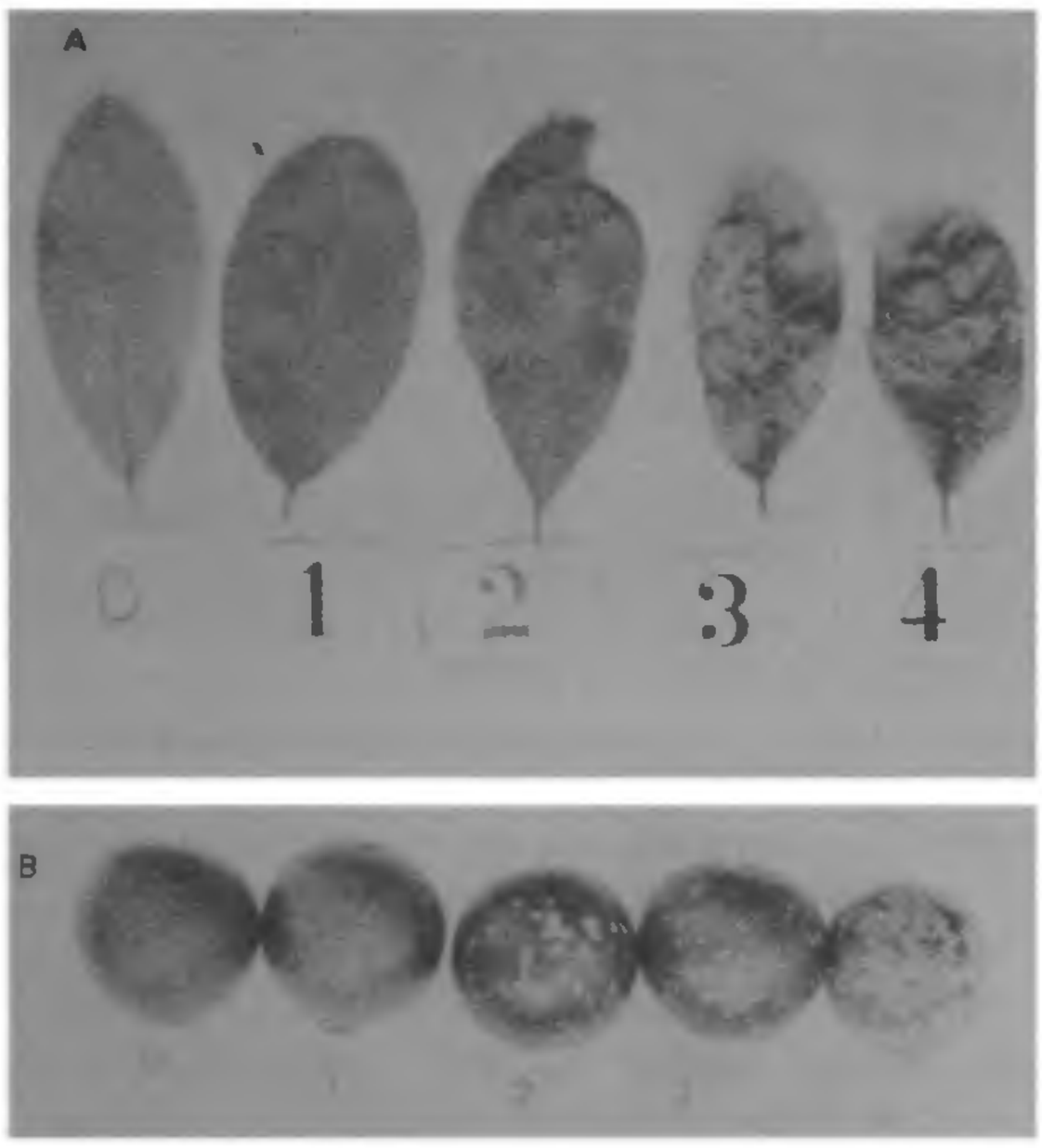

Figures 1A, B. A. Citrus scab on leaves, **B.** on fruits. 0 = Immune (No incidence), 1 = Resistance (Traces to 10 DI) 2 = Moderately resistant (10–25), 3. Susceptible (25–50) and 4 = Highly susceptible (> 50).

variety of grapefruit were reported[2]. In the present investigation Rough lemon and Rangpurlime strains had shown different degrees of resistance to scab. Rough lemon strains *viz* Shomyndong, Milam, Khattazamir, Brazalian Rough lemon and Chase Rough lemon were found immune to scab and they may be utilised in breeding for scab resistance. They also can be used as root-stocks if they satisfy other horticultural requirements.

10 June 1985

1. Anonymous, *Annu. Rep. Horticult., Res. Inst. Shahranpur*, 1961, p. 136.
2. Winston, J. R., Bowman, J. J. and Bach, W. H., *J. Agric. Res.*, 1928, **30**, 1087.

XYLOCHIA STEGONSPORIOIDES IN SOIL—A NEW REPORT

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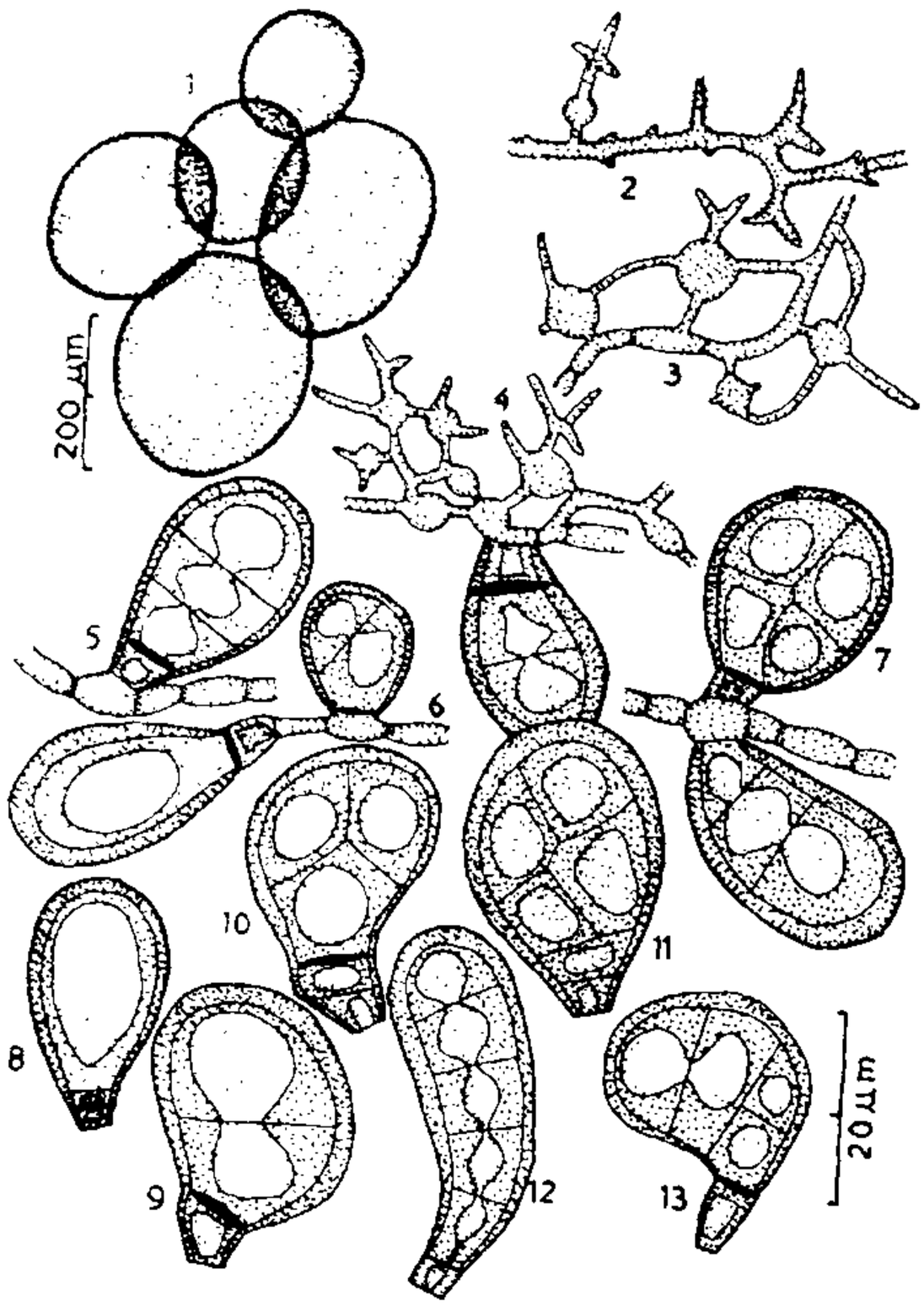
DURING the survey for hyphomycetes, the monotypic species of genus *Xylochia* Sutton was isolated from the soil. Therefore, the present note deals with the second isolate known of *X. stegonsporoides* belonging to the family dematiaceae. The culture has been deposited at the Commonwealth Mycological Institute, Kew, England as well as Indian Type Culture Collection, I.A.R.I., New Delhi, vide IMI-293746 and ITCC 3378 numbers respectively.

Xylochia stegonsporioides Sutton. In *Trans. Br. Mycol. Soc.*, **80:** 255–262, 1983.

Colonies on carrot potato agar medium cover 3.5 cm in two weeks at 25–30°C. Mycelium branched, septate, brown, smooth to slightly roughned, composed of cells 3–4 μm wide. Conidiomata oval to globose, pale brown to brown, 150–350 μm diam., indehiscent, composed of a loose network of irregularly and frequently branched septate, smooth, pale brown to brown hyphae 1–4 μm wide, with numerous small spherical bulbils 2–5 μm diam., leading to mycelioid structures or terminating in a bifurcated or trifurcated apex consisting 2–3 projections or gradually tapered in a single projection upto 7 μm long. Conidiophores formed from the branched hyphae comprising conidiomata, micronematous, irregularly or sparsely branched, pale brown, septate, smooth, 2–5 μm wide. Conidiogenous-cell integrated, intercalary, pale brown, smooth, producing one or more conidia holoblastically. Conidia solitary or in groups of 2–5, dry, smooth, golden brown, obovoid to pyriform, sometimes cylindrical, curved or inclined to one side, 22–35 × 15–20 μm, with basically 3, rarely upto 6 transverse and 1–2 longitudinal disto septa, but with increasing longitudinal and oblique septum formation becoming muriform, basal or penultimate septum often thickened 3–5 μm wide, lumina reduced, secession rhexolytic (figures 1–13).

In soil, IARI fields, New Delhi, Sept., 1978, P. N. Chowdhry. IMI 293746 and ITCC 3378.

The above soil isolate which was collected in Sept., 1978 differs with the type species of genus *Xylochia* Sutton in having faster growth rate, bigger conidiomata (upto 350 μm diam.), its wall consisting of numerous small bulbils leading to bi or trifurcated projection and more septate conidia.



Figures 1–13. 1. Conidiomata of *X. stegonsporioides*, **2–4.** Conidiomatal hyphae with numerous bulbils with mycelioid, bi- or trifurcated structures, **5–7.** Conidia arising from aerial mycelium, **8–13.** Conidia from conidiomata.

Sincere thanks are due to Dr B. C. Sutton, Chief Mycologist, Commonwealth Mycological Institute, Kew, England for confirming the identity of this fungus.

EFFECT OF AMMONIA ON ASSOCIATED SURFACE MYCOFLORA, SEED GERMINATION AND SEEDLING GROWTH OF *ABELMOSCHUS ESCULENTUS* L.

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FUNGAL deterioration of stored grains is high in tropical countries including India where the temperature and the relative humidity provide conducive environments for fungal growth. Ammonia is found to be effective in the treatment of grain against mould growth[1]. Ammonia is also known to have toxic effects on seeds and seedlings at a higher concentration[2, 3]. In view of this the present study was undertaken to find out the effect of ammonia on associated surface mycoflora, seed germination and seedling growth of *Abelmoschus esculentus* L.

The experiments were performed in specially designed air sealed polythene chamber (1 m^4). Various concentrations of ammonia were applied by using the techniques of Tyagi *et al*[2]. Surface mycoflora was isolated by using the blotter technique[4] and agar plate method[5, 6]. The isolated fungi were then grown and maintained on Sabouraud's Dextrose Agar. A loopful of conidia from these fungi was plated on agar plate and exposed to different concentrations (table 1) of ammonia for 30 min, simultaneously with the soaked and unsoaked seeds of *Abelmoschus esculentus* L. These treated seeds (5 seeds in each plate) were then grown in petri plates containing sterilized sand for five days. The agar plates were also incubated at 29° ± 1 for five days. Two replicates of each treatment and their corresponding control sets were also maintained. Radial growth of fungal colonies and root and shoot length of the seeds were measured after 5 days.

The experiments revealed that ammonia proved beneficial for seed germination and seedling growth at low concentration (5 ppm) for both the soaked and the unsoaked seeds (table 1). The higher concentrations (10 and 15 ppm) proved toxic to soaked seeds and 20 to 50 ppm proved toxic to unsoaked seeds while 20 to 50 ppm proved lethal to the soaked seeds. In the case of unsoaked seeds, 10 and 15 ppm concentrations of ammonia promote the growth of the shoot and root length while 20 and 50 ppm inhibit the growth of root and shoot length. The observation further shows that unsoaked seeds resist the inhibitory effect of ammonia better than soaked seeds; this might be due to their tough seed coat.