PHYLLOPSORA

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Phyllopsora Müll.Arg., *Bull. Herb. Boissier* 2, App. 1: 11 (1894); from the Greek *phyllon* (a leaf) and *psoros* (a scab, scurvy), in reference to the squamules occurring in scab-like patches on a basal prothallus.

Lecto: *P. breviuscula* (Nyl.) Müll.Arg.

Thallus crustose or squamulose, rarely placodioid or subfoliose. Squamules 0.1–1.0 mm wide. Isidia common, sometimes dominating the thallus; lacinules (phyllidia) common; soredia absent. Upper cortex 5–60 µm thick, of types 1, 2 or 1–2 (see p. 41). Photobiont a unicellular green alga; cells 5–15 µm diam., forming a continuous layer. Medulla usually poorly developed, of loosely woven non-amyloid hyphae, frequently containing lichen substances. Lower cortex absent. Prothallus whitish to dark red or purple-black. Apothecia biatorine, sessile, simple or aggregated, laminal on the squamules; disc ±round in outline, plane to convex, yellow, pale brown to dark reddish brown. Proper exciple composed of conglutinated radially orientated hyphae, pale tan to yellow-brown or dark red, sometimes containing crystals or pigments, K– or K+ red or purple-brown. Epihymenium indistinct or a thin gelatinous layer with slight pigmentation, K–. Hymenium colourless to brown or dark reddish brown, 20–60 µm thick, amyloid. Hypothecium colourless, yellow-brown to brown or dark red, sometimes containing crystals or pigments, K– or K+ red or purple-brown. Paraphyses 1.5–2.0 µm wide, only slightly thickened at the apex. Asci elongate-clavate, with a well-developed tholus and a narrow paler conical axial mass. Ascospores simple or 1-septate, colourless, ellipsoidal to fusiform, rarely acicular, 5–45 × 0.8–5.0 µm, smooth-walled. Conidiomata pycnidial, immersed or superficial; outer wall tan to reddish brown; ostiole pale to brown; conidiogenous cells elongate, enteroblastic; conidiophores irregular in shape, sometimes branched, of type IV (*sensu* Vobis, 1980). Conidia bacilliform to filiform, straight or bent, 7–15 × 0.5–1.0 µm.

Phyllopsora is a pantropical and subtropical genus of c. 55 species; 21 are known from Australia. These lichens occur in forest where they grow primarly on bark, but also on decorticated wood, rock and bryophytes.

G.Vobis, Bau und Entwicklung der Flechten-Pycnidien und ihrer Conidien, *Biblioth. Lichenol.* 14: 1–141 (1980); T.D.V.Swinscow & H.Krog, The genus *Phyllopsora*, with a report on East African species, *Lichenologist* 13: 203–247 (1981); L.Brako, *Phyllopsora* (Bacidiaceae), *Fl. Neotropica Monogr.* 55: 1–66 (1991); E.Timdal & H.Krog, Further studies on African species of the lichen genus *Phyllopsora* (Lecanorales), *Mycotaxon* 77: 57–89 (2001); J.A.Elix, Five new species of *Phyllopsora* (lichenized Ascomycota) from Australia, *Australas. Lichenol.* 59: 23–29 (2006); J.A.Elix, Additional lichen records from Australia. 62, *Australas. Lichenol.* 60: 6–12 (2007).

1 Thallus lacking isidia and lacinules ..... **3. P. breviuscula**
1: Thallus with isidia or lacinules 2

2 Thallus lacinulate; isidia absent *(1:)* 3
2: Thallus isidiate; lacinules absent 10

3 Lichen substances absent *(2)* 4
3: Lichen substances present 6

4 Squamules 0.5–1.0 mm wide; hypothecium pale brown *(3)* ..... **18. P. parvifolia**
4: Squamules 0.1–0.3 mm wide; hypothecium colourless, yellow or with red-brown patches 5

5 Hypothecium golden yellow; ascospores 11–20 × 2.5–3.0 µm *(4:)* ..... **9. P. foliata**
5: Hypothecium colourless or with red-brown patches; ascospores 9–11 × 2.0–2.5 µm ..... **6. P. confusa**

6 Squamules P+ orange; argopsin, pannarin or dechloropannarin present *(3:)* 7
6: Squamules P– ; argopsin, pannarin and dechloropannarin absent 8

7 Squamules pruinose, effuse or forming circular thalli with radiating marginal squamules; zeorin present *(6)* ..... **4. P. buettneri**
7: Squamules epruinose, effuse; zeorin absent ..... **2. P. albicans**

8 Lower and, frequently, upper surface of squamules yellow; xanthones present *(6:)* ... **5. P. chodatinica**
8: Lower and upper surface of squamules not yellow; xanthones absent 9

9 Ascospores acicular, 25–33 × 0.80–1.25 µm; 3-chlorostenosporic acid present *(8:)* ..... **7. P. conwayensis**
9: Ascospores narrowly ellipsoidal, 10–15 × 2–3 µm; furfuraceic acid present ..... **16. P. neofoliata**

10 Thallus crustose, consisting of isidia only *(2:)* 11
10: Thallus squamulose 15

11 Lichen substances absent *(10)* ..... **10. P. foliatella**
11: Lichen substances present 12

12 Isidia KC+ red; homosekikaic acid present *(11:)* ..... **12. P. homosekikaica**
12: Isidia KC–; homosekkaic acid absent 13

13 Ascospores 10–14 × 3–5 µm; methoxymicareic acid present *(12:)* ..... **15. P. methoxymicareica**
13: Ascospores 7–13 × 2–3 µm; furfuraceic acid or atranorin present 14

14 Margin of apothecia with pale fibrils; atranorin and ±zeorin present *(13:)* ..... **13. P. isidiotyla**
14: Margin of apothecia lacking fibrils; furfuraceic acid present ..... **11. P. furfuracea**

15 Thallus P– or P+ pale yellow; lacking lichen substances, or atranorin or furfuraceic acid present *(10:)* 16
15: Thallus P+ orange; argopsin or derivatives present 18

16 Thallus P+ pale yellow; parvifoliellin and atranorin present *(15)* ..... **19. P. rappiana**
16: Thallus P–; containing furfuraceic acid, or lichen substances absent 17

17 Thallus UV+ blue-white; furfuraceic acid present *(16:)* ..... **14. P. kiiensis**
17: Thallus UV–; lichen substances absent ..... **8. P. corallina**

18 Squamules rather thick; upper cortex of type 2 *(15:)* 19
18: Squamules thin; upper cortex of type 1–2 20

19 Thallus containing argospin and norargopsin *(18)* ..... **20. P. santensis**
19: Thallus containing phyllopsorin, ±chlorophyllopsorin ..... **17. P. ochroxantha**

20 Thallus containing methyl 2,7-dichloropsoromate and methyl 2,7-dichloronorpsoromate *(18:)* .... **21. P. swinscowii**
20: Thallus containing argopsin and chlorophyllopsorin ..... **1. P. africana**