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LICHENS OF SOUTH WEST TASMANIA

PART II MOUNTAIN PEAKS AND PLATEAUX

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This is an extension of the preliminary lichen species listing given in Part I and hence the same limitations, boundaries and definitions apply. A further limitation arises from the cursory nature of some collections and because, particularly on dolerite peaks, the lichens are often hidden in crannies and gaps between boulders. Any further material either from the listed or unlisted peaks would be appreciated.

The species lists are given in Table I, which includes abbreviated information on lichen type, substrate and abundance. The abbreviations used are as in Part I.

TABLE I - LICHENS OF MOUNTAIN PEAKS AND PLATEAUX OF S. W. TASMANIA

1. Mt. Picton, Dolerite, Fire Damaged about 1946, 1327 m

Hypogymnia lugubris	Fo, R, 4	Stereocaulon caespitosum	SFr, R, 4
Siphula complanata	Fr, R, 3	" trachyphloeum ¹	Fr, R, 3
" fragilis	Fr, R, 3		

¹ Species recently discovered in Tasmania and N.Z. Description in press.

2. Mt. Mueller Peaks & Plateau Dolerite 1120 - 1200 m

Baeomyces heteromorphus	SFr, S, 3	Hypogymnia lugubris	Fo, T, 1
Cladia fuliginosa	Fr, S, 2	Siphula torulosa	Fr, S, 4
Cladina cf arbuscula	Fr, S, 3	Sphaerophorus tener	Fo, S, T, 1
" leptoclada	Fr, S, 3	Stereocaulon caespitosum	SFr, R, 2
Cladonia boryii	Fr, S, 2	Thamnolia vermicularis	Fr, S, R, 3
" capitata	Fr, S, 2	Umbilicaria cylindrica	Fo, R, 2
" pleurota	Fr, S, 2	Usnea capillacea	Fr, T, 3
" subdigitata	Fr, S, 2	" glomerata	Fr, R, 2
Diploschistes scruposus	C, R, 4		

3. Mt. Anne Area. Mostly dolerite with quartzite outcrops3.1 Mt. Sarah Jane. Dolerite. Cursory collection, 1180 m

<i>Siphula fragilis</i>	Fr, R, 3	<i>Umbilicaria cylindrica</i>	Fo, R, 3
<i>Sphaerophorus tener</i>	Fr, R, 3		

3.2 Mt. Anne. Dolerite. 1320 m

<i>Diploshistes scruposus</i>	C, R, 4	<i>Stereocaulon caespitosum</i>	SFr, R, 4
<i>Hypogymnia lugubris</i>	Fo, R, 4	" <i>vesuvianum</i>	Fr, R, 3
<i>Siphula fragilis</i>	Fr, R, 4	<i>Umbilicaria cylindrica</i>	Fo, R, 3

3.3 Mt. Eliza. Dolerite. 1289 m

<i>Buellia pulchella</i>	C, R, 4	<i>Stereocaulon corticalum</i>	Fr, R, 4
<i>Pertusaria</i> sp.	C, R, 1	" <i>ramulosum</i>	Fr, R, 3
<i>Sphaerophorus tener</i>	Fr, R, 2	" <i>trachyphloeum</i> ²	Fr, R, 3

² Species recently discovered in Tasmania and N.Z. Description in press.

3.4 Plateau near Mt. Eliza. Dolerite. 1240 m

<i>Baeomyces heteromorphus</i>	SFr, S, 4	<i>Cladonia subdigitata</i>	Fr, S, 4
<i>Cladia fuliginosa</i>	Fr, S, 2	<i>Coccotrema curcubitula</i>	C, S, 1
" <i>leptoclada</i>	Fr, S, 2	<i>Siphula complanata</i>	Fr, S, 2
<i>Cladonia murrayii</i>	Fr, S, 4	" <i>fragilis</i>	Fr, S, 2

3.5. Boulders on Anne-Eliza Plateau. Dolerite. 1220 m

<i>Biatora</i> sp.	C, R, 3	<i>Parmelia signifera</i>	Fo, R, 2
<i>Diploshistes scruposus</i>	C, R, 2	<i>Sphaerophorus tener</i>	Fr, R, 2
<i>Hypogymnia lugubris</i>	Fo, R, 2	<i>Stereocaulon caespitosum</i>	SFr, R, 2

3.6 Quartzite Peak area. Quartzite. 1320 m

<i>Cornicularia aculeata</i>	Fr, S, 3	<i>Siphula complanata</i>	Fr, S, 1
<i>Hypogymnia alpicola</i>	SFo, R, 1	<i>Sphaerophorus tener</i>	Fr, R, 2
<i>Rhizocarpon geographicum</i>	C, R, 1	<i>Usnea glomerata</i>	Fr, R, 2

4. Mt. Wedge. Dolerite. Fire damaged between 1909 and 1953

<i>Buellia pulchella</i>	C, S, 4	<i>Cladina leptoclada</i>	Fr, S, 3
<i>Cladia aggregata</i>	Fr, S, 3	<i>Stereocaulon ramulosum</i>	Fr, S, 3

5. Mt. La Perouse. Sandstone. Cursory Collection. 1157 m

<i>Parmelia signifera</i>	Fo, R, 3	<i>Siphula complanata</i>	Fr, S, 3
<i>Rhizocarpon geographicum</i>	C, R, 3	<i>Stereocaulon ramulosum</i>	Fr, R, 3

6. Mt. Snowy. Dolerite. 1160 m

<i>Cladia fuliginosa</i>	Fr, R, 2	<i>Siphula fragilis</i>	Fr, R, 2
<i>Hypogymnia lugubris</i>	Fo, R, 2	" <i>torulosa</i>	Fr, R, 2
<i>Psoroma hypnorum</i>	C, S, 4	<i>Sphaerophorus tener</i>	Fr, R, 2
<i>Siphula complanata</i>	Fr, R, 2	<i>Stereocaulon caespitosum</i>	SFr, R, 4
" <i>foliacea</i>	Fr, R, 2		

7. Mt. Hartz. Peak & Plateau7.1 Mt. Hartz Peak. Dolerite. 1255 m

Baeomyces heteromorphus	SFr, R, 3	Lecidea cf achropholia	C, R, 4
Bilimbia sp.	C, P, 3	Menegazzia aeneofusca	Fo, R, 4
Cladia aggregata	Fr, S, 3	Pertusaria sp.	C, R, 3
Cladonia boryii	Fr, S, 3	Siphula complanata	Fr, R, 3
" subdigitata	Fr, S, 3	" fragilis	Fr, S, 3
Hypogymnia lugubris	Fo, R, 3	Sphaerophorus tener	Fr, R, 3

7.2 Mt. Hartz Plateau. Dolerite. 760 - 1000 m

Baeomyces fungoides	SFr, S, 2	Cladia sullivanii	Fr, S, 1
Cladia aggregata	Fr, S, 1	Cladia leptoclada	Fr, S, 3
" " f. inflata	Fr, S, 1	Coccotrema curcubitula	C, S, 4
" fuliginosa	Fr, S, 1	Placopsis brevilobata	C, R, 2
" retipora	Fr, S, 1		

8. The Needles - Peaks & Plateau. Quartzite. 1000 m

Aspicilia alpina	C, R, 2	Menegazzia aeneofusca	Fo, R, 4
Cladia aggregata	Fr, S, 3	" albida	Fo, R, 4
" retipora	Fr, S, 2	" bullata	Fo, R, 3
" sullivanii	Fr, S, 3	Ochrolechia sp.	C, R, 4
Cladina cf. arbuscula	Fr, S, 2	Parmelia signifera	Fo, R, 2
Cladonia murrayii	Fr, S, 1	Pseudocyphellaria	
" pleurota	Fr, S, 2	pseudosticta	Fo, R, 2
" subdigitata	Fr, S, 2	Siphula moorii	Fr, S, 1
		Sphaerophoropsis	
		stereocaulonoides	SFr, S, 3
" cf. subrangiformis	Fr, S, 2	Sphaerophorus tener	Fr, R, 2
Cystocoleus niger	SFr, R, 4	Umbilicaria cylindrica	Fo, R, 2
Hypogymnia lugubris	Fo, R, 3	Usnea glomerata	Fr, R, 1
Leptotrema sp. 3	C, S, 4		

³ Undescribed; recently discovered Tasmanian endemic.

9. Tim Shea. Quartzite conglomerate. 952 m

Baeomyces heteromorphus	SFr, S, 3	Hypogymnia lugubris	Fo, T, 2
Cladia aggregata	Fr, S, R, 3	Lepotrema sp. 5	C, T, 4
" retipora	Fr, S, 2	Menegazzia aeneofusca	Fo, R, 4
" sullivanii	Fr, S, 2	Parmelia signifera	Fo, R, 2
Cladonia cornuta	Fr, S, 3	Siphula complanata	Fr, S, 2
" murrayii	Fr, S, 2	Sphaerophorus	
		melanocarpus	Fr, R, 3
" pleurota	Fr, S, 2	" tener	Fr, R, 3
" cf. subrangiformis	Fr, S, 2	Stereocaulon ramulosum	Fr, R, 2
" verticillata	Fr, S, 2	Umbilicaria cylindrica	Fo, R, 1
Cystocoleus niger	SFr, R, 4	" polyphylla	Fo, R, 2
		Usnea glomerata	Fr, R, 2

³ Undescribed; recently discovered Tasmanian endemic.

The species lists of Table 1 indicate an individualistic lichen flora for each mountain which cannot be generalised. The main factors affecting the floras are probably fire history and climate, but lack of information precludes detailed comment. The main features apparent at the present time are :-

1. Few species on peaks obviously burnt, e.g. Picton and Wedge.
2. Many more species on quartzite peaks (e.g. Needles and Tim Shea), but it is not clear if this is due to substrate or lower altitude.
3. More species on doleritic plateaux than doleritic peaks, due to more shelter and greater diversity of habitat.
4. Most common and widespread species are *Baeomyces heteromorphus*, *Cladia aggregata*, *Cladina leptoclada*, *Hypogymnia lugubris*, *Parmelia signifera*, *Siphula complanata*, *Siphula fragilis*, *Sphaerophorus tener*, *Stereocaulon caespitosum* and *Umbilicaria cylindrica*.
5. Some species expected to be commonly present (from observations on other mountains) are either rare (e.g. *Thamnomlia vermicularis*) or absent (e.g. *Agyrophora subglabra*, *Neuropogon acromelanus*).

ERRATUM

Part I (Tasm. Nat. No. 45) contains several errors on page 4:
 4th last para. Table 2, Section 4, should read Table 2, Section 1.
 3rd last para. Table 2, Section 5, should read Table 2, Section 7.

TASMANIAN AQUATIC NON-MARINE MOLLUSCA.

PART II LYMNAEA

Ron. C. Kershaw.

(Honorary Associate in Malacology, Queen Victoria Museum).

INTRODUCTION:

Some aspects of the distribution and occurrence of *Lymnaea tomentosa* in Tasmania are given. The danger of the possible introduction of *Lymnaea columella* is discussed. To assist naturalists recognise the two species brief descriptions are given with references to recent work.

Lymnaea tomentosa (Pfeiffer).

The snail is widely distributed in the north, midlands and south of the state, but not in the north-west or the Huon Valley on present knowledge. Stephens has referred (1975) to its absence from the Huon. Further check may be desirable as *L. huonensis* Tenison Woods 1876 was named from the Huon. I can find no modern record.

Hubendick (1951) has described the animal fully, but his work is not readily available. The shell has been figured by Kershaw (1975) and Stephens (1975). A great deal of interest has been shown by Philip Munday of Riverside High School near Launceston. The following notes are mainly from snails collected by him from the School dam.

The animal is tan-grey speckled with deep seated white flecks. The foot is very thin broad spatulate posteriorly and distinctly paler than the body. The tentacles are relatively large flat triangular normally resting flat laterally. They may be held erect in young animals. The shell in these is greyish yellow horn with dark mottles and bold longitudinal ribs. Animals collected in early spring to early summer included young but only adults were found by me in June.

ECOLOGY:

L. tomentosa is found at the water's edge in dams often attached to vegetation. It likes the underside of leaves just in the water. Shallow water and marshy areas with clayey mud seem most likely sites. Any salinity seems unsuitable but much remains to be done on the habitat in Tasmania. I am not able to establish any relationship to climate. The significant feature is the presence of persistent moisture throughout the year. Small areas may be all that is necessary to ensure snail survival in dry periods. As the snail is capable of self-fertilisation only a few animals need to survive to reproduce a viable population.

Lymnaea columella Say.

This species has been introduced into New South Wales and Western Australia. Ponder (1975) has discussed the former and Chalmer and Kendrick (1975) the latter situation. The snail has already spread widely after introduction into New Zealand. There is considerable risk that it may reach Tasmania. As it is a more vigorous snail than our present species and a more effective vector of liver fluke, the danger is apparent. The potential effect on the rural industry is emphasised.

Climo and Pullan (1972) give comparisons between the two species. The shell of L. columella is illustrated by both Ponder (1. c.) and Chalmer and Kendrick (1. c.). In general sufficient information is available for tentative identification should the snail reach Tasmania. Provided no delay occurs in identification it may be possible to achieve quick control.

To assist interested naturalists the following points may be made. The shell is more elongate less variable than the rather globose L. tomentosa, but typical of the family. The animal is described as black or very dark grey. The tentacles which are also triangular, are small and tend to point forward when the animal is crawling. Climo and Pullan state that spiral lines are always absent in L. tomentosa though present in L. columella. In Tasmania the former species has very fine spiral lines so this is not a reliable feature.

Snails may be introduced in various ways. One of these is via the stocking of the home aquarium. To facilitate control of exotic species from this source do not empty discarded water into the drainage system. It should be treated with formalin or boiled if there is a risk of entering drains.

PRESERVATION OF FRESHWATER SNAILS:

Menthol is commonly used to relax snails. As it is becoming expensive I have adopted the following method to obtain more effective usage. Prepare a solution of menthol by mixing a dozen or so powdered crystals in about $\frac{1}{2}$ litre clean water. Mix thoroughly. Wash the snails by using a fine mesh kitchen sieve and place in a small jar with some water. As soon as possible, not more than a few hours, fill the jar from the stock solution and secure the top to exclude air. The snails should relax and drown. Within 24 hours drain off the solution into a suitable container and transfer the snails to preservative. The dilute menthol may be re-used once or twice more before discarding. How often I have not yet established.

For permanent preservation fix the snails in neutralised formalin for seven days, then transfer to 70% alcohol. Snails for study use or for sending to a museum can be placed immediately in 70% alcohol after relaxing. After several days they may be forwarded in a sealed container with cotton wool moistened with alcohol. The menthol solution if kept carefully sealed (and labelled) will serve many lots of snails over a period.

The assistance of naturalists in obtaining snails, particularly Lymnaea, for research and monitoring purposes will be greatly valued. Snails may be sent to the Tasmanian Museum. (attent. Mrs. E. Turner), Box 1164 M, P.O. Hobart; to the Queen Victoria Museum (attent. R. Kershaw), Wellington Street, Launceston or to the Chief Veterinary Pathologist, C/- Department Agriculture, Mt. Pleasant Laboratories, P.O. Box 46, South Launceston.

Please supply details of locality where found and method of preservation. Any further details supplied will be valued. Animals may be sent alive if placed in a suitable sealed container with some water and cotton wool or vegetable matter and labelled 'live snails'. Acknowledgement will be made.

ACKNOWLEDGEMENTS:

The writer is grateful for the interest and assistance of Philip Munday and the Headmaster, Mr. Childs of the Riverside High School. The use of a microscope supplied by the Science and Industry Endowment Fund is much appreciated. I am grateful to Department of Agriculture Officers for their help.

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NESTING OF BLACKBIRD

G.S. Dodson

In 1972 a pair of Blackbirds built in a Kunzea baxteri outside the kitchen window, laid 4 eggs, all hatched. They immediately built another nest in a japonica and laid 4 eggs. Two hatched, the other two having been removed by us. As soon as these had flown, the female proceeded to lay 5 eggs in the first nest in the Kunzea, and four of these hatched. The fifth egg was fertile, but the chick did not hatch.

In 1974 the following occurred in the same nest in a bougainvillea.

September

8 - 11 Laid 4 eggs
2 eggs removed
25 2 young hatched

October

9 2 young flew
13 - 17 Laid 5 eggs
3 eggs removed
31 2 young due but did not hatch.
Female sat till 5 or 6 Nov., less frequent towards the end.

November

7 - 11 Laid 5 eggs. There were now 7 eggs in the nest.
22 2 young hatched
25 3rd young hatched

December

6 1st and 2nd young flew
7 3rd young flew

The 4 eggs left in the nest proved to be infertile.

BIRDS OF THE GRANVILLE HARBOUR DISTRICT

Peter Fielding.

INTRODUCTION

The area considered here is on the west coast of Tasmania, from the Little Henty River to the Newdegate River. Zeehan is the inland limit of the area studied. The habitats generally are typical of the cold-wet western third of the island: sedgeland, shrub moor, sphagnum bog, wet mallee, wet shrub, wet sclerophyll and mixed Eucalyptus/Nothofagus forests, temperate rainforest, dry Banksia scrub, tall open eucalypt forest and paddocks. The area is mountainous, the highest peak being Mount Agnew, 846m, and there are numerous creeks. The main river is the Little Henty. Cumberland Lake (440m) was dammed to create power for a now disused mine near Trial Harbour. Granville Harbour has an area of rich kraznozem soil which is used for agriculture and contrasts with the poor skeletal soils and moor podzolic peats which surround it.

This is not a complete list for the area - egrets are regular visitors especially along the coast where many seabirds may shelter from storms. Mr. R. Bigwood, a resident of Granville Harbour, kindly supplied much information for that locality and Messrs. K. Fairbrother, J. Faulkner and N. Sheppard also provided valuable information. My observations were made during March, April and October 1975 and March, 1976.

ANNOTATED LIST OF SPECIES:

THICK-BILLED PENGUIN Eudyptes pachyrhynchus

One record of 2 beach-washed birds at Trial Harbour 5 Aug. 1972.

WHITE-CAPPED ALBATROSS Diomedea cauta

4 off Trial Harbour 22 Jul. 1973.

SHORT-TAILED SHEARWATER Puffinus tenuirostris

Recorded at Granville Harbour.

FLUTTERING SHEARWATER P. gavia

One record of a beach-washed bird at Trial Harbour 24 Feb. 1974.

BLACK CORMORANT Phalacrocorax carbo

Common along the coastline. Recorded along the Little Henty River to Zeehan.

LITTLE PIED CORMORANT P. melanoleucos

One at the mouth of Duck Creek.

BLACK-FACED CORMORANT P. fuscescens

Common Granville Harbour. One at St. Clair Falls south of Granville Harbour.

HOARY-HEADED GREBE Podiceps poliocephalus

Recorded at a new dam lined with polythene sheeting at Zeehan.

WHITE-FACED HERON Ardea novaehollandiae

Granville Harbour is a gathering point for birds on winter migration. On 4 Mar. 1975 61 were present. Common between Granville Harbour and Newdegate River 15 Mar. 1976. Small numbers recorded near South Gap Creek, Twelve Mile Creek, Austral Creek, Little Henty River at the mouth and near Zeehan, and at Zeehan Dam.

BLACK DUCK Anas superciliosa

Fairly common Granville Harbour, Zeehan and near the Little Henty mouth.

GREY TEAL A. gibberifrons

Fairly common Granville Harbour.

WHITE GOSHAWK Accipiter novaehollandiae

Pair regular visitors to Granville Harbour until late 1974 since when only a single bird has been seen.

WEDGE-TAILED EAGLE Aquila audax

Occasional at Granville Harbour. Single birds near Trial Harbour, Lake Cumberland and near Piney Creek.

WHITE-BREASTED SEA EAGLE Haliaeetus leucogaster

Fairly common along the coast.