



1, Ascocarps,  $\times 20$ ; 2, detail of wall and labial cells,  $\times 300$ ; 3, section of mature ascocarp,  $\times 125$ ; 4, mature ascus,  $\times 500$ ; 5, three ascospores,  $\times 1000$ ; 6, ascus and paraphyses,  $\times 1000$ . 1, 2, 3, 5, 6 from DAOM 117200; 4 from DAOM 60057.

**Lophodermium maculare**(Fr.) De Notaris, Giorn. Bot. Ital. 2: 45. 1847.

≡ *Hysterium maculare* Fries, Syst. Mycol. 2: 592. 1823.

ASCOCARPS amphigenous, black, scattered over surface, 0.3 to 0.5 mm long, 0.2 to 0.3 mm wide, up to 0.2 mm high, subcuticular, almost circular to broadly elliptical, opening by a longitudinal slit. WALL composed of dark-brown, thick-walled *textura angularis*: basal wall thin, up to  $25\mu\text{m}$  thick; lateral wall  $30\text{--}40\mu\text{m}$  thick where it meets the base, up to  $85\mu\text{m}$  thick at the apex. LABIA prominent, up to  $85\mu\text{m}$  wide, lined with yellowish, septate labial cells,  $10\text{--}25 \times 2.5\text{--}4\mu\text{m}$ , which are slightly inflated at the apex and immersed in a gelatinous matrix, covering the edges of the labia. HYMENIUM up to  $100\mu\text{m}$  thick. ASCI unitunicate, apex acute-truncate, not blueing in IKI, tapering slightly to a foot-like base,  $(64.4\text{--})72.4\text{--}88\text{--}(96.6) \times 7.8\text{--}9.1\text{--}(9.8)\mu\text{m}$ . ASCOSPORES filiform-clavate, 8 per ascus in an overlapping fascicle, filling the ascus, apex obtusely rounded, tapering to an acute base,  $(36\text{--})43\text{--}56\text{--}(64.8) \times 1.1\text{--}1.4\mu\text{m}$ , surrounded by an ephemeral, diffuse, gelatinous sheath which is concentrated at the tips forming two persistent gelatinous appendages. PARAPHYSES filiform, sparingly septate in lower part, with a gelatinous sheath, apex hooked to circinate,  $70\text{--}84\text{--}(87) \times 1\text{--}1.2\mu\text{m}$ . SUBHYMENIUM narrow, a densely packed *textura intricata* of hyaline hyphae  $3\text{--}6\mu\text{m}$  wide.

HOST: on dead leaves of *Vaccinium uliginosum* L.

DISTRIBUTION: North West Territories.

COLLECTIONS: N.W.T.: District of Franklin: Spence Bay, 21.VIII.1958, DAOM 60057 (D.B.O. Savile 3894B); Baffin Island: Cape Hooper, 21.VII.1967, DAOM 117200 (J.A. Parmelee & J.R. Seaborn); Frobisher Bay, 10.VIII.1959, DAOM 70401 (D.B.O.S. 3927); Head of Clyde Inlet, 7.VII.1950, DAOM

63414 (P. Dansereau); Head of Clyde Inlet, 31.VII.1950, DAOM 62927 (P.D.); District of Keewatin: Chesterfield Inlet, 16.VIII.1950, DAOM 59426 (D.B.O.S. 1443); Southampton Island, Coral Harbour, 16.VIII.1959, DAOM 70398 (D.B.O.S. 3970C).

NOTES: Both *L. maculare* and *L. melaleucum* occur on *Vaccinium*. *L. maculare* is distinguished by the solid brown labia, hooked to circinate paraphyses, asci filled with spores, and by ascospores 1.1 to 1.4 $\mu$ m wide bearing persistent terminal appendages. In *L. melaleucum* (Fungi Canadenses No. 195) the labial region is thick, but only a thin band of cells is pigmented, the paraphyses are flexuous, the asci are only two-thirds filled by spores, and the ascospores are 1.7 to 2.4 $\mu$ m wide with a uniform and continuous gelatinous sheath.

The character of ascospore sheath and appendages is observable in mounts of water or dilute KOH but is difficult to detect in preparations made with lactic acid and lactophenol. In water or KOH the lateral sheath on ascospores of *L. maculare* soon expands and becomes so diffuse that it is difficult to detect. The more concentrated gelatinous material at the ends of the ascospores is persistent and is another useful character, particularly for fragmentary specimens.

*Lophodermium oxycocci* (Fr.) Karst. on *Vaccinium* has labia like those of *L. maculare* but ascospores are shorter (less than 25 $\mu$ m long). *L. oxycocci* is recorded from Alaska on *V. oxycoccus* L. and *V. vitis-idaea* L. (I.L. Conners, Annotated index of plant diseases in Canada, Res. Branch Publ. 1251, Can. Dept. Agric., Ottawa, 1967), from Maine, Mass., N. J. and Alaska on *V. macrocarpon* Ait. and from Mich. on *V. oxycoccus* (Index of Plant Diseases in the United States, U.S.D.A. Agric. Handbook 165, 1960).

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