

A RE-EXAMINATION OF JOHN SHIRLEY'S COLLECTION OF TASMANIAN LICHENS

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(with one table and one plate)

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The Tasmanian lichen collection of John Shirley (1849–1922) (housed in the Queensland Herbarium) is examined and re-determined. Two new combinations, *Rinodina asperata* (Shirley) Kantvilas and *Pyrenula galactina* (Shirley) Kantvilas, are proposed, and lectotypes are set up for *Bacidia weymouthii* (Shirley) Zahlbr. and *Pyrenula chloroplaca* Shirley from authentic material. Several lichen records are based on misidentifications and are deleted from the checklist of Tasmanian lichens.

Key Words: Shirley, lichens, Tasmania.

INTRODUCTION

John Francis Shirley was born in Dorchester, England, on 11 August 1849 and died in Brisbane, Australia, on 5 April 1922. He graduated with a Bachelor of Science degree from the University of London where he qualified as a teacher. In 1878, he emigrated to Queensland and was appointed headmaster at Roma in the south of the colony. He became a school inspector in 1879, a position which enabled him to travel widely and which complemented his love of the outdoors and his interests in natural history. He soon became a prominent figure in Australian scientific circles and ultimately became a member of many scientific societies including the Australasian Association for the Advancement of Science (AAAS), the Royal Society of Queensland, the Queensland Field Naturalists, and the Linnaean Society of New South Wales. He published over 40 papers on botany, conchology, zoology and geology. His major work was "The Lichen Flora of Queensland" (Shirley 1888–90) which established him as one of Australia's foremost lichenologists. His dedication to lichenology is perhaps best demonstrated by the fact that whilst on long-service leave he studied this subject for a Doctor of Science degree at Sydney University. He gained his doctorate in 1912 (at the age of 63) and his thesis, entitled "The thallus of the genus *Parmelia*" was subsequently published in Tasmania (Shirley 1918, see also Basset Hull 1923, White 1922).

Shirley's association with Tasmania began in 1892 when he visited Hobart for a meeting of the AAAS, held on 7–16 January. There he studied plants on nearby Mt Wellington and made the acquaintance of William Anderson Weymouth, one of the leading amateur cryptogamic botanists in Tasmania at that time (Kantvilas 1983). In the same year, he became a corresponding member of the Royal Society of Tasmania. His first paper on Tasmanian lichens was a checklist, compiled from earlier literature (Shirley 1893); his second (Shirley 1894), based on his own and Weymouth's collections, represents a major contribution to Tasmanian lichenology. In it he described seven new species and one new variety, and recorded 47 additional species from Tasmania, 13 for the first time.

The bulk of Shirley's collection of Tasmanian lichens is housed in the Queensland Herbarium (BRI) but additional specimens are also known from the National Herbarium of New South Wales (NSW), National Herbarium of Victoria (MEL), and the Conservatoire et Jardin Botanique Genève (G). The lichens are mounted in a large album also containing flowering plants and ferns, which is entitled "Tasmanian Plants Collected on the Slopes and Summit of Mt Wellington, January 1892" (plate 1). Although most of the specimens are from Mt Wellington, a few, especially the lichens, are from other Tasmanian localities, e.g. Tasman Peninsula, Bellerive and Henty River, and represent collections given to Shirley by Weymouth. In fact,

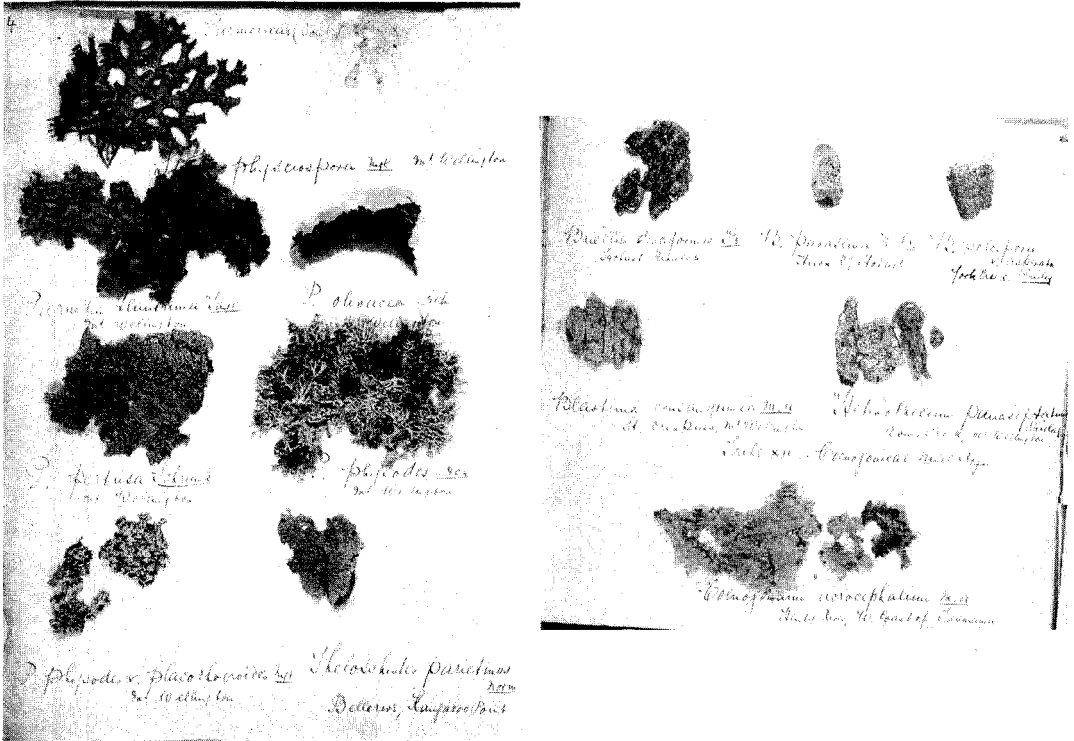


PLATE 1
 Selected pages from Shirley's album of Tasmanian lichens, annotated in his own handwriting.

Weymouth is also responsible for more than half of the Mt Wellington lichen collections. The order of the lichen specimens in the album, and their annotations, exactly follow Shirley's paper in 1894, leaving no doubt that this is the collection of specimens upon which the work was based.

The collection is an extremely valuable and important historical resource in Tasmanian lichenology. Firstly, it contains several type specimens of endemic Tasmanian taxa. Several of the new records in the collection are unusual and suspect (e.g. *Sphaerophorus fragilis*) but were maintained in subsequent Tasmanian checklists, e.g. Wetmore (1963) and Filson (1986b). Finally, the collection represents information on the lichen flora of Mt Wellington for the period up to 1892. Massive changes in the area's vegetation have occurred since that time as a result of at least three wildfires (the first in the summer of 1897-98, W. D. Jackson, pers. comm.) and the gradual

encroachment of the suburbs of Hobart, at least in the foothills. Accurate historical floristic data, particularly on lichens, will aid in assessing the severity of these changes.

In the present paper, results of a re-examination and re-determination of Shirley's lichen collection are reported.

MATERIALS AND METHODS

Lichens from Shirley's collection were re-examined in the light of recent studies made on the Tasmanian lichen flora (Kantvilas 1985, Kantvilas & James 1987), and present-day accounts from Australasia and the Northern Hemisphere. Identifications were checked where possible against type specimens, type descriptions and/or reliably identified material. Thin-layer chromatography was undertaken using standard methods (Culberson 1972).

RESULTS AND DISCUSSION

The order of species in the following discussion is that adopted by Shirley (1894), and in his mounted collection. Species are listed under Shirley's original nomenclature. Results are summarised in table 1, giving currently accepted names.

(1) *Leptogium chloromelum* var. *granulare* Müll. Arg.

The specimen has an indistinct, small, squamulose thallus and apothecia with sparsely ciliate margins. Spores are simple, 17.5–22 x 9.5–11 µm with a warted epispore. The specimen is clearly *Psoroma hypnorum* (Vahl) S.F. Gray agr., differing from Northern Hemisphere material of that name (see Jørgensen 1978) chiefly in the smaller spores. As Shirley's is the only record of this species of *Leptogium* from Tasmania, it can now be confidently deleted from the checklist.

(2) *Calicium victoriae* C. Knight ex F. Wilson

Although in very poor condition, the specimen accords with the original description (Wilson 1889). The species is now known as *Mycocalicium victoriae* (C. Knight ex F. Wilson) Tibell (Tibell 1984, 1987).

(3) *Sphaerophoron compressum* Ach.

The specimen contains stictic and constictic acids and sphaerophorin (by tlc) and accords with *Sphaerophorus melanocarpus* (Swartz) DC., in every respect.

(4) *Sphaerophoron coralloides* Pers.

This specimen has flattened main branches, veiled ventral mazaedia and brown spores, 12 µm diameter. It contains sphaerophorin and protocetraric acid (by tlc) and is *Sphaerophoros insignis* Laurer, a common Tasmanian species.

(5) *Sphaerophoron fragile* Pers.

Ohlsson (1974) regards *Sphaerophorus fragilis* as a Northern Hemisphere arctic/alpine species and hence Shirley's record is unusual. The diminutive BRI specimen is in very poor condition, possesses cephalodia and contains atranorin and perlatolic acid. There is no doubt that it is a juvenile *Stereocaulon*, probably *S. ramulosum*, and thus *Sphaerophorus fragilis* should now be deleted from the Tasmanian checklist.

(6) *Sphaerophoron tenerum* Laurer = *Sphaerophorus tener* Laurer(7) *Baeomyces heteromorphus* Nyl. ex Church. Bab. & Mitten(8) *Stereocaulon ramulosum* (Swartz) Rauschel

The specimen contains atranorin and perlatolic acid and is typical of the species in Tasmania.

(9) *Stereocaulon proximum* var. *macrocarpioides* (Nyl.) Hue

This taxon was considered synonymous with *S. ramulosum* by Lamb (1977). Shirley's specimen contains atranorin and perlatolic acid and falls within the range of this variable species.

(10) & (11)

These specimens have been excised from Shirley's album some time in the past and could not be checked. They can be referred to *Cladia aggregata* (Swartz) Nyl., and *C. schizopora* (Nyl.) Nyl. respectively, both of which are widespread in Tasmania.

(12)–(22) *Cladonia* spp.

These 11 specimens have also been removed from the album, leaving only the bases of the cut pages. *Cladonia* in Australia is currently under revision (by Dr A. W. Archer, Sydney), and it is likely that many of Shirley's names will ultimately be deleted from the Tasmanian checklist.

(23) *Usnea dasypogoides* Nyl. ex Crombie

The specimen contains usnic and salazinic acids and has sparsely pseudocyphellate and pseudoisidiate branch tips. It is provisionally referred to *Usnea arida* Motyka in the sense of Kantvilas & James (1987) and Galloway (1985), although in general the genus is still very poorly known in Australia.

(24) *Stictina cinnamomea* Rich. [= *Pseudocyphellaria cinnamomea* (A. Rich.) Vainio]

Shirley's specimen has sparse marginal phyllidia, lacks a well-developed midrib on the lower surface, and accords with *Pseudocyphellaria dissimilis* (Nyl.) D. Galloway & P. James. These two species are easily confused (Galloway 1985) and although *P. cinnamomea* (A. Rich.) Vainio was often reported in early Tasmanian literature (as *Stictina cinnamomea*), I have yet to see any Tasmanian material of this species.

TABLE 1
Results of re-examination of Shirley's Tasmanian specimens

Code: 1 — status unchanged; 2 — nomenclatural change; 3 — re-determination.

| Code | Shirley's determination (1894) | New determination or name |
|------|---|--|
| 3 | <i>Leptogium chloromelum</i> var. <i>granulare</i> Müll. Arg. | <i>Psoroma hypnorum</i> (Vahl.) S.F. Gray aggr. |
| 2 | <i>Calicium victoriae</i> Knight | <i>Mycocalicium victoriae</i> (Knight) Tibell |
| 3 | <i>Sphaerophoron compressum</i> Ach. | <i>Sphaerophorus melanocarpus</i> (Swartz) DC. |
| 3 | <i>Sphaerophoron coralloides</i> Pers. | <i>Sphaerophorus insignis</i> Laurer |
| 3 | <i>Sphaerophoron fragile</i> Pers. | <i>Stereocaulon ramulosum</i> (Swartz) Räsüchel |
| 1 | <i>Sphaerophoron tenerum</i> Laurer | <i>Sphaerophorus tener</i> Laurer |
| 1 | <i>Baeomyces heteromorphus</i> Nyl. | <i>Baeomyces heteromorphus</i> Nyl. ex Church. Bab. & Mitten |
| 1 | <i>Stereocaulon ramulosum</i> Ach. | <i>Stereocaulon ramulosum</i> (Swartz) Räsüchel |
| 2 | <i>Stereocaulon proximum</i> var. <i>macrocarpioides</i> Nyl. | <i>Stereocaulon ramulosum</i> (Swartz) Räsüchel |
| 3 | <i>Usnea dasyvogoides</i> Nyl. | ? <i>Usnea arida</i> Motyka |
| 3 | <i>Stictina cinnamomea</i> Rich. | <i>Pseudocyphellaria dissimilis</i> (Nyl.) D. Galloway & James |
| P. | | |
| 3 | <i>Sticta freycinetii</i> Delise | <i>Pseudocyphellaria glabra</i> (J.D. Hook. & Taylor) Dodge |
| 3 | <i>Sticta dissimulata</i> Nyl. | <i>Pseudocyphellaria multifida</i> (Nyl.) D. Galloway & P. James |
| 2 | <i>Sticta fossulata</i> Duf. | <i>Pseudocyphellaria faveolata</i> (Delise) Malme |
| 3 | <i>Sticta fossulata</i> var. <i>physciospora</i> Nyl. | <i>Pseudocyphellaria billardierei</i> (Delise) Räsänen |
| 1 | <i>Parmelia tenuirima</i> Tayl. | <i>Parmelia tenuirima</i> J.D. Hook. & Taylor |
| 3 | <i>Parmelia olivacea</i> Ach. | <i>Menegazzia testacea</i> P. James & D. Galloway |
| 3 | <i>Parmelia pertusa</i> Schrank | <i>Menegazzia weindorferi</i> (Zahlbr.) R. Sant. |
| 3 | <i>Parmelia physodes</i> Ach. | <i>Hypogymnia mundata</i> (Nyl.) Rassad. |
| 3 | <i>Parmelia physodes</i> var. <i>placorhodioides</i> Nyl. | <i>Hypogymnia turgidula</i> (Bitter) Elix |
| 3 | <i>Theloschistes parietinus</i> Norm. | <i>Xanthoria ligulata</i> (Körber) P. James |
| 3 | <i>Psoroma sphinctrinum</i> Nyl. | <i>Psoroma microphyllizans</i> (Nyl.) D. Galloway |
| 3 | <i>Psoroma sphinctrinum</i> var. <i>pholidotoides</i> Nyl. | <i>Psoroma microphyllizans</i> (Nyl.) D. Galloway |
| 3 | <i>Placodium gelidum</i> Körber | <i>Placopsis brevilobata</i> (Zahlbr.) Lamb |
| 1 | <i>Calloporisma cinnabarina</i> Müll. Arg. | <i>Caloplaca cinnabarina</i> (Ach.) Zahlbr. |
| 1 | <i>Biatora immarginata</i> R.Br. | <i>Lecidea immarginata</i> R.Br. |
| 3 | <i>Biatora russula</i> Ach. | <i>Lecidea laeta</i> Stirton |
| 2 | <i>Biatora cera-rufa</i> Shirley | <i>Lecidea cera-rufa</i> (Shirley) Zahlbr. |
| 3 | <i>Patellaria melanotropa</i> Nyl. | <i>Catillaria tasmanica</i> Räsänen |
| 2 | <i>Patellaria weymouthii</i> Shirley | <i>Bacidia weymouthia</i> (Shirley) Zahlbr. |
| 3 | <i>Buellia disciformis</i> Fr. | <i>Catinaria grossa</i> (Pers. ex Nyl.) Vainio |
| 2 | <i>Buellia parasema</i> Th.Fr. | <i>Buellia disciformis</i> (Fr.) Mudd. |
| 2 | <i>Buellia polospora</i> var. <i>asperata</i> Shirley | <i>Rinodina asperata</i> (Shirley) Kantvilas |
| 3 | <i>Blastenia consanguinea</i> Müll. Arg. | <i>Megaloblastenia marginiflexa</i> (J.D. Hook. & Taylor) Sipman |
| 2 | <i>Heterothecium pauciseptatum</i> Shirley | <i>Austroblastenia pauciseptata</i> (Shirley) Sipman |
| 3 | <i>Coenogonium acrocephalum</i> Müll. Arg. | <i>Coenogonium implexum</i> Nyl. |
| 3 | <i>Arthonia multiformis</i> Shirley | <i>Arthothelium ilicinum</i> (Taylor) P. James |
| 3 | <i>Chiodecton perplexum</i> Nyl. | <i>Chiodecton colensoi</i> (Massal.) Müll. Arg. |
| 2 | <i>Pseudopyrenula galactina</i> Shirley | <i>Pyrenula galactina</i> (Shirley) Kantvilas |
| 1 | <i>Pyrenula chloroplaca</i> Shirley | |

(25) *Sticta freycinetii* Delise

This specimen is *Pseudocyphellaria glabra* (J.D. Hook. & Taylor) Dodge [= *P. delisea* (Fée) D. Galloway & P. James], a common austral species related to *P. freycinetii* (Delise) Malme. The two taxa have been frequently confused but *Pseudocyphellaria freycinetii* is a South American taxon while *P. glabra* is known from Australasia, cool temperate South America and the subantarctic islands (Galloway & James 1986).

(26) *Sticta dissimulata* Nyl.

This specimen is referable to *Pseudocyphellaria multifida* (Nyl.) D. Galloway & P. James [= *P. subvariabilis* (Nyl.) Vainio], a common Tasmanian wet forest lichen.

(27) *Sticta fossulata* Dufour

This taxon is a synonym of *Pseudocyphellaria billardierei* (Delise) Räsänen (Galloway 1988). Shirley's specimen contains physciosporin (Code B of Wilkins & James 1979) and represents typical material of *P. faveolata* (Delise) Malme.

(28) *Sticta fossulata* var. *physciospora* Nyl.

This name is a synonym of *Pseudocyphellaria physciospora* (Nyl.) Malme, a species known only from the subantarctic islands of New Zealand, and Juan Fernandez (see Galloway 1988). Shirley's specimen has Code C chemistry (see Wilkins & James 1979, methyl evernate, tenuiorin etc.) and is *P. billardierei* (Delise) Räsänen.

(29) *Parmelia tenuirima* J.D. Hooker & Taylor

The specimen is typical of this common Australasian species and contains atranorin and salazinic acid.

(30) *Parmelia olivacea* Ach.

Parmelia olivacea is confined to the Northern Hemisphere (Esslinger 1977). Most records of the species in Tasmania are from rocks or soil (e.g. Wilson 1893) and probably refer to *Parmelia pulla* Ach. [= *Neofuscelia pulla* (Ach.) Esslinger], the most common brown *Parmelia* s.lat. in Tasmania. Shirley's specimen is on a twig and is *Menegazzia testacea* P. James & D. Galloway. It has characteristic 2-spored asci and contains atranorin, stictic acid and menegazziaic acid (by tlc).

(31) *Parmelia pertusa* Schrank

This name, a synonym of the Northern Hemisphere species *Menegazzia terebrata* (Hoffm.) Massal., was widely misapplied in the literature to many Tasmanian species of *Menegazzia*. Shirley's specimen is of *M. weindorferi* (Zahlbr.) R. Sant., and contains protolichesterinic and lichesterinic acids and atranorin.

(32) *Parmelia physodes* Ach.

The name *Parmelia physodes* has been generally misapplied in the past to several Tasmanian species of *Hypogymnia*. Shirley's specimen has discrete, elongated, solid lobes, lacks soredia and has a Pd medulla, all features of *H. mundata* (Nyl.) Räsänen.

(33) *Parmelia physodes* var. *placorrhodioides* Nyl.

Elix (1979) considered this name to be a synonym of *Hypogymnia billardierei* (Mont.) Filson. However, Shirley's specimen has hollow lobes, contiguous at the centre of the thallus but discrete at the margins, a Pd medulla, and is *H. turgidula* (Bitter) Elix, the most common species of *Hypogymnia* in Tasmania's wet forests.

(34) *Theloschistes parietinus* Norm.
[= *Xanthoria parietina* (L.) Th.Fr.]

This specimen is referred to the common saxicolous coastal species *Xanthoria ligulata* (Körber) P. James (previously called *X. ectanea* (Ach.) Räsänen by Filson 1969). It has narrow convex lobes with down-turned apices and sparsely lobulate margins and is thus distinct from *X. parietina*.

(35) & (36) *Psoroma sphinctrinum* Nyl. and
Psoroma sphinctrinum var. *pholidotoides* Nyl.

Specimens of numbers 35 and 36 both have lacinate, radiating lobes with lobulate margins and small, contiguous, globose or flattened phyllidia and thus accord well with *P. microphyllizans* (Nyl.) D. Galloway, in the sense of Kantvilas & James (1987).

(37) *Placodium gelidum* Körber [= *Placopsis gelida* (L.) Lindsay]

The genus *Placopsis* is poorly known in Tasmania and, as no spores could be found in Shirley's scanty specimen, identification was impossible. The specimen is cream-coloured,

esorediate, with well-developed, convex, marginal lobes, brownish-cream, pruinose apothecia and a C⁺ red medulla. It is probably better referred to *P. brevilobata* (Zahlbr.) Lamb (*sensu* Galloway 1985).

(38) *Calopisma cinnabarina* Müll. Arg.
[=*Caloplaca cinnabarina* (Ach.) Zahlbr.]

The genus *Caloplaca* is poorly known in Tasmania Shirley's specimen is of a saxicolous coastal species lacking marginal lobes and with spores 11.5–14.5 x 7–8.5 µm, with septa 2.5–5.0 µm thick.

(39) *Biatora immarginata* R.Br. [= *Lecidea immarginata* R.Br.]

First described from New South Wales, *Lecidea immarginata* is widespread in wet forest in Tasmania and will be discussed in detail in a forthcoming paper on rainforest species.

(40) *Biatora russula* Ach. [= *Lecidea russula* Ach.]

Although no mature spores were seen, all other features indicate that Shirley's specimen is the widespread and common Australasian species, *Lecidea laeta* Stirton. The name *Lecidea russula* should be deleted from the Tasmanian checklist.

(41) *Biatora cera-rufa* Shirley [= *Lecidea cera-rufa* (Shirley) Zahlbr.]

This distinctive species is known to me only from Shirley's type collection. In addition to Shirley's notes, it has the following anatomical characteristics: epithecium red-brown, unchanged in KOH; hymenium colourless, I⁺ deep blue, 80–100 µm thick; hypothecium colourless to pale yellow-brown, 60–120 µm thick, unchanged in KOH; paraphyses simple, separating easily in KOH; spores simple, broadly ellipsoid, 16.5–19.5 x 9.5–12 µm (somewhat larger than in Shirley's description). Thallus chemistry includes a UV⁺ unknown substance.

Holotype: Tasmania. On bark, Bower Track, Mt Wellington, W.A. *Weymouth* No.141 (Filson 1986a: 26). BRI 351374!

(42) *Patellaria melanotropia* Nyl.
[=*Catillaria melanotropia* (Nyl.) Zahlbr.]

Shirley's specimen is in extremely poor condition and no mature spores were found. However, in gross morphology, habitat ecology and

thallus chemistry (atranorin) it accords well with *Catillaria tasmanica* Räsänen, a common Tasmanian species which still abounds in Shirley's collecting locality (Mt Wellington).

(43) & (44) *Patellaria taitensis* Mnt.
[=*Megalospora sulphurata* Meyen] and
Patellaria biclipea Shirley [= *Megalospora biclipea* (Shirley) Zahlbr.]

Specimens 43 and 44 are both missing from the album and there is no sign (e.g. cut pages, blank spaces) that they were ever present. The missing specimens were sought without success in the herbaria of Melbourne, Sydney and Brisbane, all of which house some of Shirley's material. According to Sipman (1983), *Megalospora sulphurata* does not occur in Tasmania, although Shirley's name may have been misapplied to another species of *Megalospora*. However, a recent search of his collecting area did not locate any species of this genus. The loss of the second specimen is more acute as it represents the holotype, as well as the only specimen of *Megalospora biclipea*. However, Shirley's description, and his observation that it is related to *Catillaria grossa* (Pers. ex Nyl.) Vainio, suggests that the species is most likely a *Catillaria* s.lat. (see also Sipman 1983), possibly even a shade form of *Catillaria tasmanica* Räsänen, a species occurring very commonly in the area today. A copy of Shirley's manuscript, in William Weymouth's hand, was found amongst some of Weymouth's papers (donated by Mrs M. Bennet, Cradoc, Tasmania). In this copy, the text concerning the two missing specimens is also missing, except for an inserted note referring to some additional pages. Thus it appears that these two lichens were never part of the original collection but were included later. How or why Weymouth possessed a handwritten version of the paper is unclear. Perhaps his contribution to the text was greater than indicated; after all, the specimens were almost exclusively his, whilst Shirley's main contribution was in their identification. As Shirley was only a corresponding member of the Royal Society of Tasmania, it is possible that Weymouth may have revised and submitted the paper on his behalf, although no record of the latter was found in the Society's minutes or proceedings.

(45) *Patellaria weymouthii* Shirley
[=*Bacidia weymouthii* (Shirley) Zahlbr.]

Bacidia weymouthii is a common wet forest species of smooth bark and is discussed in detail in Kantvilas (1985).

Lectotype (selected here): Tasmania. On bark, St Crispins, Mt Wellington, W. A. Weymouth, BRI 351374!

Isotype: On bark of tree, St Crispins, Mt Wellington, Tasmania. W.A. Weymouth 112, 10/3/91, MEL 7048! (Filson 1986a: 219).

A third collection of this species (cited in Shirley 1894) was not located.

(46) *Buellia disciformis* (Fr.) Mudd.

Examination of Shirley's specimen revealed 1-septate, hyaline spores, indicating that it is not a *Buellia*. Rather, it appears to be a species of *Catillaria* s.lat., with the following apothecial characters: epithecium brown-black, unchanged in KOH; hymenium colourless, 120–190 μm thick; hypothecium greenish-black, opaque, unchanged in KOH; outer edge of excipulum similarly coloured but colourless within; spores hyaline, 1-septate, 26.5–34 x 12–16 μm with a distinct wall, c. 1 μm thick. The specimen closely resembles *Catillaria grossa* (Pers. ex Nyl.) Vainio (see Poelt & Vezda 1981) although the apothecia are rather small and mostly <1 mm diameter. A second specimen of the species is included under "*Heterothecium pauciseptatum*" (see no.50) below.

(47) *Buellia parasema* Th.Fr. [*B. parasema* (Ach.) De Not.]

Santesson (1984) placed *Buellia parasema* as a synonym of *B. disciformis* (Fr.) Mudd., and Shirley's specimen appears to accord with the description of that species given in Poelt (1969). Its spores are 16.5–24 x 7–10 μm , dark brown, thin-walled; epithecium dark brown; hymenium colourless to pale brown, 70–95 μm thick, interspersed with oil droplets; hypothecium dark brown. The genus *Buellia* is still poorly known in Tasmania and requires detailed study and revision.

(48) *Buellia polospora* var. *asperata* Shirley

Sheard (1967) placed *Buellia polospora* (Leighton) Shirley as a synonym with *Rinodina biloculata* (Nyl.) Sheard. However, Shirley's specimen differs from authentic *R. biloculata* in the larger, polarilocular (not placodiomorph) spores, colourless, thicker hypothecium, and the presence of a persistent thalline margin. Corticolous species of *Rinodina* are poorly known in Tasmania. However, until a revision is undertaken, in my opinion Shirley's taxon warrants specific rank:

Rinodina asperata (Shirley) Kantvilas comb. nov.
Basionym: *Buellia polospora* var. *asperata* Shirley, *Pap. Proc. R. Soc. Tasm.* (1893): 218, 1894.

Thallus thin, rather scurfy, pale grey, prothallus absent. Apothecia lecanorine, sessile, dispersed, to 0.4 mm diam. Disc plane to slightly convex, brownish black. Thalline margin thin, entire, somewhat discoloured in older apothecia. Hymenium 70–85 μm thick, colourless. Epithecium red-brown. Hypothecium colourless, to 120 μm thick at centre of apothecia. Paraphyses c. 1 μm thick, apices markedly capitate, 2–3 μm thick. Spores brown, 8 per ascus, polarilocular, very thick walled, lumina rounded when mature, 16.5–22 x 8.5–13 μm .

Holotype: Tasmania. On bark, Fork Creek, W.A. Weymouth No.144, BRI!

Isotype: G (see Filson 1986a: 33).

The species is known only from the type collection from the southern slopes of Mt Wellington.

(49) *Blastenia consanguinea* Müll. Arg.

Shirley's specimen is *Megaloblastenia marginiflexa* (J.D. Hook. & Taylor) Sipman. As this was the only Australian record of *Blastenia consanguinea*, this name can now be deleted from the Australian checklist (Filson 1986b).

(50) *Heterothecium pauciseptatum* Shirley [= *Austroblastenia pauciseptata* (Shirley) Sipman]

When Sipman (1983) selected a specimen in NSW as the type (see also Filson 1986a: 96), he was unaware of the existence of Shirley's album collection. Given that Shirley's paper was based on this collection, the album specimen should be considered as holotype, whereas the NSW specimen (NSW L4385) is correctly an isotype. The specimen of *Austroblastenia* is mounted in the album beside a specimen of *Catillaria grossa* s.lat.

(51) *Coenogonium acrocephalum* Müll. Arg.

Shirley's specimen, representing the only record of this taxon from Tasmania, is identical with reliably identified (by Dr A. Vezda, Brno) material of *C. implexum* Nyl., the common and widespread species of *Coenogonium* in Tasmania. Other species of the genus recorded from Tasmania in earlier literature are *C. linkii* Ehrenb. ex Nees and *C. rigidulum* Müll. Arg. It is likely that these records also refer to *C. implexum*.

(52) *Arthonia multiformis* Shirley

Shirley's specimen is the type of this species and is identical with reliably identified material (by Dr A. Vezda, Brno, and Mr P.W. James, London) of *Arthothelium ilicinum* (Taylor) P. James (see Kantvilas 1985). The species has characteristic spores with an enlarged terminal locule and lacks longitudinal septa.

Holotype: Tasmania. On bark, near Hobart, W.A. Weymouth No. 111, BRI 351373! (see also Filson 1986a: 16).

(53) *Chiodecton perplexum* Nyl.

This specimen is in poor condition but appears to be identical with *Chiodecton colensoi* (Massal.) Müll. Arg., a common wet forest species in Tasmania, also known (and first described) from New Zealand.

(54) *Pseudopyrenula galactina* Shirley

This specimen has brown, mature spores and slender, simple paraphyses, suggesting it is a species of *Pyrenula*. On the basis of Shirley's specimen, and recent collections, the species is redescribed below.

Pyrenula galactina (Shirley) Kantvilas comb.nov.

Basionym: *Pseudopyrenula galactina* Shirley, *Pap. Proc. R. Soc. Tasm.* (1893): 219, 1894.

Thallus crustose, thin to rather thick, deeply cracked, greyish white, pale yellowish or olive-grey, forming spreading patches to 10 cm across, not delimited at margins. Perithecia numerous, immersed, obscured by cortex, occasionally sub-emergent, becoming eroded, excavate and forming blackish pits to c. 0.3 mm diam. Ostiole central, minute, punctate, blackish, often with a grey rim. Paraphyses slender, simple to sparingly branched, free. Spores soon becoming brownish, ellipsoid, 14–22(–26) x 5–10 µm, 4-locular, not constricted at septa, arranged in the ascus obliquely in a single row. Locules lenticellular, rhomboid or hexagonal, ± equal sized.

Chemistry: Thallus K+ orange-brown, KC-, Pd C, UV+ orange (sometimes faintly); lichexanthone (by tlc).

Holotype: Tasmania. On bark, St Crispins, W. A. Weymouth, No.113, BRI 351370! (Filson 1986a: 248).

Additional specimens examined: Tasmania. Mt Victoria Road, on *Phyllocladus aspleniifolius* in rainforest, 780 m, 9.xii.1981, *G. Kantvilas*

1097/81, herb. Kantvilas, BM. Ben Ridge Road, on *Nothofagus cunninghamii* in rainforest, 850 m, 10.xii.1981, *G. Kantvilas* 1188/81, herb. Kantvilas.

(55) *Pyrenula chloroplaca* Shirley

This distinctive species is still known only from Shirley's type specimen. It has a yellowish-cream thallus, UV+ bright orange (suggesting lichexanthone) and brown, 4-locular spores, 14–22 x 8–12 µm, the pical locules very small. Two collections (both by Weymouth) are specified in Shirley's paper but the whereabouts of the second is unknown.

Lectotype (selected here): Tasmania. On bark, St Crispins, W.A. Weymouth No.114, BRI 351369! (Filson 1986a: 252).

The pyrenocarpous lichens as a group remain poorly understood in Tasmania and require considerable further collection and study.

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