



Conidiophores, conidia, and bases of two conidiophores. 1, from DAOM 56149; 2-6, from DAOM 139287; 7, from DAOM 84937b. Scales = 10 μ .

Spadicoides bina(Corda) Hughes, Can. J. Bot. 36: 806. 1958.

\equiv *Helminthosporium binum* Corda, Icones Fungorum 6: 9. 1854.

COLONIES black, extensive. MYCELIUM immersed or semi-immersed, composed of branched, septate, subhyaline to brown hyphae, 1-2.7 μ wide. CONIDIOPHORES crowded or scattered, arising singly or in small tufts, simple, 80-600 μ long, straight or gently curved, more or less cylindrical, 3-3.6 μ wide, thick-walled, dark brown below to pale brown above; conidiophore cells are 6-27 μ long, generally progressively shorter toward the apex, the apical cell being slightly swollen. The upper three quarters of the conidiophore may be conidiogenous, the place of attachment of fallen conidia being indicated by minute pores. Up to 15 pores may be found in a single cell, and these are scattered. CONIDIA are borne singly at the apex and laterally in the position of the pores which are evident following secession of the conidia. On undisturbed conidiophores conidia are crowded and envelop the conidiophore, but they are dry, delicately attached, and secede readily. They are oblong to ellipsoidal, occasionally obovoid, usually 1-septate, generally waisted at the central septum, with a slightly apiculate basal scar. They are smooth, pale brown to dark brown with a darker band of colour in the conidium wall obscuring the septum: continuous conidia measure 5.6-7.7 \times 3.4-4.1 μ and 1-septate conidia are 7.2-11.5(12.5) \times 3.5-4.7 μ .

SUBSTRATE: On decaying wood and bark of *Alnus*, *Populus trichocarpa*, and unidentified hosts.

DISTRIBUTION: Quebec, Ontario, British Columbia.

COLLECTIONS: Que., Gatineau Park and Hull district, VII.1953, DAOM 37414b, V.1954, 43865, X.1960, (S.J.H.), 71396b (W.B.Kendrick), 71427 (G.L. Hennebert), X.1970, 133069 (S.J.H.). Ont., near Manotick, IX.1957, 56450 (S.J.H.), near Clayton, X.1962, 89436 (W.B.K.). B.C., Vancouver, VIII.1957, 56149 (S.J.H.), Summerland, V.1960, 70489 (R.J. Bandoni), Mt. Seymour, N.Vancouver, IX.1961, 84937 (W.B.K.), Mesachie Lake, Vancouver I., VIII.1957, 56399, VII.1972, 139287b (S.J.H.).

NOTES: Sutton (Mycol. Papers 132:103. 1973) recorded numerous collections of *S. bina* from Manitoba and Saskatchewan. The synonyms of *S. bina* were listed by Hughes (Can. J. Bot. 36: 806.1958) following an examination of type, cotype, and authenticated collections: Ellis (Mycol. Papers 93: 8.1963) included the same synonymy in his illustrated account. Collections preserved in DAOM and preparations from other herbaria, show that this species occurs also in the United States (N.J., N.Y., Kans., Pa., S.Car.) on *Liriodendron tulipifera*, *Magnolia*, *Quercus*, *Salix*, *Ulmus*, and on unidentified hosts: the species also occurs in Europe (Czechoslovakia), and Ellis (op. cit.) cited a number of collections from Gt. Britain on various hosts, including *Fagus sylvatica*, *Betula*, and *Sorbus aucuparia*.

Spadicoides bina, the type species of *Spadicoides*, is one of six species represented in DAOM by Canadian collections. In one of these species the conidia are non-septate, in two they are predominantly 1-septate, in two others they are 2-septate, and in the remaining one they are 3-septate. The name *Spadicoides* was proposed by Hughes (op. cit.) to replace *Spondylocladium* which had been erroneously used for some dematiaceous species with verticillate phragmoconidia.

Spondylocladium Martius, type species *S. fumosum* Mart., was regarded as a synonym of *Stachylidium* Link by Fries (Syst. Mycol. 3: 391. 1832). *Spondylocladium fumosum* is based on *Dematium verticillatum* Hoffmann (Deutschl. Flora oder botan. Taschenb. II Teil, Kryptogamie. Erlangen. T.13. 1795) which is undoubtedly identical with *Stachylidium bicolor* Link the type species of *Stachylidium*. Hoffmann described *Dematium verticillatum* on herbaceous stems and illustrated it with up to nine verticils of three or four persistent branchlets: *Spadicoides* spp., on the other hand, are found on wood and bark, and the conidia, verticillate or scattered, are not persistent but secede readily.

Preuss (in Sturm's Deutschl. Flora III (Pilze), Bd.6, Heft 35,36: 105. 1862) was the first to illustrate '*Stachylidium fumosum*' with verticils of conidia rather than verticils of phialides as in *Stachylidium*. According to Preuss's illustration, the conidia are 2-septate. In Berkeley & Broome's account of '*S. fumosum*' (Ann. & Mag. Nat. Hist. Ser. 4, 7: 431. 1871) the verticillate conidia were illustrated as 2-septate and described as $25 \times 10-12.5 \mu$. In Lindau's account (in Rabenhorst's Krypt.-Flora, 2 Aufl., 1(Pilze) 9: 141-2. 1908) the conidia were described as finally 2-septate and $21-25 \times 10-12 \mu$. Neither the Berkeley & Broome nor the Lindau accounts refer to *S. klotzschii* (Fungi Canadenses No. 8): the conidium measurements given by these authors are closer to those of *S. grovei* (Fungi Canadenses No. 7) but the conidia are 3-septate in this species.

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