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LICHENS OF SOUTH WEST TASMANIA

PART I - LICHENS OF THE BUTTON GRASS AREAS

by G. C. Bratt

A preliminary list of the lichens of the button grass covered plains and hills and associated areas is given herein. The list is biased towards macro-lichens and to areas readily accessible from the HEC Gordon Road network. The extreme south and west of the State have not been studied and hence any collections from such areas would be appreciated by the author.

The "South-West" is defined for the present purposes as the area to the south and west of the straight lines between Low Rocky Pt., Gordon River Power Station, Tim Shea, Weld River - Huon River Junction, Adamson's Peak and South Cape.

The South-West has already felt the effects of human activities such as fires, dam building, flooding, timber cutting and road construction. It seems important therefore to study the area before other changes are made. Ideally such studies should have commenced prior to man's activities, but this is not possible since studies of burns and regrowth suggest fires (by either natives or settlers) in the area at least as early as 1805. It was possible to study some areas before flooding occurred and some comparison between flooded and nonflooded areas is possible.

The preliminary species list together with abbreviated information on lichen type, substrate and abundance are given in Tables 1 and 2. The abbreviations used are:-

- Fo = foliose lichen - leaf like lichen
- SFo = small foliose lichen - leaf like lichen of reduced size (3 - 5 mm)
- Fr = fruticose lichen = lichen with stem or strand structure
- SFr = small fruticose lichen - stem or strand structure visible only with X10 lens
- C = Crustose lichen = lichen almost inseparable from substrate
- T = occurring on trees or bushes
- R = occurring on rocks
- S = occurring on soil

- 1 = abundant in study area
 2 = common " " "
 3 = uncommon " " "
 4 = rare " " "

TABLE 1 - AREAS NOW FLOODED BY SERPENTINE AND GORDON DAMS

Section 1 - Sand dune area at Lake Pedder (Natural State)

<i>Cladia aggregata</i>	Fr.	S,	2	<i>Cladonia</i> sp. A *	Fr.	S,	2
" <i>retipora</i>	Fr.	S,	2	" <i>verticillata</i>	Fr.	S,	2
" <i>sullivanii</i>	Fr.	S,	2	<i>Hypogymnia lugubris</i>	Fo.	T,	2
<i>Cladina leptoclada</i>	Fr.	S,	4	<i>Menegazzia foraminulosa</i>	Fo.	T,	2
<i>Cladonia aureri</i>	Fr.	S,	2	<i>Siphula complanata</i>	Fr.	S,	2
" <i>crispata</i>	Fr.	S,	2	<i>Usnea xanthopoga</i>	Fr.	T,	4

* known from elsewhere in Tasmania, but presently unnamed

Section 2 - Melaleuca Grove at Lake Pedder (Natural State)

<i>Cladia aggregata</i>	Fr.	S,	1	<i>Sagenidium molle</i>	SFr.	T,	4
" <i>retipora</i>	Fr.	S,	1	<i>Siphula moorii</i>	Fr.	S,	2
<i>Cladina leptoclada</i>	Fr.	S,	2	<i>Sphaerophorus</i>			
<i>Hypogymnia lugubris</i>	Fo.	T,	3	<i>melanocarpus</i>	Fr.	T,	3
<i>Menegazzia foraminulosa</i>	Fo.	T,	3	" <i>tener</i>	Fr.	T,	3
<i>Pseudocyphellaria</i>				<i>Thelotrema decorticans</i>	C.	T,	3
<i>pseudosticta</i>	Fo.	T,	4	" <i>lepadinum</i>	C.	T,	3
<i>Psoroma asperellum</i>	SFo.	T,	3	<i>Usnea capillacea</i>	Fr.	T,	4
" <i>soccatum</i>	SFo.	T,	3	" <i>xanthopoga</i>	Fr.	T,	3
" <i>sphinctrinum</i>	SFo.	T,	3				

Section 3 - Huon Plains (i. e. Plains between L. Pedder & Huon R.) including open button grass (b. g.), wooded knolls (w. k.), and exposed quartzite (e. q.) boulders.

Probably burnt 1949; examined 1965.

<i>Cladia aggregata</i>	Fr.	S,	2(w. k.)	<i>Cladonia verticillata</i>	Fr.	S,	3(w. k.)
" <i>retipora</i>	Fr.	T,	1(b. g.)	<i>Hypogymnia billardierii</i>	Fo.	T,	2(w. k.)
" <i>schizopora</i>	Fr.	S,	3(w. k.)	" <i>lugubris</i>	Fo.	T,	2(w. k.)
" <i>sullivanii</i>	Fr.	S,	1(b. g.)	<i>Menegazzia foraminulosa</i>	Fo.	T,	4(w. k.)
			(w. k.)	<i>Parmelia caperata</i>	Fo.	R,	4(e. q.)
<i>Cladina leptoclada</i>	Fr.	S,	2(w. k.)	<i>Siphula moorii</i>	Fr.	S,	1(b. g.)
<i>Cladonia subsquamata</i>	Fr.	S,	3(w. k.)	" <i>torulosa</i>	Fr.	S,	4(b. g.)

Section 4 - Other areas

e. g. Hermit Valley and Wedge River Plains also partially examined but showed no species not listed above.

TABLE 2 - AREA NOT FLOODED BY GORDON AND SERPENTINE DAMS

Section 1 - Open Button grass plains (e.g. Arthur Plains, Plains near Picton Huon Junction, Plains en route to Jubilee Range, Blake's & Harrison's openings).

<i>Cladia aggregata</i>	Fr,	S,	1	<i>Cladonia fimbriata</i>	Fr,	S,	3
" " <i>f. inflata</i>	Fr,	S,	2	" <i>furcata</i>	Fr,	S,	3
" <i>retipora</i>	Fr,	S,	1	" <i>nemoxcyna</i>	Fr,	S,	3
" <i>sullivanii</i>	Fr,	S,	2	" <i>ochrochlora</i>	Fr,	S,	3
<i>Cladina leptoclada</i>	Fr,	S,	2	" <i>pleurota</i>	Fr,	S,	3
<i>Cladonia aureri</i>	Fr,	S,	1	" <i>sp. A *</i>	Fr,	S,	2
" <i>boryi</i>	Fr,	S,	2	" <i>sp. D *</i>	Fr,	S,	3
" <i>capitata</i>	Fr,	S,	2	" <i>subcariosa</i>	Fr,	S,	3
" <i>capitellata</i>	Fr,	S,	3	" <i>subsquamosa</i>	Fr,	S,	3
" <i>chlorophaea</i>	Fr,	S,	2	" <i>verticillata</i>	Fr,	S,	2
" <i>cornuta</i>	Fr,	S,	3	<i>Siphula complanata</i>	Fr,	S,	1
" <i>cornutoradiata</i>	Fr,	S,	3	" <i>decumbens</i>	Fr,	S,	3
" <i>crispata</i>	Fr,	S,	2	" <i>moorii</i>	Fr,	S,	4
" <i>didyma</i>	Fr,	S,	3	" <i>torulosa</i>	Fr,	S,	4

* known from elsewhere in Tasmania, but presently unnamed

Section 2 - Elevated Button Grass Ridges or Hills

(e.g. Schnells Ridge, Twelve Trees Range, Sentinels, Peak nr. Scotts Peak Dam)

<i>Cladia aggregata</i>	Fr,	S,	2	<i>Menegazzia foraminulosa</i>	Fo,	R,	4
" <i>fuliginosa</i>	Fr,	S,	2	" <i>weindorferi</i>	Fo,	R,	4
" <i>retipora</i>	Fr,	S,	2	<i>Parmelia caperata</i>	Fo,	R,	2
" <i>sullivanii</i>	Fr,	S,	3	" <i>signifera</i>	Fo,	R,	2
<i>Cladina leptoclada</i>	Fr,	S,	4	" <i>sinuosa</i>	Fo,	R,	4
" <i>rangerferina</i>	Fr,	S,	3	<i>Pseudocyphellaria</i>			
<i>Cladonia furcata</i>	Fr,	S,	2	<i>pseudosticta</i>	Fo,	R,	2
" <i>murrayi</i>	Fr,	S,	4	<i>Rhizocarpon geographicum</i>	C,	R,	2
" <i>sp. A *</i>	Fr,	S,	3	<i>Siphula decumbens</i>	Fr,	S,	2
" <i>verticillata</i>	Fr,	S,	2	<i>Sphaerophorus tener</i>	Fr,	R,	2
<i>Epebe fruticosa</i>	SFr,	R,	4	<i>Umbilicaria cylindrica</i>	Fo,	R,	2
<i>Hypogymnia lugubris</i>	Fo,	T,	2	" <i>polyphylla</i>	Fo,	R,	2
<i>Menegazzia albida</i>	Fo,	R,	2	<i>Usnea glomerata</i>	Fr,	R,	2

* known elsewhere in Tasmania, but presently unnamed.

Section 3 - Mixed Forest at creeks in button grass (e.g. Creeks dissecting Arthur Plains)

<i>Baeomyces fungoides</i>	SFr,	S,	3	<i>Pseudocyphellaria</i>			
" <i>heteromorphus</i>	SFr,	S,	3	<i>pseudosticta</i>	Fo,	T,	2
<i>Cladia aggregata</i>	Fr,	S,	1	<i>Psoroma sphinctrinum</i>	SFo,	T,	2
" <i>schizopora</i>	Fr,	T,	3	<i>Sphaerophorus melanocarpus</i>	Fr,	T,	2
<i>Cladonia capitata</i>	Fr,	S,	2	" <i>tener</i>	Fr,	T,	2
<i>Coccotrema curcurbitula</i>	C,	T,	3	<i>Thelidea splachnirima</i>	Fo,	S,	4
<i>Hypogymnia lugubris</i>	Fo,	T,	3	<i>Thelotrema decorticans</i>	C,	T,	4
<i>Menegazzia weindorferi</i>	Fo,	T,	2	" <i>lepadinum</i>	C,	T,	3

Section 4 - Tracks benches into button grass (e. g. approaching Cracroft camp from North)

<i>Baeomyces fungoides</i>	SFr, S, 4	<i>Cladina leptoclada</i>	Fr, S, 4
<i>Bilimbia</i> Sp *	C, S, 4	<i>Cladoniopsis caespitosa</i>	SFr, S, 4

* known elsewhere in Tasmania, but presently unnamed.

Section 5 - Quartz outcrops in button grass plains (e. g. Serpentine Lookout near Strathgordon)

<i>Parmelia caperata</i>	Fo, R, 2	<i>Umbilicaria cylindrica</i>	Fo, R, 2
<i>Rhizocarpon geographicum</i>	C, R, 2		

Section 6 - Recently (1972) burnt button grass (e. g. Plains north-west of Mt. Wedge. Examined 1976)

<i>Cladia retipora</i>	Fr, S, 4	<i>Siphula decumbens</i>	Fr, S, 4
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Section 7 - Road cuttings (e. g. Road cutting 4 km beyond Strathgordon)

Initially ca. 1964 these were bare rock faces.

Now (1976) extensive coverage of -

<i>Stercocaulon ramulosum</i>	Fr, R, 1	<i>Placopsis parallina</i>	C, R, 1
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Comparison of the species listed in Tables 1 and 2 indicate that only four species collected at Lake Pedder prior to flooding were not collected in other similar areas of the Southwest. However all these four species were widespread and common in other areas of the State. Hence on the basis of the admittedly limited collections around Lake Pedder one may conclude that nothing unique in the Tasmanian lichen flora was destroyed by the flooding.

All the button grass areas examined to date (both in the south-west and other parts of the State) appear to have basically the same lichen flora although some of the rarer species may sometimes not be located during a limited search.

The destructive effects of fire may be noted by comparison of the lists in Table 1, section 3, and Table 2, Section 4. The recovery of button grass areas after fires may also be appreciated by comparison of Table 1, section 3, and Table 2, section 1. Some of the plains mentioned in this latter list have probably also been burnt but the detailed fire history is not presently available.

The relatively rapid coverage of new rock faces (see Table 2, section 5) with species not found in other similar parts of the South west should also be noted.

Further discussion of the species lists will be more profitable when other areas of different vegetation types are examined.

In summary, the presently available evidence suggests that the effects of man on the lichen flora of the southwest may be destructive in the short term, but to have little effect in the long term.

BIRDS IN PINE PLANTATIONS IN TASMANIA

P. Fielding

LARGE tracts of natural bush have been bulldozed and burned out to make way for an increasing number of Radiata pine plantations in the north and west of Tasmania. The Pocket Year Book of Tasmania, 1974, quotes that in 1973 the net area of these plantations was 29,000 hectares of which 21,000 are on Crown land. The Forestry Commission has a target of 80,000 hectares planned for the State.

A total of 22 hours was spent studying the following plantations located in Northern Tasmania -

Forestry Commission plots : Castra, No. 5, Isandula, No. 11, Myrtle Grove, No. 18, Nietta, No. 20, Oldina, No. 22, Stoodley, No. 30; Associated Forest Holdings plots : Railton, No. 39, Guildford, No. 40. The numbers shown are those allotted on the Plantation map of the Forestry Commission of Tasmania.

The following lists show the various stages of development of these plots and the birds which were observed in them.

1. Birds of the closed pine forest.

This section shows the birds that were observed deep in mature pine plantations with trees 20 or more metres high, spaced 2 metres apart in long rows, mostly in plots of about 24 hectares. Most plantations consist of many such plots separated by firebreaks.

A mature forest creates a thick canopy overhead with only a small amount of light filtering through, giving the lower branches a withered appearance due to apparent lack of sunlight. Blackberry bushes, bracken fern and tree-ferns in creek-beds' are the main understorey in the Forestry Commission plantations. A.F.H. plantation No. 40, in contrast, has no shrub understorey.

A total of 5 hours' observations was made in the centre of pine plantations well away from fire-breaks and access tracks. Nowhere deep in the plantations were birds common.

Green Rosella Platycercus caledonicus. Heard calling in Nos. 20 and 40.

Fantailed Cuckoo Cacomantis pyrophanus. Heard calling in Nos. 5, 11 and 20.

Laughing Kookaburra Dacelo gigas. Six birds observed in No. 5, and heard calling in No. 20.

Blackbird Turdus merula. Several sightings in Nos. 5 and 18, and heard calling in No. 20.

Tasmanian Thornbill Acanthiza ewingii. Observed in No. 40.

Scarlet Robin Petroica multicolor. Observed in No. 18.

Dusky Robin Petroica vittata. One bird observed in No. 40.

Grey Shrike-Thrush Colluricincla harmonica. Observed in No. 18.

Forest Raven Corvus tasmanicus. Calling in Nos. 5 and 20, and observed in No. 18.

2. Birds of partly-logged mature plantations.

When a mature plantation is thinned out by selective logging a more open habitat is created.

A total of 5½ hours was spent in this type of habitat. More species were found in these plantations than in the denser uncut forests.

Yellow-tailed Black Cockatoo *Calyptorhynchus funereus*. No birds were observed but chewed decayed pines were noticed in No. 11 indicating the presence of this species.

Fan-tailed Cuckoo. Calling in Nos. 11 and 20 and observed in Nos. 18 and 30.

Blackbird. Observed in Nos. 11 and 18 and heard calling in No. 20.

Superb Blue Wren *Malurus cyaneus*. Observed in Nos. 11 and 18.

Tasmanian Thornbill. Observed in Nos. 11 and 40.

Brown Thornbill *Acanthiza pusilla*. Several sightings in Nos. 18 and 30.

White-browed Scrub Wren *Sericornis frontalis*. One bird observed among piles of dead branches on the ground between rows of trees in Nos. 30 & 40.

Scarlet Robin. Observed in Nos. 11, 18 and 20.

Dusky Robin. Observed in Nos. 11, 20, 30 and 40.

Grey Fantail *Rhipidura fuliginosa*. Observed in Nos. 18 and 30.

Grey Shrike-Thrush. Observed in Nos. 18 and 30.

Grey-breasted Silveryeye *Zosterops lateralis*. Observed in No. 18.

Goldfinch *Carduelis carduelis*. Observed in No. 40.

Forest Raven. Observed in Nos. 11 and 18.

3. Birds on the margins of mature plantations.

A total of 8½ hours was spent on the margins of unlogged and partly logged mature forests and from firebreaks and tracks within them. Widths of the tracks and fire-breaks ranged from 3 metres to 12 metres. Some native vegetation was growing in these situations.

Birds were slightly more common as compared with the centres of these plantations which are poorly populated by birds.

Accipiter sp. Either an Australian Goshawk or a Collared Sparrowhawk was observed at Nos. 5 and 11, flying between rows of pines.

Tasmanian Native Hen *Tribonyx mortierii*. Observed at No. 22.

Brush Bronzewing *Phaps elegans*. Observed at No. 18.

Green Rosella. Observed at No. 30.

Fan-tailed Cuckoo. Observed at No. 22.

Blackbird. Observed at Nos. 5, 20, 22 & 30.

Superb Blue Wren. Observed at Nos. 5, 20, 22 and 30.

Tasmanian Thornbill. Observed at Nos. 5, 11, 20 and 40.

Brown Thornbill. Observed at No. 18.

White-browed Scrub Wren. Observed at Nos. 5, 11, 18 and 40.

Scarlet Robin. Observed at Nos. 20 and 22.

Flame Robin *Petroica phoenicea*. Observed at No. 22.

Dusky Robin. Observed at No. 20.

Grey Fantail. Observed at Nos. 5, 11, 18 and 22.

Golden Whistler Pachycephala pectoralis. Observed at No. 5, and heard calling at Nos. 20 and 40.

Grey Shrike-Thrush. Observed at No. 5, and heard calling at Nos. 20 and 40.

Grey-breasted Silveryeye. Observed at Nos. 5, 18 and 30, where 100 birds were observed feeding on seeds in a fire-break.

Goldfinch. Observed at Nos. 5, 20 and 22.

Starling Sturnus vulgaris. Observed at Nos. 5 and 20.

Black Currawong Strepera fuliginosa. Observed at No. 40.

Forest Raven. Heard calling at Nos. 5, 11 and 20, and observed at 22.

4. Birds in young plantations.

A total of 3 hours was spent in young plantations that have tree heights between 1 and 3 metres. In a plot of 3-metre high pines at No. 20 there was no native vegetation growing with the pines and only two species of birds were observed, compared with fourteen species at a similar plot at No. 19 where native vegetation grew amongst the pines.

Where native vegetation grows among or on the margins of plantations more birdlife occur: when this vegetation disappears the number of birds declines.

Swamp Harrier Circus approximans. Observed flying above No. 39.

Tasmanian Native Hen. One adult and two young ran from a nearby paddock into No. 39.

Phaps species. A pigeon, possibly a Brush Bronzewing, was observed deep in No. 39.

Blue-winged Parrot Neophema chrysostoma. Observed deep in No. 39 and also at the margin. They appeared to be feeding on seeds of a native bush growing amongst the pines.

Fan-tailed Cuckoo. Heard calling from within No. 39.

Welcome Swallow Hirundo neoxena. Observed flying above No. 39.

Blackbird. Observed at the margin and heard calling from No. 39.

Superb Blue Wren. Observed at the margin and deep within No. 39.

Tasmanian Thornbill. Observed at the margin of No. 20.

Brown Thornbill. Observed at the margin and deep within No. 39.

Yellow-rumped Thornbill Acanthiza chrysorrhoa. Observed at the margin of No. 39.

Field Wren Calamanthus fuliginosus. Observed at the margin and deep within No. 39.

Grey Fantail. Observed at the margin of No. 39.

Grey-breasted Silveryeye. Observed at the margin of No. 39.

Goldfinch. Observed at the margin of Nos. 20 and 39.

Dusky Wood-Swallow Artamus cyanopterus. Observed at the margin of No. 39.

Forest Raven. Observed at the margin of No. 39.

SUMMARY

The following numbers of species have been found in Tasmanian Pine Plantations at various stages of development —

in mature plantations	9 species	in margins of mature plantations	21 species
in partly-logged plantations	14 species	in young plantations	17 species

The total number of species found in all plantations was 29. Four species - Fan-tailed Cuckoo, Blackbird, Tasmanian Thornbill and Forest Raven - were found in all stages.

Twenty species were observed in a native forest near the West Gawler River in half an hour's observations, while it took twelve hours to find this number in pine plantations.

By comparison, d'Andria (1968) found 14 species in a plantation in A. C. T. in seven hours of observations and Pawsey (1951) in South Australia found 21 species in a fifteen year study.

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ANOTHER ROYAL PENGUIN IN AUSTRALIA

R. M. Tyson

A Royal Penguin *Eudyptes chrysolophus schlegeli* Finsch, 1876 was found alive on the beach at Falmouth on Tasmania's east coast at 16:00 hours on the 15th March 1975.

The finder, Mr. I. H. McManus, left the bird on the beach overnight. The following morning the bird appeared in a weak condition and Mr. McManus took it to his house and tried to feed it, taking it regularly to the sea to keep its plumage wet. However the penguin died on 17 March and was sent to the Department of Agriculture, Mt. Pleasant Laboratories, Launceston. There the body was checked for parasites and I prepared a study skin which has been lodged with the Queen Victoria Museum, Launceston, reg. no. 1975/2/33. It was in partial moult, its crest not fully developed and it showed dusky markings on the face and chin. Upon dissection it was found to be a sub adult female.

Two other specimens of this subspecies have been collected in Australian waters. One found on 12 April, 1952 is housed in the Tasmanian Museum, Hobart reg. no. 10028/B2658 (Cashion, 1953). Another was collected at Encounter Bay, South Australia on 22 February, 1933 and lodged in the South Australian Museum, Adelaide reg. no. B16739. (Condon, 1950).

There are four additional sight records from Tasmanian waters. One at Eaglehawk Neck on 22 February, 1944 (Hindwood and Sharland 1944). Another at Coles Bay on 23 February, 1945 (Sharland 1946). Another at Eaglehawk Neck on 16 to 18 March, 1952 (Cashion 1953) and the fourth at Safety Cove on 19 March, 1974 (Wall 1974).

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