

**DACTYLARIA LANOSA, A NEW SPECIES FROM THE ROOT
SURFACE OF PICEA ABIES**

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(With one Text-figure)

Dactylaria lanosa is a new species isolated from washing-water of the roots of *Picea abies* collected in the northern part of Sjaelland in Denmark. It is characterized by rather slowly growing lanose, white to yellow (luteous) colonies, long conidiophores little differentiated from the vegetative hyphae, and narrowly fusiform, usually two-celled conidia.

For an investigation of the root surface mycoflora of young healthy *Picea abies* trees in northern Sjaelland, Denmark, isolations were made from the washing-water of the roots of about 10 years old trees dug out from a depth of *c.* 20 cm in a humus layer with an average pH of 4.2. In the early spring of 1969 an apparently unknown fungus was isolated, which we tentatively place in the genus *Dactylaria*.

***Dactylaria lanosa*, nov. spec.**

Coloniae lente crescunt, 30 mm diametro post 15 dies 20°C, albae vel flavo-luteae, mycelio aereo lanoso, *c.* 4 mm alto, pigmento luteo vel pallide electrino in agaro diffundente. Hyphae ramosae, septatae 1.0-1.5(-2.0) μ crassae, interdum flavae incrustatae; anastomoses frequentes.

Conidiophora ab hyphis vegetativis paulo differunt, erecta, ad 320 μ alta 1.0-2.0 μ crassa, plerumque simplicia, nonnumquam ramos solitarios ferunt. Conidia (blastosporae) in successione e denticulis in apice aggregatis, demum sympodialiter elongatis oriuntur; verticilli denticulorum etiam sub septis inferioribus conidiophori oriri possunt; denticuli 1-4 μ longi, apice 0.4-1.0 μ crassi. Conidia anguste fusiformia, hyalina, tenui-tunicata, levia, plerumque bicellularia, rarius 3- vel 4-cellularia, apice fere acuto, basi paulatim angustata truncata, 15-28 \times 1.5-2.3 μ . Chlamydosporae absunt.

Typus CBS 429.69, isolatus e radicibus *Piceae abietis*, Sjaelland, Daniae, 1969.

Colonies on 2% malt agar or oatmeal agar slow-growing, reaching 30 mm in diameter after 15 days at *c.* 20°C, whitish to yellow (luteous), with lanose aerial mycelium *c.* 4 mm high, luteous to pale amber pigment diffusing into the medium underneath the growing fungus. Vegetative hyphae branched, septate, 1.0-1.5(-2.0) μ wide, sometimes with yellow incrustations and with frequent anastomoses among younger hyphae. Conidiophores little differentiated from vegetative hyphae, erect, up to 320 μ long and 1.0-2.0 μ wide, usually simple, occasionally with solitary side branches. Slender conidiiferous denticles arise in succession in whorls or clusters at

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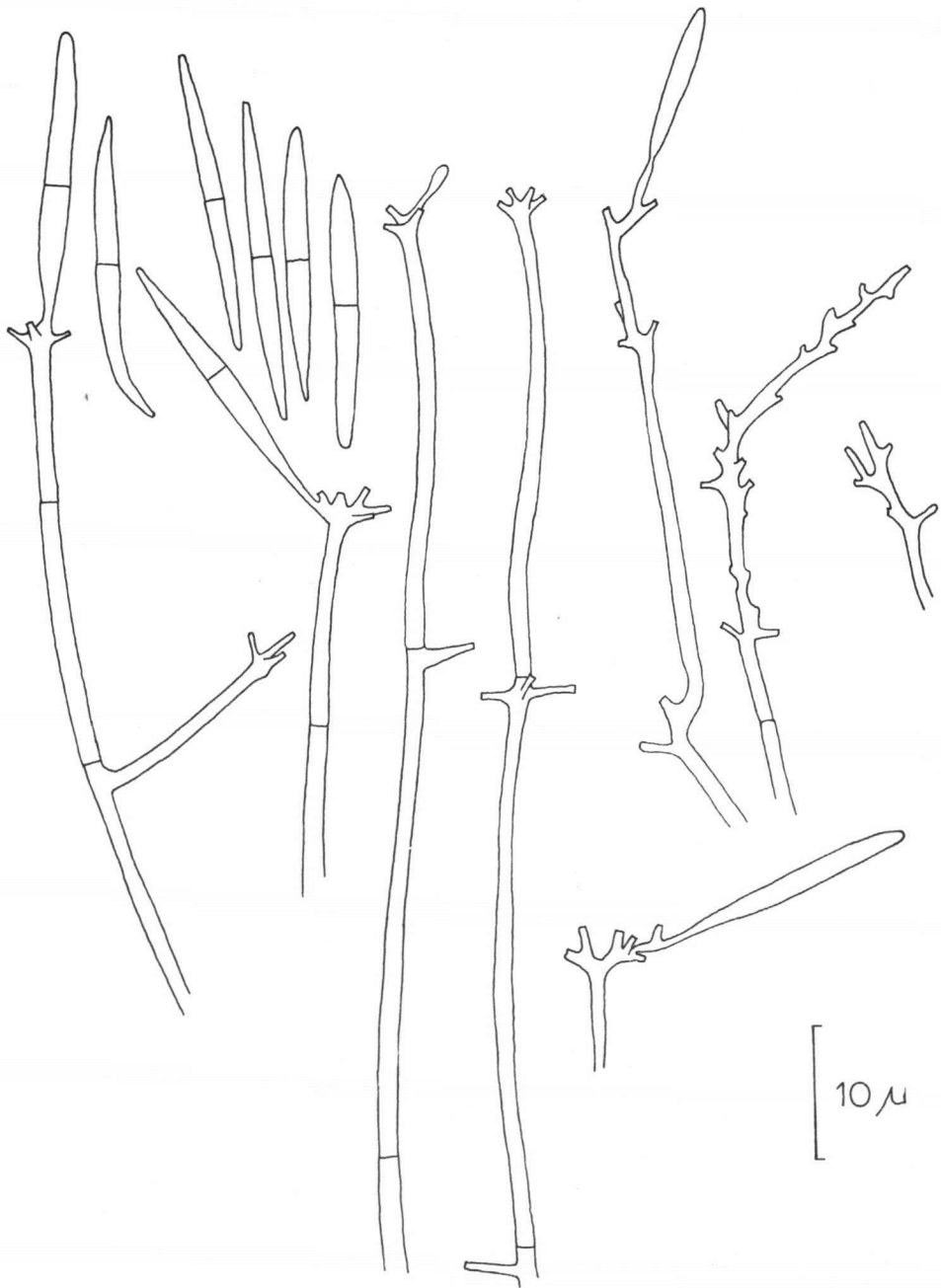


Fig. 1

the apex of the conidiophores; in old colonies the conidiophores may show distinct sympodial prolongations. Groups of denticles can also arise at lower levels of the conidiophore below a septum. The denticles are 1–4 μ long and 0.4–1.0 μ wide at the tip. Conidia narrowly fusiform, hyaline, thin-walled, smooth, usually 2-celled, rarely 3- or 4-celled, on potato-dextrose agar 1-celled conidia were seen to prevail; the distal end almost pointed, tapering more gradually towards the truncate base, 15–28 \times 1.5–2.3 μ . Rarely a conidium remains firmly attached to its conidiophore and continues to grow apically with conidiiferous denticles. Mature conidia on germination can produce polar germ tubes on both ends; in larger forms lateral germ tubes also arise from the middle cell. Chlamydo-spores absent.

Typus: CBS 429.69 isolated from *Picea abies* root surface in north Sjaelland, Denmark, 1969.

The systematic position of the present species is somewhat problematic, because the genera *Dactylaria* and *Diplorhinotrichum* have not yet been revised exhaustively and the generic limits so far have not been fixed. The type species of the older genus *Dactylaria*, *D. purpurella* (Sacc.) Sacc., has only recently been isolated and carefully described (Hering, 1965; Rifai, 1968). Papendorf (1967) suggested that the two genera would have to be combined, and Bhatt & Kendrick (1968) made the necessary new combinations. In the same year Rifai (1968) unaware of the publication of Bhatt & Kendrick objected to this combination, because the shape of the conidiophores—cylindrical in *Diplorhinotrichum* and swollen in *Dactylaria*—would permit a distinction. The importance of this criterium, however, appears to have little value, even less than the shape of the conidiiferous denticles which in *Diplorhinotrichum* are usually very slender and distinct from the rest of the sporogenous cell (Hughes, 1951). The number of septa in the conidia is not recognized as having generic value by any of the recent authors. There remain however also differences in shape of the conidia, upon which the genera *Dactylina* Arnaud ex Subramanian (1963), with filiform conidial apex, and *Mirandina* Arnaud (1952, nomen nudum), with narrow rod-shaped conidia, have been distinguished. For the time being, we accept *Dactylaria* as the only generic name for this heterogeneous complex. From this genus the numerous nematode-capturing species described by Drechsler and his successors and characterized by rather fast growth have to be excluded, and there remain only very slow-growing species with dusty colony surface.

Dactylaria lanosa is related to species hitherto described in *Diplorhinotrichum* on the basis of the slender conidiiferous denticles; it shows similarities mainly with *Diplorhinotrichum affine* Rostrup (CBS 154.65) in the shape and size of conidia. It is however distinguished from all other species in *Dactylaria* by somewhat faster growth, long

EXPLANATION OF FIGURE 1

Fig. 1. *Dactylaria lanosa*, CBS 429.69. Conidiophores and conidia from 8 days old colony on malt-extract agar (left); conidiophores with unusually strong prolongation from 1 month old colony on potato-carrot agar (right).

conidiophores in a cottony aerial mycelium and stronger concentration of the conidiiferous denticles in an apical cluster. On the other hand, the hyphae are too slender for the species to be included in Rifai's (1968) partly nematophagous genus *Candelabrella*, while also its growth is markedly slower.

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