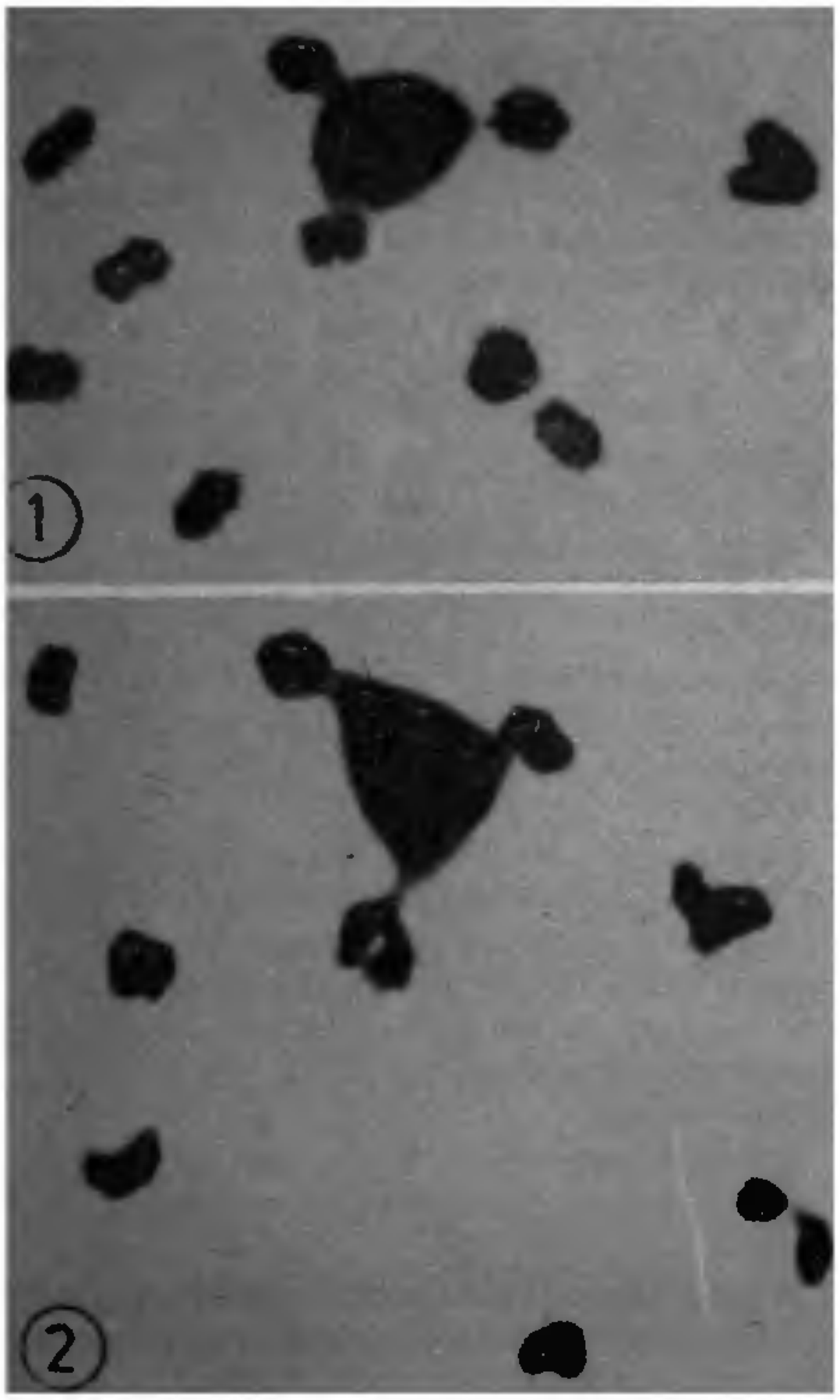

Figure 1&2. 1. Diakinesis in diploid showing ten bivalents. **2.** Diakinesis in nullisomic showing nine bivalents ×3,000.

efficiently competing with the diploids in the natural population, is yet another proof that *C. gigantea* is at a polyploid level. In this context, it seems that even nine as a basic chromosome number solely for the genus *Tripsacum* in the tribe Maydeae might have been secondarily evolved and established.

We thank Prof. R. M. Pai, Head, Department of Botany for facilities and interest.

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1. Khush, G. S., *Cytogenetics of Aneuploids.*, Academic Press. New York, 1973.
2. Conger, A. D. and Fairchild, L. M., *Stain. Tech.*, 1953, 28, 281.
3. Darlington, C. D. and Janaki-Ammal, E. K., *Chromosome Atlas of Cultivated Plants.*, Allen and Unwin, London, 1945.
4. Nirodi, N., *Ann. Misso. Bot. Gard.*, 1955, **42**, 103.
5. Bor, N. L., *Grasses of Burma, Ceylon, India and Pakistan.*, Pergamon Press, N. Y. 1960.
6. Venkateswarlu, J., Chaganti, R. S. K. and Rao, P. N., *Bot. Mus. Leaflets Harvard Univ.*, 1976, **24**, 205.

A NEW LEAF SPOT DISEASE OF MULBERRY (*MORUS ALBA* L.)

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DURING November-December 1981, a new leaf spot disease of Mulberry (Morus alba) was observed in the orchard of Haryana Agricultural University, Hissar. The Disease is characterised by foliar sooty tuft like circular to irregular black spots. On advancement of infection it covers a large area on the lower surface of the leaves and the upper surface shows brownish appearance (figure 1).

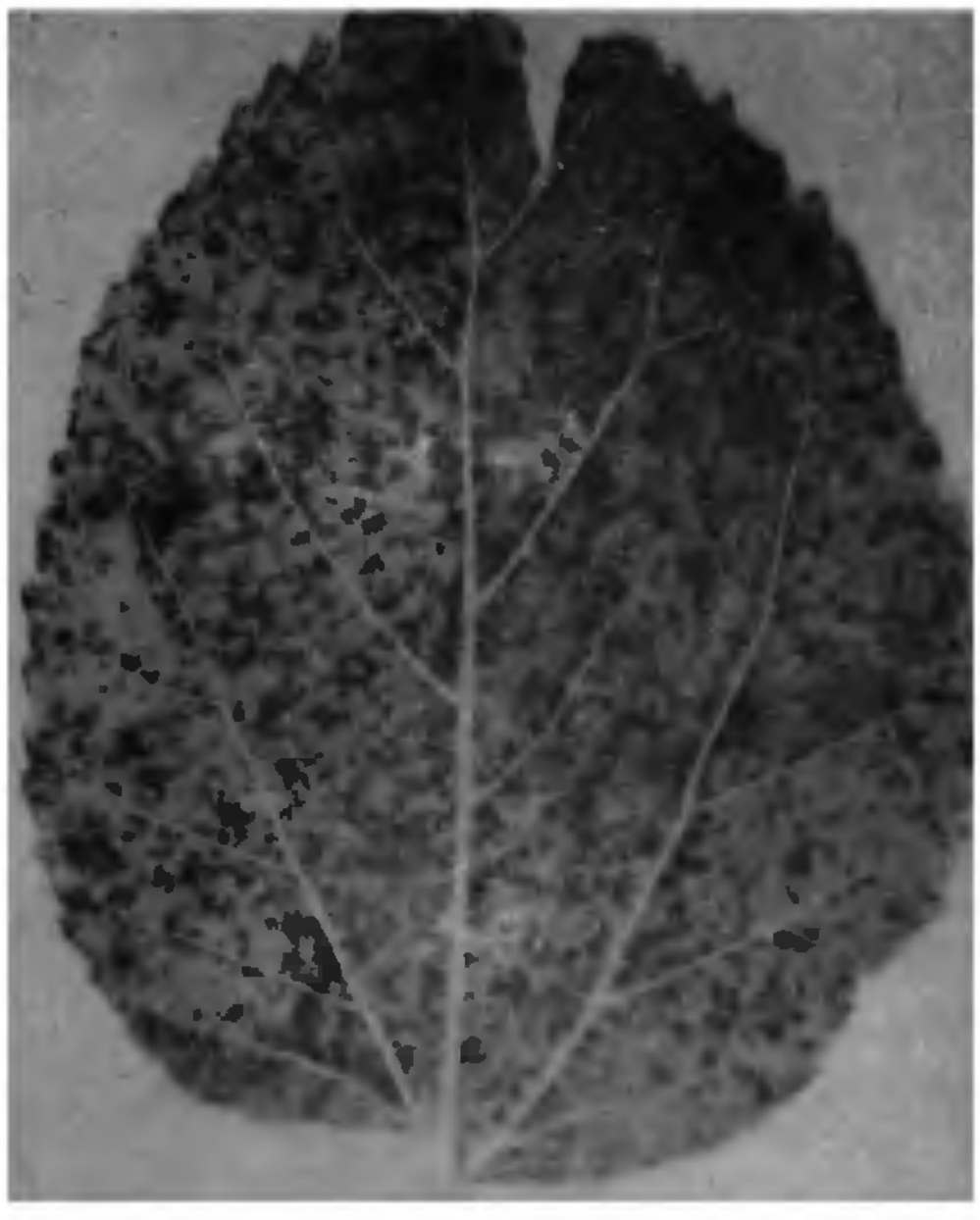

Figure 1. A typical symptom of mouldy leaf spot disease of mulberry caused ley *Isariopsis indica* var. *mori.*

The fungus was isolated on honey peptone agar medium and pathogenicity was proved on fresh and healthy leaves. Morphology of the fungus resembles with *Isariopsis indica* with marked difference in size of conidia and synnemata[1]. Therefore, a new variety, *viz.* *Isariopsis indica* Var. *mori* is being proposed to accommodate this fungus.

Isariopsis indica* Var. *Mori* Var. *nov.

Infection on lower surface of the leaves in the form of black colour, circular to irregular mouldy spots measuring 2-10 mm. Synnemata dark olivaceous, divergent, measuring $55.0 \times 85.0\ \mu m$ (average) composed of loose conidiophores. Conidiophores erect, simple, olivaceous, in colour, bears conidia terminally and laterally, septate measuring $33.6-49.5 \times 8.4\ \mu m$. Conidia olivaceous, 0-3 septate, cylindrical to obclavate, sometimes pyriform, measuring $21.0-49.5 \times 6.3\ \mu m$.

The type specimen is deposited in Herb. Crypt. Ind. Oriant, IARI, New Delhi (Accession No. 33678).

Isariopsis indica* Var.*more* Var. *nov.

Infectionis maculae foliicolae, hypogenea, nigris, circularis vel irregulares, 2-10 mm diam. Synnemata fusce olivacea, divergentia $55.0 \times 85.0\ \mu m$ mediet. Conidiophores recti, simplices, olivaceis, supportantes conidia singulaterminaliter et lateraliter $33.6-49.5 \times 8.4\ \mu m$. Conidia olivaceis, 0-3 septata, cylindrica vel obclavatis, raro pyriformibus $21.0-29.4 \times 6.3\ \mu m$.

Typus positus in Herbarium Cryptogamiiae Indiae Orientatis (Accession no 33768).

Thanks are due to Head, Department of Plant Pathology, HAU, Hissar for providing laboratory facilities.

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1. Nair, G., *Curr. Sci.*, 1964, **33**, 25.

SEED MYCOFLORA OF FINGER MILLET (*ELEUSINE CORACANA*) AND ITS EFFECT ON SEED VIABILITY

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THE damage caused by fungi associated externally and/or internally with the seeds is considered to be one of the principal causes of viability loss in stored grains[1-3]. Finger millet or ragi (*Eleusine coracana* Gaertn.) is known to suffer from many fungal diseases and studies on its seed mycoflora[4-6] showed that various fungi affect viability in varying degrees. In the present investigation, an attempt has been made to correlate the number of fungi associated with different varieties of ragi and the viability loss during storage.

Seeds of ten varieties of ragi *viz.*, Purna, Annapurna, Hamsa, Cauvery, H22, ROH2, HPB7-6, PR202, ECW854 and EC4840 obtained from Millet Research Station, Hebbal, Bangalore immediately after harvest were sun-dried for 12 hr and stored in new cloth bags. Since moisture percent in the stored sample is a very important factor which supports the growth of mould fungi or alters the viability even in a totally fungal free seed, the samples were frequently exposed to sunlight and stored in dry place. The moisture content in the seed at any given time was 11.2% $\pm$0.3%.

The agar plate method of International Seed Testing Association[7] was used for the detection of fungi by plating 100 seeds of each variety selected at random, in 20 petri plates (15 cm diameter) containing potato dextrose agar. All the petri plates were incubated at laboratory temperature 26° $\pm$2° C for 15 days to record the fungi.

Percent loss in viability was worked out with reference to percent germination immediately after harvest.

In all, 25 fungal species (table 1) were found distributed on ten varieties of ragi among which *Drechslera nodulosa*, *Aspergillus niger* and *A. flavus* were associated with all the varieties while *Drechslera tetramera*, *Curvularia lunata*, *Aspergillus clavatus*, *Fusarium* sp. and a non-sporulating one were associated with most of the varieties. The rest of the genera such as *Chaetomium*, *Alternaria*, *Phoma*, *Cladosporium*, *Rhizopus*, *Trichoderma*, *Stachybotrys*, *Nigrospora*, *Sordaria*, *Melanospora*, *Rhizoctonia* and *Penicillium* were restricted in their occurrence only with one or a few varieties.

The viability of all the varieties of ragi was tested at the end of 30 months (table 2) and the loss of viability during storage was significant (at 0.1% level). The loss of viability in different varieties ranged from 3 to 51% and the correlation between the number of fungi associated with the seeds and the total loss of viability during storage was positive and highly significant (correlation coefficient $r = 0.94$).

The variation in the number and the type of fungi associated with ragi varieties has been attributed to variations in fungal population caused by variations in (a) physico-chemical nature of the seed, (b) climatic conditions of the locality under sampling, (c) agricul-