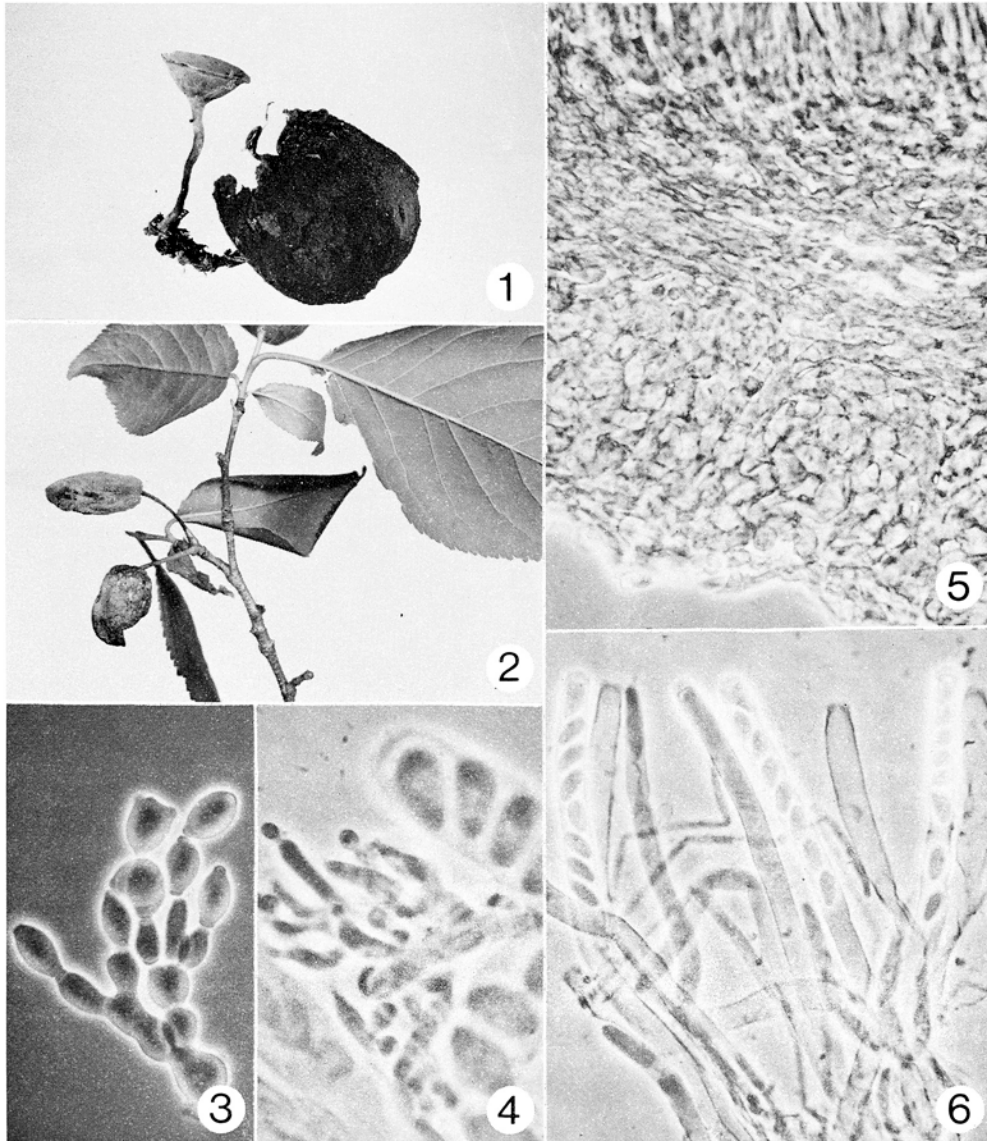


# MONILINIA FRUCTICOLA



1, Apothecia arising from overwintered mummified fruit of Canada Plum (ca  $\times 1\ 1/2$ ); 2, conidia covering fruit and young, dying leaf (ca  $\times 3/4$ ); 3, branched conidial chain ( $\times 500$ ); 4, microconidia, phialides, asci and ascospores ( $\times 1200$ ); 5, section of apothecium: outer covering layer, ectal excipulum, medullary excipulum, subhymenium ( $\times 500$ ); 6, asci, ascospores and paraphyses ( $\times 500$ ). Figs. 1,4,5,6 from DAOM 144721; 2,3 from 144582.

**Monilinia fructicola** (Wint.) Honey, Mycologia 20: 153. 1928.

■ *Ciboria fructicola* Winter, Hedwigia 22: 131. 1883.

**APOTHECIA** (2-)4-14 mm in diameter, deep cup-shaped to cup-shaped, disc Sienna to Ochreous to Fulvous (Rayner, Mycological Colour Chart, Commonwealth Agric. Bureaux, 1970); excipulum slightly darker; stipe 15-40 mm long and about 1 mm in diameter at the apex, close to Bay (Rayner), arising from mummified overwintered fruit.

**HYMENIUM**: ASCI inoperculate, cylindrical, tapering below to form an indistinct stalk, slightly expanded at the base, rounded or flattened at the tip, 8-spored, ascospores generally in upper half of ascus, pore stained blue in IKI, 125-159 × 8-10 μ; **ASCOSPORES** ellipsoid to ovoid, hyaline, obliquely uniseriate, one-celled, binucleate (germinating ascospores with 4 nuclei), 8.3-11.6 × 4.5-7.0 μ; **PARAPHYSES** hyaline, filiform, septate, rarely branched near the base, only slightly longer than asci, about 2.5 μ in diameter at somewhat enlarged tip. **SUBHYMENIUM** narrow about 27 μ thick, often appearing pseudoparenchymous, composed of closely interwoven hyphae with brown pigmented walls, more or less parallel to surface of apothecium. **MEDULLARY EXCIPULUM** of narrow hyphae, closely compacted near margin to loosely interwoven near stipe, subhyaline walls with some granular deposits. **ECTAL EXCIPULUM** up to 50 μ thick, textura angularis, cell walls lightly pigmented. **OUTER COVERING LAYER** usually present, 1-2-3 layers of subhyaline to yellow brown hyphae, occasionally roughened, more deeply pigmented, about 3 μ wide. **MARGIN** present, mainly a continuation of medullary excipulum with narrow individual hyphae going to apex, and of ectal excipulum with a few free hyphal extensions, pigmented. **STIPE** of prosenchymatous tissue composed of ascending more or less parallel hyphae forming a compact peripheral layer of brown hyphae with a central medulla of slightly more loosely arranged and somewhat subhyaline interwoven hyphae, many granular deposits. **STROMA** well-developed, a thin, black rind on both outer and inside surfaces of the flesh of the fruit, appears as a hollow spheroid often enclosing the stone of mummified fruit.

**COLONIES** of the imperfect state buff-coloured. **CONIDIOPHORES** usually short, septate about 11 μ wide, composed of more or less elongate, erect, simple or di- and trichotomously branched conidial chains. **CONIDIA** ellipsoid, elongate-ellipsoid to limoniform, rarely spherical, subhyaline to pale olivaceous-buff, developed acrogenously in chains, without disjunctors, 13-27 × (6-)8-17 μ. **MICROCONIDIA**, in chains on phialides, hyaline, globose, often freed with collarete attached, 2.5-3.0 μ, associated with conidia and rarely apothecia.

**HOST**: Apothecia on overwintered mummified fruit of *Prunus nigra* Ait. Conidia on fruit, peduncles, twigs, leaves or blossoms, of *P. avium* L., *P. depressa* Pursh, *P. domestica* L., *P. melanocarpa* (A. Nels.) Rydb., *P. nigra* Ait., *P. persica* (L.) Batsch, *P. pumila* L.

**DISTRIBUTION**: Quebec, Ontario, Saskatchewan, British Columbia.

**COLLECTIONS** (selected): Apothecial state: Que., Gatineau Park, 22.V.1973, DAOM 144581, 144721 (Elliott & Kokko). Ont., St. Catharines, 20.V.1950, 28598 (Conners et al). Conidial state: Que., Gatineau Park, 19.VI.1973, 144582 (Elliott & Seaman), 30.V.1973, 144721a (E. & K.) (culture on agar); Rouville Co., 30.VII.1953, 41154 (Cinq-Mars). Ont., St. Catharines, 26.V.1915, 1291 (McCubbin); Ottawa, 30.VIII.1973, 144563 (Illman).

**CULTURAL CHARACTERS**: On potato dextrose agar isolates are paler than Hazel (Rayner) to paler than Isabelline (Rayner), in concentric circles, conidia 7.9-17.2 × (5.1-)6.6-11.5 μ, black stromatic areas about 5 mm in diameter seen from reverse of plate, the number varying with each isolate. Microconidia present. The conidia produced on an artificial medium are smaller than those on the host.

**NOTES**: Conners (Annotated index of plant diseases in Canada. Res. Branch Publ. 1251. Can. Dept. Agric. Ottawa. 1967) reported brown rot of plums, peaches and cherries to be frequently epidemic under moist conditions and blossom blight to occur occasionally. He noted that *M. fructicola* was present on 17 species of *Prunus* and reported from all provinces except Newfoundland. A month after apothecia were collected in the Ottawa area, conidial colonies were found completely covering young and dying leaves as well as the decaying fruit, and causing smaller areas of infection on peduncles, twigs and mature leaves of *P. nigra*.

Mary E. Elliott