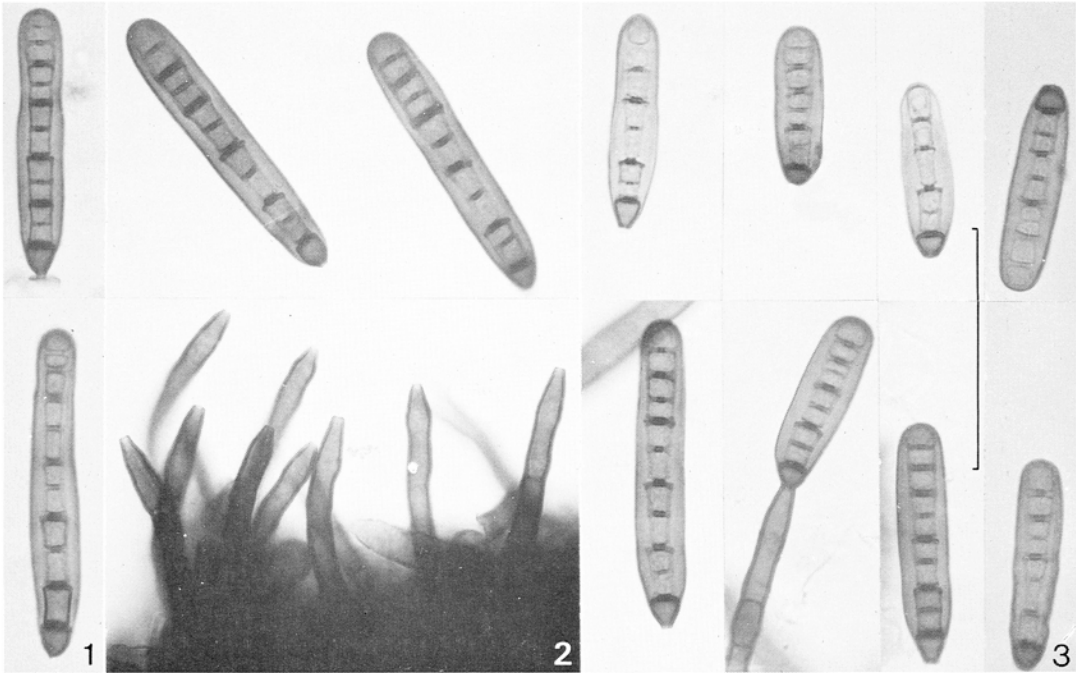


# SPORIDESMIUM FOLICULATUM



1, Conidia from DAOM 139287. 2, conidiophores and conidia from DAOM 88685. 3, conidia (one attached) from DAOM 71134. Scale =  $50\mu$ .

**Sporidesmium foliculatum** (Corda) Mason & Hughes apud Hughes, Can. J. Bot. 31: 609. 1953.  
 ≡ *Helminthosporium foliculatum* Corda, Icones fungorum 1: 12. 1837.

COLONIES effuse, glistening, black or very dark brown, on decaying hardwood which is often stained light yellow to light olive. MYCELIUM immersed, composed of pale brown, branched, septate hyphae  $1.6-4.0\mu$  wide. CONIDIOPHORES often crowded and forming a turf, solitary or in small groups, each usually being the lateral branch of an immersed hypha. They are erect, usually straight, occasionally bent, dark brown, (1-)3-6-septate, (30-)50-90 $\mu$  long, cylindrical,  $5.5-6.0\mu$  wide, usually swollen (up to  $7.2\mu$ ) at the base, very slightly or barely inflated toward the apex then tapering to a flat conidium scar  $2.0-3.5\mu$  wide. The conidiogenous cell is mostly 25-40 $\mu$  long, the lower cells in the conidiophore usually shorter, 10-15 $\mu$  long. Occasionally a conidiogenous cell has proliferated through the scar and another conidium is produced at a higher level: up to three such successive proliferations, each 9-23 $\mu$  long, have been seen. CONIDIA develop singly and blastically. At maturity they are brown, cylindrical-oval to cylindrical, sometimes slightly waisted centrally, rounded at the apex, truncate at the basal scar which is  $2.0-3.5\mu$  wide, smooth, 4-15-septate, not constricted at the septa, (27-)40-70(-90) $\mu$   $\times$  (8.5-)9.0-10(-12.5) $\mu$ , mostly 8-10-septate and 40-65 $\mu$  long. A thick inner lateral wall (up to  $4.5\mu$  wide) separates a thin, dark, outer wall and the conspicuous, apparently rigid limits of the short cylindrical lumina, which, except for the basal cell, appear squarish to oblong to truncate-cuneate in outline, often slightly broader at the ends thus becoming spool-shaped. Alternate, occasional, or all septa often become thicker and darker. The septal pore apparatus between adjacent cells is often conspicuous, dark brown and about  $2\mu$  in diameter. The basal truncate-obconical cell, delimited by the first septum of the initial, usually darkens quickly to a dark brown, the remainder of the conidium becoming light brown or light reddish brown then moderate reddish brown at maturity but seldom as dark as the basal cell.

SUBSTRATE: Decaying wood, or less often bark, of *Acer*, *Alnus*, *Betula papyrifera*, *Fagus grandifolia*, *Populus*, *Quercus*, *Ulmus*, and of unidentified hardwood trees.

DISTRIBUTION: Quebec, Ontario, British Columbia.

COLLECTIONS (selected): Que., near Cantley, VII.1952, DAOM 28648 (S.J.H.); Gatineau Park and Hull district, X.1952, 29244 (D.E. Wells), VII.1953, 37413, 37420, V.1954, 43869, IX.1954, 44670, X.1960, 71382; near Shawville, VII.1961, 83410 (S.J.H.). Ont., Kleinburg, V.1953, 37134; Nashville, XI.1954, 57906 (R.F. Cain); near Ottawa, X.1953, 38836; near Manotick, IX.1957, 56455, X.1958, 59919, XI.1960, 71409; Stittsville, V.1953, 35431, 35467, 35471 (S.J.H.). B.C., Haney, VIII. 1960, 71134 (S.J.H.), Vancouver, IV.1961, 147009 (B.C. Sutton), 3 m E of Hope, IX.1961, 90567, Squamish, IX.1961, 90643 (W.B. Kendrick); Lake Cowichan, Vancouver I., VII.1972, 139287 (S.J.H.); Taylor R., 37 m E of Tofino-Ucluelet Rd., IV.1961, 88685 (R.J. Bandoni).

NOTES: The synonyms of this species were listed by Hughes (Can. J. Bot. 36: 808. 1958). Ellis (Mycol. Papers 70: 19. 1958) gave an illustrated account of this fungus which is evidently common in parts of North America and Europe. In DAOM we have recent collections from U.S.A. (e.g. New York State, Ringwood, IX.1952, 29174, Onoville, VI.1961, 82805, and Oregon, at crossing of White River and U.S. Highway 97, V.1969, 127844, S.J.H.). The type collection of *Helminthosporium brachytrichum* Cooke & Ellis (= *S. foliculatum*) was from New Jersey. One of us collected *S. foliculatum* in New Zealand in 1963.

One Canadian collection, on wood of *Ulmus* under the bark, does not display the characteristic yellowish colour of the substratum. Also, the conidiophores are only faintly septate, paler than usual, and attenuated apically to a scar 1.5-1.7 $\mu$  wide. The conidia are as wide as those in other collections but they are shorter, 25-45 $\mu$ , with fewer septa, 4 to 9, mostly 4 to 6, with the basal scar barely perceptible on a rounded base. The basal cell, nevertheless, is characteristically darker and different from the distal ones. It is presumed that this collection is an aberrant form of *S. foliculatum* perhaps caused by its development beneath the bark.

The thin outer wall of the conidia, the inner wall surrounding the basal cell, the darkened septa, and particularly the septal pore glow brightly in positive low contrast phase microscopy and give the characteristic blue-green colour reaction for phenolic groups with aqueous toluidine blue stain.

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