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PAPERS AND PROCEEDINGS

OF THE

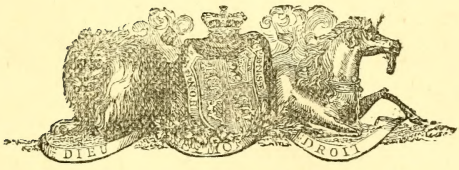
ROYAL SOCIETY

OF

TASMANIA,

FOR

1883.



TASMANIA:
PRINTED AT THE "MERCURY" STEAM PRESS OFFICE, HOBART.
1884.

THE responsibility of the statements and opinions given in the following papers and discussions rests with the individual authors; the Society as a body merely places them on record.

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" Report of the Society, 1883.

ROYAL SOCIETY.

MAY, 1883.

The monthly evening meeting of the Society was held on Tuesday, May 8, T. Stephens, Esq., V.P., in the chair.

Mr. Charles Percy Sprent, who had previously been nominated by the Council, was balloted for and declared duly elected as a Fellow of the Society.

The Hon. Secretary (Mr. Barnard) brought under notice the following returns, received since last meeting, viz. :—

Number of visitors to Museum :—

January: On Sundays, 964; on week days, 1,420; total, 2,384.

February: On Sundays, 986; on week days, 1,220; total, 2,206.

March: On Sundays, 910; on week days, 1,805; total, 2,715.

April: On Sundays, 1,165; on week days, 970; total, 2,135.

Number of visitors to Gardens :—

January, total, 4,886; February, total, 5,014; March, total, 5,024; April, total, 4,497.

Plants, etc., received at Gardens :—

From Messrs. Huber and Co., France, 27 packets seeds.

From Messrs. Vilmorin, Andrieux and Co., five ditto.

From M. A. Van Geert, Ghent, one box of ornamental deciduous trees and shrubs.

From Mr. Thos. Gulliver, Townsville, North Australia, one case Australian orchids.

From the Smithsonian Institution, Washington, U.S.A., 18 papers of seeds.

From Mr. C. F. Creswell, Sydney, one bag of seed of Araucaria Bidwilli.

From Baron Ferd. von Müeller, Melbourne, 54 papers seeds (various).

From the Chamber of Agriculture, Washington, U.S.A., 12 papers of seeds.

From Messrs. Vilmorin, Andrieux and Co., Paris, 5 papers seeds.

Plants, etc., sent from Gardens :—

To Dr. Schomburgh, Adelaide Botanic Gardens, Sphagnum Moss.

To Mr. Guilfoyle, Melbourne.

Botanic Gardens, Melbourne. To Mr. Chas. Moore, Botanic Gardens, Sydney, ditto. To De Smet Freres and Co., chest 32 Tree Ferns, and one case of Norfolk Island Pines. To A. Van Gaert, Ghent, 10 Tree Ferns. To Mr. C. F. Creswell, Melbourne, one case of mixed bulbs.

Books and periodicals received.

Presentations to Museum.

Meteorological Returns :—

1. Hobart, from Captain Shortt, Government Observer. Tables of observations for January, February, March, and April. Table of rainfall in Tasmania for 1882.
2. From Mr. Roblin. Abstracts and results of meteorological observations taken at the lighthouses, Tasmania, in 1882.

Results of the Hobart observations for January, February, March, and April.

January :—

Barometer.—Mean, for month, 29·834in.

Thermometer.—Means: Max., 71·4; min., 56·2; dry, 63·7; wet, 58·8.

Humidity.—Dew point : Mean, 55·3 ; elastic force of vapour, ·438; humidity, ·740.

Condensation.—Number of days on which rain fell, 9 ; amount collected, 3·60in.

Cloud.—Mean daily amount 7 (scale 0—10).

Wind.—Prevailing direction, E., S.E., N.W.; Mean force 1·9 (scale 0—12).

Remarks.—Rain fell on 9 days ; the heaviest fall registered, at 9 a.m. on the 17th, was 1·48in. The highest temperature in the shade was 84·2 on the 15th ; the lowest, on the night of the 17th, was 49·6. Light winds from E., S.E., and N.W., fine but cloudy weather. The lowest reading of the Barometer was 29.350 at 3 p.m. on the 20th ; the highest 30·237, at 9 p.m. on the 17th.

February :—

Barometer.—Mean : 29·707.

Thermometer.—Mean : Max., 69·5 ; min., 55·5 ; dry, 62·6 ; wet, 58.

Humidity.—Dew point, 54·7 ; elastic force of vapour, ·428 ; humidity, ·753.

Condensation.—Number of days on which rain fell, 14 ; amount collected, 2·081.

Cloud.—Mean daily amount 7 (scale 0—10).

Wind.—Prevailing direction W., and E.S.E.

Remarks.—Rain fell on 14 days; the heaviest fall, 1·21in., at 9 a.m. on the 28th. Highest temperature in shade 80 on the 7th, the lowest 48 on the night of the 18th. Light winds from W. and E.S.E. Slight Aurora at 10 p.m. on the 8th. Thick misty weather from 9th to 12th. Vivid lightning on evening of 12th. Heavy rain on 27th and 28th. Thunder and lightning on evening of 27th. Thick fog on morning of the 28th, a gale of wind in the afternoon from S.W., continuing until next morning with heavy rain. The lowest reading of the Barometer was 28·755 at 3 p.m. of the 28th. The highest 30·132 at 9 a.m. of the 5th.

March:—

Barometer.—Mean, 29·906.

Thermometer.—Means : Max., 68·6 ; min., 55·6 ; dry, 64·3 ; wet, 59·7.

Humidity.—Dew point, 56·5 ; elastic force of vapour, ·457 ; humidity, ·758.

Condensation.—Number of days on which rain fell, 14 ; amount collected, 3·62 inches.

Cloud.—Mean daily amount 6.4 (scale 0—10).

Wind.—Prevailing direction, N.W. and S.S.E.

Remarks.—Rain fell on 14 days, the heaviest fall on any one day, 1·45in., was registered at 9 a.m. on the 1st. Highest temperature in shade 86, on the 8th, and in the sun 101, on the same day. The lowest temperature 48 on the night of 28th. Highest reading of the barometer, 30·207in., at 9 a.m., on the 23rd; the lowest, 29·485, at 3 p.m. on the 9th. Light winds from N.W. and S.S.E. during the month. Showery with winds from S.E. from 10th to 14th, and heavy rain on the 12th. Thick misty weather with light rain from 18th to 23rd.

April :—

Barometer.—Mean, for month, 29·901in.

Thermometer.—Means: Max., 63·7 ; min., 49·4.

Dry bulb, 59·1 ; wet bulb, 55.

Humidity.—Dew point, 51·8 ; elastic force of vapour, ·385 ; humidity, 768.

Condensation.—No. of days on which rain fell, 9 ; amount collected, 0·48in.

Cloud.—Mean, daily amount, 5.8 (scale 0—10.)

Wind.—Prevailing direction, S., and N.W., mean force, 1·8 (scale—0·12.)

Remarks.—The rainfall for the month was very slight, being only 0·48 inches. Highest temperature in shade 73·5 on the 3rd; the lowest 43 on the night of 23rd. Winds light from N.W. and S. Thick fog on the Derwent on the morning of the 29th. Mr. O. C. Heiden reports that three distinct shocks of earthquake were felt at Gould's Country on 12th and 13th. The middle of the eclipse on the evening of the 22nd was well defined, although scud was driving across the moon from the S.E. A lunar rainbow was observed previous to the eclipse, and a halo round the moon during its continuance.

RAINFALL 1883.

Station.	January.		February.		March.		April.	
	Days.	Amount.	Days.	Amount.	Days.	Amount.	Days.	Amount.
		Inches.		Inches.		Inches.		Inches.
Hobart	9	3·60	14	2·08	14	3·62	9	0·48
Botanic Gardens ...	11	3·57	14	1·61	13	2·75	6	0·42
Southport	8	3·13	10	4·11	12	4·65	10	0·73
Fingal	7	2·35	11	2·57	4	2·91	4	0·72
Falmouth	10	1·78	13	3·67	9	1·62	3	0·51
Oatlands	7	2·54	9	2·29	10	4·87	7	0·37
Low Heads	7	0·55	8	1·75	12	2·74	7	0·93
Mount Bischoff ...	13	1·60	17	4·07	19	5·87	18	3·02
Circular Head ...	7	1·03	8	2·68	14	4·20	13	1·79
Macquarie Harbour...	5	2·05	5	2·03	6	2·35	—	—
Killymoon, Fingal...	—	—	11	3·34	12	2·55	8	0·78
Launceston	—	—	—	—	15	2·03	11	1·12

Time of leafing, flowering, and fruiting of a few standard plants in the Botanic Gardens during January, February, March and April, 1883 :—

January :—

7th. Veronica augustifolia in full flower.
10th. First ripe Apricot gathered (Roman).
14th. Grevillea robusta in full flower.
14th. Jargonelle Pear commencing to ripen.
20th. Catalpa syringfœolia in flower.
31st. Mulberries commencing to ripen.

February :—

7th. Kerry Pippin commencing to ripen.
8th. Windsor Pear commencing to ripen.
10th. Bon chretien commencing to ripen.
14th. Greengage Plum commencing to ripen.

(In a note appended to this return Mr. Abbott remarks :—"Owing to the continued showers during the season the ash and sycamore are retaining their leaves much longer than usual.")

March:—

10th. Tips of horbeam turning yellow.
20th. Seckle pair ripe.
24th. Golden Drop Plum (Coes) ripe.
24th. Tips of Elm turning yellow.
26th. Tips of Horsechestnut turning brown.
31st. Ash leaves commencing to fall.
31st. Oak leaves commencing to fall.

April :—

14th. Chinese chrysanthemum in flower.
15th. Elm leaves commencing to fall.
16th. Coes late red plum commencing to ripen.
22nd. Pyrus aucuparia leaves commencing to fall.
28th. Black Mulberry leaves commencing to fall.
30th. Seeds of hornbeam ripe.

The presentations to the Museum were as follow :—

1. From A. T. Clerk, Esq. 17 spears, 2 throwing sticks, 1 shield, 1 stone axe, and 5 baskets made and used by the Aborigines near Cashmere Station, North Kennedy District, Cardwell, Queensland.
2. From Mr. G. Elliot, Melbourne. 34 Brazilian birds, and a fine pair of horns of the Cashmere Water Buffalo.
3. From Miss Edgar. A prepared specimen of the fox shark, or "thresher," *(Alopecias vulpes)* caught in Auckland Harbour, New Zealand.
4. From Mr. W. Woodin. Fossils, Teeth, etc., from the Liverpool Plains, New South Wales, stated to have been found lying on the bed rock at a depth of 115 feet from the surface.
5. From Mr. H. J. Warner. Slab of fine Clay, with Fern Impressions, from York Plains Coal Mine, Cast of Spirifer.
6. From Mr. R. Brown. Two samples of Tin from the claim of the Empress Company, Koetong, Victoria.
7. From Mr. W. Rayner, New Norfolk, Specimens of Iron Pyrites and silicified wood from Chariemont.
8. From R. P. Adams, Esq. Specimen of Asbestos, from Mount Bischoff.
9. From Mr. C. Basstian. 10 Maori stone Axes, in various stages of manufacture, from Woodstock, New Zealand.
10. From Mr. C.W.S. James. Fragments of boulder encrusted with crystals of carbonate of lime, from Waterworks, Hobart.
11. From Mr. J. E. Evans. Specimens of Tin Ore from Ben Lomond Mine.

12. From Col. Crawford. Specimen of Sucking Fish (Echeneis remora).
13. From Mrs. Wm. Crosby, jun. Specimen of Shell and animal of Nautilus.
14. From Mr. E. D. Swan. A Diamond Snake *(Morelia spilotes)* from the Quarantine Station, Sydney, prepared and mounted.
15. From the Hon. the Minister of Lands and Works, N. J. Brown. Model of a Gold Nugget found at the Whyte River, Tasmania, by McGinty and party, February 18, 1883. Weight, 243oz.
16. Ditto from the same locality, found by Griffin and party, March, 1883. Weight, 143oz. 6dwts.
17. From Mr. C. Edge. A diamond snake *(Hoplocephalus superbus)* from near Hobart Waterworks.
18. From Mr. J. Whittaker. A large black snake *(Hoplocephalus curtus)* from Cascade Gully.
19. From Mr. C. Glover. Rock specimens. Copper ore, etc., from High Rocky Head, West Coast, Tasmania.
20. From Messrs. G. C. Westbrook and Edward Young, specimen of the Port Jackson shark *(Cestracion Philippi)*.
21. From Mr. Hume. Fossil leaf impressions from N. S. Wales.
22. From Mr. W. F. Petterd. Specimens of new species of Tasmanian mammals described in a paper by Dr. Higgins and the donor.
23. From Mr. H. H. Baily. Two large specimens of silver lead ore from Mount Claude.
24. From Mr. Thos. Davis. Plates of baleen (whalebone) from Cloudy Bay Beach, D'Entrecasteaux Channel.
25. From Mr. John Page. An aboriginal stone implement from the Eastern Marshes.
26. From Mr. T. Stephens. Three specimens of Tasmanian Woods polished, viz., native sandal wood *(Alyxia buxifolia)*, Red pine (*Athrotaxis sclaginoides*) and pencil cedar pine (*Athrotaxis cupressoides*.
27. From Master J. A. Murphy. Specimens of small crustaceans *(Grimothea gregaria?)* recently washed on shore in immense numbers at Howrah, Kangaroo Point, and the adjacent bays.
28. From Mr. John Cotton, Earlham, Orford. A large file, thickly encrusted with oxide of iron, found in the Sandspit River. (In reference to this presentation Mr. Cotton remarks, "I am at a loss to conjecture how such an instrument could get where found. I have resided here now 25 years and never had a file of the kind, and the very few and far between visitors who come to our river are poor fishers, not likely to be possessed of an implement of that description. It would be interesting to know its history.")
29. From Dr. Barnard. 25 specimens of minerals, etc., chiefly from New South Wales, viz., model of a gold nugget weighing 64oz., found near Gulgong, N.S.W. Gold-bearing copper ore from Mitchell's Creek. Ditto, copper ore from Girilambone, ditto. Ditto, containing 56 per cent. of copper, from Wellington, N.S.W. Ditto (best) from Girilambone. Ditto, peacock and yellow, from Gulgong, N.S.W. Ditto, ditto, from Wellington. Native copper, from ditto. Green carbonate of copper in crystals. Silver ore from Narangarie, N.S.W. Ditto, from Boorook, ditto. Gold and mineral-bearing quartz from Wellington, N.S.W. Ore of zinc and iron from Bolara, N.S.W. Lead ore from near Gulgong, N.S.W. Specimen of fossil wood. Ore of Bismuth from New England, N.S.W. Cinnabar from Cudgegong. Nickel ore from New Caledonia. Crystals of iron pyrites. Ditto from silver mines of Potosi, South America. Three specimens of fossil leaf im-

pressions, and two of fossil wood from Gulgong. Surveyor's mark cut in a native apple tree, on the Macintyre River, and overgrown by new wood 1½ inches thick in eight years.

The SECRETARY read a paper on "New Species of Tasmanian Antechini and Mus," by Edmund T. Higgins, M.R.C.S., England, F.L.S., and William F. Petterd, C.M.Z.S.

The CHAIRMAN remarked that some incidental reference had already been made to the proposed establishment of an Australasian Geographical Society, of which some of the Fellows present had seen notices in the *Sydney Morning Herald*. The scheme was first mooted by a committee of the Royal Society of New South Wales; but it had been thought advisable to found the institution on a wider basis, in order to secure the co-operation of all the Australasian colonies in furtherance of the objects of the new Society. These are briefly stated to be "the advancement of geographical science and the study of the physical and commercial geography of the world, more especially that of Australasia. The society would fill up a great gap in the education of the people, and public lectures would be given on all countries illustrative of their commerce, productions and industries." He (Mr. Stephens) thought he might say that although it would be premature to discuss the matter until the constitution, objects, and mode of procedure of the society were more fully defined, there would be no difference of opinion among the Fellows present as to the importance of the subject, and that further information would be gladly received.

Some conversation in favour of the proposed society followed the remarks of the Chairman, reference being made to the prevailing want of geographical knowledge of this group of colonies, particularly in the Mother Country.

Mr. C. H. GRANT then moved, "That the thanks of the meeting be accorded to the authors of the paper read, and to the donors of the various presentations."

Dr. PERKINS seconded the motion, and referred to the numerous additions to the museum, and especially to the varied collection of mineral specimens from N.S.W. presented by Dr. Barnard.

The motion having been unanimously agreed to the proceedings terminated.

JUNE, 1883.

The monthly evening meeting of the Society was held on Tuesday, 12th June, C. H. Grant, Esq., in the chair.

The following gentlemen, who had been previously nominated by the Council, were balloted for and declared duly elected as Fellows of the Society, viz., Captain Shortt, R.N., Mr. William Humphrey Page, Bengal Civil Service, and Mr. James Fincham, C.E.

The Hon. Secretary (Mr. Barnard) brought forward the following returns for the past month, viz.:—

1. Number of visitors to Museum:—
   On Sundays, 1,387; on week days, 425; total 1,812.
2. Ditto to Gardens, total, 4,467.
3. Plants, etc., received at Gardens:—
   From Messrs. Shepherd and Co., Sydney, seeds of 18 species of eucalypti.
   From the Botanic Gardens, Melbourne, seeds of 24 species of palms.
   From Baron Von Mueller, 150 packets seeds.
   From Mrs. R. P. Harris, 30 packets seeds from the Botanic Gardens, Saharunpore, India.
   From Mr. J. Smith, Victoria, 12 plants.
   From Messrs. Vilmorin and Co., Paris, 5 packets seeds.

4. Plants sent from Gardens :—
   To Mr. G. Brunning, Melbourne, 1 case assorted plants.
5. Books and periodicals received.
6. Presentations to Museum.

Meteorology :—

1. From Captain Shortt, Government Observer. Table of observations at Hobart for May.
2. Table of rainfall at 13 stations in Tasmania.

The following are the results of the Hobart observations for May :—
Barometer.—Mean : 29·830in.
Thermometer.—Means : Max., 56·6; min., 42·2 ; dry, 50·7 ; wet, 47·4.
Humidity.—Dew point, 44·1 ; elastic force of vapour, ·289 ; humidity, ·781.
Condensation.—Number of days on which rain fell, 12 ; amount collected, 1·70in.
Clouds.—Mean daily amount, 6·4 ; (scale, 0—10).
Wind.—Mean force, 1·8 ; (scale, 0—12). Prevailing direction, N.W. and south.

Remarks.—Rain on 12 days ; the heaviest fall on any one day was 0·56in., registered at 9 a.m. on 27th. Highest temperature in shade, 69·2 on the 5th ; the lowest, 34·8, on the night of the 13th. Highest reading of barometer, 30·476 at 9 p.m. of the 11th ; the lowest, 29·326 at 3 p.m. of the 20th. Light winds from south and N.W. Snow on Mount Wellington on 8th and 18th. From the 5th of the month fogs have been very prevalent. Shocks of earthquake were felt at Gould's Country on the 17th, 18th, 28th, and 29th. They have also been felt at different places between the parallels of 41 and 42 S., and to the eastward of Longford. Some of the shocks have been reported as very severe. 2·30 inches of rain fell at Gould's Country in 6 hours on the 6th.

Rainfall in Tasmania, May, 1883 :—

Southport,	rain fell on 18 days ;	amount	3·46.
Hobart City	,, 12 ,,	,,	1·70.
Hobart Bot. Gardens	8 ,,	,,	1·58.
Oatlands	,, 5 ,,	,,	1·38.
Fingal	,, 6 ,,	,,	1·74.
Falmouth	,, 8 ,,	,,	1·50.
Launceston	,, 12 ,,	,,	1·86.
Low Head	,, 7 ,,	,,	1·39.
Mt. Bischoff	,, 21 ,,	,,	4·05.
Circular Head	,, 15 ,,	,,	5·68.
Gould's Country	7 ,,	,,	4·75.

Time of leafing, flowering, and fruiting of a few standard plants in the Botanic Gardens during May :—

10th. First medlar ripe.
22nd. Calycanthus præcox commencing to flower.
24th. Photinia serrulata, ditto.
26th. Diosma alba, ditto.
27th. Ailanthus leaves all fallen.
30th. Lonicera fragrantissima commencing to flower.

The following presentations were announced :—

1. From Mr. Geard. A grey flying Opossum (*Belideus sciureus*), killed at Broadmarsh.
2. From Mrs. Lamb, Jerusalem. A fine greenstone image of the Maori god "Tiki," from New Zealand.
3. From Mr. C. W. S. James. A nodule of limestone from a cavity in which a living frog was said to have been taken.
4. From Dr. Haast, Director of Museum, Christchurch, New Zealand. The caudal vertebræ of a moa (*Dinornis giganteus*).

5. From the author, the Rev. P. MacPherson, A.M., Sydney. "A Lecture on the Religion of the Aborigines of Australia."
6. From the Victorian Chamber of Commerce. A paper on Australian Wines, by Leo. Moonen.
7. From the New Zealand Institute. Transactions and Proceedings of the Institute, Vol. 15, 1882.

The attention of the meeting was called to a collection of beautifully preserved fossils from the Tertiary Beds at Table Cape, which had been forwarded by the owner, Mr. Tofft, for exhibition only.

Mr. F. ABBOTT read a paper entitled "Notes on New Plants introduced into the Royal Society's Gardens during 1882."

After the reading of this paper a long and interesting discussion ensued, in which Mr. C. H. Grant, Mr. E. D. Swan, Mr. Belstead, Mr. Abbott, and Mr. Barnard took part.

The Rev. J. WILKES SIMMONS remarked that on his recent visit to Sydney he had sought information as to the newly-formed Geographical Society of Australasia, referred to at last meeting, and read the following note on the subject:—"The objects of the Geographical Society of Australasia are scientific, commercial, and educational. The first point embraces the exploration of unknown and imperfectly known parts of Australasia; the second, the study of the natural and artificial products of various countries and their industries; and the third, the promotion of the knowledge of physical, commercial, and political geography amongst all classes by means of illustrated public lectures and various publications. This scheme includes the collection of information for the compilation of a reliable geography of Australasia. It is intended that the society shall consist of honorary, corresponding, and ordinary members. The first, persons who have rendered valuable services in the cause of geographical science; the second, residents of Australasia elected for their promotion of the interests of the society. Any lady or gentleman may become an ordinary member, subject to election. Colonies joining in the movement are styled provinces—thus: 'the province of New South Wales,'—and three members from each associated province have seats at the Board of the General Council. The members of the society in any associated province may elect a local committee. Reports of the transactions of the society will be published, including reports from local committees."

Votes of thanks having been accorded to Mr. Abbott and the Rev. J. W. Simmons for their communications, the proceedings closed with a similar acknowledgment to the donors of presentations.

JULY, 1883.

The monthly evening meeting of the Society was held on Tuesday, 10th July, T. Stephens, Esq., V.P., in the chair.

The hon. secretary, Mr. Barnard, called attention to the following returns for the month of June, viz.:—

1. Visitors to Museum:—
   On Sundays, 1,185; on week days, 934; total, 2,119.
2. Ditto to Gardens, total, 3,696.
3. Plants, etc., received at Gardens:—
   From Mr. A. Wilson, Dunedin, one box of New Zealand ferns.
   From Mr. G. Brunning, Melbourne, 100 plants, (various).
   From Col. Crawford, Castra, seeds of *Poivrea Doccinza*.
   From Mr. J. Smith, Victoria, 9 plants.
   From Mr. Owen Meredith, seedlings of Douglas River pine.
4. Plants, etc., sent from Gardens:—
   To Mr. G. Brunning, Melbourne, a collection of seeds.

To Baron Von Mueller, ditto.
To Messrs. Shepherd, Sydney, ditto.
To Mr. J. Smith, Victoria, ditto, and case of plants.
To Mr. T. Gulliver, Townsville, Queensland, collection of seeds.
To Mr. C. Creswell, Victoria, ditto.

5. Periodicals received.
6. Presentations to Museum and Library.

Meteorology :—

1. From Captain Shortt, Government Observer. Table of means of observations for June.
2. Table of rainfall at 12 stations in Tasmania.
3. From the Government Observer, Wellington, New Zealand. Printed tables for March and April.

The following are the results of the Hobart observations for June :—

Barometer.—Mean : 29·708in.

Thermometer.—Mean : Max., 57·4 ; min., 45· ; dry, 51·8 ; wet,48·3.

Humidity.—Dew point, 44·9 ; elastic force of vapour, ·298 ; humidity, ·774.

Condensation.—Number of days on which rain fell, 17 ; amount collected, 1·61in.

Clouds.—Mean daily amount, 6·9 ; (scale, 0—10).

Wind.—Mean force, 2·6 ; (scale, 0—12).

Remarks.—The month has been an unusually mild one, the mean temperature being 6· higher than that of June, 1882. Rain fell on 17 days, the heaviest fall on any one day was 0·33in. on the 4th. Highest temperature in the shade, 62·3 on the 14th ; the lowest, 39·2 on night of 2nd. Highest reading of the barometer, 30·162in. at 9 a.m. of the 11th ; the lowest, 28·908in. at 9 p.m. of the 22nd. Snow fell on Mount Wellington on 22nd, 23rd, and 29th. Fogs, some very dense, prevailed during the first part of the month. Winds chiefly from W.N.W., blowing hard on the 16th and 17th, and a strong gale on the 25th. Very heavy rains in northern portion of the colony. Heavy shocks of earthquake have been felt at Gould's Country and in that vicinity during the month.

Rainfall in Tasmania, June, 1883 :—

Southport,	rain fell on	10	days ; amount	2·46.
Hobart	,,	17	,, ,,	1·61.
Ditto (Bot. Gardens)		16	,, ,,	1·67.
Oatlands	,,	8	,, ,,	1·55.
Fingal	,,	7	,, ,,	2·08.
Ditto, (Killymoon)		16	,, ,,	1·67.
Falmouth	,,	8	,, ,,	1·47.
Launceston	,,	20	,, ,,	6·16.
Low Heads	,,	19	,, ,,	5·20.
Mt. Bischoff	,,	28	,, ,,	12·78.
Circular Head		20	,, ,,	5·44.
Gould's Country		15	,, ,,	11·36.

Time of leafing, flowering, etc., of a few standard plants in the Botanic Gardens during June :—

12th. Calycanthus præcox in full flower. 14th. Early narcissus commencing to flower.
18th. Maclaura aurantiaca, leaves commencing to shed.
22nd. Privet, ditto.
26th. Snowflake commencing to flower.
28th. Iris alata, ditto.
30th. Black mulberry leaves all shed.

The presentations were as follows :—

To Museum:—1. From Dr. E. T. Higgins, and Mr. W. F. Petterd, male and female type specimens of a new cave-inhabiting spider

(Theridion troglodytes), from a recently discovered cave in the Chudleigh district.

2. From the same. A collection of mammalian remains from the cave referred to above.

(These presentations are illustrative of a paper contributed by the donors).

To Library :—

1. From the Royal Society of Victoria, Proceedings of the Society. Vol. 19, 1882.
2. From Government of Tasmania, House of Assembly journals, Vols. 42, and 43.
3. From Mr. G. McIntyre, Christchurch, Report of the Survey Department, New Zealand, 1881-2.

A paper entitled "Description of a new cave-inhabiting spider, together with notes on mammalian remains from a recently discovered cave in the Chudleigh district." By Edmund T. Higgins, M.R.C.S., Eng., F.L.S., and W. F. Petterd, C.M.Z.S., was read by the Secretary.

The proceedings closed with a vote of thanks to the authors of the paper, and to the donors of presentations.

AUGUST, 1883.

The monthly evening meeting of the Society was held on Monday, 13th August, T. Stephens, Esq., V.P., in the chair.

The hon. Secretary, Mr. Barnard, brought forward the following returns for July, viz :—

1. Number of visitors to Museum :—On Sundays, 1,244 ; on week days, 1,125 ; total for month, 2,369.
2. Ditto to Gardens, total, 4,188.
3. Plants, etc., received at Gardens :—

From Messrs. J. Smith and Sons, Riddell's Creek, Victoria, 50 plants.
From Col. Crawford, seeds of *Poivrea coccinea*, from India.
From the Royal Gardens, Kew, seeds of *Rhus copallina*.
From Mr. C. F. Creswell, Melbourne, 30 plants.
From Baron Von Mueller, 3 packets seeds.
From Dr. Hector, Wellington, New Zealand, package of seeds.

Plants, etc., sent from Gardens :—

To Messrs. Law, Somner and Co., Melbourne, one case plants and seeds.
To Mr. W. R. Guilfoyle, director of Botanic Gardens, Melbourne, one case plants.
To Mr. C. F. Creswell, Melbourne, one package of seeds.

5. Presentations to Museum.
6. Ditto to Library. (The Secretary drew the special attention of the meeting to the valuable collection of books received during the past month from the United States Government, the Smithsonian and other scientific institutions in America, in exchange for the Society's Transactions. Also to the numerous publications of various learned bodies, in England and elsewhere, received in the same manner.)

Meteorology :—

1. Hobart.—From Captain Shortt, Government Observer, Table of means of observations for July.
2. From ditto, table of rainfall at 13 stations in Tasmania for July.

The following are the results of the Hobart observations for July :—

Barometer.—Mean : 29·773in.

Thermometer.—Means : max., 52·9 ; min., 40·1 ; dry, 46·1 ; wet, 43·2.

Humidity.—Dew point, 39·8; elastic force of vapour, 0·245 ; humidity, 0·785.

Condensation.—Number of days on which rain fell, 12; amount collected, 1 23in.

Clouds.—Mean daily amount, 5·7 ; (scale, 0—10).

Wind.—Mean force, 2·1 ; (scale, (0—12.) Prevailing direction, South and W.N.W.

Remarks.—The highest temperature in the shade was 60 deg. on the 12th ; the lowest, 31·5, and 30·5, on the nights of the 23rd and 24th respectively. The highest recording of the barometer, 30·248in. at 9 a.m. on the 30th ; the lowest, 28·972in., at 3 p.m. on 27th. Fogs frequent on nights and in early mornings. Very sharp frosts on nights of 23rd and 24th. A gale of wind from westward on 11th and 12th. Slight shocks of earthquake have been felt frequently in the north and N.E. portions of the colony, but on the evening of the 30th, within a space of ten minutes, between 7.50 and 8 p.m., heavy shocks and loud rumblings were experienced all over those parts. Slight aurora observed at Low Heads on 30th, and at Launceston on 31st. The last four days very fine spring-like weather.

Rainfall in Tasmania, July, 1883 :—

Southport, rain fell on	18	days; amount	4·97
Hobart City ...	12	... ...	1·22
Bot. Gardens, Hobart	14	... ...	1·09
Oatlands	3	... ...	0·92
Fingal	6	... ...	0·94
Killymoon, Fingal	12	... ...	0·96
Falmouth ...	5	... ...	0·44
Launceston ...	15	... ...	4·49
Low Head ...	13	... ...	2·58
Mount Bischoff ...	26	... ...	9·88
Circular Head ...	18	... ...	3·70
Gould's Country...	11	... ...	5.96

Time of leafing, flowering and fruiting of a few standard plants in the Botanic Gardens during July 1883 :—

10th. Cytisus leucanthus, commencing to flower.

15th. Paper almond, ditto.

20th. Arbutus unedo, ditto.

21st. Garrya elliptica, ditto.

27th. Yellow crocus, ditto.

30th. White mulberry, commencing to break.

The presentations to the Museum were as follows :—

1. From Mr. J. H. Cowen. A "Brain Bowl," taken from a cannibal chief at "Tui Tui Coko," Fiji.
2. From Mr. J. R. McClymont. Specimen of sponge, from East Coast, Tasmania.
3. From Mr. P. Lee, Campbell Town. A male specimen of the musk duck, (*Biziura lobata.*)
4. From Dr. Higgins and Mr. W. F. Petterd, Launceston. Two specimens of a new species of native rat (*Mus tetragonurus*), named and described in a paper contributed by the donors.

The Secretary read a letter from a gentleman in New South Wales, addressed to a resident of Hobart, of which the following is an extract :—"We are in search of an authenticated portrait of Tasman, and so far have been unsuccessful. Possibly Tasmania might have such a thing, and you would be a likely person to say whether my surmise is correct. If it is, I feel sure you will aid the designer of our beautiful, but defunct, Garden Palace in getting an idea of the personal appearance of the ancient navigator after whom your tight little island is named. Perhaps you have a bust or statue, if not a picture, of the hero in Tasmania :

either would, I fancy, answer the purpose, as by photography a *fac simile* could be taken and utilised for the purpose for which the likeness is required."

Mr. Justin Browne remarks in a note—"In a cheap publication in Dutch, published about five years ago, giving Tasman's discovery of Van Diemen's Land there is no portrait of Tasman, nor do I believe there is one to be found in the Colony; but I believe there are three copies of a likeness of Governor Van Diemen in existence here, of which I possess one." Mr. Browne adds, "*The Times*, in noticing the Amsterdam Exhibition, mentions that portraits of the Colonial Dutch Governors were exhibited, but names are not given."

The Rev. J. Wilkes Simmons read a letter from the Hon. Secretary of the Geographical Society of Australasia, enclosing printed copy of rules, and asking for co-operation from the friends of Geographical Science in Hobart in forming a branch Society.

The Secretary expressed the fear that there was not sufficient scope for the formation of a distinct branch Society, important as it was in its objects—defined to be at once scientific, commercial, and educational—but undertook to bring the matter before the Council at its next meeting.

Mr. R. M. Johnston read a "Notice of Additions to the list of Tasmanian Fishes, containing a description of a new species (*Olistherops Brownii*), and particularly referring to the recent successful introduction, by the Salmon Commissioners, into the Colony from New Zealand, of a species of Trout (*Salmo fontinalis*), a native of the rivers and lakes of North America.

Captain Shortt read some introductory "Notes on earthquake shocks in reference to those reported to have recently occurred in the North and North-eastern parts of the island."

Mr. R. M. Johnston drew the attention of the members to two important articles, in the Geological Magazine for April and June, 1883, upon the Tertiary Flora of Australia. One of the articles, written by Professor Dr. C. Baron von Ettingshausen, of the University of Graz, Austria, who is one of the first authorities in Europe, is in itself the substance of a paper read before the Imperial Academy of Sciences in Vienna, giving the results of a special examination of a large series of fossil plants from the Tertiary strata of New South Wales and Tasmania. The Tertiary deposits in the neighbourhood of Hobart have been largely referred to, and many new species have been determined therefrom. As it is very desirable that important articles bearing upon our own natural history should be accessible to local naturalists, Mr. Johnston recommended that the articles referred to be reproduced in the Proceedings of the Royal Society of Tasmania. Mr. Johnston also stated that it would be of the greatest benefit to local palæontologists if a copy of the original paper could be obtained and translated into English, in order that the new species determined could be identified with the names given; and he suggested that one of our Corresponding Members, Mr. Robert Etheridge, jun., of the British Museum, be asked to undertake the important task for the Society.

A general conversation ensued on the two papers read, after which votes of thanks, on the motion of Dr. Perkins, seconded by Mr. Atkins, were accorded to the authors, and also to the donors to the Museum and Library.

In introducing his paper Mr. Johnston remarked that the two species now described by him (*Chilodactylus carponemus.* Parkinson, the "Old Man Perch," and *Sphyræna Nova Hollandiæ*, Gunther." "The Port Phillip Pike") were not embraced in his original catalogue of the fishes of Tasmania (1882). Dr. Richardson, nearly forty years ago, referred to the first mentioned species as inhabiting the waters in the neighbourhood of Port Arthur, but as the original description was defective, and as there was

no record of its capture in Tasmanian waters since that time, it was inferred that the reference to Tasmania was erroneous. The fortunate capture of two fine specimens, one of them 29 inches in length, in 26 fathoms water, 14 miles off Tasman Island, now satisfactorily disposes of all doubt, and enables us to amend the defects of the original description, which was taken from a specimen preserved in spirits. The other species described has not hitherto been recorded as inhabiting Tasmanian waters, although common enough in those of the neighbourhood of the Victorian coast. The specimen now described was captured in Sandy Bay. It is allied to the common "Tasmanian Jack, or Pike," but is rounder, more slender, and elongate. The list of known Tasmanian fishes by these additions is raised to 197 species. Mr. JOHNSTON also, in the course of his remarks, suggested the desirableness of having a good representation of our fishes, suitably preserved, and exhibited in the Society's Museum.

Mr. STEPHENS gave some particulars of the alterations now nearly completed in the large room upstairs, and remarked that Mr. Roblin would soon find plenty of employment for volunteers able and willing to help in arranging the specimens in the new cases. After quoting from the report of a debate in Parliament some remarks on the official duties of the Chief Inspector of Schools, and his supposed devotion to the Royal Society, which caused some amusement, he went on to say that he regretted very much that the want of spare time had of late years prevented him from doing anything worth mentioning for the Royal Society, but he hoped that the good work already being done by other members would be rather increased than lessened in the future.

The proceedings terminated with a vote of thanks to Mr. Johnston for his paper, and to the donors of presentations.

SEPTEMBER, 1883.

The monthly evening meeting of the Society was held on Monday, 10th September, Mr. C. T. Belstead in the chair.

The Secretary (Mr. Barnard) brought under notice the following returns for the past month, viz. :—

1. Number of visitors to Museum :—
   On Sundays, 1,065 ; on week days, 819 ; total, 1,884.
2. Ditto to Gardens, total, 4,434.
3. Plants, etc., received at Gardens :—
   From Dr. Hector, Wellington, New Zealand, a package of seeds.
   From Messrs. Shepherd, Sydney, one case of plants.
   From Messrs. Law, Somner and Co., Melbourne, one bundle of plants.
4. Seeds sent from Gardens :—
   To Ch. Huber and Co., France, one package of seeds.
   To Villmorin and Co., France, ditto.
   To Botanic Gardens, Cambridge, ditto.
   To Botanic Gardens, Calcutta, ditto.
   To the Horticultural Society, Madras, ditto.
   To the Botanic Gardens, Cape of Good Hope, ditto.
   To ditto, Natal, ditto.
   To Chamber of Agriculture, United States, ditto.
5. Books and Periodicals received.
   To Royal Gardens, Kew, ditto.
   To Calcutta Exhibition Commissioners, ditto.
6. Presentations to Museum.

Meteorology :—

1. Hobart, from Captain Shortt, Government Observer, weather report for August.

2. From ditto, table of rainfall at various stations through the colony.
3. From the Government Observer, Wellington, New Zealand, printed tables of observations for May and June.
4. From Mr. Ellery. Melbourne observations for May and June.

The following are the results of the Hobart observations for August :—

Barometer.—Mean of three daily observations, 29·601in.

Thermometer.—Means : max., 56·4 ; min., 43·4 ; dry, 50·5 ; wet, 45·9.

Humidity.—Dew point, 40·8 ; humidity, ·695 ; elastic force of vapour, ·255.

Condensation.—Number of days on which rain fell, 14 ; amount collected, 1·82in.

Clouds.—Mean daily amount 6·6 (scale, 0—10.)

Wind.—Mean force, 3 ; (scale, 0—12.)

Remarks.—The highest temperature in the shade was 64, on the 10th ; the lowest, 34·6 on the 3rd. The highest recording of the barometer 30·248in. at 9 a.m. on the 22nd ; the lowest, 28·809in. at 9 p.m. on the 11th. The rainfall was slight at Hobart and in the midland districts, but heavy at Mount Bischoff and Gould's country—at the former rain fell on every day of the month, to the amount of of 11·51in. Winds, chiefly from the N.W. ; gales on the 6th, 14th, and 26th. Snow fell on Mount Wellington several times during the month. Shocks of earthquake have been felt in the same parts of the colony as previously visited. The strongest shock yet felt occurred, nearly simultaneously, over the whole of the disturbed district, a little before and after 9 a.m. on the 30th. There was a tidal disturbance at the Huon on the 28th and 29th, the tide coming in with great speed and force, throwing up, in several places, mounds of mud 3ft. high.

Rainfall in Tasmania, August 1883 :— in.

Southport, rain fell on	23	days ;	amount,	4·76
Hobart, City ,,	14	,,	,,	1·82
Botanic Gds., Hobart	16	,,	,,	1·37
Oatlands ,,	8	,,	,,	0·74
Fingal ,, ,,	10	,,	,,	0·81
,, Killymoon	10	,,	,,	0·51
Falmouth ,, ,,	5	,,	,,	0·44
Launceston ,,	19	,,	,,	3·32
Low Head ,,	15	,,	,,	3·08
Mount Bischoff ,,	31	,,	,,	11·51
Circular Head ,,	23	,,	,,	3·34
Gould's Country,,	12	,,	,,	8·15
Clarence Plains ,,	5	,,	,,	0·57

Time of leafing, flowering, and fruiting of a few standard plants in the Botanic Gardens during August, 1883 :—

14th. Gooseberries commencing to break.
15th. Common elm commencing to flower.
18th. Elder commencing to break.
20th. Lombardy poplar, ditto.
20th. Horse-chestnut, ditto.
28th. Royal apricot commencing to flower.

Presentations to Museum :—

1. From Master C. Hood. A squirrel from China.
2. From Messrs. Hawkins and Co , Shipwrights' Point. Two fish (Cyttus Australis.)
3. From Mr. B. R. Dyer. Two specimens of the peculiar lizard (*Omolepida casuarina*).

[In a note which accompanied this presentation, Mr. Dyer remarks :—"I send two fine specimens of the large, harmless, lizard, wrongly called by the majority of people in Tasmania the 'Death Adder.' While on the subject of lizards, could not a local be inserted in the *Mercury* and

other papers on behalf of the poor harmless so-called 'Guana' (Sleeping Lizard). In my many business callings over all parts of Tasmania I have found a general desire to destroy these reptiles under the erroneous impression that they are venomous. It is very generally admitted that the sleeping lizard (*Cyclodus nigrolutens*) will attack and kill snakes ; and I can certainly, of my own experience, assert that they will kill *young* snakes. What a pity then to destroy them!"]

The Hon. Secretary read a paper contributed by Dr. E. T. Higgins and Mr. W. F. Petterd, entitled a "Description of a new species of *Mus*, with a list of the terrestrial animals of Tasmania."

Conversational discussion ensued, and the meeting closed with the usual vote of thanks to the authors of the paper and to the donors of presentations.

OCTOBER, 1883.

The monthly evening meeting of the Society was held on Monday, 8th October, Mr. C. H. Grant in the chair.

The Hon. Secretary (Mr. Barnard) brought forward the following returns for the month of September, viz. :—

1. Number of visitors to Museum :—
   On Sundays, 896 ; on week days, 735 ; total, 1,631.
2. Ditto to Gardens.—Total, 5,940.
3. Plants, etc., received at Gardens :—
   From Lady Dry, 24 varieties of seeds from Ceylon.
   From H. Low and Co., London, 1 case plants.
   From Mr. C. F. Creswell, Melbourne, 26 plants.
4. Sent from Gardens :—
   To Mr. C. F. Creswell, 1 case plants (various.)
5. Books and Periodicals received.
6. Presentations to Museum.

Meteorology :—

1. Hobart, from Captain Shortt, Government Observer, weather report for September.
2. From ditto, table of rainfall at various stations in Tasmania.

The following are the results of the Hobart observations :—

Barometer.—Mean. of three daily observations, 29·781in.

Thermometers.—Means. : Max. 58·4 ; Min., 42·3 ; dry bulb, 51·5 ; wet bulb, 47·1.

Humidity.—Dew point, 42·5 ; humidity, ·714 ; elastic force of vapour, ·272.

Condensation.—No. of days' rain, 11 ; amount collected, 1·99in.

Clouds.—Mean daily amount (0—10 scale) ; 6·7.

Wind.—Mean force, 2 (0—12) ; prevailing direction, N.W. and S.

Remarks.—The highest temperature in the shade was 69· on the 11th ; the lowest, 37·2, on the night of the 22nd. Highest recording of the barometer, 30·233in. at 9 a.m. on the 16th ; lowest, 28·840in., from 3 to 6 a.m. on the 3rd. The rainfall during the month was less than that of September, 1882, excepting in the S.E. portion of the colony, where it was greater. The heaviest fall registered in Hobart was 1·17in. on the 4th, and at Fingal 3¼in. on the 12th. A strong gale of wind blowing from the southward, on the 4th. In the latter part of the month the sky to the westward, for an hour or two after sunset, was illuminated with an unusually rose-tinted appearance, caused by the zodiacal light, seldom seen in the higher latitudes except at the beginning of spring to the westward, after sunset, and at the beginning of autumn to the eastward before sunrise. Earthquake shocks are still felt in the disturbed districts, the observers at Launceston and Falmouth report eight for the month.

Rainfall in Tasmania, September, 1883 :—

				in.
Southport, rain fell on	9	days ;	amount	2·09
Hobart, city ,,	11	,,	,,	1·90
Ditto, Bot. Gardens	9	,,	,,	1·79
Oatlands ,,	8	,,	,,	1·43
Fingal ,,	6	,,	,,	4·43
Ditto, Killymoon ,,	9	,,	,,	3.59
Falmouth ,,	7	,,	,,	2·21
Launceston ,,	11	,,	,,	2.54
Low Head ,,	10	,,	,,	1·50
Mount Bischoff ,,	21	,,	,,	3·96
Circular Head ,,	14	,,	,,	2·80
Gould's Country ,,	6	,,	,,	4.96
Clarence Plains ,,	7	,,	,,	2·60
Mount Nelson ,,	7	,,	,,	2.55

Time of leafing, flowering, and fruiting of a few standard plants in the Botanic Gardens during September 1883 :—

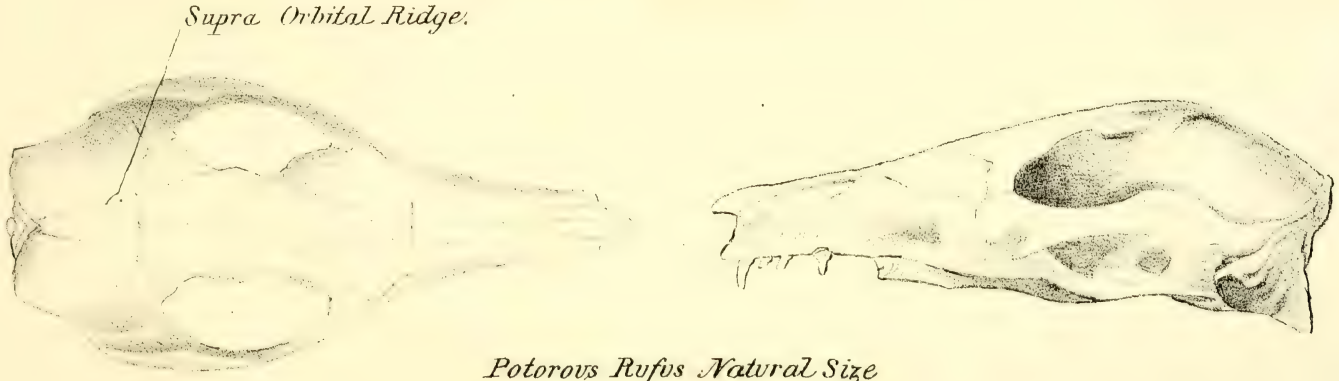
14th. Oak commencing to leaf.
16th. Mountain Peony commencing to flower.
23rd. Horse-chestnut, ditto.
24th. Sycamore commencing to break.
26th. Robinia Pseudo-Acacia, ditto.
22nd. Ash, ditto.
27th. Grape vines, ditto.
28th. Platanus orientalis, ditto.

Presentations to Museum :—

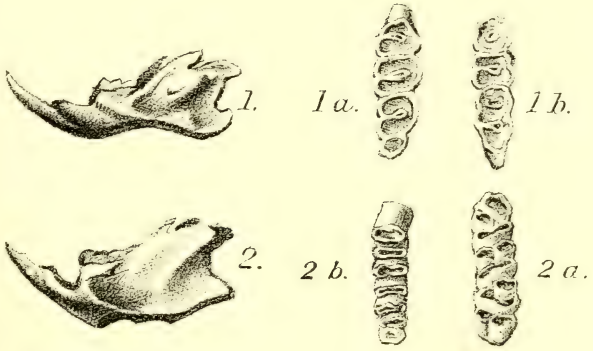
1. From Mrs. Lodder, the Leven, 89 specimens of Tasmanian Lepidoptera, including two of the Convolvulus Hawk Moth *(Sphinx Convolvuli.)*
2. From Mr. F. Tucker, per Mr. Pitt, Mona Vale. An Australian grebe (*Podiceps Australis*), shot at Lake Sorell.
3. From Mr. T. Merry. Specimen of sponge from near Tasman's Island.
4. From Mr. R. H. Davies, Torquay. Specimen of the radiated form of mica, with schorl, from Ruin Island, Furneaux Group, Bass' Straits (with note.)
5. From Mr. R. M. Johnston. A specimen of the "Port Phillip Pike," (*Sphyræna Novæ Hollandiæ*) caught in Sandy Bay. (With a paper).
6. From the Hon. the Minister of Lands and Works. A mounted copy of the new map of Tasmania.
7. From Mr. William Knight, M.A., of Trafalgar Place. Specimens of sulphur and sulphate of lime from White Island, Bay of Plenty, New Zealand.

Mr. Stephens exhibited some fine specimens of precious opal from the borders of Queensland and New South Wales, found chiefly in very hard boulders derived from a volcanic formation.

Mr. R. M. Johnston read a paper entitled : "Some further additions to the list of the known fishes of Tasmania."



Potorous Rufus Natural Size



1. Mus Pachyurus
1 a. Superior molars
1 b. Inferior molars

2. Mus castaneus
2 a. Superior molars
2 b. Inferior molars

DESCRIPTIONS OF NEW TASMANIAN ANIMALS.

By Edmund Thos. Higgins, M.R.C.S., Eng., and Wm. F. Petterd, C.M.Z.S.

[*Read 8th May*, 1883.]

Potorous Rufus—Nov. Species ♂

Fur very long, soft, somewhat glossy, of a rufous brown colour, base of the hairs leaden grey, annulated in the middle with yellowish brown, and darker at the tips, interspersed with long, dark, almost black hairs. Ears broad, roundly pointed, clothed internally with short, rufous brown hair, and externally with long dark brown hair forming at the margin a thick fringe. Under surface of body of a yellowish rust colour, base of hairs of a pale reddish brown. Fore and hind feet of a yellowish brown colour, the outer side of feet darker. Tail thickly clothed with somewhat short, stiff brown hairs, much darker on the upper surface, especially towards the end; the apical portion for about an inch and a quarter almost white. Muffle naked, with a naked, black, pear shaped space extending over the muzzle for about half an inch. The specimen described is quite adult; a second specimen of a much younger animal presents the same characters.

Length from tip of nose to root of tail ...	12 inches
„ of tail	$7\frac{1}{2}$ „
„ from nose to ear	3 „
„ from nose to eye	2 „
„ of ear	$1\frac{5}{8}$ „
Width of ear	$1\frac{1}{8}$ „
Length of fore feet and claws	$1\frac{1}{4}$ „
„ of hind feet and claws	$2\frac{7}{8}$ „
„ of skull...	$3\frac{1}{4}$ „
Width of skull	$1\frac{5}{8}$ „
„ of interorbital space	$1\frac{3}{16}$ „
Length of palatine bones	$1\frac{7}{16}$ „
„ of nasal bones...	$1\frac{5}{16}$ „
Width of nasal bones at the base	$\frac{5}{16}$ „
„ of nasal bones at the apex	$\frac{1}{16}$ „
Length of lower jaw	$1\frac{7}{8}$ „
„ of upper true molars	$\frac{1}{2}$ „

The skull of adult Potorous rufus differs from that of Potorous murinus, in being more slender, in having the occipital crest nearly straight, the posterior orbital process less prominent, supra-orbital ridge extending from posterior orbital process to posterior junction of parietal bones (in P. murinus the supra-orbital ridge only extends as far as the anterior third of the parietal suture). In the skull narrow-

ing suddenly opposite the prœmolar, from whence it curves regularly to the apex of the nasal bones. Space between the canines and prœmolars comparatively less; incisors very short; nasal bones short.

Habitat.—Long's Plains, from T. B. Moore, Esq.

ANTECHINUS MOOREI—NOV. SP. ♂

Fur, long and soft; on the head and upper surface of body of a uniform rich umber brown, thickly interspersed with longer and much darker hair; base of fur slatey grey; on the under surface of the body the hair is of a more ashy tint, especially on the throat and chest. Ears of moderate length, internally and externally clothed with short hairs of the same colour as those on the upper surface of the body. Tail covered with rather long, dark brown hair, which at the apex forms a small brush. Fore and hind feet clothed with dark brown hair; nails long, especially those of the fore feet.

Length from nose to root of tail	$5\frac{7}{8}$	inches
„ of tail	$3\frac{1}{4}$	„
„ from nose to ear	$1\frac{1}{4}$	„
„ „ to eye	$1\frac{3}{16}$	„
„ of ear	$\frac{9}{16}$	„
Width of ear	$\frac{5}{8}$	„
Length of fore foot and nails	$\frac{5}{8}$	„
„ of middle toe nail	$\frac{1}{4}$	„
„ of hind foot and nails	$\frac{7}{8}$	„
„ of middle toe nail	$\frac{1}{8}$	„
„ of skull...	$1\frac{1}{2}$	„
Width of skull	$\frac{3}{4}$	„
Length of nasal bones...	$1\frac{1}{16}$	„
„ of palatine bones	$1\frac{1}{16}$	„
„ of lower jaw	$1\frac{1}{16}$	„
„ of upper true molars	$\frac{5}{16}$	„
Circumference of chest	$3\frac{1}{2}$	„

Habitat.—Long Plains, from T. B. Moore, Esq.

We have dedicated this species to T. B. Moore, Esq., Corinna, to whom we are deeply indebted for all the specimens from Long's Plains.

MUS PACHYURUS—NOV. SP.

Fur moderately long, rather soft, of a dark dusky brown colour, paler on the under surface, especially at the hinder part, where it is of a greyish brown. Ear of moderate length, rounded, covered internally and externally with short brown hair. Fore feet thickly clothed with long brown hair; hind feet moderately so. Tail thick, sparsely covered with rather stiff, brown hair, through which the coarse scales are

freely seen. Whiskers moderately long, and dark. Upper and lower incisors yellow at the tips, and white at the base.

Length from tip of nose to root of tail	...	$6\frac{3}{4}$ inches
„ of tail		$4\frac{1}{8}$ „
„ from nose to ear		$1\frac{5}{8}$ „
„ from nose to eye		$1\frac{3}{16}$ „
„ of ear		$\frac{9}{16}$ „
Width of ear		$\frac{5}{8}$ „
Length of fore feet		$\frac{1}{2}$ „
„ of hind feet		$1\frac{1}{4}$ „
Circumference of chest		$4\frac{7}{8}$ „
Length of skull...		$1\frac{9}{16}$ „
Width of skull		$\frac{7}{8}$ „
Length of nasal bones...		$\frac{5}{8}$ „
„ of palatine bones		$\frac{5}{8}$ „
„ of lower jaw		$1\frac{5}{16}$ „

Coronoid process, curved and acuminate. Condyloid process, small and narrow, nearly horizontal, with a well marked tubercle near its base. Posterior angle broad and rounded. Descending ramus deeply emarginate. Differs from the genus Mus in having its superior and inferior molars almost crossed by folds of enamel (each fold near its termination widens out and has in its centre a deep depression) and in having no cusps. Incisors long and slender.

Habitat.—Long's Plains, from T. B. Moore, Esq.

MUS CASTANEUS.—NOV. SP. ♂

Form very robust. Fur very long, dense, and soft; on the head, back, and sides castaneous, interspersed with longer black hairs; on the under surface of the body the hair is of a yellowish ash colour; throat, chin and nose, leaden grey. Fur on the cheeks, excessively long and bushy, giving the appearance of very full whiskers. Ears broad and roundly pointed, covered internally sparsely, and externally thickly with short hairs of the same colour as those on the body. Tail on the upper surface clothed with brown hairs; on the under surface with hairs of a lighter tint, through which the scales can be seen. Fore and hind feet clothed with leaden grey hairs, which reach to the base of the nails. Whiskers moderately long, dark brown, almost black. Form of head rounded. Upper incisors orange colour; lower incisors yellow.

Length from tip of nose to root of tail	...	$6\frac{3}{4}$ inches
„ of tail		$4\frac{1}{8}$ „
„ from nose to ear		$1\frac{3}{4}$ „
„ „ to eye		„
„ of ear		„
Width of ear		„

Length of fore feet and nails...	$\frac{4}{5}$ inches.
„ of hind feet and nails	$1\frac{1}{4}$ „
Circumference of chest	6 „
Length of skull...	$1\frac{5}{8}$ „
Width of skull	$1\frac{1}{16}$ „
Length of nasal bones...	$\frac{7}{8}$ „
„ of palatine bones	$\frac{7}{8}$ „
„ of lower jaw	1 „
Width of interorbital space	$\frac{3}{16}$ „

Lower jaw very deep; ramus broad. Coronoid process, short and acuminate; condyloid process, narrow and horizontal; descending ramus deeply emarginate; posterior angle broad and rounded. The anterior superior molar has two blunt cusps, a transverse band of enamel, and a posterior cusp. The central and posterior molars have each a transverse band of enamel and two blunt cusps. The inferior molars have transverse folds of enamel, without cusps. Incisors short and stout.

Habitat.—Long's Plains, from T. B. Moore, Esq.

NEW SPECIES OF TASMANIAN ANTECHINI AND MUS,

By Edmund T. Higgins, M.R.C.S., Eng., and William F. Petterd, C.M.Z.S.

[*Read 8th May*, 1883.]

Antechinus Concinnus.

Form slender. Fur moderately soft, brownish-grey on the upper surface, hairs bluish-grey at the base, annulated with pale brown in the middle, and tipped with darker brown; the whole surface interspersed with moderately long black hairs. The fur on the sides and under surface of a pale rusty yellow; the same tint extends round the back of the ear, forming also a narrow line above it. Upper surface of tail clothed with hair of the same colour as the back; under surface pale rusty yellow; the apical portion dusky. Ears very broad and moderately long, clothed internally and externally with yellowish brown hairs. Feet pale rusty yellow. The only specimen we have seen is in the collection of the Royal Society of Tasmania, and somewhat resembles the "minima" of Geoffroy, and may ultimately prove to be only a variety of that species: but the light marks above and behind the ear are so pronounced that we cannot imagine they would have escaped notice if present in Geoffroy's specimen, we have therefore provisionally named it "concinnus."

Length from tip of nose to root of tail	...	$4\frac{3}{4}$ inches
„ of tail		$3\frac{1}{4}$ „
„ from nose to ear		$1\frac{5}{8}$ „
„ from nose to eye		$\frac{5}{8}$ „
„ of ear		$\frac{1}{2}$ „
Width of ear		$\frac{5}{8}$ „
Length of fore foot and claws		$\frac{7}{16}$ „
„ of hind foot and claws		$\frac{3}{4}$ „

Habitat.—Tasmania. Exact locality unknown.

ANTECHINUS MOOREI.—VAR. ASSIMILIS.

Differs from the type, in its smaller size, in the fur of the upper surface being of a reddish brown colour throughout, the hairs annulated with a paler tint, sparsely interspersed with reddish brown hairs. Under surface ashy white. Feet pale reddish brown. Pale line extending from nose to crown of head. The specimen is in the museum of the Royal Society, Hobart. Teeth closely approximating.

Length from nose to root of tail	... ...	5 inches
„ of tail		$3\frac{3}{8}$ „
„ from nose to ear		$1\frac{1}{4}$ „
„ from nose to eye		1 „
„ of ear		$\frac{3}{8}$ „

Habitat.—Tasmania. West Coast.

MUS TAMARENSIS ♀.—NOV. SPEC.

Fur somewhat coarse, and moderately long, on the upper surface of the body, leaden blue at the base, annulated with yellow in the middle, and dark brown at the tip, thickly interspersed with very dark brown (almost black) hairs, giving the fur a generally mottled yellowish brown appearance; under surface greyish white. Ears rounded, covered internally and externally with short brown hair; a dark patch at the interior portion of the base of ear. Fore feet of moderate size, of the same colour as the under surface of the body. *Hind feet white*, long and slender; toes exceedingly long, and of a pure white colour. Tail, on upper surface, covered with moderately long brown hairs, coarse scales showing freely through; under surface covered with longer greyish white hairs; tip of tail almost black. Whiskers long and fine, composed of dark brown and whitish hairs, some only tipped with white.

Length from nose to root of tail	... ...	$6\frac{3}{4}$ inches
„ of tail		$6\frac{1}{2}$ „
„ from nose to ear		$1\frac{3}{8}$ „
„ from nose to eye		$\frac{3}{4}$ „
„ of ear		$\frac{3}{4}$ „
Width of ear		$\frac{1}{2}$ „

Length of fore foot and claws	... ...	$\frac{5}{8}$ inches.
„ of hind foot and claws	... ...	$1\frac{1}{2}$ „
„ of skull...	... ...	$1\frac{5}{8}$ „
Width of skull	... ...	$1\frac{1}{16}$ „
Length of nasal bones...	... ...	$\frac{5}{8}$ „
„ of palatine bones	... ...	$\frac{3}{4}$ „
„ of lower jaw	... ...	$1\frac{5}{16}$ „

Habitat.—Streams of Northern Tasmania.

Extremely abundant on the banks of the river Tamar, and probably widely distributed over the island. Settlers residing near the river suffer much from its destructive propensities. Specimens of a very much larger size than the type are occasionally seen.

Mus Leucopus.

Since the description of "leucopus" was written we have received from Storey's Creek and Long's Plains, and the Royal Society's Museum at Hobart, from the West Coast, specimens of a rat, agreeing in all its essential characters with the type, but differing from it in its much greater size and darker fur. We do not at present feel justified in describing it as a separate species. The type specimen, an adult male, from Kentishbury, measured

From tip of nose to root of tail	... ...	$3\frac{3}{4}$ inches
Length of tail	... ...	$3\frac{3}{4}$ „

The specimens from Storey's Creek, Long's Plains, and the West Coast measure

From tip of nose to root of tail	... ...	$5\frac{1}{8}$ inches
Length of tail	... ...	$6\frac{3}{4}$ „

NOTES ON NEW PLANTS INTRODUCED INTO THE ROYAL SOCIETY'S GARDENS DURING 1883,

By Francis Abbott, Superintendent.

The following notes on plants, received at the Gardens during the year, have been made with a view to giving increased publicity to this portion of the Society's operations; and also to bring prominently forward any plants of particular merit, either of a useful or ornamental character.

On reviewing the list of introduced plants, I find that there are not many that are likely to become of much utility, yet there are a few which are deserving of notice in this respect, as they are of great commercial importance in their native country.

I would first call attention to the South American Pinus

Australis, which in its native habitat is known as the Georgia Pitch Pine. This tree covers large tracts of country, which are called Pine barrens; it furnishes a superior wood of a very durable nature, suitable for all constructive purposes. Its timber is largely exported, and is known in the trade as the Yellow Pine, or Deal. It also yields, by tapping, large quantities of turpentine, pitch, resin, and tar, large shipments of which are sent to Europe and elsewhere.

The tree is said to be of slow growth during its early stages; this, probably, will account for the slow progress of the seedlings raised at the Gardens, which are not as yet more than a few inches high.

Several species and varieties of American Grapes have been raised from seed; these may eventually prove of some cultural importance in the colony. The first of these I shall refer to is Vitis Labrusea, popularly known as the Northern Fox Grape. The varieties of this grape are largely cultivated in the United States both for wine and table use, but more especially for the latter. This is a hardy grape, frequenting moist ground. It is the largest berried of the American Grapes, and has consequently had more attention devoted to it than the other indigenous species. This has resulted in the production of numerous varieties, many of which are held in high estimation. The Catawba is considered to be the best flavoured of these varieties, but it is very subject to mildew. Ive's is also good, but for general cultivation Concord is considered the best, though somewhat deficient in flavour.

The varieties of Vitis Æstivalis (the Summer Grape) are superior as wine grapes to any other of American origin. Wine made from this grape is held in high estimation on the continent of Europe. The berries are sweet and almost destitute of pulp. The plant requires a warm climate to grow it successfully. The fruit ripens late, but when thoroughly ripe it produces some of the best wine in the country. The plant is very little subject to mildew, which is a consideration of some moment.

Vitis Cordifolia (the Frost Grape) is a small berried sour grape which does not reach perfection till late in the season, or not until frost has set in. It keeps well after gathering, but is generally considered too sour for the production of a good wine. The plant enjoys an immunity from mildew and disease generally, and on this account is valuable for the purpose of hybridising vines of a less healthy nature, as well as for purposes of propagation. The variety Clinton is at present most esteemed for cultivation.

Vitis Vulpina. This is a tender grape requiring a warm situation and rich moist soils; in such it bears abundantly.

It does not appear qualified to produce a good wine by itself, but needs the addition of sugar and alcohol, when it produces an excellent wine; the grape itself imparts a fine bouquet to the product. There are not many of the varieties of this species at present in cultivation; the Scuppernongs are considered to be about the best.

Most of the better class of American Grapes are subject to mildew on the leaves, and consequently are not much cultivated, while those of only second-rate quality, which are of a more hardy constitution, are largely grown both for market and table. Efforts have been made to secure an improved race by crossing with the best varieties of the European vine (Vitis Vinifera), but the progeny are not of a sufficient hardy constitution and quickly die out. On this account the American horticulturists have now turned their attention to the native species, and varieties are yearly being raised, many of which are said to be of superior merit.

Apart from the importance of these vines for the production of fruit or wine, they are in request on the Continent as a stock on which to graft the cultivated varieties of the European vine. The roots of the American vines are not liable to the attack of the much dreaded Phylloxera, by which the vineyards of Europe are at present being devastated. It is hoped that by working on the American vines that this evil will be considerably checked, if not eradicated.

In the ornamental section the introductions have been more numerous, and may eventually add much to the floral beauty of the island. Prominently in this section are the various Rhododendrons, which are invaluable in an ornamental point of view. When this class of plants become better known they will be sure to be more extensively cultivated in the island than they are at present, especially as there are large tracks of country of a peaty or sandy-vegetable nature, occurring naturally, which are eminently suited to their requirements, and where they could inexpensively be grown to an unlimited extent.

In the colder parts of the island the Himalayan species and hybrids would require protection during the winter months.

Of these, Rhododendron Veitchianum is a noble species from Moulmein. It produces large, white, fringed flowers, exhaling a strong perfume. The flowers may be compared to a large fringed vase.

Rhododendron Javanicum is a fine rich orange-flowered species from Java. It has been much used in the production of the many beautiful hybrid Rhododendrons brought into notice of late.

Rhododendron Ciliatum is a dwarf early flowering rose

and white species from the Himalayas, much prized for early cutting.

Rhododendron Countess of Haddington is a hybrid of great beauty, producing blush-coloured flowers. The following may also be mentioned as hybrids of merit:—Fragrantissimum, Elegantissimum, Prince Leopold, Princess Alice, Princess Helena, Princess Hortense, Princess Royal, Princess of Wales, Denisoni.

The foregoing would in England be classed as greenhouse Rhododendrons, but in this colony they will doubtless prove hardy if planted in warm situations. They are all of very great merit.

In hardy Rhododendrons many varieties have been introduced during the year. So successfully have hybridists been at work of late years that the hardy Rhododendrons have now, many of them, more or less of the Indian type imparted to them, which has much improved the quality of flowers; but in some cases this has been attained at the expense of hardihood. It is well known to the cultivators of Rhododendrons that the greater the affinity to the Himalayan type the less hardy does the variety become. Some of the best in this class of late introduction are:—

James Marshall Brooks, a grand acquisition, producing large trusses of flowers of a rich crimson colour.

Boula de Neige, a beautiful dwarf early free-flowering variety; flowers of the purest white.

Cunningham's White, an extra fine large white flowering variety.

Vesuvius, a fine bright crimson flowered variety.

Ferdinand Louvrex, producing very large trusses of carmine striped flowers.

Madame Linden, a fine masculated variety; quite new.

About a dozen varieties of the hardy Japan Azalea Mollis have been received during 1883. This plant has only recently come into general cultivation. It is superior as an ornamental plant to Azalea Frontica, and will, in time, in all probability, supplant that well known species. It is an early bloomer, and is very valuable for forcing for decorative purposes.

One of the most interesting introductions of the past year is Disa Grandiflora, a magnificent hardy terrestrial Cape Orchid, only found on the summit of the Table Mountain. This Orchid has always been held in repute by cultivators, both on account of its great beauty as well as its hardy constitution; a cool greenhouse, or common frame, being quite sufficient for its successful cultivation.

Many efforts had been made to introduce this Orchid into this colony, but every attempt resulted in failure; the tubers

were either quite dead on arrival, or there was so little vitality left in them that they soon perished. These failures having been mentioned to Mr. Tuck, a gentleman from South Africa, who happened to be on a visit to Tasmania last year, and who had brought with him some plants of Disa for Victoria, he promised on his return to the Cape to procure some tubers of the plant and forward to me. In due time I received a small tin box containing sods thickly studded with Disa tubers, which were forwarded by Professor M'Owen, Director of the Botanic Gardens, Cape Town. These tubers have grown freely, and there can now be no longer any doubt of the Disa having been successfully introduced.

The new varieties of fruit introduced during the year have not been so numerous as during previous ones. As a matter of fact the collection of fruit at the Gardens (about 600 varieties) is cramped and starved to such an extent as to defy any attempt at successful cultivation, and the addition of more varieties but complicates the evil.

It is very desirable that a standard collection of fruit should exist in the colony, if only for the purpose of securing correct nomenclature, which is in itself a matter of some importance. The maintaining of such a collection should engage the attention of a Horticultural Society, rather than that of the Royal Society, and did one exist in Tasmania it would be advisable to hand the collection over to it. In the absence of such a Society it becomes a necessity that the present collection at the Gardens be maintained for some time longer.

The mere acquisition of varieties is a matter of secondary importance to that of practically exemplifying the various modes of training and good culture in such a manner as to afford instruction to all desirous of acquiring it. This is indeed the legitimate work of a Horticultural Society, but can only be satisfactorily carried out where a sufficiency of suitable labour is available for the purpose.

As a result of the want of labour at the Gardens, this department has in the past been almost entirely neglected. In its present state it is practically useless, and must, I fear, remain so, unless the Society have placed at its disposal largely increased funds.

In the foregoing notes I have only alluded to some of the more meritorious plants; others of more or less interest might have been included in them, but sufficient has probably been said to show that the past year's introduction are not altogether devoid of merit.

DESCRIPTION OF A NEW CAVE-INHABITING SPIDER, TOGETHER WITH NOTES ON MAMMALIAN REMAINS FROM A RECENTLY DISCOVERED CAVE IN THE CHUDLEIGH DISTRICT,

By Edmund T. Higgins, M.R.C.S., Eng., and William F. Petterd, C.M.Z.S.

[*Read* 10*th July*, 1883.]

Theridion Troglodytes ♂ & ♀.

Cave-inhabiting Theridion.

Cephalo-thorax horny brown, with a longitudinal central depression; sternum ovate, and of the same colour, margined with a few scattered dark hairs, which become darker towards the mandibles. Caput somewhat prominent. Maxillæ large and stout, dark brown, almost black, with a strong incurved hook. Palpi long dark brown. Abdomen ovately elongate, soft, ashy brown, shading to almost black, at the posterior extremity, clothed with short thickly set hair. Legs slender, very tapering towards the claws, of a reddish horny brown colour, becoming darker towards the tarsus, sparsely covered with short black hairs and spines. In a mutilated specimen the legs were of green tint.

Total length from claw of anterior to claw of posterior leg :—	♂ 6½ inches.	♀ 5⅞ inches.	
Length of anterior leg in	male...3½ in.	Female...3¼ in.	
„ second „ „	...3 $\frac{3}{16}$ „	„	...2 $\frac{1}{2}$ „
„ third „ „	...2½ „	„	...2 $\frac{1}{8}$ „
„ posterior „ „	...3 „	„	...2 $\frac{2}{8}$ „
„ of cephalo-thorax	... $\frac{3}{8}$ „		
Width „	... $\frac{1}{4}$ „		
Length of abdomen ...	... ...	... ...	$\frac{7}{16}$ inch
Width „ ...	... ...	... ...	$\frac{1}{4}$ „
Length of palpi ...	... ...	... ...	$\frac{3}{8}$ „

The specimens were obtained from a recently discovered cave in the Chudleigh district on the property of Mr. Peckitt, who most liberally allowed Mr. Frederick Henry, of Launceston, to select, for our examination, specimens, not only of the Arachnidæ but also of the Mammalian remains deposited in the fissures of the rock and embedded in the earthy floor of the cave. Mr. Henry informs us that the Arachnidæ were by no means plentiful (probably owing to the difficulty of distinguishing them, even with the aid of a brilliant light, in the intense darkness of the cave). The male was found on a stalactite, and the female on her globular nest, which hung from the roof, by a comparatively slender thread. The nest, which was about the size of a pigeon's egg, and contained a large number of young, as

well as many unhatched eggs, was formed of a white crystalline web, which scintillated when the light was placed near it, producing a strikingly beautiful effect. The nest was tightly surrounded by the legs of the female. As yet no insects have been found on which the Theridion troglodytes must subsist, but no doubt further and more careful examination will lead to the discovery of many. The cave consists of several chambers, in the innermost of which, where the Arachnidæ were collected, is a large deposit of Mammalian remains, some of which lie on the projecting shelves of rock, to which they are agglutinated by thick stalactitic incrustation; still larger quantities are found in the crevices of the rock, whilst the earthy and stalagmitic floor yields an abundance of the following species, which have been carefully compared with recent specimens:—

Halmaturus Bennettii (brush kangaroo)
Halmaturus Billardieri (wallaby)
Hypsiprymnus Apicalis Potorous Murinus (kangaroo rat)
Bettongia Cuniculus (forester kangaroo rat)
Phascolomys (wombat)
Phalangista Vulpina (black or grey opossum)
Phalangista Cookii (ring-tailed opossum)
Mus Pachyrus (recently obtained from Long's Plains)
Mus Castaneus.

No traces of Carnivorous Marsupialia have been found, but from the enormous number of bones here collected, and from the broken condition of the larger number, it is more than probable that these caves were the resort of flesh-eating Mammals. As the floor of the Bone Cave is about 30ft. below the level of the present entrance, and is only reached by two well-like descents of from 14ft. to 16ft. each, connected by low passages, it is almost certain that an entrance must have existed on the other side of the range. The bones, though not fossilized, for the most part bear evidence of considerable age. In a future paper we hope, after careful examination of the cave, to give fuller particulars of this most interesting discovery, as well as a larger list of the contained organisms. We are informed that the stalactites are truly magnificent, surpassing in beauty those of the well known and justly famed Chudleigh caves.

NOTICE OF RECENT ADDITIONS TO THE LIST OF TASMANIAN FISHES,

By Robt. M. Johnston, F.L.S., Etc.

[*Read 13th August*, 1883.]

Family—Labridæ.

Body oblong or elongate, covered with cycloid scales. The lateral line extends to the caudal fin, or is interrupted. One dorsal fin with the spinous portion as well developed as the soft; the soft dorsal similar to the anal. Ventral fins thoracic, with one spine and five soft rays. Palate without teeth; only one lower pharyngeal bone without median suture. Branchiostegals, five or six; gills, three and a half; pseudo-branchial and air bladder. Pyloric appendages, none; stomach without cæcal sac.

Genus Olistherops (Richardson).

Head entirely naked; scales of moderate size; lateral line continuous; snout of moderate extent; dorsal spines numerous, flexible; teeth as in Odax.

Olistherops Brownii.—Nov. Sp.

D. $\frac{18}{10}$; A. $\frac{3}{9}$; L. Lat. 58-60; L. $\frac{7}{14}$.

The height of the body is contained five times and one-fifth in the total length. Caudal fin somewhat lyre-shaped owing to the upper and lower filamentous rays being produced two or three inches beyond the middle series. Like *O. cyanomelas* (Richards.) of the Australian coast, from which perhaps it is doubtfully separable, there is a bluish streak along the upper and lower margins of caudal fin; there are bluish patches on the snout, and the general colour of the body is a dull greenish blue. Caught by Mr. John Brown in the neighbourhood of Table Cape. This is the first representative of the genus recorded from Tasmanian waters. Its nearest ally in Tasmania is the genus Odax, of which "The Stranger" is a member.

The following are the measurements of the specimen examined, and now presented to the Society:—

Total length	$19\frac{1}{2}$	inches
Body	$15\frac{1}{2}$	„
Head	$3\frac{1}{2}$	„
Snout	$1\frac{1}{4}$	„
Dia. of eye	$\frac{1}{2}$	„

Family Hoplegnathidæ (Bleeker).

—*Gunth. Cat.* III., *p.* 357.

Body compressed and elevated, covered with very small

ctenoid scales. Lateral line continuous. The bones of the jaw have a sharp trenchant dentigerous edge, as in Scarus. The teeth, if at all conspicuous, being continuous with the bone, forming a more or less distinct serrature; no teeth on the palate. The spinous portion of the dorsal fin is rather more developed than the soft; the spines strong; anal, with three spines, similarly to the soft dorsal; ventrals thoracic, with one spine and five soft rays.

Australian, Japanese, and Peruvian coasts.

Genus Hoplegnathus (Richardson).

The spinous dorsal with *twelve* spines; the soft dorsal and anal rather elevated; vertical fins somewhat scaly on the basal portion.

Hoplegnathus Conwayii (?) (Richardson).

D. $\frac{11}{12}$; A. $\frac{3}{12}$; P. 18; L. Lat. 96-98.

Height of body contained about two times and a half in the total length; eye large. First spine of dorsal small, situate in a vertical line drawn immediately behind the posterior margin of operculum; second, third, and fourth spines gradually increasing relatively; the fifth, sixth, and seventh nearly equal, being longest; the spinous dorsal occupies the greater portion of the back; the soft dorsal, though containing as many rays, is relatively much shorter; anal developed similarly to the dorsal; colour of body and fins pinkish, mottled with darker spots; sides with four distinct transverse bands, the last situate close to the caudal fin.

Derwent.

Total length	$23\frac{1}{2}$	inches
Body	$21\frac{1}{8}$	„
Head	$6\frac{5}{8}$	„
Snout	$2\frac{5}{8}$	„
Dia. of eye	$1\frac{1}{2}$	„
Greatest depth...	9	„
Least depth at peduncle	$2\frac{2}{8}$	„

I have doubtedly referred this fine fish to Richardson's (H. Conwayii), as it is possible the spines of dorsal are variable.

Salmo Fontinalis (Mitch).

—*Gunth. Cat.* VI., *p.* 1 52

B. 12; D. 12; A. 10; L. lat. 200; Caec. pyl. 34.

No median series of teeth along the hyoid bone. Head of moderate size; cleft of mouth wide; maxillary long, narrow,

straight, extending far behind the eye; adult males with the lower jaw prominent; teeth of moderate size; præoperculum short in a longitudinal direction, with the lower limb very indistinct; fins moderately developed; the length of the pectoral is about one-half of the distance of its root from that of the ventral; dorsal as high or higher than long; caudal truncate in adults, lunate in the young; body with numerous pale red spots; fins generally with black and orange (or white) marginal band; dorsal fin with transverse series of brown or black spots. A native of the rivers and lakes of North America.

This species has recently been introduced to Tasmania by the Salmon Commissioners, from New Zealand, where it has been successfully established. It is said to be greatly superior to the English brown trout, and to be equally hardy.

DESCRIPTION OF A NEW SPECIES OF MUS, WITH A LIST OF THE TERRESTRIAL ANIMALS OF TASMANIA,

By E. T. Higgins, M.R.C.S., Eng., and W. F. Petterd, C.M.Z.S.

[*Read 10th September*, 1883.]

Mus Tetragonurus.—Nov. Spec. ♂

Quadrangular Tailed Rat.

Form stout. Head short and broad. Muzzle rounded. Fur very long, soft, dark ashy-grey on the back, annulated with a paler tint, thickly interspersed with longer dark brown, almost black, hair; under surface slatey-grey, lips and chin slatey-grey. Ears short, broadly rounded, clothed sparsely internally, and thickly externally with short hairs of an ashy-grey colour. Whiskers dark brown, of the same length as the head. Fore legs short. Fore and hind feet clothed on the upper surface with ashy-grey hair; under surface naked, dark brown. Tail short quadrangular, sparingly clothed with dark brown hair, through which the scales, which are of moderate size, can be distinctly seen. The young resemble the full grown specimens in colour of fur, and quadrangular shape of tail.

Length from tip of nose to root of tail ...	6	inches
„ of tail	3$\frac{7}{8}$	„
„ from nose to eye	$\frac{1}{2}$	„
„ from nose to ear	1$\frac{5}{16}$	„
„ of ear	$\frac{5}{8}$	„
Width of ear	$\frac{5}{8}$	„
Length of fore feet and nails...	$\frac{1}{16}$	„
„ of hind feet and nails	1$\frac{1}{4}$	„

Habitat of young specimen—Mount Cameron, from Mr. Bell. Habitat of adult specimen—Springfield, from Mr. R. Dyer.

LIST OF THE TERRESTRIAL ANIMALS OF TASMANIA.

Monotremata.

Ornithorhyncus anatinus ("Platypus"), found also in Victoria, Queensland, and New South Wales, described by Shaw, Nat. Misc., 1799.

Echidna setosa ("Porcupine"), confined to Tasmania. Cuvier, Regne Animal, 1817.

Marsupialia, or Pouched Animals.

Macropus major ("Forester"), found also in New South Wales, Southern and Western Australia. Schreber, Saugeth, 1778.

Halmaturus Bennettii ("Brush Kangaroo"), confined to Tasmania. Waterhouse, Pro. Zool. Soc., 1837.

Halmaturus Billardieri ("Wallaby"), confined to Tasmania, and some of the islands in Bass's Straits. Desmarest, Mammalogia.

Bettongia cuniculus ("Jerboa Kangaroo"), Tasmania. Ogilby, Pro. Zool. Soc., 1838.

Potorous murinus ("Potoroo"), found in Tasmania and New South Wales. White's Journal, 1790.

Potorous rufus ("Red Kangaroo Rat"), Tasmania. Higgins and Petterd, Tr. Roy. Soc., Tasmania, 1883.

Phascolomys Wombat ("Wombat"), common in New South Wales, South Australia, Tasmania, and islands in Bass's Straits. Peron et Lesueur, Voyage aux terres Australes, 1790.

Phalangista vulpina ("Opossum"), inhabits Tasmania, New South Wales, Southern and Western Australia. Shaw, General Zoology, 1800.

Phalangista Cookii ("Ringtailed Opossum"), found in Tasmania, New South Wales, and Southern Australia. Desmarest, Nouv. Dict. d' Hist. Nat., 1817.

Dromicia nana ("The Opossum Mouse"), Tasmania. Desmarest, Nouv. Dict. d' Hist. Nat., 1817.

Belideus sciurus ("The Flying Squirrel"), introduced from New South Wales and Victoria. Shaw, Zool. of New Holland, 1794.

Perameles obesula ("The Bandicoot"), inhabits Tasmania, New South Wales, Southern and Western Australia. Shaw, Naturalists' Miscellany, 1799.

Perameles Gunnii ("Striped Bandicoot"), confined to Tasmania. Gray, Proc. Zool. Society, 1838.

Antechinus Swainsonii. Waterhouse, Mag. Nat. Hist., 1840.

Antechinus minima. Geoffroy, Annales du Museum.

Antechinus albipes, inhabits Tasmania (?), New South Wales, and Southern Australia. Waterhouse, Pro. Zool. Soc., 1842.

Antechinus leucopus. Gray, An. and Mag. Nat. Hist., 1842.

Antechinus Rolandensis. Higgins and Petterd, Tr. Roy. Soc., Tasmania, 1882.
Antechinus leucogenys. Ditto, 1882.
Antechinus niger. Ditto, 1882.
Antechinus concinnus. Ditto, 1883.
Antechinus Moorei. Ditto, 1883.
Antechinus Moorei, var. assimilis. Ditto, 1883.
Dasyurus maculatus ("Tiger Cat"), Tasmania, Victoria, and New South Wales. Shaw's General Zoology, 1800.
Dasyurus viverrinus ("Native Cat"), inhabits Tasmania, New South Wales, and South Australia. Phillip's Voyage to Botany Bay, 1789.
Sarcophilus ursinus (the "Native Devil"), confined to Tasmania. Harris, Proc. Linn. Soc., vol. ix., 1807.
Thylacinus cynocephalus (the "Hyæna"), peculiar to Tasmania. Harris, Pro. Linn. Soc., 1807.

NOTE.—Sarcophilus and Thylacinus, though now confined to Tasmania, at some former period existed in New South Wales, as is evident by their fossil remains found in the caves of Wellington valley, N.S.W.

RODENTIA, OR GNAWING ANIMALS.

Hydromys chrysogaster ("Yellow-bellied Musk Rat"), inhabits Tasmania, South Australia, and New South Wales. Geoffroy, Annales du Museum.
Mussetifer. This and the next species are included in the Fauna of Tasmania, on the authority of the late Mr. Ronald Gunn. Horsfield, Zool., Java.—Gray, Proc. Zool. Soc.
Mussetifer fuscipes. Waterhouse, Zool. of the Beagle.
Mussetifer velutinus. Thomas, An. and Mag. Nat. Hist., 1882.
† Mussetifer griseo-cœruleus. Higgins and Petterd, Pro. Roy. Soc., Tasmania, 1882.
Mussetifer variabilis. Ditto, 1882.
Mussetifer Simsoni. Ditto, 1882.
Mussetifer castaneus. Ditto, 1883.
Mussetifer pachyurus. Ditto, 1883.
Mussetifer tetragonurus. Ditto, 1883.
Mastacomys fuscus. Thomas, An. and Mag. Nat. Hist., 1882.
‡ Hapalotis penicillatus. Gould, An. and Mag. Nat. Hist., vol. x.
Hapalotis leucopus. Higgins and Petterd, Pr. Roy. Soc., Tasmania, 1882.

The late Mr. Kreft, in his Fauna of Tasmania, mentions a rat under the name of "Tasmaniensis," but without any description, we cannot therefore decide as to the species intended.

† There has been lately received from Mr. R. Helms, of Greymouth, New Zealand, a specimen of the "Native Rat," which he purposes calling "Mus Novæ Zealandiæ," but which, on examination, proves to be identical with the "griseo-cœruleus," described by us in the "Proceedings of the Royal Society of Tasmania for 1882."

‡ H. penicillatus, included by the late Mr. Ronald Gunn in the list of Tasmanian animals, is a native of Port Essington. H. leucopus, described by us in the "Proceedings of the Royal Society for 1882," has probably been mistaken for it.

Forty-two species of Terrestrial Mammalia are recorded as inhabiting Tasmania, of which the following twenty-six are peculiar to the island :—

MONOTREMATA.

Echidna setosa.

MARSUPIALIA.

Halmaturus Bennettii
Halmaturus Billardieri
Bettongia cuniculus
Potorous rufus
Dromicia nana
Perameles Gunnii
Antechinus Swainsonii
„ minima
„ leucopus
Antechinus Rolandensis
„ leucogenys
„ Niger
„ concinnus
„ Moorei
„ Moorei, var. assimilis
Sarcophilus ursinus
Thylacinus cynocephalus.

RODENTIA.

Mus velutinus
Mus variabilis
Mus Simsoni
Mus castaneus
Mus pachyrus
Mus tetragonurus
Mastacomys fuscus
Hapalotis leucopus.

METEOROLOGY.

SUMMARY OF METEOROLOGICAL OBSERVATIONS TAKEN AT HOBART FOR THE YEAR 1883.

Latitude, 42° 53′ 25″ S.; Longitude, 147° 20′ 7″ E. Height of Observatory above Sea Level, 190 feet. Barometer corrected to 32° Fahrenheit, and reduced to Mean Sea Level.

1883. Month.	MEAN OF BAROMETER. 9 A.M.	MEAN OF BAROMETER. 3 P.M.	MEAN OF BAROMETER. 9 P.M.	MEAN SHADE TEMPERATURE OF AIR. 9 A.M.	MEAN SHADE TEMPERATURE OF AIR. 3 P.M.	MEAN SHADE TEMPERATURE OF AIR. 9 P.M.	MEAN HUMIDITY.	THERMOMETER IN SHADE. Maximum.	THERMOMETER IN SHADE. Mean Maximum.	THERMOMETER IN SHADE. Minimum.	THERMOMETER IN SHADE. Mean Minimum.	THERMOMETER IN SHADE. Mean Diurnal Range.	THERMOMETER IN SHADE. Mean Temperature of Month.	RAIN. Total Fall.	RAIN. No. of Days Rain fell.	PREVAILING WINDS. Direction.	PREVAILING WINDS. Force.	CLOUDS. Amount.	DEW POINT.	PRESSURE OF VAPOUR.
	Inches.	Inches.	Inches.	°	°	°		°	°	°	°	°	°	Inches.				(0-12)	(0-10)	
January	29·990	29·955	30·006	65·2	66·3	59·4	·742	84·2	71·4	49·6	56·2	15·2	63·7	3·60	9	E.S.E. & N.W.	1·9	7·0	55·3	·438
February	29·873	29·826	29·873	63·1	65·2	59·5	·753	80·0	69·5	48·0	55·5	14·0	62·6	2·08	14	E.S.E. & W.	2·0	7·0	54·7	·428
March	30·051	30·019	30·041	61·7	66·7	60·4	·758	80·0	68·5	46·8	55·3	13·0	62·9	3·62	14	S.S.E. & N.W.	1·7	5·4	56·5	·457
April	30·081	30·032	30·073	58·0	63·2	56·2	·768	73·5	66·0	43·0	50·9	15·1	59·1	0·48	9	S. & N.W.	1·8	5·3	51·8	·385
May	30·002	29·951	29·987	48·1	54·3	48·0	·781	69·2	56·6	34·8	42·2	14·4	50·1	1·70	12	S. & N.W.	1·8	6·4	44·1	·289
June	29·676	29·630	29·667	49·6	55·4	50·7	·774	62·3	57·4	39·2	45·0	12·4	51·9	1·61	17	S. & N.W.	2·6	6·9	44·9	·288
July	29·948	29·907	29·946	43·3	51·6	45·0	·785	60·0	52·9	30·5	40·1	12·8	46·6	1·23	12	S. & W.N.W.	2·1	5·7	39·8	·245
August	29·817	29·756	29·806	48·7	54·4	48·1	·695	64·0	56·1	34·2	40·1	13·0	50·4	1·82	14	S. & N.W.	3·0	6·8	40·6	·255
September	29·948	29·903	29·964	50·3	56·2	47·9	·714	69·0	58·4	37·2	42·3	16·1	51·5	1·99	11	S. & N.W.	2·0	6·7	42·5	·272
October	29·868	29·814	29·868	54·3	58·5	51·9	·657	73·4	61·7	36·2	45·7	16·0	54·7	2·65	17	S.S.W. & N.N.W.	2·4	7·0	43·4	·281
November	29·916	29·859	29·933	57·9	62·6	54·7	·709	85·9	64·9	40·1	49·1	15·7	58·3	2·30	16	S.S.E. & N.N.W.	2·0	7·0	48·9	·346
December	29·977	29·932	29·976	60·1	65·2	57·0	·641	89·4	68·4	41·0	49·9	18·5	60·8	0·97	15	S.S.E. & N.N.W.	2·5	7·0	48·6	·343
Mean	29·921	29·874	29·920	55·0	60·0	53·2	·731	74·8	62·7	40·2	48·0	14·7	56·1	Total, 24·05	Total, 160	S.S.E. & N.W.	2·2	6·6	47·6	·336
Mean of the three recordings		29·905			56·1									Mean, 2·00	Mean, 13					

RAINFALL IN TASMANIA DURING THE YEAR 1883.

Showing the Latitude and Longitude, and Distance from the Sea Coast of each Station, and Number of Days Rain fell during each Month, and Total Rainfall.

Name of Station.	Latitude, South.	Longitude, East.	Distance from Sea Coast.	JANUARY. Wet Days.	JANUARY. Rainfall.	FEBRUARY. Wet Days.	FEBRUARY. Rainfall.	MARCH. Wet Days.	MARCH. Rainfall.	APRIL. Wet Days.	APRIL. Rainfall.	MAY. Wet Days.	MAY. Rainfall.	JUNE. Wet Days.	JUNE. Rainfall.	JULY. Wet Days.	JULY. Rainfall.	AUGUST. Wet Days.	AUGUST. Rainfall.	SEPT. Wet Days.	SEPT. Rainfall.	OCTOBER. Wet Days.	OCTOBER. Rainfall.	NOVEMBER. Wet Days.	NOVEMBER. Rainfall.	DECEMBER. Wet Days.	DECEMBER. Rainfall.	TOTAL. Wet Days.	TOTAL. Rainfall.
	° ′	° ′	Miles.	No.	Inches.	No.	Inches.	No.	Inches.	No.	Inches.	No.	Inches.	No.	Inches.	No.	Inches.	No.	Inches.	No.	Inches.	No.	Inches.	No.	Inches.	No.	Inches.	No.	Inches.
Southport	43 26	0	147 1	0 Coast.	8	3·13	10	4·11	12	4·65	10	6·73	18	3·46	19	2·46	18	4·97	23	4·76	9	2·09	16	4·61	11	3·63	10	1·71	164	40·31
Mount Nelson	42 55	0	147 21	5	7	10	3·48	13	2·52	4	0·48	7	1·95	11	1·55	11	1·41	8	1·27	7	2·53	11	3·04	15	2·91	14	1·48	121	27·39
Clarence Plains	42 54	30	147 24	0	8	10	2·35	11	1·98	11	2·96	9	2·67	6	2·48	9	1·87	9	1·40	5	0·57	7	2·69	13	3·21	13	2·56	10	1·61	112	24·25
Hobart	42 53	25	147 20	7	10	9	3·60	14	2·08	14	3·62	10	0·48	12	1·70	17	1·61	12	1·23	14	1·82	11	1·99	17	2·64	16	2·30	15	0·97	161	24·04
Botanical Garden, Hobart	42 52	0	147 19	50	12	11	3·57	14	1·61	13	2·75	6	0·42	8	1·58	16	1·67	14	1·09	16	1·37	9	1·79	10	2·00	14	2·12	17	1·03	148	21·00
New Norfolk	42 37	0	146 56	0	33	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23·06
Oatlands	42 18	0	147 24	0	28	7	2·84	9	2·29	10	4·87	7	0·37	5	1·38	8	1·55	3	0·92	8	0·74	8	1·43	15	2·01	10	2·63	14	2·21	104	22·94
Fingal	41 40	0	147 48	0	13	7	2·35	11	2·37	4	2·91	4	0·72	9	1·75	7	2·08	6	0·94	10	0·81	6	1·43	8	1·87	8	1·64	9	0·82	88	22·89
Killymoon, Fingal	41 35	0	148 10	0	9	8	1·54	11	3·34	12	2·65	8	0·78	12	2·03	16	1·67	12	0·96	10	0·51	9	3·59	11	2·71	14	2·03	12	1·08	135	32·79
Falmouth	41 32	0	148 19	0	Coast.	10	1·78	13	3·67	9	1·62	9	0·51	8	1·90	8	1·47	5	0·44	5	0·44	7	2·21	10	3·34	16	2·42	12	0·90	106	20·50
Gould's Country	41 15	0	148 0	0	13	4	1·22	9	1·06	15	2·03	11	1·13	12	1·88	20	2·16	15	4·49	19	3·52	12	2·54	13	3·05	9	2·21	10	1·89	149	31·16
Launceston	41 26	0	147 10	0	28	4	1·22	9	1·06	15	2·03	11	1·13	12	1·88	20	2·16	15	4·49	19	3·52	12	2·54	13	3·05	9	2·21	10	1·89	149	31·16
Low Head	41 3	0	146 48	0	Coast.	7	0·55	8	1·55	7	1·58	7	0·59	7	1·34	15	2·04	15	3·08	10	1·59	12	3·70	7	2·71	10	1·39	127	27·82
Mount Bischoff	41 25	0	145 34	0	28	13	1·60	17	4·01	19	5·37	18	3·02	21	4·05	28	12·78	26	9·88	31	11·51	21	3·98	23	6·73	21	4·15	28	7·53	266	75·09
Circular Head	40 43	0	145 17	0	Coast.	7	1·03	8	2·68	14	4·20	13	1·79	15	5·68	20	5·44	18	3·70	23	3·34	14	2·60	13	3·88	15	1·69	13	4·21	173	40·44
Corinna	41 41	0	145 2	0	Coast.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strahan, Macquarie Harbour	42 11	0	145 17	0	Coast.	6	1·74	5	2·03	6	2·35	11	2·85	16	3·00	27	8·55	25	6·97	24	7·45	13	3·40	20	7·57	13	3·86	21	10·23	187	58·10

TABLE OF RAINFALL AT LIGHTHOUSES FOR THE YEAR 1883.

Showing the Number of days Rain fell during each Month and Total Rainfall.

1883.	KING'S ISLAND.		KENT'S GROUP.		GOOSE ISLAND.		SWAN ISLAND.		SOUTH BRUNI.	
	Wet Days.	Rainfall.	Wet Days.	Rainfall.	Wet Days.	Rainfall.	Wet Days.	Rainfall.	Wet Days.	Rainfall.
	No.	Inches.	No.	Inches.	No.	Inches.	No.	Inches.	No.	Inches.
January	8	0·73	4	1·42	8	1·72	10	1·16	9	3·35
February	10	2·22	8	2·83	9	1·66	10	2·01	7	3·15
March	14	2·49	8	0·69	5	0·38	6	0·89	13	3·45
April	7	1·02	8	1·09	7	0·89	3	0·52	12	1·43
May	13	2·13	16	2·43	8	1·20	7	2·36	13	4·85
June	21	4·29	21	3·25	18	4·70	13	3·10	15	2·22
July	17	2·56	18	2·91	13	2·94	7	2·35	18	4·45
August	13	2·36	15	3·89	16	1·89	9	1·59	16	2·30
September	13	2·63	8	1·09	6	1·21	5	2·05	14	2·73
October	17	2·91	15	3·32	14	2·28	11	2·91	20	4·28
November	9	0·69	9	1·91	6	0·58	6	0·98	15	4·30
December	11	0·84	11	1·50	10	1·40	10	1·87	23	2·81
TOTAL	163	24·78	136	26·63	120	21·25	97	22·69	180	40·31

Commander J. SHORTT, *R.N., Meteorological Observer.*

WILLIAM THOMAS STRUTT,
GOVERNMENT PRINTER, TASMANIA.

REPORT

OF THE

32 11

ROYAL SOCIETY

OF

TASMANIA

FOR THE YEAR

1883.

Tasmania:
WILLIAM THOMAS STRUTT, GOVERNMENT PRINTER, HOBART.

1884.

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Mace, F., Buckland.
Macfarlane, W. H., M.B., New Norfolk.

Napier, G. R., Hobart.
*Nowell, E. C., ditto.
Nairn, C. C., New Town.
Nicholas, Wm., Nant, Bothwell.
Nicholas, Geo. C., Mill Brook, Ouse.

Pillinger, J., Antill Ponds.
Perkins, H. A., M.D., M.R.C.S., Eng., Hobart.
Parsons, Cecil J., New Town.
*Petterd, W. F., C.M.Z.S., Launceston.

Roberts, H. L., Hobart.
Read, R. Cartwright, Redlands, New Norfolk
Riddoch, A., Hobart.
Reynolds, W. J. J., ditto.

Seal, M., ditto.
Smith, His Honor Sir Francis, Chief Justice, ditto.
†Solomon, Joseph, ditto.
*Stephens, T., M.A., F.G.S., Inspector of Schools, ditto.
Story, Dr. G. F., Swanport.
Salier, F. J., Hobart.
*Swan, John, ditto.
*Shoobridge, W. E., New Norfolk.
*Simson, A., Launceston.
Swan, E. D., Hobart.
Sharp, J., ditto.
Shoobridge, R. W. G., New Norfolk.
Smith, C. H., Launceston.
Shaw, Bernard, Hobart.
Simmons, Rev. J. Wilkes, Hobart.

*Travers, S. Smith, New Town.

Walch, James H. B., Hobart.
Wise, F. H., ditto.
Webster, A. G., ditto.

Wright, Stephen P. H., Glenorchy.
Westbrook, G. C., Hobart.
Woodgate, E. W., Launceston.
Walker, James Backhouse, Hobart.
Ward, W. F., Government Analyst, ditto.
Wilson, Fleetwood, ditto.

Young, Russell, ditto.

MINUTES of the Annual General Meeting of the Royal Society of Tasmania, *held at the Museum on Tuesday evening, 29th January,* 188[illegible], *the Hon.* Dr. Agnew *in the Chair.*

There was a numerous attendance of Fellows.

The under-mentioned gentlemen were duly elected Fellows of the Society; viz.—A. B. Biggs, Esq., of Launceston; the Right Rev. Bishop Sandford, D.D.; Albert W. Graham, Esq.; Lieut.-Colonel Legge, R.A.

The Hon. Secretary, Mr. Barnard, read the Report of the Society for the past year; when it was moved by the Chairman, "That the Report be adopted, and printed for circulation among the Fellows." Carried unanimously.

The four retiring Members of Council, and the two Auditors of annual accounts, were duly re-elected.

Mr. Grant had great pleasure in proposing a very hearty vote of thanks to the Honorary Secretary, Mr. Barnard, who had so kindly undertaken the office during the absence of their former Secretary, Dr. Agnew. He felt sure that the Fellows of the Society most cordially welcomed back Dr. Agnew, who had formerly done so very much for the Society, having been the most able and generous Secretary it was possible to be favoured with. At the last Council meeting, being the first at which Dr. Agnew was present since his return home, Mr. Barnard expressed a great anxiety to relinquish the office to the former occupant, who had so well and so worthily filled it, and became thoroughly identified therewith. He felt sure the Fellows would be greatly pleased to hear that Dr. Agnew had re-accepted the position, and after this meeting would again become the Secretary, and his influence and services would doubtless be, as before, of inestimable value thereto. Mr. Barnard had most worthily filled the post during the interval, and the Society owed him a great debt of gratitude for the ability, zeal, and industry he had exhibited in its service, which their great joy at welcoming back Dr. Agnew ought not to make them overlook or diminish. The Society had lost a talented and most faithful representative in their late Curator, who was so highly respected, and whose loss was so sincerely

regretted by them all; and they were particularly indebted to the kindness of Mr. E. D. Swan, who, in the absence of a Curator, had given his valuable services at the Museum, and would probably do so until the arrival of the new Curator about the 1st March next. Although the Society could not record the last as a brilliant session, good work had been done; and the action of the Domain Committee, with the very able Superintendent of the Gardens, had introduced some new features in the Domain, and greatly improved its appearance as compared with that of two or three years since. The labours of Mr. Barnard had been made more onerous and responsible by the decease of their late much esteemed Curator, and also unfortunately by illness, which confined him to his house, but from which they would all be glad to see he was recovering, and would unite in the hope that all traces of the illness will soon pass away. For the above, with many other equally important reasons, he felt sure all would join in a most hearty and cordial vote of thanks to their Secretary, Mr. Barnard.

Mr. Stephens said he had very great pleasure in seconding the motion. Though glad to see their old friend Dr. Agnew again occupying the position in which he had done so much for the Royal Society, he was confident that the Fellows were fully sensible of what they owed to Mr. Barnard for having so readily consented to undertake the duties of Honorary Secretary; and he could himself bear testimony to the zealous, painstaking, and efficient manner in which those duties had been discharged during the past three years.

The Chairman, before putting the motion, begged to say a few words in its cordial support. During his comparatively long absence from the Colony he had regular opportunities, through the columns of the *Mercury*, of observing the very zealous and efficient manner in which the Honorary Secretary had always conducted the affairs of the Society. So much indeed had he been impressed by this, that it was only at the urgent desire of Mr. Barnard himself he had consented to undertake again the duties which had been so ably carried on in his absence. His work, he knew, would be lightened by the aid and co-operation which had been very kindly promised him by Mr. Barnard; and under these circumstances he hoped, as far as the Honorary Secretary's duties were concerned, that the progress of the Society would be as satisfactory in the future as it had been in the past.

Mr. Barnard, in acknowledging the vote of thanks, said that he was quite overwhelmed with the kindly feeling so warmly manifested in the recognition of his past services; and that in resigning the position of Honorary Secretary, which he had held for the last three years as *locum tenens* for Dr. Agnew, it was a great satisfaction to him that, in surrendering the office to its proper and legitimate holder, he could do so with the consciousness of having endeavoured to uphold the high reputation which it possessed when he undertook its duties. After some other personal observations, Mr. Barnard referred to the tribute in the Report to the memory of the late Curator as being justly merited, and also spoke of the kind services rendered for the last two months by Mr. Swan. Mr. Barnard concluded by again expressing his grateful acknowledgments for the handsome terms in which the motion had been proposed and supported, as well as for the very cordial reception it had met with from the meeting.

REPORT.

During the Session of 1883 the following papers were read at the various monthly meetings :—"On new Species of Antechinus and Mus," by E. T. Higgins, M.R.C.S. Eng., and W. F. Petterd, C.M.Z.S.; "Notes on new Plants introduced into the Royal Society Gardens during 1882," by Francis Abbott, Superintendent; "Description of a new cave-inhabiting Spider, together with Notes on Mammalian Remains from a recently discovered cave in the Chudleigh District," by E. T. Higgins, M.R.C.S., and W. F. Petterd, C.M.Z.S.; Notice of additions to the list of Tasmanian Fishes, &c., by R. M. Johnston, F.L.S.; "Notes on Earthquake Shocks," by Commander Shortt, R.N.; "Description of a new species of Mus, with a list of the terrestrial Animals of Tasmania," by E. T. Higgins, M.R.C.S., and W. F. Petterd, C.M.Z.S.; "Some further additions to the list of the Fishes of Tasmania," by R. M. Johnston, F.L.S.

In addition to the ordinary scientific periodicals, various donations and exchanges from many foreign scientific bodies, especially those from the United States of America, are constantly accumulating in the library; and it has now become indispensable that a complete catalogue of its valuable contents should be undertaken. A small amount has been expended upon binding the parts of scientific serials as they form into volumes, and also some of the more valuable works in the library, notably Gould's Birds and Mammals of Australia. Were funds available, much more might be accomplished with advantage in this direction.

The Queen's Domain Improvement Committee has made good progress in tree planting in various localities. The old Corporation quarry has been considerably improved by levelling and planting. All the necessary plants have been put in, and are doing well with very few exceptions.

Four new Fellows have been elected, whilst 15 have been lost through death and other causes. The total number of Fellows is now 99.

The usual Meteorological Observations have been regularly received from the Government Observer. There are now eight stations throughout the colony, furnished with first-class instruments, and two additional will soon be opened at King and Swan Islands. Weather telegrams are sent daily to the Melbourne Observatory, whence a forecast of the probable weather for the next 24 hours in Bass' Straits, and on the Northern coast of Tasmania, is daily received and exhibited at the chief Telegraph offices.

Council.

No alteration in the Council has taken place during the year, nor have any new candidates been proposed under Rule 31. The provisions of Rule 32 have been duly observed.

Finance.

The increase for the year from all sources has been as follows:—Government grant in aid to Museum, £200; grant to Gardens, £600; annual subscriptions, &c. £177; from Marine Board, £20; sale of plants, &c. at Gardens, £103 19*s.* 10*d.*,—making, with balance from 1882, £1128 5*s.* 11*d.* The expenditure amounted to £1070 18*s.* 3*d.*, leaving a balance to credit of £57 7*s.* 8*d.*

A special grant of £100 was made by Parliament for the purchase of additional cases for the Museum, rendered necessary by the increased accommodation required for specimens, of which sum £81 19*s.* 4*d.* has been spent, leaving a balance of £18 0*s.* 8*d.* available for the same object.

Gardens.

Many valuable plants have been introduced during the past year, foremost amongst which may be mentioned a collection of ornamental deciduous trees from Messrs. Van Geert, of Ghent, Belgium, comprising maples, beeches, ashes, oaks, elms, and several others of equal merit; and from this source alone some 30 species of forest trees have been added to our collection. Disa grandiflora, a superb terrestrial orchid from the Cape Botanic Gardens, has been successfully introduced.

The supply of labour is still totally inadequate, in consequence chiefly of the extension of the grounds, with the vastly increased number of plants, the falling off of prison, and the greatly enhanced cost of free, labour.

Many urgent representations in late years have been made to Government on the subject; and the Council, it is pleasant to report, have at last some reason to hope that further and much needed assistance may be granted during the current year.

The important work of labelling the plants, referred to in last year's Report, is still being carried on as rapidly as means will allow.

Thanks are again due to the donors of plants and seeds; also to captains and owners of vessels and others, who have gratuitously assisted the Society in effecting exchanges.

The approximate number of visitors to the Gardens was 56,144.

Museum.

It is with the deepest regret the Council have to record the death of the Curator, Mr. Thomas Roblin. For many years Mr. Roblin had been a most faithful, zealous, and efficient officer. His quiet, unassuming manner, his readiness to oblige, and his willingness on all occasions to afford to enquirers every information in his power, secured him the respect, esteem, and regard of every member with whom he came in contact. Much of his excellent handiwork will remain to bear enduring testimony to the admirable manner in which he discharged the various duties of his office. The Council have had a somewhat arduous task in selecting from candidates a fitting successor, but they have a well-grounded assurance that in conferring the appointment upon Mr. Alexander Morton, Curator's Assistant to the Sydney Museum, they have consulted the best interests of the Society by securing the services of an officer possessing an extensive knowledge of Natural History, with long and trained experience in everything connected with the practical work of a Museum.

Presentations during the year have been numerous, and of a varied and interesting character. By means of the extra grant already referred to, many alterations have been made, which will secure a much more effective display for the specimens.

For re-labelling and arranging a great part of the Ornithological collection, the best thanks of the Society are due to Mr. E. D. Swan, who has devoted a very great amount of time and trouble to this much needed work. The Society is under additional obligation to Mr. Swan for the valuable services which he has rendered in various other directions during the past two months.

The number (approximate) of visitors to the Museum was:—On Sundays, 11,000; on week days, 13,000. Total, 24,000.

J. W. AGNEW, M.D., *Hon. Secretary.*

STATEMENT of the Funds of the ROYAL SOCIETY OF TASMANIA *for the Year* 1883.

Receipts.	£	s.	d.	£	s.	d.
Balance as per statement for 1882....	..			27	6	1
Royal Society.						
Annual Subscriptions and arrears from former years.....	177	0	0			
From Marine Board for clerical assistance	20	0	0			
				197	0	0
Museum.						
Grant in aid from Treasury.....	200	0	0			
Special grant for new cases	100	0	0			
				300	0	0
Botanic Gardens.						
Grant in aid from Treasury.....	600	0	0			
Proceeds of sale of Plants, Fruit, &c.	103	19	10			
				703	19	10

Expenditure.	£	s.	d.	£	s.	d.
Royal Society.						
Printing and Advertising.....	29	8	6			
Postage, Parcels, &c.....	3	12	9			
Collector's Commission	7	17	6			
Messenger	0	5	0			
Clerical assistance for Meteorological Tables	20	0	0			
Library—Books and Stationery	41	9	1			
Ditto, Bookbinding.....	15	0	6			
Furniture, &c.	5	12	0			
Sundries	0	9	10			
				123	15	2
Museum.						
Salary of Curator	125	0	0			
Wages of Museum Attendant	52	0	0			
Ditto, Sunday duty	12	15	0			
Insurance	3	5	0			
Purchase and preparation of specimens	0	5	0			
Water rate.....	5	13	4			
Sweeping chimneys	2	3	0			
Fuel and light	5	5	0			
Sundry and petty cash.....	1	11	3			
Ironmongery, brushware, &c.....	6	18	3			
Freight and carriage of specimens ..	1	2	3			
Repairs to buildings, fittings, &c. ..	114	0	4			
Camphor, spirits of wine, &c.	3	19	3			
				333	17	8
Gardens.						
Salary of Superintendent.....	200	0	0			
Wages of Labourers	302	0	6			

	Repair of tools, &c.	9	10	10	
	Freight and carriage of Plants	14	1	2	
	Stationery and stamps	5	2	10	
	Forage	4	7	9	
	Horse hire	10	14	0	
	Ironmongery, fittings, &c.	54	16	2	
	Timber and repair of buildings	37	15	10	
	Seeds	14	8	0	
	Sundries	26	17	8	
	Water rate	3	3	4	
	Flower-pots	12	17	0	
					695 15 1
					£1153 7 11
	Balance as per statement for 1882	27	6	1	
	Receipts	1200	19	10	
	Expenditure	..			1153 7 11
	Balance to credit as per pass-book	..			74 18 0
£1228 5 11		£1228	5	11	1228 5 11

Audited and found correct.

FRANCIS BUTLER.
JOHN MACFARLANE.

28*th January*, 1884.

STATEMENT of the MORTON ALLPORT *Memorial Fund*, 1883.

1883.	Dr.	£	*s.*	*d.*
Jan. 1.	To balance as per statement for 1882.....	30	12	10
Nov. 5.	Cash, A. G. Webster.....	13	0	6
	Interest, Savings Bank.....	2	4	8
		£45	18	0

1883.	Cr.	£	*s.*	*d.*
Dec. 31.	By balance in Savings Bank to credit of Fund	45	18	0

Audited and found correct.

FRANCIS BUTLER,
JOHN MACFARLANE.

28 *April*, 1884.

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Dynamils. By M. Gawinir, C. E., Queensland.
Determination of the Motion of the Solar System. By M. Gawinir, C.E., Queensland.

*Engineering, No. 389.
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*Engineers and Shipbuilders in Scotland, vol. 25, 1881-82.
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———————————— 66, June, 1883.
———————————— 62, February, 1883.
———————————— 64, April, 1883.
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*Fossils, Catalogue of, in the Australian Museum. By W. F. Ratte. From the Trustees.
Foraminifera of Victoria. By H. Watts. From the Author.
Forty-three Official Publications of the International Fisheries Exhibition.
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N. S. Wales, Natural History of. By Rev. J. E. T. Woods.
Naturwisenschaften Abhandlungen, vol. 7, part 2, 1883.

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Time Balls, Construction and Maintenance of. From the Chief Signal Officer, Washington.
Tornadoes of May 29 and 30, 1879. By J. R. Findlay.
Transit of Venus, December 12, 1882, Instructions for observing. From U.S. Naval Observatory.
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LIST of Donors to the Museum during 1883.

(For particulars of Donations see lists in Monthly Proceedings.)

Adams, R. P.
Barnard, Dr.
Bailey, H. H.
Bastian, C.
Brown, R.
Clerk, A. T.
Crawford, Col.
Crossley, W., jun.
Cotton, J.
Crosby, W., Mrs.
Cowen, J. H.
Chamber of Commerce, Victoria
Davis, Thos.
Davis, R. H.
Edgar, Miss
Elliott, G., Melbourne
Edge, C.
Evans, J. E.
Glover, C.
Geard, Mr.
Hume, Mr.
Haalt, Dr.
Higgins, Dr.
Institute, New Zealand
James, C. W. S.
Knight, W.
Lee, P.
Lamb, Mrs.
Murphy, J. A.
Macpherson, P., Rev.
M'Clymont, J. R.
Minister of Lands, Hobart
Merry, L.
Petterd, W. F.
Page, J.
Rayner, W., New Norfolk
Swan, E. D., Hobart
Stephens, T.
Tucker, F.
Whittaker, J.
Westbrook, G. C.
Woodin, W.
Warner, H. J.
Young, E.

PLANTS INTRODUCED INTO THE ROYAL SOCIETY'S GARDENS DURING 1883.

Abutilon indicum
Acer japonicum palmatum
„ polymorphum crispum
„ roseo pictis
„ Pennsylvanicum
Achillea millifolium rubrum
Androsace sarmentosa
Anemone Caroliniana
Aquilegia leptoceras
Aristolochia sipho
Asplenium Veitchianum
Astragulus thianschanicus
Astrantia Bierbensteinii
Bambusa falcata
Barbarea vulgaris variegata
Bignonia gracilis
Calliandra brevicarpa
Calliopsis prolifera
Campanula lamiifolia
Campsidium filicifolium
Carya oliviformis
Carex maxima
Cassia alata
„ hirta
Castanea heterophylla dissecta
Ceanothus olivaricatus
Cerasus—double French
„ Sieboldtu variegata
Cheilanthes Borsigiana
Cinchona Ledgeriana
Cratægus crenulata
Curcuma Leopoldi
Daphne marginata
„ Mazeli
Dasylirion Wheeleri
Delphinium Caucasicum
Dendrobium stridatum
Desmodium gyrans
Deutzia staminosa
Dianthus Winemeri
Dioscoræa bulbifera
Draba brumiifolia
Dracocephalum straminea
Duvaua dependens
Erythria liniarifolia
Erythrina compacta
„ Harrisii
Escallonia sanguinea
Eugenia Maire
„ Malaccensis
Fagus sylvatica cristata
„ fol. arg. variegatus
„ pendula
Fraxinus Americana aucubafolia
Gentiana fatisora
Grevillea Dallachiana
„ ericifolia
„ obtusifolia
„ junisperoides
Goniolepis eurybioides
Hedera marginata aurea
Hedysarum neglectum
Helenium autumnale
Hibiscus lampas
„ splendens
Hydranga cyanoclada
Hypœstes purpurea
Ilex balearicus
„ cassinoides
Ipomæa pendula
Iris bispinus
„ ensata
„ lævigata
„ nothia
„ virginica
Juglans regia laciniata
Jurinia eversmannia
Lactuca Macrorrhiza
Laurea vespertilionis
Liriodendron tulipiferum pictis
„ variogatum
Lygodium venustum
Melia umbraculifera
Microsonium unioides
Nerium Delphine
Niphobolus cuprea variegatus
Œnothera crassiuscula
Oncillea saponaria
Osmunda regalis
Oxytropis ochroleuca
„ strobilacea
Passiflora incarnata
Pernettya mucronata
Phyllanthus nepalensis
„ parvifolius

Polygala triphylla
Populus Van Geertii
Potentilla glandulosa
„ multifida
„ Pennsylvanica
Premna, sps.
Primula farinosa
Pulsatilla pratensis
„ vernalis
Quercus concordia
„ fissus
„ japonica variegata
„ macrocarpa
„ macrophylla
„ penduncularis argentea variegata
„ elegans albo-marginata
„ filicifolia
„ pendula
Ranunculus lingua
Retinospora juniperoides
Rhamnus procumbens
Rhus rhodanthema
Robinia Decaisneana
Sapota costata
Saxifraga nivalis
Scolopendrium cristata
Solanum jaquinii
Spiræa pallassii
Ulmus campestris aureus
„ „ „ viridis
„ „ urticifolia
„ exoniensis pendula
„ fulva pendula
Urena lobata
Uraria Lagopus
Veronica Hectori
„ Imperialis
Wistaria frutescens

Abutilon.

Aurea globosa
Delicatum
Lady of the Lake
Perle d'Or
Princess Marie

Caladium.

Agrippine Dimitri
Countesse de Pogue Ordan
Diana
Louise Duplessis
Lepeschkine
Madame A. Warne
„ Houllet
Madame Humbella
„ Marjoline Scheffer
Monsieur Linden
Proserpine
Pyrrhus
Walter Scott

Clematis.

Albert Victor
Alexandria
Fair Rosamond
Fairy Queen
Gipsy Queen
Henreyi
J. Gould Veitch
Lady Boville
„ C. Neville
„ J. Radcliff
„ Londsborough
„ Stratford de Radcliffe
Lucy Lemoine
Madame Grange
Marie Lefebvre
Miss Bateman
Mr. J. Bateman
Mrs. Quilter
Purpurea elegans
Sensation
Sir Garnett Wolseley
Sir Thomas Moore
Standishii
The Queen
Tunbridgensis
Velutina purpurea
Victoria

Chrysanthemum.

Golden Christine
Guernsey Nugget
Lady St. Clair
Little Harry
Lord Derby
M'Mahon
Mt. Edgecombe
Princess Teck
White Christine

Dahlia.

Annie Rawlings
Aurora
Constancy
Deutsche Sonne
Herbert Turner
John Ashby
John Greenway
King of Primroses
Louisa Neate
Mrs. Dix
Nellie Buckland
Neville Keynes
Princess of Prussia
Prince Bismark
Princess of Prussia
Queen of Beauties
Rose Unique

Lantana.

Alba magna
Diadem
Imperatrice Eugenie
Meteor
Sanguineum

Pelargonium.

Alexina
Bridal Bouquet
Charles Outrim
Emile Everard
Evening Star
John Bright
Lady Isabelle
Marie Malet
Marie Lemoine
Maggie Hayes
Pygmalion
Thomas Dodds
Ville de Caen
Volante Nationale

Pelargonium—Zonal.

A. F. Barron
Boula Rose
I've got it
La France
Lucy Lemoine
Madame Thibaut
Mrs. Laver
Pluton
Princess Stephanie
Renown
Vesuvius, salmon
Vesuvius, white
Wyckærti

Pelargonium, Ivy.

Gloire de Orleans

Roses.

A. K. Williams
Barone Noirmont
Charles Darwin
Constantine Trekiakoff
Diana
Duchesse Bedford

Edward Pynært
Elie Moral
Etienne Levet
François Lacharme
Isabella Sprunt
John Bright
Jules Chretien
Lady Sheffield
Little Gem
Madame A. Derreaux
Madame Jeanie Marix
Madame Pulliat
Marie de Blois
Marie Van Houtte
Marquis Ligneris
Mrs. Baker
Mrs. Harry Turner
Monsieur Noman
Oxonian
Panache d'Angers
Perfection de Lyon
Prince Leopold
Royal Standard
Supert et Notting
Village Maid

Apples.

Ailes
American Golden Pippin
Borowisky
Chronicle
Cogswell's
Cooper's Markek
Evening Party
Grimes' Golden Pippin
Hartford Sweet
Irish Peach
Keddleston Pippin
Lady's Sweet
Magnum
Rawles' Janet
Reinette Franche

Apricot.

Late French Red

Peach.

Red Syrian Nectarine

Diospyrus Kaki.

Among
Gosho
Hayakuma
Haycheya
Seedless

EXCHANGES OF PLANTS, SEEDS, &c. DURING 1883.

From Messrs. Ch. Huber, France—27 packets seeds.
From Messrs. Vilmorin, Andrieux, et Cie., France—5 packets seeds.
From De Smet Frères et Cie., Belgium—2 cases rhododendrons.
From Messrs. A. Van Geert, Belgium—Case deciduous trees.
From Mr. Thos. Gulliver, Queensland—Case orchids.
From Smithsonian Institute, Washington—18 packets seeds.
From Mr. C. F. Creswell, Sydney—Seeds araucaria Bidwilli.
From Baron Ferd. Von Müeller, Government Botanist, Victoria—50 packets seeds.
From Smithsonian Institute, Washington—12 packets seeds.

From Messrs. Vilmorin, Andrieux, et Cie., Paris—5 packets seeds.
From Messrs. Shepherd & Co., Sydney—Seeds, 18 var. eucalypti.
From Mr. W. R. Guilfoyle, Director Botanic Gardens, Melbourne—24 packets palm seeds.
From Baron Ferd. Von. Müeller, Government Botanist, Victoria—150 packets seeds.
From Mrs. R. D. Harris, High School—30 packets seeds received from Saharunpar, India.
From Mr. J. Smith, Victoria—12 plants.
From Messrs. Vilmorin, Andrieux, et Cie., Paris—5 packets seeds.
From Mr. G. Brunning, St. Kilda, Victoria—Case plants, various.
From Messrs. J. Smith, Victoria—50 plants.
From Royal Gardens, Kew, England—Seeds Rhus copallina.
From Messrs. C. F. Cresswell & Co., Melbourne—Case containing 18 plants.
From Baron Ferd. Von Müeller, Government Botanist, Victoria—3 packets seeds.
From Dr. J. Hector, Wellington—14 packets seeds.
From Messrs. Shepherd & Co., Sydney—Case containing 36 plants.
From Messrs. Law, Somner, & Co., Melbourne—Case of plants.
From Lady Dry, Tasmania—24 packets seeds, Ceylon.
From Messrs. Hugh Low & Co., London—Case plants; about 30 alive.
From Mr. C. F. Creswell, Victoria—Case containing 36 plants.
From Messrs. De Smet Frères, Belgium—320 varieties ranunculus and anemone.
From Baron Ferd. Von Müeller, Government Botanist, Victoria—Case Queensland orchids.
From Messrs. J. Smith & Sons, Riddell's Creek, Victoria—18 plants.

To Dr. R. Schomburg, Director Botanic Gardens, Adelaide—2 bags sphagnum moss.
To W. R. Guilfoyle, Director Botanic Gardens, Melbourne—2 bags sphagnum moss.
To. Ch. Moore, Director Botanic Gardens, Sydney—2 bags sphagnum moss.
To Messrs. De Smet Frères, Ghent, Belgium—32 tree ferns; 1 case Norfolk Island pines.
To M. A. Van Geert, Ghent, Belgium—10 tree ferns.
To Messrs. Shepherd & Co., Sydney—2 bags sphagnum.
To Mr. C. F. Creswell, Melbourne—Case mixed bulbs.
To Mr. G. Brunning, St. Kilda, Victoria—Case plants and seeds.
To Dr. J. Hector, Wellington—36 packets seeds.
To Messrs. J. Smith & Sons, Riddell's Creek, Victoria—Case plants and seeds.
To Messrs. Law, Somner, & Co., Victoria—Case plants and seeds.
To Mr. W. R. Guilfoyle, Director Botanic Gardens, Victoria—Case plants.
To Mr. C. F. Creswell, Melbourne—Package seeds.
To Messrs. Ch. Huber et Cie., France—38 packets seeds.
To Messrs. Vilmorin et Cie., Paris—14 packets seeds.

To Botanic Gardens, Cambridge, England—46 packages seeds.
To Botanic Gardens, Calcutta—45 packages seeds.
To Horticultural and Agricultural Society, Madras—70 packages seeds.
To Botanic Gardens, Cape Town—67 packages seeds.
To Botanic Gardens, Natal—53 packages seeds.
To Chamber Agriculture, Washington—74 packages seeds.
To Royal Botanic Gardens, Kew, near London—14 packages seeds.
To T. C. Just, Esq., Calcutta—50 packages seeds.
To Mr. C. F. Creswell, Victoria—Case plants.
To Ch. Moore, Director Botanic Gardens, Sydney, N.S.W.—2 bags sphagnum moss.
To Botanic Gardens, Melbourne—2 bags sphagnum.
To J. Smith & Sons, Riddell's Creek, Victoria—2 bags sphagnum moss.
To Messrs. Law, Somner, & Co., Melbourne—Package seeds.
To M. A. Van Geert, Ghent, Belgium—8 tree ferns.
To Hugh Low & Co., London—Case Norfolk Island pines.

F. ABBOTT, *Superintendent Royal Society's Gardens.*