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DEGLI STUDI DI TRIESTE
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Dryades

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Discovering lichens in Sri Lanka

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Images by various authors (species)

Images of characters by Andrea Moro

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Introduction

The combination of an ancient, topographically and geologically diverse landscape and repeated influxes of biota from diverse regions in Sri Lanka in response to climatic change have resulted in a unique juxtaposition of lichens from spatially and temporally disparate biogeographic regions. Many lichen species not typically found in nearest sub-continental South India have adapted to suitable microhabitats, and survived in Sri Lanka through changes of climate. At present, nearly 1000 lichen species are known for Sri Lanka. Nevertheless, given the poor state of knowledge on many Sri Lankan lichen groups, it is more likely that 2000 or more lichen species can be found on the island.

This interactive guide intends to complement the booklet 'Fascinating lichens of Sri Lanka' (Weerakoon 2015) with an identification tool for over 100 species, mainly macrolichens. Of course, the key cannot be used to identify all lichens found in Sri Lanka, but it might be useful as a tutorial in workshops and courses for students, who will be asked to identify only the species which are included. The key is available online, and in several stand-alone versions (printable, CD-Rom, version for mobile devices). After a phase of testing, the key will be enlarged to encompass a broader spectrum of species, especially crustose lichens.

The key has been created using program FRIDA (Martellos 2010) at the Department of Life Sciences of the University of Trieste (Italy).

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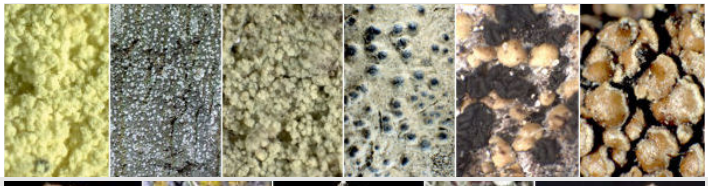
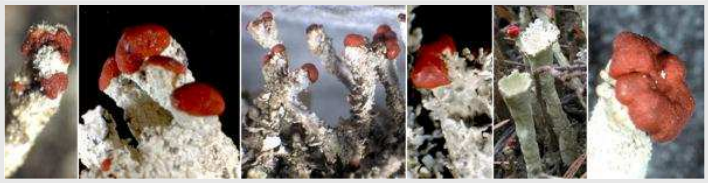
Literature cited

Martellos S. (2010) - Multi-authored interactive identification keys: The FRIDA (FRiendly IDentificAtion) package - Taxon 59 (3): 922-929.

Weerakoon G. (2015) - Fascinating lichens of Sri Lanka - Colombo, Sri Lanka, Ceylon Tea Services, PLC, 188 pp.

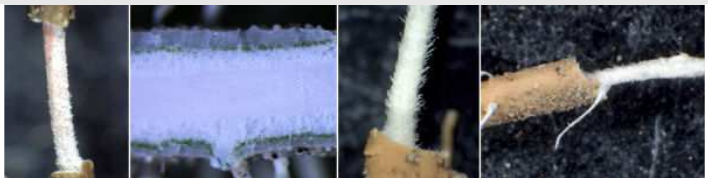
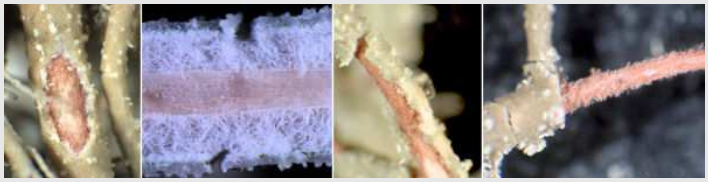
Field guide

1	Thallus foliose or fruticose		**2**
1	Thallus squamulose, crustose or byssoid		**118**
2	Thallus fruticose, not dorsiventral		**3**
2	Thallus foliose (or subfruticose, but clearly dorsiventral)		**27**
3	Lichens with a primary thallus of small squamules, and a secondary thallus of erect podetia		**4**
3	Lichens different (primary thallus absent or crustose and inconspicuous)		**17**
4	Apothecia and pycnidia bright red		**5**
4	Apothecia and pycnidia brown		**6**
5	Podetia cup-shaped		***Cladonia coccifera* (L.) Willd.**

5	Podetia not cup-shaped		***Cladonia didyma* (Fée) Vain.**
6	Podetia not ending with a cup		**7**
6	Podetia cup-shaped or ending with a cup		**10**
7	Podetia corticate at least at the base		**8**
7	Podetia ecorticate, exposing a hard, naked stereome		**9**
8	Podetia unbranched, or with a few apical branches, K-		***Cladonia corniculata* Ahti & Kashiw.**
8	Podetia regularly branching over their whole length, with furcate tips, K+ yellow		***Cladonia subdelicatula* Vain. ex Asahina**

9	Podetia 6-15(-25) cm tall		***Cladonia cartilaginea* Müll. Arg.**
9	Podetia (1-)2-6 cm tall		***Cladonia singhii* Ahti & Dixit**
10	Podetia without soredia		**11**
10	Podetia sorediate		**14**
11	Podetia simple, to 11 mm tall, ending in a broad, regular cup		***Cladonia kurokawae* Ahti & S. Stenroos**
11	Podetia different: either branched or ending in narrow, irregular cups, or > 11 mm tall		**12**
12	Podetia K+ bright yellow (with atranorin)		***Cladonia submultiformis* Asahina**

12	Podetia K- or K+ dirty brown (with psoromic or fumarprotocetraric acid)		**13**
13	Podetia largely corticate and spotwise with deciduous granules mainly below the cups, leaving decorticated spots (psoromic or fumarprotocetraric acids)		***Cladonia fruticulosa* Kremp.**
13	Podetia largely and densely covered by dciduous granules and scales leaving much of the surface decorticated (fumarprotocetraric acid)		***Cladonia mauritiana* Ahti & J.C. David**
14	Cups narrow (0.5-1 mm). Soralia tuberculate		***Cladonia phyllopoda* (Vain.) S. Stenroos**
14	Cups wide (1-4 mm). Soralia not tuberculate		**15**
15	Cups deep, often with perforations at the bottom		***Cladonia poecilocladа* Abbayes**
15	Cups shallow, closed		**16**

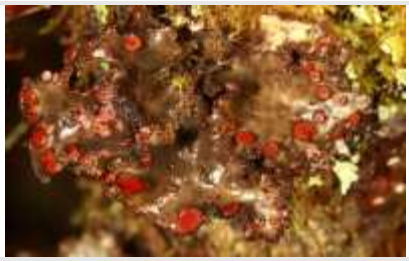
16	Podetia ending in a broad, regular cup, K+ yellow		***Cladonia humilis*** **(With.) J.R.Laundon**
16	Podetia ending in narrow, often irregular cups, K- or K+ dirty brown		***Cladonia fruticulosa*** **Kremp.**
17	Medulla compact, forming a central chord which is easily visible stretching the thallus		**18**
17	Medulla not forming a central chord		**20**
18	Medulla and central axis always white, C-		***Usnea cornuta*** **Körb.**
18	Medulla and/or central axis usually pink to orange, C+ pale yellow		**19**
19	Thallus greenish. With a subcortical orange pigment		***Usnea subcornuta*** **Stirt.**
19	Thallus reddish. With a reddish pigment extended to the central chord		***Usnea steineri*** **Zahlbr.**

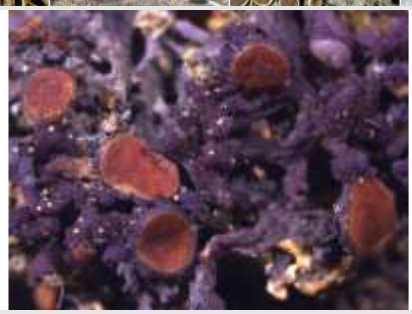
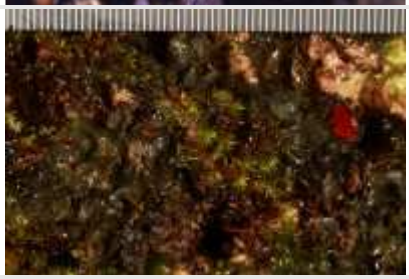
20	Thallus orange, K+ red		***Teloschistes flavicans* (Sw.) Norman**
20	Thallus grey to green		**21**
21	Thallus yellowish green to greenish		**22**
21	Thallus white, grey or brown		**23**
22	Thallus flattened		***Ramalina conduplicans* Vain.**
22	Thallus thread-like		***Ramalina usnea* (L.) R. Howe**
23	Thallus consisting of pseudopodetia which are densely covered by granular or leaf-like structures (phyllocladia)		**24**
23	Thallus not densely covered by phyllocladia		**25**
24	Phyllocladia granular to cylindrical		***Stereocaulon austroindicum* I.M. Lamb.**

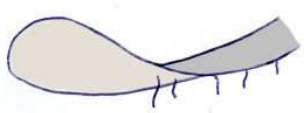
24	Phyllocladia distinctly flattened		***Stereocaulon foliolosum* Nyl.**
25	Thallus simple or weakly branched, not bushy		***Siphula decumbens* Nyl.**
25	Thallus much branched, bush-like		**26**
26	Medulla solid		***Bunodophoron formosanum* (Zahlbr.) Wedin**
26	Medulla hollow		***Bunodophoron diplotypum* (Vain.) Wedin**
27	Thallus inflated, hollow inside		**28**
27	Thallus not inflated and not hollow inside		**29**
28	Thallus with soredia. Upper surface with small perforations		***Menegazzia terebrata* (Hoffm.) A.Massal.**

28	Thallus with isidia. Upper surface without perforations		***Hypogymnia zeylanica* (R. Sant.) D.D. Awasthi & Kr.P. Singh**
29	Lichens with conspicuous perforations (cyphellae or pseudocyphellae) on the upper or lower surface		**30**
29	Lichens without such perforations		**37**
30	Photobiont chlorococcoid (upper surface bright green in the wet state)		**31**
30	Photobiont cyanobacterial (upper surface dark-coloured in the wet state)		**32**
31	Tallus K+ yellow, with isidia. Perforations limited to the upper surface		***Cetrelia braunsiana* (Müll. Arg.) W.L. Culb. & C.F. Culb.**
31	Thallus K-, without isidia. Perforations limited to the lower surface		***Dendriscosticta platyphylloides* (Nyl.) Moncada & Lücking**
32	Thallus without soredia or isidia		***Pseudocyphellaria beccarii* (Kremp.) D.J. Galloway**

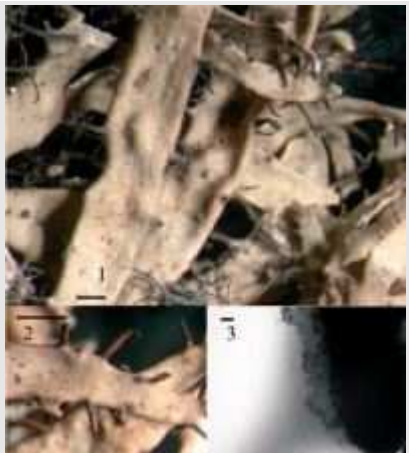
32	Thallus with soredia or isidia		**33**
33	Thallus with soredia arranged in marginal soralia		**34**
33	Thallus with isidia		**35**
34	Lobes less than 2 times as long as wide. Lower surface with true cyphellae		***Sticta limbata* (Sm.) Ach.**
34	Lobes more than 2 times as long as wide. Lower surface with pseudocyphellae		***Pseudocyphellaria intricata* (Delise) Vain.**
35	Lower surface with yellow pseudocyphellae		***Pseudocyphellaria desfontainii* (Delise) D.J. Galloway**
35	Lower surface with white cyphellae		**36**
36	Lower surface whitish or pale; tomentum white, thinly scattered. Lobes rounded, more or less monophyllous		***Sticta fuliginosa* (Hoffm.) Ach.**

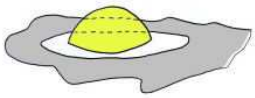
36	Lower surface brown to dark brown, densely and velvety tomentose. Lobes not monophyllous		***Sticta weigelii* (Ach.) Vain.**
37	Photobiont blue-green. Upper surface dark-coloured when wet		**38**
37	Photobiont a green alga. Upper surface usually not dark-coloured when wet		**48**
38	Without soredia or isidia		**39**
38	With soredia or isidia		**44**
39	Thallus heteromerous, clearly dorsiventral, not gelatinous when wet		**40**
39	Thallus homoiomerous, not or weakly dorsiventral, more or less gelatinous when wet		**41**
40	Lobes 5-10 mm wide. Apothecial margin without radiating hairs		***Coccocarpia erythroxyli* (Spreng.) Swinscow & Krog**
40	Lobes 0.2-1 mm wide. Apotecial margin with radiating hairs		***Coccocarpia stellata* Tuck.**

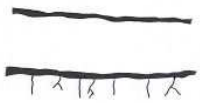
41	Thallus thick, strongly wrinkled		**42**
41	Thallus thin, papery, smooth to shallowly striate		**43**
42	Margin of apothecia smooth. Upper surface without cortex		***Collema coilocarpum* (Müll. Arg.) Zahlbr.**
42	Margin of apothecia strongly rugose or phyllidiate. Upper surface with a thin cortex of isodiametric cells (microscope!)		***Leptogium phyllocarpum* (Pers.) Mont.**
43	Thallus minutely striate. Margin of apothecia often with concentric ridges		***Leptogium cochleatum* (Dicks.) M.Jørg. & P.James**
43	Thallus smooth. Margin of apothecia smooth or toothed		***Leptogium azureum* (Swartz) Mont.**
44	Thallus with marginal soredia. Upper surface hairy		***Leioderma sorediatum* D.J. Galloway & P.M. Jørg.**
44	Thallus with isidia. Upper surface not hairy		**45**

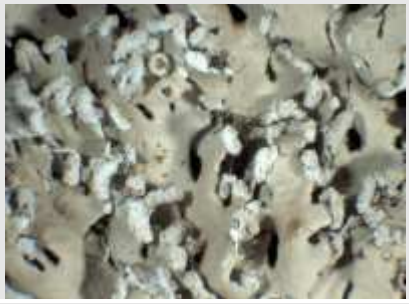
45	Thallus heteromerous, clearly dorsiventral, not gelatinous when wet		***Coccocarpia pellita* (Ach.) Müll. Arg.**
45	Thallus homoiomerous, not or weakly dorsiventral, more or less gelatinous when wet		**46**
46	Thallus paper-thin. Lobes smooth to faintly striate		***Leptogium cyanescens* (Rabenh.) Körb.**
46	Thallus thick. Lobes clearly striate		**47**
47	Isida thick, mostly laminal		***Leptogium austroamericanum* (Malme) C. W. Dodge**
47	Isida granular, mostly marginal		***Leptogium millegranum* Sierk**
48	Lower surface pale throughout (white to tan)		**49**
48	Lower surface dark brown to black, at least in the central parts		**67**

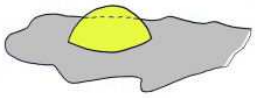
49	Thallus broad-lobed, the lobes 0.5-2 cm wide. Underside with broad patches of dark brown hairs		***Lobaria discolor* (Bory) Hue**
49	Thallus narrow-lobed, the lober rarely broader than 5 mm. Lower surface without hairs		**50**
50	Thallus without marginal cilia and usually without lateral lobules. Upper cortex paraplectenchymatous (microscope!)		**51**
50	Thallus often with marginal cilia and/or with lateral lobules. Upper cortex consisting of periclinal hyphae		**52**
51	With soredia. Lower surface with conspicuous red-brown to brown-black, corticate, ribbed or nerve-like longitudinal striations		***Physcia atrostriata* Moberg**
51	Without soredia. Lower surface without longitudinal striations		***Physcia alba* (Fée) Müll. Arg.**
52	Upper surface with abundant cilia		***Heterodermia comosa* (Eschw.) Follmann & Redòn**
52	Upper surface without cilia (cilia, when present, confined to the margins)		**53**

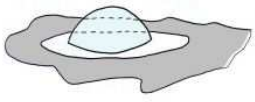
53	Without soredia or isidia, often with apothecia		**54**
53	With soredia or isidia, often (but not always!) without apothecia		**60**
54	Lower surface corticate throughout		***Heterodermia diademata* (Taylor) D.D.Awasthi**
54	Lower surface ecorticate (at most with a corticate margin)		**55**
55	Lobes with red cilia		***Heterodermia rubrotricha* Weerakoon & Aptroot**
55	Lobes without cilia or with white to black cilia		**56**
56	Branching dichotomous, with two equal lobes. Lobes narrow and elongate, strap-shaped		***Heterodermia circinalis* (Zahlbr.) W.A. Weber**
56	Branching sympodial, with short lateral lobes. Lobes short, not strap-shaped		**57**

57	Lower surface with superficial yellow to orange pigments (sometimes patchy)		***Heterodermia hypochraea* (Vain.) Swinscow & Krog**
57	Lower surface white, without pigments		**58**
58	Tip of lobes K+ yellow changing to red		***Heterodermia magellanica* (Zahlbr.) Swinscow & Krog**
58	Tip of lobes K+ yellow		**59**
59	Marginal cilia mostly unbranched		***Heterodermia podocarpa* (Bél.) D.D. Awasthi**
59	Marginal cilia densely branched		***Heterodermia barbifera* (Nyl.) K.P. Singh**
60	Thallus with isidia		***Heterodermia isidiophora* (Nyl.) D.D. Awasthi**

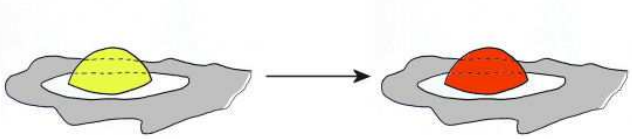
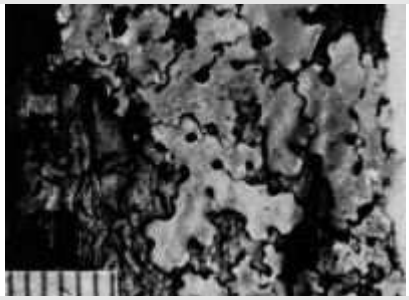
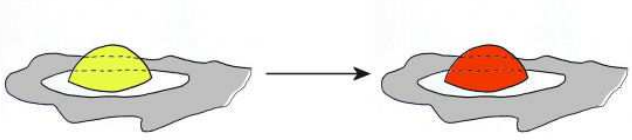
60	Thallus with soredia		**61**
61	Lower surface corticate throughout		**62**
61	Lower surface non-corticate		**64**
62	Soralia not apical, more or less linear and continuous along lobe-margins. Salazinic acid present		***Heterodermia albicans* (Pers.) Swinscow & Krog**
62	Soralia apical, on main lobes and on short lateral lobes, more or less lip-shaped. Salazinic acid absent		**63**
63	Soredia farinose. Without norstictic acid (medulla K+ yellow)		***Heterodermia speciosa* (Wulfen) Trevis.**
63	Soredia granular. With norstictic acid (medulla K+ yellow, then red)		***Heterodermia pseudospeciosa* (Kurok.) W.L. Culb.**
64	Lower surface without yellow to orange pigments		***Heterodermia japonica* (M. Sato) Swinscow & Krog**

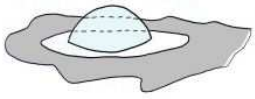
64	Lower surface with superficial yellow to orange pigments (sometimes patchy)		**65**
65	Pigment covering most of the lower surface		***Heterodermia obscurata* (Nyl.) Trevis.**
65	Pigment in tiny spots		**66**
66	Apothecia without a conspicuous corona of lobules along the margin. Lobe-tips K+ yellow, then red		***Heterodermia propagulifera* (Vain.) J.P. Dey**
66	Apothecia with a conspicuous corona of lobules along the margin. Lobe-tips K+ yellow		***Heterodermia queensberryi* Weerakoon & Aptroot**
67	Thallus white to grey-white, narrow-lobed (lobes to 2.5 mm wide). Spores brown, 2-celled		**68**
67	Thallus of various colours, rarely white, the lobes usually > 2.5 mm wide. Spores colourless, 1-celled		**72**
68	Thallus without soredia		***Physcia integrata* Nyl.**

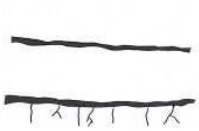
68	Thallus with soredia		**69**
69	Rhizines conspicuously projecting beyond lobe margins. Thallus K-		***Phaeophyscia hispidula* (Ach.) Essl.**
69	Rhizines not conspicuously projecting beyond lobe margins.Thallus K+ yellow		**70**
70	Soralia laminal		***Physcia krogiae* Moberg**
70	Soralia marginal		**71**
71	Lower surface with conspicuous red-brown to brown-black, corticate, ribbed or nerve-like longitudinal striations		***Physcia atrostriata* Moberg**
71	Lower surface uniformly coloured		***Physcia sorediosa* Lynge**
72	Without soredia or isidia, often with apothecia		**73**

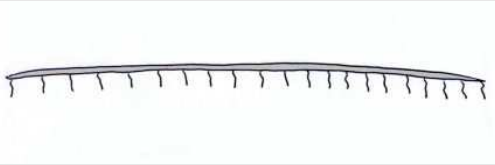
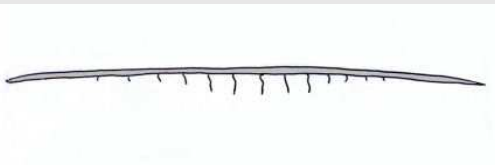
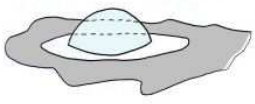
72	With soredia or isidia, often without apothecia		**88**
73	Lobes linear, with parallel margins, attached only at base		***Everniastrum cirrhatum* (Fr.) Hale ex Sipman**
73	Lobes rounded to linear, but attached from lower surface		**74**
74	Medulla bright yellow to ochraceous yellow at least in lower part		**75**
74	Medulla white throughout		**77**
75	Medulla P+ orange, with galbinic acid		***Myelochroa subaurulenta* (Nyl.) Elix & Hale**
75	Medulla P-, without galbinic acid		**76**
76	Medulla yellow, exposed through flaking cortex. Older parts strongly wrinkled and ridged		***Myelochroa entotheiochroa* (Hue) Elix & Hale**

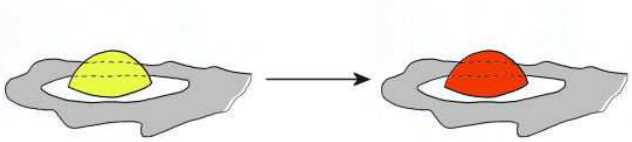
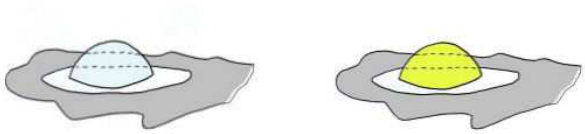
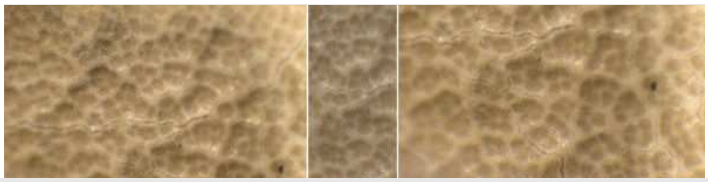
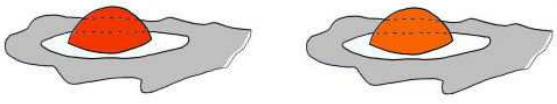
76	Medulla pale yellow to white. Older parts becoming foveolate		***Myelochroa irrugans* (Nyl.) Elix & Hale**
77	Lobes with marginal black cilia which are swollen at the base		**78**
77	Lobes without cilia, or with simple, eyelash-like cilia (not swollen at the base)		**80**
78	Lower surface dark brown to black		***Bulbothrix meizospora* (Nyl.) Hale**
78	Lower surface pale brown		**79**
79	Upper surface not maculate		***Bulbothrix setschwanensis* (Zahlbr.) Hale**
79	Upper surface maculate		***Bulbothrix hypocraea* (Vain.) Hale**

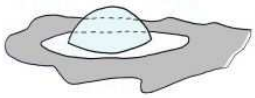
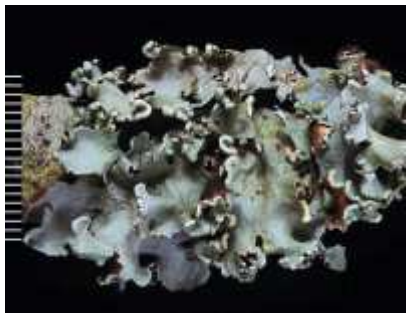
80	Lower surface rhizinate to margins		**81**
80	Lower surface with a broad marginal zone without rhizines		**83**
81	Medulla K- (or K+ dirty brown)		***Myelochroa irrugans* (Nyl.) Elix & Hale**
81	Medulla K+ yellow turning red		**82**
82	Rhizines simple		***Parmelinella simplicior* (Hale) Elix & Hale**
82	Rhizines richly and dichotomously branched		***Hypotrachyna masonhalei* Patw. & Prabhu**
83	Medulla K+ yellow turning red (salazinic acid)		**84**
83	Medulla K- or K+ dirty brown		**85**

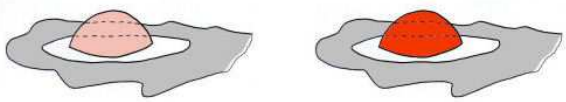
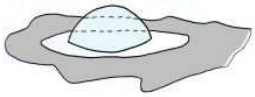
84	Thallus not strongly maculate and cracked		***Parmotrema latissimum* (Fée) Hale**
84	Thallus strongly maculate and cracked		***Parmotrema cetratum* (Ach.) Hale**
85	Lobes without cilia along the margins		***Parmotrema andinum* (Müll.Arg.) Hale**
85	Lobes with ciliate margins (cilia sometimes sparse)		**86**
86	Medulla C+ red (gyrophoric acid)		***Parmotrema eunetum* (Stirt.) Hale**
86	Medulla C-		**87**
87	Medulla UV- (norlobaridone)		***Parmotrema abessinicum* (Kremp.) Hale**

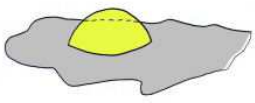
87	Medulla UV+ blue-white (alectoronic and α–collatolic acids)		***Parmotrema nilgherrense* (Nyl.) Hale**
88	Thallus with soredia (sometimes mixed with isidioid outgrowths)		**89**
88	Thallus with isidia		**109**
89	Medulla yellow to ochraceous yellow at least in the upper or lower part		**90**
89	Medulla white throughout		**92**
90	Lobes 0.5-2 mm wide		***Myelochroa aurulenta* (Tuck.) Elix & Hale**
90	Lobes >3 mm wide		**91**
91	Thallus yellowish grey (usnic acid). Medulla K+ dirty brown, KC-, P+ orange-red (protocetraric acid)		***Parmotrema dilatatum* (Vain.) Hale**

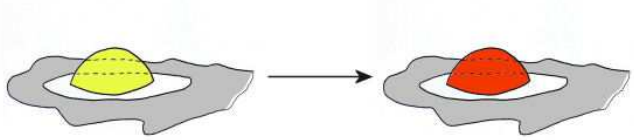
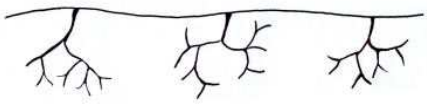
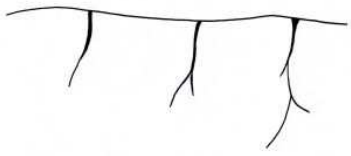
91	Thallus grey. Medulla K-, KC+ pink or red, P-		***Parmotrema rampoddense* (Nyl.) Hale**
92	Lower surface rhizinate to margins		**93**
92	Lower surface with a broad marginal zone without rhizines		**96**
93	Soralia laminal. Upper surface UV+ golden yellow		***Hypotrachyna osseoalba* (Vain.) Y.S. Park & Hale**
93	Soralia capitate on lobe ends. Upper surface UV-		**94**
94	Medulla K+ red or K+ yellow turning red		***Hypotrachyna brevirhiza* (Kurok.) Hale**
94	Medulla K-		**95**
95	Medulla C-, KC+ rose. Soredia not arising from pustules		***Hypotrachyna immaculata* (Kurok.) Hale**

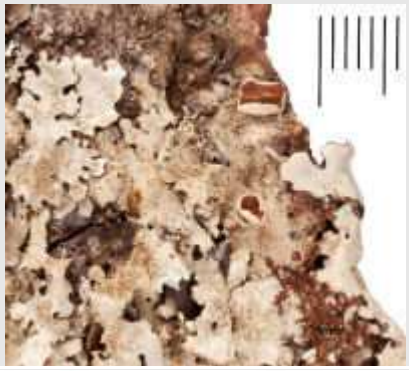
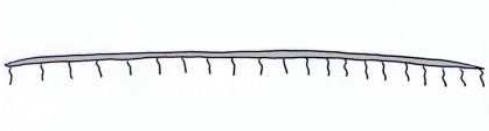
95	Medulla C+ orange, KC+ deep orange (barbatic acid). Soredia arising from pustules		***Hypotrachyna exsecta* (Taylor) Hale**
96	Medulla K+ yellow turning red (salazinic acid)		**97**
96	Medulla K- or K+ yellow		**99**
97	Upper surface not maculate		***Parmotrema cristiferum* (Taylor) Hale**
97	Upper surface maculate, the maculae forming a dense network		**98**
98	Soralia mainly marginal		***Parmotrema reticulatum* (Taylor) M. Choisy**
98	Soralia arranged at the apex of linear lobules		***Parmotrema clavuliferum* (Räsänen) Streimann**
99	Medulla P+ orange to red		**100**

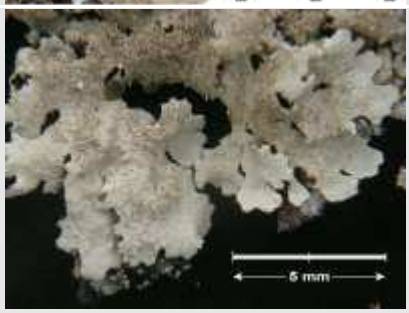
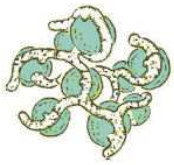
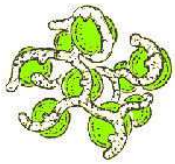
99	Medulla P-		**102**
100	Medulla K+ bright yellow (stictic acid)		***Parmotrema perlatum* (Huds.) M. Choisy**
100	Medulla K- (or K+ dirty yellow-brown), (protocetraric acid)		**101**
101	Upper surface grey-green. Medulla white throughout		***Parmotrema gardneri* (C.W. Dodge) Sérus.**
101	Upper surface yellowish (usnic acid). Medulla with a yellowish pigment below upper cortex		***Parmotrema dilatatum* (Vain.) Hale**
102	Soralia laminal, initially somewhat pustulate		***Canoparmelia texana* (Tuck.) Elix & Hale**
102	Soralia marginal, not pustulate		**103**

103	Lower surface with a broad bare white zone; lobes rather suberect. Medulla with protolichesterinic acid		***Parmotrema hababianum* (Gyelnik) Hale**
103	Lower surface light brown to black, rarely with mottled white areas at the margin. Medulla whithout protolichesterinic acid		**104**
104	Thallus without marginal cilia		***Parmotrema praesorediosum* (Nyl.) Hale**
104	Thallus with sparse to abundant marginal cilia.		**105**
105	Medulla C+ rose/red, UV- (gyrophoric or lecanoric acid)		**106**
105	Medulla C-, UV+ blue-white (alectoronic and α–collatolic acids)		**107**
106	Soredia farinose. Medulla with gyrophoric acid		***Parmotrema sancti–angelii* (Lynge) Hale**

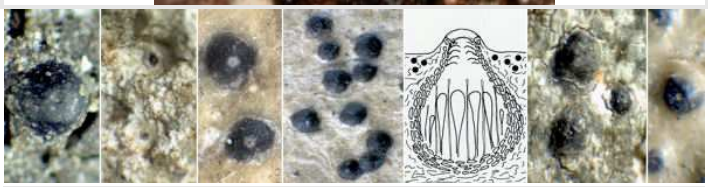
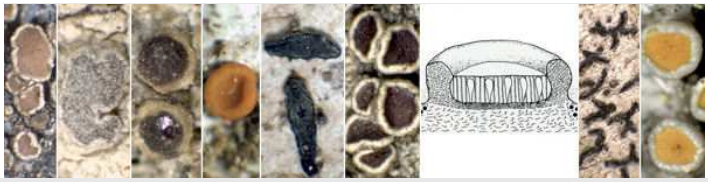
106	Soredia granular. Medulla with lecanoric acid		***Parmotrema cooperi* (J.Steiner & Zahlbr.) Sérus.**
107	Thallus with isidioid marginal outgrowths which become sorediate		***Parmotrema mellissii* (C.W.Dodge) Hale**
107	Thallus without isidioid marginal outgrowths		**108**
108	Cilia to 3 mm long. Medulla white throughout. Lobes 10-20 mm wide		***Parmotrema poolii* (C.W. Dodge) Krog & Swinscow**
108	Cilia 3-6 mm long. Medulla pigmented in lower layers. Lobes 5-15 mm wide		***Parmotrema rampoddense* (Nyl.) Hale**
109	Upper cortex K- (usnic acid)		***Relicinopsis malaccensis* (Nyl.) Elix & Verdon**
109	Upper cortex K+ yellow (atranorin)		**110**

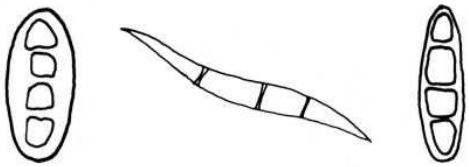
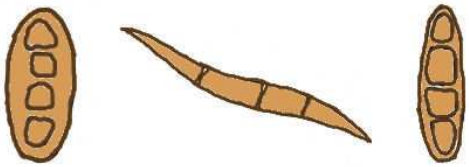
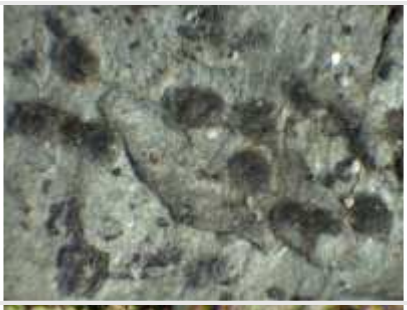
110	Lobes with marginal black cilia which are swollen at the base		**111**
110	Lobes without cilia, or with simple, eyelash-like cilia (not swollen at the base)		**113**
111	Medulla K+ yellow turning red (salazinic acid). Rhizines simple or weakly and irregularly branched		**112**
111	Medulla K-. Rhizines dichotomously branched		***Bulbothrix goebelii* (Zenker) Hale**
112	Lower surface dark brown to black		***Bulbothrix tabacina* (Mont. & Bosch) Hale**
112	Lower surface pale brown		***Bulbothrix isidiza* (Nyl.) Hale**
113	Rhizines richly and dichotomously branched		**114**
113	Rhizines simple or weakly and irregularly branched		**115**

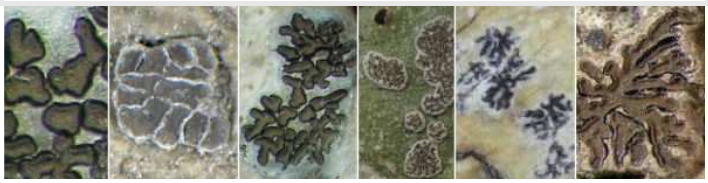
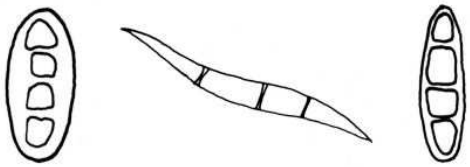
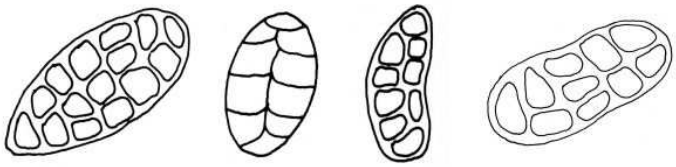
114	Medulla K+ yellow or K+ yellow turning red		***Hypotrachyna crenata* (Kurok.) Hale**
114	Medulla K-		***Hypotrachyna imbricatula* (Zahlbr.) Hale**
115	Medulla K+ yellow turning red (salazinic acid)		***Parmelinella wallichiana* (Taylor) Elix & Hale**
115	Medulla K- or K+ dirty brown		**116**
116	Lower surface with a broad marginal zone without rhizines. Lobes 4-20 mm wide		***Parmotrema tinctorum* (Nyl.) Hale**
116	Lower surface rhizinate to margins or with a narrow marginal zone without rhizines. Lobes 0.5-4(-5) mm wide		**117**

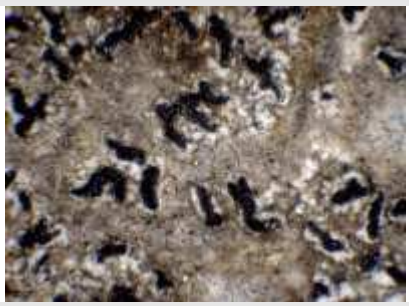
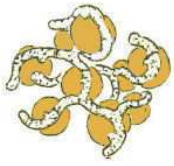
117	Lobes without marginal cilia. Medulla UV+ white (divaricatic acid)		***Canoparmelia owariensis* (Asah.) Elix**
117	Lobes with sparse marginal cilia. Medulla UV-		***Parmelinopsis horrescens* (Taylor) Elix & Hale**
118	Thalllus squamulose		**119**
118	Thallus crustose or byssoid		**125**
119	Photobiont blue-green (thallus dark when wet)		**120**
119	Photobiont a green alga (thallus green when wet)		**122**
120	Without soredia		***Fuscopannaria dissecta* P.M. Jørg.**
120	With soredia		**121**

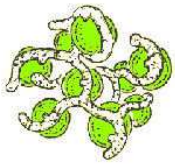
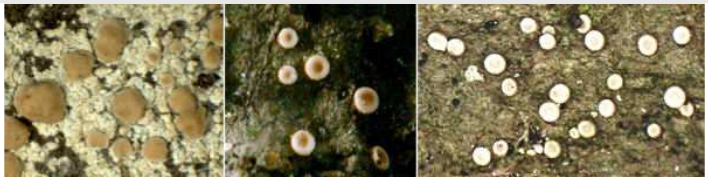
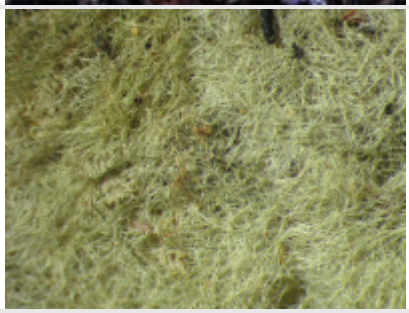
121	Squamules large, forming patches up to 5 cm wide		***Fuscopannaria siamensis* P.M. Jørg. & Wolseley**
121	Squamules small (up to 3 mm wide), forming cushions up to 3 cm wide		***Fuscopannaria coerulescens* P.M. Jørg.**
122	Squamules rounded, with a sorediate margin, not developing from a prothallus		***Normandina pulchella* (Borrer) Nyl.**
122	Squamules not rounded, without soredia, developing from a prothallus		**123**
123	Squamules with marginal isidia		***Phyllopsora kiiensis* (Vain.) Gotth. Schneid.**
123	Squamules without isidia		**124**
124	Squamules 0.1-0.3 mm wide		***Phyllopsora confusa* Swinscow & Krog**

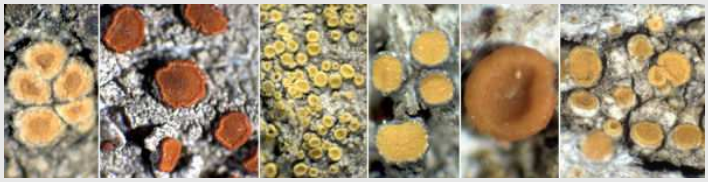
124	Squamules 0.3-1 mm wide		***Phyllopsora breviuscula* (Nyl.) Müll.Arg.**
125	Thallus with radiating marginal lobes		**126**
125	Thallus without radiating marginal lobes		**127**
126	With apothecia, without marginal gymnidia. Photobiont chlorococcoid		***Lobothallia alphoplaca* (Wahlenb.) Hafellner**
126	Without apothecia, with marginal bluish grey gymnidia. Photobiont cyanobacterial		***Kroswia crystallifera* P.M. Jørg.**
127	Spores developed in perithecia (flask-like structures opening with an apical pore)		**128**
127	Spores developed in apothecia (rounded to linear structures not opening with a pore)		**132**
128	Mainly growing on leaves. Asci without ring-like wall structure		***Strigula* spp.**

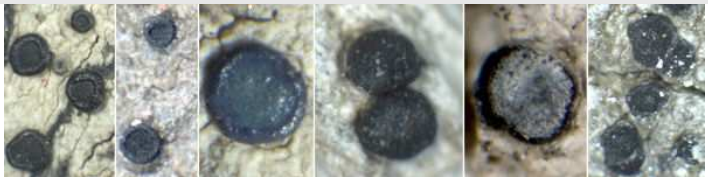
128	Mainly growing on bark. Asci with ocular chamber surrounded by ring-like wall thickening		**129**
129	Mature spores colourless		**130**
129	Mature spores brown		**131**
130	Spore septa thin, the lumina angular. Asci with thin apical wall		***Porina* spp.**
130	Spore septa thick, the lumina rounded. Asci with thickened apical wall		***Trypethelium* spp.**
131	Spores transversely septate to muriform, with thickened septa and rounded lumina		***Pyrenula* spp.**
131	Ascospores muriform, with thin septa		***Anthracothecium* spp.**
132	Apothecia lirelliform, much longer than wide		**133**

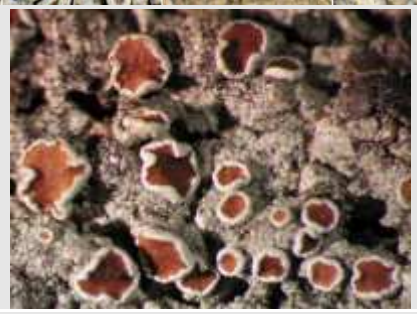
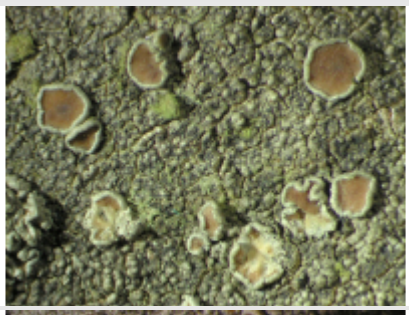
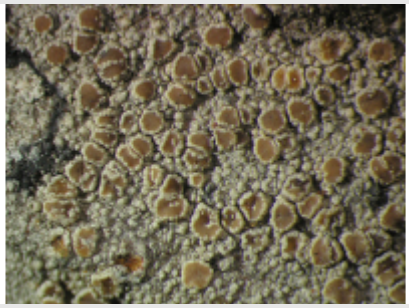
132	Apothecia more or less isodiametric		**140**
133	Apothecia embedded in prominently raised, stromatoid tissue		**134**
133	Apothecia not embedded in prominently raised, stromatoid tissue		**135**
134	Spores colourless		***Glyphis* spp.**
134	Spores brown		***Sarcographa* spp.**
135	Spores trasvsersely septate only		**136**
135	Spores muriform/submuriform (with both transversal and longitudinal septa)		**139**
136	Spores brown		***Phaeographis* spp.**
136	Spores colourless		**137**

137	Spores with thickened septa and rounded lumina, often I+ blue-violet. Paraphyses unbranched		***Graphis* spp.**
137	Spores with thin septa, I-. Paraphyses usually densely branched and anastomosing		**138**
138	Apothecia sessile, with a well-developed, carbonised margin		***Opegrapha* spp.**
138	Apothecia immersed in the thallus, with a poorly developed, non-carbonised margin		***Sclerophyton elegans* Eschw.**
139	Spores colourless		***Graphina* spp.**
139	Spores brown		***Phaeographina* spp.**
140	Photobiont trentepohlioid (algal layer orange-green)		**141**

140	Photobiont chlorococcoid (algal layer bright green)		**145**
141	Apotecial disc pale-coloured to orange		**142**
141	Apothecial disc dark, from dark brown to black		**143**
142	Thallus continuous		***Coenogonium luteum* (Dicks.) Kalb & Lücking**
142	Thallus byssoid (consisting of very thin filaments)		***Coenogonium* linkii Ehrenb.**
143	Apothecia with a carbonised margin, sometimes forming a central columella (section!)		***Ocellularia* s.l. spp. (incl. *Chapsa*)**
143	Apothecia without carbonised parts		**144**
144	Apothecia with a thin proper margin separated from thalline margin by a split and bearing periphyses		***Thelotrema* spp.**

144	Apothecia without a thin proper margin separated from thalline margin by a split and not bearing periphyses		***Myriotrema* spp.**
145	Thallus with isidia		***Phyllopsora furfuracea* (Pers.) Zahlbr.**
145	Thallus without isidia		**146**
146	Apothecia orange to rusty-red, K+ blood red		**147**
146	Apothecia brown to black, the disc, K-		**148**
147	Spores 2-celled, polar-diblastic (i.e. the 2 cells are connected by a thin canal)		***Caloplaca* spp.**
147	Spores more than 2-celled, usually muriform (with transversal and longitudinal septa)		***Letrouitia* spp.**
148	Apothecia immersed in the thallus. Thallus C+ red. Spores muriform, brown		***Diploschistes muscorum* (Scop.) R.Sant.**

148	Apothecia not immersed in the thallus. Thallus C-. Spores colourless		**149**
149	Apotecial margin black to brown, not containing algae		**150**
149	Apothecial margin much paler than disc, containing algae		**152**
150	Thallus of areolae developing on a conspicuous black prothallus		***Phyllopsora borbonica* Timdal & Krog**
150	Thallus different, not developing on a conspicuous black prothallus		**151**
151	Thalllus granular. Spores 5-11 transversely septate		***Megalospora tuberculosa* (Fée) Sipman**
151	Thallus continuous or cracked, not granular. Spores 2-celled		***Megalospora sulphurata* Mey. & Flot.**
152	Apothecial disc black. Hymenium purple		***Tephromela atra* (Huds.) Hafellner v. *atra***

152	Apothecial disc brown. Hymenium colourless		**153**
153	Epihymenium lacking crystals. Pigmentation not altered by KOH		***Lecanora tropica* Zahlbr.**
153	Epihymenium with crystals. Pigmentation dissolving or changing colour in K		**154**
154	Apothecial margin smooth to weakly verruculose. Thallus lacking gangaleoidin, containing 2'-O-methylperlatolic acid		***Lecanora helva* Stizenb.**
154	Apotecial margin strongly verruculose. Thallus containing gangaleoidin, lacking 2'-O-methylperlatolic acid		***Lecanora leprosa* Fée**

Notes to the species

Anthracothecium spp.

Thallus crustose, corticate, rarely with pseudocyphellae, superficial on the substratum, continuous, without a distinct hypothallus. Perithecia black, simple or several joined, with fused ostioles; ascomatal wall completely carbonised, occasionally with a distinct clypeus, lacking crystals. Hamathecium not inspersed with oil droplets, IKI+ blue. Asci lacking an ocular chamber, 200–300 × 40–60 µ m. Ascospores 1–8 per ascus, initially colourless, soon dark brown to blackish, almost euseptate, irregularly muriform-septate; outer wall to 2 µm thick, surrounded by a 2–3 µm thick gelatinous sheath. Photobiont: *Trentepohlia*. - This genus of corticolous lichens is still poorly known in Sri Lanka.

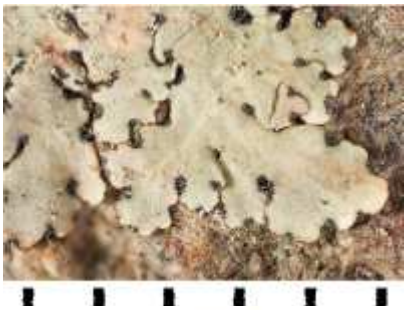
Bulbothrix goebelii (Zenker) Hale

Thallus foliose, adnate, 2-8 cm wide; lobes 0.4-1.5 mm wide, with marginal bulbate, dense and ± apically branched cilia. Upper surface pale grey, moderately isidiate. Lower surface dark brown to black with branched rhizines. Apothecia very rare, lecanorine. Spores colourless, 1-celled. Photobiont: chlorococcoid. Spot-tests: cortex K+ yellow (atranorin). Medulla K-, C+ rose, KC+ red, P- (gyrophoric acid). - A pantropical species of primary and secondary forests at low elevations, both corticolous and saxicolous.

Bulbothrix hypocraea (Vain.) Hale

Thallus foliose, adnate, 3-5(-7) cm wide, lobes 1-3.5 mm wide, with marginal bulbate cilia. Upper surface pale mineral grey, distinctly maculate, lacking isidia, soredia and pustules. Lower surface pale brown, with moderately dense and thick rhizines which are concolorous with or darker than lower surface. Apothecia very rare, lecanorine. Spores colourless, 1-celled. Spot-tests: cortex K+ yellow (atranorin); medulla K+ yellow turning red, C–, KC-, P+ orange (salazinic acid). - A mainly corticolous species recently reported from Sri Lanka, widespread in Asia and also reported from South America, South Africa, and W Africa.

Bulbothrix isidiza (Nyl.) Hale



Thallus foliose, adnate to loosely attached, 5-10 cm wide; lobes 1-4 mm wide, with marginal bulbate cilia. Upper surface pale yellow-green to grey, densely isidiate. Lower surface uniformly pale brown with simple, pale brown or darkening rhizines. Apothecia very rare, lecanorine. Spores colourless, 1-celled. Photobiont: chlorococcoid. Spot-tests: cortex K+ yellow (atranorin). Medulla K+ yellow turning red, C-, KC-, P+ orange (salazinic acid). - A widespread pantropical species of open secondary forests, both corticolous and saxicolous.

Bulbothrix meizospora (Nyl.) Hale

Thallus foliose, closely adnate, 7-10 cm wide; lobes 2-5 mm wide, with sparse marginal, bulbate cilia. Upper surface pale grey to glaucous–green; isidia and soredia absent. Lower surface dark brown to black, with simple, brown to black rhizines. Apothecia lecanorine. Spores colourless, 1-celled. Photobiont: chlorococcoid. Spot-tests: cortex K+ yellow (atranorin). Medulla K+ yellow turning red, C–, KC-, P+ orange (salazinic acid). - Mostly corticolous in rather open forests, occasionally on siliceous rocks as well; a mainly Asian species, but also reported from Brazil and Africa.

Bulbothrix setschwanensis (Zahlbr.) Hale

Thallus foliose, adnate, 4-10 cm wide; lobes 2-4 mm wide with sparse, bulbate marginal cilia. Upper surface pale grey, more or less shiny, lacking isidia and soredia. Lower surface pale brown, with dense, simple, pale brown to black rhizines. Apothecia lecanorine. Spores colourless, 1-celled. Photobiont: chlorococcoid. Spot-tests: cortex K+ yellow (atranorin). Medulla K+ yellow turning red, C–, KC–, P+ orange (salazinic acid). - A mainly corticolous, Asian species, reported also from SE Asia, China and India.

Bulbothrix tabacina (Mont. & Bosch) Hale

Thallus foliose, adnate, 3-5 cm wide; lobes (1.5-)3-5 mm wide, with bulbate marginal cilia. Upper surface whitish grey, ± maculate, isidia present. Lower surface black with moderately dense, rarely branched rhizines. Apothecia very rare, lecanorine. Spores colourless, 1-celled. Photobiont: chlorococcoid. Spot-tests: cortex K+ yellow (atranorin). Medulla K+ yellow turning red, C-, KC-, P+ orange (salazinic acid). - A widespread pantropical species, both corticolous and saxicolous.

Bunodophoron diplotypum (Vain.) Wedin

Thallus fruticose, shrubby, erect, irregularly branched, forming large colonies, greyish yellow-green to pale grey, sometimes almost white. Medulla hollow. Apotecia rare (not seen on Sri Lankan material), usually terminal, producing prominent sooty maezedia (masses of spores). Photobiont: chlorococcoid. Spot-tests: Medulla K+ yellow, P+ orange. - Common on mature trunks of trees in shady situations, mostly restricted to humid high elevation forests above 1000 m (Horton Plains and Kalupahana, montane forests in the Knuckles mountain region).

Bunodophoron formosanum (Zahlbr.) Wedin

Thallus fruticose, shrubby, forming extensive colonies, the branches slender, sparse, flattened, particularly at the base, pale-coloured, greyish green to whitish dirty green, often with isidioid outgrowths, the lower surface whitish grey. Medulla solid. Apotecia rare (not seen on Sri Lankan material), usually terminal, producing prominent sooty maezedia (masses of spores). Photobiont: chlorococcoid. Spot-tests: Medulla K+ pale yellow, P+ yellow-orange (reactions often faint). - Common, forming large colonies on mature trunks of trees in shady situations. mostly restricted to humid forests above 1000 m (Horton Plains, Pidurutalagala, Hakgala Strict Nature Reserve, Kalupahana, Knuckles, and Gombaniya montane forests in the Knuckles mountain region).

Caloplaca spp.

Thallus crustose, of widely different colours, sometimes placodioid. Apothecia with a usually yellow to orange-red disc reacting K+ blood-red, with or without a thalline margin. Epithecium with numerous yellow-brown crystals that also react K+ red. Hymenium colourless. Asci clavate, *Teloschistes*-type. Ascospores 8 or more per ascus (rarely 4), polar diblastic, i.e. with 2 cells connected by a thin canal. Conidia small, simple, colourless, bacilliform or ellipsoid. Photobiont: chlorococcoid. Spot-tests: at least the apothecial disc (in Sri Lankan material) K+ blood red (anthraquinones). - Only a few species of this genus have been reported so far from Sri Lanka (e.g. the saxicolous *C. crenularia*).

Canoparmelia owariensis (Asah.) Elix

Thallus foliose, closely adnate, 2-5 cm wide; lobes 0.5-2 mm wide, eciliate. Upper surface mineral grey, with sparse isidia becoming pustulate; becoming cracked in older parts. Lower surface dark brown to black to margins of thallus lobes, sparsely rhizinate. Apothecia very rare, lecanorine. Spores colourless, 1-celled. Photobiont: chlorococcoid. Spot-tests: cortex K+ yellow (atranorin). Medulla K-, C-, KC- or KC+ faint pink, P-, UV+ white (divaricatic acid). - A mainly saxicolous species, also reported from Africa, Thailand, Hong Kong, Japan and Australia.

Canoparmelia texana (Tuck.) Elix & Hale

Thallus foliose, adnate, 6-12 cm wide; lobes (1-)3-5 mm wide, eciliate. Upper surface grey-white or yellowish-white, with laminal, initially somewhat pustulate soralia. Lower surface black with a brown erhizinate zone; rhizines simple, sparse, black. Apothecia very rare, lecanorine. Spores colourless, 1-celled. Photobiont: chlorococcoid. Spot-tests: cortex K+ yellow (atranorin). Medulla K-, C-, KC- or KC+ faint pink, P-, UV+ white (divaricatic acid). - A rather rare, corticolous species of open forests, widely distributed in tropical–subtropical regions of the world.

Cetrelia braunsiana (Müll. Arg.) W.L. Culb. & C.F. Culb.

Thallus foliose, medium to large, 5-17 cm broad; lobes 0.5-0.7 cm broad. Granular or coralloid isidia finely or poorly developed along the margins or on the upper surface; upper surface ashy-green, tan or uniformly brownish in old herbarium specimens. Margins ascendent, with small, punctiform to irregular pseudocyphellae rarely exceeding 1 mm. Lower surface black; margins brown or greyish; rhizines black, c. 1 mm. Pycnidia present in some specimens, limited to the tips of isidia. Photobiont: chlorococcoid. Spot-tests: upper cortex K+ yellow (atranorin). Medulla K-, C−, KC+ pink, P− (alectoronic, α-collatolic acids, 4-Omethylphysodic acid). - Reported from Sri Lanka, identification at species level in need of confirmation.

Cladonia cartilaginea Müll. Arg.

Primary thallus squamulose, evanescent, the squamules green on upper side, pale beneath. Secondary thallus fruticose, consisting of simple to branched podetia which are 6-15(-25) mm tall, white to light grey, slender, decorticate, with sparse granular soredia, circular to angular in cross-section, the exposed stereoma very hard to cut, even with a razor blade. Apothecia and pycnidia dark brown, at the tips of podetia. Photobiont: chlorococcoid. Spot-tests: K-, KC-, C-, P+ red. - Rare and localised, found at forest margins in open sunny habitats, mostly restricted to humid high elevation forests above 900-1200 m (Kandy and Nuwara Eliya).

Cladonia coccifera (L.) Willd.

Primary thallus squamulose, persistent, the squamules green on upper side, white to yellow-orange on lower side, esorediate. Secondary thallus fruticose, consisting of cup-shaped, greenish to yellowish grey podetia. The cups are wide, gradually tapering to base, with a short stalk and a granulose cortex. Conspicuous red pycnidia and/or apothecia are present along the margins of cups. Photobiont: chlorococcoid. Spot-tests: K-, C-, KC+ yellow, P-, UV-. - Mostly restricted to upland areas; some records from Sri Lanka may be due to misidentifications.

Cladonia corniculata Ahti & Kashiw.

Primary thallus squamulose, the squamules small, sorediate, brown on upper side, paler beneath. Secondary thallus fruticose, consisting of pale greenish yellow to grey podetia which are 2-6 cm tall, very slender, simple or sparingly branched in the upper part, without cups, finely sorediate. Pycnidia and apothecia pale brown. Photobiont: chlorococcoid. Spot-tests: K-, C-. KC-, P+ red. - Rare and localised (Nuwara Eliya), mostly restricted to humid high elevation forests above 1000 m.

Cladonia didyma (Fée) Vain.

Common name: *Southern soldiers*. - Primary thallus microsquamulose, inconspicuous, esorediate, the squamules up to 3 mm long and wide, deeply divided, olivaceous above, white below. Secondary thallus fruticose, consisting of simple or sparingly branched, pale to dark greenish brown, fragile podetia which are ca. 1 cm tall, corticate only at the base, often covered with isidioid microsquamules mixed with cortical granules and granular soredia that are unevenly distributed in upper parts, exposing the pellucid chondroid cylinder. Apotecia and pycnidia bright red. Photobiont: chlorococcoid. Spot-tests: K- or K+ yellow, C-, KC- (or C+, KC+ yellow if barbatic acid present), P- or P+ yellow. - Rare and localised, mostly restricted to humid high elevation forests above 1000 m (Horton Plains and Knuckles montane forests).

Cladonia fruticulosa Kremp.

Primary thallus squamulose, persistent, the squamules small to medium sized, persistent, 2–4 mm long, 1–2 mm wide, slightly to deeply lacinate, occasionally granular-sorediate on margins or below, cottony granulose-sorediate on lower side. Secondary thallus fruticose, consisting of podetia which are 0.5–2(-4) cm tall, 0.5–1.0 mm wide, simple or rarely branching, cup-bearing, often partly squamulose, corticate or upper part ecorticate and partly granular-sorediate; cups 0.5–4 mm wide, deformed to well defined, often with marginal cups. Apothecia and pycnidia pale to dark brown. Photobiont: chlorococcoid. Spot-tests: K+ reddish brown, C-, KC-, P+ deep yellow or red. - Very common, mostly restricted to humid high elevation forests above 900 m, in sunny open places, on soil (Horton Plains and Kikiliyamana tower area, Pidurutalagala montane forests).

Cladonia humilis (With.) J.R.Laundon

Primary thallus squamulose, well-developed, the squamules thin, orbicular, entire or crenate. pale green to pale brown above, white to grey-felted below. Secondary thallus fruticose, consisting of whitish to grey-brown podetia which are thicker at the base, simple, gradually expanding to form ca. 4 mm wide, closed cups, sorediate and sometimes squamulose on the outer sides. Apothecia and pycnidia brown. Photobiont: chlorococcoid. Chemistry: K+ yellow, C-, KC-, P+red, UV-. - Rare and localised (Nuwara Eliya), mostly restricted to humid high elevation forests above 1000 m, on soil.

Cladonia kurokawae Ahti & S. Stenroos

Primary thallus squamulose; squamules large, lobed, ascending, persistent. Podetia pale grey, 4-11 mm tall, simple, consisting of a 2-8 mm wide, regular cup, the inner side granulose, the outer side areolate, corticate, with granules developing into schizidia. Apotecia and pycnidia brown. Photobiont: chlorococcoid. Spot-tests: K+ yellow, C-, KC-, P+ orange-red (with atranorin and fumarprotocetraric acid). - Rare and localised (Nuwara Eliya), mostly restricted to humid high elevation forests above 1000 m.

Cladonia mauritiana Ahti & J.C. David

Primary thallus squamulose to subcrustose. Secondary thallus fruticose, consisting of 1-4 cm tall, whitish grey podetia which are simple to sparingly branched in the upper part, usually cupless, the tips blunt to acute, with a corticate basal part and granulose distal parts, covered in small squamules pointing downwards. Apotecia and pycnidia brown, at the tips of podetia. Photobiont: chlorococcoid. Spot-tests: K+ reddish brown, C-, KC-, P+ red. - Rare and localised (Nuwara Eliya), mostly restricted to humid high elevation forests above 1000 m.

Cladonia phyllopoda (Vain.) S. Stenroos

Primary thallus squamulose, persistent, upper side of squamules green, lower side white or orange-white, esorediate. Secondary thallus fruticose, consisting of pale brown to greenish, sparsely branched podetia; cups narrow (0.5-1.5 mm); soralia tuberculate, partly epicorticate. Apothecia abundant and conspicuous, brown. Chemistry; K-, C-. KC-, P+ red. - Only found in one locality (Near Ohiya road from Horton Plains), at a forest margin in an open sunny habitat, in a humid high elevation forest above 1200 m.

Cladonia poeciloclada Abbayes

Primary thallus squamulose, persistent, the squamules to 5 mm long, pale green-grey to olivaceous green above, white or faintly orange-white below, esorediate. Secondary thallus fruticose, consisting of pale brownish to greenish, simple to sparsely branched, to 5 cm tall podetia that may be tapering or with narrow and wide, deep cups, the cortex smooth and even, forming flat areolae; soredia often present, farinose to granular. Apothecia and pycnidia brown. Photobiont: chlorococcoid. Spot-tests: K-, C-, KC-, P+ orange-red. - Rare, mostly restricted to humid high elevation forests above 1200 m, in sunny open places, on soil (Horton Plains montane forests).

Cladonia singhii Ahti & Dixit

Primary thallus squamulose, the squamules inconspicuous, 1-3 mm wide, finely dissected, grey above, floccose below, disappearing in mature lichens. Secondary thallus fruticose, consisting of (1-)2-6(-8) cm tall, 0.5-1 mm thick, brownish grey podetia which are unbranched to sparsely dichotomously branched with age, the axils closed, usually without cups, the tips pointed, often recurved; podetial surface rough, the cortex discontinuous to missing, microsquamulose to granulose, esorediate; podetial wall with a hard cartilaginous center and a soft, thin medulla, the central canal furrowed. Apothecia and pycnidia brown, the former rarely present. Photobiont: chlorococcoid. Spot-tests: K-, C-, KC-, P+ red. - Very rare, mostly restricted to humid high elevations sites above 1200 m, in sunny open places, on soil (Side bank of the Pattipola Road).

Cladonia subdelicatula Vain. ex Asahina

Primary thallus squamulose, persistent, consisting of narrowly laciniate, esorediate squamules. Secondary thallus fruticose, consisting of dichotomously branched podetia without axillary funnels, the tips narrow, subulate. Podetial surface granular, covered by abundant, finely laciniate squamules, esorediate (but sometimes soredia-like granules present). Apothecia infrequent, light brown. Photobiont: chlorococcoid. Spot-tests: K+ yellow, C-. KC-, P+ yellow. - Rare and localised (Nuwara Eliya), mostly restricted to humid high elevation forests above 1000 m.

Cladonia submultiformis Asahina

Primary thallus squamulose, the squamules to 4 mm long and 3 mm wide, deeply incised, pale green above, white below, gradually disappearing when the lichen is mature. Secondary thallus fruticose, consisting of pale green-grey podetia which are to 2 cm tall, simple to sparingly branched, tapering or rarely terminating in indistinct, perforated cups; branches often longitudinally split, esorediate, abundantly squamulose, corticate, the cortex more or less continuous in basal parts, discontinuos in distal parts, exposing an opaque chondroid cylinder. Apothecia and pycnidia brown, located at the tips of podetia. Photobiont: chlorococcoid. Spot-tests: K+ yellow, C-, KC-, P+ orange-red. - Rare and localised (Nuwara Eliya), mostly restricted to humid high elevation forests above 1000 m.

Coccocarpia erythroxyli (Spreng.) Swinscow & Krog

Common name: *fruiting shell lichen* - Thallus foliose, orbicular, loosely attached, the lobes adjacent, broadly cuneate to flabellate, rounded at apices, to 1 cm wide, bluish grey to whitish grey, with concentric ridges. Lower surface usually pale brown but sometimes deeper brown to black, glabrous, rhizinate; rhizines white, light to dark brown or black, scarce to numerous, sometimes forming a dense hypothallus. Apothecia (not observed in Sri Lankan material) mostly laminal, irregularly orbicular, 1-4 (-9) mm wide, adnate or sessile; margin: thin, only visible in young apothecia; disc reddish brown to black, flat to strongly convex. Spores narrowly to broadly fusiform to ellipsoid, colourless, 1-celled. Photobiont: cyanobacterial (*Scytonema*). Spot-tests: K-,C-, KC-, P-. - Common and widespread on mature trunks of trees in shady situations or in open rocky substrates, mostly in humid mid elevation to high elevation forests above 700m. Even found in disturbed sites and amidst man-made vegetation types, e.g. locally common in home gardens in high elevation areas.

Coccocarpia pellita (Ach.) Müll. Arg.

Thallus foliose, orbicular, loosely attached, the lobes adjacent, broadly cuneate, rounded at apices, to 1 cm wide, often thin and fragile, bluish grey to whitish grey when dry and yellowish to bluish grey when wet. Rhizines sparse, white to bluish black, projecting beyond the apices of lobes. Flattened isidia (phyllidia) abundant. Apothecia not seen.

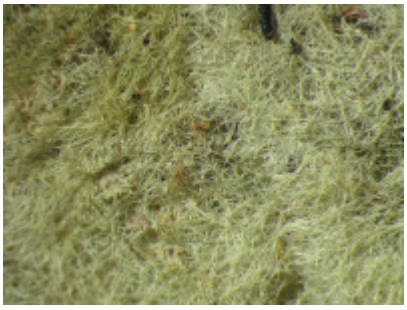
Photobiont: cyanobacterial (*Scytonema*). Spot-tests: cortex and medulla K-,C-, KC-, P-. - On mature trunks of trees in shady interiors and rarely on mossy rocks, mostly in humid forests above 1200 m, restricted to the Central Highlands.

Coccocarpia stellata Tuck.

Thallus foliose, irregularly orbicular, loosely attached, the lobes disjunct to adjacent, linear-cuneate to flabellate, 0.2-1 mm wide, bluish grey, with occasional concentric or transverse ridges. Rhizines sparse, white to bluish black, projecting beyond the apices of lobes. Isidia and soredia absent. Apothecia abundant, brownish red, orbicular, at least some of them with conspicuous radiating excipular hairs, mainly marginal. Photobiont: cyanobacterial (*Scytonema*). Spot-tests: K-,C-, KC-, P-. - On mature leaves and thin branches in more or less well-lit situations, mostly in humid, high elevation forests above 1600 m, restricted to Horton Plains and Hakgala strict nature reserve.

Coenogonium linkii Ehrenb.

Thallus byssoid, composed of very thin filaments forming a network on the surface of the photobiont, soft, with a woolly appearance, forming light green to white tufts which are slightly lifted from the bark, without soredia or isidia. Apothecia common, flat, thin, yellowish orange, without a thalline margin. Spores colourless, 2-celled. Photobiont: *Trentepohlia*. Spot-tests: K-,C-, KC-, P-. - Very common on mature tree trunks in very humid, shaded situations and on moist rocks, mostly in humid mid-elevation to high-elevation forests above 1000 m (Central Highlands, and along rocky stream margins in submontane and montane forests).



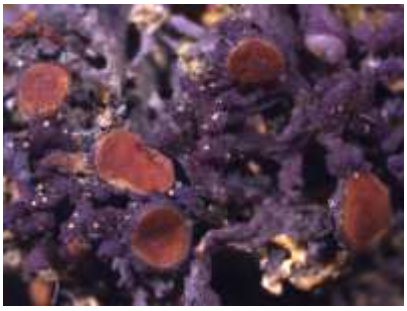
Coenogonium luteum (Dicks.) Kalb & Lücking

Thallus crustose, thin, spreading, up to 8 cm in diam., varnish-like, continuous or cracked-areolate or lacking surface, pale yellowish green to dark olive-green in shaded situations. Apothecia common and conspicuous, sessile, round, without a thalline margin, ca. 0.42 mm wide, usually scattered, clearly constricted below margin, pale flesh-coloured, the proper margin prominent, entire or flexuous, occasionally with a faint pale pruina in older apothecia. Disc orange-yellow, red-orange to yellow-red, shallowly concave, then convex, epruinose. Spores colourless, 3-septate, fusiform to fusiform-ellipsoid. Photobiont: *Trentepohlia*. Spot-tests: K-,C-, KC-, P-. - Locally very common on mature tree trunks in very humid upper montane forests above 1200 m (Dotalugala Mnt. of Knuckles mountain region and Hakgala Reserve).

Collema coilocarpum (Müll. Arg.) Zahlbr.

Thallus foliose, mainly corticolous, homoiomerous, pulpy and swollen when wet, irregularly spreading, mostly dark olive green but often partly pale and membranous, becoming purplish grey blue when dry, rugose and fenestrate, the margins strongly ascending. Isidia absent, but often the thallus develops erect, thickened lobules or cylindrical

outgrowths that may resemble isidia. Apothecia common and abundant, adjoined in clumps and lines on the ridges, the discs orange brown. Spores colourless, narrowly spindle-shaped, 5-7 septate. Photobiont: cyanobacterial (*Nostoc*). Spot-tests: K-,C-, KC-, P-. - Common, mainly on the mature canopy branches of trees in rainforest edges in submontane and montane areas (Central Highlands, high elevation wet zone forests, Meemure and Kalupahana areas of the Knuckles mountain region).



Dendriscosticta platyphylloides (Nyl.) Moncada & Lücking

Thallus foliose, mostly found among other mosses and epiphytes, adnate, horizontally spreading, 6-15(-20) cm across, forming loosely attached rosettes, the margins rounded to incised, yellowish green when wet, yellowish grey to brownish yellow when dry, the marginal area tessellate-tomentose. Isidia and soredia absent. Lower surface pale to dark brown, with conspicuous, saucer-shaped, 2-3 mm wide cyphellae. Apothecia marginal to submarginal, lecanorine, to 7 mm across (not observed in Sri Lankan material). Spores colourless, acicular, transversely 1-5 septate. Photobiont: chlorococcoid, with additional cephalodia containing *Nostoc* in the medulla. Spot-tests: upper cortex K+ yellow or K-, medulla K-, C-, KC-, P-. - Very rare. mostly in humid, high elevation forest areas (Knuckles mountain region: only seen in a few sites off Kalupahana).

Diploschistes muscorum (Scop.) R.Sant.

Common name: *Cowpie lichen* - Thallus crustose, white to pale grey, continuous to weakly areolate, the surface uneven, with a white prothallus. Apothecia 1-2 mm in diameter, the disc black to dark brown, white-pruinose, crater-like, embedded in the thallus, often with a double margin, the thalline margin slightly raised above the thallus. Asci 4-spored. Spores muriform, brown. Photobiont: chlorococcoid. Spot-tests: K+ yellow to red, C+ red, KC-, P-, UV-: diploschistesic and lecanoric acids (both major) and orsellinic acid (minor). - Rare, mostly found in disturbed, fully exposed, sunny situations, on soil (Nawalapitiya).

Everniastrum cirrhatum (Fr.) Hale ex Sipman

Thallus foliose to subfruticose, suberect to pendulous, very loosely attached, richly dichotomously or subdichotomously branched, with strongly involute, narrow lobes (0.8-1 mm wide). Upper surface pale to dark grey, lacking vegetative propagules. Lower surface black (or dark brown) with paler tips and rhizines more or less restricted to the margins. Apothecia common, lecanorine, with hollow stalks. Spores colourless, 1-celled. Photobiont: chlorococcoid. Cortex K+ yellow (atranorin). Medulla K+ yellow turning red, C–, KC-, P+ orange (salazinic acid and a fatty acid). - Rare, mostly found on trees and shrubs, rarely on rocks, in humid forests above 1400 m (Horton Plains).

Fuscopannaria coerulescens P.M. Jørg.

Thallus squamulose, the squamules up to 3 mm diam., forming cushions up to 3 cm diam. Upper surface brown, with white-felted margins which are densely beset with ecorticate blue-grey lobules. Isidia and soredia absent. Apothecia (not seen on Sri Lankan material) up to 2 mm diam., with flat, blackish disc and a conspicuously lobulate thalline margin. Spores colourless, 1-celled. Photobiont: cyanobacterial (*Nostoc*). Spot-tests: K-, C-, KC-, P- (two unidentified fatty acids). - Very rare in humid forests above 1600 m, growing together with bryophytes on tree trunks (Horton Plains).

Fuscopannaria dissecta P.M. Jørg.

Thallus squamulose, forming irregular patches on a conspicuous black hypothallus, consisting of thin, deeply dissected, up to 2 mm wide squamules with ascending, white-margined lobes exposing the white lower surface. Upper surface brown to reddish brown, the white edges not visible when wet. Apothecia sessile, the disc orange brown, with a thalline margin. Spores colourless, 1-celled. Photobiont: cyanobacterial (*Nostoc*). Spot-tests: K-, C-, KC-, P- (two unidentified fatty acids). - Very rare, mostly found in humid forests above 1600 m, on moss or on tree trunks, more rarely on soil and rocks. (Nuwara Eliya).

Fuscopannaria siamensis P.M. Jørg. & Wolseley

Thallus squamulose-foliose, forming up to 5 cm wide patches, with to 2 mm broad marginal lobes. Upper surface brown to reddish brown, often with eroded secondary lobules which look like soralia. Apothecia sessile, the disc orange brown, with a thalline margin. Spores colourless, 1-celled. Photobiont: cyanobacterial (*Nostoc*). Spot-tests: K-, C-, KC-, P-. - Rare, mostly found in humid forest areas above 1600 m, growing together with bryophytes on tree trunks (Horton Plains).

Glyphis spp.

Thallus crustose, pale greenish fawn, thin, smooth, glossy. Apothecia lirelliform, immersed in conspicuous raised white stromata. Stromata rounded, oval or distorted-ellipsoidal, 1.5–4.0 mm wide, black with a thin white coating. Lirellae numerous, open, initially rounded, becoming elongate and irregular in outline, finally richly branched, crowded and covering the surface of the stromata, 01-0.2 mm wide; disc dark reddish brown, epruinose. Proper exciple completely carbonised and continuous in the stromata. Hymenium 120-160 µm thick. Hypothecium black. Ascospores 8 per ascus, colourless, irregularly biseriate, transversely 8–12-locular. Photobiont: *Trentepohlia*. Spot-tests: all negative. - A species close to *G. cicatricosa* has been found in the Knuckles mountain region, on bark.

Graphina spp.

Thallus crustose, thin, effuse, white or grey to brown, smooth to rimose. Apothecia lirelliform, elongate, immersed to prominent, simple or branched, the disc exposed to slit-like. Thalline margin absent, but thallus sometimes pushed up around the exciple, forming a paler rim. Exciple black, carbonised, opaque. Asci 8-spored, more or less cylindrical, the apex thickened, I-. Spores colourless, muriform or submuriform. Conidia ellipsod, colourless. Photobiont: *Trentepohlia*.

Graphis spp.

Thallus crustose, usually corticolous, occasionally saxicolous, rarely sorediate. Lirellae immersed to sessile, simple, branched or stellate, with or without a thalline margin. Proper exciple apically, laterally or completely carbonised; surface smooth or sulcate. Hymenium 60–200 µm thick, inspersed with granules or not, I–; paraphyses unbranched. Asci clavate to subcylindrical, unitunicate, I–. Spores 1–8 per ascus, narrowly ellipsoidal to ellipsoidal, cylindrical to fusiform, transversely septate with lenticular locules, colourless, I+ blue or blue-violet at maturity. Chemistry. Depsidones present, rarely with lichexanthone, or lacking lichen compounds. - This is the most species-rich genus in Sri Lanka: over 100 species have been recorded, especially from part of the Central Highlands and the wet zone of the Country.

Heterodermia albicans (Pers.) Swinscow & Krog

Thallus foliose, orbicular to irregularly spreading, comparatively small, adnate, to 4 cm wide. Lobes to 3 mm long, 0.5–1.0 mm wide, to c. 1.5-2.5 mm wide at the tips, plane to weakly convex, sublinear-elongate, usually richly dichotomously branched; lobe apices not ascending, eciliate, esorediate. Upper surface whitish grey to brownish grey, darker at the apices, occasionally sparsely pruinose; soredia white to bluish grey, forming small continous marginal soralia towards the thallus centre. Medulla white. Lower surface corticate, whitish to pale brown, rarely grey. Rhizines marginal and laminal, simple or irregularly branched, usually short (c. 1 mm long), pale to dark brown or black. Apothecia very rare, lecanorine. Spores brown, 2-celled. Photobiont: chlorococcoid. Spot-tests: cortex K+ yellow, C–, KC–, P+ yellow; medulla K+ yellow then red, C–, P+ yellow-orange. - So far known from a few localities in Sri Lanka, corticolous, in wet upper montane forests above 1200 m (Kalupahana- Knuckles mountain region).

Heterodermia barbifera (Nyl.) K.P. Singh

Thallus foliose, corticolous, adnate. Lobes sublinear to strap-shaped, greyish white to grey above, with branched marginal cilia. Lower surface white, with rhizines along the lobe margins. Soredia and isidia absent. Apothecia abundant, lecanorine. Spores brown, 2-celled. Photobiont: chlorococcoid. Spot-tests: cortex and medulla K+ yellow, C-, KC-, P+ yellow. - Not common on twigs and branches in both moist and open sunny situations, mostly along forest margins (Deenston, Corbets Gap, Riverston and Knuckles mountains, Nuwara Eliya).

Heterodermia circinalis (Zahlbr.) W.A. Weber

Thallus foliose, grey to white (turning brown when dry in exposed situations). Lobes strap-shaped, thin, with long, black, branched hairs and abundant, black, simple cilia. Isidia and soredia absent. Apothecia common, lecanorine, the margin undulate and sometimes star-shaped, the apothecial margin devoid of cilia. Spores brown, 2-celled. Photobiont: chlorococcoid. Spot-tests: cortex K+ yellow; medulla K+ yellow then red, C-, P-. - Locally abundant on the trunks of mature trees in shady situations, on roadside soil banks, and moist rocks, mostly in humid forests and undisturbed areas above 1000 m (Horton Plains, Knuckles mountain region, Nuwara Eliya and a few places in Kandy.

Heterodermia comosa (Eschw.) Follmann & Redòn

Thallus foliose, pale grey to whitish above, white below, corticolous, loosely attached by basal parts. Lobes linear-spathulate to paddle-shaped, sub-erect, with lateral lobes, bearing abundant white cilia on the upper surface. Soralia sometimes present on the underside of lobes, apical or subapical. Apothecia rare (not seen in Sri Lankan material), lecanorine, the margin crenulate. Spores brown, 2-celled. Photobiont: chlorococcoid. Spot-tests: cortex K+ yellow; medulla K+ yellow, C-, KC-, P-. - Common but very localised, on twigs in both humid and exposed situations in wet upper montane forests above 1000 m (Matale District).

Heterodermia diademata (Taylor) D.D.Awasthi

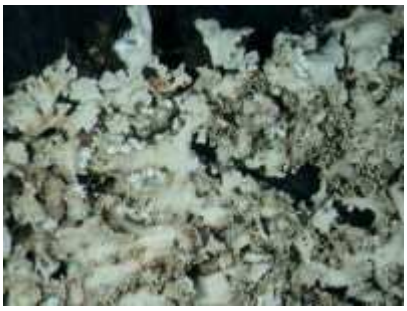
Common name: *Cupped fringe lichen* - Thallus foliose, grey to white above, white and corticated beneath, with marginal rhizines. Lobes adjacent to slightly disjunct, plane, not ascending, with short lateral lobes. Isidia and soredia absent. Apothecia numerous, laminal, sessile to substipitate, lecanorine, the disc brown, the margin crenulate to lobulate. Spores brown, 2-celled. Photobiont: chlorococcoid. Spot-tests: cortex K+ yellow; medulla K+ yellow, C-, KC-, P+ pale yellow or P-. - Locally abundant on twigs and branches of trees in shaded, humid situations, more rarely on sheltered rocks, both in man-made and in natural habitats above 1000 m, mostly growing together with mosses (Knuckles mountain region, Horton Plains, Kandy, Kegalle, Matale, and Ratnapura District).

Heterodermia hypochraea (Vain.) Swinscow & Krog

Thallus foliose, the lobes slightly disjunct, convex, ascending, with short lateral lobes, whitish to greenish grey above, of uneven thickness. Lower surface non corticate, white, with yellow to ochraceous orange patches which react K+ purple. Isidia and soredia absent. Apothecia apical or subapical, lecanorine, stipitate, the margin lobulate, with the inner surface of lobules pigmented. Spores brown, 2-celled. Photobiont: chlorococcoid. Spot-tests: cortex K+ yellow; medulla K- or pigmented part K+ violet, C-, KC-, P + pale yellow or P-. - Rare and localised, growing on twigs in both humid and dry situations, in wet upper montane forests above 1000 m (Fishing hut - Peak Wilderness and Hunuwala Kanda - Matale District).

Heterodermia isidiophora (Nyl.) D.D. Awasthi

Thallus foliose, corticolous, the lobes slightly disjunct to adjacent, more or less plane, not ascending, with short lateral lobes. Upper surface greyish white, densely covered by simple to branched, cylindrical isidia. Lower surface corticate, white, with rhizines. Apothecia rare (not found in Sri Lankan material), lecanorine. Spores brown, 2-celled. Photobiont: chlorococcoid. Spot-tests: cortex and medulla K+ yellow, C-, KC-, P+ yellow or P-. - Common, mostly on bark, but occasionally also on rocks, in submontane to upper montane forests above 800 m (Knuckles mountain region, Pattipola, Unulugala Peak, Fishing Hut, Peak Wilderness, Kabaragala mountain).



Heterodermia japonica (M. Sato) Swinscow & Krog

Thallus foliose, irregular, dichotomously lobed. Lobes slightly disjunct to adjacent, more or less plane, sublinear, elongated, radiating, usually wider towards the apices, with short lateral lobes. Upper surface greenish white, whitish to cream-coloured, rarely brownish. Lower surface non-corticate, white to blackish violet, with marginal, simple rhizines. Soralia apical, lip-shaped, sometimes spreading along the lobe margin. Apothecia rare (not seen in Sri Lankan material), lecanorine. Spores brown, 2-celled. Photobiont: chlorococcoid. Spot-tests: cortex and medulla K+ yellow, C-, KC-, P- pale yellow or P-. - Common on tree trunks or on rocks in open and shady situations (Knuckles mountains, Matale, Nuwara Eliya, Kandy, Hakgala, Sabaragamuwa mountain region, Peak Wilderness, Laxapana and Seven Virgin Mountains, roadside banks along the Haputale-Bandarawela Road).

Heterodermia magellanica (Zahlbr.) Swinscow & Krog

Thallus foliose, corticolous. Lobes slightly disjunct to adjacent, more or less plane, not ascending, with short lateral lobes. Upper surface greyish white. Lower surface non-corticate, white. Isidia and soredia absent. Apothecia laminal to subapical, sessile to short-stalked, lecanorine, the margin crenulate. Spores brown, 2-celled. Photobiont: chlorococcoid. Spot-tests: cortex K+ yellow (turning to red at lobe tips); medulla K+ yellow turning to red, C-, KC-, P+ orange. - Rare and rather localised, on twigs and branches, in both moist and open, sunny situations, mostly along forest margins (Deenston, Corbet's Gap, Riverston and Knuckles mountains, Nuwara Eliya).

Heterodermia obscurata (Nyl.) Trevis.

Thallus foliose, mostly corticolous. Lobes slightly disjunct to adjacent, more or less plane, not ascending, with short lateral lobes. Upper surface greyish white. Lower surface non-corticate, white, with ochraceous orange spots which react K+ purple and with marginal rhizines. Soralia lip-shaped or recurved, at the apices of lobes. Apothecia rare (not found in Sri Lankan material), lecanorine, the margin crenulate to sorediate. Spores brown, 2-celled. Photobiont: chlorococcoid. Spot-tests: cortex K+ yellow, medulla K+ purple in pigmented parts, C-, KC-, P+ pale yellow or P-. - Common. mostly corticolous, but also on wet rocks, above 900 m, in submontane to upper montane forests along stream margins (Galhiriya estate, Dehigolla Watta upper division in abandoned habitats, Nawanagala in the Knuckles mountain region).

Heterodermia podocarpa (Bél.) D.D. Awasthi

Thallus foliose to subfruticose, irregularly lobed. Lobes disjunct to imbricate, convex, ascending, with lateral lobules, with whitish unbranched cilia along the margins. Upper surface greyish white to grey. Lower surface non-corticate, white, with simple to irregularly branched marginal rhizines. Soredia and isidia absent. Apothecia abundant, apical or subapical, stipitate, lecanorine, the disc pruinose, the margin lobulate. Spores brown, 2-celled. Photobiont: chlorococcoid. Spot-tests: cortex and medulla K+ yellow, C-, KC-, P+ yellow. - Only locally common on twigs and small branches in both moist and open, sunny situations, also found on dry rocks exposed to the sun (Nawalapitiya and Laxapana areas).

Heterodermia propagulifera (Vain.) J.P. Dey

Thallus foliose, the lobes adnate to ascending towards the tips. Upper surface grey green to white, with black cilia. Lower surface white, with red spots and marginal, simple rhizines. Soredia mainly found on the secondary lobes. Apothecia rare (not seen in Sri Lankan material), lecanorine. Spores brown, 2-celled. Photobiont: chlorococcoid. Spot-tests: cortex K+ yellow, at lobe-tips K+ yellow turning red, C- KC-; medulla K+ red in pigmented parts (with zeorin, norstictic and salazinic acids and a yellow pigment). - Rare in shaded montane forest above 1400 m, growing together with mosses (Horton Plains, Kalupahana in the Knuckles mountain region).

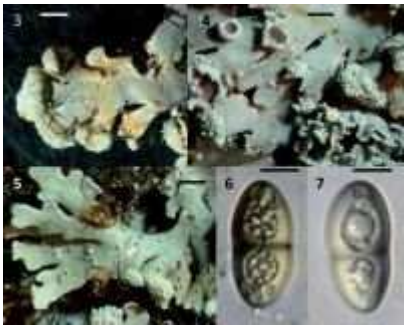
Heterodermia pseudospeciosa (Kurok.) W.L. Culb.

Thallus foliose, orbicular to irregularly spreading, adnate to loosely adnate, 2-5 cm wide. Lobes 0.7-1.5 mm wide, plane to weakly convex, sublinear-elongate, dichotomously to subdigitately branched, usually discrete at the periphery, radiating; apices not ascending, minutely notched, eciliate. Upper surface greyish white to grey to brownish grey, darker at the lobe tips, pruinose or not, sorediate; soredia white to bluish grey, in subcapitate soralia at the apices of short lateral branches. Medulla white. Lower surface corticate, whitish to pale brown, rarely dark grey in the centre. Rhizines sparse, marginal, concolorous with thallus or becoming dark or black near apices, irregularly branched, to 1 mm long. Apothecia rare, lecanorine. Spores brown, 2-celled. Spot-tests: cortex K+ yellow, C–, KC–, P+ yellow; medulla K+ yellow then red, C–, P+ dark yellow. - Rare, mostly on rocks, more rarely on trees in open but humid situations (Nawalapitiya and Laxapana areas).

Heterodermia queensberryi Weerakoon & Aptroot

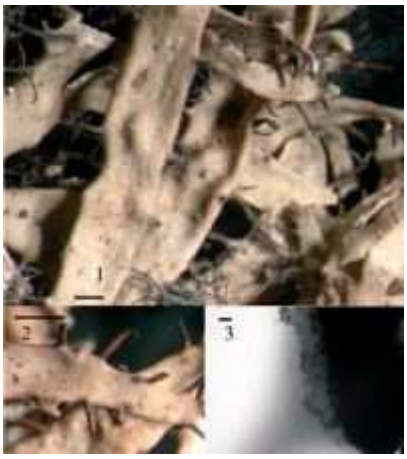
Thallus foliose, forming tufts, divided into linear, grey, flat lobes tapering at the tips, slightly recurved, dichotomously branched, with black cilia, the latter simple or with many perpendicular branchlets. Upper surface smooth, dull, green in shaded conditions, greyish white in exposed conditions. Lower surface non-corticate, without rhizines, pale, with yellow-orange spots towards the centre which react K+ blood red. Soredia granular, grey, on upturned lobed tips, both

in the centre of the thallus and on the margins. Apothecia common, laminal, lecanorine, the disc grey- or white-pruinose. Spores brown, 2-celled. Photobiont: chlorococcoid. Spot-tests: cortex K+ yellow, medulla K+ faintly yellow, P+ yellow-orange. Pigment on lower surface K+ blood red. - Rare, found only in natural habitats above 1000 m, often together with mosses and bryophytes. (The Queensberry Tea Estate in Nawalapitiya, Horton Plains and Kalupahana in Knuckles mountain region).



Heterodermia rubrotricha Weerakoon & Aptroot

Thallus foliose to subfruticose, forming tufts up to 10 cm in diameter. Lobes dichotomously branched, divided into linear, ascending to pendulous or nearly erect whitish lobules with tapering tips, with dense marginal cilia; cilia dull, simple or with many perpendicular branchlets, mostly covered by a dark peony red pigment except at the base and the very tips. Upper surface smooth, shiny, flat to convex. Lower surface whitish, without rhizines. Soredia and isidia absent. Apothecia common, laminal on the upper surface, lecanorine, the disc brownish grey, often (but not always) heavily white-pruinose. Spores brown, 2-celled. Photobiont: chlorococcoid. Spot-tests: cortex K+ yellow; medulla K+ faintly yellow, red pigment on cilia K+ purple. - Hitherto known only from the type locality, on the smooth bark of tea (*Camellia*) trees in tea plantations (Nuwara Eliya-Pattipola, Mahagasthotte tea plantation, 1706 m).



Heterodermia speciosa (Wulfen) Trevis.

Common names: *Powdered fringe lichen, powdered centipede*. - Thallus foliose, the lobes slightly disjunct to adjacent, more or less plane, not ascending, with short lateral lobes. Upper surface greyish white. Lower surface corticate, white, with marginal rhizines. Soralia apical on the main and lateral lobes, lip-shaped, producing farinose soredia. Apothecia rare (not seen in Sri Lankan material), lecanorine. Spores brown, 2-celled. Photobiont: chlorococcoid. Spot-tests: cortex and medulla K+ yellow, C-, KC-, P+ yellow. - Uncommon, mostly corticolous in wet upper montane forests above 1200 m (Nawanagala in the Knuckles mountain region and Kabaragala in Matale District).

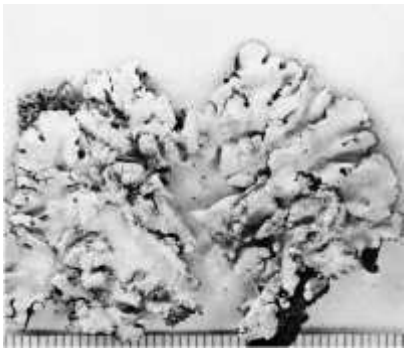
Hypogymnia zeylanica (R. Sant.) D.D. Awasthi & Kr.P. Singh

hallus foliose, corticolous. Lobes spreading, pinnately branched, inflated and hollow inside, yellowish grey to brownish grey above. Lower surface wrinkled, without rhizines, brown to blackish brown. The upper surface bears simple to branched, cylindrical isidia. Apothecia rare, lecanorine, sessile, the disc flat, brownish black. Spores colourless, 1-celled. Photobiont: chlorococcoid. Spot-tests: upper cortex K+ yellowish, medulla K+ yellow to orange-brown, C+ orange, KC+ red, P-. - Common in humid forests areas above 1600 m (Horton Plains, few places along the Pattipola road and Ohiya Road close to the Horton Plains entrance).

Hypotrachyna brevirhiza (Kurok.) Hale

Thallus foliose, more or less adnate, to 8 cm wide, frequently pruinose, with sublinear to subirregular lobes that are contiguous or overlapping, with subcapitate soralia and soredia that are initially farinose, becoming granular and clustered. Lower surface black, densely rhizinate with a narrow erhizinate margin. Apothecia lecanorine. Spores

colourless, 1-celled. Photobiont: chlorococcoid. Spot-tests: cortex K+ yellow (atranorin). Medulla K+ yellow then dark red, C-, KC-, P+ orange (salazinic acid). - A pantropical corticolous species, reported from South America, Indonesia, India, Africa, Australia, Macquarie Island, the Pacific and Papua New Guinea.



Hypotrachyna crenata (Kurok.) Hale

Thallus foliose, 3-6 cm wide, loosely adnate with subirregular to subimbricate, 1.5-5 mm wide lobes with subrotund to subtruncate apices; isidia moderate to dense, cylindrical, simple or branched. Lower surface black in centre with pale brown papillate marginal zone; rhizines sparse to moderately branched. Apothecia very rare, lecanorine. Spores colourless, 1-celled. Photobiont: chlorococcoid. Spot-tests: cortex K+ yellow (atranorin ± trace of usnic acid). Medulla K+ yellow, C-, KC-, P+ pale orange, with stictic acid (major), norstictic acid (minor), menegazziaic acid (minor) and related compounds (traces). - A corticolous species of humid, mossy forests, also reported from the eastern Pacific, India, Indonesia, Taiwan, and Thailand.

Hypotrachyna exsecta (Taylor) Hale

Thallus foliose, 5-13 cm wide; lobes 1-3 mm wide, often crowded, with subterminal or occasionally laminal pustules which are sometimes tall and open, mostly erumpent, eventually eroding and becoming coarsely granular-sorediate. Lower surface black, with densely branched rhizines that frequently project beyond lobe margins. Apothecia very rare, lecanorine. Spores colourless, 1-celled. Photobiont: chlorococcoid. Spot-tests: cortex K+ yellow (atranorin). Medulla K-, C+ orange, KC+ deep orange, P- (barbatic and 4–O–demethylbarbatic acids). - A corticolous species of humid, mossy forests, also reported from Australia, SE Asia, E Asia, the Pacific, and Papua New Guinea.

Hypotrachyna imbricatula (Zahlbr.) Hale

Thallus foliose, adnate, 2-12 cm wide, subdichotomously to subirregularly branched; lobes 1.5-4 mm wide with truncate apices and margins often irregularly incised. Upper surface with isidia, rarely becoming lobulate or procumbent. Lower surface black; rhizines richly branched and often projecting beyond lobe margins. Apothecia very rare, lecanorine. Spores colourless, 1-celled. Photobiont: chlorococcoid. Photobiont: chlorococcoid. Spot-tests: cortex K+ yellow (atranorin). Medulla K-, C-, KC+ orange, P-, with barbatic acid (major), obtusatic acid (major/minor), 4–O–demethylbarbatic acid (minor), norobtusatic acid. - A widely distributed, mainly corticolous, subtropical–tropical species.

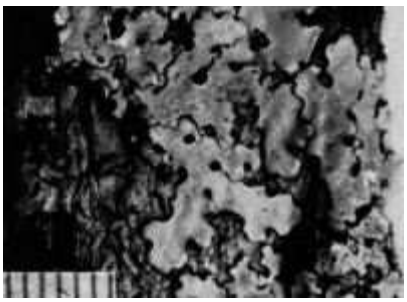
Hypotrachyna immaculata (Kurok.) Hale

Thallus foliose, loosely to tightly adnate, up to 5(-7) cm wide, with contiguous, sublinear, 1.5-3 mm wide lobes with incised apices. Upper surface whitish grey with large (1-2 mm wide), capitate soralia. Medulla mostly white, orange–brown below soralia. Lower surface with dense, dichotomous rhizines. Apothecia lecanorine. Spores colourless, 1-celled. Photobiont: chlorococcoid. Spot-tests: cortex K+ yellow (atranorin). Medulla K- or K+ pale reddish, C-, KC+

rose, P-, UV-, with 4–O–methylphysodic acid (major), lividic acid (minor), colensoic acid (minor), physodic acid (minor) and related traces. - A corticolous species, also reported from Australia, South America, Africa and Asia.

Hypotrachyna masonhalei Patw. & Prabhu

Thallus foliose, closely adnate, 7-9 cm wide, with sublinear to linear, 1-2 mm wide lobes, lacking soredia, isidia and pustules. Lower surface dark to margin, with moderately branched rhizines. Apothecia lecanorine. Spores colourless, 1-celled. Photobiont: chlorococcoid. Spot-tests: cortex K+ yellow (atranorin). Medulla K+ yellow turning red, C–, KC- , P+ orange (norstictic and salazinic acids). - A mainly corticolous species, also reported from India and Thailand.



Hypotrachyna osseoalba (Vain.) Y.S. Park & Hale

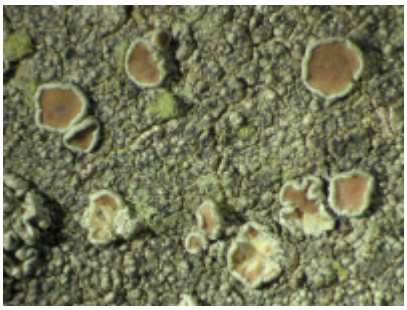
Thallus foliose, 3-8 cm wide, moderately to tightly adnate; lobes subcontiguous to imbricate, (1-)2-3 mm wide. Upper surface mineral grey-green with laminal to submarginal sorediate pustules and open dactyls. Lower surface moderately to densely rhizinate; rhizines densely dichotomously branched and projecting beyond lobe margin. Apothecia lecanorine. Spores colourless, 1-celled. Photobiont: chlorococcoid. Spot-tests: cortex K-, UV+ yellow (lichexanthone). Medulla K+ dirty brown, C-, P- or P+ pale orange, with lividic acid (major), colensoic acid (minor) and related compounds, ±pigmentosin B (trace). - A corticolous species occurring both in subtropical and temperate regions.

Kroswia crystallifera P.M. Jørg.

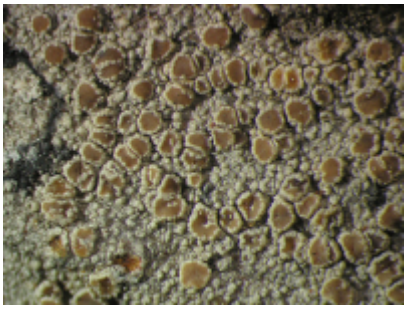
Thallus crustose to subfoliose, thin, spreading and membranous, with elongated, fan-shaped marginal lobes, swelling considerably when wet, homoiomerous .Upper surface olive grey with white marbling, with bluish grey marginal gymnidia (non-corticate isidia that leave inconspicuous scars after falling off). Lower surface veined, blackened towards the centre, with scattered tufts of blackish rhizohyphae (single hyphae for attachment). Apothecia unknown. Spot-tests: all reactions negative. - Rare, mostly found in humid montane forests above 1400 m together with mosses on tree trunks facing the sun (Horton Plains and a few places in Nuwara Eliya).

Lecanora helva Stizenb.

Thallus crustose, continuous or rimose-areolate to verrucose-areolate, with a dark prothallus, yellowish white to yellowish grey or yellowish green, sometimes (but not always!) with granulose soredia gathered in well defined, white to whitish grey soralia. Apothecia lecanorine, subimmersed when young, sessile when mature, 0.4-1 mm in diam., the disc orange-brown or yellowish brown, plane, epruinose, the margin concolorous with thallus, thin or thick, persistent, even, not flexuose, smooth, entire or verrucose or verruculose, with large crystals insoluble in K; epihymenium with crystals. Spores colourless, 1-celled. Photobiont: chlorococcoid. Spot-tests: thallus and apothecial margin K+ yellow, C-, KC-, P+ pale orange. - Common at high elevations, on bark and wood, mostly in humid forest areas above 800 m (Kandy, Kegalle, Matale, Nuwara Eliya, Nawalapitiya, and Hatton).

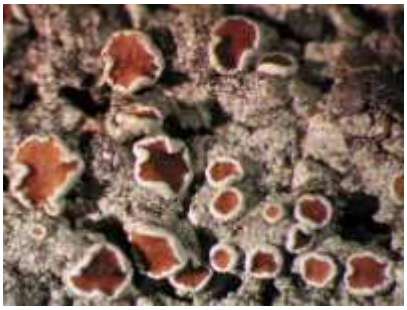


Lecanora leprosa Fée



Thallus crustose, continuous or rimose-areolate to verrucose-areolate, yellowish white to yellowish grey or yellowish green, smooth, epruinose, esorediate, the prothallus white or not visible. Apothecia lecanorine, subimmersed when young, sessile when mature, 0.3-0.8 mm in diam., the disc orange-brown or yellowish brown, plane, epruinose, the margin concolorous with thallus, thin or thick, persistent or becoming excluded, even, not flexuose, smooth, entire or verrucose or verruculose; epihymenium red-brown to orange-brown, with crystals dissolving in K. Spores colourless, simple. Photobiont: chlorococcoid. Spot-tests: thallus and apothecial margin K+ yellow, C-, KC-, P+ pale orange. - Rare, mostly found in humid forest areas above 1000 m, on the bark of trees (Knuckles mountain region and Matale District).

Lecanora tropica Zahlbr.



Thallus crustose, dispersed-verrucose to verruculose or continuous to nearly byssoid, ecorticate, yellowish white to yellowish grey or whitish grey, epruinose, esorediate; prothallus not visible or black. Apothecia lecanorine, sessile, 0.2-0.5(-0.8) mm in diam., the disc pale to dark red-brown, the margin concolorous with thallus, thick, verrucose to verruculose; epihymenium reddish brown, without crystals. Spores colourless, 1-celled. Photobiont. chlorococcoid. Spot-tests: thallus and apothecial margin K+ yellow, C+ orange, KC+ orange, P+ yellowish orange. - Very common in humid forest areas above 400 m on the bark of trees (Kandy, Kegalle, Sinharaja forest, Gampaha, Matale, Nuwara Eliya, Ampara, and Kurunagala).

Leioderma sorediatum D.J. Galloway & P.M. Jørg.

Thallus foliose, lobate, orbicular to irregularly spreading, 1-3(-4) cm in diameter, rather loosely attached. Lobes to 6 mm wide, discrete to imbricate, the margins slightly thickened, sinuous, subascendent, entire, delicately incised or crenulate. Upper surface more or less uniformly arachnoid-tomentose, dark blue-green when wet, pale-greyish or olivaceous-grey when dry, often with pale, pinkish-brown apothecial initials. Lower surface white, ecorticate, arachnoid especially at the margins, pale buff towards center, rhizinate; rhizines white, buff to bluish, rarely blackened, in fascicles tufted at apex, in scattered groups or more or less densely developed. Soralia marginal, often more or less sinuous, linear to limbiform, occasionally round, spreading on to the upper (or lower) surface; soredia coarsely granular, bluish. Apothecia rare (not seen in Sri Lankan material). Photobiont: cyanobacterial. Spot-tests: all negative. - Only locally common in humid forests areas above 1400 m (Horton Plains, few places along the Pattipola road and Ohiya Road, close to the Horton Plains entrance, Lover's Leap - Nuwara Eliya, Knuckles and the Kalupahana peaks of the Knuckles mountain region).

Leptogium austroamericanum (Malme) C. W. Dodge

Common name: *Dixie jellyskin*. - Thallus foliose, 2-5(-10) cm in diam., adnate, subdichotomously to irregularly lobate, the lobes irregular, somewhat elongated, separate, 2-10 mm wide, 100-200(-300) µm thick, the apices rotund, entire to irregularly cut, isidiate, occasionally upturned. Upper surface usually medium grey but sometimes brownish grey, usually dull, quite wrinkled (never really smooth), with usually dense, laminal to marginal, usually cylindrical to flattened isidia concolorous with the thallus or darker. Upper and lower cortex consisting of a single layer of irregularly isodiametrical cells, internally with loosely interwoven chains of *Nostoc* and hyphae. Lower surface pale to medium grey, wrinkled, with scattered tufts of white hairs. Apothecia: rare, laminal, sessile, 0.5-2 mm wide. Spores: colourless, 3-5-septate transversely, 0-1-septate longitudinally. Photobiont: cyanobacterial (*Nostoc*). Spot-tests: all negative. - Rare on bark in humid high elevation forests above 1000 m (Near the Matale District).

Leptogium azureum (Swartz) Mont.

Common name: *Blue jellyskin*. - Thalllus foliose, 2-9 cm in diam., adnate, subdichotomously to irregularly lobed, the lobes irregular, elongate, more or less plane, separate, 1-5 mm wide, (50-)80-100(-150) µm thick, the apices rotund, entire to lobulate, occasionally upturned. Upper surface bluish grey to medium grey, usually dull, smooth to somewhat roughened but not wrinkled, not isidiate. Upper and lower cortex consisting of a single layer of irregularly isodiametrical cells, internally with loosely interwoven chains of *Nostoc* and hyphae. Lower surface pale to medium grey, wrinkled, with scattered tufts of white hairs. Apothecia common, lecanorine, laminal, sessile to short-stipitate, 0.2-2.5 mm wide, the disc light brown to red-brown, concave to plane, the margin concolorous with thallus or cream-coloured, entire or occasionally with microphylline outgrowths. Spores colourless, submuriform, 3-5-septate transversely, 0-1-septate longitudinally. Photobiont: cyanobacterial (*Nostoc*). Spot-tests: all negative. -Common on bark in sub-humid to humid high elevation interior forests above 900 m (Matale and Nuwara Eliya).

Leptogium cochleatum (Dicks.) M.Jørg. & P.James

Thallus foliose, corticolous, adnate. Lobes fan-shaped, to 1 cm wide, the margins rounded or somewhat toothed or lobulate. Upper surface blue grey to lead grey, more or less rugose or striate. Upper and lower cortex consisting of a single layer of irregularly isodiametrical cells, internally with loosely interwoven chains of *Nostoc* and hyphae. Lower surface without hairs, usually somewhat wrinkled. Apothecia lecanorine, laminal, sessile to substipitate, the disc brown, the margin concolorous with thallus, thin, entire, more rarely thick and phyllidiate. Spores colourless, submuriform. Photobiont: cyanobacterial (*Nostoc*). Spot-tests: all negative. - Very common on bark and sometimes on mossy, shaded rocks in humid interior forests above 1200 m (Matale and Nuwara Eliya).

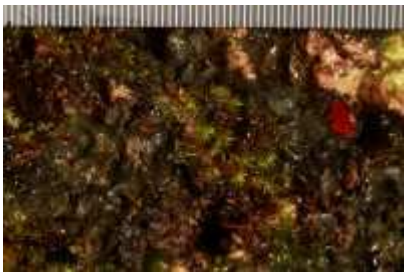
Leptogium cyanescens (Rabenh.) Körb.

Common name: *Blue jellyskin, blue oilskin*. - Thallus foliose, 1-5(-8) cm in diam., adnate, subdichotomously to irregularly lobate, the lobes irregular, elongate, plane to slightly roughened (but not wrinkled), separate, 2-4 mm wide, 35-110µm thick; apices rotund, entire, dentate to irregularly cut and isidiate, occasionally upturned. Upper surface light to medium grey, usually dull, smooth to somewhat wrinkled, densely covered by laminal to marginal, usually cylindrical to flattened isidia. Upper and lower cortex consisting of a single layer of irregularly isodiametrical cells, internally with loosely interwoven chains of *Nostoc* and hyphae. Lower surface light to medium grey, smooth, with scattered tufts of white hairs Apothecia rare, lecanorine, laminal, sessile to substipitate, 0.5-2 mm wide. Spores colourless, 3-septate transversely, 0-1-septate longitudinally. Photobiont: cyanobacterial (*Nostoc*). Spot-tests: all negative. - Very common on all kinds of bark, on logs or even on mossy, shaded rocks in humid interior forests above 900 m (Kandy, Matale and Nuwara Eliya).

Leptogium millegranum Sierk

Common name: *Stretched jellyskin* - Thallus foliose, corticolous, adnate. Upper surface dark olive grey, strongly longitudinally wrinkled, isidiate. Isidia mainly marginal, sometimes on the ridges, globular to cylindrical. Upper and lower cortex consisting of a single layer of irregularly isodiametrical cells, internally with loosely interwoven chains of *Nostoc* and hyphae. Lower surface wrinkled, with scattered tufts of white hairs. Apothecia common, lecanorine, laminal, cup-like, the disc red-brown, the margin concolous with thallus. Spores colourless, submuriform. Photobiont: cyanobacterial (*Nostoc*). Spot-tests: all negative. - Rare on tree bark in humid mid- to high elevation interior forests above 900 m (Matale and Nuwara Eliya).

Leptogium phyllocarpum (Pers.) Mont.



Common name: *Frilly jellyskin* - Thallus foliose, 2-7 cm in diam., adnate, irregularly lobate, the lobes very irregular, elongate, strongly thickened (swelling markedly when wet), often anatomosing, 1-2 mm wide, 150-600 µm thick; apices rotund, thickened, entire or lobulate. Upper surface medium grey to dark grey to almost black, usually dull, heavily lamellate longitudinally (not really wrinkled). Upper and lower cortex consisting of a single layer of irregularly isodiametrical cells, internally with loosely interwoven chains of *Nostoc* and hyphae. Lower surface pale to medium grey, wrinkled, with scattered tufts of white hairs. Apothecia common, submarginal towards lobe tips, sessile, 1-5 mm wide, the disc brown to red-brown, concave to plane, the margin concolorous with thallus, entire or lobulate, heavily wrinkled. Spores colourless, submuriform, 3-5-septate transversely, 1-septate longitudinally. Photobiont: cyanobacterial (*Nostoc*). Spot-tests: all negative. - Common on bark at high elevation in humid interior forests above 1200 m (Horton Plains, Knuckles mountain region and Pidurutalagala).

Letrouitia spp.

Thallus crustose, superficial, spreading, smooth to verrucose, pale yellow, olive-grey, greenish yellow to orange-yellow, corticate, K+ purple or blue-violet (anthraquinones); isidia and/or soredia present or absent. Apothecia, biatorine, sessile, commonly basally constricted, more or less round, plane to slightly concave or convex; disc yellow-orange, dark orange, red-brown to red or finally black; proper margin usually prominent, entire, often paler than the disc, K+ purple or blue-violet. Epihymenium yellow-orange to orange-brown, with orange-red to brownish crystals, K+ purple or blue-violet; hymenium colourless, clear or inspersed with oil droplets. Asci broadly clavate, of the *Letrouitia*-type, with a thick, intensely amyloid layer on the outer side of the apical cap which includes the outer ascus wall layer and masks the internal apical apparatus. Spores 1–8 per ascus, colourless, narrowly ellipsoidal to ellipsoidal, transversely septate to muriform. Photobiont: chlorococcoid. - Several species of this genus have been reported from Sri Lanka, e.g. *L. parabola*, *L. sayeri*, and *L. transgressa*.

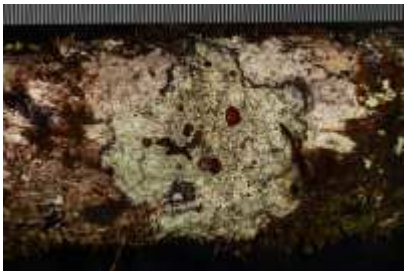
Lobaria discolor (Bory) Hue

Thallus foliose, coriaceous, loosely adnate centrally, free at the margins, 8-20 cm wide. Lobes sublinear to linear-elongate, subdichotomously to dichotomously branched, 1-1.5(-2) cm wide; apices ascending, subrotund; margins entire, crenulate. Upper surface greyish green to olive-brown when dry, glossy, smooth, lacking isidia, soredia and phyllidia. Lower surface pale tan, almost glabrous, sparsely tomentose and rhizinate only in the older central areas; rhizines simple or squarrosely branched, brown to dark brown. Apothecia lecanorine, subpedicellate, 4–5 mm wide, the disc concave, red-brown, the margin smooth, thick, entire. Ascospores colourless, fusiform, 1-3-septate at maturity. Photobiont: chlorococcoid. Spot-tests: cortex K+ yellow; medulla K–, C+ pink, KC+ pink, P–. - Mostly restricted to humid high elevation forest areas, on live and dead bark. Common in Horton Plains.

Lobothallia alphoplaca (Wahlenb.) Hafellner

Thalllus crustose, placodioid, loosely adnate (sometimes removable intact), usually rosette-forming, areolate, with radiating lobes. Lobes 3-5(-7) mm long, 0.5-1(-1.5) mm across, usually distinctly elongated, radiating and separate, plane to more often strongly convex or almost cylindrical. Upper surface white to cream-coloured, ashy grey or greyish brown. Apothecia lecanorine, usually crowded in thallus center, 0.4-1.5(-2.5) mm in diam.; disc dark reddish brown to dark greyish brown or black, often blue-white pruinose; margin entire. Spores colourless, shortly ellipsoid, 1-celled. Photobiont: chlorococcoid. Spot-tests: thallus and apothecia C-, KC-; cortex K+ red, P+ orange, or K-, P-; medulla K+ red, P+ orange. - A saxicolous species of upland areas, recently reported also from Sri Lanka.

Megalospora sulphurata Mey. & Flot.



Thallus crustose, continuous to irregularly cracked, greenish grey to greenish yellow, delimited by a black hypothallus. Isidia and soredia usually absent (but occasionally present). Apothecia lecideine, ca. 2 mm in diameter, the disc flat, in larger apothecia becoming convex, red-brown to black, the margin prominent, yellowish to chocolate brown to black. Spores colourless, 2-celled, thick-walled, 2-8 per ascus. Photobiont: chlorococcoid. Spot-tests: upper cortex K-, KC+ yellow, P-; medulla K-, C-, P-. - Most common in humid mid- to high elevation forests above 700 m. Even found in disturbed sites and amidst man-made vegetation types such as chenas, tea, pines and acacia plantations. Common in home gardens in high elevation areas (Central Highlands and high elevation wet zone forests).

Megalospora tuberculosa (Fée) Sipman

Thallus crustose, effuse, soft, filmy to powdery-granular, pale yellow to pale green grey; prothallus absent or blue-black. Thalline granules aggregated, partly corticate, breaking down into irregular clusters of yellow-green to grey, soon confluent and *Lepraria*-like soralia which may cover most of the thallus. Apothecia rare, lecideine, sessile, the disc brown to black, the margin paler or concolorous with disc. Spores colourless, 5-11 transversely septate, thick-walled. Photobiont: chlorococcoid. Spot-tests: upper cortex K-, KC+ yellow, P-; medulla K-, C-, P-. - On mature trunks of trees in humid mid- to high elevation forests above 700 m, also in disturbed sites and man-made vegetation types. Common in home gardens in high elevation area (Central Highlands and high elevation forests in the wet zone).

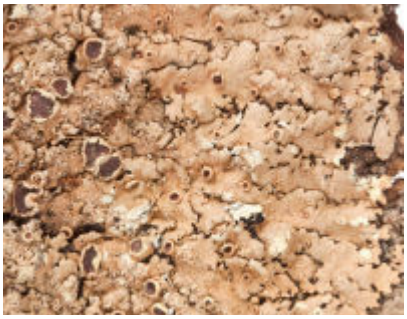
Menegazzia terebrata (Hoffm.) A.Massal.

Thallus foliose, lobate, more or less radiate, often forming rosettes or rarely spreading irregularly, rather closely attached throughout. Lobes more or less inflated, contiguous, hollow inside. Upper surface grey, often with brownish margins, shiny, smooth, with small rounded perforations. Lower surface corticate, blackened, without rhizines. Soredia present on the upper surface, arranged in lip-shaped to rounded, prominent soralia. Apothecia very rare, lecanorine. Spores colourless, 1-celled. Photobiont: chlorococcoid. Spot-tests: Cortex K+ yellow (atranorin), C-, KC-, P+ yellow-orange, UV-. Reported from Sri Lanka but identification uncertain (this is a mainly temperate species).

Myelochroa aurulenta (Tuck.) Elix & Hale

Thallus foliose, 4-10 cm wide, adnate; lobes 0.5-2 mm wide, sublinear. Upper surface greenish grey, pustulate–sorediate. Medulla yellow beneath soralia and cracks in upper cortex. Lower surface black, densely rhizinate; rhizines simple or sparsely branched. Apothecia lecanorine. Spores colourless, 1-celled. Photobiont: chlorococcoid. Spot-tests: cortex K+ yellow (atranorin). Medulla more intensely yellow with spot tests (secalonic acid A, eumitrins F, D & I, zeorin & leucotylic acid). - A pantemperate to pantropical, mainly corticolous species occurring in all continents except Europe.

Myelochroa entotheiochroa (Hue) Elix & Hale



Thallus foliose, 4–6 cm wide, loosely adnate to overlapping, lobes 3–5 mm wide, entire with ciliate margins. Upper surface mineral grey to yellowish, strongly wrinkled and ridged in older parts, flaking to expose the yellow medulla. Lower surface black with simple to squarrosely branched rhizines. Apothecia lecanorien. Spores colourless, 1-celled. Photobiont: chlorococcoid. Spot-tests: cortex K+ yellow (atranorin). Medulla K-, C-, KC-, P-. - Both corticolous and saxicolous in rather sheltered, humid situations, also reported from Korea, Japan, Nepal, Thailand and India.

Myelochroa irrugans (Nyl.) Elix & Hale

Thallus foliose, 4-10 cm wide, loosely adnate to imbricate, lobes 2-4 mm wide with dentate to crenulate margins with short cilia in lobe axils. Upper surface greenish mineral grey to yellowish grey, older parts becoming foveolate, developing c. 1 mm wide lobules. Medulla pale yellow to white. Lower surface brown to black, with simple to squarrosely branched rhizines. Apothecia lecanorine. Spores colourless, 1-celled. Photobiont: chlorococcoid. Spot-tests: cortex K+ yellow (atranorin). Medulla K–, C–, KC–, P-. - Mostly on twigs in humid, montane, mossy forests; an Asian species, also reported from Japan, Korea, Saghalien, China, Taiwan, Nepal, Thailand and India.

Myelochroa subaurulenta (Nyl.) Elix & Hale

Thallus foliose, closely adnate, to 7 cm wide, lobes closely imbricate, to 4 mm wide, more or less truncate at apices and sparsely ciliate mainly in the axils; upper surface grey to yellowish grey, smooth. Medulla yellow to pale orange–yellow. Lower surface black with dense, simple to squarrose margins; rhizines up to margins. Apothecia lecanorine. Spores colourless, 1-celled. Photobiont: chlorococcoid. Spot-tests: Cortex K+ yellow (atranorin). Medulla K+, C+, KC+, P+ orange red. - Mostly corticoluos in upland areas; an Asian species, previously reported also from India, Thailand and Japan.

Myriotrema spp.

Thallus crustose, endophloeodal to epiphloeodal, usually a shade of olive or grey, with greenish to yellowish or whitish tones. True cortex and protocortex present. Prothallus thin to indistinct, pale to dark brown. Apothecia more or less rounded, rarely elongate, solitary to fused, rarely forming stroma-like structures. Proper exciple non-amyloid to amyloid basally, hyaline to pale yellowish, rarely orange internally, yellowish to brownish marginally, apically often darkened or covered by granules. Hymenium non-amyloid, usually not inspersed, conglutinated; paraphyses often with thickened apices, septate, often branched; lateral paraphyses and true columella absent, but fused ascomata often with columella-like structures. Epihymenium colourless, with or without granules. Asci (1-)8-spored, clavate; wall and apex non-amyloid. Ascospores 1–2-seriate, transversely septate to submuriform or muriform, colourless to brown. Conidia fusiform or bacilliform. Photobiont: *Trentepohlia*. - Several species are known from Sri Lanka, e.g. *M. microporum* (Matale) and *M. polytretum* (Ratnapura).

Normandina pulchella (Borrer) Nyl.

Thallus squamulose, heteromerous, in irregular patches up to a dm or more in diam. but usually much smaller. Squamules plane to concave, rounded and shell-like, with sharply raised margins, undivided or with distinct marginal lobes, 1-4 mm wide, 30-70 µm thick, sometimes becoming leprose, scattered or partly becoming contiguous forming dense colonies. Upper surface pale grey-green to glaucous green, with greenish farinose soredia along the margin. Apothecia: unknown. Photobiont: chlorococcoid. Spot-tests: all negative. - A widespread, temperate to pantropical species.

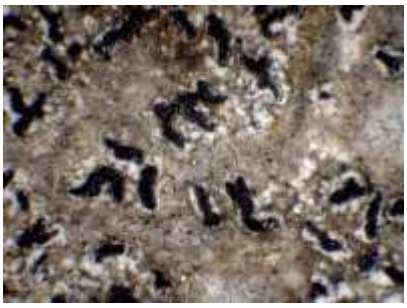
Ocellularia s.l. spp. (incl. *Chapsa*)

Thallus crustose, endo- to epiphloeodal, usually a shade of olive or grey, with greenish to yellowish or whitish tones. True cortex or a protocortex present in epiphloeodal thalli. Prothallus thin or indistinct, pale to rather dark brown. Apothecia more or less rounded, rarely irregular or elongate, solitary to strongly fused, rarely forming stroma-like structures. Proper exciple brown to blackish brown or pale yellowish, rarely colourless, apically often darkened or covered by granules. Hymenium non-amyloid, inspersed with oil droplets or small crystals, or clear, conglutinated;

paraphyses unthickened or ±thickened at the apices, straight to bent, parallel or interwoven and branched; columella absent or simple to complex and reticulate. Epihymenium hyaline to brownish, with or without granules. Asci 1–8-spored, clavate, non-amyloid. Ascospores 1–2-seriate, transversely septate to submuriform or muriform, colourless to brown, halonate or not. Conidia bacilliform, fusiform or oblong. Photobiont: *Trentepohlia*. - Several species are known from Sri Lanka, e.g. *Ocellularia balangoda* (Hunasgiriya-Kandy), *O. cloonanii* (Fishing hut- Adams Peak), *Chapsa thambapanni* (Horton Plains), *C. magnifica* (Sinharaja rain forest), *C. isidiata* (Nawanagala), and *C. pulchella* (Hewainna- Avissawella).

Opegrapha spp.

Thallus crustose, thin to thick, smooth or fissured, sometimes partially or totally immersed, white to brown. Apothecia lirelliform, usually elongate, sometimes branched or stellate, discrete or confluent, more or less sessile. Margin black, opaque, carbonised, continuous or interrupted below the hypothecium. Disc more or less exposed or remaining slit-like. Asci usually 8-spored, clavate-cylindrical, fissitunicate. Spores colourless, multiseptate (with transversal septa only), one or more median cells usually enlarged. Photobiont: *Trentepohlia*. - Several species have been reported from Sri Lanka, e.g. *O. subvulgata* and *O. viridis*.

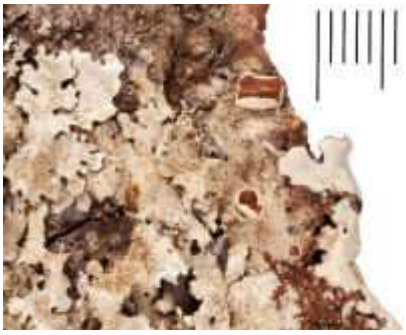


Parmelinella simplicior (Hale) Elix & Hale

Thallus foliose, 8-10 cm wide, adnate; lobes elongate or subirregular, becoming imbricate, (3-)4-5 mm wide, sparsely ciliate. Upper cortex mineral to brownish grey, lacking soredia and isidia. Medulla white. Lower surface black, with a more or less brown, erhizinate zone near lobe apices; rhizines sparse, simple. Apothecia lecanorine. Spores colourless, 1-celled. Photobiont: chlorococcoid. Spot-tests: cortex K+ yellow (atranorin). Medulla K+ yellow turning red, C–, KC–, P+ orange (salazinic acid). - Corticolous in undisturbed, evergreen montane forests, also reported from the Western Ghat, India and E Africa.

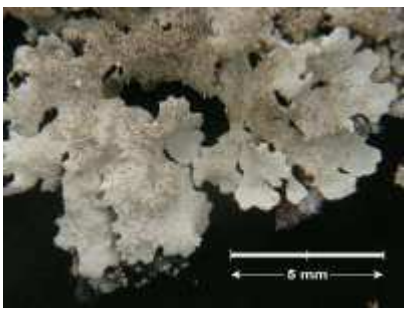
Parmelinella wallichiana (Taylor) Elix & Hale

Thallus foliose, 5-10 cm wide, closely adnate on bark; lobes 5-10 mm wide, rounded, shortly ciliate in lobe axils. Upper surface grey to grey-green, smooth, emaculate, sparsely isidiate- Lower surface black to brown, with a broad naked or papillate marginal zone; rhizines simple. Apothecia very rare, lecanorine. Spores colourless, 1-celled. Photobiont: chlorococcoid. Spot-tests: cortex K+ yellow (atranorin). Medulla K+ yellow turning red, C-, KC-, P+ orange–red (salazinic and consalazinic acid). - A widespread tropical species, corticolous in Africa, frequently also saxicolous in India, Nepal, Thailand, Japan and Australia.



Parmelinopsis horrescens (Taylor) Elix & Hale

Thallus foliose, closely adnate, 2-6 cm wide, whitish to greenish grey, with lobes often crowded and imbricate, (sub)linear, 0.5-3 mm wide, lobulate and ciliate; isidia dense, cylindrical or becoming slightly coralloid–lobulate, apically spinulose or shorly ciliate. Lower surface black, with moderately dense, mostly simple rhizines. Apothecia very rare, lecanorine. Spores colourless, 1-celled. Photobiont: chlorococcoid. Spot-tests: cortex K+ yellow (atranorin). Medulla K-, C-, KC+ rose/red, P-, with 3–methoxy–2,4–di–O–methylgyrophoric acid (major), gyrophoric acid (minor) and related substances. - A widespread, pantemperate and montane pantropical species, occurring both on rock and bark.



Parmotrema abessinicum (Kremp.) Hale

Thallus foliose, loosely adnate, 4-7 cm wide; lobes up to 1 cm wide, the margins ascending, ciliate. Upper surface pale grey, maculate, strongly rugose in older parts. Medulla white. Lower surface black to pale brown at margins, with a broad, sparsely rhizinate, paler margin. Isidia and soredia absent. Apotecia lecanorine, small, the disc blackish brown, the margin concolorous with thallus. Spores colourless, 1-celled. Photobiont: chlorococcoid. Spot-tests: cortex K+ yellow, medulla K-, C-, KC+ purple (norlobaridone), P-. - Rare, observed only once, on a fallen canopy branch on the ground (Kikiliyamana-Nuwara Eliya); also reported from India, South America, SW Africa, and E Africa.

Parmotrema andinum (Müll.Arg.) Hale

Thallus foliose, coriaceous, loosely attached, up to 15 cm wide. Lobes up to 2 cm wide, rounded, eciliate. Upper surface usually dull, maculate and strongly rugose, especially on the apothecial margins. Lower surface black with mottled paler margins, sparsely rhizinate. Apothecia lecanorine, stipitate with perforate disc. Spores colourless, 1-celled. Photobiont: chlorococcoid. Spot-tests: cortex K+ yellow (atranorin). Medulla K-, C+ red, KC+ red, P- (lecanoric acid). - Corticolous in evergreen montane forests, also reported from Central and South America, Africa, Tahiti, and Thailand.

Parmotrema cetratum (Ach.) Hale

Thallus foliose, adnate to loosely adnate, 6-15 cm wide; lobes subirregular, 4-10 mm wide, with dense, 1-2 mm long cilia. Upper surface dull grey, maculate, cracked and lacking soredia and isidia. Lower surface brown to black, with a narrow naked margin or rhizines extending to margins. Apothecia lecanorine. Spores colourless, 1-celled. Photobiont: chlorococcoid. Spot-tests: cortex K+ yellow (atranorin). Medulla K+ yellow turning red, C–, KC+ red, P+ deep orange (salazinic acid). - Corticolous in rather open, montane evergreen forests, also reported from Australia, N and S America, Hawaii, South Africa, Thailand, India, and Papua New Guinea.

Parmotrema clavuliferum (Räsänen) Streimann

Thallus foliose, loosely attached, broad-lobed, the lobes ciliate, ascending. Upper surface grey to dark grey, densely white maculate, sometimes fissured. Medulla white. Lower surface black to pale brown at margins, with a broad, sparsely rhizinate, paler margin. Soralia located at the apex of long-pointed, linear, smaller lobes. Apotecia very rare, lecanorine. Spores colourless, 1-celled. Photobiont: chlorococcoid. Spot-tests: cortex K+ yellow, medulla K+ yellow turning blood red, C-, P+ orange-red. - Rare, observed once at 840 m, close to Unulugala peak (Coolbone Tea Estate, Yatiyanthota).

Parmotrema cooperi (J.Steiner & Zahlbr.) Sérus.

Thallus foliose, loosely adnate, 7-15 cm wide with densely ciliate (cilia 2-5 mm long), rounded, 7-15 mm wide lobes. Upper surface grey to grey–green and irregularly cracked with marginal and submarginal, granular soralia. Lower surface black with brown margin and sparse, simple, short (2 mm long) rhizines. Apothecia very rare, lecanorine. Spores colourless, 1-celled. Photobiont: chlorococcoid. Spot-tests: cortex K+ yellow (atranorin); medulla K–, C+ red, KC+ red, P– (lecanoric acid). - Corticolous, also reported from Australia, Africa, Thailand, India, and Papua New Guinea.

Parmotrema cristiferum (Taylor) Hale

Common name: *Unwhiskered ruffle lichen.* - Thallus foliose, corticolous, adnate to loosely attached, 3-10(-15) cm wide, the lobes often overlapping, 6-20 mm wide, becoming finely cracked on the surface of older central portions, the margins ascending, usually (but not always!) ciliate. Upper surface mineral to pale greenish-grey with marginal to submarginal granular soralia. Lower surface black with a pale brown to tan marginal zone and sparse, short (0.1-0.2 mm long) rhizines. Apotecia very rare, lecanorine. Spores colourless, 1-celled. Photobiont: chlorococcoid. Spot-tests: cortex K+ yellow. Medulla K+ yellow turning red, C-, KC-, P+ orange (salazinic acid and consalazinic acid). - Common on the mature bark of trees in sun-lit habitats but in moist conditions. mostly in humid forests above 800 m (Nawalapitiya, Avissawella, some places in Central Highlands, Matale, Knuckles mountains, Horton Plains and Nuwara Eliya). Widespread throughout tropical and subtropical areas.

Parmotrema dilatatum (Vain.) Hale

Thallus foliose, loosely attached, 3-10(-15) cm wide, with rounded, eciliate, 8-13 mm wide lobes. Upper surface yellowish grey; soralia marginal and linear, or subcapitate on ascending lateral lobes. Medulla white with yellowish pigment in layer below cortex. Lower surface black with a paler marginal zone; rhizines sparse. Apothecia rare, lecanorine. Spores colourless, 1-celled. Photobiont: chlorococcoid. Spot-tests: cortex K+ yellow (atranorin and usnic acid). Medulla K+ dirty brown, C-, KC-, P+ orange, with protocetraric acid (major). - Corticolous in disturbed or rather open forests; also reported from Africa, Asia, South America, India, the Pacific, Papua New Guinea, Australia and New Zealand.

Parmotrema eunetum (Stirt.) Hale

Thallus foliose, loosely attached, to 8 cm wide, with rounded, ciliate lobes (cilia 1-3 mm long, 9-13 mm wide. Upper surface mineral grey, maculate and becoming cracked, lacking isidia and soredia. Medulla white. Lower surface black, with a tan to brown marginal zone and sparse simple to branched, short (1-2 mm long), unevenly distributed rhizines. Apothecia lecanorine. Spores colourless, 1-celled. Photobiont: chlorococcoid. Spot-tests: cortex K+ yellow (atranorin). Medulla K–, C+ red, KC+ red, P– (gyrophoric acid). - A mainly corticolous species, also reported from West Africa, the West Indies, Thailand, and India.

Parmotrema gardneri (C.W. Dodge) Sérus.

Thallus foliose, loosely attached to adnate, 4-6 cm wide: lobes overlapping, 7-16 mm wide, with subascending and irregularly incised, eciliate or sparsely ciliate margins. Upper surface pale to green–grey, with marginal and linear to subcapitate soralia. Lower surface black with a brown zone and simple, sparse, slender, short (0.1-0.2 mm long) rhizines. Apothecia very rare, lecanorine. Spores colourless, 1-celled. Photobiont: chlorococcoid. Spot-tests: cortex K+ yellow (atranorin). Medulla K+ dirty yellow, C-, P+ orange (protocetraric acid). - Corticolous on twigs, branches and trunks in rather open forests; a pantropical species, reported from SE Asia, Australia, Africa, South America, Papua New Guinea and the Pacific.

Parmotrema hababianum (Gyelnik) Hale

Thallus foliose, loosely attached, 8-10 cm wide, lobes rounded, 5-15 mm wide, with sparsely ciliate (cilia 0.5-2.0 mm long) and subascending margins. Upper surface more or less maculate, mineral grey to grey-green, with marginal and submarginal, linear or capitate soralia. Lower surface black with a white or mottled marginal zone. Apothecia very rare, lecanorine. Spores colourless, 1-celled. Photobiont: chlorococcoid. Spot-tests: cortex K+ yellow (atranorin). Medulla K-, C-, KC+ reddish, P-, UV- (protolichesterinic acid). - A corticolous species of rather open, often disturbed forests, reported from North and South America, Africa, India, Thailand, China, and Nepal.

Parmotrema latissimum (Fée) Hale

Thallus foliose, more or less adnate, up to 25 cm wide, the lobes subirregular and overlapping, 4-5 mm wide, with eciliate to sparsely ciliate margins. Upper surface yellow grey, lacking isidia and soredia. Lower surface black, with a brown or mottled marginal zone and sparse, simple rhizines. Medulla white. Apotecia very rare, lecanorine. Spores colourless, 1-celled. Photobiont: chlorococcoid. Spot-tests: cortex K+ yellow (atranorin). Medulla K+ yellow turning red, C-, KC-, P+ orange (salazinic acid). - Very rare, observed only once at 840 m, close to Unulugala Peak (Coolbone Tea Estate- Yatiyanthota).

Parmotrema mellissii (C.W.Dodge) Hale

Thallus mainly corticolous, foliose, loosely attached, up to 12 cm wide, the lobes 2-8 mm wide, with ascending, crenate margins with abundant, 2-4 mm long cilia. Upper surface pale grey to grey–green, emaculate, with abundant marginal soralia intermixed with marginal and submarginal isidioid outgrowths that become sorediate. Medulla white, sometimes with patches of a yellow-brown to orange-brown colour visible with a hand lens. Lower surface black with a dark brown marginal zone; rhizines long, slender, in scattered groups. Apotecia very rare, lecanorine (not observed in Sri Lankan material). Spores colourless, 1-celled. Photobiont: chlorococcoid. Spot-tests: cortex K+ yellow. Medulla K-, C-, KC+ reddish (the pigmented parts only), P-, UV+ blue-white (alectoronic acid, α–collatolic acid). - Common on bark of mature trees in shaded interiors, rarely on moist rocks, in humid forests above 800 m (Central Highlands, wet zone high elevation forests and along rocky stream margins of submontane and montane forests). Widespread in tropical and warm temperate regions.

Parmotrema nilgherrense (Nyl.) Hale

Thallus foliose, loosely adnate, to 10 cm wide; lobes 4-8 mm wide, with ascending margins; cilia 2–3 mm long. Upper surface pale grey to greenish grey, white-maculate, often blackened, lacking isidia and soredia. Lower surface black with a brown margin; rhizines sparse to dense. Apothecia lecanorine. Spores colourless, 1-celled. Photobiont: chlorococcoid. Spot-tests: cortex K+ yellow (atranorin). Medulla K-, C-, KC+ red, P-, UV+ blue-white (alectoronic and α–collatolic acids). - Corticolous in rather open forests, also reported from Africa, Asia (including Papua New Guinea) and Islas Juan Fernández.

Parmotrema perlatum (Huds.) M. Choisy

Thallus foliose, loosely adnate, 5-7 cm wide, lobes 7-15 mm wide, with sparse cilia and adscending margins. Upper surface silver grey to grey-green, cracked in older parts, with marginal soredia (soralia granular). Lower surface black with brown margin; rhizines moderately dense, simple, short. Apothecia very rare, lecanorine. Spores colourless, 1-celled. Photobiont: chlorococcoid. Spot-tests: cortex K+ yellow (atranorin). Medulla K+ bright yellow, C-, KC-, P+ orange (stictic and constictic acids and traces of related compounds). - A pantemperate to tropical, mainly corticolous species, widespread in the Northern and Southern Hemispheres.

Parmotrema poolii (C.W. Dodge) Krog & Swinscow

Thallus foliose, loosely adnate, 10-20 cm wide; lobes irregular and rounded, 5-10 mm wide with sparse to dense, 0.3-4 mm long cilia. Upper surface grey to grey-green and becoming finely cracked, with marginal soredia. Lower surface

black with a brown margin; rhizines scattered, to 2 mm long. Apothecia very rare, lecanorine. Spores colourless, 1-celled. Photobiont: chlorococcoid. Spot-tests: cortex K+ yellow (atranorin). Medulla K-, C-, KC+ red, P-, UV+ blue-white (alectoronic & α–collatolic acids). - A mainly corticolous species, also reported from Australia, E Africa, Thailand, Madagascar, Papua New Guinea and Hawaii.

Parmotrema praesorediosum (Nyl.) Hale

Thallus foliose, adnate, up to 8 cm wide; lobes rounded, 4-7 mm wide with eciliate, suberect, sorediate margins. Upper surface pale grey, fragile and cracked in older parts; soredia granular. Lower surface black, with a mottled, narrow (1-2 mm wide) margin; rhizines sparse, simple, short (1-2 mm long). Apothecia very rare, lecanorine. Spores colourless, 1-celled. Photobiont: chlorococcoid. Spot-tests: cortex K+ yellow (atranorin). Medulla K-, C- KC- P- (protopraesorediosic and praesorediosic acids). - A widespread pantropical, mainly corticolous species.

Parmotrema rampoddense (Nyl.) Hale

Thallus foliose, up to 15 cm wide, loosely adnate; lobes irregular, 6-15 mm wide, the margins incised with dense, 3-6 mm long, simple to furcated cilia. Upper surface pale grey to grey with linear or occasionally subcapitate soralia. Medulla white, partly pigmented K+ purple. Lower surface black with brown margin; rhizines sparse, simple. Apothecia lecanorine. Spores colourless, 1-celled. Photobiont: chlorococcoid. Spot-tests: cortex K+ yellow (atranorin). Medulla K-, C-, KC+ red, P-, UV+ blue-white (alectoronic & α–collatolic acids, ± skyrin). - A pantropical, mainly corticolous species of rather open forests.

Parmotrema reticulatum (Taylor) M. Choisy

Thallus foliose, loosely adnate, 5-20 cm wide; lobes subrotund to subirregular, 4-15 mm wide, margins irregularly–incised to laciniate-dissected with cilia to 1 mm long. Upper surface pale grey–green, distinctly reticulately maculate to cracked with marginal, subcapitate to linear soralia. Lower surface dark brown to black with dense, simple or squarrose rhizines. Apothecia very rare, lecanorine. Spores colourless, 1-celled. Photobiont: chlorococcoid. Spot-tests: cortex K+ yellow (atranorin). Medulla K+ yellow turning red, C-, KC-, P+ orange (salazinic acid). - A mainly corticolous species throughout undisturbed and disturbed forests, subcosmopolitan both in tropical and warm-temperate areas.

Parmotrema sancti–angelii (Lynge) Hale

Thallus foliose, up to 15 cm wide, loosely attached; lobes irregular, 7-14 mm wide, with crenate to incised, sparsely to densely ciliate margins. Upper surface grey green with marginal soralia (soredia farinose). Lower surface black, with a brown margin; rhizines dense, simple. Apothecia very rare, lecanorine. Spores colourless, 1-celled. Photobiont: chlorococcoid. Spot-tests: cortex K+ yellow (atranorin). Medulla K-, C+ red, KC+ red, P- (gyrophoric acid). - A widespread, mainly corticolous, pantropical species of rather open forests.

Parmotrema tinctorum (Nyl.) Hale

Common name: *Palm ruffle lichen*. - Thallus foliose, corticolous or saxicolous, loosely adnate, 5-15(-30) cm wide, the lobes broadly rounded, 10-20(-30) mm wide, with eciliate margins. Upper surface green-grey to grey with mainly laminal, simple to branched or lobulate isidia. Lower surface black with a brown margin; rhizines sparse, simple. Apotecia very rare, lecanorine (not observed in Sri Lankan material), lecanorine. Spores colourless, 1-celled. Photobiont: chlorococcoid. Spot-tests: cortex K+ yellow: atranorin. Medulla K-, C+ red, KC+ red, P- (lecanoric acid). - Very common on bark of mature trees and on rocks in all sorts of habitats, with optimum in humid forests above 600 m (Avissawella to Hatton, Kegalle to Kandy, abundant in Central Highlands, Matale, Knuckles mountain region, Horton Plains, Pidurutalagala, Sabaragamuwa hill range, Ratnapura, Haputale, Bandarawela, Badulla and Nuwara Eliya).

Phaeographina spp.

Thallus crustose, thin, effuse, white or grey to brown, smooth to rimose. Apothecia lirelliform, elongate, immersed to prominent, simple or branched, the disc exposed to slit-like. Thalline margin absent, but thallus sometimes pushed up around the exciple, forming a paler rim. Exciple black, carbonised, opaque. Asci 8-spored, more or less cylindrical, the apex thickened, I-. Spores brown, muriform or submuriform. Conidia ellipsod, colourless. Photobiont: *Trentepohlia*.

Phaeographis spp.

Thallus crustose, continuous or rimose, cream-coloured to brownish, dull, sometimes mealy. Apothecia lirelliform, elongate, sometimes branched or curved; disc open or slit-like, sometimes with a whitish pruina; excipular lips absent or inconspicuous; thalline margin absent or thin, entire, in young ascocarps, in older ascocarps often inconspicuous; exciple brown to black, opaque. Hymenium hyaline. Spores brown, transversely septate, I+ red or reddish brown Photobiont: *Trentepohlia*.

Phaeophyscia hispidula (Ach.) Essl.

Common name: *Whiskered shadow lichens* - Thallus foliose, corticolous, up to 11 cm in diam. (but usually less), sometimes coalescing into even larger thalli, irregular to orbicular. Lobes discrete or irregularly rounded and partly imbricate, (1-)2-4(-6) mm broad, distinctly concave and usually ascending somewhat at the end (rhizines of the lower surface nearly always visible and conspicuous from above, a few along each lobe usually mounted on the lobe margin and projecting almost straight upward). Upper surface grey to grey-brown or brown, usually dull, epruinose, sorediate. Soredia granular to isidioid or occasionally irregularly lobulate, sometimes primarily laminal and remaining granular, most commonly marginal or submarginal. Lower surface black, with black, mostly simple rhizines. Apothecia rare (not observed in Sri Lankan material), lecanorine, up to 2 mm in diam., often bearing a dense corona of rhizines along the margin. Spores brown, 2--celled. Photobiont: chlorococcoid. Spot-tests: all negative. - Rare on trunks of mature trees in humid forests above 1200 m (Horton Plains and Hakgala Nature Reserve).

Phyllopsora borbonica Timdal & Krog

Thallus crustose, formed of small, adnate, isodiametric areolae developing on a black hypothallus. Areolae discrete to adjoined peripherally, forming a more or less continuous crust centrally, pale green and glabrous, sometimes pubescent only along the margins. Isidia absent. Apothecia abundant, up to 2 mm in diameter, without a thalline margin, rounded, simple, plane to moderately convex, reddish brown. Spores colourless, 1-celled, acicular. Photobiont: chlorococcoid. Spot-tests: all negative. - Rather rare on trunks of mature trees in very humid forests above 1300 m (Nuwara Eliya and Adam's Peak trail).

Phyllopsora breviuscula (Nyl.) Müll.Arg.

Thallus squamulose, developing on a thick, reddish brown prothallus, forming incomplete circular patches. Squamules large, adnate, elongated, contiguous or partly imbricate, soon becoming deeply divided, distinctly convex, medium green or often with brown patches. Isidia and soredia absent. Apothecia common, without a thalline margin, rounded, simple or conglomerate, plane to moderately convex, medium brown, with a paler and indistinct proper margin. Spores broadly ellipsoid to fusiform, colourless, 1-celled. Photobiont: chlorococcoid. Spot-tests: all negative. - Very common on the trunks of mature trees in very humid forests above 1000 m (Central Highlands, high elevation rain forests and along rocky stream margins of sub montane and montane forests).

Phyllopsora confusa Swinscow & Krog

Thallus squamulose, developing on a thin, but often well developed, white to partly reddish brown prothallus. Squamules small, narrow, ascending, lacinulate and imbricate, plane to weakly convex, bluish green to green, glabrous or finely hairy along the margins. Isidia absent but lacinules often coralloid. Apothecia non lecanorine, rounded to irregular, simple, plane to moderately convex, pale to medium brown. Spores colourless, ellipsoid to shortly bacilliform, 1-celled. Photobiont: chlorococcoid. Spot-tests: all negative. - A pantropical species, found in humid rain forest and humid submontane areas (Avissawella, Nawalapitiya, Hatton and Knuckles mountain range).

Phyllopsora furfuracea (Pers.) Zahlbr.

Thallus crustose areolate, effuse, formed by the prothallus and: 1) partly by minute round to irregular, more or less contiguous areolae, sometimes appearing as a continuous crust, and, 2) partly by isidia developing directly from the prothallus; isidia usually dominating. Prothallus white to reddish brown. Areolae c. 0.05–0.10 mm wide, adnate, more or less isodiametric, plane to weakly convex, medium to dark green, glabrous or rarely pubescent along the margins. Isidia usually abundant, moderately thick, subglobose to cylindrical, medium to dark green, often with a brown tinge, glabrous, simple to coralloid, often curved, decumbent to ascending. Apothecia common (but not seen in Sri Lankan material), to 2 mm wide, irregular in outline, usually conglomerate, convex, pale brown to dark reddish brown. Spores colourless, narrowly ellipsoidal, 1-celled. Photobiont: chlorococcoid. Spot-tests: all negative. - Found in humid rain forest and humid submontane areas (Avissawella, Nawalapitiya and Hatton).

Phyllopsora kiiensis (Vain.) Gotth. Schneid.

Thallus squamulose, developing on a conspicuous reddish brown prothallus. Squamules pale green, medium sized, adnate, scattered when young, later contiguous, crenulate to incised, plane to weakly convex, glabrous on upper side, pubescent along the margins. Isidia usually abundant, attached marginally to the squamules, often long, simple to slightly branched. Apothecia rare (not seen in Sri Lankan material), to 2 mm diam., of irregular shape, pale brown. Spores colourless, ellipsoid to shortly bacilliform, 1-celled. Photobiont: chlorococcoid. Spot-tests: all negative (furfuracein). - Found in dry to humid rain forest (Ratnapura and Mathugama).

Physcia alba (Fée) Müll. Arg.

Thallus foliose, orbicular to irregular, sometimes confluent with other thalli, up to 5 cm in diam, more or less loosely adnate, fragile. Lobes radiating, flat to almost concave, truncate and sinuose, up to 1.5 mm wide, but usually narrower, distinctly separate or sometimes overlapping, the tips often ascending, eciliate. Upper surface whitish grey to cream-coloured, without pruina, occasionally with a weak maculation. Soredia and isidia absent. Lower surface white to pale graphite grey; rhizines concolorous. Apothecia abundant, lecanorine, variable in size, up to 2 mm diam. but usually around 1 mm, the disc brown to black, the margin thick and weakly crenulate. Spores brown, 2-celled. Photobiont: chlorococcoid. Spot-tests: cortex and medulla K+ yellow, C-, KC-, P+ yellow. - Rare, mainly corticolous in open forests on solitary trees, also found on rocks in exposed sites above 900 m (Matale District- Nawanagala and Kabaragala).

Physcia atrostriata Moberg

Thallus foliose, orbicular or irregularly spreading, adnate, 1-4 cm wide, often coalescing and forming irregular, 5-8 cm wide patches. Lobes 0.5-2.0 mm wide, plane to weakly convex, irregularly branched, imbricate or not; apices rounded, incised and often ascending, with marginal lobules, eciliate. Upper surface whitish grey to pale greenish grey, emaculate, smooth to shallowly undulate, frosted-pruinose, especially towards the apices. Soralia marginal, lip-shaped-undulate, developing around sinuses between lobes, but spreading over extensive areas of upper and lower surfaces. Lower surface mainly ecorticate, white at the margins, pale tan or brownish centrally, with conspicuous red-brown to brown-black, corticate, ribbed or nerve-like longitudinal striations; rhizines conspicuous, brown or black. Apothecia rare (not seen in Sri Lankan material), lecanorine. Spores brown, 2-celled. Photobiont: chlorococcoid. Spot-tests: upper cortex and medulla K+ yellow, C- KC-, P- (atranorin and zeorin). - Rare, mainly corticolous in open forests on solitary trees, above 900 m (Matale District- Nawanagala).

Physcia integrata Nyl.

Thallus foliose, orbicular or irregularly spreading, adnate throughout, 3-6 cm wide, occasionally coalescing to form larger colonies. Lobes 0.5-2.0 mm wide, usually densely imbricate, irregularly or pinnately branched, plane to weakly convex or undulate; lobe margins entire, the tips rounded, often slightly downrolled; occasionally the inner parts of the thallus becoming dissected into small (0.3-0.6 mm wide) lobules. Upper surface whitish grey to grey or bluish grey, with or without distinct white maculae, often greyish white-pruinose at the apices. Soredia and isidia absent. Lower surface black (apart from the pale lobe tips); rhizines simple, dense, black. Apothecia lecanorine, rare to abundant, laminal, 0.5–2.0 mm wide, broadly adnate, the disc dark brown to black, sometimes with a white pruina; margin entire, smooth. Spores brown, 2-celled. Photobiont: chlorococcoid. Spot-tests: upper cortex and medulla K+ yellow, C- KC-, P- (atranorin and zeorin). - One of most common species in high elevation forests above 1000 m and in man-made vegetation, on tree trunks and rocks, in rather open but moist, subtropical situations (Avissawella, Ratnapura, Pidurutalagala, Horton Plains, Matale, Kegalle, Kandy, Knuckles mountains, Hinuduma Kanda, Hakgala and Peradeniya, Sabaragamuwa mountains, Sinharaja-Sinhagala and Athwalthota).

Physcia krogiae Moberg

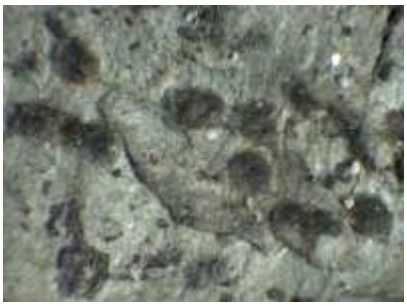
Thallus foliose, orbicular or irregularly spreading, adnate to loosely adnate, 1-5 cm wide. Lobes 0.8-2.5 mm wide, plane to weakly concave or convex, irregularly branched, discrete to imbricate, the margins entire, smooth to sinuose or irregular; apices rounded, plane. Upper surface grey-white to bluish grey, often paler at the margins, dull, more or less white-maculate in the centre, frosted-pruinose especially near the apices. Soralia laminal or rarely submarginal, maculiform, beginning as small eroding pustules or cracks in the upper cortex, forming more or less capitate soralia that can coalesce to cover large parts of the thallus; soredia farinose to granular. Lower surface pale brown at the margins to dark brown or brown-black in the centre; rhizines sparse, concolorous with the lower surface, 0.4-0.6 mm long. Apothecia very rare (not observed in Sri Lankan material),

lecanorine. Spores brown, 2-celled. Photobiont: chlorococcoid. Spot-tests: cortex and medulla K+ yellow, C- KC-, P-. - Rare, mostly restricted to humid high elevation forests above 1000 m, on tree trunks in moist montane areas (Matale District- Maussakanda Estate and Kabaragala).

Physcia sorediosa Lynge

Thallus orbicular or irregularly spreading, loosely adnate, 2-5 cm wide. Lobes 0.5-2.0 mm wide, contiguous or imbricate, irregularly branched, usually broader at the apices, eciliate. Upper surface whitish grey to grey, glossy, rarely pruinose, more or less distinctly white-maculate. Soralia and/or dactyls marginal, often best developed in lobe axils, small and delimited, occasionally enlarged and capitate, rarely confluent and laminal; dactyls becoming pustulate and ultimately sorediate; soredia farinose, white or grey-white. Lower surface black, partly dark grey and paler at the lobe tips; rhizines black, simple, 0.4-0.6 mm long. Apothecia usually rare, lecanorine, sessile, constricted at the base, 0.5-2.0 mm wide, the margin concolorous with thallus, crenulate, the disc black, more or less white-pruinose. Spores brown, 2-celled. Photobiont: chlorococcoid. Spot-tests: cortex and medulla K+ yellow, C- KC-, P-. - Rare, both on rocks and on tree trunks in open areas above 900 m (Matale District).

Porina spp.



Thallus crustose, corticolous, saxicolous or foliicolous (rarely bryophilous or terricolous). Perithecia immersed in the thallus or in thallus-dominated verrucae, or superficial on the thallus. Involucrellum vestigial to well-developed and almost completely enclosing the exciple, pale to dark orange-brown, red-brown, brown, green-black, purple-black or jet-black; surface smooth to uneven, lacking whorls of stiff subapical setae (rarely with a more uniformly distributed and delicate pilose or ±tomentose covering). Ascospores with 3 or more transverse septa, or submuriform to muriform. Photobiont: usually *Trentepohlia*. - This genus of corticolous lichens is represented by many species in Sri Lanka.

Pseudocyphellaria beccarii (Kremp.) D.J. Galloway

Thallus foliose, 8-15(-25) cm diam., loosely attached centrally, the apices free, ascending. Lobes linear-elongate, 3-8(-15) mm wide, 1-5(-10) cm long, contiguous or discrete at margins, imbricate centrally, the apices divergent, the margins ridged below and often conspicuously pseudocyphellate. Upper surface dark grey-black or blue-black, red-brown at apices, pale glaucous buff or greyish when dry, conspicuously punctate-depressed, irregular to undulate or wrinkled, not foveolate, coriaceous, maculate, without isidia or soredia. Medulla white. Lower surface pale buff or whitish at margins, red-brown to black centrally (rarely pale brown throughout); tomentum rather variable, from scarce to abundant, pale buff to red-brown (rarely blackened). Pseudocyphellae white, widely scattered to crowded, 0.1-1 mm diam., conical-verrucose, the margins raised. Apothecia mostly marginal or submarginal, 2-5 mm diam., sessile to subpedicellate, the margin coarsely verrucose-scabrid. Spores pale brown, 3-septate, ellipsoid. Photobiont cyanobacterial. Spot-tests: Medulla K-, C- or C+ pink, P-. - Common in humid, high elevation forest areas. Also found in fragmented forest patches at high elevation (above 1200 m), tea estates, and along streams, growing in upper portions of tree trunks and on moist rocky boulders, mainly in shaded situations (Horton Plains, Knuckles, Adam's Peak, Kikiliyamana, Ambewela, Pattipola, Seetha Eliya, Hakgala and Kandapola in the Nuwara Eliya District).

Pseudocyphellaria desfontainii (Delise) D.J. Galloway

Thallus foliose, rosette-forming to irregularly spreading, 4-9(-11) cm diam., closely attached centrally, the margins free. Lobes 2-8(-15) mm wide, (0.5-)l-3(-6) cm long, discrete, contiguous or subimbricate at margins, imbricate centrally. Margins incised, crenulate, sparsely to densely isidiate. Upper surface dark glaucous blue to blue-black, suffused red-brown towards apices when wet, glaucous grey or pale bluish to red-brown when dry, undulate, pitted to deeply foveolate. Maculae common, minute, white or yellowish, effigurate to reticulate, best seen when wet. Isidia often crowded at margins, terete, usually simple, eroding at apices and appearing pseudosorediate, breaking off and leaving yellow scars resembling pseudocyphellae. Medulla white, often suffused yellow

in upper parts. Lower surface pale yellow-white or buff at margins, darkening centrally, wrinkled-undulate, tomentose, the tomentum thick and woolly. Pseudocyphellae yellow, common, scattered, rounded, minute, 0.2 mm diam. or less, rarely 0.5 mm diam., conical-verruciform. Apothecia not always present, marginal and laminal, 0.5-3 mm diam., sessile to subpedicellate, the margin prominent, persistent, coarsely corrugate-scabrid. Spores red-brown, ellipsoid, 2-celled. Photobiont cyanobacterial. Spot tests: medulla K+ yellow, C- or C+ pink, P+ orange. Only locally common in high-elevation forest areas, also found in fragmented forest patches above 1200 m, on trunks and dead bark, in well lit situations (Horton Plains, Kikiliyamana, Ambewela, Pattipola, Seethaeliya, Hakgala Reserve, and Kandapola in the Nuwara Eliya District).

Pseudocyphellaria intricata (Delise) Vain.

Thallus foliose, forming a rosette and spreading irregularly, loosely attached, dark greenish brown to chestnut brown when dry, bluish black to dark dirty green when wet. Lobes irregularly sublinear, the margins sorediate, whith white to grey soredia. Medulla white. Lower surface pale chocolate brown, with grey to brown hairs. Pseudocyphellae white, scattered on the lower surface. Apothecia very rare (not seen in Sri Lankan material). Photobiont: cyanobacterial. Spot-tests: medulla K-, C- or C+ pink, P-. - Widespread, mostly restricted to humid forest areas, on dead wood and bark in sheltered sites, occasionally saxicolous. (Horton Plains, Pattipola, Hakgala Reserve, Pidurutalagala peak in the Nuwara Eliya District, Laxapana waterfall, Hiniduama Kanda, and Kitulgala forest).

Pyrenula spp.

Thallus crustose, corticate or not, with or without whitish pseudocyphellae, usually surrounded by a black hypothallus. Perithecia solitary or with fused walls and/or ostioles. Ascomatal wall usually completely carbonised, with a distinct clypeus, with or without crystals. Hamathecium inspersed with oil droplets or not, IKI– or IKI+ blue or orange. Asci without an ocular chamber. Ascospores 2–8 per ascus, pale to dark brown or grey, with at least 3 transverse septa, with or without longitudinal septa. Microconidia filiform, usually straight, occasionally curved. Photobiont: *Trentepohlia*. - This genus of corticolous lichens is represented by many species in Sri Lanka.

Ramalina conduplicans Vain.

Thallus fruticose, corticolous (rarely saxicolous), 2-10 cm long, erect, growing from a narrow holdfast. Branches solid, 1-5 mm wide, the surface greenish, angular or flat. Soredia and isidia absent. Pseudocyphellae common, marginal or/and superficial. Apothecia common, terminal or subterminal, lecanorine, often with spurs. Spores colourless, ellipsoid, 2-celled or often 4-celled. Photobiont: chlorococcoid. Spot tests: cortex K -, C -, KC + yellow, medulla K- or + yellow to orange, C-, P-, UV-, Three chemical strains are present: 1) Usnic and salazinic acid, 2) Usnic, sekikaic acid aggregate and salazinic acid, 3) Usnic acid and sekikaic acid aggregate. - Very common in humid high elevation forests above 1400 m. Also collected at low elevations in sun-lit habitats (Horton Plains and Nuwara Eliya; low elevation areas such as in Divulapitiya-Gampaha, and Negombo).

Ramalina usnea (L.) R. Howe

Thallus fruticose, pendulous, up to 30 cm long, with subparallel, irregular or dichotomous branches, growing from a narrow holdfast. Branches solid, mostly flat in basal branches, two-edged in distal ones, 1-3 mm wide, often twisted. Surface: yellowish green, smooth or with conspicuous striation by pseudocyphellae, shiny, without soredia or isidia. Pseudocyphellae common, laminal or rarely marginal, narrowly linear. Apothecia (not seen in Sri Lankan material) lecanorine, stipitate; disc flat to concave; margin concolorous with thallus Spores colourless, 1-septate, narrowly fusiform. Photobiont: chlorococcoid. Spot tests: cortex K-, C-, KC+ yellow, P-; medulla K-, C-, KC-, P-, UV+ white (divaricatic acid and sekikaic acid aggregate). - Very common in humid high elevation forest above 1400 m (Horton Plains and Nuwara Eliya).

Relicinopsis malaccensis (Nyl.) Elix & Verdon

Thallus foliose, adnate, 4-5 cm wide; lobes sublinear and imbricate, 0.8-1.5 mm wide, with eciliate margins. Upper surface yellow green, transversely cracked with dense, mostly simple, small (to 0.3 mm high) isidia. Lower surface pale to dark brown with dense, simple rhizines to margins. Apothecia very rare, lecanorine. Spores colourless, 1-celled. Photobiont: chlorococcoid. Spot-tests: cortex K- or K+ weakly yellow (usnic acid and traces of atranorin). Medulla K-, C-, KC-, P+ orange (protocetraric acid). - A corticolous species also reported from Australia, Africa, Malaysia, Sabah, Indonesia, Sarawak, Papua New Guinea, India, the Philippines and Thailand.

Sarcographa spp.

Thallus crustose, pale olive-green, thin, smooth, glossy. Apothecia immersed in conspicuous raised white stromata; stromata rounded, oval or distorted-ellipsoidal, 1-4 mm wide; lirellae numerous, richly branched, open, 0.1-0.2 mm wide. Disc matt black, epruinose or faintly white-pruinose. Proper exciple completely carbonised, thick at the base. Hymenium 80–110 µm thick. Ascospores 8 per ascus, irregularly biseriate, pale brown, 4-locular. Photobiont: *Trentepohlia*. - Several species are known from Sri Lanka, e.g. *S. labyrinthica* (Hinudama kanda-Ratnapura) and *S. tricosa* (Hunnas Falls-Kandy).

Sclerophyton elegans Eschw.

Thallus crustose, corticolous, smooth to uneven, pale grey to greyish white, delimited by a thin, grey to black prothallus. Lirellae linear, simple or often branched and dendroid, pale to dark brown. The thalline margin exists in line with the ascomatal disc, but is slightly raised above the sterile part of the thallus, and is paler in colour. Spores 4-celled, with the upper cell larger than the others. Photobiont: *Trentepohlia*. Spot-tests: Thallus C-, K+ yellowish or brownish, P+ yellow, UV-. - Rare on bark in humid high elevation forest edges above 1200 m (Pattipola road- Nuwara Eliya).

Siphula decumbens Nyl.

Thallus fruticose, forming discrete tufts or, more commonly, extensive mats. Lobes very variable, generally broadly flattened but not dorsiventral, erect to decumbent, 0.5-1.5 mm wide, broadening from a narrow base and dividing irregularly in several planes, mostly 1-2 (-4.5) cm tall. Surface chalky white to pale cream-coloured, scabrid, dimpled and areolate, often becoming furrowed, attached to the substrate by a rhizine like rooting system. Medulla solid. apothecia unknown. Spot-tests: K+ bright- yellow turning brownish red, KC-, C-, P+ yellow orange, UV- (thamnolic acid). - Very rare, forming conspicuous colonies among moss mats on well-lit soil banks and logs, mostly restricted to humid high elevation forests between 1200 and 1400 m (Pattipola Station to Horton Plains).

Stereocaulon austroindicum I.M. Lamb.

Primary thallus crustose, granular, terricolous or saxicolous, persistent. Secondary thallus fruticose, consisting of cylindrical, ecorticate, non-tomentose pseudopodetia which are erect, up to 2 cm tall, aggregated, simple to branched, whitish brown, the apices white, densely covered by pseudo-sorediate phyllocladia. Phyllocladia first granular, then elongated and to ca. 1 mm long. Cephalodia present, brown to dark brown, enclosing cyanobacteria (*Stigonema*, rarely *Gloeocapsa*). Apothecia terminal. Photobiont: chlorococcoid (cyanobacterial in the cephalodia). Spot-tests: phyllocladia K+ yellow, P+ pale yellow. - Rare on well-lit soil banks and on weathered rocks, mostly restricted to humid high elevation forest between 1200 and 1400 m (Pattipola station to Horton plains, Kikiliyamana forest and a few localities in Nuwara Eliya District).

Stereocaulon foliolosum Nyl.

Primary thallus crustose, terricolous or rarely saxicolous. Secondary thallus fruticose, consisting of cylindrical pseudopodetia which are up to 4 cm tall, sparingly branched, brownish white, densely covered by flattened, leaf-like phyllocladia. Cephalodia present, brown, enclosing cyanobacteria (*Nostoc*). Apothecia terminal. Photobiont: chlorococcoid (cyanobacterial in the cephalodia). Spot-tests: phyllocladia K+ yellow, P+ pale yellow. - Rare on well-lit soil banks in humid forests above 1300 m (Pattipola station to Horton Plains).

Sticta fuliginosa (Hoffm.) Ach.

Thallus foliose, monophyllous, often deeply indented or incised and appearing polyphyllous, 2-6(-8) cm in diam., rather loosely attached by a central, irregular umbilicus. Lobes broadly rounded to somewhat ragged-lacerate, folded to imbricate centrally, (0.5-)1-4(-6) cm wide, the margins broadly rounded, thinly ridged below and often rolled under. Upper surface livid slate grey, to blue-black, suffused red-brown in parts when moist, pale glaucous-grey to brown when dry, shallowly to deeply wrinkled or subfoveolate, dull to somewhat scabrid-areolate, brittle when dry, with minute, white maculae delicately marbling upper surface (lens!). Isidia minute, granular to styliform, brown-black, glossy, very delicate and friable, in clusters at margins and on thalline ridges, often coalescing into a dark crust. Lower surface pale cream white to buff at margins, pale brown centrally, densely tomentose from margins to center, with scattered flat, crateriform, cyphellae (0.1-)0.5-2(-3) mm in diam., with a white basal membrane. Apothecia rare, lecanorine. Spores colourless, 1-3-septate, fusiform-ellipsoid. Photobiont: cyanobacterial. Spot-tests: all negative. - Both on bark and mossy rocks in humid and shaded situations; the records from Sri Lanka require re-confirmation.

Sticta limbata (Sm.) Ach.

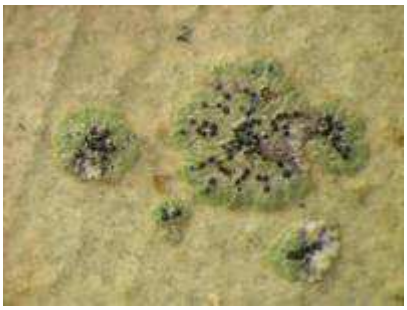
Thallus foliose, monophyllous, reniform to irregularly spreading, loosely attached at one point, occasionally suberect, 1-4(-6) cm in diam. Lobes broadly rounded to subirregular, with sinuous, thickened margins rolled under forming a definite ridge below. Upper surface livid slate grey to grey-brown or red-brown when dry, undulate, smooth to irregularly wrinkled, with minute, white maculae forming a delicate marbling when wet (lens!). Soredia coarsely granular, grey-blue, in erose, linear marginal soralia or in scattered, rounded, pustular laminal soralia usually close to lobe margins. Medulla white. Lower surface pale yellowish buff to brown, wrinkled-ridged or striate near margins, elsewhere densely felted-tomentose; tomentum grey to brown-black. Cyphellae sparse, rounded to irregular, 0.5-1.5(-2) mm in diam., sunken in tomentum, with very thin, slightly raised margins. Apothecia very rare (not seen in Sri Lankan material). Photobiont: cyanobacterial. Spot tests: all negative. - Rare in humid high elevation montane forests in shady, very humid sites, growing together with mosses (Kalupahana area in the Knuckles mountain region).

Sticta weigelii (Ach.) Vain.

Thallus foliose, lobed, bluish-grey to greyish brown, deeply dissected, loosely attached, 5-7 cm wide. Lobes irregularly branching, 0.5-1.5 cm wide, the apex rounded, crowded in the center (like cabbage leaves), with isidia along the sinuous margins. Isidia minute, cylindrical to coralloid, dark grey-brown, densely crowded at the margins. Upper surface glabrous, flat to concave, maculate. Medulla white. Lower surface dark brown to black, densely tomentose. Cyphellae round, deeply excavate, with prominent margins. Apothecia rare, lecanorine. Photobiont: cyanobacterial. Spot tests: all negative. - Locally common only in humid high elevation forest areas, often amongst mosses (Horton Plains, Knuckles upper montane forest, Kalupahana and Gombaniya areas, Hakgala Reserve and Pidurutalagala Peak).

Strigula spp.

Thallus crustose, usually growing on leaves, whitish to dark olive-brown, thin to moderately thick, usually ecorticate. Perithecia, immersed in the thallus to almost superficial, or immersed in thalline verrucae, solitary, with an apical or,



rarely, lateral ostiole, usually with a dark greenish brown to black involucrellum. Exciple composed of periclinal hyphae, usually colourless. Paraphyses long-celled, simple to sparingly or richly branched, or anastomosing. Periphyses usually absent, rarely sparse. Asci fissitunicate, 8-spored, narrowly to broadly cylindrical, narrowly obclavate or elongate-ellipsoidal, predominantly thin-walled, but with a thicker apex and a minute but well-defined ocular chamber (especially when immature), non-amyloid. Ascospores predominantly 1-septate, more rarely 3-7-septate to muriform, hyaline. Pycnidia producing either minute simple bacilliform or fusiform microconidia, or much larger macroconidia that are 1–7-septate to muriform. Photobiont: *Cephaleuros*, *Phycopeltis* or *Trentepohlia*. - This genus of mainly foliicolous, tropical to subtropical species found in evergreen humid forests is still poorly known in Sri Lanka.

Teloschistes flavicans (Sw.) Norman

Thallus fruticose, 1.5-7(-10) cm long, 2-4 cm in diam., tufted or rarely pulvinate to pendent, more or less dichotomously branched. Branches corticated on both sides, with rigid, entangled, 0.2-1.5 mm wide main branches, narrowing down to 0.05-0.2 mm at the tips, terete to somewhat flattened and broadened at the angles, with terete (especially towards the tips) secondary branches. Surface orange-yellow to reddish orange, with soralia or soralia initials. Soredia basically farinose but sometimes becoming granular, beginning to grow in orbicular to elongated soralia on all sides of the thallus, gradually eroding away. Apothecia usually absent. Photobiont: chlorococcoid. Spot-tests: K+ purple, C-, KC-, P-. - Rare in humid upland forests, both on bark and on mossy rocks in well-lit situations.

Tephromela atra (Huds.) Hafellner v. *atra*

Thallus crustose, irregularly cracked to rimose-areolate, usually in discrete orbicular thalli up to c. 5 cm wide, but sometimes coalescing to form large patches up to 30 cm wide, thin to thick (up to 1.5 mm or more in preciments growing on calcareous rocks). Upper surface grey or whitish grey, sometimes pure white, smooth to strongly rugose. Apothecia lecanorine, immersed to usually becoming sessile, sometimes constricted at the base, round or irregular, 1-2.5 mm in diam; margin white, including algae; disc black, flat or slightly concave, shiny, epruinose. Hymenium violet-red. Spores colourless, 1-celled, ellipsoid. Photobiont: chlorococcoid. Spot-tests: upper cortex: K+ yellow (atranorin), C-, KC-, P-; medulla K-, C-, KC-, P- (α-collatolic and alectoronic acids). - This widespread, mainly saxicolous species has been recently reported also from Sri Lanka.

Thelotrema spp.

Thallus crustose, immersed to superficial, greyish to greenish or olive, with yellow, brown or white tones. Thallus ecorticate, or with a protocortex or a true cortex. Prothallus thin to indistinct, brown. Apothecia more or less rounded, rarely slightly irregular. Proper exciple more or less free, rarely fused. Hymenium non-amyloid; paraphyses parallel to distinctly interwoven, usually unbranched, rarely sparingly branched; tips slightly to distinctly thickened; lateral paraphyses present; true columella absent; columella-like structures rarely present in fused ascomata. Epihymenium usually colourless, occasionally greyish or brownish, rarely yellowish, egranulose or granulose. Asci 1-8-spored, clavate, non-amyloid. Ascospores 1–3-seriate, transversely septate to muriform, colorless to yellowish or brown. Photobiont: *Ttrentepohlia*. - Several species are known from Sri Lanka, e.g. *Th, heladiwensis* (Horton Plains), and *Th. pseudosimilans* (Dotalugala -Knuckles mountain region).

Trypethelium spp.

Thallus crustose, green to grey or yellowish, smooth to somewhat bullate, corticate. Perithecia simple, black, with or without pseudostromatic tissues, globose, immersed in pseudostromata or erumpent, often at least the sides covered by the thallus. Hamathecium colourless, occasionally inspersed with oil droplets. Ascospores 8 per ascus, IKI–, irregularly biseriate, colourless, fusiform with subacute ends, symmetrically 3–19-septate, not constricted at the septa; immature

ascospores with a gelatinous sheath; lumina diamond-shaped. Photobiont: *Trentepohlia*. - This genus of corticolous lichens is represented by several species in Sri Lanka, e.g. *T. eluteriae* and *T. epileucodes*.

Usnea cornuta Körb.

Thallus fruticose, corticolous or saxicolous, filamentous, erect and shrubby, dichotomously branched, 2–6(–10) cm long, the main branches inflated, the secondary branches tapering and distinctly constricted at the base, often curved. The base is the same colour as the branches, or paler. Fibrils present, thick and short, often numerous on the tips of branches. Papillae few to numerous. Soralia concentrated at branch tips. Cortex glossy and thin; medulla white, thick, forming a central chord. Apothecia rare (not seen in Sri Lankan material), lecanorine. Photobiont: chlorococcoid. Spot-tests: very variable: 1) K+ yellow turning red, C-, KC-, P + orange yellow, 2) K+ dull yellow turning reddish orange, C-, KC-, P+ deep yellow, 3) K+ yellow slowly turning orange, C-, KC-, P+ deep orange, 4) K-, C-, KC-, P+ orange yellow or, 5) K-, C-, KC-, P-. - Rare, restricted to open humid high elevation forests above 1200 m, on trees, shrubs and rocks (Horton Plains and Nuwara Eliya District).

Usnea steineri Zahlbr.

Thallus fruticose, corticolous, filamentous, reddish, erect-shrubby, the main axis concolorous with the branches, black at the base. The branching is dichotomous, with tapering to irregular branches. Spinules sparse. numerous. Pseudocyphellae present on the tubercles. Isidia and soredia absent. Medulla forming a central chord, with a reddish-orange pigment. Apothecia usually present, lecanorine, the margin with numerous cilia. Spores colourless, 1-celled. Photobiont: chlorococcoid. Spot-tests: medulla K+ yellow or yellow to red, P- or P+ orange; apothecia often KC+ orange. -Rare, restricted to high elevation humid montane forests above 1400 m, on twigs and small branches in the tree canopy. Also found in open habitats, forest relics, scrubland, and along roads within secondary montane cloud forests (Horton Plains and Nuwara Eliya District).

Usnea subcornuta Stirt.

Thallus fruticose, filamentous, shrubby to subpendent, usually greenish. Lateral branches slightly constricted at the point of attachment; main branches with annular cracks. Base pale. Fibrils present, scarce to abundant; papillae absent. Soralia usually large, with numerous isidia. Cortex glossy; medulla loose in the outer part, forming a compact central chord, with a subcortical orange pigment. Apotecia very rare (not seen in Sri Lankan material), lecanorine. Photobiont: chlorococcoid. Spot tests: medulla K+ yellow to red, P+ orange (stictic and norstictic acids). - Rare, restricted to humid high elevation forests above 1400 m, on the exposed branches of young trees, on bark or on wood in open places, in forest relics, in evergreen lower montane forests, and in secondary montane cloud forests (Kalupahana area-Knuckles mountain region).

Index

Index of the species