



1, Fructifications (ca \times 35) from Ell. & Everh. N. Am. F. 2548; 2, ascus from herb. Dearness (N.E. Chadwicks, Dec. 1890); 3, ascospore from Spegazzini Dec. Myc. Ital. 17; 4, young and mature ascospore from Ell. & Everh. N. Am. F. 2548; 5, ascospore from herb. Dearness (Bisby and Gordon, 28 Sept. 1927).

Calonectria decora (Wallr.) Sacc., *Michelia* 1: 311. 1878.

≡ *Sphaeria decora* Wallr., *Fl. Crypt. Germ.* 2: 842. 1833.

≡ *Nectria decora* (Wallr.) Fuckel, *Symb. Mycol.* p. 179. 1870.

= *Calonectria agnina* (Rob. ex Desm.) Sacc., *Michelia* 1: 311. 1878.

≡ *Sphaeria agnina* Rob. ex Desm., *Ann. Sci. Nat. Ser. III*, 6: 72. 1846.

= *Calonectria pyrrochlora* Sacc., *Michelia* 1: 251. 1878 (non Auersw., see notes).

= *Calonectria massariae* (Pass.) Sacc., *Michelia* 1: 312. 1878.

≡ *Nectria massariae* Pass. in Rabenh., *F. europ.* no. 1827. 1874.

= *Calonectria diminuta* (Berk.) Berl. & Vogl., *Syll. Fung. Add.* p. 213. 1886.

≡ *Nectria diploa* Berk. & Curt. var. *diminuta* Berk., *Grevillea* 4: 46. 1875.

≡ *Nectria diminuta* (Berk.) Sacc., *Syll. Fung.* 2: 498. 1883.

≡ *Dialonectria diminuta* (Berk.) Cooke, *Grevillea* 12: 83. 1884.

= *Calonectria dearnessii* Ell. & Ev., *Proc. Acad. Sci. Phila.* 1890 p. 245, 1890.

? = *Calonectria decora* (Wallr.) Sacc. var. *parasitica* Hazsl., *Math. term. Közlem. (Sphaer. Hung.)* Budapest 25 no. 2, 333 pp. 1893.

PERITHECIA clustered around and parasitic on ostioles of *Massaria*, up to 50 in a stromatic cluster, white, cream-coloured, yellow or orange and often darker, deep amber-coloured around ostioles, crowded on a thin, white, evanescent, mycelial subiculum. Perithecia broadly ovoid, about $250 \times 200\mu$ when mature, covered with a white, mealy growth of short hyphae except around the terminal periphysate ostiole. Perithecial wall thin, plectenchymatous, composed of irregular hyaline cells. ASCI delicate, very thin-walled, spindle-shaped to clavate, slightly thickened at the truncate apex, sessile, $80-110 \times 10-15\mu$, 8-spored. PARAPHYSES absent. ASCOSPORES distichous or obliquely monostichous, colourless, thin-walled, 3-septate and minutely roughened when mature, not constricted at the septa,

ellipsoid but usually more or less ovoid and somewhat curved, 22-34 × 5-7 μ , with longer ascospores being also narrower.

SUBSTRATE: parasitic on ostioles of *Massaria* spp. on *Acer*, *Amelanchier* and *Ulmus*.

DISTRIBUTION: Ontario, Manitoba.

COLLECTIONS: On *Massaria inquinans* [Tode] Fr. on *Acer rubrum* L., Ont., London, in herb. Dearness 1346 p.p. in DAOM; on *A. saccharum* Marsh., Ont., Ekfrid Swamp, London, 26 June 1891; on *Acer* sp., Ont., Luke's maple brush, London, Aug. 1895, and N.E. Chadwicks, London, Dec. 1890, all in herb. Dearness 1346 p.p. in DAOM; London, Feb. 1890 in Ell. and Everh. N. Am. F. 2548 (apparently erroneously entered as on *Fraxinus*) and Ellis and Everh. F. Columb. 878 in DAOM (J. Dearness). On *Massaria pyri* Otth on *Amelanchier alnifolia* (Nutt.) Nutt., Man., M.A.C., Winnipeg, 28 Sept. 1927, in herb. Dearness 1346 p.p. in DAOM (G.R. Bisby and W.L. Gordon). On *Massaria ulmi* Fuckel on *Ulmus* sp., Ont., Sifton's, London, 17 April 1890 and 3 June 1890 in herb. Dearness 1346 p.p. in DAOM.

NOTES: This species was investigated by Seaver (Mycologia 1: 68. 1909), Höhnelt and Weese (Ann. Mycol. 9: 424. 1911) and Wollenweber (Z. Bakt. Paras. 106: 122. 1943). The latter considered *Fusarium ciliatum* Link to be its conidial state.

What Saccardo (Michelia 1: 251, 1878) described as "*Calonectria pyrrochlora* (Awd.) Sacc.", and later (Syll. Fung. 2: 546. 1883) identified with *C. massariae*, is not Auerswald's fungus. The basionym, *Nectria pyrrochlora* Auersw. (in Rabenhorst, Hedwigia 8: 88. 1869 and F. europ. 1234. 1869) is *Thyrionectria pyrrochlora* (Auersw.) Sacc. (See Seeler, J. Arnold Arbor. 21: 451. 1940).

The Canadian representatives compare well with European material distributed by Herb. Barbey-Boissier sub no. 868 (as *Calonectria decora*), Rabenhorst, F. europ. no. 1827 (as *Nectria massariae*), and Upegazzini, Dec. myc. ital. no. 17 (as *C. massariae*), all in herb. DAOM and examined during this study.

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