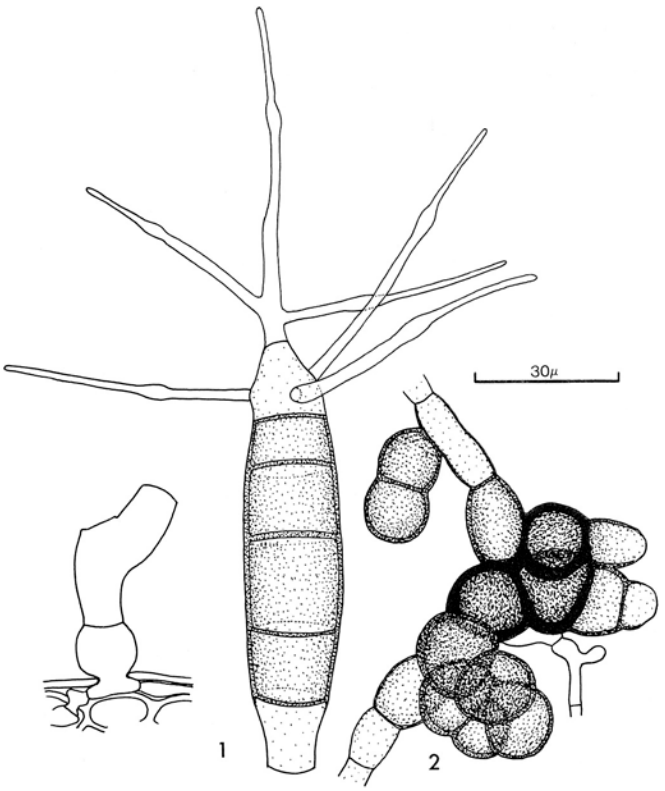
PLEIOCHAETA SETOSA



1, Conidiophore and conidium; 2, chlamydospores from culture.
From DAOM 143963.

Pleiochaeta setosa (Kirchn.) Hughes, Mycol. Pap. 36: 39. 1951.
≡ *Ceratophorum setosum* Kirchner, Z. Pflkrankh. 2: 324. 1892.
= *Pestalotia lupini* Sorauer in Wagner & Sorauer, Z. Pflkrankh. 8: 269. 1898.
≡ *Mastigosporium lupini* (Sor.) Cavara, Riv. Pat. Veg. 14: 13. 1924.

MYCELIUM immersed, extensive, composed of hyaline to brown hyphae often aggregated under the host cuticle. CONIDIOPHORES arise as swollen ends of fine filaments which pierce the cuticle, or become erumpent by tearing the cuticle, simple, scattered or gregarious, subhyaline near the base colourless above, up to 140 μ long and about 8 μ wide, composed of a swollen basal cell and a sympodially proliferating, geniculate conidiogenous cell which may develop one or two strengthening septa as it elongates. CONIDIA holoblastic, arising singly from successive sympodial proliferations, fusoid-cylindric, (4-)6(-8)-septate, 60-100 × 13-21 μ, with a flat, 6-10 μ wide scar at the base and the apical and subapical cells extended into appendages. The basal and the two terminal cells are subhyaline to pale straw-coloured, and the intermediate cells translucent olive-brown. The apical cell is wholly modified as a filiform, simple or once or twice branched appendage usually about 100 μ long and 3 μ wide. The subapical cell bears one, two, or more usually, three similar but somewhat shorter, simple appendages.

SUBSTRATE: brown spots on living leaves of *Cytisus beanii* Nichols.

DISTRIBUTION: Ontario.

COLLECTION: Ont., Central Experimental Farm, Ottawa, 5.VIII.1972, DAOM 143963 (K.A.P.).

NOTES: In July 1972 a single plant of *Cytisus beanii* infected with *Pleiochaeta setosa* was discovered in the nursery of the Central Experimental Farm, Ottawa. The infection was very slight and the fungus was not found later in 1972 or 1973 on this or other species of *Cytisus*, neither in the nursery nor elsewhere on the Farm where the plant is grown for ornamental purpose. The fungus is not considered to be a recent introduction: the infected stock has been established in Ottawa for over 20 years.

Pleiochaeta setosa is seed borne, causing spotting of leaves, fruit and seeds and occasional wilting of the host plant. It has proven its virulence to several economically important plants, and the disease it causes can reach epidemic proportions within short time of introduction.

The fungus was first observed in the 1880's on *Cytisus* and *Lupinus* in Germany. Since then it has been found in most areas of Europe, in S. Africa, Japan, S.E. Asia, New Zealand, Australia, S.E. United States and Brazil (CMI Map 243, ed. 2, 1967; E. Gunnerbeck, Svensk. Bot. Tidsk. 65: 39-52. 1971; J.M. Dingley, Bull. N.Z. Dept. Sci. Ind. Res. 192. 1969; Shekunova, Trudy vses. Inst. Zaskch. Rast. 29: 44-51. 1971). In addition to lupins (white, yellow and blue) and *Cytisus* spp. (B. Germar, Z. Pflkrankh. 49: 482-509. 1939; D.E. Green and M.A. Hawlett, J. Roy. Hort. Soc. 74: 310-312, 1949) the parasite can attack beans (french and runner) with *Crotalaria* spp. serving as the alternative host (K.G. Pegg, Qd. J. Agric. Animal Sci. 25: 219-223. 1968).

P. setosa was first observed in North America on blue lupins in Georgia, U.S.A. (J.L. Weimer, Pl. Dis. Reptr. 32: 133. 1948), within short time spreading to the neighbouring Alabama, Florida and Louisiana (P. Decker and R.C. Bond, Ann. Rep. Agric. Sta. Fla. 1949) where it soon became the most serious pathogen of both blue and white lupins (S.A. Ostazeski and P. Decker, Ann. Rep. Agric. Sta. Fla. 1949 and 1959).

The taxonomic history of the species was summarized by Doyer (Med. Phytopath. Lab. "W.C. Scholten" 9, 1925) and Guba (Monograph of *Monochaetia* and *Pestalotia*, Harvard Univ. Press, Cambridge, Mass., 1961). Hughes (Mycol. Pap. 36. 1951) proposed the currently used binomial "*Pleiochaeta setosa*". Unfortunately "*Pleiochaeta*", being a spelling variant of "*Pleochaeta*", an earlier valid name for a genus of powdery mildews, is not acceptable under the present ruling of the "International Code of Bot. Nemenclature, 1972". However, I am not proposing to change the status quo: *Pleiochaeta* and *Pleochaeta* represent different groups of fungi and are not likely to be confused.

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