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1. Kingsbury, R. W. and Epstein, E., *Crop Sci.*, 1984, **24**, 310.
2. Arora, A., *Response of cultured cell lines and whole plants to salt stress in wheat*, Ph.D. thesis, Haryana Agric. Univ., Hissar, 1976.
3. Asana, R. D. and Kale, V. R., *Indian J. Plant Physiol.*, 1965, **8**, 5.
4. Badenhorst, J. H. and Burgers, M. S., *Agroplantale*, 1973, **5**, 95.
5. Murata, Y. and Matsushima, S., In: *Crop physiology*, (ed.) L. T. Evans, Cambridge Univ. Press, 1975, p. 73.
6. Kumar, D., *Indian J. Heredity*, 1978, **10**, 39.
7. Blum, A., Mayer, J. and Gozlan, G., *Plant Cell Environ.*, 1983, **6**, 219.
8. Gauch, H. G. and Eaton, F. M., *Plant Physiol.*, 1942, **17**, 347.
9. Nieman, R. H. and Clark, R. A. *Plant Physiol.*, 1976, **57**, 157.
10. Hoffman, G. J. and Rawlins, S. L., *Agron. J.*, 1971, **63**, 877.
11. Hayward, H. E. and Long, E. M., *Bot. Gaz.*, 1941, **102**, 437.

TWO NEW SPECIES OF *PHOMA* FROM INDIA

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DURING an extensive survey of leaf-spot diseases of Amravati and its suburbs in September 1983 the authors came across two interesting fungi and isolated the same on Asthana and Hawker's medium 'A'. The isolates were sent to the Commonwealth Mycological Institute, Kew, England where they were identified by Dr B. C. Sutton as *Phoma* sp and could not be placed under any known species. Hence the two species have been reported as new species of *Phoma* as *Phoma helianthi* sp nov on *Helianthus annuus* L and *Phoma vulgaris* on *Sorghum vulgare* Pers.

(1) *Phoma helianthi* sp nov obtained from living leaves of *Helianthus annuus* L. (Asteraceae), 14-9-1983, IMI No. 285465, College Botanical Garden, Camp, Amravati.

The leaf-spots were large, linear, oval or irregular

surrounded by a prominent boundary; pustules dorsal, small, black and spherical. The leaf dried on severity of infection.

Hyphae light brown, branched, septate, 2.7-3.4 μm wide; pycnidia globose to spherical or sub-globose, dark brown, ostiolate, thin-walled, 78.3-189 μm (average 135 μm) in diameter; conidia hyaline, 1-celled, oval, measuring 3.5-5.4 \times 2-2.7 μm (average 4 \times 2 μm). Isolated from infected leaves of *Helianthus annuus* L.

Culture deposited at C.M.I., Kew, England, No. 285465.

Latin Diagnosis

Hyphae pallide brunneae, ramosae, 2.7-3.4 μm latae; pycnidia globosa vel sub-globosa, fusca brunnea, ostiolata, cum pariete tenui, 78.3-189 μm (medietas 135 μm) diametro; conidia hyalina, 1-cellularia, ovata, 3.5-5.4 \times 2-2.7 μm (medietas 4 \times 2 μm) lectae foliis infectis *Helianthi anni*. L.

Cultura posita in C.M.I., Kew, England, Sub No. 285465.

(2) *Phoma vulgaris* sp nov obtained from living leaves of *Sorghum vulgare* Pers. (Poaceae), 14-9-1983, I.M.I. No. 285477, Manjarkhed.

Leaf spots large, oval or irregular with a prominent dark brown margin; pustules dorsal as well as ventral, small, black, spherical and scattered. Drying of leaf was observed at severity of infection covering about 25% to 40% of the leaf lamina.

Hyphae light to dark brown, branched, septate, 2.7-3.6 μm wide; pycnidia globose to sub-globose, dark-brown, ostiolate, immersed in host tissue, with a short beak, 72.9-121.5 μm (average 81 μm) in diameter; conidia hyaline, 1-celled, oval to oblong, 2.7-8.2 \times 2.0-2.7 μm (average 5.4 \times 2.7 μm). Obtained from diseased leaves of *Sorghum vulgare* Pers. Culture deposited at C.M.I., Kew England bearing the No. 285477.

Latin Diagnosis

Hyphae pallide vel fusco-brunneae, ramosae, septatae, 2.7-3.6 μm latae; pycnidia globosa vel sub-globosa, fusco-brunneae, ostiolata, immersa in textura hospitis, cum rostro brevi, 72.9-121.5 μm (medietas 81 μm) diametro; conidia hyalina, 1-cellularia, ovata vel oblonga, 2.7-8.2 \times 2.0-2.7 μm (medietas 5.4-2.7 μm); lectae foliis infectis *Sorghum vulgaris* Pers.

Cultura posita in C.M.I., Kew, England, Sub No. 285477.

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1. Agarwal, D. K. and Sarbhoy, A. K., *Indian Phytopathol.*, 1979, 30, 637.
2. Bilgrami, K. S., Jamaluddin and Rizvi, M. A., *Fungi of India*, Vol. I. 1979. Today and Tomorrow's Printers and Publishers, New Delhi.
3. Saikia, U. N. and Sarbhoy, A. K., *Indian Phytopathol.*, 1980, 33, 637.
4. Mallaiah, K. V., Vijayalakshmi, M. and Rao, A. S., *Indian Phytopathol.*, 1981, 34, 247.

AN EAR AND KERNEL ROT OF MAIZE CAUSED BY *TRICHOHECIUM ROSEUM*

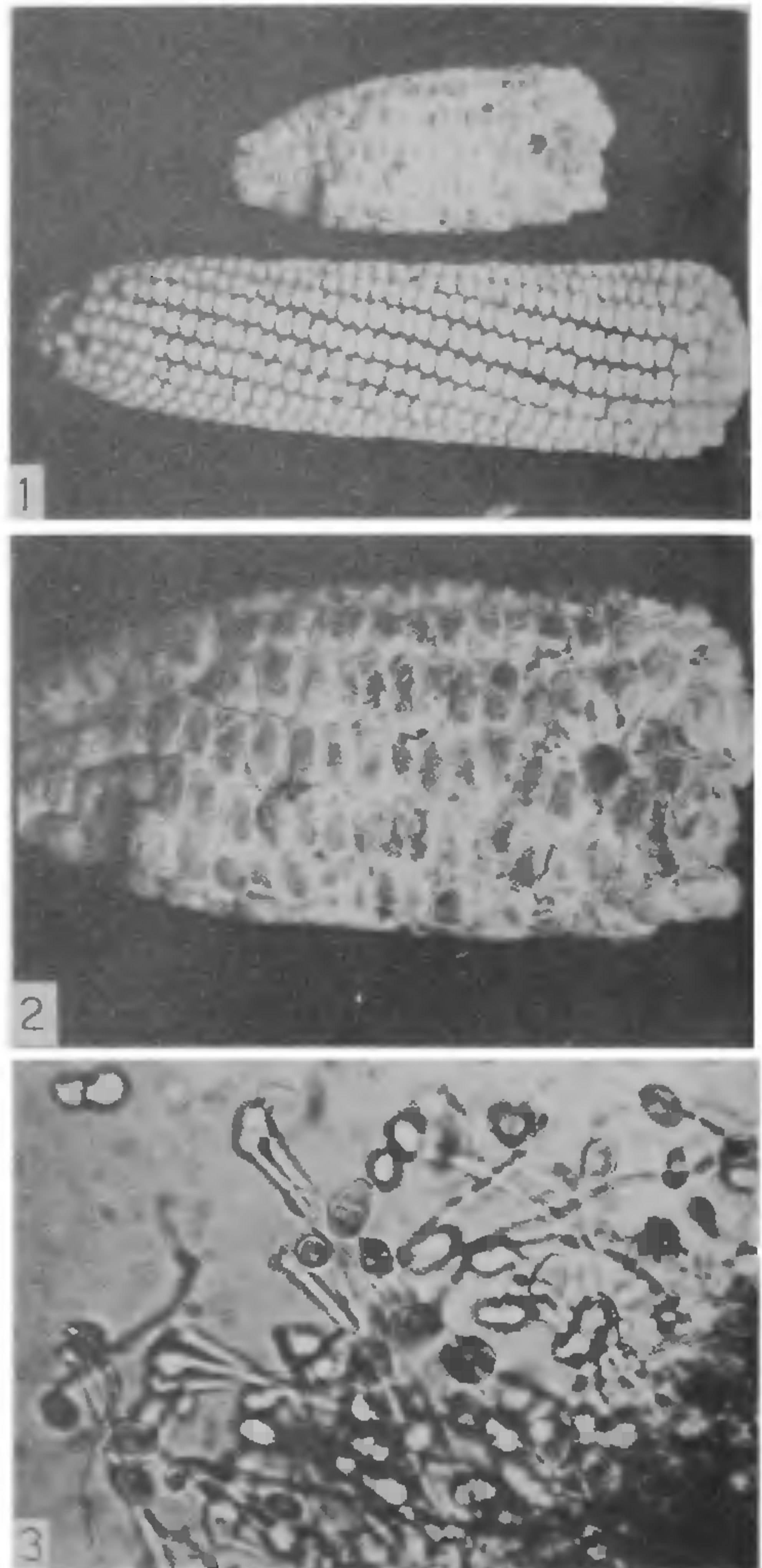
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AN ear and kernel rot of Dent corn (*Zea mays* L) have been observed during field survey of maize crop in Thimakapura village and Bylakuppa of Periyapatna Taluk of Mysore district (Karnataka) in the kharif seasons of 1983 and 1984 respectively. The disease was observed on hybrid Deccan-101 in Thimakapura and in Deccan at Bylakuppa grown in black soil. In both cases, 10% of the ears of these lots showed powdery spore mass and mycelial mat, covering the space between the kernels and in severely infected ones even the kernels (figures 1 and 2). The fungus was isolated on PDA and identified based on the colony characters and spore morphology¹.

Colonies pulvinate, spreading, velvety, large, white at first then slowly clear pink; hyphae creeping, septate, hyaline, branched; conidiophores erect, simple, non-septate or sparsely septate, hyaline, wider towards the apex, bearing terminal clusters of spores. Conidia acrogenous, two-celled, roughly ovate with a nipple-like projection at the point of attachment, (12) 18–20 × 8–10 μm formed in characteristic basipetal chains (figure 3).

Based on the above characters, it was identified as *Trichothecium roseum*. After shelling, the seeds ap-



Figures 1–3. 1. Severe ear rot caused by *T. roseum* (above), healthy ear (below). 2. Close-up view of the rotted ear showing powdery spore mass and mycelium spreading over and in between the kernels. Note discolouration of seeds. 3. Conidiophores and conidia of *T. roseum* (450 ×).

peared discoloured, very light in weight and they could be easily powdered. To determine the pathogenicity of the fungus, pure spore suspension (7×10^3 spores/ml) was inoculated on healthy ears of Deccan-101 hybrid