

## PERISPORIOPSIS MELIOLOIDES (BERK. & CURT) VON ARX—A NEW RECORD FROM INDIA

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IN a survey of fungi associated with seeds of *Carum copticum* Bth. & H K. f and roots of *Alysicarpus vaginalis* DC. an ascomycete has been found colonising. This fungus has been isolated from sterilised seeds (0.1% mercuric chloride) of Caraway plated on oat meal agar medium and incubated at 20°C. Root pieces of *A. vaginalis* were plated on acidified potato sucrose agar medium and incubated at room temperature (28 ± 2°C) for six days. Black fruitings were found colonising the seeds and roots. Monosporic cultures were raised and observed for further details. On critical examination it has been identified as *Perisporiopsis-melioloides* (Berk & Curt) von Arx (IMI 257205). A survey of literature<sup>1,2</sup> revealed that there is no record of this fungus from India so far. Hence a brief description of this fungus is given below:

*Perisporiopsis melioloides* (Berk. & Curt.) von Arx.

Cleistothecia superficial, black, shining, spherical to irregular. Asci broadly clavate 60–87 × 10–17.5 μm, eight spored. Spores cylindrical, four celled, brown 28–35 × 3.5–7.4 μm (figure 1).



Figure 1. Dehiscent cleistotheciuna and Asci (× 450).

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## COLLETOTRICHUM FRUIT CANKER OF PASSION FRUIT

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INCIDENCE of a severe fruit canker in purple and yellow passion fruit (*Passiflora edulis* Sims. and *P. edulis* L.f. *flavicarpa* Degener) has been constantly observed in the experimental orchard of this Station. Infection on green fruits mostly consisted of water-soaked lesions which gradually became elevated, changed in colour from light green to light brown and finally to straw yellow. Subsequent enlargement of such raised blisters resulted in random cracking of necrotised epidermal tissues, which later became separated and resulted in circular crater-like cankers. Mature cankers were shallow, circular, 3–8 mm in dia., with raised margins (figure 1). Infected fruits became hard without rotting and infection of immature fruits resulted in their deformity. In moist weather black pinhead-like acervuli of irregular shape were observed on cankers. Leaf infections observed in isolated plants were in the form of brown circular lesions of 2–3.5 mm diameter. Ascigerous stage was

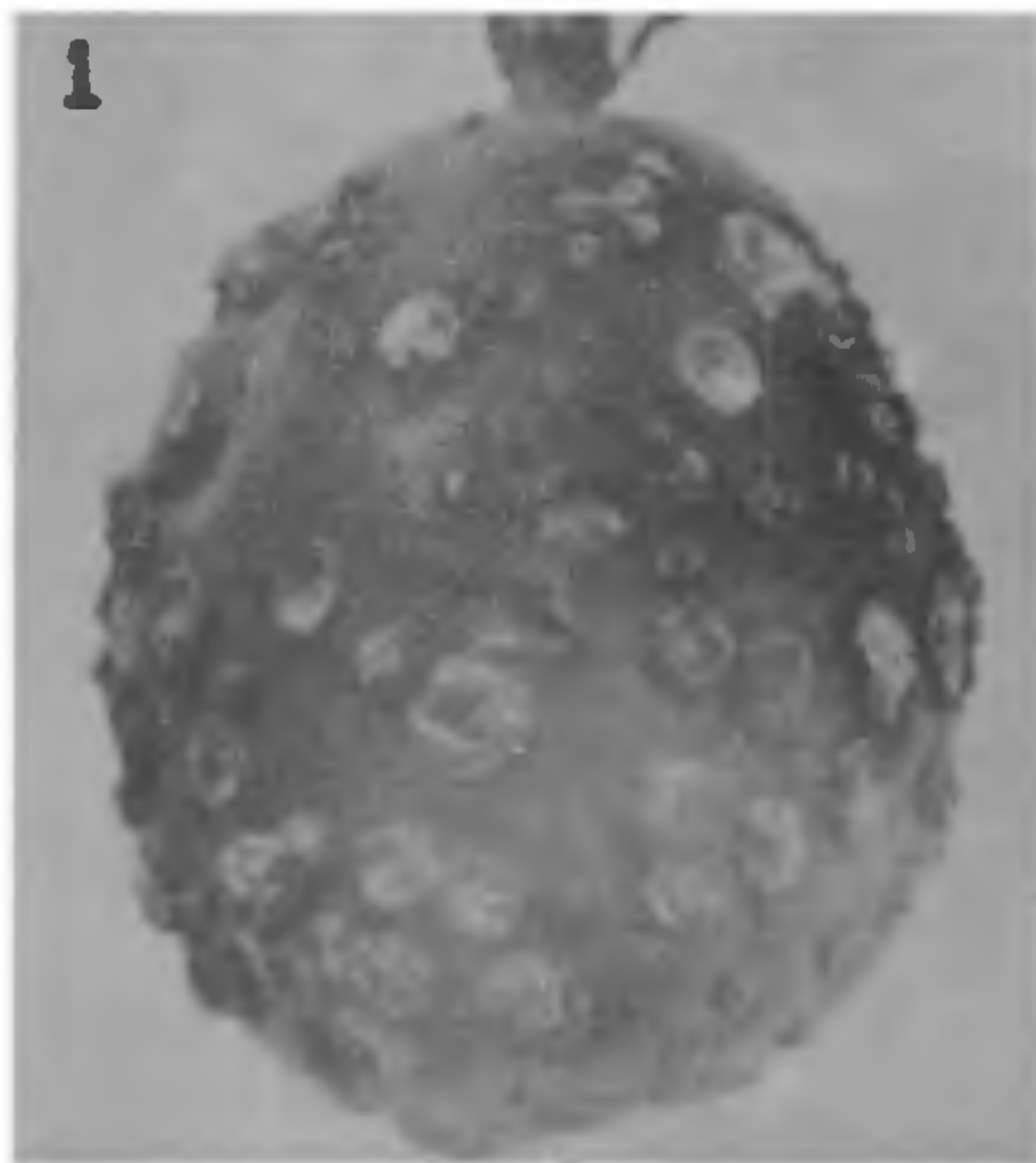


Figure 1. Enlarged view of a infected fruit showing crater-like cankers (XI).

observed only in cultures maintained on potato dextrose agar. At 4–6°C perithecial initials were seen but these failed to mature even after 15 weeks.

Pathogenicity tests carried out with conidia from 10-day-old culture resulted in the development of typical crater-like cankers on healthy and wounded fruits after 18–20 and 10–12 days, respectively. Reisolations from induced lesions established identity with the original isolate. Diagnostic characters of the pathogen confirmed its identity as *Colletotrichum gloeosporioides* Penz. The present note makes an addition to the host index of this fungus.

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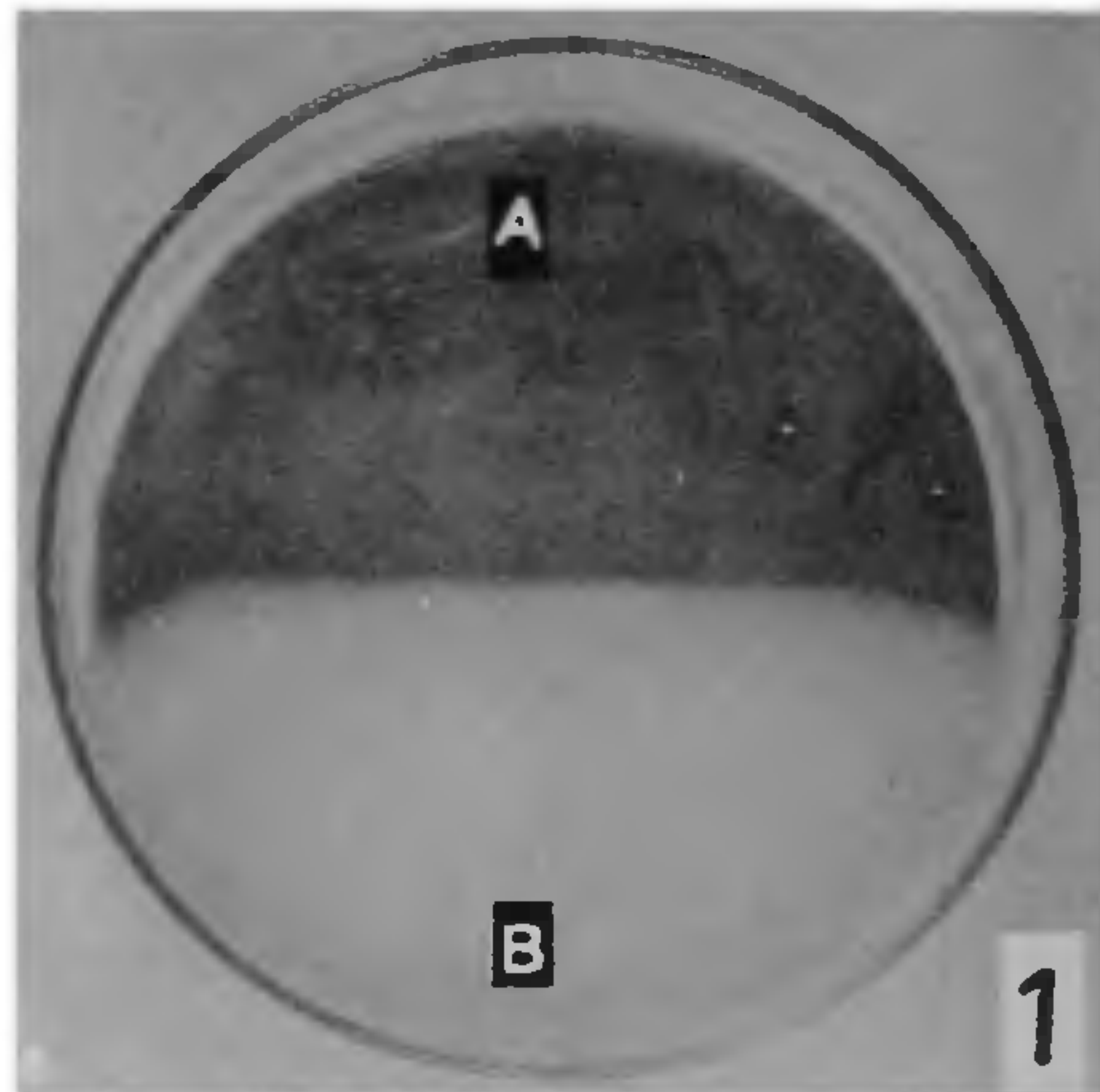


Figure 1. Antagonistic effect of *Bacillus subtilis*. A. On *Fomes durissimus* B. In Petri dish containing 1.25% malt agar medium.

characterization of the active principle of the bacterium has not been possible but the extracellular metabolites produced by *B. subtilis* caused growing hyphae of *F. durissimus* to swell and burst. The present observation therefore indicates that *B. subtilis* can be effectively used for the control of wood decay caused by *F. durissimus*.

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#### CYTOLOGICAL BEHAVIOUR OF A TETRA-TRISOMIC PLANT IN PEARL MILLET (*Pennisetum americanum* (L.) K. Schum)

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ADDITION of extra chromosomes to a complement

#### ANTAGONISTIC EFFECT OF *BACILLUS SUBTILIS* ON *FOMES DURISSIMUS*

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IN the realm of forestry, there are very few reports of applying the antagonism phenomenon (which exists between certain micro-organisms) to the control of diseases of trees caused by fungi. Beech and oak wood blocks soaked in liquid cultures of a *Bacillus* showed retarded growth of *Lenzites* (*Daedalea*) *quercina*<sup>1</sup>. It has also been found that prior application of *Bacillus subtilis* inhibit canker disease caused by *Nectria galligena*<sup>2</sup>. In the present investigation an attempt was made to see if *B. subtilis* can check the growth of *Fomes durissimus*, a common wood-rotting polypore of India.

Polysporous culture of *Fomes durissimus* was isolated from spore deposits of a freshly collected sporophore. The bacterium was inoculated on 1.25% malt agar medium near the periphery of each Petri dish. Single fungal inoculum of 5 mm diameter was placed in each Petri dish at a considerable distance from the bacterial streak. The control plates were inoculated by fungus only. All the Petri dishes were then incubated at room temperature (28 ± 2°C) in complete darkness. The Petri dishes were checked up to eight weeks at regular intervals. The activity of the bacterium was assessed visually depending upon the extent of growth inhibition.

The growth of *Fomes durissimus* was inhibited considerably by *Bacillus subtilis* (figure 1). *B. subtilis* produces two antibiotics, mycobacillin and bacillomycin which are active against some fungi<sup>2,3</sup>. In the present investigation the isolation and