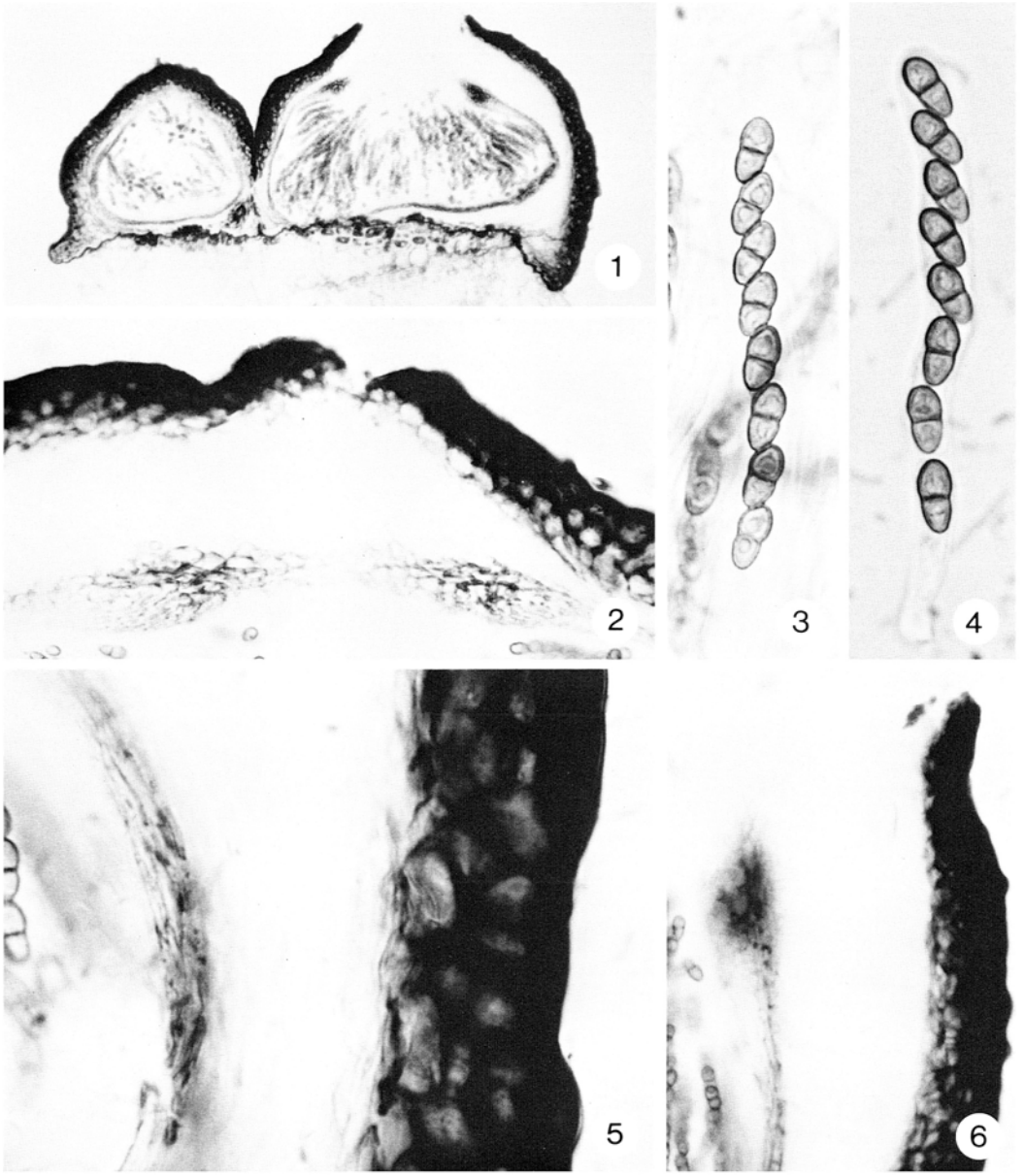
DIDYMOSPHAERIA CONOIDEA



1, section through ascocarp, parasitic within ascomata of *Leptosphaeria doliolum var. conoidea*, × 340; 2, section through ascomata beak area, × 520; 3, 4, asci and ascospores, × 1200; 5, wall structure, host and parasitic fungus, × 1200; 6, wall structure near beak, × 520.

Didymosphaeria conoidea Niessl, Oesterr. Bot. Zeitschr. 25: 202. 1875.

≡ *Cryptodidymosphaeria conoidea* (Niessl) von Höhnel, Sitzungsber. K. Akad. Wiss. Wien, math.-nat. Kl. 126: 359. 1917.

= *Diplodiella angelicae* Diedicke, Kryptogamenflora Mark Brandenburg, 9: 642. 1915.

= *Didymosphaeria patella* Rehm, Hedwigia, 42: 175. 1903

ASCOCARPS immersed in ascomata, singly or in pairs, globose, 100-125 µm diameter. BEAK central, terete, truncate-conical, 60-70 µm long, 25-30 µm wide, composed of 3-5 layers of hyaline to pale brown compressed polygonal cells 2-5 × 2-3 µm around a 10-15 µm diameter ostiole lined with hyaline 10-15 × 1 µm periphyses. Ascocarp wall surface a textura angularis. WALL in longitudinal section laterally uniformly 10-15 µm thick, of 3-6 layers of compressed hyaline to pale brown 2-6 × 1-2 µm pseudoparenchyma cells. PHYSES numerous, 1-2 µm wide with thin septa at 10-20 µm intervals, without guttules. ASCI bitunicate, numerous, in a broad hymenium, cylindrical, 50-60 × 6-7 µm, short-stalked, with 8 obliquely uniseriate ascospores. ASCOSPORES clavate to pip-shaped, L/W 2.0, straight, 9-10(12) × 4-5(6) µm, 1-septate, contricted at septum, septum slightly submedian, without dots at ends of thin septum, widest near middle of apical cell, mid reddish brown, guttulate, very finely echinulate, without a sheath.

HOSTS: *Leptosphaeria doliolum* (Pers.: Fr.) Ces. & De Not. var. *conoidea* (De Not.) Sacc. on (1), *Anaphalis margaritacea* (L.) Benth. & Hook.; on (2) *Galeopsis tetrahit* L.; on (3) *Urtica* sp.

DISTRIBUTION: Canada, Ontario; U.S.A., Massachusetts and Washington; Europe.

COLLECTIONS: **Canada, Ontario**: on (2), Bear Island, Lake Timagami, Nipissing District, 29 August 1928, DAOM 91477, G.D. Darker 2381; on (1), same locality, 9 July 1928, DAOM 92169b, G.D. Darker 2267. **Germany**: on 3, Bei München, DAOM 183114b, H. Rehm, ex Herb. Dearness 145.

NOTES: The synonymy follows Müller & von Arx (Beitrage zur Kryptogamenflora der Schweiz 11(2) 1962 p. 292). This species is the type of the generic name *Cryptodidymosphaeria* von Höhnel but this name has not been widely used as it is usually treated as a synonym of *Didymosphaeria* Fuckel. The fungus is unusual in its parasitic habit within ascomata of *Leptosphaeria*. There are some similar species parasitizing fungi: *Didymosphaeria futilis* (Berk. & Br.) Rehm on *Diatrypella favacea* and *Didymosphaeria winteri* Niessl on *Phyllachora* (Ellis & Ellis, *Microfungi on miscellaneous Substrates*, Croom Helm, London & Sydney, Timber Press, Portland, Oregon, 1989).

The fungus was first collected in Canada, 9 July 1928 but the record was not published. Barr (1989) records it on *Leptosphaeria doliolum* from Massachusetts, 16 September 1973 and Washington, May 1925. She remarked "This species does not appear to have been reported from North America previously, but it has really only been overlooked" (*The Nonlichenized North American Taxa of Melanommatales*, Memoirs New York Botanical Garden, In Press). The potential for biological control has not been explored for *Didymosphaeria conoidea*. It is hoped that this description of the fungus will draw attention to its presence in North America and that its role in disease control will be tested.

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