

**Verrucaria calciseda DC.**

in J.B.A.P. de M. de Lamarck & A.P. de Candolle, *Fl. Franç.*, 3rd edn, 2: 317 (1805)

T: bei Eichstätt, Germany, 3 June 1866, *F.C.G.Arnold 311*; neo: ZT n.v., *fide Bull. Soc. Linn. Provence* 58: 183 (2007).

Illustrations: C.Gueidan & C.Roux, *op. cit.* 182, figs 2–4; 184, figs 5–7; 185, figs 8, 9; 186, figs 10–16.

Thallus endolithic, continuous, chalky white to pale grey, rarely medium grey, smooth, usually matt, frequently with fine cracks radiating from the perithecia. Algae globose, 7–15 µm diam. Prothallus black, delimiting and intersecting thalli, or not apparent. Perithecia ±entirely immersed in the substratum, 0.2–0.3 (–0.4) mm diam., black, frequently leaving minute pits after decay; apex plane to convex, 0.13–0.24 mm diam.; ostiole usually inconspicuous. Involucrellum absent. Exciple 15–22 µm thick at the base and sides and dark brown to black, at the apex black and c. 30 µm thick. Centrum 0.16–0.35 mm wide. Periphyses 20–30 × c. 1.5 µm. Asci 50–70 × 14–18 µm. Ascospores narrowly to broadly ellipsoidal, 13–24 × 7–13 µm.

Occurs on limestone in W.A., Qld and N.S.W.; reports from S.A. and Vic. (R.B.Filson, *Checklist Austral. Lichens & Allied Fungi* 147, 1996) could not be confirmed. Also in northern Eurasia, North Africa, Ethiopia, Cuba, North America, Mexico and New Zealand.

W.A.: Yeelirrie Uranium Deposit, *D.H.S.Richardson 57* (PERTH); 1 km N of Eucla, 19 Sept. 1985, *A.C.Corrick* (MEL). Qld: Royal Arch Caves Natl Park, 5 km SW of Chillagoe, *H.Streimann 46485 (part)* (CANB). N.S.W.: Limestone Valley Ck, *W.H.Ewers 7394* (MEL).

Gueidan & Roux (*Bull. Soc. Linn. Provence* 58: 181–194, 2007) neotypified *V. calciseda* and transferred it to the genus *Bagliettoa* even though it lacked the lid-like involucrellum that is widely regarded as the principal diagnostic character for that genus. Subsequently, Gueidan *et al.* (*Taxon* 58: 184–208, 2009) elaborated on their revised circumscription of *Bagliettoa*. This species is retained here in *Verrucaria*.

*Verrucaria australiensis* also has an endolithic thallus and simple, immersed perithecia. However, its perithecia and ascospores are smaller than those of *V. calciseda*.

