which continued to rise steeply surpassing even the control level (figure 1). It is thus evident that the lower concentrations of AF-B_1 are mito-inhibitory and the higher ones are mito-promotary.