

RELICINA

John A. Elix

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Relicina (Hale & Kurok.) Hale, *Phytologia* 28: 484 (1974); probably from the Latin *relictus* (to leave behind, remaining) and *-inae* (diminutive suffix for a subtribe).

Parmelia subg. *Parmelia* sect. *Imbricaria* subsect. *Bicornutae* ser. *Relicinae* Hale & Kurok., *Contr. U.S. Natl Herb.* 36: 135 (1964).

Type: *R. relicinula* (Müll.Arg.) Hale = *Parmelia relicina* Fr.

Thallus foliose, adnate to tightly adnate. Lobes contiguous to separate, sublinear to linear-elongate, subdichotomously to dichotomously branched, narrow, with or without lobules, ciliate; cilia marginal, bulbate. Upper surface pale green to yellow-green (usnic acid), smooth or rarely rugulose in thallus centre, maculate or not, without pseudocyphellae and soredia, with or without isidia; upper cortex a basic palisade plectenchyma with a pored epicortex. Cell walls containing isolichenan. Medulla loosely packed, white. Lower surface pale tan to black; rhizines simple or sparsely branched to densely branched and agglutinated, usually concolorous. Ascumata apothecial, common, laminal, sessile; disc concave or becoming flat and eventually slightly convex, imperforate, pale brown to red-brown or dark brown; outer margin of thalline exciple commonly retrorsely rhizinate; coronate (with black bulbate pycnidia) or ecoronate. Ascospores ellipsoidal or bicornute, 8 per ascus (in Australasian species), 3–12 × 2–6 µm. Conidiomata pycnidial, common, laminal and immersed to slightly emergent in thallus or present in erect bulbae around inner margin of apothecial rim. Conidia bacilliform or bifusiform, 5–10 × 0.7–1 µm.

Relicina, a segregate of *Parmelia* Ach. *s. lat.*, was monographed by Hale in 1975. He considered *Relicina* to comprise 24 species with major areas of speciation being in SE Asia and Indonesia. At that time, a total of four species were known from Australia, and a further seventeen species have been recognised since. The majority of these are restricted to the trunks and canopy branches of tropical mangroves, coastal and hinterland rainforests of Qld, and show a significant overlap with the *Relicina* flora of Papua New Guinea. Three species, however, (*R. filsonii*, *R. subnigra* and *R. sydneyensis*) are essentially from higher latitudes and occur on both trees and rock.

M.E.Hale, *Bulbothrix*, *Parmelina*, *Relicina*, and *Xanthoparmelia*, four new genera in the Parmeliaceae (Lichenes), *Phytologia* 28: 479–490 (1974); M.E.Hale, A monograph of the lichen genus *Relicina* (Parmeliaceae), *Smithsonian Contr. Bot.* 26: 1–32 (1975); H.Kashiwadani, Enumeration of Anaptychia and Parmeliae of Papua New Guinea, in Y.Otani, *Rep. Crypt. Papua New Guinea* 75–85 (1975); J.A.Elix & G.N.Stevens, New species of *Parmelia* (lichens) from Australia, *Austral. J. Bot.* 27: 873–883 (1979); S.Kurokawa, Enumeration of species of *Parmelia* in Papua New Guinea, in S.Kurokawa, *Studies Crypt. Papua New Guinea* 125–150 (1979); G.N.Stevens, The macrolichen flora on mangroves of Hinchinbrook Island, Queensland, *Proc. Roy. Soc. Queensland* 92: 75–84 (1981); J.A.Elix & J.Johnston, New species of *Relicina* (Lichenized Ascomycotina) from Australasia, *Mycotaxon* 27: 611–616 (1986); J.A.Elix & J.Johnston, New species in the lichen family Parmeliaceae (Ascomycotina) from the Southern Hemisphere, *Mycotaxon* 31: 491–510 (1988); J.A.Elix & J.Johnston, New species of *Relicina* and *Xanthoparmelia* (Lichenized Ascomycotina) from the Southern Hemisphere, *Mycotaxon* 33: 353–364 (1988); J.A.Elix & J.Johnston, Three new species of *Relicina* from Australasia, *Lichenologist* 22: 269–275 (1990).

1	Thallus isidiate and/or lobulate	2
1:	Thallus lacking isidia and lobules	13
2	Isidia globose to cylindrical (<i>I</i>)	3

2:	Isidia dorsiventral, becoming lobulate, or lobules only.....	11
3	Lower surface pale brown to dark brown (2).....	4
3:	Lower surface black, rarely brown-black at lobe margins.....	7
4	Rhizines simple or sparingly branched (3).....	5
4:	Rhizines with secondary rhizines which are densely branched and agglutinated.....	6
5	Isidia branched or coralloid; rhizines simple or occasionally dichotomously branched; hypostictic and menegazziaic acids absent or present in traces only (4).....	R. sydneyensis
5:	Isidia simple; rhizines furcate or squarrosely branched; hypostictic and menegazziaic acids present in significant amounts.....	R. ramboldii
6	Cilia dense, to 2 mm long; containing protocetraric acid (major); succinprotocetraric and fumarprotocetraric acids absent (4:).....	R. circumnodata
6:	Cilia sparse to moderately dense, to 0.3 mm long; containing succinprotocetraric and fumarprotocetraric acids (both major), and protocetraric acid (trace).....	R. conglutinata
7	Lobes very narrow and tightly adnate, 0.3–1 mm wide (3:).....	R. amphithrix
7:	Lobes broader, adnate, (0.3–) 1–3 mm wide.....	8
8	Medulla K+ intense yellow or yellow then dark red (7:).....	9
8:	Medulla K- or K+ pale yellow.....	10
9	Medulla K+ intense yellow; containing stictic acid (major), norstictic acid (minor); connorstictic acid absent; rhizines furcate or dichotomously branched (8).....	R. subnigra
9:	Medulla K+ yellow then dark red; containing norstictic (major) and connorstictic (trace) acids; stictic acid absent; rhizines simple.....	R. abstrusa
10	Medulla P-; containing 4- <i>O</i> -demethylbarbatic and barbatic acids; cilia to 0.3 mm long; rhizines dense (8:).....	R. demethylbarbatica
10:	Medulla P+ yellow; containing echinocarpic acid; cilia to 1.5 mm long; rhizines moderately dense.....	R. planiuscula
11	Lobes narrow and tightly adnate, 0.3–1.5 mm wide; cilia short but conspicuous (0.05–0.2 mm long) (2:).....	12
11:	Lobes broader and adnate, 1–2 mm wide; cilia inconspicuous, to 0.5 mm long.....	R. schizospatha
12	With marginal lobules present but no isidia; medulla C-, P- (11).....	R. relicinula
12:	Isidia cylindrical at first but becoming flattened, procumbent and lobulate; medulla C+ pale orange, P+ deep orange.....	R. amphithrix
13	Lower surface pale brown to dark brown (1:).....	14
13:	Lower surface black.....	19
14	Rhizines densely branched at least in part; medulla K- or K+ pale brown (13).....	15
14:	Rhizines simple or sparingly branched; medulla K+ yellow or yellow then dark red.....	16
15	Medulla containing protocetraric acid; fumarprotocetraric and succinprotocetraric acids absent; apothecia to 5 mm wide; ascospores 7–9 × 4–5 μm.....	R. sublanea
15:	Medulla containing fumarprotocetraric and succinprotocetraric acids (both major), protocetraric acid (trace); apothecia 1–2.5 mm wide; ascospores c. 3 × 2 μm.....	R. ramosissima
16	Medulla K+ yellow then dark red; containing norstictic acid (major); stictic acid absent (14:).....	R. filsonii
16:	Medulla K+ yellow; containing stictic acid (major), norstictic acid (minor or trace).....	17
17	Apothecia subcoronate; lobes tightly adnate (16:).....	R. subcoronata
17:	Apothecia ecoronate; lobes adnate.....	18
18	Lobes narrow (0.5–1.5 mm wide); thallus to 3 cm wide; containing menegazziaic acid (major/submajor) (17:).....	R. clarkensis
18:	Lobes broader (0.8–3 mm wide); thallus 4–9 cm wide; lacking menegazziaic acid or present in traces only.....	R. limbata
19	Medulla K+ yellow then dark red; containing norstictic acid (13:).....	R. subabstrusa
19:	Medulla K- or K+ pale yellow; lacking norstictic acid.....	20
20	Medulla P-; containing fatty acids.....	21
20:	Medulla P+ yellow or orange; containing echinocarpic acid.....	22

- 21 Lobes broad, 1–6 mm wide; containing protolichesterinic acid (20).....**R. connivens**
- 21: Lobes narrow, 0.3–1.5 mm wide; protolichesterinic acid absent..... **R. relicinula**
- 22 Lobes separate, axils broad (greater than 50°); lacking hirtifructic acid (20:).....**R. samoensis**
- 22: Lobes contiguous, axils acute (less than 30°); with traces of hirtifructic acid **R. terricrodila**