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Guide to the Forestcheck Monitoring Species of Cryptogams for the Forest Areas of Western Australia

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Brain Street Manjimup
2006



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Introduction

This field guide has been prepared to assist staff in recognising selected monitoring species of cryptogams encountered in the FORESTCHECK survey regions. Each species has been allocated a simple code number "species number" for ease of scoring in the field and this has been linked with a voucher specimen held at the Western Australian Herbarium, Perth, which provides a standard for comparison. A brief description and image of each of the species is presented along with habitat and strata notes. Species have been selected to encompass all three recognised strata layers and the major habitat requirements.

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SPECIES HABITATS

HABITAT	TAXA	FC SPECIES NUMBER
Organic Material	<i>Cladia aggregata</i>	1
	<i>Cladia schizopora</i>	2
	<i>Cladonia cervicornis</i> var. <i>verticellata</i>	3
	<i>Cladonia krempelhuberi</i>	4
	<i>Cladonia sulcata</i>	6
	<i>Xanthoparmelia isidiigera</i>	25
	<i>Chiloscyphus semiteres</i>	28
	<i>Fossombronia</i> sp. (leafy)	29
	<i>Barbula calycina</i>	31
	<i>Campylopus introflexus</i>	32
	<i>Dicranoloma diaphanoneuron</i>	33
Wood & Decaying Wood	<i>Cladia aggregata</i>	1
	<i>Cladia schizopora</i>	2
	<i>Cladonia cervicornis</i> var. <i>verticellata</i>	3
	<i>Cladonia krempelhuberi</i>	4
	<i>Cladonia rigida</i>	5
	<i>Calicium glaucellum</i>	7
	<i>Flavoparmelia haysomii</i>	9
	<i>Hypogymnia subphysodes</i> var. <i>subphysodes</i>	12
	? <i>Opegrapha</i> sp.	14
	<i>Ochrolechia</i> sp, (G.S. Kantavilis 306/92)	15
	<i>Pannoparmelia wilsonii</i>	16
	<i>Parmotrema reticulatum</i>	18
	<i>Ramboldia stuarti</i>	19
	<i>Tephromela atra</i>	20
	<i>Thysanothecium scutellatum</i>	22
	<i>Usnea inermis</i>	23
	<i>Cephaloziella exiliflora</i>	27
	<i>Chiloscyphus semiteres</i>	28
	<i>Frullania probosciphora</i>	30
	<i>Dicranoloma diaphanoneuron</i>	32
<i>Sematophyllum subhumile</i> var. <i>contiguum</i>	35	
Charred Wood	<i>Flavoparmelia haysomii</i>	9
	<i>Hypocenomyce foveate</i> 10	10
	<i>Hypocenomyce scalaris</i>	11
	<i>Hypogymnia subphysodes</i> var. <i>subphysodes</i>	12
	<i>Thysanothecium scutellatum</i>	22
	<i>Cephaloziella exiliflora</i>	27
	<i>Funaria hygrometrica</i>	34

HABITAT	TAXA	FC SPECIES NUMBER
Bark	<i>Cladia aggregata</i>	1
	<i>Cladia schizopora</i>	2
	<i>Cladonia rigida</i>	5
	<i>Flavoparmelia haysomii</i>	9
	<i>Hypocenomyce scalaris</i>	11
	<i>Hypogymnia subphysodes</i> var. <i>subphysodes</i>	12
	<i>Menegazzia platytrema</i>	13
	<i>Pannoparmelia wilsonii</i>	16
	<i>Parmotrema reticulatum</i>	18
	<i>Tephromela atra</i>	20
	<i>Usnea inermis</i>	23
	<i>Usnea</i> sp. (<i>leuco</i>)	24
	<i>Chiloscyphus semiteres</i>	28
	<i>Frullania probosciphora</i>	30
Soil	<i>Cladonia krempelhuberi</i>	4
	<i>Cladonia sulcata</i>	6
	<i>Paraporpidia glauca</i>	17
	<i>Fossombronia</i> sp. (<i>leafy</i>)	29
	<i>Barbula calycina</i>	31
	<i>Campylopus introflexus</i>	32
	<i>Funaria hygrometrica</i>	34
Ant Hill (Termite)	<i>Thysanothecium hookeri</i>	21
Stone	<i>Diploschistes strictus</i>	8
	<i>Paraporpidia glauca</i>	17
	<i>Xanthoparmelia isidiigera</i>	25
	<i>Xanthoparmelia notata</i>	26
	<i>Sematophyllum subhumile</i> var. <i>contiguum</i>	35

ForestCheck Indicator Species

Lichens

1-26

Taxon: *Cladia aggregata*

FC Species Number: 1

Voucher No: PERTH 07225504 (RJC 20877)

Description: False podetia 1-8 cm tall, green to brown (occasionally black) with a tangled matt appearance.

Fruiting Bodies: Present or absent, berry like clusters on tip of podetia.

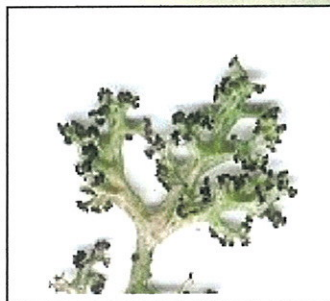
Habitat: Organic material or occasionally decaying wood or bark.

Stratal Layer: Ground.

Occurrence: Frequent.

Forest Check Districts: Donnelly, Wellington, Wellington East, Perth Hills and Blackwood Plateau

Similar Species: *Cladia inflata*.



Taxon: *Cladia schizopora*

FC Species Number: 2

Voucher No: PERTH 07240791 (RJC20848)

Description: Greenish powder with small branched black berry-like tipped podetia.

Fruiting Bodies: Podetia with black-brown berry like tops.

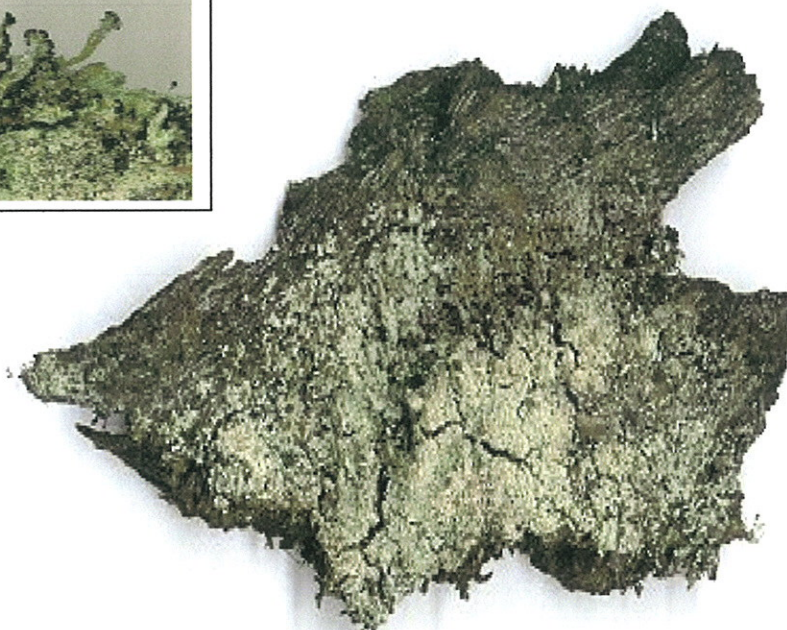
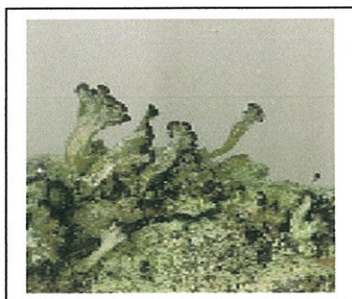
Habitat: Organic material, bark and decaying wood.

Stratal Layer: Ground.

Occurrence: Frequent.

Forest Check Districts: Donnelly, Wellington, Wellington East, Perth Hills & Blackwood Plateau.

Similar Species: *Lepraria sp.* and *Calicium sp.*



Taxon: *Cladonia cervicornis* var. *verticellata*

FC Species Number: 3

Voucher No: PERTH 06321062 (RJC17866)

Description: Erect multi tiered podetia 1.5-6 cm tall greyish green.

Fruiting Bodies: Brown to black edging podetia edge.

Habitat: Organic material or occasionally decaying wood.

Stratal Layer: Ground to shrub

Occurrence: Frequent to occasional

Forest Check Districts: Donnelly, Wellington, Wellington East, Perth Hills & Blackwood Plateau

Similar Species: *Cladonia krempelhuberi*



Taxon: *Cladonia krempelhuberi*

FC Species Number: 4

Voucher No: PERTH 07225105 (RJC20939)

Description: Erect tiered podetia 1-5 cm tall greyish green.

Fruiting Bodies: Brown to tan edging podetia.

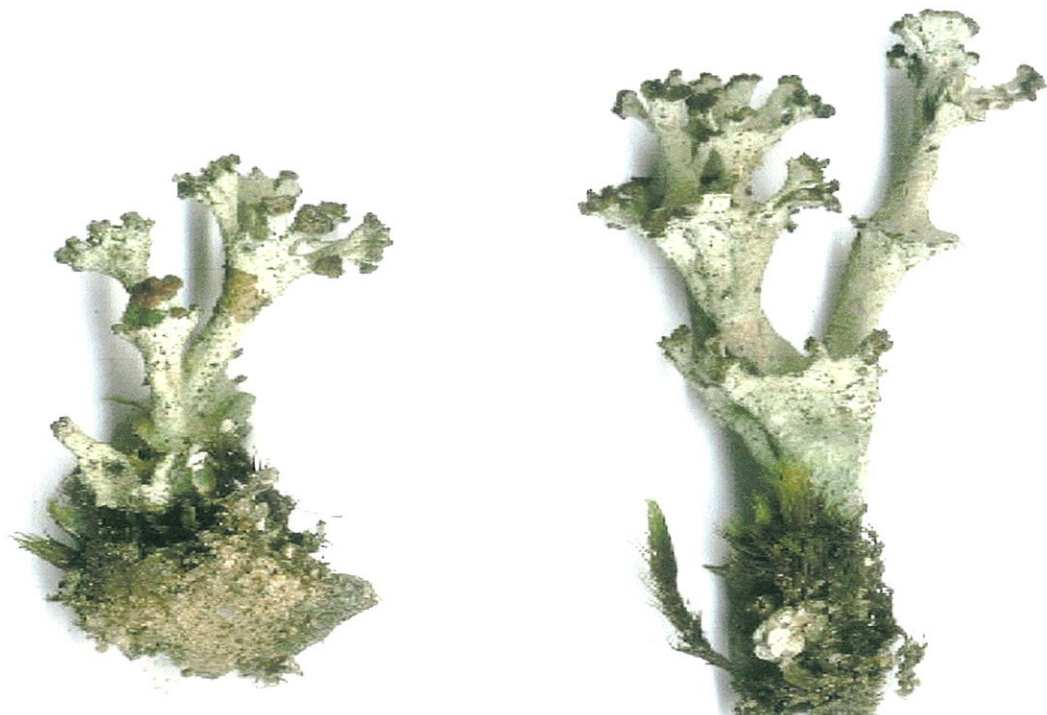
Habitat: Organic material or occasionally decaying wood.

Stratal Layer: Ground.

Occurrence: Frequent

Forest Check Districts: Donnelly, Wellington, Wellington East, Perth Hills & Blackwood Plateau.

Similar Species: *Cladonia cervicornis* var. *verticellata*.



Taxon: *Cladonia rigida*

FC Species Number: 5

Voucher No: PERTH 02821214 (DR204)

Description: Powdery greenish horn like structures.

Fruiting Bodies: Podetia not often present.

Habitat: Bark and decaying wood.

Stratal Layer: Ground-shrub.

Occurrence: Frequent.

Forest Check Districts: Donnelly, Wellington, Wellington East, Perth Hills & Blackwood Plateau.

Similar Species: *Cladonia macilenta* and *Cladonia ramulosa*.



Taxon: *Cladonia sulcata*

FC Species Number: 6

Voucher No: PERTH 07224222 (RJC20978)

Description: Erect branching podetia 0.5-1 cm tall sometimes with splitting along podetia.

Fruiting Bodies: Brown to dark brown on tips of branches.

Habitat: Organic material or soil.

Stratal Layer: Ground.

Occurrence: Occasional

Forest Check Districts: Donnelly, Wellington, Wellington East, Perth Hills & Blackwood Plateau.

Similar Species: *Cladonia tessellata*



Taxon: *Calicium glaucellum*

FC Species Number: 7

Voucher No: PERTH 07240775 (RJC20846)

Description: Minute fragile black stalked whisker with a cupulare tip, c. 0.5 mm tall. Thallus obscure.

Fruiting Bodies: Black to dark brown spored, exposed in cup like structure.

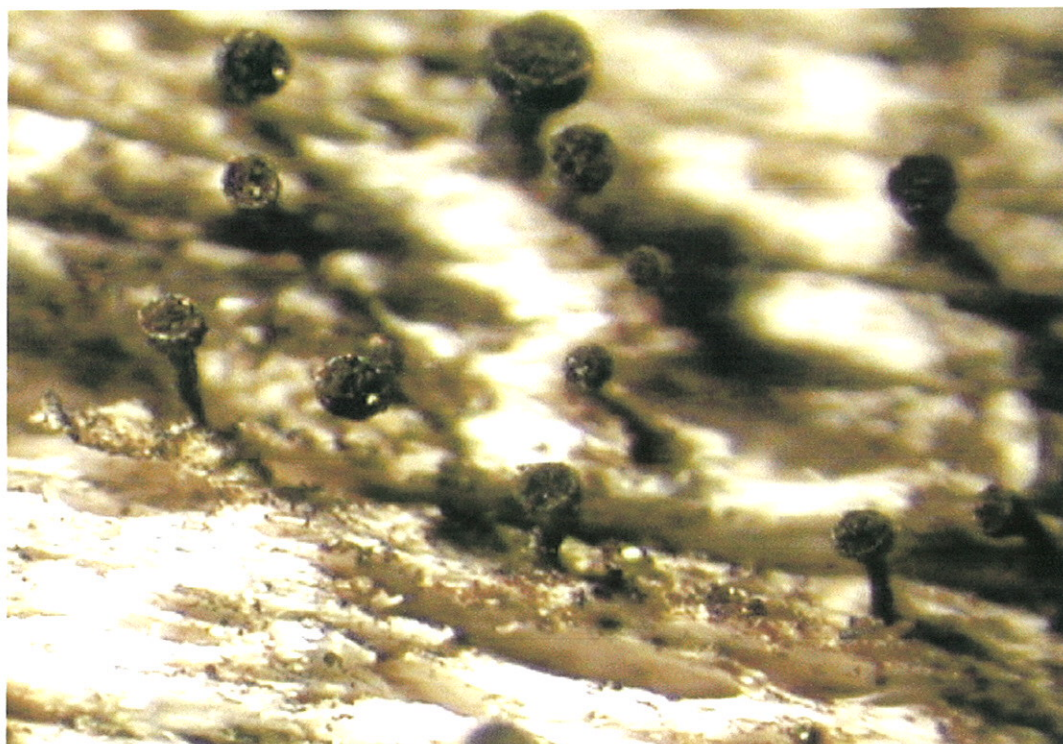
Habitat: Dead wood.

Stratal Layer: Ground to shrub

Occurrence: Occasional.

Forest Check Districts: Donnelly, Wellington, Wellington East, Perth Hills & Blackwood Plateau.

Similar Species: Other *Calicium* species.



Taxon: *Diploschistes strictus*

FC Species Number: 8

Voucher No: PERTH 07241658 (RJC20820)

Description: Crustose with frequent cracking, whitish grey.

Fruiting Bodies: Not always present

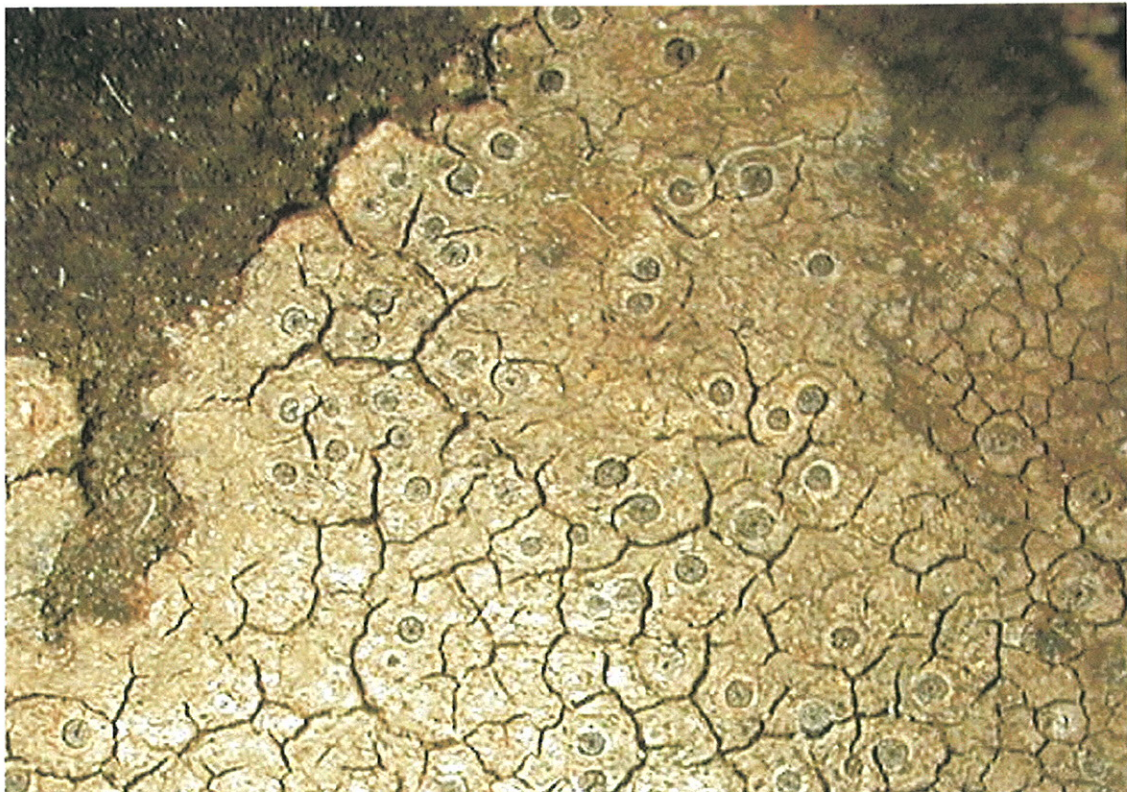
Habitat: Stone

Stratal Layer: Ground.

Occurrence: Frequent

Forest Check Districts: Donnelly, Wellington, Wellington East, Perth Hills & Blackwood Plateau.

Similar Species: *Paraporpidia glauca* and *Lecidea* sp.



Taxon: *Flavoparmelia haysomii*

FC Species Number: 9

Voucher No: PERTH 6853110 (RJC20399)

Description: Foliose yellowish green thallus.

Fruiting Bodies: Not always present

Habitat: Charred to decaying wood occasionally on bark.

Stratal Layer: Ground to shrub.

Occurrence: Frequent.

Forest Check Districts: Donnelly, Wellington, Wellington East, Perth Hills & Blackwood Plateau.

Similar Species: Other *Flavoparmelia* species.



Taxon: *Hypocenomyce foveata*

FC Species Number: 10

Voucher No: PERTH 07225318 (RJC20957)

Description: Brown scale like small thallus.

Fruiting Bodies: Occasionally seen.

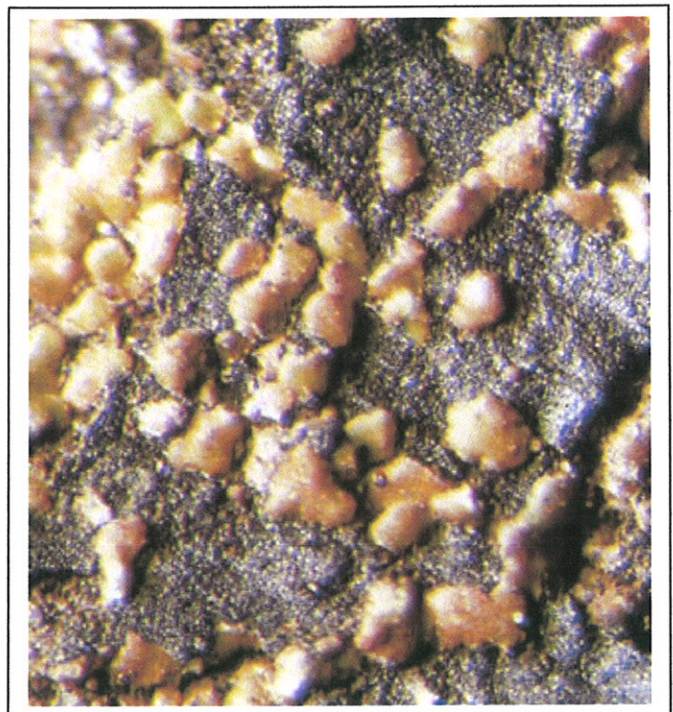
Habitat: Charred wood.

Stratal Layer: Ground to shrub.

Occurrence: Occasional.

Forest Check Districts: Donnelly, Wellington, Wellington East, Perth Hills & Blackwood Plateau.

Similar Species: Other species of *Hypocenomyce*.



Taxon: *Hypocenomyce scalaris*

FC Species Number: 11

Voucher No: PERTH 07225261 (RJC20954)

Description: Thallus small shell like, green-yellow with powdery underside.

Fruiting Bodies: Not present

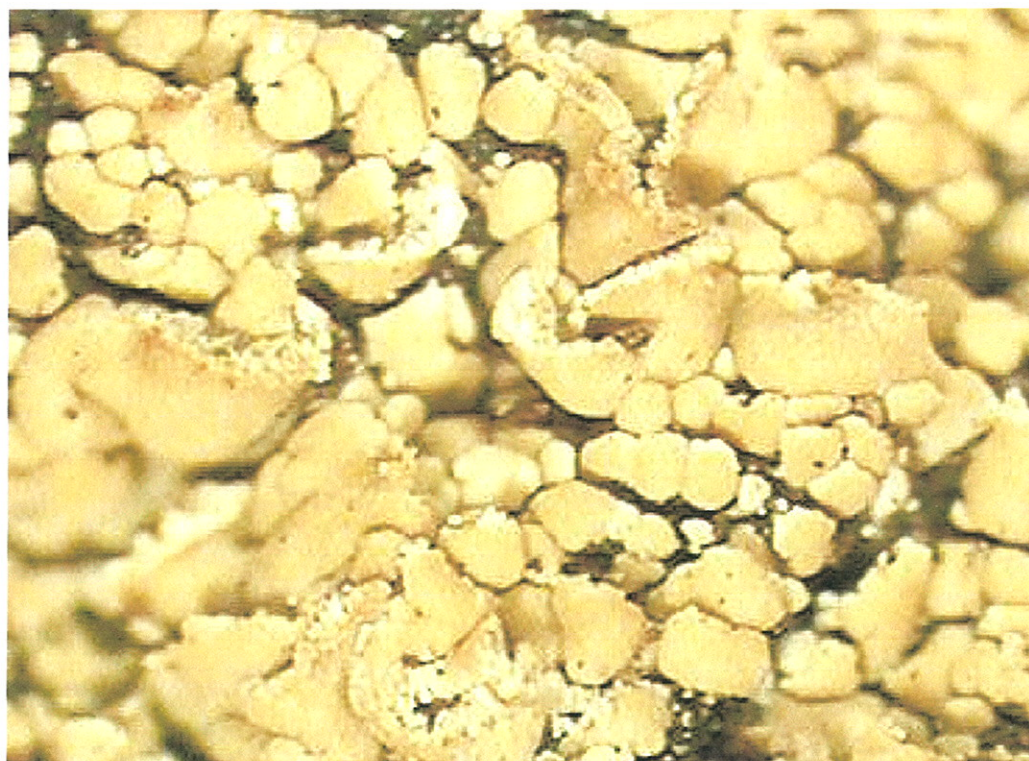
Habitat: Charred bark.

Stratal Layer: Shrub.

Occurrence: Occasional-frequent.

Forest Check Districts: Donnelly, Wellington, Wellington East, Perth Hills & Blackwood Plateau.

Similar Species: Other *Hypocenymce* sp.



Taxon: *Hypogymnia subphysodes* var. *subphysodes*

FC Species Number: 12

Voucher No: PERTH 07224893 (RJC20994)

Description: Thallus foliose grey with black underside.

Fruiting Bodies: A brown to tan disc with a rim.

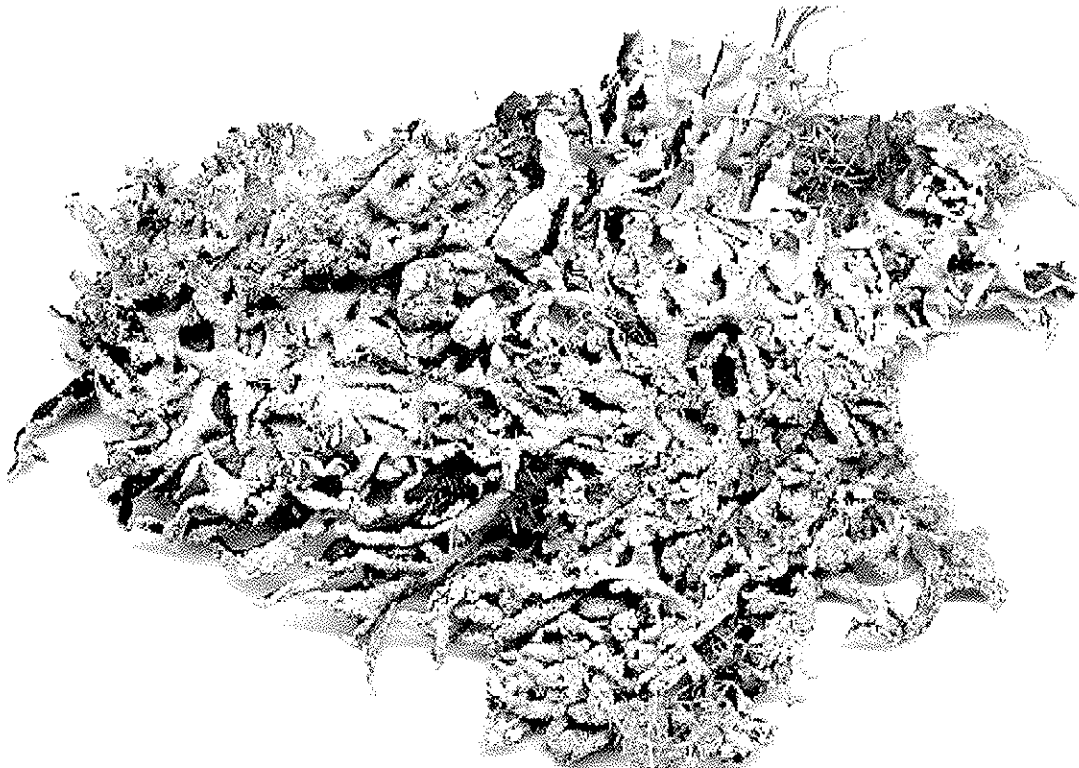
Habitat: Charred-decaying wood and bark.

Stratal Layer: Shrub to tree.

Occurrence: Frequent.

Forest Check Districts: Donnelly, Wellington, Wellington East, Perth Hills & Blackwood Plateau

Similar Species: Other subspecies of this species.



Taxon: *Menegazzia platytrema*

FC Species Number: 13

Voucher No: PERTH 07225512 (RJC20878)

Description: Thallus foliose with obvious holes in surface, usually forming a rosette.

Fruiting Bodies: A brown disc with a rim.

Habitat: Bark.

Stratal Layer: Shrub to tree.

Occurrence: Frequent -occasional.

Forest Check Districts: Donnelly, Wellington, Wellington East, Perth Hills & Blackwood Plateau.

Similar Species: *Menegazzia fertilis*.



Taxon: *?Opegrapha sp.*

FC Species Number: 14

Voucher No: PERTH 05347823 (RJC14067a)

Description: Crustose, radiating black worm like.

Fruiting Bodies: Black carbonised lyrate tube.

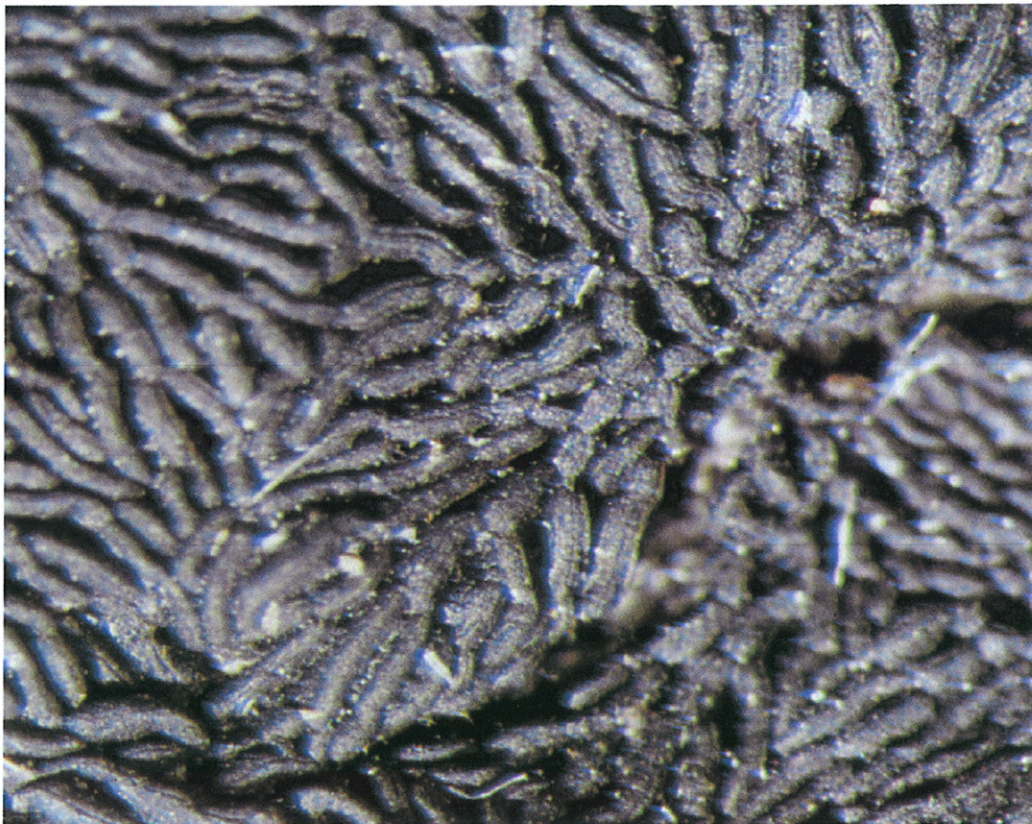
Habitat: Decaying wood.

Stratal Layer: Ground.

Occurrence: Frequent-occasional

Forest Check Districts: Donnelly, Wellington, Wellington East, Perth Hills & Blackwood Plateau.

Similar Species: *Graphis sp.*



Taxon: *Ochrolechia* sp. (G.S. Kantavilas 306/92)

FC Species Number: 15

Voucher No: PERTH 07228015 (RJC 20752)

Description: Crustose, green to yellowish, waxy.

Fruiting Bodies: Present or absent, black-cream coloured.

Habitat: Decaying wood.

Stratal Layer: Shrub.

Occurrence: Frequent.

Forest Check Districts: Donnelly, Wellington, Wellington East, Perth Hills & Blackwood Plateau.

Similar Species: *Calicium* sp. and *Pertusaria* sp.



Taxon: *Pannoparmelia wilsonii*

FC Species Number: 16

Voucher No: PERTH 07224311 (RJC20986)

Description: Foliose, branched, sometimes with powdery centre of rosette

Fruiting Bodies: Not seen

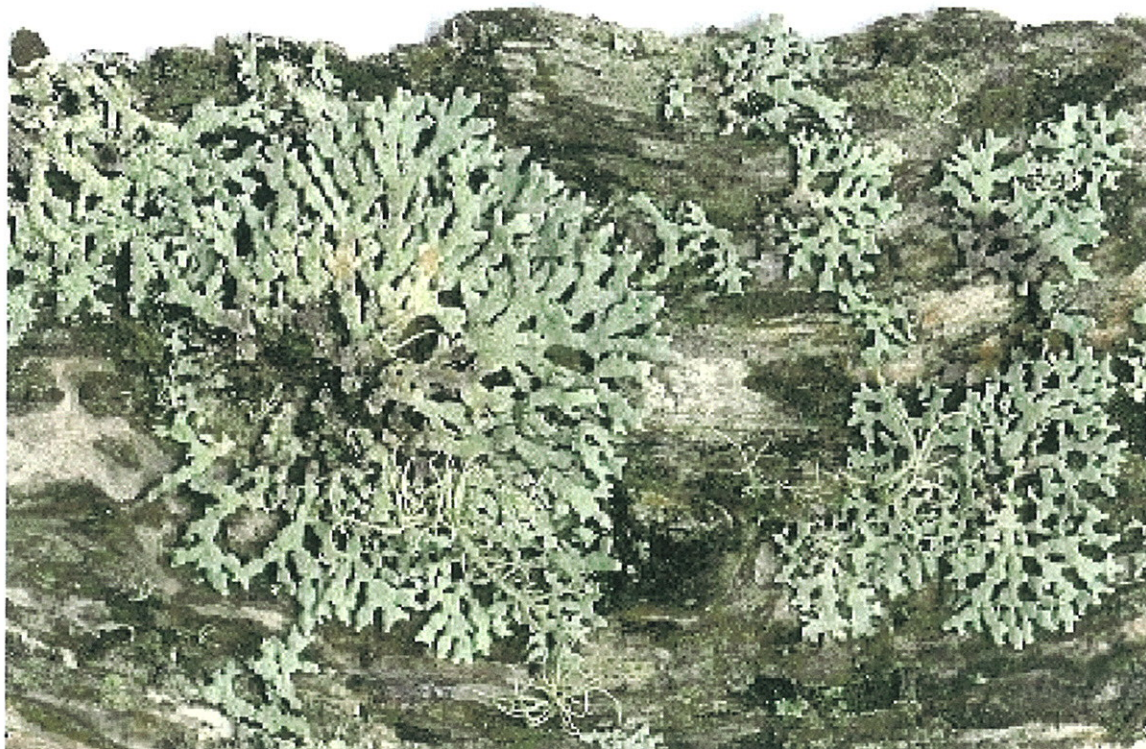
Habitat: Decaying wood and bark.

Stratal Layer: Shrub.

Occurrence: Frequent-occasional.

Forest Check Districts: Donnelly, Wellington, Wellington East, Perth Hills & Blackwood Plateau.

Similar Species: *Hypogymnia subphysodes*



Taxon: *Paraporpidia glauca*

FC Species Number: 17

Voucher No: PERTH 07224451 (RJC 20999)

Description: Crustose greyish white crust sometimes tinged yellow.

Fruiting Bodies: Mainly absent, black convex disc when present.

Habitat: Stone occasionally on soil.

Stratal Layer: Ground.

Occurrence. Frequent.

Forest Check Districts: Donnelly, Wellington, Wellington East, Perth Hills & Blackwood Plateau.

Similar Species: *Diploschistes sp. and Trapelia sp.*



Taxon: *Parmotrema reticulatum*

FC Species Number: 18

Voucher No: PERTH 07240406 (RJC20901)

Description: Foliose, branched, green with cracked surface and black rhizines

Fruiting Bodies: A disc not often seen.

Habitat: Bark to decaying wood.

Stratal Layer: Shrub.

Occurrence: Occasional.

Forest Check Districts: Donnelly, Wellington, Wellington East, Perth Hills & Blackwood Plateau.

Similar Species: *Parmotrema cooperi*.



Taxon: *Ramboldia stuartii*

FC Species Number: 19

Voucher No: PERTH 07224486 (RJC21001)

Description: Crustose but not obvious

Fruiting Bodies: A disc, black.

Habitat: Wood.

Stratal Layer: Shrub.

Occurrence: Occasional.

Forest Check Districts: Donnelly, Wellington, Wellington East, Perth Hills & Blackwood Plateau.

Similar Species:



Taxon: *Tephromela atra*

FC Species Number: 20

Voucher No: PERTH 07225776 (RJC20901)

Description: Crustose, white.

Fruiting Bodies: Disc, black with white rim.

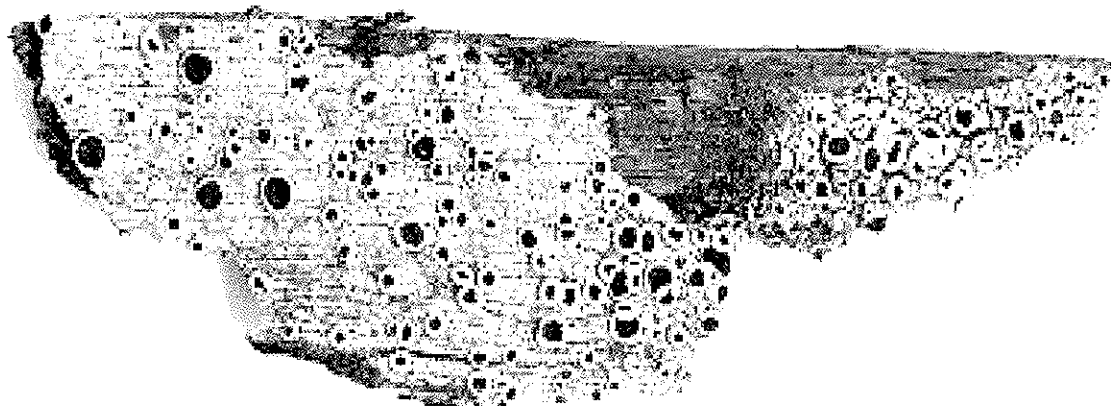
Habitat: Decaying wood and occasionally bark.

Stratal Layer: Shrub to tree.

Occurrence: Frequent-occasional.

Forest Check Districts: Donnelly, Wellington, Wellington East, Perth Hills & Blackwood Plateau.

Similar Species:



Taxon: *Thysanothecium hookeri*

FC Species Number: 21

Voucher No: PERTH 07224265 (RJC20982)

Description: Green lumpy scales with large fruiting fans.

Fruiting Bodies: Podetia brown and fan like.

Habitat: Termite mounds.

Stratal Layer: Ground.

Occurrence: Occasional.

Forest Check Districts: Donnelly, Wellington, Wellington East, Perth Hills & Blackwood Plateau.

Similar Species: *Thysanothecium scutellatum*



Taxon: *Thysanothecium scutellatum*

FC Species Number: 22

Voucher No: PERTH 07224907 (RJC20994)

Description: Green scales with large fruiting fans.

Fruiting Bodies: Podetia cream to brown and fan like.

Habitat: Decaying wood and charred wood.

Stratal Layer: Ground-shrub.

Occurrence: Frequent.

Forest Check Districts: Donnelly, Wellington, Wellington East, Perth Hills & Blackwood Plateau.

Similar Species: *Thysanothecium hookeri*



Taxon: *Usnea inermis*

FC Species Number: 23

Voucher No: PERTH 07225431 (RJC20969)

Description: Filamentous, branched, yellowish green

Fruiting Bodies: Not seen.

Habitat: Decaying wood and bark.

Stratal Layer: Tree-shrub.

Occurrence: Frequent-occasional.

Forest Check Districts: Donnelly, Wellington, Wellington East, Perth Hills & Blackwood Plateau.

Similar Species: *Usnea sp.*



Taxon: *Usnea sp. (leuco)*

FC Species Number: 24

Voucher No: PERTH 06320945 (RJC17874)

Description: Filamentous, branched, yellowish green.

Fruiting Bodies: Not seen but occasionally seen with black tar spots (Biotorpsis sp).

Habitat: Bark of *Leucopogon capitellatus*.

Stratal Layer: Shrub.

Occurrence: Occasional.

Forest Check Districts: Donnelly, Wellington, Wellington East, Perth Hills & Blackwood Plateau.

Similar Species: *Usnea sp.*



Taxon: *Xanthoparmelia isidiigera*

FC Species Number: 25

Voucher No: PERTH 03877612 (NS830699)

Description: Foliose greyish green.

Fruiting Bodies: Mainly absent or a disc if present.

Habitat: Stone or organic material (moss mats).

Stratal Layer: Ground.

Occurrence: Occasional

Forest Check Districts: Donnelly, Wellington, Wellington East, Perth Hills & Blackwood Plateau.

Similar Species: Other *Xanthoparmelia* sp.



Taxon: *Xanthoparmelia notata*

FC Species Number: 26

Voucher No: PERTH 05542170 (JAE 41057)

Description: Foliose greyish green.

Fruiting Bodies: Mainly absent or a disc if present.

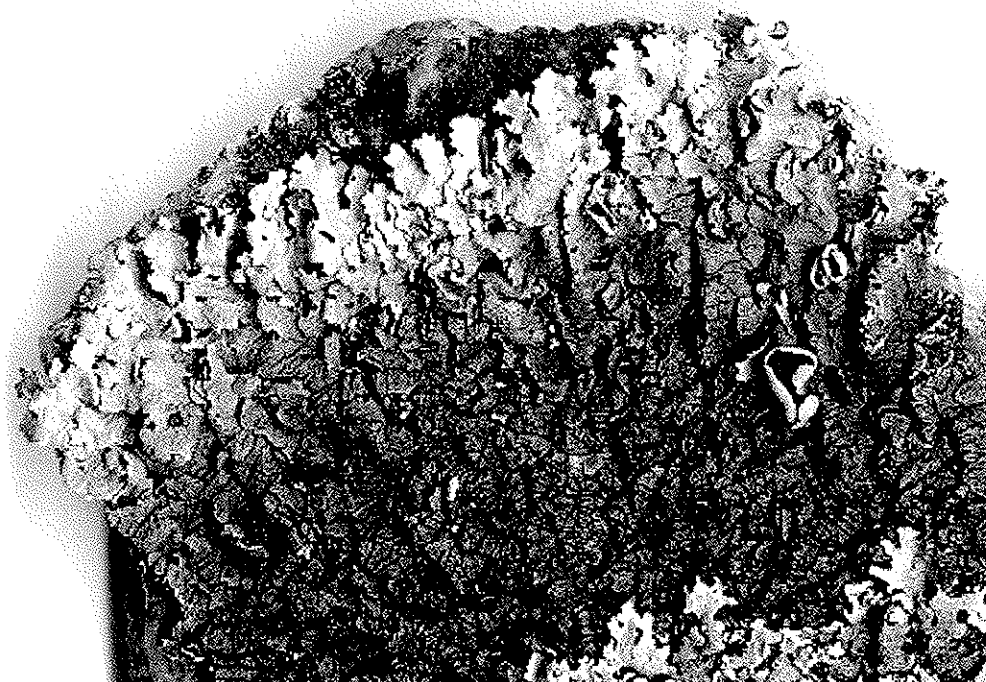
Habitat: Stone.

Stratal Layer: Ground.

Occurrence: Occasional.

Forest Check Districts: Donnelly, Wellington, Wellington East, Perth Hills & Blackwood Plateau.

Similar Species: Other *Xanthoparmelia* sp.



ForestCheck Indicator Species

Liverworts

27-30

Taxon: *Cephaloziella exiliflora*

FC Species Number: 27

Voucher No: PERTH 6642373 (RJC 20276)

Description: Thallus leafy, minute, green to red brown mat.

Fruiting Bodies: Occasionally seen.

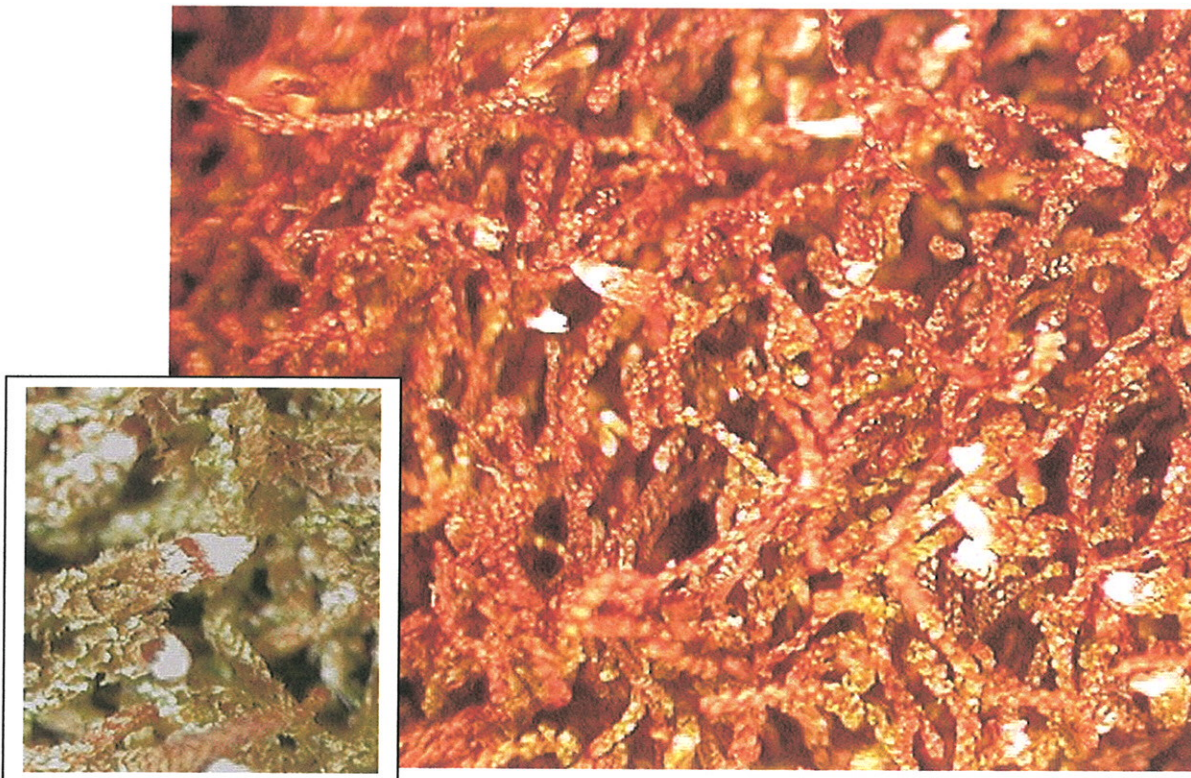
Habitat: Charred to decaying wood.

Stratal Layer: Ground to shrub.

Occurrence: Occasional.

Forest Check Districts: Donnelly, Wellington, Wellington East, Perth Hills & Blackwood Plateau.

Similar Species:



Taxon: *Chiloscyphus semiteres*

FC Species Number: 28

Voucher No: PERTH 06318959 (RJC 18195)

Description: Thallus leafy, yellow green to yellowish.

Fruiting Bodies: Not obvious.

Habitat: Decaying wood and organic material.

Stratal Layer: Ground to shrub.

Occurrence: Frequent.

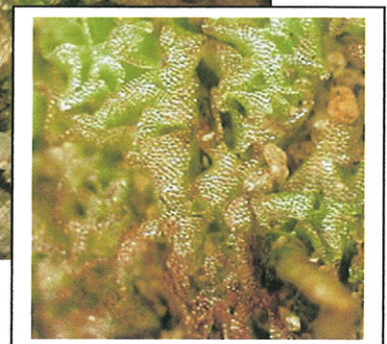
Forest Check Districts: Donnelly, Wellington, Wellington East, Perth Hills & Blackwood Plateau.

Similar Species:



Taxon: *Fossombronia* sp. (leafy)
FC Species Number: 29
Voucher No: PERTH 06432026 (RJC 18991)
Description: Thallus leafy, yellow green to red brown.
Fruiting Bodies: Not obvious.
Habitat: Soil organic material.
Stratal Layer: Ground.
Occurrence: Occasional.
Forest Check Districts: Donnelly, Wellington, Wellington East, Perth Hills & Blackwood Plateau.

Similar Species:



Taxon: *Frullania probosciphora*

FC Species Number: 30

Voucher No: PERTH 6642136 (RJC 20270a).

Description: Leafy liverwort, red green, forming bead like strands.

Fruiting Bodies: Not obvious.

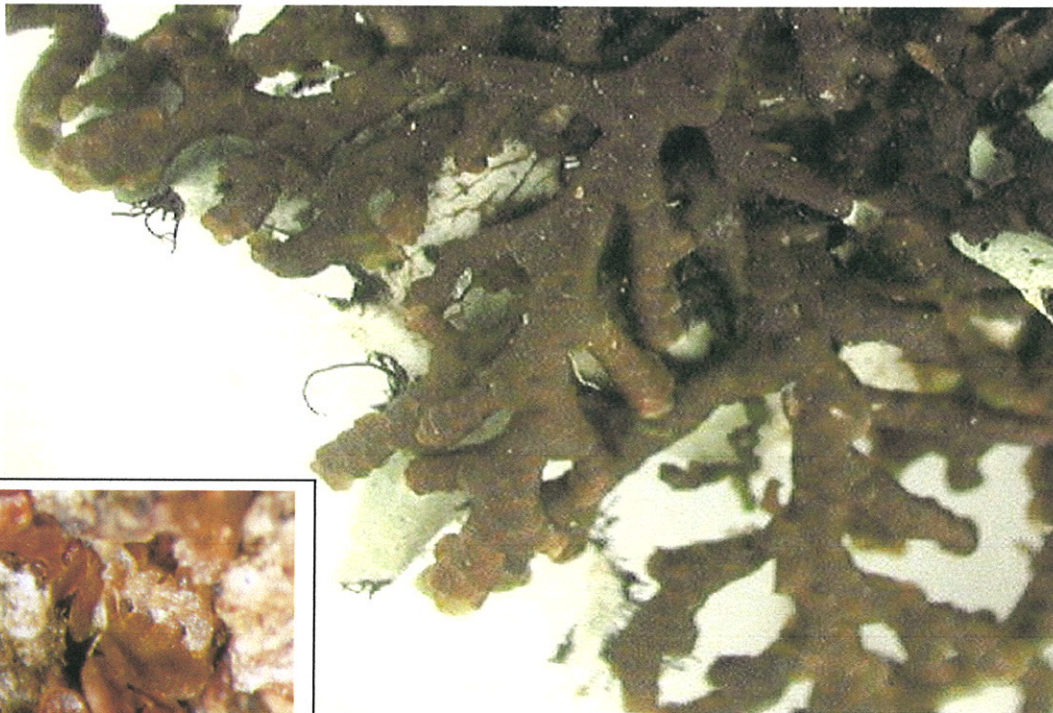
Habitat: Decaying wood to old bark.

Stratal Layer: Tree.

Occurrence: Frequent.

Forest Check Districts: Donnelly, Wellington, Wellington East, Perth Hills & Blackwood Plateau.

Similar Species: Other *Frullania* sp.



ForestCheck Indicator Species

Mosses

31-35

Taxon: *Barbula calycina*

FC Species Number: 31

Voucher No: PERTH 07225032 (RJC 20932)

Description: Moss leafy, green forming mats.

Fruiting Bodies: Commonly seen, erect above mat.

Habitat: Organic material to soil.

Stratal Layer: Ground.

Occurrence: Frequent.

Forest Check Districts: Donnelly, Wellington, Wellington East, Perth Hills & Blackwood Plateau.

Similar Species: Other moss species.



Taxon: *Campylopus introflexus*

FC Species Number: 32

Voucher No: PERTH 07224168 (RJC 20972)

Description: Moss leafy, green with white tips, forming mats.

Fruiting Bodies: Commonly seen, erect above mat.

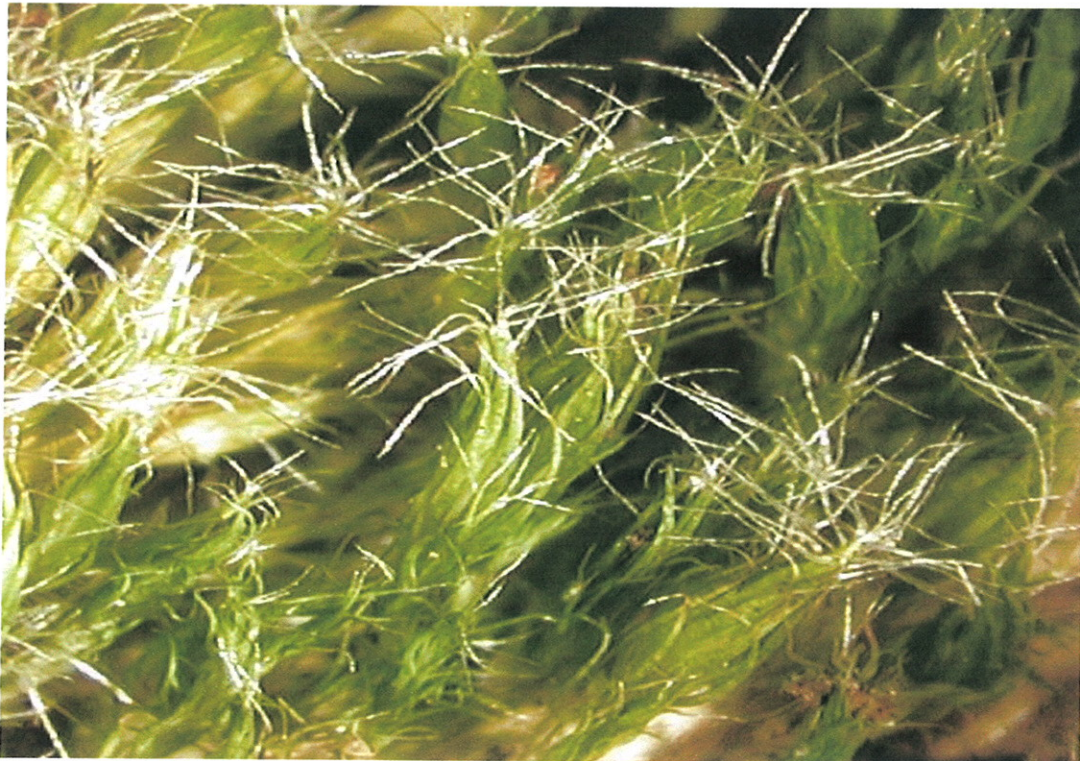
Habitat: Organic material to soil.

Stratal Layer: Ground to shrub.

Occurrence: Frequent.

Forest Check Districts: Donnelly, Wellington, Wellington East, Perth Hills & Blackwood Plateau.

Similar Species: *Campylopus* sp.



Taxon: *Dicranoloma diaphanoneuron*

FC Species Number: 33

Voucher No: PERTH 07240961 (RJC 20864)

Description: Moss leafy, bright green, forming mats.

Fruiting Bodies: Commonly seen, erect above mat.

Habitat: Organic material to decaying wood.

Stratal Layer: Shrub.

Occurrence: Frequent.

Forest Check Districts: Donnelly, Wellington, Wellington East, Perth Hills & Blackwood Plateau.

Similar Species: *Dicranoloma* sp.



Taxon: *Funaria hygrometrica*

FC Species Number: 34

Voucher No: PERTH 07240465 (RJC 20832)

Description: Moss, green to yellow, mat.

Fruiting Bodies: Commonly seen, erect above mat.

Habitat: Ash beds to soil.

Stratal Layer: Ground.

Occurrence: Frequent dominate after fire.

Forest Check Districts: Donnelly, Wellington, Wellington East, Perth Hills & Blackwood Plateau.

Similar Species: Other moss species.



Taxon: *Sematophyllum subhumile* var. *contiguum*

FC Species Number: 35

Voucher No: PERTH 6895603 (RJC 20222)

Description: Moss leafy, red green, forming mats.

Fruiting Bodies: Commonly seen, erect above mat.

Habitat: Stone to decaying wood.

Stratal Layer: Ground.

Occurrence: Frequent.

Forest Check Districts: Donnelly, Wellington, Wellington East, Perth Hills & Blackwood Plateau.

Similar Species: *Sematophyllum* sp.

