

**Pertusaria paradoxica** A.W.Archer & Elix, *Mycotaxon* 45: 420 (1992)

T: slopes of Black Mtn, 25 km NW of Kuranda, Qld, 16°40'S, 145°29'E, 7 July 1984, *J.A.Elix 17541*; holo: CANB.

Illustrations: A.W.Archer & J.A.Elix, *op. cit.* 419, fig. 3 (1992); A.W.Archer, *Biblioth. Lichenol.* 69: 123, fig. 39 (1997).

Thallus greenish yellow to pale greenish grey, wrinkled and cracked, smooth and dull. Soredia and isidia absent. Apothecia conspicuous, verruciform, occasionally confluent, concolorous with the thallus, flattened-hemispherical, becoming constricted at the base, sometimes slightly concave above, 0.8–1.4 mm diam. Ostioles inconspicuous, pale to dark brown, in a subhyaline zone, 1–4 per verruca. Ascospores 4 or 8 per ascus, irregularly uniseriate, ellipsoidal to subfusiform, smooth, 75–145 × 30–45 µm.

*Chemistry*: Thallus K–, KC+ violet, C+ violet, Pd–; containing 4-*O*-methylisocryptochlorophaeic acid (major), stictic acid (major), thiophanic acid (minor) and constictic acid (minor).

The *meta*-depside 4-*O*-methylisocryptochlorophaeic acid is the only 5'-hydroxy-substituted *meta*-depside found so far in lichens.

Two varieties of this corticolous species are recognised.

Ascospores 4 per ascus, 95–125 (–145) µm long..... **b. var. tetraspora**

Ascospores 8 per ascus, 75–100 µm long..... **a. var. paradoxica**

**a. Pertusaria paradoxica** A.W.Archer & Elix var. **paradoxica**

Ascospores 8 per ascus, 75–100 µm long.

An uncommon, endemic variety in rainforest in eastern Qld and N.S.W.

Qld: Conway S.F., 18 km E of Proserpine, *J.A.Elix 20223* (CANB); Noosa R., c. 70 km SE of Gympie, *J.Hafellner 19630* (GZU). N.S.W.: Evans R., c. 3 km S of Evans Head, *A.W.Archer P390* (DUKE, NSW); 1 km S of Springwood, Blue Mountains Natl Park, *A.W.Archer P221, P223* (NSW); Glenbrook Ck, Blue Mountains Natl Park, *K.Kalb 18870* (Herb. K.Kalb).

**b. Pertusaria paradoxica** var. **tetraspora** A.W.Archer & Elix, in A.W.Archer, *Biblioth. Lichenol.* 69: 119 (1997)

T: by side of Wilson R., Mount Boss State Forest, 37 km NW of Wauchope, N.S.W., 32°33'S, 151°29'E, alt. c. 250 m, 14 Oct. 1993, *A.W.Archer P662*; holo: NSW.

Ascospores 4 per ascus, 95–125 (–145) µm long.

This variety is sympatric with var. *paradoxica* in eastern N.S.W.

N.S.W.: Towlers Bay, c. 30 km N of Sydney, *A.W.Archer P818* (NSW).

The variety is chemically and morphologically almost identical to var. *paradoxica*, and the two varieties are differentiated only by the length of their ascospores and the number of ascospores in the asci.