

**Catalogue of the Lichens of the Mariana Islands  
ex Elix & McCarthy's (2008) *Checklist of Pacific  
Island Lichens***

edited by

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*Dankulu na Saina Ma'āse!*



## **SUMMARY**

This is a catalogue of lichens known from the Mariana Islands. The species entries have been extracted from Elix & McCarthy's (2008) *Checklist of Pacific Island Lichens* available online from the Australian Biological Resources Study, Canberra. This online compendium of lichens was by turn a considerable extension of their earlier catalogue of those from the Oceanic Pacific islands (McCarthy & Elix 1998). The catalogue is of the 86 species for which Elix & McCarthy's (2008) give locality records that include Guam (39 spp.) and the Commonwealth of the Northern Mariana Islands (65 spp).



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## **INTRODUCTION**

This is a catalogue of lichens known from the Mariana Islands. The species entries have been extracted from Elix & McCarthy's (2008) *Checklist of Pacific Island Lichens* available online from the Australian Biological Resources Study, Canberra (<http://www.environment.gov.au/topics/science-and-research/australian-biological-resources-study>). This online compendium of lichens was by turn a considerable extension of their earlier catalogue of those from the Oceanic Pacific islands (McCarthy & Elix 1998). From their Introduction:

Species and infraspecific taxa, their publication details, synonymy and bibliographic and distributional information are documented for 32 island groups and isolated islands in the Pacific Ocean between latitudes 40°N and 40°S. A total of 291 genera are listed, with 2422 accepted species and infraspecific taxa and 1710 synonyms; 749 of the accepted taxa are based on type specimens from the region (indicated by \*). We have not included records from Japan and islands of the Nansei-Shoto Ridge, Taiwan, the Philippines, New Guinea, the Bismarck Archipelago, Bougainville and New Zealand. .... Checklists [of valid nomina] for each of the island groups [were] added during 2008.

The list in this report is of the 86 species for which Elix & McCarthy's (2008) give locality records that include Guam and the islands of the Commonwealth of the Northern Mariana Islands.

### **Editing the list**

The material reprinted here is copyrighted. Hence, I first requested and received permission from the author of contact, Dr. Pat McCarthy, to extract the Mariana flora from Elix & McCarthy (2008). This was in accordance with The Copyright Act of 1968 of

Australia, which permits 'fair dealing' of copyrighted material in the service of private research and study.

I am not a lichenologist. Hence, I've not made any taxonomic changes nor even updated their listings. I restricted myself to making only editorial changes, primarily reformatting the references to limit them to those enparenthetically referenced in the Mariana entries, as well as adding several new references. Also, the format of the entries themselves were changed somewhat, e.g., the locality information was reschuffled (as the authors had originally put in different categories Guam and the names of the northern Mariana Islands), and I fixed a few errors in the references. A few errors in the references remain, as I couldn't track down some of them, their correct page numbers, etc. I also left in the alphabetic qualifiers to the dates of the references, e.g., 1985a and 1985b, even though I may have removed, say, the former because it did not refer to literature about the Marianas.

Each entry begins with the most widely used name, almost invariably the name found at *IndexFungorum* (<http://www.indexfungorum.org/>). Below this is the literature reference to the most recent authority's taxonomic decision. Then comes a list of synonyms (by convention, each preceded by an equal sign). Below this is a fairly complete list of the literature records of the species' records from the Mariana islands. Finally, the authors list the islands in the Marianas from which the species is known.

Botanical naming conventions, including those for the fungi-algal symbioses lichens, are slightly different than for zoological nomenclature. Latin binomials are followed by the name of the taxonomic authority, usually abbreviated, who is the original describer of the species. Following this name may be a literature reference to the original paper. A list for interpreting author abbreviations can also be found at *IndexFungorum*. Alternatively the name is enclosed in parentheses if someone has later placed the species in a different genus, this second authority's name follows, itself followed by a literature reference to this later taxonomic decision.

## Discussion

Naturalists in the islands of the Pacific often lack comprehensive or even accurate lists of their study organisms. Even common organisms like fungi and land snails may be only poorly known. Hence, one of the really cool things about lichens is that despite the lack of scientific attention to them in any given island group, many species have very broad distributions, and so wonderful photographs and detailed morphological descriptions of no few of the species listed by Elix & McCarthy (2008) for the Marianas are available online. One of the most useful but by no means only site worth investigating is at, appropriately enough, *Pictures of Tropical Lichens* (<http://www.tropicallichens.net/specieslist.aspx>).

**Table 1. Number of species in the Mariana Islands compared to that in nearby archipelagos based on Elix & McCarthy (2008).**

Island group	<i>n</i>
Mariana Islands	86
Kiribati	9
Marshall Islands	9
Federated States of Micronesia	34
Ogasawara-Shotō ("Bonin Is.")	82
Palau	3

Based on Elix & McCarthy's (2008) this list, there are 89 species distributed in 37 genera known from the Mariana Islands. Table 1 contrasts these numbers with the authors reported numbers of species from the adjacent Micronesian and Ogasawara islands (see Table 1). Mariana species richness compares well with the 82 species known from the adjacent island group to the north, the Ogasawara-Shotō, or Bonin Islands. Kiribati and the Marshall Islands consist of low-lying and small atolls, hence these islands may not hold a rich haul of lichens. However, the vast differences in species richness between the high island groups and the Marianas undoubtedly reflects stark differences in collecting effort, rather than solely differences in true inter-archipelagic diversity.

Table 2 compares islands within the Mariana archipelago for species richness of lichens. Guam has the most species at 39, while the other 13 main islands of the archipelago collectively sport 65. Nineteen of these species have localities listed only as "northern Mariana Islands". However, none of these small, geologically recent (3—5 my) islands have more than 17 (Alamagan); most have about 12—15 species records. Even the larger, much older geologically (to 40 my), and more southern islands Rota and Saipan, have only seven and 16 species, respectively. Three islands, Aguihan, Farallon de Medinilla, and Tinian have no species reported. Some of these islands may also currently hold fewer species than recorded here because of extreme volcanism since being surveyed, e.g., Anatahan and Pagan.

Nevertheless, the pattern of species richness across the archipelago strongly suggests that the number of species per island has been driven mainly by collecting effort, rather than biogeographic drivers such as land area, island age, or distance from one another and a continental source. As well, the pattern also suggests in turn that the biodiversity of lichens in most of the Mariana Islands is likely to be much higher than reported here. It is hoped that Elix & McCarthy's (2008) list will serve as a basis for future studies of our archipelago's lichens.

**Table 2. Number of species (*n*) in the Mariana Islands based on Exline & McCarthy (2008).**

Island	Area (km <sup>2</sup> )	<i>n</i>
Aguihan	7.1	0
Agrihan	43.5	14
Alamagan	11.1	17
Anatahan	31.2	16
Asuncion	7.3	11
Farallon de Medinilla	0.9	0
Guam	540.5	39
Guguan	3.9	7
Maug	2.1	2
Pagan	47.2	9
Rota	85.4	7
Saipan	115.4	16
Sarigan	5.0	15
Tinian	101.0	0
Uracas	2.6	1
"Northern Marianas"	463.7	19

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## CATALOGUE OF THE LICHENS OF THE MARIANA ISLANDS

### ***Agonimia pacifica* (Harada) Diederich**

Diederich, *in* Aptroot *et al.*, *Biblioth. Lichenol.* 64: 12 (1997)

= *Agonimiella pacifica* Harada

Harada 1994a: 94

Alamagan; Anatahan; Sagiran

### ***Arthonia cinnabarina* var. *violacea* (Pers.) Nyl.**

Nyl., *Mém. Soc. Sci. Nat. Cherbourg* 5: 132 (1858)

= *Arthonia violacea* Pers.

Graff 1917: 17; Hue 1891: 177; Nylander 1856: 89; 1858a: 132; 1859a: 245

Guam and the northern Mariana Islands

### ***Bulbothrix goebelii* (Zenker) Hale**

Hale, *Smithsonian Contr. Bot.* 32: 14 (1976)

No synonyms

Elix 2001: 34; Harada 1994a: 95; Louwhoff & Elix 2000a: 51; 2002: 378

Alamagan, Pagan

### ***Calopadia fusca* (Müll. Arg.) Vězda**

Vězda, *Folia Geobot. Phytotax.* 21: 215 (1986)

= *Lopadium fuscum* Müll. Arg.

= *Sporopodium exiguum* var. *cycadina* Vain.

= *Lopadium exiguum* var. *cycadinum* (Vain.) Zahlbr.

= *Sporopodium exiguum* var. *inocarpum* Vain.

Lücking & Lücking 1995: 159; Santesson 1952: 535; Setchell 1924: 186; Smith *et al.* 1997: 164; Vainio 1921: 97; Weber 1986: 473; Wirth & Lücking (unpublished, *in litt.*)

Guam

### ***Chiodecton congestulum* Nyl.**

Nyl., *Bull. Soc. Linn. Normandie*, sér. 2, 2: 106 (1868)

No synonyms

Filson 1986: 56; Hue 1891: 192; Nylander 1867: 196; 1868: 106; Thor 1990: 37

Guam

***Chiodecton tentaculatum* Vain.**

Vain., *Ann. Acad. Sci. Fenn.*, ser. A, 15(6): 284 (1921)

No synonyms

Vainio 1921: 284

Guam

***Cladonia humilis* (With.) J. R. Laundon**

J. R. Laundon, *Lichenologist* 16: 220 (1984)

= *Cladonia conistea* (Delise) Asah.

Harada 1994a: 95; Kurokawa 1969: 686

Asuncion

***Coccocarpia adnata* Arv.**

Arv., *Opera Bot.* 67: 42 (1982)

No synonyms

Arvidsson 1982: 42; Harada 1994a: 95

Guam

***Coccocarpia erythroxyli* (Spreng.) Swinscow & Krog**

Swinscow & Krog, *Norw. J. Bot.* 23: 256 (1976)

= *Coccocarpia aurantiaca* (Hook.f. & Taylor) Mont. & Bosch

= *Coccocarpia cronia* var. *aurantiaca* (Hook.f. & Taylor) Vain.

= *Coccocarpia ciliolata* Mont.

= *Coccocarpia fuscata* Zahlbr.

= *Coccocarpia homalantha* Nyl.

= *Coccocarpia incisa* Pers.

- = *Pannaria incisa* (Pers.) Schwend.
- = *Coccocarpia pellita* var. *incisa* (Pers.) Müll. Arg.
- = *Coccocarpia incisa* var. *palumbina* Nyl.
- = *Coccocarpia incisa* f. *palumbina* (Nyl.) Nyl.
- = *Coccocarpia molybdaea* Pers.
- = *Pannaria molybdaea* (Pers.) Tuck.
- = *Coccocarpia molybdaea* var. *polyphylla* Nyl.
- = *Parmelia parmelioides* var. *polyphylla* (Nyl.) Hue
- = *Coccocarpia nitida* var. *limbata* Zahlbr.
- = *Coccocarpia parmelioides* (Hook.) Trevis.
- = *Coccocarpia pellita* var. *parmelioides* (Hook.) Müll. Arg.
- = *Coccocarpia pellita* var. *pannosa* Müll. Arg.
- = *Coccocarpia pellita* var. *mesomorpha* Müll. Arg.

Arvidsson 1982: 57; 1992: 155; Cheel 1871: 421; Dodge 1935: 221; Frey 1967: 241; Graff 1917: 19; Harada 1994a: 95; Harmand 1914: 11; Hue 1891: 41, 42; Jørgensen 2003: 33; Magnusson 1956: 296; Magnusson & Zahlbruckner 1943: 77, 78; Müller 1884b: 91; 1887: 79; 1893a: 102; 1896: 92; Nylander 1858a: 109; 1859a: 240; 1861: 44; 1867: 195; 1868: 62; 1869: 44; Riedl 1967: 46; A.L.Smith 1922: 82; C.W.Smith 1991: 37; Tuckerman 1866: 225; Weber 1966b: 194; 1986: 466; Zahlbruckner 1908: 260

Guam and Alamagan

### ***Coccocarpia palmicola* (Spreng.) Arv. & D. J. Galloway**

- Arv. & D. J. Galloway, *Bot. Notiser* 132: 242 (1979)
- = *Coccocarpia cronia* (Tuck.) Vain.
  - = *Coccocarpia pellita* var. *cronia* (Tuck.) Müll. Arg.
  - = *Coccocarpia cronia* var. *isidiata* (Müll. Arg.) Vain.
  - = *Cora nitida* Müll. Arg.
  - = *Coccocarpia nitida* (Müll. Arg.) Müll. Arg.
  - = *Coccocarpia nitida* var. *isidiata* Zahlbr.
  - = *Coccocarpia pellita* var. *isidiophylla* Müll. Arg.



= ?*Pannaria parmelioides* var. *isidiosa* Harm.

Arvidsson 1982: 72; Czeuczuga *et al.* 1997: 264; Harada 1994a: 95; Harmand 1914: 11; Herre 1953: 282; 1955: 340; 1958: 20; Kurokawa 1969: 686; Magnusson & Zahlbruckner 1943: 77; Müller 1884b: 91; 1897: 296; Nylander 1869: 43; Smith 1922: 82; Waldren & Galloway 1995: 117; Weber 1986: 465; 1993: 432; Zahlbruckner 1908: 259; 260

Agrihan, Alamagan, Pagan and Sarigan

***Coccocarpia pellita* Müll. Arg. emend R. Sant.**

R. Sant., *Symb. Bot. Upsal.* 12(1): 420 (1952)

= *Coccocarpia nitida* var. *lobulata* Zahlbr.

Arvidsson 1982: 76; Graff 1917: 19; Harada 1994a: 95; Herre 1953: 282; 1958: 20; Kurokawa 1969: 686; Magnusson 1956: 297; Magnusson & Zahlbruckner 1943: 76; Müller 1889b: 62; Vainio 1924: 7; Zahlbruckner 1908: 2

Agrihan; Alamagan; Anatahan; Asuncion; Guam; Guguan; Pagan; Saipan; Sarigan

***Coccocarpia smaragdina* Pers. emend. Arv.**

Arv., *Opera Bot.* 67: 84 (1982)

= *Coccocarpia pellita* var. *smaragdina* (Pers.) Müll. Arg.

Arvidsson 1982: 84; 1992: 159; Graff 1917: 19; Harada 1994a: 96; Müller 1897: 296; Nylander 1858a: 109; 1859a: 240; 1869: 43; Zahlbruckner 1908: 259

FIJI: Nukumarau; Viti Levu

Guam and Anatahan; Rota

***Coenogonium leprieurii* (Mont.) Nyl.**

Nyl., *Ann. Sci. Nat., Bot.*, sér. 4, 16: 89 (1862)

= *Coenogonium linkii* auct. Nyl., non. Ehrenb.

= *Coenogonium boninense* Sato

Harmand 1914: 7; Hue 1891: 99; Kashiwadani 1979: 19; Müller 1897: 297; Nylander 1859a: 243; 1862a: 89; 1868: 79; Sato 1933: 380 [not seen]; Smith 1922: 74;

Zahlbruckner 1908

The northern Mariana Islands

***Coenogonium linkii* Ehrenb.**

Ehrenb., in Nees von Esenbeck, *Horae Phys. Berol.*: 120 (1820)

= *Coenogonium controversum* Pers.

Graff 1917: 18

Guam

***Collema coilocarpum* (Müll. Arg.) Zahlbr.**

Zahlbr., *Cat. Lich. Univ.* 3: 34 (1925)

= *Collema rechingeri* Zahlbr.

= *Collema thysanaeopsis* Vain.

= *Synechoblastus vieillardii* Müll. Arg.

Degelius 1974: 145; Vainio 1924: 8; Zahlbruckner 1908: 253

Guam

***Collema leptaleum* Tuck.**

Tuck., *Proc. Amer. Acad. Arts Sci.* 6: 263 (1864)

= *Collema belenophorum* Nyl.

= *Synechoblastus belenophorus* (Nyl.) Müll Arg.

Bungartz 2008: 143; Degelius 1974: 102; Harada 1994a: 96; Hue 1890: 231; Müller 1887: 79;

Asuncion

***Collema leptaleum* var. *biliosum* (Mont.) Degel.**

Degel., *Symb. Bot. Upsal.* 20(2): 105 (1974)

= *Collema nigrescens* var. *biliosum* Mont.

Degelius 1974: 109; Harada 1994a: 96

Agrihan; Alamagan; Anatahan; Sarigan

***Collema rugosum* Kremp.**

Kremp., in Fenzl, *Reise 'Novara'* 1: 128 (1870)

= *Collema oahuense* H. Magn.

Degelius 1974: 150, 154, 155; Filson 1992: 171; Harada 1994a: 96; Krempelhuber 1870: 128; Magnusson 1956: 289; Zahlbruckner 1908: 253  
Agrihan; Alamagan; Anatahan; Asuncion; Guguan; Sarigan

***Collema subflaccidum* Degel.**

Degel., *Symb. Bot. Upsal.* 20(2): 140 (1974)

No synonyms

Harada 1994a: 96

Anatahan; Asuncion; Sarigan

***Dictyonema membranaceum* Arg.**

Arg., *Syst. Alg.*: 85 (1824)

= *Rhipidonema membranaceum* (Arg.) Sacc.

Graff 1917: 21

Guam

***Dirinaria aegialita* (Ach.) B. Moore**

B. Moore, *Bryologist* 71: 248 (1968)

= *Physcia aegialita* (Ach.) Nyl.

= *Physcia picta* var. *aegialita* (Ach.) Hue

= *Physcia aspera* H. Magn.

= *Dirinaria aspera* (H. Magn.) D. D. Awasthi

Awasthi 1964: 371; 1975: 67, 69; Czeuczuga *et al.* 1997: 264; Harada 1994a: 96; Hue 1890: 322; Kashiwadani 1975: 26; 1979: 21; Klement 1966: 279; Krempelhuber 1870: 113; Linder 1934: 218; Magnusson & Zahlbruckner 1945: 62, 63; Smith 1991: 36, 37; Zahlbruckner 1908: 277

Alamagan; Sarigan

***Dirinaria applanata* (Fée) D. D. Awasthi**

D. D. Awasthi, in Awasthi & Agarwal, *J. Indian Bot. Soc.* 49: 135 (1970)

= *Physcia applanata* (Fée) Nyl.

= *Dirinaria picta auct. non* (Sw.) Clem. & Shear.

= *Physcia picta* var. *sorediata* Müll. Arg.

Awasthi 1975: 78; Harada 1994a: 96; Müller 1893a: 101; 1897: 295; Nylander 1859a: 239; Riedl 1988: 274; Smith 1991: 36, 37; Tuckerman 1862a: 144; Vezda 1989c: 2; Waldren & Galloway 1995: 117, 118; Weber 1966b: 194; 1986: 466, 491  
Agrihan; Alamagan; Anatahan; Asuncion; Maug; Pagan; Sarigan

### ***Dirinaria picta* (Sw.) Schaer. ex Clem.**

Schaer. ex Clem., *Gen. Fung.*: 323 (1931)

= *Physcia picta* (Sw.) Nyl.

Awasthi 1975: 73; Follmann 1962a: 627; 1962b: 248; Harada 1994a: 96; Herre 1955: 341; Hue 1890: 322; Klement 1966: 279; Krempelhuber 1870: 113; Kurokawa 1969: 688; Linder 1934: 220; Müller 1887a: 79; Magnusson 1942: 41; Magnusson & Zahlbruckner 1945: 62; Niering & Miller 1956: 177; Nylander 1859b: 282; 1860: 430; 1861: 43; 1867: 194; 1868: 58; Riedl 1988: 274; Smith 1922: 87; Taylor 1950: 160; Tuckerman 1866: 224; Vainio 1924: 6; Waldren & Galloway 1995: 117, 118; Zahlbruckner 1908: 277; 1924: 403; 1926: 458  
Alamagan; Pagan

### ***Endocarpon neopallidulum* Harada**

Harada, *Nova Hedwigia* 56: 340 (1993)

No synonyms

Harada 1997: 98

Alamagan; Anatahan; Saipan

### ***Endocarpon superpositum* Harada**

Harada, *Nova Hedwigia* 56: 351 (1993)

No synonyms

Harada 1997: 99

Uracas

***Flavoparmelia caperata* (L.) Hale**

Hale, *Mycotaxon* 25: 604 (1986)

= *Parmelia caperata* (L.) Ach.

= *Pseudoparmelia caperata* (L.) Hale

Follmann 1962b: 253; Graff 1917: 20; Hale 1976a: 20; Hillmann 1940c: 197; Hue 1890: 279; Magnusson 1956: 349; Magnusson & Zahlbruckner 1944: 98; Nylander 1859a: 239; Smith 1993: 328; Tuckerman 1862a: 142; 1866: 224; Zahlbruckner 1924: 388; 1926: 454

Guam and the northern Mariana Islands

***Glyphis cicatricosa* Ach.**

Ach., *Syn. Meth. Lich.*: 107 (1814)

= *Glyphis favulosa* Ach.

= *Glyphis cicatricosa* var. *favulosa* (Ach.) Nyl.

= *Glyphis achariana* Tuck.

Archer 2004b: 772; Harada 1994a: 97; Hue 1891: 190; Kurokawa 1969: 686; Magnusson 1956: 274; Magnusson & Zahlbruckner 1943: 41; Müller 1884a: 397; 1893a: 108; Nylander 1859a: 246; 1861: 52; 1867: 196; 1868: 121; Sato 1971: 7; A.L.Smith 1922: 73; C.W.Smith 1991: 37; Staiger 2002: 171; Tuckerman 1866: 231; Vezda 1982: 1; Weber 1986: 468; 1993: 432; Zahlbruckner 1908: 241

Anatahan; Asuncion; Guguan; Sarigan

***Graphis albocolpata* M. Nakan. & H. Harada**

M. Nakan. & H. Harada, *Nat. Hist. Res.* 5: 63 (1999)

No synonyms

Nakanishi & Harada 1999: 64

Saipan

***Graphis cleistoblephara* Nyl.**

Nyl., *Ann. Sci. Nat., Bot.*, sér. 4, 20: 265 (1863)

= *Graphina cleistoblephara* (Nyl.) Zahlbr.

= *Graphina hiascens* (Fée) Müll. Arg.

Nakanishi *et al.* 2002b: 110; Wirth & Hale 1963: 78; Vainio 1921: 205

Guam

***Graphis contexta* (Pers.) Nyl.**

Nyl., *Mém. Soc. Sci. Nat. Cherbourg* 5: 129 (1857)

= *Phaeographina contexta* (Pers.) Müll. Arg.

Graff 1917: 19; Hue 1891: 164; Nylander 1858a: 129; 1859a: 244; 1868: 120

Guam and the northern Mariana Islands

***Graphis dicarpoides* M. Nakan. & H. Harada**

M. Nakan. & H. Harada, *Nat. Hist. Res.* 5: 65 (1999)

No synonyms

Nakanishi & Harada 1999: 65

Saipan

***Graphis fissurata* M. Nakan. & H. Harada**

M. Nakan. & H. Harada, *Nat. Hist. Res.* 5: 67 (1999)

No synonyms

Nakanishi & Harada 1999: 67

Asuncion

***Graphis gracilescens* Vain.**

Vain., *Ann. Acad. Sci. Fenn.*, ser. A, 15(6): 203 (1921)

No synonyms

Archer 2006: 68; Vainio 1921: 203

Guam

***Graphis pandicola* M. Nakan. & H. Harada**

M. Nakan. & H. Harada, *Nat. Hist. Res.* 5: 68 (1999)

No synonyms

Nakanishi & Harada 1999: 69

Saipan

***Graphis saipanensis* M. Nakan. & H. Harada**

M. Nakan. & H. Harada, *Nat. Hist. Res.* 5: 69 (1999)

No synonyms

Nakanishi & Harada 1999: 69

Saipan

***Graphis subpulicaris* Zahlbr.**

Zahlbr., *Feddes Repert. Spec. Nov. Regni Veg.* 31: 212 (1933)

No synonyms

Harada 1994a: 97

Alamagan; Pagan; Rota

***Graphis subserpentina* Nyl.**

Nyl., *Acta. Soc. Sci. Fenn.* 7: 465 (1863)

= *Graphina insulana* Müll. Arg.

= *Graphis macgregori* Vain.

= *Graphina macgregori* (Vain.) Zahlbr.

Archer 2006: 93; 2007: 16; Müller 1883a: 56; Nakanishi *et al.* 2002b: 113; Vainio 1921:

206

Guam

***Heterodermia albicans* (Pers.) Swinscow & Krog**

Swinscow & Krog, *Lichenologist* 8: 113 (1976)

= *Physcia albicans* (Pers.) J. W. Thomson

= *Physcia crispa* Nyl.

= *Physcia speciosa* var. *hypomela* Tuck.

= *Phyrcia crispa* var. *hypomela* (Tuck.) Vain.

= *Phyrcia crispa* var. *mollescens* (Nyl.) Vain.

= *Phyrcia crispa* var. *scopulorum* Zahlbr.

Graff 1917: 21; Herre 1955: 341; Hue 1890: 318; Kashiwadani 1975: 65; Krempelhuber 1870: 113; Magnusson 1942: 40; 1956: 390; Magnusson & Zahlbruckner 1945: 65; Moberg 1986: 854; Müller 1884b: 91; Niering & Miller 1956: 177; Nylander 1860: 423; 1867: 194; 1868: 58; Riedl 1967: 51; Tuckerman 1866: 224; Vainio 1924: 5; Weber 1986: 469; Zahlbruckner 1908: 275

Guam

### ***Heterodermia dendritica* (Pers.) Poelt**

Poelt, *Nova Hedwigia* 9: 31 (1965)

No synonyms

Graff 1917: 21

Guam

### ***Heterodermia fragillissima* (Kurok.) J.-C. Wei & J.-M. Jiang**

J.-C. Wei & J.-M. Jiang, *Lich. Xiang*: 111 (1986)

= *Anaptychia fragillissima* Kurok.

Harada 1994a: 94

Alamagan

### ***Heterodermia hypoleuca* (Ach.) Trevis.**

Trevis., *Atti. Soc. Ital. Sci. Nat.* 11: 615. (1869)

= *Anaptychia hypoleuca* (Ach.) A. Massal.

= *Phyrcia hypoleuca* (Ach.) Nyl.

= *Phyrcia speciosa* var. *hypoleuca* (Ach.) Nyl.

Hue 1890: 317; Magnusson 1956: 392; Magnusson & Zahlbruckner 1945: 70; Nylander 1860: 417; 1861: 43; 1867: 194; 1868: 57; Vainio 1924: 5;

Zahlbruckner 1908: 277

northern Mariana Islands



***Heterodermia japonica* (Sato) Swinscow & Krog**

Swinscow & Krog, *Lichenologist* 8: 122 (1976)

= *Anaptychia japonica* (Sato) Kurok.

Harada 1994a: 94

Agrihan; Alamagan; Anatahan; Asuncion; Saipan; Sarigan

***Lasioloma arachnoideum* (Kremp.) R. Sant.**

R. Sant., *Symb. Bot. Upsal.* 12(1): 547 (1952)

No synonyms

Lücking & Kalb 2001: 260; Lücking & Lücking 1995: 159; Lücking *et al.* 2001b: 196;

Santesson 1952: 549

Guam

***Leptogium azureum* (Sw. ex Ach.) Mont.**

Mont., *in* Webb & Berthelot, *Hist. Nat. Iles Canaries* 3: 129 (1840)

= *Leptogium tremelloides* var. *azureum* (Sw. ex Ach.) Nyl.

Bungartz 2008: 145; Crombie 1877: 223; Glassman 1952: 738; Harada 1994a: 98;

Harmand 1914: 10; Herre 1958: 24; Hue 1890: 234; 1898: 224; Magnusson 1956: 290;

Magnusson & Zahlbruckner 1943: 68; Müller 1884b: 91; 1887: 78; 1893a: 99; 1897:

291; Nylander 1861: 38; Redón & Quilhot 1977: 19; Sbarbaro 1939: 103; Smith 1922:

79; Tuckerman 1862a: 115; Zahlbruckner 1924: 335

Anatahan

***Leptogium cyanescens* (Rabenh.) Körb.**

Körb., *Syst. Lich. Germ.*: 420 (1855)

= ?*Leptogium tremelloides* (L.) S. F. Gray

Bungartz 2008: 146, 147; Graff 1917: 18; Harada 1994a: 98; Hue 1898: 223;

Krempelhuber 1870: 128; Magnusson 1956: 290; Magnusson & Zahlbruckner 1943: 65;

Müller 1897: 291; Nylander 1859a: 235; 1859b: 282; 1861: 38; 1867: 104; 1868: 45;

Oliver 1911: 86; Redinger 1940: 50; A.L.Smith 1922: 79; C.W.Smith *et al.* 1997: 164;

Sykes 1977: 45; Tuckerman 1866: 234; Weber 1976: [506]; 1986: 472; Zahlbruckner 1908: 254

Guam and Agrihan; Alamagan; Anatahan; Asuncion; Guguan; Pagan; Sarigan

***Leptogium javanicum* Mont.**

Mont., *Syll. Gen. Sp. Crypt.*: 379 (1856)

= *Leptogium sphinctrinum* Nyl.

Bungartz 2008: 148; Hue 1890: 236; Müller 1897: 291; Nylander 1858c: 131; 1859a: 282; 1861: 38; 1867: 194; 1868: 44; Vainio 1921: 42; Zahlbruckner 1908: 255

Guam and the northern Mariana Islands

***Leptogium moluccanum* var. *hypoleia* Vain.**

Vain., *Ann. Acad. Sci. Fenn.*, ser. A, 15(6): 35 (1921)

No synonyms

Sbarbaro 1939: 103; Vainio 1921: 35

Guam

***Leptogium moluccanum* f. *marianum* (Pers.) Vain.**

Vain., *Étud. Class. Lich. Brésil* 1: 224 (1890)

= *Leptogium tremelloides* var. *marianum* (Mont.) Vain.

Hue 1890: 234; Krempelhuber 1870: 128; Zahlbruckner 1924: 335

The northern Mariana Islands

***Mazosia melanophthalma* (Müll. Arg.) R. Sant.**

R. Sant., *Symb. Bot. Upsal.* 12(1): 117 (1952)

No synonyms

Harada 1994a: 99; Lücking & Kalb 2001: 260; Lücking & Lücking 1995: 159; Smith *et al.* 1997: 164

Agrihan

***Melanotrema meiospermum* (Nyl.) A. Frisch**

A. Frisch, in Frisch & Kalb, *Biblioth. Lichenol.* 92: 394 (2006)  
= *Ocellularia meiosperma* (Nyl.) Hale  
Harada 1994a: 99 ['cf.']  
Rota

***Melaspilea heterocarpa* (Fée) Müll. Arg.**

Müll. Arg., *Mém. Soc. Phys. Hist. Nat. Genève* 29: 20 (1887)  
= *Graphis heterocarpa* (Fée) Nyl.  
Graff 1917: 17; Hue 1891: 157; Nylander 1858a: 130; 1859a: 245  
Guam and the northern Mariana Islands

***Parmeliella mariana* (Fr.) P. M. Jørg. & D. J. Galloway**

P. M. Jørg. & D. J. Galloway, *Fl. Australia* 54: 316 (1992)  
= *Parmelia mariana* Fr.  
= *Pannaria mariana* (Fr.) Müll. Arg.  
= *Parmelia sandwichiana* Pers.  
= *Pannaria sandwichiana* (Pers.) Trevis.  
= *Pannaria funebris* Kremp.  
= *Pannaria mariana* var. *funebris* (Kremp.) Zahlbr.  
= *Pannaria leucolepis* f. *oceana* Kremp.  
= *Pannaria hookeri* f. *oceana* (Kremp.) Zahlbr.  
= *Pannaria rubiginea* var. *radiata* Nyl.  
= *Pannaria mariana* var. *radiata* (Nyl.) Vain.  
= *Pannaria leiostroma* Müll. Arg.  
= *Pannaria sphinctrina* var. *microphylla* Tuck. ex Hue  
= *Psoroma sphinctrinum* var. *microphyllum* (Tuck. ex Hue) Zahlbr.  
= *Psoroma sphinctrinum* var. *endoxanthellum* Zahlbr.  
= ?*Pannaria neocaledonica* de Lesd.  
= *Pannaria mariana* var. *curta* Räsänen  
= *Psoroma boninense* Kurok.  
= *Pannaria pannosa* (Ach.) Nyl. *auct. non* Swartz

Bouly de Lesdain 1910a: 238; Fries 1825: 289 [not seen]; Glassman 1952: 738; Graff 1917: 19; Harmand 1914: 11; Herre 1953: 282; 1955: 340; Jatta 1903: 11; Jørgensen 2003: 33, 37, 40, 46, 66, 72; Jørgensen & Galloway 1992: 275; Krempelhuber 1870: 112; 1877: 436; Kurokawa 1969: 689; Lumbsch & Kothe 1992: 278; Magnusson 1956: 293; Magnusson & Zahlbruckner 1943: 71, 74; Müller 1884b: 91; 1887c: 319; 1889b: 62; 1893a: 102; 1897: 296; Niering & Miller 1956: 176; Nylander 1859b: 283; 1869: 29; Räsänen 1949: 181; Redinger 1940: 50; Riedl 1967: 50; 1988: 274; A.L.Smith 1922: 81; C.W.Smith 1991: 37; C.W.Smith *et al.* 1997: 164; Vainio 1921: 9; 1924: 6; Waldren & Galloway 1995: 118; Weber 1986: 474; Zahlbruckner 1908: 257, 258; 1912b: 28  
Guam and the northern Mariana Islands

***Parmeliella stylophora* (Vain.) P. M. Jørg.**

P. M. Jørg., *Bryologist* 103: 698 (2001)

= *Pannaria stylophora* Vain.

= *Pannaria stylophora* var. *disserpens* Vain.

= ?*Pannaria stylophora* var. *perconfluens* Vain.

Czeczuga *et al.* 1997: 264; Harada 1994a: 99; Herre 1958: 26; Jørgensen 2003: 47; Klement 1969: 687; Magnusson 1956: 294; Vainio 1921: 9; 1924: 6

Guam and Agrihan; Alamagan; Anatahan; Sarigan

***Parmotrema cristiferum* (Taylor) Hale**

Hale, *Phytologia* 28: 335 (1974)

= *Parmelia cristifera* Taylor

= *Parmelia latissima* f. *cristifera* (Taylor) Hue

Czeczuga *et al.* 1997: 264; Elix & Glenny 1996: 12; Elix & Streimann 1989: 116; Harada 1994a: 99; Hillmann 1940c: 199; Kurokawa 1978: 28; Louwhoff 2000: 377; Louwhoff & Elix 2000a: 53; 2002: 383; Magnusson 1956: 350; Magnusson & Zahlbruckner 1944: 101; Riedl 1988: 274; A.L.Smith 1922: 85; C.W.Smith 1991: 37; 1993: 329; Weber 1986: 475; Vainio 1924: 4; Weber 1966b: 194; 1986: 475, 490 [and as *Parmelia perlata*]; 1993: 432; Zahlbruckner 1908: 270

Rota

***Parmotrema pacificum* (Kurok.) Kurok.**

Kurok., *J. Jap. Bot.* 66: 157 (1991)

= *Parmelia pacifica* Kurok.

Czeczuga *et al.* 1997: 264; Elix & Glenny 1996: 13; Harada 1994a: 99; Kashiwadani 1979: 21; Kurokawa 1978: 28; Louwhoff 2000: 385

Agrihan; Alamagan; Anatahan; Rota; Saipan; Sarigan

***Parmotrema tinctorum* (Despr. ex Nyl.) Hale**

Hale, *Phytologia* 28: 339 (1974)

= *Parmelia latissima* var. *isidioidea* Müll. Arg.

= *Parmelia latissima* var. *isidiosa* Müll. Arg.

= *Parmelia praetervisa* Müll. Arg.

= *Parmelia tinctorum* Despr. ex Nyl.

= *Parmelia coralloidea* (Meyen & Flot.) Vain.

= ?*Parmelia praetervisa* var. *flavicans* Müll. Arg.

= ?*Parmelia tinctorum* var. *flavicans* (Müll. Arg.) Hillm.

Harmand 1914: 13; Hillmann 1940a: 11; 1940c: 201; Jatta 1903: 8; Klement 1966: 271;

Kurokawa 1969: 688; Louwhoff 2000: 390; Louwhoff & Elix 2000a: 54; 2002: 389;

McCarthy 1996: 293; Magnusson 1956: 350; Magnusson & Zahlbruckner 1944: 103;

Müller 1884b: 91; 1897: 295; Riedl 1967: 50; Sbarbaro 1939: 103; A.L.Smith 1922: 85;

C.W.Smith 1991: 37; 1993: 330; Vainio 1924: 5; Waldren & Galloway 1995: 118; Weber

1965b: [114]; 1966b: 194; 1984: 6; 1986: 476; Zahlbruckner 1908: 271

Guam

***Paulia perforata* (Pers.) Asah.**

Asah., *J. Jap. Bot.* 33: 129 (1958)

= *Paulia pullata* Fée

Henssen 1986: 224; Hue 1890: 228; Nylander 1858c: 98; 1859a: 235

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The northern Mariana Islands

***Pertusaria velata* (Turner) Nyl.**

Nyl., *Lich. Scand.*: 179 (1861)

= *Pertusaria skottsbergii* Zahlbr.

= *Pertusaria hawaiiensis* Erichs.

= *Pertusaria contraria* H. Magn.

Archer 1997: 209; Archer & Messuti 1997: 376–378; Crombie 1877: 225; Erichsen 1936: 41; Graff 1917: 20; Hue 1891: 80; Krempelhuber 1870: 110; Magnusson 1956: 332; Magnusson & Zahlbruckner 1944: 58, 59; Messuti 2005: 119, 120; Müller 1887: 79; 1893a: 103; 1897: 297; Nylander 1861: 45; 1867: 195; 1868: 70; Smith 1922: 83; Tuckerman 1866: 227; Zahlbruckner 1908: 269; 1924: 377, 378  
Guam and the northern Mariana Islands

***Phaeographis planiuscula* (Mont. & Bosch) Müll. Arg.**

Müll. Arg., *Flora* 65: 336 (1882)

= *Lecanactis planiuscula* Mont. & Bosch

= *Graphis diversa* var. *planiuscula* (Mont. & Bosch) Nyl.

= *Graphis planiuscula* (Mont. & Bosch) Nyl.

Harada 1994a: 99; Hue 1891: 157; Kashiwadani 1979: 21; Krempelhuber 1870: 109; Nylander 1867: 196; 1868: 113

Agrihan; Anatahan; Guguan; Pagan; Saipan; Sarigan

***Phyllopsora furfuracea* (Pers.) Zahlbr.**

Zahlbr., in Engler & Prantl, *Nat. Pflanzenfam* 1(\*1): 138 (1905)

= *Lecidea furfuracea* Pers.

= *Lecidea sanguineoatra* var. *furfuracea* (Pers.) Nyl.

Glassman 1952: 738; Graff 1917: 18; Hue 1891: 104; Nylander 1859a: 243; 1868: 82

Guam and the northern Mariana Islands

***Physcia aipolia* (Ehrh. ex Humb.) Fürnr.**

Fürnr., *Naturhist. Topogr. Regensburg* 2: 249 (1839)

No synonyms

Graff 1917: 21; Linder 1934: 219

Guam

***Physcia integrata* Nyl.**

Nyl., *Syn. Meth. Lich.* 1(2): 424 (1860)

No synonyms

Herre 1953: 282; Nylander 1860: 424; St. John & Philipson 1962: 178; Zahlbruckner 1908: 276

The northern Mariana Islands

***Physma byrsaeum* (Ach.) Tuck.**

Tuck., *Syn. N. Amer. Lich.* 1: 115 (1882)

= *Collema byrsaeum* (Ach.) Nyl.

= *Dichodium byrsaeum* (Ach.) Nyl.

= *Physma byrsinum* (Ach.) Nyl. [orthographic variant]

Cheel 1904: 742; Crombie 1877: 224; Frey 1967: 241; Glassman 1952: 738; Harada 1994a: 100; Herre: 1958: 30; Hue 1890: 232; 1898: 221; Krempelhuber 1870: 129; Magnusson & Zahlbruckner 1943: 61; Müller 1893a 955; 1897: 292; Nylander 1859b: 281; 1861: 38; 1867: 193; 1868: 42; Riedl 1988: 274; Sbarbaro 1939: 103; Vainio 1921: 45; 1924: 7; Waldren & Galloway 1995: 118; Weber 1986: 479; Zahlbruckner 1908: 256  
Guam and Agrihan; Alamagan; Anatahan; Asuncion; Sarigan

***Porina cestrensis* (Mich.) Müll. Arg.**

Müll. Arg., *Flora* 64: 338 (1883)

No synonyms

Harada & McCarthy 1997: 73; McCarthy 2000a: 20 ['cf.']

Agrihan; Anatahan; Saipan

***Porina coarctata* P. M. McCarthy & Harada**

P. M. McCarthy & Harada, in McCarthy, *Biblioth. Lichenol.* 87: 32 (2003)

= *Porina aggregata* P. M. McCarthy & Harada, *nom. illegit.*

Harada & McCarthy 1997: 70; McCarthy 2003a: 32

Agrihan

***Porina mastoidea* (Ach.) Müll. Arg.**

Müll. Arg., *Bot. Jahrb. Syst.* 6: 399 (1885)

= *Verrucaria mastoidea* Ach.

Harada & McCarthy 1997: 73; Hue 1892: 113; McCarthy 1996: 23; 2000a: 25; 2000c: 27; 2002: 41; Nylander 1859a: 247; 1861: 52; 1868: 123; Weber 1993: 433

Guam and Saipan

***Porina papuensis* P. M. McCarthy**

P. M. McCarthy, *Biblioth. Lichenol.* 52: 86 (1993)

No synonyms

Harada & McCarthy 1997: 74; McCarthy 2002: 41

Sarigan

***Porina perminuta* Vain.**

Vain., *Univ. California Publ. Bot.* 12: 14 (1924)

= *Phylloporina perminuta* (Vain.) Zahlbr.

Harada 1994a: 100; Lücking & Kalb 2001: 260; McCarthy 2000a: 26; 2003: 22;

Santesson 1952: 217, 218; Vainio 1924: 14

Guguan

***Porina tetracerae* (Ach.) Müll. Arg. var. *tetracerae***

Müll. Arg., *Bot. Jahrb. Syst.* 6: 401 (1885)

= *Verrucaria interstes* Nyl.

= *Porina interstes* (Nyl.) Müll. Arg.

= *Porina isidiophora* Vain.

= *Porina tetracerae* var. *saxorum* Zahlbr.



Harada & McCarthy 1997: 74; Harmand 1911: 126; Hue 1892: 113; Magnusson 1956: 237; McCarthy 1993b: 108, 111, 112; 2000a: 28; 2000c: 28; 2002: 41; Müller 1893a: 109; Nylander 1867: 196; 1868: 123; Weber 1993: 433; Zahlbruckner 1908: 231  
Pagan; Saipan; Sarigan

***Pyrenula flagellata* Harada**

Harada, *Bryologist* 96: 635 (1993)

No synonyms

Harada 1993: 635; 1994a: 100; McCarthy 2002: 42

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Saipan

***Pyxine cocoes* (Sw.) Nyl.**

Nyl., *Mem. Soc. Sci. Nat. Cherbourg* 5: 108 (1858)

= *Physcia cocoes* (Sw.) Nyl.

= *Pyxine oceanica* Zahlbr.

Cheel 1904: 743; Harada 1994a: 101; Herre 1953: 282; Hue 1891: 33; Magnusson 1956: 389; Magnusson & Zahlbruckner 1945: 58; Müller 1882a: 308; 1884b: 91; 1887: 78; 1893a: 102; Nylander 1859a: 239; 1861: 43; 1867: 194; 1868: 59; 1869: 2; Riedl 1967: 51; Tuckerman 1862a: 145; 1866: 224; Waldren & Galloway 1995: 118; Weber 1986: 481; Zahlbruckner 1916: 37

Asuncion; Guguan; Maug; Sarigan

***Ramalina australiensis* Nyl.**

Nyl., *Bull. Soc. Linn. Normandie*, sér. 2, 4: 120 (1870)

= *Ramalina furcellata* (Mont.) Zahlbr.

= *Ramalina allanii* de Lesd.

= *Ramalina farinacea* auct. non Ach.

= *Ramalina dasypoga* auct. non Tuck., p.p.

Bannister & Blanchon; 2003: 141; Graff 1917: 20; Magnusson & Zahlbruckner 1945: 10; Riedl 1988: 275, 279; Sykes 1977: 47; Weber 1966b: 195; 1986: 482, 491

Guam

***Ramalina dumeticola* Krog & Swinscow**

Krog & Swinscow, *Norw. J. Bot.* 23: 163 (1976)

= *Ramalina nervulosa* var. *dumeticola* (Krog & Swinscow) G. N. Stevens

= *Ramalina pacifica* var. *dumeticola* (Krog & Swinscow) G. N. Stevens

Stevens 1983b: 228; 1987: 197

Guam and Rota; Saipan

***Ramalina leiodea* (Nyl.) Nyl.**

Nyl., *Lich. Nov. Zel.*: 22 (1888)

= *Ramalina subfraxinea* [subsp.] *leiodea* Nyl.

= *Ramalina subfraxinea* var. *leiodea* (Nyl.) G. N. Stevens

= *Ramalina boninensis* Asah.

= *Ramalina boninensis* f. *subcalicariformis* Asah.

Czeczuga *et al.* 1997: 264; Hue 1890: 265; Kashiwadani 1979: 22; Kurokawa 1969: 690; Magnusson 1956: 359 ['cf.']; Magnusson & Zahlbruckner 1945: 12 ['cf.']; Nylander 1870: 142; Stevens 1982: 42; 1987: 206

Saipan

***Ramalina nervulosa* (Müll. Arg.) Abbayes**

Abbayes, *Bull. Inst. Franç. Afrique Noire* 14: 25 (1952)

= *Ramalina farinacea* var. *nervulosa* Müll. Arg.

Kashiwadani & Moon 2007: 150, 151; Kurokawa & Kashiwadani 1987: [681]; Müller 1883c: 21

Rota; Saipan

***Ramalina pacifica* Asah. var. *pacifica***

Asah., *J. Jap. Bot.* 15: 213 (1939)

= *Ramalina insularum* H. Magn.

Bannister & Blanchon; 2003: 141; Blanchon *et al.* 1996a: 89; Asahina 1939: 215;  
Kashiwadani 1979: 18; Magnusson 1956: 361; Stevens 1983b: 225, 226; 1987: 201;  
Sykes 1977: 48  
Saipan

***Ramalina pacifica* var. *inacida* G. N. Stevens**

G. N. Stevens, *Lichenologist* 15: 226 (1983)

No synonyms

Stevens 1983b: 226, 227

Guguan; Maug

***Ramalina subfraxinea* Nyl.**

Nyl., *Bull. Soc. Linn. Normandie*, sér. 2, 4: 139 (1870)

No synonyms

Crombie 1877: 227; Culberson *et al.* 1990: 193; Hue 1890: 265; Magnusson 1956: 358;

Müller 1884b: 91; Nylander 1870: 139; Sbarbaro 1939: 103

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***Relicina connivens* (Kurok.) Hale**

Hale, *Phytologia* 28: 484 (1974)

No synonyms

Hale 1975a: 21

Guam

***Relicina relicinula* (Müll. Arg.) Hale**

Hale, *Phytologia* 28: 485 (1974)

= *Parmelia relicina* Fr.

Hue 1890: 287; Müller 1897: 295; Nylander 1860: 386; 1861: 43; 1867: 194; 1868: 57;

Zahlbruckner 1908: 272

The northern Mariana Islands

***Sarcographa labyrinthica* (Ach.) Müll. Arg.**

Müll. Arg., *Mém. Soc. Phys. Hist. Nat. Genève* 29(8): 62 (1887)

= *Graphis labyrinthica* Ach.

= *Glyphis colliculosa* C.Knight

Graff 1917: 18

Guam

***Trichothelium assurgens* (Cooke) Aptroot & Lücking**

Aptroot & Lücking, *Mycol. Res.* 103: 511 (2001)

= *Trichothelium marianense* Harada

= *Trichothelium nanum* Malcolm & Vezda

Harada 1994b: 272; Lücking & Kalb 2001: 261; McCarthy 2003: 23

The northern Mariana Islands

***Trypethelium ochroleucum* (Eschw.) Nyl.**

Nyl., *Flora* 52: 126 (1869)

= *Trypethelium pallescens* Fée

= *Pseudopyrenula tessella* (Pers.) Graff

Graff 1917: 16; Hue 1892: 127; Magnusson 1956: 247; Magnusson & Zahlbruckner

1943: 17; Tuckerman 1866: 233; Weber 1986: 486

Guam and the northern Mariana Islands

***Trypethelium tropicum* (Ach.) Müll. Arg.**

Müll. Arg., *Bot. Jahrb. Syst.* 6: 393 (1885)

= *Pseudopyrenula tropica* (Ach.) Müll. Arg.

= *Pseudopyrenula pyrenuloides* Zahlbr.

Graff 1917: 16; Harris 1998: 147; Weber 1986: 486

Guam

***Trypethelium variolosum* (Ach.) Müll. Arg.**

Müll. Arg., *Flora* 68: 255 (1885)

= *Verrucaria variolosa* (Ach.) Nyl.

= *Bottaria variolosa* (Ach.) A. Massal.

Graff 1917: 17; Hue 1892: 115; McCarthy 2000c: 29; 2002: 42; Nylander 1858b: 42;  
1859a: 247

Guam and the northern Mariana Islands

***Usnea baileyi* (Stirt.) Zahlbr.**

Zahlbr., *Denkschr. Kaiserl. Akad. Wiss. Wien, Math.-Naturwiss. Kl.* 83: 183 (1909)

= *Usnea implicata* (Stirt.) Zahlbr.

Frey 1967: 251; Motyka 1936–38: 61, 62, 64

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*Lichenologist* 35: 137–146.
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**Appendix 1. Checklist of Lichens from the Mariana Islands ex Elix & McCarthy (2008).**

*Agonimia pacifica* (Harada) Diederich  
*Arthonia cinnabarina* var. *violacea* (Pers.) Nyl.  
*Bulbothrix goebelii* (Zenker) Hale  
*Calopadia fusca* (Müll. Arg.) Vězda  
*Chiodecton congestulum* Nyl.  
*Chiodecton tentaculatum* Vain.  
*Cladonia humilis* (With.) J. R. Laundon  
*Coccocarpia adnata* Arv.  
*Coccocarpia erythroxyli* (Spreng.) Swinscow & Krog  
*Coccocarpia palmicola* (Spreng.) Arv. & D. J. Galloway  
*Coccocarpia pellita* Müll. Arg. emend R. Sant.  
*Coccocarpia smaragdina* Pers. emend. Arv.  
*Coenogonium leprieurii* (Mont.) Nyl.  
*Coenogonium linkii* Ehrenb.  
*Collema coilocarpum* (Müll. Arg.) Zahlbr.  
*Collema leptaleum* Tuck.  
*Collema leptaleum* var. *biliosum* (Mont.) Degel.  
*Collema rugosum* Kremp.  
*Collema subflaccidum* Degel.  
*Dictyonema membranaceum* Arg.  
*Dirinaria aegialita* (Ach.) B. Moore  
*Dirinaria applanata* (Fée) D. D. Awasthi  
*Dirinaria picta* (Sw.) Schaer. ex Clem.  
*Endocarpon neopallidulum* Harada  
*Endocarpon superpositum* Harada  
*Flavoparmelia caperata* (L.) Hale  
*Glyphis cicatricosa* Ach.  
*Graphis albocolpata* M. Nakan. & H. Harada

*Graphis cleistoblephara* Nyl.  
*Graphis contexta* (Pers.) Nyl.  
*Graphis dicarpoides* M. Nakan. & H. Harada  
*Graphis fissurata* M. Nakan. & H. Harada  
*Graphis gracilescens* Vain.  
*Graphis pandicola* M. Nakan. & H. Harada  
*Graphis saipanensis* M. Nakan. & H. Harada  
*Graphis subpulicaris* Zahlbr.  
*Graphis subserpentina* Nyl.  
*Heterodermia albicans* (Pers.) Swinscow & Krog  
*Heterodermia dendritica* (Pers.) Poelt  
*Heterodermia fragilissima* (Kurok.) J.-C. Wei & J.-M. Jiang  
*Heterodermia hypoleuca* (Ach.) Trevis.  
*Heterodermia japonica* (Sato) Swinscow & Krog  
*Lasioloma arachnoideum* (Kremp.) R. Sant.  
*Leptogium azureum* (Sw. ex Ach.) Mont.  
*Leptogium cyanescens* (Rabenh.) Körb.  
*Leptogium javanicum* Mont.  
*Leptogium moluccanum* f. *marianum* (Pers.) Vain.  
*Leptogium moluccanum* var. *hypoleia* Vain.  
*Mazosia melanophthalma* (Müll. Arg.) R. Sant.  
*Melanotrema meiospermum* (Nyl.) A. Frisch  
*Melaspilea heterocarpa* (Fée) Müll. Arg.  
*Parmeliella mariana* (Fr.) P. M. Jørg. & D. J. Galloway  
*Parmeliella stylophora* (Vain.) P. M. Jørg.  
*Parmotrema cristiferum* (Taylor) Hale  
*Parmotrema pacificum* (Kurok.) Kurok.  
*Parmotrema tinctorum* (Despr. ex Nyl.) Hale  
*Paulia perforata* (Pers.) Asah.  
*Pertusaria velata* (Turner) Nyl.  
*Phaeographis planiuscula* (Mont. & Bosch) Müll. Arg.

*Phyllopsora furfuracea* (Pers.) Zahlbr.  
*Physcia aipolia* (Ehrh. ex Humb.) Fürnr.  
*Physcia integrata* Nyl.  
*Physma byrsaeum* (Ach.) Tuck.  
*Porina cestrensis* (Mich.) Müll. Arg.  
*Porina coarctata* P. M. McCarthy & Harada  
*Porina mastoidea* (Ach.) Müll. Arg.  
*Porina papuensis* P. M. McCarthy  
*Porina perminuta* Vain.  
*Porina tetracerae* (Ach.) Müll. Arg. var. *tetracerae*  
*Pyrenula flagellata* Harada  
*Pyxine cocoes* (Sw.) Nyl.  
*Ramalina australiensis* Nyl.  
*Ramalina dumeticola* Krog & Swinscow  
*Ramalina leiodea* (Nyl.) Nyl.  
*Ramalina nervulosa* (Müll. Arg.) Abbayes  
*Ramalina pacifica* Asah. var. *pacifica*  
*Ramalina pacifica* var. *inacida* G. N. Stevens  
*Ramalina subfraxinea* Nyl.  
*Relicina connivens* (Kurok.) Hale  
*Relicina relicinula* (Müll. Arg.) Hale  
*Sarcographa labyrinthica* (Ach.) Müll. Arg.  
*Trichothelium assurgens* (Cooke) Aptroot & Lücking  
*Trypethelium ochroleucum* (Eschw.) Nyl.  
*Trypethelium tropicum* (Ach.) Müll. Arg.  
*Trypethelium variolosum* (Ach.) Müll. Arg.  
*Usnea baileyi* (Stirt.) Zahlbr.







