Pertusaria subventosa Malme, *Ark. Bot*. 28A(9): 7 (1936)

T: Buriti, Serra da Chapada, Mato Grosso, Brazil, 24 June 1894, *G.O.A.Malme 3936*; holo: S.

Pertusaria paeminosa A.W.Archer, *Nova Hedwigia* 50: 3 (1990). T: Bairne Track, c. 30 km N of Sydney, N.S.W., 14 Jan. 1989, *A.W.Archer P38*; holo: NSW; iso: CANB.

Pertusaria sorediata C.Knight, *in* J.Shirley, *Proc. Roy. Soc. Queensland* 6: 141 (1889), *nom. illeg., non P. sorediata* (Fr.) Fr., *Summ. Veg. Scand*. 1: 119 (1846). T: Moreton Bay, Qld, *J.Shirley 67*; holo: WELT.

Illustrations: A.W.Archer, *Nova Hedwigia* 50: 4, fig. 1 (1990), as *P. paeminosa*; A.W.Archer, *Biblioth. Lichenol*. 69: 214, fig. 79 (1997).

Thallus off-white to greyish white, thick, cracked and areolate, smooth. Isidia absent. Soralia conspicuous, white, becoming numerous and often confluent away from the margin, subglobose, occasionally slightly stipitate, 0.5–1.5 mm wide. Apothecia very rare, disciform; disc dark brown, white-pruinose, 0.2–0.5 mm diam., becoming exposed in stipitate soralia in groups of 1–3. Ascospores rare, 1 per ascus, elongate-ellipsoidal, rarely lachrymoid, sometimes slightly curved, 120–160 × 35–50 µm; wall c. 1 µm thick.

This is the most common saxicolous *Pertusaria* species in eastern Australia. The three varieties are morphologically identical, but they are differentiated by their chemistry. Lichexanthone and picrolichenic acid are present in all three.

1 Soralia K–; thamnolic acid and hypothamnolic acid absent ..... **b.** var. **deficiens**
1: Soralia K+ yellow or violet; thamnolic or hypothamnolic acid present 2
2 Soralia K+ yellow; thamnolic acid present (*1:*) ..... **a.** var. **subventosa**
2: Soralia K+ violet; hypothamnolic acid present ..... **c.** var. **hypothamnolica**

a. **Pertusaria subventosa** Malme var. **subventosa**

Chemistry: K+ yellow, KC+ violet, C–, Pd+ yellow, UV+ bright yellow; containing lichexanthone (major), thamnolic acid (major) and picrolichenic acid (major); rarely with additional norstictic acid.

The most widely distributed of the three varieties. It occurs in Qld, N.S.W., A.C.T. and Vic.; also in Lord Howe Is., New Zealand and Brazil. Often with *P. xanthoplaca* in south-eastern Australia and with *P. hypoxantha* in north-eastern Qld.

Qld: tip of Cape York Penin., *A.Filson s.n.* (MEL 1018913); Mt Catherine, 10 km NE of Ingham, *J.A.Elix 15438* (CANB). N.S.W.: Hat Head summit, Hat Head Natl Park, 25 km ENE of Kempsey, *A.W.Archer P386* (NSW, PERTH). A.C.T.: Gudgenby Gorge, 27 km S of Canberra, *H.T.Lumbsch 5629b* (CANB, M, NSW). Vic.: W side of Mallacoota Inlet, Mallacoota, *A.W.Archer P547* (MEL, NSW).

This variety is characterised by the presence of thamnolic acid. It is rarely found with apothecia, and fertile specimens of the other two varieties are so far unknown.

b. **Pertusaria subventosa** var. **deficiens** A.W.Archer & Elix, *Mycotaxon* 49: 146 (1993)

T: Hughenden–Townsville highway, 28 km SW of Pentland, Qld, 20°43'S, 145°14'E, 25 June 1986, *J.A.Elix 20753*; holo: CANB.

Chemistry: K–, KC+ violet, C–, Pd–, UV+ bright yellow; containing lichexanthone (major) and picrolichenic acid (major); rarely with additional norstictic acid (major).

Occurs in Qld, N.S.W. and Vic.; also in Lord Howe Is. and Uruguay.

Qld: Great Keppel Is., *U.Allan* (HO 50911); Porcupine Creek Gorge, 16 km NNE of Hughenden, *H.Streimann 37315* (CANB). N.S.W.: track to Pigeon House Mtn, 15 km W of Ulladulla, *J.A.Elix 3908* (CANB). Vic.: Mt Arapiles, *W.H.Ewers 425* (CANB).

This variety is characterised by the absence of thamnolic and hypothamnolic acids.

c. Pertusaria subventosa var. **hypothamnolica** A.W.Archer & Elix, *Mycotaxon* 49: 147 (1993)

T: between Breakneck Ck and Quandong Ck, 24 km WSW of Proserpine, Qld, 20°29'S, 148°22'E, 2 July 1986, *J.A.Elix 21160*; holo: CANB.

Chemistry: K+ violet, KC+ red-violet, C–, Pd–, UV+ bright yellow; containing lichexanthone (major) and picrolichenic acid (major) and hypothamnolic acid (major).

Less widely distributed than the other two varieties and, in Australia, it occurs only in eastern Qld and north-eastern N.S.W.; also in Papua New Guinea.

Qld: Rainbow Beach Rd, 12.5 km S of Tin Can Bay, *J.A.Elix 22783 p.p.* (CANB). N.S.W.: Diehard Ck, Mann River Nature Reserve, 50 km E of Glen Innes, *J.A.Elix 37093* (CANB).

Pertusaria subventosa var. *hypothamnolica* is characterised by the presence of picrolichenic acid, lichexanthone and hypothamnolic acid in the thallus.