

STIGMATOCHROMA

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Stigmatochroma Marbach, *Biblioth. Lichenol.* 74: 304 (2000)

From the Greek *stigma* (a point or fleck) and *chroma* (colour), in reference to the apothecial pruina being a different colour to that of the disc.

Type: *S. epimarta* (Nyl.) Marbach

Thallus crustose, thin to thick, often verruculose to verrucose. Isidia and soredia absent. Upper surface white, yellow, grey, yellow-brown to yellow-grey. Prothallus absent or black. Photobiont a unicellular green alga. Upper cortex pseudoparenchymatous. Medulla usually well defined, white. Lower cortex present or absent. Ascomata apothecia, lecideine, sessile; disc black, ±plane or becoming convex with age, white- yellow- or red-pruinose; pruina UV+ yellow or red. Excipulum dark brown or carbonaceous, K+ reddish or violet, often with a paler central region or paler inner zone. Epihymenium yellow, yellow-grey, orange or red-brown; hymenium colourless, not interspersed with oil globules. Hypothecium pale to dark brown or yellowish or carbonaceous. Paraphyses simple or furcate; apical cell enlarged, colourless or brown. Asci clavate, *Bacidia*-type, with 8 or 16 ascospores; apex wall layers thickened; apex amyloid, with a distinct non-amyloid conical axial mass. Ascospores *Buellia*-type, olive, olive-brown to brown, 1-septate, small, oblong to narrowly ellipsoidal, with thin internal walls of uniform thickness or with weak subapical or septal wall thickenings; internal wall-thickenings appearing after the septum is inserted (type-A ontogeny); torus present or not; spore surface smooth or ornamented. Conidiomata pycnidial, immersed in the thallus, yellow-brown to brown, with relatively long conidiogenous cells; conidiophores of type V (*sensu* Vobis, 1980), acrogenous. Conidia bacilliform.

Stigmatochroma is a pantropical-subtropical genus of six corticolous species, two of which are known from Australia.

References

Kalb, K., Archer, A.W., Sutjaritturakan, J. & Boonpragob, K. (2009), New or otherwise interesting lichens. V, *Biblioth. Lichenol.* 99: 225–246.

Marbach, B. (2000), Corticole und lignicole Arten der Flechtengattung *Buellia sensu lato* in den Subtropen und Tropen, *Biblioth. Lichenol.* 74: 1–384.

Vobis, G. (1980), Bau und Entwicklung der Flechten-Pycnidien und ihrer Conidien, *Biblioth. Lichenol.* 14: 1–141.

Key

Asci 8-spored; apothecial pruina orange to red-brown, UV+ intense red **2. *S. epimarta***
Most asci with 16 ascospores; apothecial pruina white or grey, UV+ yellow **1. *S. adacta***

1. *Stigmatochroma adacta* (Malme) Marbach, *Biblioth. Lichenol.* 74: 306 (2000)

Buellia adacta (Nyl.) Malme, *Ark. Bot.* 21A: 21 (1927). T: Aricá, pr. Cuyabá, Matto Grosso, Brazil, “in silvula clara”, 5 Apr. 1894, *G.O.A.Malme s.n.*; holo: S n.v.

For further synonymy, see Marbach (2000).

Illustrations: B.Marbach, *op. cit.* 308, fig. 147; K.Kalb, A.W.Archer, J.Sutjaritturakan & K.Boonpragob, *op. cit.* 242, fig. 16.

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Cite as: J.A.Elix, *Stigmatochroma*, *Australian Physciaceae (Lichenised Ascomycota)*.

<http://www.anbg.gov.au/abrs/lichenlist/Stigmatochroma.pdf> (2011).

Thallus moderately to strongly verrucose, weakly rimose to areolate, 3–5 cm wide; prothallus black. Upper surface white, whitish grey, grey to dirty yellow-brown; upper and lower cortices 10–20 μm thick. Apothecia 0.7–0.9 mm wide; proper margin narrow to moderately broad; disc black, white- to grey-pruinose; pruina UV+ yellow. Excipulum 50–70 μm thick, dark brown or carbonaceous, with a paler brown central zone, K+ yellow then red, not forming crystals or with colourless granular crystals. Epihymenium 5–10 μm thick, yellow-grey, orange or yellow-brown, K– or K+ becoming colourless; hymenium 70–80 μm thick, not interspersed, but with a few oil globules in the lower part. Hypothecium 120–160 μm thick, dark brown or carbonaceous. Paraphyses 1.6–1.8 μm wide, with slightly broadened apices 2.5–3.0 μm wide. Asci usually 16-spored, seldom with 8 or 12 ascospores. Ascospores ellipsoidal, 10–15 \times 4.5–7.0 μm , with thin internal walls of uniform thickness; outer spore wall moderately ornamented. Pycnidia not seen.

Chemistry: Thallus K+ yellow then red, C–, P+ yellow-orange; pruina UV+ yellow; containing atranorin [major or minor], norstictic acid [major], connorstictic acid [minor or trace], viioxanthin [minor], pigmentosins D, E, F, G [minor or trace], lichexanthone [trace, in pruina].

Very rare on bark in coastal forest in north-eastern Qld; also in Papua New Guinea, Malaysia, the Philippines and South America.

Qld: Machans Beach, a few km N of Cairns along Barron R., 26 Aug. 1988, K. & A. Kalb (Herb. Kalb).

Characterised by the white, whitish grey, grey to dirty yellow-brown crustose thallus, the white- to grey-pruinose apothecia, the mostly 16-spored asci, comparatively small ascospores and the presence of atranorin, norstictic acid, viioxanthin and lichexanthone.

2. *Stigmatochroma epimarta* (Nyl.) Marbach, *Biblioth. Lichenol.* 74: 311 (2000)

Lecidea disciformis var. *epimarta* Nyl., *Ann. Sci. Nat. Bot.*, sér. 4, 15: 48 ('1859') [1861]; *Buellia epimarta* (Nyl.) Malme, *Ark. Bot.* 21A: 20 (1927). T: New Caledonia, *Viellard 1831*; holo: H.

Illustration: B. Marbach, *opc. cit.* 313, fig. 150.

Thallus smooth to verruculose, weakly rimose to areolate, 1–3 cm wide; prothallus black. Upper surface white, whitish grey, grey to yellow-brown; upper and lower cortices 15–30 μm thick. Apothecia 0.6–0.9 mm wide; proper margin moderately thick; disc black, orange- to red-brown-pruinose; pruina UV+ intense red. Excipulum 40–70 μm thick, dark brown or carbonaceous, with a paler red-brown central zone, K+ orange-red, forming needle-like red crystals. Epihymenium 4–8 μm thick, orange, K+ lilac, with fine purple crystals; hymenium 70–90 μm thick, not interspersed, but with a few oil globules in the lower part. Hypothecium 100–140 μm thick, dark brown or carbonaceous. Paraphyses 1.7–1.9 μm wide, with slightly broadened apices 2.5–3.0 μm wide. Asci 8-spored. Ascospores ellipsoidal, 15–22 \times 7–10 μm , with thin internal walls of uniform thickness; outer spore wall smooth. Pycnidia c. 80 μm wide, yellow-brown; conidia 6–8 \times 1.0–1.2 μm .

Chemistry: Thallus K+ yellow then red, C–, P+ yellow-orange; pruina UV+ intense red; containing atranorin [major or minor], norstictic acid [major], connorstictic acid [minor or trace], parietin [trace, in pruina].

Very rare on bark in coastal forest in north-eastern Qld; also in Central and South America, Papua New Guinea and New Caledonia.

Qld: near Proserpine, between Airlie Beach and Shute Harbour, Whitsunday coast, Sept. 1981, H. Mayrhofer (GZU).

This species is characterised by the white, whitish grey, grey to yellow-brown crustose thallus, the orange to red-brown-pruinose apothecia, the orange epihymenium (K+ lilac), the 8-spores asci with comparatively large ascospores and the presence of atranorin, norstictic acid and parietin.