

**CHAUNOPYCNIS ALBA, GEN. ET SP. NOV., A SOIL FUNGUS INTER-  
MEDIATE BETWEEN MONILIALES AND SPHAEROPSIDALES**

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*Chaunopycnis alba* gen. et sp. nov. is a cosmopolitan soil fungus with an unusual type of conidioma enclosed in a loosely knit wall of narrow hyaline hyphae which bear little-differentiated, branched conidiophores and cylindrical phialides at the inner surface.

**C h a u n o p y c n i s** W. Gams, *gen. nov.*

Coloniae albae, floccosae. Conidiomata irregulariter rotundata in mycelio aërio formantur, contextu laxo hypharum tenuium circumdata, quae intus conidiophora ramosa proferunt. E phialidibus cylindricis sursum attenuatis conidia continua oriuntur, capitulis mucidis aggregata. Species typica: *Chaunopycnis alba* W. Gams.

Colonies white, thinly floccose. Conidiomata embedded in the hyaline aerial mycelium, of irregular roundish shape, surrounded by a thin, loose web of hyphae inwardly forming branched, indistinct conidiophores with cylindrical, distally tapering phialides and one-celled hyaline conidia aggregated in slimy heads.

ETHYMOLOGY.—Greek χαῦνος = loose, πικνός = solid, alluding to pycnidium.

**Chaunopycnis alba** W. Gams, *sp. nov.*—Figs. 1, 2, 3, 4

Coloniae lente crescunt, albae, in medio stratum granulosum conidiomatum formant. Conidiomata globosa vel irregularia, discreta vel confluentia, in mycelio aërio formata, 80–250  $\mu$ m diam.; paries 25–50  $\mu$ m crassus, e contextu laxo hypharum tenuium constans, intus conidiophora dense aggregata profert. Phialides cylindricae, in summo modice attenuatae, 3.5–10(–20)  $\mu$ m longae, basi 1.0–1.5  $\mu$ m latae, collo 0.6–0.9  $\mu$ m diam. Conidia globosa vel ovoidea, hyalina, levia, 1.5–2.0  $\mu$ m diam., aggregata conidiomata replent. Conidiophora libera raro adsunt. Chlamydosporae absunt. Typus: CBS 869.73 (N8M), isolatus e terra sub *Picea abiete* in Suecia, B. E. Söderström, 1973.

Colonies on OA, CMA, or potato-carrot agar growing rather slowly, reaching 2.0–2.8 cm diam. after 10 days at 20 °C, white, thinly floccose, eventually (after 3–4 weeks) becoming centrally granular due to the conidiomata. Vegetative hyphae hyaline, smooth-walled, 0.8–1.5  $\mu$ m wide. Conidiomata formed in the aerial mycelium (above the agar), globose or of irregular shape, discrete or confluent and then with several conidial cavities, 80–250  $\mu$ m diam.; wall composed of a loose hyphal web, 25–50  $\mu$ m thick, inwardly lined by rather densely packed branched conidiophores which bear numerous phialides. Phialides cylindrical or with inflated base, slightly tapering in the distal part, 3.5–10(–20)  $\mu$ m long, 1.0–1.5  $\mu$ m wide at the base, 0.6–0.9  $\mu$ m wide at the tip, without signs of a collarette; conidia globose, hyaline, smooth-walled, 1.5–2.0  $\mu$ m diam., rarely ovoid and to 3.5  $\mu$ m long, aggregated in slimy heads, finally filling the cavity of the conidiomata. Similar conidiophores without surrounding hyphae rarely occur freely in the mycelium. Chlamydospores absent. Teleomorph unknown. Temperature minimum 10 °C, optimum 24–27 °C, maximum 34 °C on PCA.

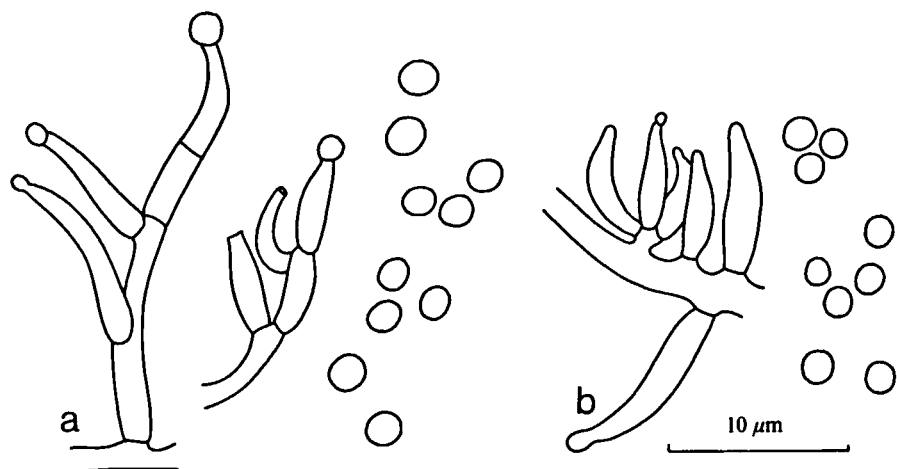


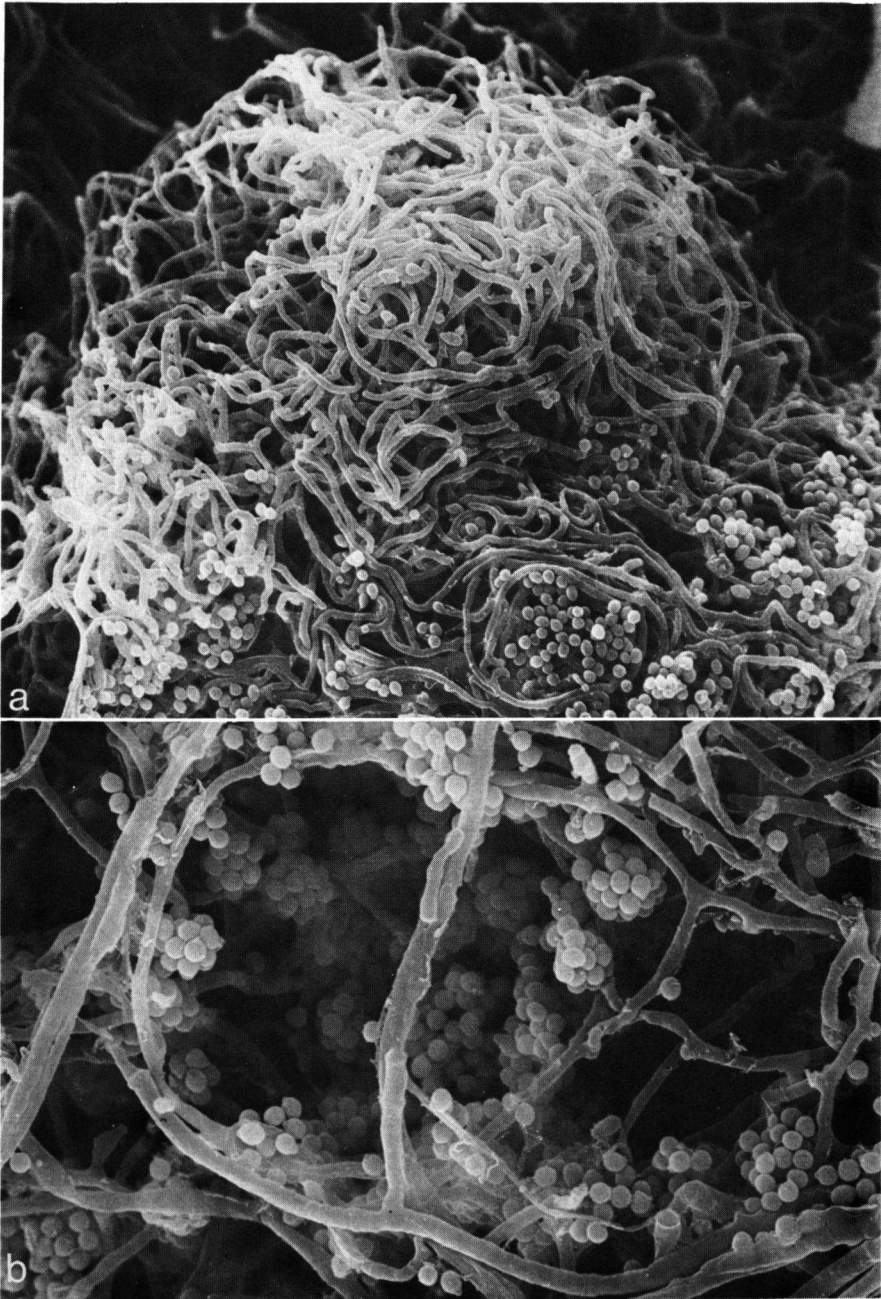
Fig. 1. *Chaunopycnis alba*, conidiophores and conidia. — a. CBS 176.75. — b. CBS 968.73C.

**MATERIAL EXAMINED.**—CBS 830.73 and 869.73 (type culture), ex forest soils under *Picea abies*, Sweden, B. E. Söderström, 1973; CBS 968.73A and B, ex agricultural soils, Wageningen, J. H. van Emden, 1968 and 1970; CBS 968.73C, ex greenhouse soil near Rotterdam, J. A. Stalpers, 1969; CBS 968.73D, ex flower buds, Edinburgh, R. C. Warren, 1973; CBS 478.74, ex *Inermisia fusispora* (Berk.) Rifai growing on sandy soil, National Park Hoge Veluwe, W. Gams, 24 March 1974; CBS 176.75, ex soil under *Hevea brasiliensis*, Sri Lanka, S. A. R. D. Sebastian, 1974; CBS 269.79, ex coniferous soil, Sweden, B. E. Söderström, 1979; 2–24, ex páramo soil under *Weinmannia*, *Clusia*, *Escallonia* etc., 3700 m alt., Parque Nacional del Puracé, Cauca y Huila, Colombia, T. van der Hammen and R. Jaramillo, July 1976; CBS 492.80A, ex burnt páramo soil, 3200 m alt., Monserrate nr. Bogotá, Colombia, O. Vargas, Feb. 1980; CBS 492.80B and C, ex decaying needles of *Abies alba*, France, F. Gourbière, Villeurbanne, 1980.

*Chaunopycnis alba* sporulates best on PCA and hay infusion agar, less on OA and CMA, and hardly or not at all on other currently used media. This fact and the minute sporulating structures may explain why this apparently rather common and cosmopolitan fungus has not yet been noticed by other mycologists.

The term 'conidioma' as defined by Kendrick & Nag Raj (1979) is undoubtedly suited to cover the structures observed in *Chaunopycnis*, though these conidiomata are difficult to characterize in conventional terms. No Coelomycete genus with such loosely knit pycnidia is known (Sutton, 1980) and conidiophore aggregations in Hyphomycetes (sporodochia and synnemata) are not comparable with the rounded structures of *Chaunopycnis*. Nevertheless, the fungus more closely resembles a Hyphomycete than a Coelomycete. Comparable conidiomata but with different conidiogenesis and conidia are found in *Neta* Shearer & Crane (1971).

Fig. 2. *Chaunopycnis alba*, scanning electron micrographs of whole conidiomata, 2–24. — a. Surface of conidioma  $\times 1400$ . — b. Conidia aggregated in heads and accumulating between peridial hyphae  $\times 1800$ .



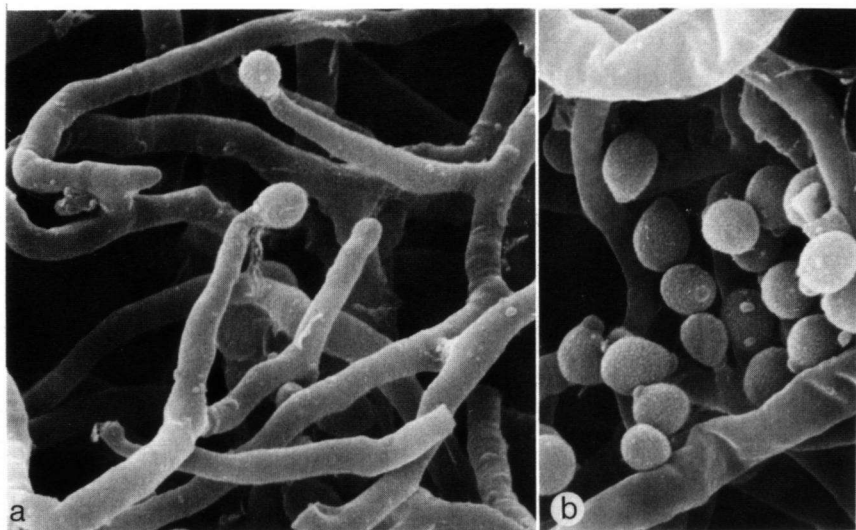


Fig. 3. *Chaunopycnis alba*. — a, b. Scanning electron micrographs of conidiophores and conidia, 2-24,  $\times 5000$ .

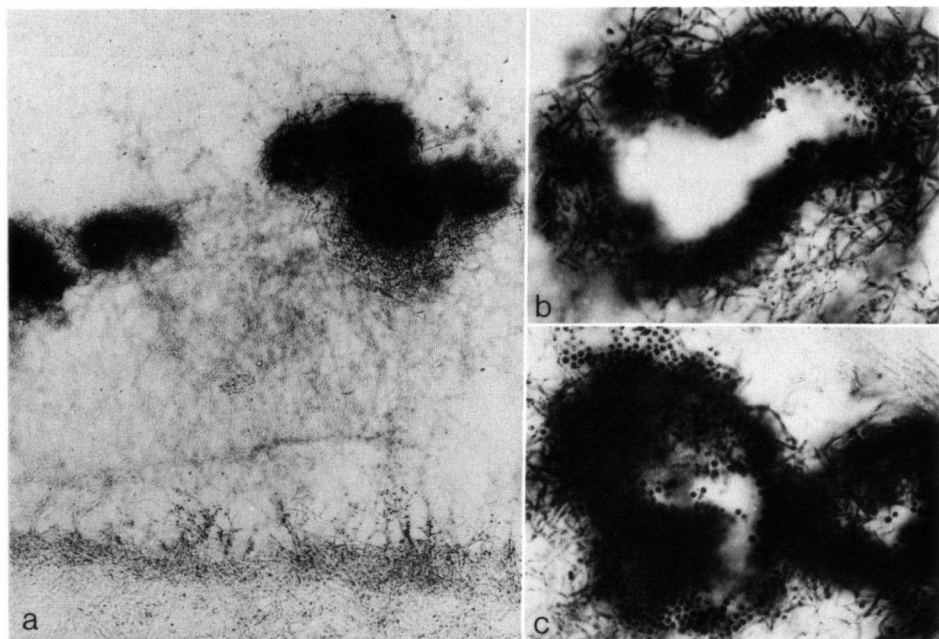


Fig. 4. *Chaunopycnis alba*, hand sections through conidiomata, stained with aniline blue, CBS 869.73. — a. Showing conidiomata situated in the aerial mycelium, agar with submerged mycelium visible underneath  $\times 150$ . — b, c. Conidiomata  $\times 400$ .

Macroscopically the conidiomata may be confused with ascomata of certain Gymnoascaceous fungi such as *Arachnotheca*.

In its conidiogenesis *Chaunopycnis* resembles *Tolypocladium* W. Gams (1971) which sporulates abundantly on all conventional media and the conidial structures of which do not tend to aggregate in conidiomata. Even under high magnification of the SEM, it is difficult to recognize a collarete in the phialides of *Chaunopycnis*, though conidiogenesis is most likely of the normal phialidic type. The conidia are minutely roughened when observed at high magnification in the SEM (Fig. 3b).

#### ACKNOWLEDGEMENT

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