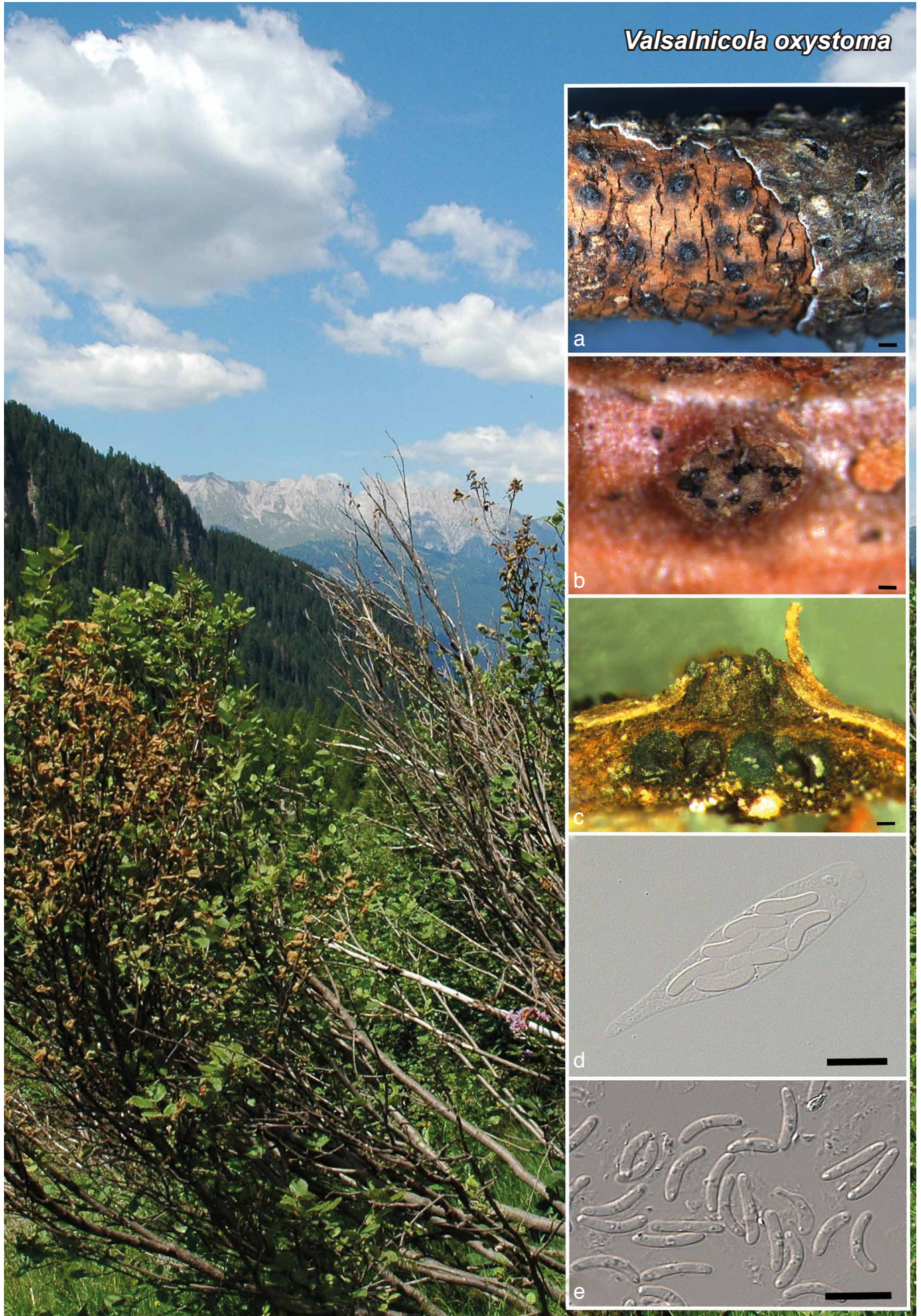


Valsalnicola oxystoma



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***Valsalnicola* D.M. Walker & Rossman, gen. nov.**

Etymology. Named for its valsa-like appearance and occurrence on species of *Alnus*.

Causing linear cankers and lesions. *Ectostromata* well-developed, brown to black, thick disc from which perithecial necks emerge. *Ascomata* perithecial, immersed beneath ectostroma,

aggregated in groups of 13–23, converging into 5–20 necks. *Asci* fusiform, with indistinct apical ring. *Ascospores* allantoid with rounded ends, 1-septate, hyaline.

Type species. *Valsalnicola oxystoma*.
Mycobank MB801277.

***Valsalnicola oxystoma* (Rehm) D.M. Walker & Rossman, comb. nov.**

Basionym. *Valsa oxystoma* Rehm, Ber. Naturhist. Vereins Augsburg 26: 70. 1881.

= *Cryptodiaporthe oxystoma* (Rehm) Z. Urb., Preslia 29: 395. 1957.

Twig lesions in surface view (511–)591–890(–893) µm diam (mean = 654, S.D. 122, n = 13). *Ectostroma* well-developed, brown to black, thick disc from which perithecial necks emerge. *Ascomatal cavity* (690–)765–909(–950) µm high × (1610–)1710–2346(–3947) µm diam (mean = 816 × 2198, S.D. 109, 703, n1 = 5, n2 = 9). *Ascomata* perithecial, immersed beneath ectostroma, causing host tissue to swell and rupture, perithecia converging into 5–20 necks, emerging at surface through ectostromatic disc, perithecia grouped 13–23. *Ascomata* glossy black, subglobose to globose (240–)266–298(–320) µm high × (253–)260–335(–337) µm diam (mean = 282 × 294, S.D. 25, 36, n1 = 7, n2 = 13); necks central, straight to curved, length (426–)428–550(–563) µm (mean = 476, S.D. 54, n = 9). *Asci* fusiform, (38–)39–48(–49) × (8–)9–12(–13) µm (mean = 44 × 11, S.D. 4, 1.2, n1 = 17, n2 = 18), apex broadly rounded, with indistinct apical ring, stipe acute, rounded, or tapering to a point, ascospores arranged irregularly multiseriate. *Ascospores* allantoid with rounded ends, mostly curved, rarely straight, (9–)10–11(–12) × 2–3 µm (mean = 11 × 2, S.D. 0.9, 0.5, n = 30), 1-septate, median, slightly constricted or not at septum, each cell with several small guttules, hyaline. *Cultures* slow-growing, 3–6 mm in 10 d on potato-dextrose agar, mycelium low, pale brown to greyish brown, reverse dark brown.

In culture on synthetic nutrient-poor agar — Dimorphic, forming a synanamorph. *Conidiomata* pycnidial, exuding masses of brown conidia. *Conidiophores* reduced to conidiogenous cells, or one supporting cell, proliferating percurrently. *Conidia* cylindrical, brown, finely verruculose, apex obtuse, base truncate, 3–5-euseptate, 15–23 × 4–5 µm. *Conidia* of synanamorph intermingled in same conidioma, but conidiogenous cells proliferating percurrently or sympodially; conidia hyaline to subhyaline, narrowly obclavate, apex subobtuse, base truncate, straight to curved, 25–80 × 2.5–3 µm, up to 11-septate. Synanamorph also developing in aerial mycelium (on PNA); *conidiophores* subcylindrical, straight to curved, 0–2-septate, hyaline to subhyaline, 8–15 × 2–3 µm, proliferating sympodially at apex. *Conidiophores* solitary or fasciculate or on a reduced stroma.

Colour illustrations. Italy, Trentino, Val Sadole, showing trees of *Alnus viridis* with green alder decline (Giorgio Maresi). a. Rehm: Ascomyceten 280, scale bar = 500 µm. b–d. BPI 884137, scale bars of perithecia = 100 µm, scale bar of ascus = 10 µm. e. Rehm: Ascomyceten 280, scale bar = 10 µm.

Typus. AUSTRIA, Tyrol, Längenfeld, on dead branch of *Alnus viridis*, c. 3 500 ft., Aug. 1874, coll. Rehm. This type specimen was issued as Rehm, Ascomyceten no. 280. Of the two specimens at BPI, the more plentiful one is in the bound set of Rehm, Ascomyceten, and is herein designated as Lectotype BPI 884138. Isolectotypes examined BPI 738235 and NY, MycoBank MB801277.

Additional specimens examined. BELGIUM, Brussels, Soignes, on branch of *Alnus glutinosa*, Oct. 1899, P. Nypels, comm. H. Rehm, Vestergren, Micromycetes rariores selecti 409 as *Valsa oxystoma* (BPI 574854). — CANADA, British Columbia, Yoho National Park, Chancellor Mountain Camp, on *Alnus* sp., 11 Aug. 1962, R.F. Cain, TRTC 40116 (NY); Ontario, Kenora District, Tustin Township, Gordon Lake, Rd., on *Alnus* sp., 26 Sept. 1959, coll. D. Bowen, det. J. Reid as *Valsa oxystoma* (BPI 574855). — ITALY, Trento, Monte Bondone Trento, E11°03'51" N46°02'20", on *Alnus viridis*, Apr. 2011, G. Maresi, isol. A. Rossman AR 4833 = CBS 133337, ITS sequence JX519559, and LSU sequence JX519563 (BPI 884137); Trento, val Sadole (E11.60, N46.15), 2009, G. Maresi & C.M.O. Longa (BPI 884136). — SWEDEN, Umea, on dead branch of *Alnus borealis*, Sept. 1910, Viengel, det. F. Bubak (BPI 574856). — USA, Alaska, near Fairbanks, Moose Creek, Environmental Monitoring Plot 316 MC UM11 MRC, N64.72, W147.23, elev. 150 m, on *Alnus incana* var. *tenuifolia*, May 2010, G.C. Adams, culture AR 5137 = CBS 133329, ITS sequence JX519561 (BPI 884135).

Habitat — *Alnus viridis* ssp. *viridis*, causing a twig colonization and canker disease involved in green alder decline (Pissetta et al. 2012); also known from *Alnus glutinosa*, *A. incana*, *A. incana* var. *tenuifolia*, *A. rubra*, *A. viridis* ssp. *fruticosa* and *A. viridis* ssp. *maximowiczii*.

Distribution — Asia: Japan (Kobayashi 2007); Europe: Austria, Belgium, Italy, Sweden, also United Kingdom (Cannon et al. 1985); North America: Canada (Ontario); USA: Alaska.

Notes — *Valsalnicola* is based on a species that was described in the genus *Valsa*. Although it resembles *Valsa* in having allantoid ascospores, the ascospores of *Valsalnicola* are 1-septate while the majority of species of *Valsa* and closely related *Leucostoma* and *Valsella* have aseptate ascospores. However, one species of *Valsa*, *V. melanodiscus*, also has 1-septate ascospores, occurs on *Alnus* spp., and produces linear cankers on the host. A distinguishing feature of *Valsalnicola* is the lack of a black line surrounding stromata in the ascomatal cavity, which is characteristic of *Valsa melanodiscus*. In addition, the growth rate of cultures of *Valsalnicola oxystoma* is considerably slower than species of *Valsa*. Molecular sequence data place this new genus within the *Gnomoniaceae-Melanconidaceae* complex. Allantoid, 1-septate ascospores have not previously been reported in the *Gnomoniaceae* or *Melanconidaceae*. ITS sequences of specimens from Alaska and Italy are identical. The basionym has been cited as Rehm: Ascomyceten 270 (1875) in 'Index Fungorum' reflecting an error in Saccardo (1882) but the correct number is Rehm: Ascomyceten 280, which does not include a description.

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