

Phaeoisariopsis tinosporae — a new Member of Stilbellaceae from Rajasthan (India)

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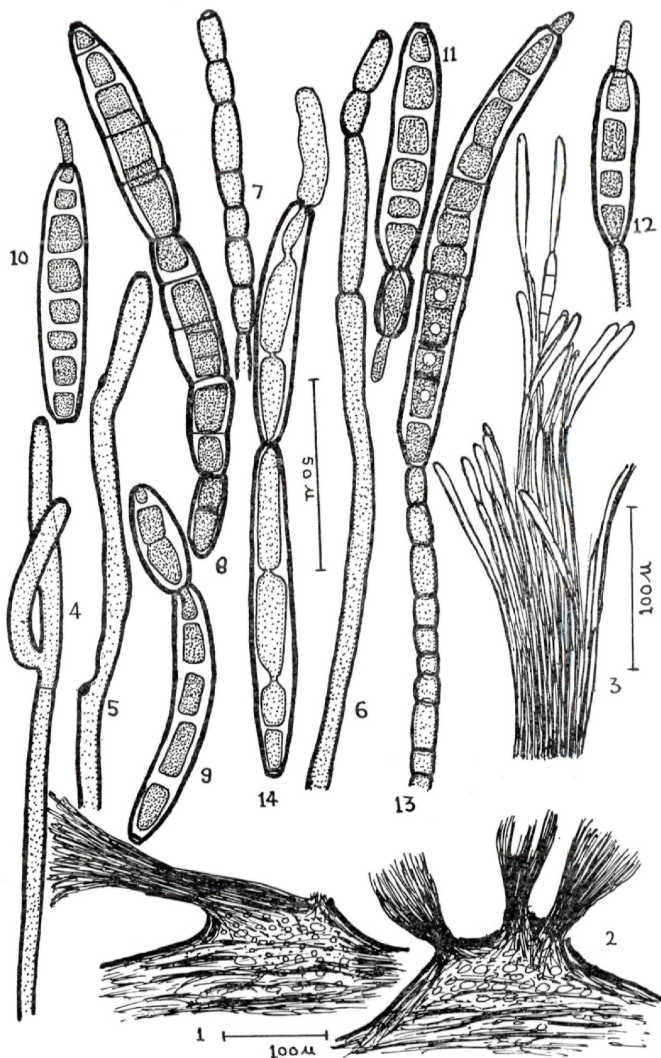
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A number of branches of *Tinospora cordifolia* MIERS. (Menispermaceae) a climbing plant of medicinal importance, grown in the Botanical Garden of Govt. College, Ajmer, were found dying in the month of May in 1975 and subsequent years. The surface of these branches appeared deeply and longitudinally furrowed and covered over by dense greenish-brown velvety mycelium. Microscopic examination revealed these growths to be coremia of *Phaeoisariopsis* FERRARIS of Stilbellaceae. SUBRAMANIAN (1971) recorded the occurrence of only one species of this genus from India — *P. griseola* (SACC.) FERRARIS, which is known to occur almost all over the world on *Phaseolus vulgaris* L. Five more Indian fungi, initially described under different genera, have now been transferred to this genus as *P. melanochaeta* (ELLIS & EVERHART) DEIGHTON, *P. glochidii* (PETCH) ELLIS, *P. bambusae* (COOKE) DEIGHTON, *P. indica* (SUBRAM.) DEIGHTON and *P. bonducellae* (ELLIS, 1976). One more species *P. lagerstroemia* was later added to this list by RAJAK et al. in 1978. This brought the number of Indian species known to seven. None of the hitherto known species is observed from *Tinospora cordifolia* MIERS.

Phaeoisariopsis tinosporae MATHUR sp. nov. — Pl. 1, figs. 1—14

Mycelium hyaline vel fuscum, septatum, profuse ramosum. Stroma subepidermalis, tenuiter erumpens, producus unum vel plura coremia. Coremia fuscobrunnea vel viridibrunnea, $110-330 \times 10-45 \mu\text{m}$. Conidiophori eiusque rami separantes in summa parte. Conidiophori longi, simplices vel ramosi, septati, cum pariete crasso, brunnei, cum indistinctis vel distinctis geniculationibus in parte libera superiori, cum cacuminibus aliquantulum dilatatis. Conidia longa, cylindrica, obclavata vel obfusiformia, transverse multiseptata, multis cellulis secundariis dividendis, hyalina in novellis, pallide vel fuscobrunnea matura aetate, glabra, cum pariete crasso $40-130$ (vel maiora) $\times 8.5-11.5 \mu\text{m}$ interdum aliquantulum constricta ad septa primaria, saepe producta in catenas brevibus. Collectus e ramis morientibus *Tinosporae cordifoliae* MIERS., mense Maii 1975, Ajmer, India. Depositus in Herbario Mycologico, Govt. College, Ajmer sub No. 1D, CMI sub No. 230287 (as *Corynespora kamatii*).

The septate and profusely branched mycelium of *Phaeoisariopsis tinosporae* is hyaline but dark coloured in the peripheral tissues of the stem. It forms a large number of small, compact stromatic bodies just inside the host surface. Each stromatic body produces one or more



Figs. 1—14. *Phaeoisariopsis tinosporae* MATHUR (type). For explanations compare text

coremia (110—330×45 μ m) which protrude out to form the velvety growth on the branch surface (Pl. 1, Figs. 1, 2). One coremium comprises a large number of closely associated conidiophores (Fig. 3) arising from the outer surface of a stromatic body. The compact column-like lower part of the coremia measure 40—115 μ m×10—45 μ m. Rarely the conidiophores may remain loose like those of *Cercospora* species. In the upper part of the coremia the conidiophores and their branches separate and diverge and give the coremia a flower-vase like appearance (Fig. 3). The conidiophores are long, thick walled, brownish in colour, branches are often with a few indistinct to distinct geniculations in their free terminal parts (Figs. 4, 5), where they also appear to be slightly swollen. Scars similar to geniculations on the conidiophores are also present on the base of the conidia and sometimes also on the apices when the conidia are produced in short chains (Figs. 5, 6). The conidiophores grow sympodially i. e. the conidiophores may resume their further growth from below the point of attachment of the conidium like those of *Cercospora* and *Helminthosporium* species. The conidia are long, cylindrical to obclavate to obfusiform, transversely septate, thick-walled and hyaline when young but become light brown on maturity, 40—130 μ m (or more)×8.5—11.5 μ m. The number of septa can vary with the length of the spores. Some of the larger cells of the conidia may exhibit secondary transverse divisions, partition walls between such secondarily produced cells being thinner than the primary partition walls (Figs. 8—13). When kept moist the conidia readily germinate to produce germ-tubes through the scars at the bases (and the apices, if scars are present there). If still attached to the conidiophores, the conidium may start producing small outgrowth from its terminal free end (Figs. 10—12). No perfect stage was found associated with this fungus.

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