



1, Apothecia on male catkins of *Betula* sp. (from DAOM 19829). ( $\times 1$ ); 2, asci and ascospores from DAOM 56322; 3, single ascospore culture (DAOM 144040), on p.d. agar, 3 weeks old, viewed from below ( $\times 1$ ); 4, section of apothecium from DAOM 56322, showing outer covering layer, ectal excipulum, medullary excipulum and subhymenium.

*Ciboria betulicola* Groves & Elliott, Can. J. Bot. 39:222. 1961.

**APOTHECIA** 2-8(-10) mm in diameter, at first deep bowl-shaped with margin incurved, becoming shallow bowl-shaped, then flat expanded, and finally recurved, thin, fragile, somewhat translucent, disc pale grayish brown, "Vinaceous Buff" to "Avellaneous" to "Wood Brown" (Ridgway), the margin slightly darker, excipulum concolorous, glabrous; stipe long, slender, tenuous, tapering gradually downwards, concolorous with the disc above, becoming darker to dark brown toward the base, 3-25(-35) mm long and about 0.5 mm in diameter at the apex.

**HYMENIUM:** ASCI inoperculate, cylindric, narrowed below to a short stalk, 8-spored (85-)95-125(-160)  $\times$  (5-)6-9 (-11)  $\mu$ ; pore blues in IKI; ASCOSPORES ellipsoid, hyaline, one-celled, mostly uniseriate, sometimes biseriate, uninucleate, (5-)6-9(-11)  $\times$  (2.5-)3.5-4.5(-6.5)  $\mu$ ; paraphyses hyaline, filiform, septate, sometimes branched near the base, about 1.5-2.0  $\mu$  in diameter, the tips slightly enlarged and clavate. **SUBHYMENIUM** very narrow, about 25  $\mu$  thick, of closely interwoven, slender hyphae with brown pigmented walls. **MEDULLARY EXCIPULUM** of loosely interwoven hyaline

hyphae 4-8  $\mu$  in diameter with hyaline to subhyaline walls, occasionally with granular deposits, wider than subhymenium. ECTAL EXCIPULUM two or three cells deep, composed of irregular, thin-walled cells, 10-20  $\mu$  in diameter, *textura globulosa* to *textura angularis*. OUTER COVERING LAYER sometimes present, consisting of 1-2 layers of long narrow hyphae outside the ectal excipulum. MARGIN thin, slightly broader at the base than at the tips of asci, a continuation of the subhymenium and ectal excipulum. STIPE of prosenchymatous tissue composed of ascending more or less vertically parallel hyphae forming a compact peripheral layer with a central medulla of slightly more loosely arranged and somewhat interwoven hyphae.

SUBSTRATE: On overwintered male catkins of *Betula* spp. and *Ostrya virginiana* (Mill.) Koch.

DISTRIBUTION: Quebec, Ontario.

COLLECTIONS (selected): Que., Gatineau Park, 10.V.1955, DAOM 65266 (J.W. Groves), 18.V.1960, 128287 (I. Kukkonen, M.E. Elliott), Burnet, 16.V.1950, 37542 (F.L. Drayton et al.). Ont., Carleton Co., near Stittsville, 5.V.1953, 37566 (J.W.G.), L. Constance, 2.V.1955, 65264 (M.E.E. et al.). Apothecia produced in culture, April 1955, 65255 (C.A. Bowerman).

NOTES: The fungus is common in the Ottawa district and can be collected regularly each season, usually on male catkins of *Betula*. The rather large, pale, fragile apothecia and small ascospores are characteristic. The earliest collection date for this species in the Ottawa area is April 30 and the latest May 24.

On potato dextrose agar the cultures form a dense, white, cottony to felty, aerial mycelium with the submerged mycelium dark brown with a yellowish buff tint. The stromata develop as black, circular to irregular, anastomosing crusts. Spermatia are formed in culture. The fungus is self-fertile.

A.H.R. Buller in "Researches on Fungi" Vol. V, p. 141. 1933 reported finding a *Ciboria* on *Betula papyrifera* at Victoria Beach, Lake Winnipeg, Manitoba which is probably this species.

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