

stage of ontogeny, and spinulate and sparsely verrucate grains somewhere between baculate and pilate stages. However, the presence of tectum in spinulate and sparsely verrucate grains, thicker ectexine as compared to endexine and granulate surface pattern on the inter-excrecences region, are the features which deviate it from the normal ontogenetic line of the pollen, because such a tectum is absent in all other types. It is difficult to say at what stage these types developed and strayed. Perhaps, it can be envisaged that these types may be an off-shoot of the main developmental series at the pre-spinous stage, which emanated along an independent line, thus expressing the cytogenetical influence on those grains, caused by hybridisation.

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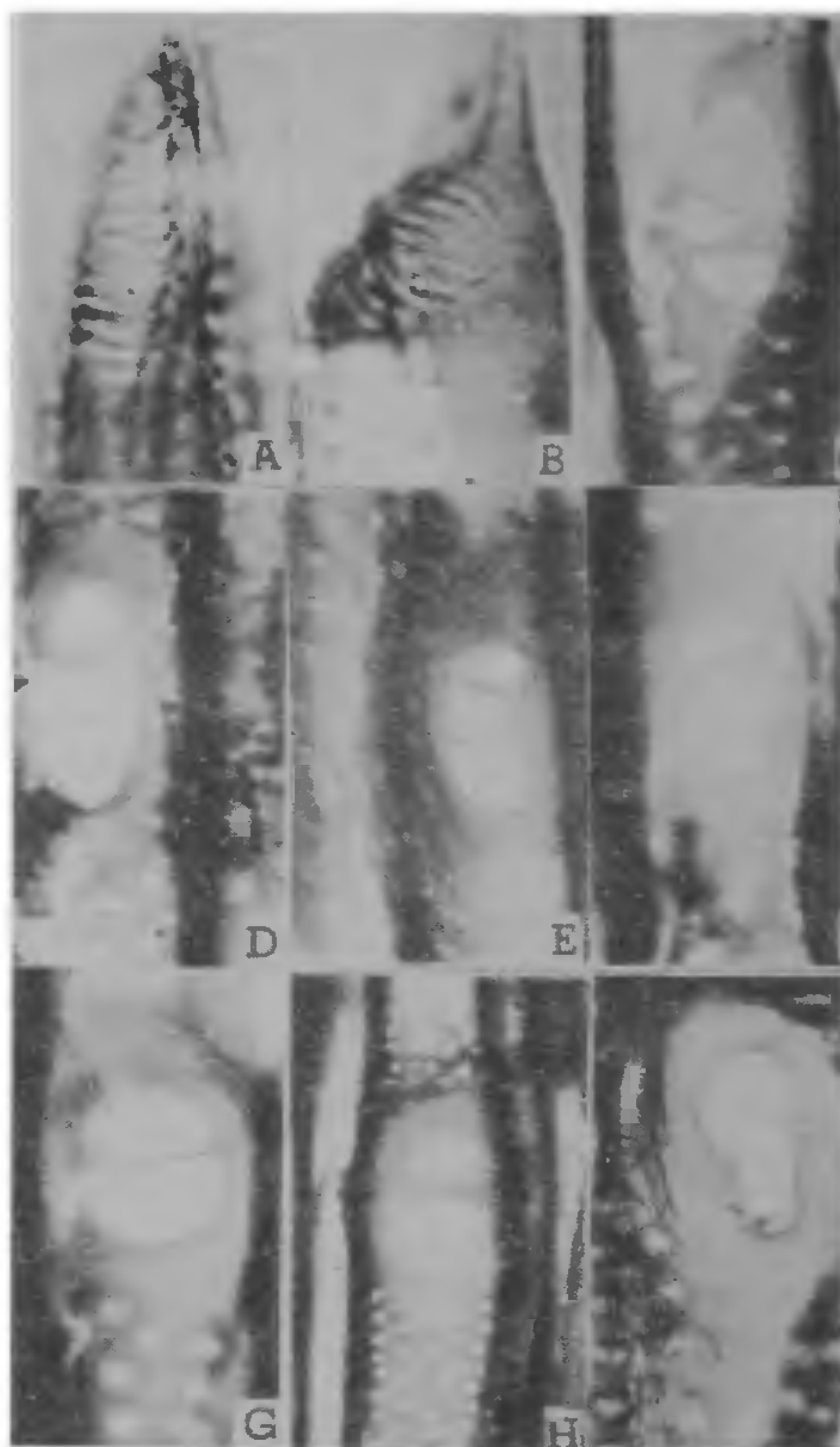
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### OCCURRENCE OF SCALARIFORM PERFORATION PLATES IN SOME VERBENACEAE

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THE perforation plates in the Verbenaceae are simple, but reticulate in *Vitex alata* Roxb, and scalariform in some species of *Vitex*<sup>1</sup>. However, it is contended by some authors<sup>2</sup> that they are exclusively simple in this family.

During the course of the present study on nodal and internodal vessels of 47 species belonging to 18 genera of the family Verbenaceae, it is found that perforation plates are simple except in *Petrea volubilis* Jacq., *Stachytarpheta indica* Vahl, *Verbena bonariensis* L., *V. officinalis* L., *V. stricta* Vent. and *V. urticifolia* L. where a few vessels are also with scalariform perforation plates. There is only one scalariform bar in *Stachytarpheta* (figure 1F), *V. bonariensis* (figure 1H) and *V. urticifolia* (figure 1G), 1-2 bars in *Petrea* (figure



Figures 1A-1H: 1. A,B,D. *V. officinalis*; C, *V. stricta*; E, *Petrea*; F,I, *Stachytarpheta*; G, *V. urticifolia*; H, *V. bonariensis*. A,G  $\times 1429$ , B  $\times 1200$ , C-F, I  $\times 1029$ , H,  $\times 429$ .

1E) and *V. stricta* (figure 1C) and 1-12 bars in *V. officinalis* (figures 1A, B, and D). However, no scalariform plates are observed in *Vitex leucoxydon* L. f., *V. negundo* L., *V. trifolia* L. and *V. trifolia* var. *intermedia* Hk.f.

Thus, our observations confirm the occurrence of scalariform plates leading to the formation of a simple ceae, but not in the species of *Vitex* studied. The scalariform perforation plates are encountered only in five herbaceous species and one lianous species. Further, a reduction in the number of bars in the scalariform plates leading to the formation of a simple perforation plate in *V. officinalis* is also traced. The presence of vestigial bars in *Stachytarpheta* (figure 1I)



and *V. stricta* provides an additional link for the derivation of simple perforation plate from the scalariform type.

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### **HORMONEMA DEMATIOIDES LAGERB. AND MELIN—A NEW RECORD FROM INDIA**

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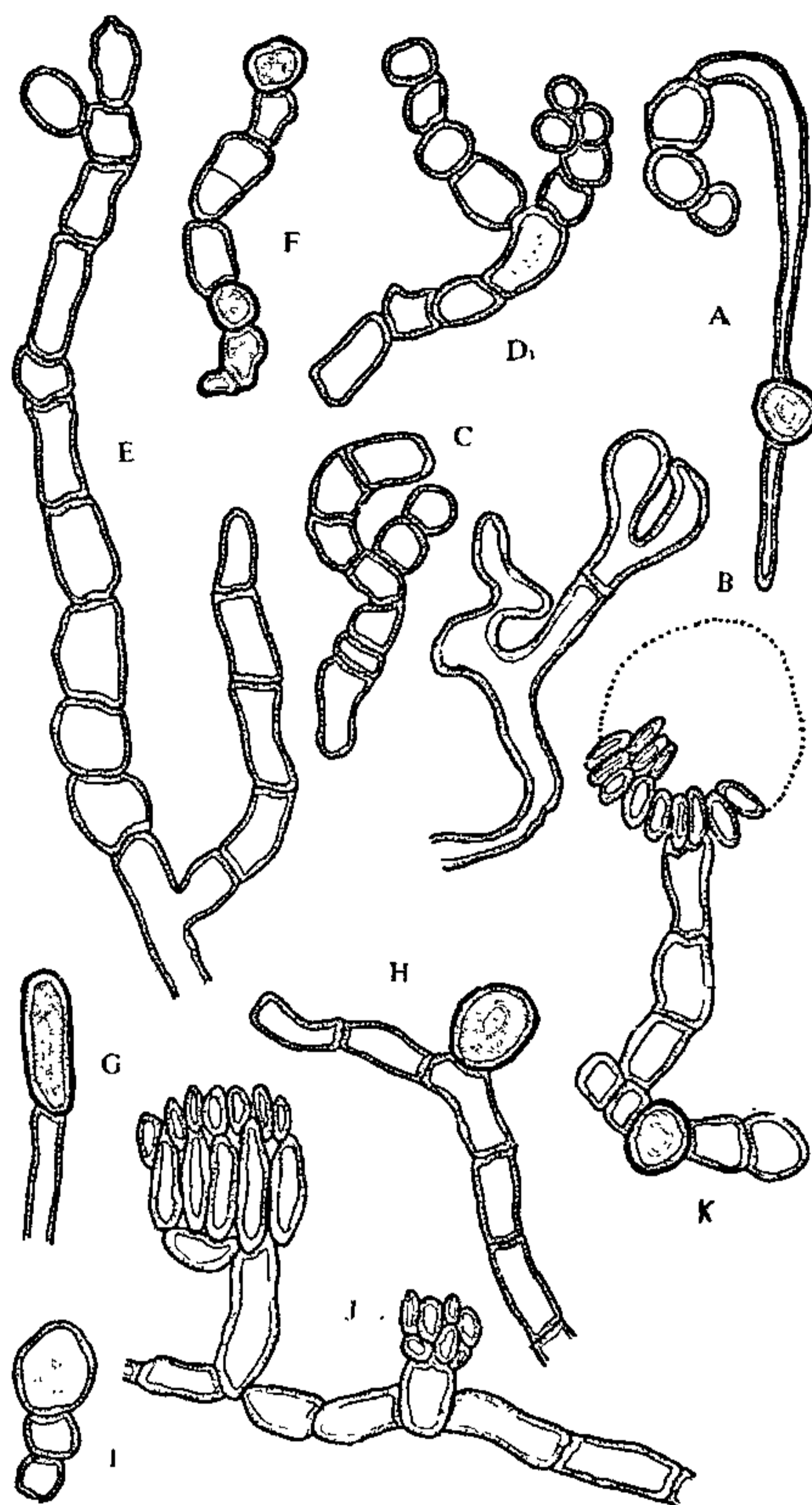
DURING the survey of fruits and vegetable diseases in the markets of Jaipur, one interesting fungus was encountered on the fruits of *Lagenaria siceraria* (Mol.) Standl, which was later identified as *Hormonema dematioides*<sup>1</sup>. It is reported here for the first time from India.

*H. dematioides* causes soft rot of fruits and produces sporulating mycelium from the water soaked lesions. The affected tissue is destroyed and is associated with an offensive odour. Colonies on Richard's medium are circular, effuse, partly submerged, at first white or creamy later turning to greenish-black or black, with one or many growth rings, with radiating hyphae arising from the centre. Hyphae flexuous, often torulose, variable in thickness, subhyaline or light brown, made up of elongated, cylindrical, smooth, thin-walled cells measuring  $6.97-14.4 \times 5.73-13.83 \mu$  (av.  $9.67 \times 8.82 \mu$ ), while the thick walled cells are rounded, golden to dark brown measuring  $8.77-24.72 \times 3.90-10.80 \mu$  (av.  $14.54 \times 6.53 \mu$ ). Conidiogenous cells monophialidic, integrated, determinate, cylindrical, hyaline to golden to dark brown. Conidia aggregated in slime masses, semi-endogenous, pleurogenous, simple, ellipsoid or ovoid, hyaline to dark brown, smooth, O-septate, encased in a slimy coat, hyaline conidia measuring  $9-22 \times 4-11 \mu$  (av.  $15 \times 7 \mu$ ); dark brown conidia  $7-14 \times 6-14 \mu$  (av.  $10 \times 9 \mu$ ).

On fruits of *Lagenaria siceraria* (Mol.) Standl. (Cucurbitaceae); Coll. markets of Jaipur.

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However, during developmental studies this pathogen was observed to produce some typical, thick-



**Figures A-K. Different stages of Germination. D. Formation of *Papulospora*-like structure J-K. Mode of conidia formation by conidiogenous cell.**

walled, ovate or spherical chlamyospore-like cells borne in simple or branched chains. In addition some unicellular thick-walled brown or dark *Papulospora*-like cells were also produced, but these did not form chains, they formed loose aggregations at the tip of conidiogenous cells.

This culture was referred for identification to CMI, England, where it was examined by Dr. D. W. Minter, who opined that these were probably different spore-types produced by different methods by the members of black yeast group.

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