A New Species of *Thielavia (T. ampullata)* from Indian Soils

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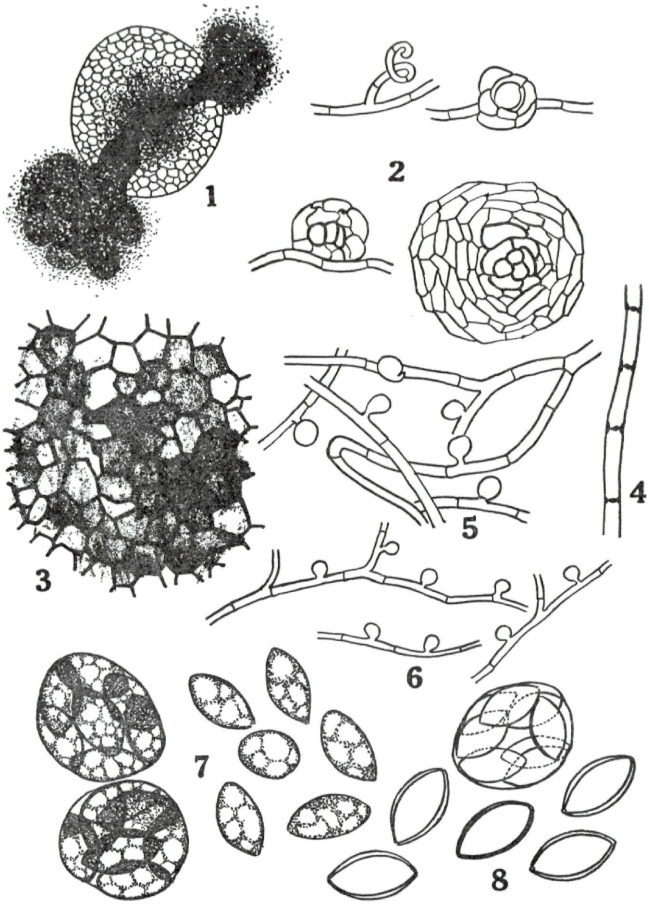
During the course of studies on rhizosphere and phyllosphere mycoflora of certain oil-yielding crucifers several new or unrecorded fungi were isolated which included an ascomycetaceous fungus with certain interesting features. The ascocarps, asci and ascospores were of *Thielavia* type bearing "ampullae" like aleuroconidia in the basal and aerial hyphae. A scrutiny of the available literature (Emmons, 1932; Doguet, 1956; Booth, 1961; Cain, 1961; Fergus and Sinden, 1969; Natrajan, 1971; Malloch and Cain, 1971 and 1973, von Arx, 1975) revealed it to be a new species of *Thielavia* and the same has been named and described here as *T. ampullata* after the presence of "ampullae" like aleuroconidia in basal and aerial hyphae.

Thielavia ampullata Rai et Wadhwani sp. n. (Figs. 1—8)

Mycelium sparsum, superficiale vel immersum, bene ampullaceum. Ampullae lateraliter, solitariae, subglobosae vel pyriformes, crasso parietibus praedatae, ad basis acutae 5.0—8.5 $\mu \times 5.0$ μ. Cleistothecia spherica, carbonacea, efformata irregulariter in superficis, nigra, 86—135 μ dia. Parietibus constantibus unica serie cellularum brunnearum, parietibus crassis praeditarum, polygonalium, pseudoparenchymaticarum, obsque ulla sutura. Asci unitunicatae, globosae, irregulariter dispositae evanescentes, hyalinae 22.0—29.0 μ octasporae. Ascosporae primo hyalinae et extremo brunnae, fusoideae, unicellularae, utroque terminopore germinationae, 12.0—17.0 $\mu \times 8.5$—12.0 μ.

Mycelium very scanty, immersed and superficial, colony reverse remains colourless. Hyphae are of variable width 1.7—8.5 μ in diameter, initially hyaline later on becoming yellow-brown, irregularly septate, septa of older hyphae appearing to be plugged. Numerous ampullae-like aleuroconidia are present in the aerial and basal hyphae. In aerial hyphae these structures are fewer in number, larger in size, thick-walled, dark coloured measuring 5.0—8.5 $\mu \times 5.0$ μ, where as in basal hyphae they occur in abundance remaining hyaline and thinwalled measuring 1.5—5.0 μ. They are subglobose to pyriform with a truncate base directly attached to hyphae. Cleistothecia are superficial black, carbonaceous, glabrous, sphaerical 87—135 μ in dia. without any ostiole splitting haphazardly when mechanical pressure is applied to the coverslip on wet mount. Cleistothecia initial arises as a small



Explanation of Figures

Fig. 1—8. *Thielavia ampullata* spec. nov. on oat meal agar.
Fig. 1. A burst cleistothecium × 220
Fig. 2. Stages of the development of ascocarp. × 480
Fig. 3. Ascocarp wall × 480
Fig. 4. Basal hyphae showing plugging at septa × 480
Fig. 5. "Ampullate" structures in basal hyphae × 680
Fig. 6. The same in aerial hyphae. × 720
Fig. 7. Young asci and ascospores × 760
Fig. 8. Mature ascus × 680 and mature ascospores × 760

loop-like structure from the aerial hyphae later attaining a coiled structure quickly developing into a globose mass with the outer layer comparatively darker later on becoming dark-brown. At maturity ascospores remain embedded in a gelatinous matrix in the ascocarp cavity. Asci globose, octosporous, unitunicate, hyaline 22.0—29.0 μ, irregularly dispersed inside the cleistothecial cavity, highly evanescent. Mature ascospores are thickwalled, fuscoid, unicellular, dark-brown with a germ pore at one end 12.0—17.0 μ × 8.5—12.0 μ.

Isolated from farm soil, Botany Department, Lucknow University, Lucknow. Type culture deposited in Commonwealth Mycological Institute, Kew as IMI 129789.

The genus *Thielavia* was described by Zopf (1876) for a fungus with dark unicellular ascospores on *Senecio elegans* with the type species *T. basicola*. As it was associated with *Torula basicola* he considered it to be the perfect state of the same. Some controversy regarding its nomenclature emerged with the transfer of *Torula basicola* Berk. & Br. to *Thielaviopsis basicola*. Paclt (1951, 1960) proposed a new combination as *Thielavia renominata*. As Zopf's description of *Thielavia basicola* was not based on Berkeley and Broom's material of *Torula basicola*, but he described it from the material which he collected on *Senecio elegans*, the name *Thielavia basicola* was retained. Malloch and Cain (1973) characterized species of *Thielavia* by smooth dark brown ascospores, dark brown ascospores, dark-coloured ascocarps and hyaline to brown vegetative mycelium and considered it to be closely related to *Chaetomium* in developmental morphology and conidial states differing in the lack of ostiolate ascocarps. Von Arx (1975) restricted the genus *Thielavia* to Pyrenomycetes characterised by ascomata with a thin wall composed of tightly inter woven hyphae, ascospores fusiform, clavate obovate or ellipsoidal with a conspicuous germpore for the species with two germ pores proposed the new genus *Corynascus*. In its morphology of ascocarp development, asci and ascospores with single apical germpore the new isolate definitely belongs to the genus *Thielavia*. Besides other morphological characters of ascocarp, asci and ascospores it is distinguishable from other species given in the key (von Arx, 1975) in bearing aleuroconidia both in the aerial and basal hyphae.

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