

SCULPTOLUMINA

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Sculptolumina Marbach, *Biblioth. Lichenol.* 74: 296 (2000)

From the Latin *sculptus* (carve, cut, chisel) and *lumen* (a cavity or space within a cell, literally light), in reference to the shape of the cell lumina of mature ascospores.

Type: *S. japonica* (Tuck.) Marbach

Thallus crustose, thin to thick, often leprose-granulose or minutely squamulose. Isidia absent, but diffuse soredia often present. Upper surface white, grey, yellow-brown to olive-brown. Prothallus absent. Photobiont a unicellular green alga. Upper cortex pseudoparenchymatous. Medulla usually well defined, white or pigmented in part. Lower cortex usually present. Ascomata apothecia, lecideine, immersed to sessile; disc black, ±plane or convex with age, epruinose. Excipulum poorly developed, thin, dark brown or carbonaceous, often with a paler inner zone. Epihymenium dark brown to olive-brown or red-brown; hymenium colourless, interspersed with oil globules; hypothecium pale to dark brown or carbonaceous. Paraphyses simple to furcate or sparingly branched; apical cells enlarged, brown. Asci clavate, *Bacidia*-type, with 8 or fewer ascospores; apex wall layers thickened; apex amyloid, with a distinct non-amyloid conical axial mass. Ascospores *Pachysporaria*- or *Mischoblastia*-type, olive-brown to brown, 1-septate, small, ellipsoidal, with pronounced internal apical and septal wall thickenings; internal wall-thickenings appearing before the septum is inserted (type-B ontogeny); cell lumina funnel-shaped or spherical, connected via a thin tube; torus present or not; spore surface smooth to ornamented. Conidiomata pycnidial, immersed in the thallus; conidiophores of type V (Vobis, 1980), acrogenous. Conidia filiform, straight or slightly or irregularly curved.

Sculptolumina is a pantropical-subtropical genus of two species, one of which is known from Australia.

References

- Giralt, M., Paz-Bermudez, G. & Elix, J.A. (2009), New data on *Sculptolumina japonica*, *Bryologist* 112: 397–403.
- Marbach, B. (2000), Corticole und lignicole Arten der Flechtengattung *Buellia sensu lato* in den Subtropen und Tropen, *Biblioth. Lichenol.* 74: 1–384.
- Sheard, J.W., Lendemer, J.C. & Tripp, E.A. (2008), *Buellia japonica* (Physciaceae), a new lichen record for North America, *Bryologist* 111: 124–127.

***Sculptolumina japonica* (Tuck.) Marbach, *Biblioth. Lichenol.* 74: 297 (2000)**

Lecidea japonica Tuck., *Proc. Amer. Acad. Arts* 5: 421 (1862); *Buellia japonica* (Tuck.) Tuck., *Lichens of California, Oregon and the Rocky Mountains* 25 (1866). T: Japan, U.S. Explor. Exped., C. Wright; holo: FH.

For further synonymy see Marbach (2000) and Sheard *et. al.* (2008).

Illustrations: B.Marbach, *op. cit.* 201, fig. 143; J.W.Sheard, J.C.Lendemer & E.A.Tripp, *op. cit.* 125, fig. 1; M.Giralt, G.Paz-Bermudez & J.A.Elix, *op. cit.* 398, figs 1–3.

Thallus continuous, indeterminate, inconspicuous to thin and smooth or thicker and leprose-granulose, 1–5 cm wide. Upper surface grey to olive-brown, minutely orange-spotted in places, orange pigment K⁺ purple, ±diffusely sorediate in places. Apothecia 0.3–0.6 mm wide; proper margin black, moderately thick, persistent or excluded in convex apothecia.

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Excipulum 15–35 µm thick. Epihymenium 4–8 µm thick, K–; hymenium 70–140 µm thick, inspersion with abundant oil globules to 7 µm diam.; hypothecium 80–120 µm thick, dark brown. Paraphyses 1.6–2.0 µm wide; caps, 3.0–3.5 µm wide. Ascospores *Mischoblastia*-type, 18–31 × 9–13 µm; torus absent or poorly developed; with funnel-shaped cell lumina; wall clearly ornamented. Conidia 7–21 × 1 µm.

Chemistry: Thallus K+ brownish or K+ purple, C+ pink to orange, P–, UV+ dark orange in part; medulla I–; containing flavo-obscurin B1 [major], flavo-obscurin B2 [major], flavo-obscurin A [minor or trace], 7-chloroemodin [minor or trace], skyrin [trace or absent], two unknown anthraquinones [minor], one or two unknown flavo-obscurin derivatives [minor].

Uncommon on bark in eastern Qld; also in Africa, Asia, Macaronesia, Europe, North and South America.

Qld: above L. Placid, several km S of Kuranda, *K.Kalb 21321* (Herb. Kalb); Mt Glorious, Mount Nebo Rd, c. 40 km W of Brisbane, *K.Kalb 29640* (Herb. Kalb).

This lichen is characterised by the grey to olive brown, leprose-granulose thallus, the lecideine apothecia, the oil-inspersion hymenium, the 1-septate, olive-brown to brown, *Mischoblastia*-type ascospores with a funnel-shaped cell lumina and the presence of anthraquinone pigments.

