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Xanthoparmelia elixii (Lichens), a New Species from Australia and New Zealand

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Abstract

Filson, Rex B. *Xanthoparmelia elixii* (lichens), a new species from Australia and New Zealand. *Brunonia* 7: 203–5 (1984). The new lichen *Xanthoparmelia elixii* R. Filson in the lichen family Parmeliaceae is described from Southern Australia and New Zealand.

Xanthoparmelia elixii R. Filson, sp. nov.

Parmelia hypoclystoides sensu Filson & Rogers, *Lichens of South Australia*: 122. 1979.

Thallus in substrato modice adhaerens, saxicolous; superficies superior laevis, sorediis isidiisque destituta, medulla alba, superficies inferior pallidofuscescens, sparsim rhizinata. *Apothecia* adnata, 3·0–8·0 mm diametro, margine undulata, disco nigro-fusco, hymenium 45 μm altum, sporae 8–12 × 5–7 μm. Thallus K−; medulla K+ primum flavens deinde rubescens, C−, P+ intense lutescens.

Holotypus: 3 km north of Carey Gully, Mount Lofty Ranges, South Australia, 22.v.1976, *J. A. Elix 2290* (MEL 1042956).

Thallus foliose, saxicolous, moderately adnate to the substrate, up to 16 cm diam.; *lobes* imbricate and entangled, 1·5–2·5(–5·0) mm wide, secondary lobes narrower overlaying the marginal lobes, irregularly rotund; *upper surface* yellow-green to yellow-blue-green, darkening with age, smooth and slightly shining at the margins becoming dull and wrinkled towards the centre of the thallus, lobes often with black margins, soredia and isidia absent; *lower surface* pale ivory to pale brown with a darker zone at the margins of the lobes, smooth to minutely wrinkled, sparsely rhizinate right to the margins of the lobes; rhizines simple; medulla white. *Apothecia* up to 10·0 mm diam., concave; *disk* dark brown; margin thin, inrolled, crenulate becoming lacerate; *hymenium* up to 45 μm tall; *asci* 8-spored, 30–33 × 12–16 μm; *ascospores* hyaline, ellipsoid, thick-walled, 8–12 × 5–7 μm. *Pycnidia* globose, immersed; ostiole slightly raised, black; *pycnidiospores* hyaline, straight to slightly curved, 6–8 × 1 μm. (Fig. 1.)

Chemistry

Thallus K−; medulla K+ yellow (or yellow becoming red), C−, KC−, P+ orange, containing usnic acid, norstictic acid, salacinic acid (±), connorstictic acid, constipatic acid (±) and protoconstipatic acid (±).

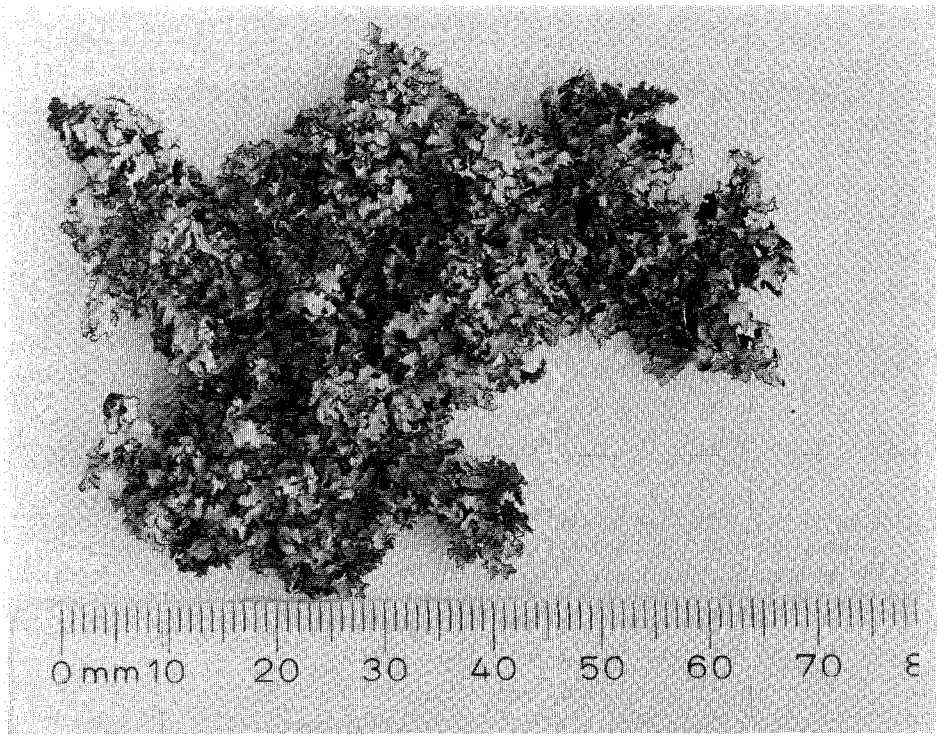

Fig. 1. Part of the holotype of *Xanthoparmelia elixii* R. Filson.

Specimens Examined

SOUTH AUSTRALIA. Clarendon, *Tepper* (G).- Sellicks Hill 45 miles south of Adelaide, 14.xi.1975, *Rex Filson 15496 & Sue Filson* (MEL 1028583).- Barossa Range, Menglers Hill, 4 km east of Tanunda, 27.x.1981, *J. A. Elix 9222* (ANUC).- Talbots Reserve, 4·5 km west of Tepko, Mt Lofty Ranges, 30.x.1981, *J. A. Elix 9375* (ANUC).

NEW SOUTH WALES. On granite rocks, Ginini Flats, Brindabella Ranges, 28.iii.1979, *J. A. Elix 5912b* (ANUC).- on granite rocks 46 km south of Cooma along the Snowy Mountains Highway, 23.xi.1978, *J. A. Elix 5428* (ANUC).

TASMANIA. On granite outcrops of the summit of Stockyards Point (eastern point), Hogans Island, Hogans Group, Bass Strait, 23.xii.1973, *J. S. Whinray* (MEL 1012950).

NEW ZEALAND. On schist rocks along the Clutha River, Cromwell, Otago, 3.iii.1980, *J. A. Elix 7550* (ANUC).- 0·5 km west of Glendhu Bluff, Lake Wanaka, Otago, 4.i.1980, *J. A. Elix 9844* (ANUC).- on basalt rocks, Hilltop, Banks Peninsula, 31.v.1980, *J. A. Elix 8425* (ANUC).

Discussion

When Müll. Arg. first described *Parmelia conspersa* var. *hypoclystoides* he cited as syntypes collections from Mount Macedon, *Moffat n. 41*; Clarendon, *Tepper n. 637*; and Insula Mauritii, *Robillard*. The Mount Macedon specimen was chosen by Gyelnik as lectotype when he raised the epithet '*hypoclystoides*' to specific rank and this has been shown to be synonymous with *Xanthoparmelia scabrosa* (Taylor) Hale (Filson 1982). In the treatment of *Parmelia* in 'Lichens of South Australia' (Filson and Rogers 1979), I erroneously referred the South Australian collections to *Parmelia hypoclystoides* (Müll. Arg.) Gyel. It is this entity that is described as new. The Robillard specimen from the Island of Mauritius has not been located.

Morphologically *Xanthoparmelia elixii* resembles *X. flavescentireagens* (Gyel.) D. J. Galloway, but it differs in having shorter, more irregularly divided secondary lobes, coarser rhizines, smaller spores and in the medullary chemistry. Chemically it is identical with *X. metaclystoides* (Kurokawa & Filson) Hale, but this species is tightly adnate to the substrate and has broad lobes with a moderately to densely rhizinate lower surface. It may be confused with *Xanthoparmelia arapilensis* (Elix & Armstrong) Filson comb. nov. [basionym: *Parmelia arapilensis* Elix & Armstrong, *Aust. J. Bot.* **31**: 467. 1983.] but that species has much broader lobes (up to 8·0 mm broad) which are often slightly maculate; also the lower surface is more densely rhizinate. It also resembles *Xanthoparmelia digitiformis* (Elix & Armstrong) Filson comb. nov. [basionym: *Parmelia digitiformis* Elix & Armstrong, *Aust. J. Bot.* **31**: 470. 1983.], but this species contains protocetraric acid and lacks connorstictic acid. Furthermore, the lobes of *X. elixii* are often broader and subascending whilst those of *X. digitiformis* are more or less flat throughout.

I take great pleasure in naming this lichen after Dr J. A. Elix, a South Australian and a lichenologist of note, who has contributed greatly to our knowledge of the genus *Parmelia* sens. lat. and more especially to our knowledge of the chemistry of many genera of Australian lichens. He is unstinting in his generosity to pass this knowledge on to others.

Acknowledgments

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References

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