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TYPIFICATION OF THE SPECIES OF LICHENS DESCRIBED FROM AUSTRALIAN SPECIMENS BY JAMES STIRTON.

By Roderick W. Rogers

Botany Department, University of Queensland.

Abstract

During the nineteenth century James Stirton published 103 lichen names as new species from the Australian continent (excluding Tasmania). One of these was invalidly published. Type specimens have been located for 82 of the taxa, and the nature of the material – holotype, lectotype or syntype, designated. The types are in three herbaria, British Museum (Natural History) London, Glasgow Museum and Art Gallery, and the Queensland Herbarium, Brisbane.

INTRODUCTION

James Stirton described over 100 new lichen taxa from Australia. Working from Glasgow he received material from all parts of the tropical and subtropical world. He received his Australian material mostly through F. M. Bailey, the Colonial Botanist for Queensland.

Most of the species described by Stirton he published himself, but a number of Australian taxa were published in works by F. M. Bailey. The standard of the publication is regrettably low: in many cases no type specimen is indicated, and in some no collector, location or date is indicated. When specimens are matched with the descriptions it is apparent that errors occurred in transcribing information in notes with the specimen to the publication. This means that no Holotype can be designated for most of the Australian material, and that designation of a Lectotype is necessary.

In 1977/78 the collections in the British Museum (Natural History) (BM) and Glasgow Museum and Art Gallery (GLAM) were searched for Stirton types from continental Australia. The annotations were copied, and a set of the annotations lodged with the Melbourne Herbarium (MEL). Brisbane herbarium (BRI) has been searched for types also.

The Stirton collection was divided after his death, and distributed to GLAM and to BM. No logic in the distribution of taxa is apparent from the Australian collections in the herbaria. Some Stirton types were sent back to F. M. Bailey in Brisbane (BRI). The collections in GLAM are usually better than the others, with more complete labels and more material, however, this is not universally true. It appears that the GLAM material has not been disturbed since it came to the museum. The BM collections, however, have been stuck on to sheets often with many other specimens, and appear in most cases to be only fragments of the material in GLAM, although the sole representation of some material is in BM.

The BRI collections have commonly been mounted in large, and now crumbling, folios but some are in packets and boxes. There is no pattern detectable concerning which specimens are in BRI and which are not. Some material determined by Stirton was later forwarded by Bailey to Müller-Argoviensis in Geneva, and it may be that some missing Stirton types will be found redetermined in Geneva Herbarium (G).

TYPIFICATION

Taxa are arranged in alphabetical sequence under the name published by Stirton. New combinations or published redeterminations are indicated in square brackets immediately below the original name. The type is then identified, and the collection in which th type may be found and its status indicated. Where the taxon appears to be misplaced currently the likely genus for the material is then indicated.

Arthonia albofarinosa Stirt. in Bailey 1899b p. 488 Type: 'Queensland, near Warwick. F. M. Bailey. no. 505, in the gap between upper Freestone Creek and Maryvale Valley. Rec. 17 Jan. 1899' GLAM (selected here as LECTOTYPE). An incompletely labelled, less heavily annotated specimen in BM is probably an isolectotype.

Arthonia conspersula Stirt. in Bailey 1899a p. 40 Type: No collector or location indicated. No specimen found.

Arthonia subcondita Stirt. in Bailey 1899a p. 39 Type: No collector or location indicated. No specimen found.

Ascidium profundum Stirt. 1880 p. 70 [*Thelotrema profundum* (Stirt.) Shirley] **Type:** 'Queensland, Brisbane, F. M. Bailey no. 131' GLAM (LECTOTYPE), BM (ISOLECTOTYPE). The GLAM collection is heavily annotated by Stirton, that in BM labelled part of type'.

Cladonia arcuata Stirt. 1888 p. 308 [*Cladia sullivanii* (Müll. Arg.) Martin *fide* Teuvo Ahti 1966.] **Type:** 'Australia, Victoria, Beechworth. Falck 1881'. GLAM (here selected as LECTOTYPE).

Collema gwytheri Stirt. in Bailey 1899b p. 484
 [Collema leptaleum Tuck. var. leptaleum (Degelius 1974)]
 Types: 'Queensland, F. M. Bailey out of no. 380. GLAM (here selected a LECTOTYPE). Bailey 1899b says collected Gwyther. A collection in BM (also a minute fragment) is probably identical, but is without collectors number and is not so heavily annotated by Stirton.

Collema hypoplasium Stirt. in Bailey 1899b p. 484

[Lempholemma hypoplasium (Stirt.) Zahlbr.] Types: 'Gowrie Mts, nr. Brisbane, F. M. Bailey 1877 no. 30' GLAM (HOLOTYPE). A specimen in BM without a collection number may be a fragment of the type. This collection appears to be a Physma species.

Eumitria baileyi Stirt. 1882 p. 1

[Usnea baileyi (Stirt.) Zahlbr.] **Type:** 'Queensland, F. M. Bailey n. 164' BM (here designated LECTOTYPE). This specimen is not Holotype as indicated by Swinscow and Krog (1974), as Stirton indicated two collections, simply as Brisbane (F. M. Bailey) and Fernando Po (G. Thomson).

Endocarpon baileyi Stirt. 1881 p. 74 [Leptotrema baileyi (Stirt.) Shirley; Leptotrema wightii (Tayl.) Müll.Arg.] Type: 'Queensland, Brisbane, F. M. Bailey no. 249 Rec.' GLAM (HOLOTYPE), BRI (ISOTYPE). A collection in BM without a collection number is possibly a fragment of the type.

Eumitria formosa Stirt. 1883 p. 297
 [Usnea baileyi (Stirt.) Zahlbr. (Swinscow & Krog 1974)]
 Type: 'Australia, Peak Range; Slatter, ex Hv. Baron v. Müller' BM (selected here as LECTOTYPE).

Graphis circumfusca Stirt. 1880 p. 73 **Types:** 'Queensland, Brisbane, F. M. Bailey "white lines" no. 201'. GLAM (here selected as LECTOTYPE) 'Queensland, Brisbane, F. M. Bailey "white lines" no. 201". BM (ISOLECTOTYPE). The GLAM material is more heavily annotated by Stirton.

Graphis eludens Stirt. 1880 p. 72 [*Phaeographis eludens* (Stirt.) Shirley] **Type:** Bailey 287. No type collection located. Graphis gyridia Stirt. 1880 p. 77 [Graphina gyridia (Stirt.) Zahlbr.] **Type:** 'Australia, Waterloo, Gippsland. N. Paton' BM (here selected a LECTOTYPE). Graphis mucronata Stirt. 1876a p. 95 [Phaeographis mucronata (Stirt.) Shirley] Type: 'Australia, Riverina. H. Paton'. BM (here selected as LECTOTYPE). Graphis pertenella Stirt. 1880 p. 72 [Graphina pertenella (Stirt.) Shirley] **Type:** Bailey 79, near Brisbane. BR1 (HOLOTYPE). Graphis repleta Stirt. 1880 p. 73 [Graphina repleta (Stirt.) Shirley] **Type:** 'Corticola, Brisbane, coll. Bailey 226 ex parte'. BRI (HOLOTYPE). Graphis subvelata Stirt. ex Bailey 1889b p. 488 [*Graphina subvelata* (Stirt. ex Bailey) Zahlbr.] **Type:** without location or collector. BM (here selected as LECTOTYPE). Lecanora alligata Stirt. ex Bailey 1899a p. 38 Type: 'Queensland, F. M. Bailey out of No. 27' BM (selected here as LECTOTYPE). Lecanora mundula Stirt. 1881 p. 76 Type: 'Australia, Waterloo, Gippsland. H. Paton. GLAM (here selected as LECTOTYPE), BM (ISOLECTOTYPE). The GLAM collection is more heavily annotated by Stirton.' This is not a species of Lecanora, but is possibly Bombyliospora. Lecanora phaeanthella Stirt. in Bailey 1899a, p. 38 Type: no collector or location designated. No collection located. Lecanora phaeoplaca Stirt. ex Bailey 1899b, p. 487 [Haematomma phaeoplacum (Stirt. ex Bailey) Zahlbr.] Type: no location or collector designated. No collection located. Lecanora punicea var. infusea Stirt. ex Bailey 1889a p. 38 [Haematomma puniceum var. infuseum (Stirt. ex Bailey) Zahlbr. 1928 5, 770] Type: 'Queensland, Jimbour, F. M. Bailey (out of no. 10)' BM. Of the two BM specimens the heavily annotated specimen, not that from Kew is designated LECTOTYPE. Lecanora pulverata Stirt. 1880 p. 70. Type: 'Queensland, Brisbane, F. M. Bailey, no. 86 near Brisbane River'. GLAM (HOLOTYPE). A specimen in BM may be a fragment of the type, but has no collectors number. Lecanora rutilescens Stirt. in Bailey 1899a p. 38 Type: No collector or location designated. No collection located. Lecanora subpurpurea Stirt. in Bailey 1899b p. 487 Type: No collector or location designated. No collection located. Lecidea aberrata Stirt. 1881 p. 71 **Type:** 'Taylor's Range, F. M. Bailey no. 190'. GLAM (here designated LECTOTYPE) BRI (ISOLECTOTYPE). This appears to be a *Lecanora*. Lucidea demutans Stirt. 1880 p. 71 [Buellia demutans (Stirt.) Zahlbr.] Type: 'Queensland, F. M. Bailey no. 82' GLAM (HOLOTYPE). Lecidea foliata Stirt. 1880 p. 71 [Phyllopsora foliata (Stirt.) Zahlbr.] Types: 'Brisbane, F. M. Bailey 156'. GLAM (selected here as LECTOTYPE), BRI (ISOLECTOTYPE). Lecidea glomerella Stirt. in Bailey 1899b p. 487 [Rinodina glomerella (Stirt. in Bailey) Zahlbr.] Type: No collector or location designated. No material located. The description suggests the collection was a *Buellia* species.

Lecidea grossulina Stirt. 1881 p. 77 [Catillaria grossulina (Stirt.) Zahlbr.; Catillaria grossa (Pers.) Körb. fide J. Mackenzie Lamb iv. 1953] Australia, Fern Tree Gully, H. Paton, Type 223(5). GLAM (here designated Type: LECTOTYPE). Lecidea inalbescens Stirt. 1880 p. 72 [Opegrapha inalbescens (Stirt.) Müll. Arg.] Type: 'Brisbane, F. M. Bailey on Rosewood Scrub. no. 258' GLAM (here selected as LECTOTYPE), BRI (ISOLECTOTYPE). The specimens are neither Lecidea nor Opergrapha, but ensure the Lecidea (ISOLECTOTYPE). but may be Lecanactis. Lecidea nodulosa Stirt. in Bailey 1899b p. 488 [Lecania nodulosa (Stirt. in Bailey) Zahlbr.] **Type:** 'Queensland, Warwick F. M. Bailey no number Rec. 17th Jan. 1899'. GLAM (here selected as LECTOTYPE). The collection is probably a *Rhizocarpon* species. Lecidea placomorpha Stirt. in Bailey 1899b p. 487 [*Rinodina placomorpha* (Stirt. in Bailey) Zahlbr.] **Type:** 'Queensland, F. M. Bailey, out of no. 365' GLAM (selected here as LECTOTYPE). The collection is apparently a species of *Buellia*. Lecidea raffii Stirt. 1876 p. 168 [Bacidia raffii (Stirt.) Zahlbr.] **Type:** 'A Raff, Brisbane. rec. 4 Jan. 76'. GLAM (here designated LECTOTYPE); BM (ISOLECTOTYPE). Lecidea restituta Stirt. in Bailey 1899a p. 39 [Buellia restituta (Stirt. in Bailey) Zahlbr.] Type: Queensland, Brisbane, F. M. Bailey no. 163'. GLAM (HOLOTYPE). The description does not designate a type specimen, but the GLAM specimen is annotated 'Pubn. July 1899' and is therefore considered to be the one the description was based on. The specimen in BM may be an isotype. Lecidea sanguinolenta Stirt. in Bailey 1899b p. 488 *Lecania sanguinolenta* (Stirt. in Bailey) Zahlbr.] Type: 'Queensland near Brisbane, F. M. Bailey out of no. 163'. GLAM (here selected as LECTOTYPE). (Probably collected by Gwyther, near Warwick, Qld.) Apparently a species of Buellia. Lecidea subcaerulea Stirt. in Bailey 1899a p. 41 Type: Location and collector not designated. No material located. The description indicates that this is not a Lecidea but probably a Lopadium species. Lecidea subconnexa Stirt. in Bailey 1899a p. 39 [Buellia subconnexa (Stirt. in Bailey) Zahlbr.] Type: 'Mrs. Heywood Mc. Ewan 1896. 60 miles west of Brisbane' No collection has been located. Lecidea subhyalina Stirt. 1880 p. 77 [Phyllopsora subhyalina (Stirt.) Zahlbr.] Type: 'Australia, Waterloo, Gippsland. H. Paton' BM (selected here as LECTOTYPE). A peculiar collection with globular transparent orange apothecia, but not *Phyllopsora*. Lecidea subnubila Stirt. Type: 'Fassifern, Bailey 261' BRI (HOLOTYPE). A collection in BM is without a collectors number, but is probably a fragment of the type. Lecidea subrepleta Stirt. in Bailey 1899a, p. 39 [Buellia subrepleta (Stirt. in Bailey) Zahlbr.] **Type:** 'Queensland, Jimbour, F. M. Bailey, June 1895, no. 11. Rec. June 1897' GLAM (here designated LECTOTYPE). Lecidea vinicolor Stirt. in Bailey 1889b p. 487 [Bacidia vinicolor (Stirt. in Bailey) Zahlbr.] Type: 'Queensland, F. M. Bailey' BM (here selected as LECTOTYPE). Miltidea consanguinea Stirt. 1898 p. 385 [Biatorella consanguinea (Stirt.) Zahlbr.] **Type:** Australia, Hugh Paton. No collection found. The description suggests that this may have been a species of *Candelariella*.

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Opergrapha intrusa Stirt. 1880 p. 73 Type: Bailey 125 ex parte, Brisbane. No collections located.

Pannaria elatior Stirt, in Bailey 1889b p. 486 Types: Strathbrook, near Warwick (Gwyther), Killarney (Bailey). No collections located.

Pannaria terrestris Stirt, in Bailey 1899 p. 486 Type: 'Near Warwick. F. M. Bailey no. 444' BM (nominated here as LECTOTYPE).

Parmelia ablata Stirt. in Bailey 1899 p. 40 An invalid name, published without a description or diagnosis.

Parmelia amplexula Stirt. 1880 p. 69

[Parmelia scabrosa Tayl. (*fide* M. E. Hale 1965)] Types: 'Queensland, nr. Brisbane F. M. Bailey 262' BM (HOLOTYPE), BRI (ISOTYPE).

Parmelia angustata var. isidiella Stirt. 1899 p. 81 [Anzia angustata var. isidiella (Stirt.) Zahlbr.] Type: 'New South Wales, Tilba Tilba, Mrs. Reader' GLAM (here selected as LECTOTYPE).

Parmelia brisbanensis Stirt. 1881 p. 69

[Parmelia sulphurata Nees ex Flot. (Hale 1965)] Types: 'Queensland, Brisbane, F. M. Bailey no. 228' GLAM (HOLOTYPE), BRI (ISOTYPE). A collection in BM without a number may also be an Isotype.

Parmelia confertula Stirt. 1889 p. 77

[Parmelia rutidota Hook f. ex Tayl. (Hale 1976)] Type: 'F. M. Bailey, 20. Darling Downs' BM (LECTOTYPE).

Parmelia cyathina Stirt. 1877-78 p. 252

[Parmelia subrugata Kremp. (Hale 1965)] Types: 'Queensland, nr. Brisbane F. M. Bailey no. 3' GLAM (here selected as LECTOTYPE). A specimen in BM is probably a fragment of the lectotype. The GLAM collection is more heavily annotated by Stirton then that in BM.

Parmelia erubescens Stirt. 1877-78 p, 201

[Parmelia subcaperata Kremp. (Hale 1965)] Type: 'Queensland, nr. Brisbane, F. M. Bailey no. 11' BM (here selected as LECTOTYPE).

Parmelia euplecta Stirt. 1877/78 p. 299

[Parmelia caperata (L.) Ach. (Hale 1976)] Type: 'Queensland, near Brisbane. F. M. Bailey No. 108' BM (here selected as LECTOTYPE).

Parmelia exoriens Stirt. 1899 p. 76

[Parmelia texana Tuck (Hale 1976)] Types: 'Brisbane, F. M. Bailey' BM (LECTOTYPE); 'Brisbane, F. M. Bailey no. 215' GLAM (ISOLECTOTYPE); 'Kirton, Illawarra' BM, GLAM (SYNTYPES). Lectotype selected by Hale 1976.

Parmelia hypoxantha Stirt, in Bailey 1899 p. 76 (non P. hypoxantha Müll.Arg)
 [Parmelia heterochroa (Hale & Kurokawa 1974)]
 Type: 'Warwick, Queensland, Australia. Gwyther'. BM (here selected as LECTOTYPE).

Parmelia nitescens Stirt. 1877/78 p. 299

Cetrelia olivetorum (Nyl.) Culb. et Culb. (Hale 1965)

Type: 'Queensland, near Brisbane F. M. Bailey no. 10' BM (here selected as LECTOTYPE).

Parmelia obversa Stirt. 1899 p. 76

[Parmelia ferax Müll.Arg. (Hale 1976)] Types: 'Australia, Riverina, N.S.W.: Hugh Paton' GLAM (LECTOTYPE), BM (ISOLECTO-TYPE). Lectotype selected by Hale 1976.

 Parmelia permutata Stirt. 1877/78 p. 252
 Types: 'Queensland, Brisbane, F. M. Bailey no. 25' GLAM (here selected as LECTOTYPE). 'Brisbane River F. M. Bailey no. 25' BM (ISOLECTOTYPE). Hale (1965) indicated that the BM collection was Holotype and the GLAM specimen was Isotype. He annotated that the Bid (GLAM 1959, BM 1963) the other way around. I have chosen to select the large GLAM specimen as Lectotype rather than the small BM specimen. Neither can be properly identified as Holotype.

Parmelia platycarpa Stirt. 1877/78 p. 252

Types: 'Queensland, near Brisbane, F. M. Bailey' GLAM (here selected as LECTOTYPE); 'Queensland near Brisbane' BM (ISOLECTOTYPE); Hale (1965) saw only the very poor BM

specimen, and treated it as Holotype of a *nominum inquirendum*. The GLAM material is quite copious, and therefore preferred as Lectotype.

Parmelia tiliacea var. affixa Stirt. in Bailey 1899b p. 485.

Type: Queensland. No specimen has been located.

Parmelia redacta Stirt. 1899 p. 76

Types: New South Wales, Illawarra, Mr. Kirton 1882' GLAM (here selected as LECTOTYPE); BM (ISOLECTOTYPE). The GLAM collection is *Dirinaria applanata* (Fee) Awasthi. The BM collection includes some Anaptychia as well as Dirinaria.

 Parmelia reparata Stirt. 1877/78 p. 201
 Types: 'Queensland, Brisbane, F. M. Bailey 16a' GLAM (HOLOTYPE) 'Gowrie mts. Brisbane F. M. Bailey 16' BM (SYNTYPE) Hale 1965 nominated the poor BM collection as Lectotype. The copious GLAM collection, however, bears the annotation TYPE amongst Stirton annotations, and can threfore be taken as the Holotype.

Parmelia subbrunea Stirt. 1899 p. 80 Type: Grampian Mountains, Australia. Sullivan. No material has been located.

Parmelia violascens Stirt. 1899 p. 77 **Types:** 'Australia, Grampians, Mrs. Sullivan no. 36' GLAM (here selected as LECTOTYPE); BM (ISOLECTOTYPE). Possibly *Parmelia scabrosa* Tayl. (Fide M. E. Hale 1963). The GLAM collection is more copious than that in BM.

Parmosticta purpurascens Stirt. 1899 p. 71 [Sticta purpurascens (Stirt.) Zahlbr.] Type: 'Australia, Blue Mts. Herb. Baron von Mueller' BM (selected here as LECTOTYPE). This material is a species of Pseudocyphellaria.

Parmosticta rubrina Stirt. 1880 p. 69 [Sticta rubrina (Stirt.) Müll.Arg.] **Type:** 'F. M. Bailey, Brisbane no. 11'. BM (selected here as LECTOTYPE); BRI (ISOLECTOTYPE). The BM material is fully annotated by Stirton. The collection is a species of Pseudocyphellaria.

Physcia excelsior Stirt. in Bailey 1899a p. 40 [Teloschistes excelsior (Stirton) Lamb] Types: 'Australia, New South Wales, Riverina H. Paton 1875'. GLAM (HOLOTYPE), BM (ISOTYPE). A Stirton note on the GLAM collection indicates the published description was based on that collection. The collection is apparently Teloschistes sieberianus (Laur.) Hillman.

Physica laciniatula Stirt. 1899 p. 82 Type: 'Supra muscos, Illawarra, N.S.W., Kirton'. No specimen found.

- Physcia sublurida Stirt. 1880 p. 69 Types: 'Queensland, F. M. Bailey on Rosewood scrub'. BM (2 collections), BRI (All syntypes, one to be selected as LECTOTYPE).
- Placodium clavigerum Stirt. in Bailey 1899b p. 487 [Caloplaca clavigera (Stirt. in Bailey) Zahlbr.] Type: No location or collector designated. No material located.
- Plagiothelium australiense Stirt. 1880 p. 75
 [Parmentaria australiensis (Stirt.) Müll.Arg.]
 Types: 'Queensland, Brisbane, F. M. Bailey no. 58' GLAM (here designated LECTOTYPE), BM (ISOLECTOTYPE). The GLAM collection is copious and heavily annotated by Stirton.
- Psoroma dispersum Stirt. 1880 p. 76 Type: 'Australia, Gippsland. Hugh Paton' BM (selected here as LECTOTYPE).
- Pyxine obscurior Stirt. in Bailey 1880 p. 70 Type: Corticola, near Brisbane. Bailey 235. BM (HOLOTYPE). This is possibly a species of Buellia.

Pyxine rugulosa Stirt, 1898 p. 396 Types: 'Queensland, vicinity of Jimbour. F. M. Bailey', BM (HOLOTYPE).

Pyxine subcinerea Stirt. 1898 p. 397 Types: Queensland, F. M. Bailey. BM (HOLOTYPE).

Pyxine subvelata Stirt. 1898 p. 396 Types: 'Queensland, Jimbour F. M. Bailey no. 32, June 1897'. GLAM (selected here as LECTOTYPE), BM (ISOLECTOTYPE). Ramalina exiguella Stirt. 1880 p. 68 Type: 'Bark, Brisbane. Bailey 91'. BRI (HOLOTYPE) Ramalina perpusilla Stirt. 1880 p. 68 Type: 'Bark, near Brisbane River. Bailey 113'. BRI (HOLOTYPE). Sticta parvula Stirt. 1899 p. 73 Types: Queensland, C. de Burgh, and Lachlan River (ex Herb. F. von Müller). No type material has been located. Stictina diversa Stirt. 1899 p. 75 [Sticta diversa (Stirt.) Zahlbr.] Type: 'Queensland, F. M. Bailey 140' BM (here selected as LECTOTYPE). Stictina luridoviolacea Stirt. 1899 p. 73 [Sticta luridoviolacea (Stirt.) Zahlbr.] Type: 'Australia, Snowy Creek, Ovens River (Victoria) Mrs. McCann 1881' BM (here selected as LECTOTYPE). The collection is a species of *Pseudocyphellaria*. Stictina rutilans Stirt. 1880 p. 68 [*Sticta rutilans* (Stirt.) Zahlbr.] **Type:** 'Queensland, F. M. Bailey, Brisbane' BM (selected here as LECTOTYPE). Stictina subcrocea Stirt. 1899 p. 74 [Sticta subcrocea (Stirt.) Zahlbr.] Type: 'Queensland, Brisbane, F. M. Bailey no. 134' BM (selected here as LECTOTYPE). The collection is possibly a species of *Pseudocyphellaria*. Stictina suberecta Stirt. 1899 p. 73 [Sticta suberecta (Stirt.) Zahlbr.] Type: 'Brisbane, Queensland F. M. Bailey no. 152' BM (selected here as LECTOTYPE). Strigula elatior Stirt. 1880 p. 75
 [Strigula elegans (Fee) Müll.Arg. (Santesson 1952)]
 Type: Queensland, Brisbane, F. M. Bailey no. 96. On leaves of Phyllanthus ferdinandi. BM (HOLOTYPE). Trichocladia baileyi Stirt. 1882 pl. [Heterodea muelleri (Hampe) Nyl. (Filson 1978)] Type: 'Prope Brisbane Bailey 288' BRI (HOLOTYPE). Trypethelium exiguellum Stirt. ex Bailey 1899a, p. 40 Type: 'Queensland, Thursday Island. F. M. Bailey June 1897'. BM (here selected as LECTOTYPE). Usnea consimilis Stirt. 1882 p. 295 [Usnea scabrida Tayl. (Motyka 1936–38)] Types: 'Australia, Revd. M. L. Anderson recd. 15 Sept. 1870' BM (here selected as LECTOTYPE) GLAM (ISOLECTOTYPE). The GLAM collection, while heavily annotated is very poor and a mixture of different species. Usnea elegans Stirt. 1880 p. 68 [Usnea scabrida Tayl. (Motyka 1936–38)] Types: 'Queensland, Gowrie Mts. near Brisbane Mr. Bailey no. 13' GLAM (here selected as LECTOTYPE), BM (ISOLECTOTYPE), BRI (ISOLECTOTYPE). The GLAM collection is adequate and heavily annotated by Stirton. Usnea himanthodes Stirt. 1883b p. 75 Type: 'Australia, N.S.W., Illawarra; Kirton. rec. 11 Sept. 1882' GLAM (here selected as LECTOTYPE), BM (ISOLECTOTYPE). The GLAM material is copious and heavily annotated. Usnea luridorufa subsp. pallida Stirt. 1883a p. 295 **Type:** 'Australia, upper Hunter River, Miss Carter, New South Wales ex Hb. Baron F, von Müller, no. 8' GLAM (HOLOTYPE). BM (ISOTYPE). The GLAM collection is heavily annotated and labelled 'Type' by Stirton Apparently identical with Usnea ramulosissima Stevens & Rogers.

Usnea molliuscula Stirt. 1883b p. 77 Types: 'Australia (Victoria) Mrs. McCann. Subalpine country in the Upper Ovens R. Rec. 23rd May 1882 no. 1'. GLAM (selected here as LECTOTYPE) BM (ISOLECTOTYPE). The GLAM collection annotated by Stirton. Usnea chaetophora subsp. propingua Stirt. 1883b p. 76 [Usnea propingua (Stirt.) Zahlbr.] **Types:** 'Australia, Victoria, Waterloo, Gippsland. H. Paton' GLAM (here selected as LECTOTYPE), BM (ISOLECTOTYPE). The GLAM collection is heavily annotated by Stirton. Usnea rubescens Stirt. 1883b p. 76 [Usnea rubicunda Stirt. (James 1979)] Type: 'Australia, New South Wales, Illawarra Mr. Kirton. Rec. 14 Sept. 1882, on rocks' BM (LECTOTYPE selected James 1979), (GLAM ISOLECTOTYPE.) Usnea subsordida var. tenebrosa Stirt. 1898a p. 389 Type: Vicinity of Brisbane, F. M. Bailey. No collection has been located. Usnea undulata Stirt. 1883b p.75 non U. undulata Stirt. 1881 p. 104 [Usnea torquescens Stirt. 1898a p. 391] Type: 'Australia, New South Wales, Illawarra on Rocks. Bulli. Rec. 14th Sept. 1882'. BM (selected here as LECTOTYPE) Verrucaria analtiza Stirt. 1876A p. 95 [Microthelia analtiza (Stirt.) Zahlbr.] Type: 'New South Wales, Riverina, Hugh Paton' GLAM. Verrucaria circumrubens var. rubrotecta Stirt. 1880 p. 74 [Pyrenula circumrubens var. rubrotecta (Stirt.) Shirley] Verrucaria coarctata Stirt. ex Bailey 1899a p. 40 [Polyblastiopsis coarctata (Stirt.) Zahlbr.] Type: 'Jimbour, Queensland F. M. Bailey 1895' BM (selected here as LECTOTYPE). Bailey's introduction suggests Gwyther collected this specimen. Verrucaria fibrata Stirt. ex Bailey 1899b p. 488 [Pyrenula fibrata (Stirt. ex Bailey) Zahlbr.] Type: 'Queensland, Warwick, F. M. Bailey Rec. Jan. 1899' BM (selected here as LECTOTYPE). It is likely that this Warwick material was actually collected by Gwyther. Verrucaria flaventior Stirt. 1881 p. 74 [Pyrenula mastophora (Nyl.) Müll.Arg. (Weber & Wetmore 1972)] Type: No collector or location indicated. No collection has been located. Verrucaria obovata Stirt. 1880 p. 74 [Microthelia obovata (Stirt.) Müll.Arg.] Type: 'Brisbane, F. M. Bailey n.125' BM. No collection has been located. ACKNOWLEDGEMENTS I am grateful to the staff of the British Museum (Natural History), The Glasgow Museum and Art Gallery, and the Queensland Herbarium for their assistance during this study. Bailey, F. M. (1899a). Contribution to the flora of Queensland. Lichens. Od agric. J. 5, 37-41. Bailey, F. M. (1899b). Contributions to the flora of Queensland. Order Lichenes. Qd agric. J. 5, 484-488. Filson, R. B. (1978). A revision of the genus Heterodea Nvl. Lichenologist 10, 13-25.

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