



Figure 2. A–E. Microstructures of *Trametes menziezii* (Berk) Ryv. A, Generative hypha. B, Skeletal hypha. C, Binding hypha. D, Basidium. E, Basidiospores.

(figure 2B) hyaline, aseptate, thick-walled to solid, refractive, long, slightly tortuous, usually unbranched, 2–7 μ in diameter, apex rounded or pointed and thin to thick-walled; binding hyphae (figure 2C) hyaline, aseptate, thick-walled to solid, much branched with somewhat tortuous long branches, 2–6 μ in diameter. Basidia (figure 2D) hyaline, thin-walled, clavate, 16–20 \times 4–6 μ , tetrasterigmatic, sterigmata up to 2 μ long, visible only in fresh materials, soon becoming collapsed and sunken; basidiospores (figure 2E) hyaline, thin-walled, smooth, ellipsoid to cylindrical, apiculate, non-amyloid, 4–7 \times 1–2 μ .

The voucher specimen has been deposited in the Mycological Herbarium of Burdwan Raj College (BRCMH 8111), Burdwan, West Bengal, India and the duplicate material in the herbarium of the Division of Mycology and Plant Pathology, Indian Agricultural Research Institute, New Delhi, India (HC10 37187).

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PEA SEED BORNE MOSAIC VIRUS IN INDIA—A NEW RECORD

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GREEN PEA (*Pisum sativum* L) is the second most important vegetable crop next to tomato in Himachal Pradesh, India. During 1981, a large number of pea crops in Solan area were found to exhibit mosaic symptoms. The common varieties grown were Bonville and Arkel wherein the mosaic incidence during 1982 and 1983 ranged between 7 and 35%. Since very little work has been done on pea viruses in India^{1,2} efforts were made to identify the causal virus. The infected plants were stunted and exhibited mild to severe mosaic. The plants with chronic infection were pale and had badly deformed and reduced leaf lamina. In most cases, leaves had deep dentation followed by marginal rolling and leaf curling. No visible symptoms were observed on stems and flowers; but flowering was delayed/reduced and consequently the pods were few, small and distorted.

The virus was readily sap-transmitted. It was also easily aphid borne (non-persistently) through *Acyrtosiphon pisum* Harris, *Myzus persicae* Sulz, and *Aphis craccivora* Koch. The seeds in pods from naturally infected plants, were fewer, smaller, pale-green, irregular in shape and shrivelled. In the plants

inoculated mechanically at the earliest, i.e. prior to flowering, the seeds were fewer per pod, rather small with roughened pale-brown and uneven seed coat.

Several lots of 200–300 seeds each were collected from naturally infected pea plants of either variety from various locations. In the second case, 4–5 week old pea plants, raised in green house, were aphid-inoculated and the seeds harvested at maturity. Seed-transmission of the virus was recorded in the plants raised in next season, under insect-proof conditions. Usually a lower degree of seed-borne mosaic (20–40%) was recorded in the case of seeds from naturally infected plants than a higher rate of transmission of the virus (30–60%) in seeds from artificially infected plants.

The physical properties of the virus, determined according to the methods described by Noordam³ were as follows:

DEP 1:1,000–1:10,000; TIP 55–60°C; and LIV 3–4 days at room temp. (12–18°C). The virus was examined electron microscopically (Phillips electron microscope) by Dr L. Bos (Netherlands), from the leaf samples dried for 24 hr at 4°C over CaCl₂, after negative staining with 2% PTA, pH 6.5⁴. It had long flexuous particles of 760 nm. Serologically the virus (using fresh infected leaf sap) did not react with antisera against either potato viruses X, Y or tobacco mosaic, cucumber mosaic, pea common mosaic, bean yellow/golden mosaic viruses. But a positive (moderately strong, ++) reaction was observed only against pea seed borne mosaic virus (PSBMV).

Peas are known to suffer from a number of virus diseases including pea common mosaic and bean golden/yellow mosaic viruses^{4–7}. However, on the basis of the symptoms, seed transmission and other characteristics and serological affinity, it was identified to be a variant of PSBMV^{5,6,9}. To the best of the authors' knowledge, PSBMV has so far not been reported from India.

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A WHITE BUD ROT OF *DIANTHUS CARYOPHYLLUS*—A NEW RECORD

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DURING the course of a survey of diseases of the flowering plants at Chaubattia, heavy incidence of bud rot disease of *Dianthus caryophyllus* was observed during August 1984. The disease appeared as white mycelial growth on buds before opening of the blooms. It started from the basal bracts of the calyx and cover completely the bud within three days. The pathogen isolated and examined under microscope was identified as *Trichothecium roseum* (Persoon) Link ex Fr.

On oat meal agar medium, the colony was white in the beginning, later turning pink to orange due to heavy sporulation. Conidiophores hyaline, simple, septate and slightly swollen at the tips. Conidia borne on the tips of conidiophores acrogenously and accumulated in groups. Conidia hyaline, ovate to pear-shaped with septation and measure 12.80–19.20 × 8.00–11.20 μm. Pathogenicity was established by inoculating 7-day old culture of the pathogen on healthy buds of *D. caryophyllus*. Characteristic symptoms appeared after 4–7 days under natural conditions. The pathogen was earlier reported as parasitic