

VICTORIAN YEAR-BOOK, 1907-8.

INTRODUCTORY REMARKS.

Records of early discoveries show a lamentable ignorance of the geography of the Southern and Indian Oceans, since the venturesome sailors who first attempted to explore these seas were not skilled in cartography, and their maps, or the maps plotted from their verbal narratives, were of necessity crude and inaccurate. A map published with the account of Frobisher's voyages in 1578 encircles the whole Southern Pole with a vast stretch of land, separated from South America by the Strait of Magellan, and stretching further north in those regions which we now know as Australia, indicating a belief and an assurance in the existence of our continent. It is an interesting fact that in Burton's *Anatomy of Melancholy*, published in 1621, references are made to this land as *Terra Australis Incognita*.

History of
early
discoverers
and
settlers.

Frobisher reports that the Portuguese and Spaniards in their voyages to the East Indies saw and touched on the north edge of the southern continent. In 1526 the trading vessels of the former nation reached New Guinea, though their masters were unaware of the existence of the Strait which separates it from Australia. After the discovery of the sea route to India by Vasco da Gama in 1497, the Portuguese began to trade with the East Indies, and were followed by the Spaniards and Dutch, the latter largely replacing the Portuguese traders in the East.

Frobisher.

In 1606 the Dutch Governor of the Moluccas, De Houtman, despatched an exploring party, who surveyed the east coast of the Gulf of Carpentaria, but the report of Captain Jansen, the leader of the expedition, was unfavorable, and it was many years before the Dutch again visited this territory, which at the time they believed formed part of New Guinea.

De Houtman
and Jansen.

De Quiros.

De Quiros, a Portuguese in the service of Spain, made strenuous efforts to reach the Great South Land, as he was convinced that the rumours concerning its existence were true. In December, 1605, he set sail to discover it, with Torres as captain of the second vessel of his small fleet, but his efforts proved unsuccessful. De Quiros may be regarded as the last of the Southern European explorers, whose work was now taken up by the Dutch.

Dutch ex-
ploration.

In 1595 the Dutch East India Company was formed, with headquarters at Batavia, whence ten years later Jansen was sent on a voyage of discovery, when he surveyed the south coast of New Guinea, and the east coast of Cape York Peninsula, without, however, discovering the passage between the two.

Carstens
and Poole.

In 1623 Carstens coasted part of the northern shores, and again, in 1636, Poole followed the coast line of the whole of the Gulf of Carpentaria.

Van Diemen
and
Tasman.

In 1642 Anthony Van Diemen, Governor of the Dutch East India Colonies, selected Abel Jansen Tasman to make explorations in the South Seas. On 24th November, 1642, the west coast of Tasmania was discovered. Rounding this and the south coast, Tasman entered Storm Bay and Frederick Henry Bay, where he hoisted the Dutch flag. Naming the locality Van Diemen's Land, he sailed eastwards, and discovered New Zealand, returning afterwards to Batavia. In the following year Tasman surveyed portions of the north and west coasts of Australia, from the Gulf of Carpentaria to Sharks Bay.

Dampier.

In January, 1688, New Holland (so named by the Dutch) was visited near Roebuck Bay by Dampier, the first Englishman who sighted our shores. The description of his voyages includes his opinions respecting Australia and the people he found there, as well as of its flora and fauna. He was selected in 1699 to make further exploration of the place, to ascertain whether the land was a continent or a group of islands. He visited Sharks Bay, coasting northwards 9,000 miles, and then returned to England. His unfavorable report concerning the country suspended British exploration for many years.

Cook.

That our continent ever became a portion of the British Empire is due to the enterprise, skill, and courage of Captain James Cook. In 1768 the British Government sent a scientific expedition, under his command, to Tahiti, with permission to undertake exploration in the South Seas. Cook first visited New Zealand, and, sailing westward, land was sighted on 19th April, 1770, by Lieutenant Hicks, at a point which has since borne his name, on the Victorian coast. Cook sailed northwards, and, after seven or eight days on the water,

landed at Botany Bay, and further north at other places on the east coast, passed through Torres Strait, and, having thus demonstrated the fact that Australia was an island (although believed to be joined to Van Diemen's Land), returned home.

Cook's description of Botany Bay was so favorable that in 1787 ^{Phillip.} the British Government despatched Captain Arthur Phillip, in charge of a squadron of eleven vessels, to found a penal colony in Australia. Finding Botany Bay, which he entered on the 20th January following, unsuitable for settlement, he sailed northward to Port Jackson, where he formally took possession of the country on 26th January, 1788, in the name of His Majesty King George III.

The first landing effected in Victoria was in 1797, from a vessel ^{Clarke.} wrecked on Furneaux Island, in Bass Strait. Mr. Clarke, the supercargo, and two sailors, out of a total of seventeen, reached Sydney overland, and these were probably the first white men who landed on Victorian shores.

Notable discoveries by sea were afterwards made by Flinders, ^{Flinders,} Bass, Grant, Murray, and others, the former of whom sailed through ^{Bass,} the strait separating Australia from Van Diemen's Land, and ^{Grant,} circumnavigated the latter island, thus demonstrating it to be an island. ^{Murray.} In 1802 Port Phillip Bay was discovered by Lieutenant Murray, sent from Sydney in the *Lady Nelson*, to survey the south coast.

In 1803 an attempt was made to colonize Victoria, then known as ^{Collins.} the territory of Port Phillip, by means of a convict colony, which, luckily, proved abortive. A penal expedition, under Captain Collins, arrived in Port Phillip Bay on 7th October. It consisted of nearly 400 persons, of whom over 300 were convicts. A sandy site, chosen at Sorrento, proved to be unsuitable for the colony, chiefly because of the scarcity of fresh water, and Collins sent out an exploring party in search of a better place. The hostility of the blacks, preventing any satisfactory land exploration, and stormy weather in the bay, precluding efficient observation, combined to produce a gloomy report; and Collins applied to his chief at Sydney for permission to remove to Van Diemen's Land. Governor King readily assented, and after three months of wretchedness in Port Phillip, the colony crossed Bass Strait, and founded the settlement at the Derwent. Among the few children who had accompanied their parents in this expedition was John Pascoe Fawkner, who, 32 years later, led a party to the Yarra, and assisted in the foundation of Melbourne.

Hume and
Hovell.

In 1824, a young Australian-born explorer, Hamilton Hume, of Lake George, in company with Hovell, a sea captain, six convicts as servants, set out overland to found a settlement on the southern coast. After accidents by flood and field, swimming rivers, climbing mountains, and hewing their way with difficulty through rough forest country, they reached the river which now separates Victoria from New South Wales, and which they called the Hume. After much toil and many disappointments, they reached Corio Bay, near the site of the present town of Geelong. The expedition, having accomplished the object of their task, returned to Sydney. Two years later an expedition, under Captain Wright, settled at Westernport, Hovell, under the impression that it was an inlet of Westernport he and Hume had reached, accompanying it as guide. The place, after a year's struggle for existence, was abandoned, and the settlement withdrawn, lack of energy and general discontent being the apparent causes of failure.

Westernport
Settlement.

Sturt and
Macleay, on
the Murray.

In 1829, Sturt and Macleay, with eight convicts, rowed down the Murrumbidgee, and reached the river which Hume and Hovell had crossed some years previously, and which Sturt, in ignorance of the fact that it was the same as that to which the name Hume was given, called the Murray. The party then continued their journey past the mouth of the Darling, the upper waters of which Sturt had himself previously discovered, until they reached the broad waters of Lake Alexandrina. Unable to cross the bar which blocked the passage to the open, they turned back, and, after a laborious and perilous journey, reached headquarters, having explored a thousand miles of new country, and navigated the greatest of Australian rivers.

Mitchell.

In 1836, Major Mitchell, Surveyor-General of New South Wales, with 25 convicts, followed the Lachlan and Lower Murrumbidgee, and having crossed the Murray, beheld, from the summit of Mount Hope, a wide extent of good pasture land. Holding his course southward, with a declination slightly to the west, he crossed the verdant plains past the mountain-range, which he called the Grampians, and reached the southern coast of Discovery Bay. At Portland the party met the Henty family, who had, two years previously, established a sheep and cattle station there for the convenience of whalers, who made Portland Bay a place of resort. The expedition followed a north-east course home. The name applied by Mitchell to that part of our State which he traversed was *Australia Felix*.

Portland
Settlement.

Whilst these overland expeditions were being conducted toilsomely and with difficulty and danger, anxious eyes looked from Tasmania across the narrow straits. Whale and seal hunting prevailed in the waters of the Victorian coast, or on the rocky islets that studded them. As early as 1828 sealers had erected temporary dwellings upon suitable spots on the southern coast of Victoria. The principal traders were William Dutton, John Griffiths, and John and Charles Mills. The first-named of these, William Dutton, established a whaling station at Portland in 1832, and was followed a year later

Dutton.

by Edward Henty, who crossed in the *Thistle*, and with the servants, horses, cattle, and sheep, which he brought with him, became the first of that class of people who are now, to such a large extent, the backbone of our State, the agriculturists. Henty.

But it was the Bay of Port Phillip, after all, that was destined to become the principal channel of the new district's commerce. Thither John Batman came in 1835, entering the Heads on 29th May in the *Rebecca*. After landing near Geelong, and with characteristic acumen, ingratiating himself with the natives, he proceeded up the bay, and anchored off what is now Williamstown. He proceeded, with fourteen well-armed men, along the banks of the Lower Yarra and Saltwater as far as the site of Sunbury, and the natives, friendly because of Batman's favour in the eyes of the Geelong natives, were ready to treat with him. The famous barter, afterwards declared informal, by which the natives conveyed to him about 600,000 acres of rich grassy land for a quantity of knives, scissors, looking-glasses, blankets, and similar articles of native ambition, was drawn up by Batman near the site of Melbourne. Proceeding southwards, he came upon the main stream of the Yarra, and again boarded his vessel. Next day he ascended the river in a boat, and on reaching the Yarra Falls, entered in his diary the famous legend, "This will be the place for a village." Leaving a small party at Indented Head, Batman and his associates returned to Tasmania to prepare for the transportation of their households and worldly possessions, which speedily followed. Port Phillip Settlement.
Batman.
Geelong.
The Yarra.
Melbourne.

But Batman was not to have things all his own way. John Pascoe Fawcner, who was one of the children whose brightness had illumined for a time the gloomy Sorrento settlement of 1803, formed a small party, and sailed in the *Enterprise* from Launceston a few weeks after Batman's departure. After visiting Westernport, whose aspect was particularly discouraging to the settlers, the *Enterprise* entered Fort Phillip on 15th August, 1835. Batman's party at Indented Head, speedily and in due form intimated that their master was the owner of all the western side of the bay and the noble river at its head. Fawcner appears to have been prepared for such a claim, presumptuous as he declared it to be, for the *Enterprise* proceeded up the South Channel, and moved slowly northwards along the coast, in order that an exploring party might land from time to time to view the country. In this way Dromana, Frankston, Mordialloc, Brighton, and St. Kilda were tried and found wanting, and eventually the vessel anchored in Hobson's Bay, near the river mouth. The Yarra was entered in a boat, and the site of the present Custom-house selected for the settlement. Next day, the *Enterprise* was towed up, and the landing of the colonists, with their horses, provisions, ploughs, grain, fruit trees, building material, and other necessities of a new settlement, accomplished the foundation of Melbourne. The settlement at Indented Head was removed to "the place for a village," and encamped quietly on the site of St. James's Cathedral, close beside the Fawcner settlement. Fawcner.

The Capital.

Thus arose the present capital of the State, which, under the name of Greater Melbourne, now comprises the cities of Melbourne, South Melbourne, St. Kilda, Footscray, Fitzroy, Collingwood, Hawthorn, Richmond, Prahran, and Brunswick; the towns of Malvern, Brighton, Port Melbourne, Williamstown, Essendon, Northcote, Caulfield, Camberwell; the boroughs of Kew, Oakleigh, and Coburg; the shire of Preston; and parts of the shires of Moorabbin, Mulgrave, Nunawading, Doncaster, Templestowe, Heidelberg, Whittlesea, Epping, Broadmeadows, Keilor, Braybrook, Wyndham and Eltham. The total area of Greater Melbourne is 163,480 acres of which 5,441 acres are reserved as parks and gardens. At the census of 1901 there were 97,653 dwellings, containing 538,569 rooms, and housing 494,167 persons, which had increased to 116,000 dwellings, with a population of 538,000 at the end of 1907.

Port Phillip district.

Rapid progress was made by the new settlement. In little more than a year Sir Richard Bourke, the Governor of New South Wales, sent Captain Lonsdale from Sydney as Magistrate. He himself visited the place in 1837, and planned out the towns of Melbourne, Williamstown, and Geelong, to the last of which places Captain Fyans was appointed police magistrate in September of the year named. Up to 1851, the district formed a part of New South Wales, under the name of Port Phillip. On the 1st July of that year it became a separate Colony, and was called Victoria in honour of the late Queen.

GOLD PRODUCTION.

Gold.

An important element in the development and prosperity of the new Colony was the discovery of gold, which took place in 1851. The precious metal was first discovered at Clunes, then at Anderson's Creek, and soon after at Buninyong and Ballarat, afterwards at Mount Alexander, and eventually at Bendigo. Large and important fields were subsequently opened up in the districts around Ararat, Stawell, Beechworth, and Maryborough, and in Gippsland. The discovery brought about a large immigration from many parts of the world. All persons were allowed to dig for gold on payment of a licence-fee of £1 10s. per month, afterwards reduced to that amount per quarter. In the early days the diggers found no difficulty in paying this fee, as they were not very numerous, and were generally successful. As time went on, however, the gold-fields population increased largely, many men were unsuccessful, and the payment of the fee became burdensome. The mode of collecting it was objectionable. The outcome of the whole matter was dissatisfaction and discontent, which culminated in a riot at Ballarat towards the close of 1854, when the diggers erected a stockade at Eureka, and set the authorities at defiance. Troops were despatched to Ballarat, and the disturbance was speedily quelled. A Royal Commission was subsequently appointed, who made recommendations for the removal of the licence-fee, and for other concessions, the carrying out of which ultimately restored peace and harmony.

Since its discovery, the quantity of gold recorded for Victoria up to the end of 1907 is 69,956,447 ounces, valued at £279,471,591, this being about one-half the quantity recorded for the whole of Australia.

WOOL PRODUCTION.

Important as was the discovery of gold in aiding the early development of the Colony, wool production has been hardly less notable. It is to the Tasmanian flocks of sheep that the best Victorian stock owes its origin. The original Henty flock was formed at Sussex, England, towards the close of the eighteenth century, and brought by members of the family to Tasmania, whence it was transferred to Portland, at the time Edward Henty settled there. Good Merinoes were also overlanded from the Camden flock, established in New South Wales by Captain Macarthur in 1797, with Merinoes imported from England. This strain has been preserved pure in Victoria. The first official return of sheep in this State was in 1836, when the number was 41,332. At the end of 1842 the number recorded for the Port Phillip district was 1,404,333. The herds increased year by year, until at the census of 1891 the number was 12,692,843, which, owing to dry and unfavorable seasons between that year and 1901, decreased to 10,841,790. The number had increased in 1907 to 12,937,440.

Wool was first exported in 1837, the quantity being 175,081 lbs., valued at £11,639; in the following year 320,383 lbs., valued at £21,631, were exported; in 1839, 615,603 lbs., valued at £45,226; in 1840, 941,815 lbs., valued at £67,902; and in 1841, 1,714,711 lbs., valued at £85,735.

Soon after this time the figures of the export trade of wool from Victoria include small returns from New South Wales; but it was not until 1864 that wool to any considerable extent was exported from that Colony through Victoria. In 1862 and in 1863 the export from Victoria was about 25,000,000 lbs.; in 1864 it was nearly 40,000,000 lbs.; the increase being mainly derived from the Riverina district, which was placed in communication with Melbourne by means of the Echuca railway. In 1906-7, the wool production was 88,434,296 lbs. Prior to 1890 no returns were prepared to show the average weight of fleeces. Since that year, however, records have been kept, and the average (sheep and lambs) for the whole period may be put down at 5 lbs. 8½ ozs. This may be taken as an indication of the suitability of Victoria in soil, climate, and natural pasturage for sheep-breeding.

GENERAL PROGRESS.

The following table has been prepared to illustrate the advance made by the Colony since 1842, the year of the introduction of representative government into New South Wales, which then included the Port Phillip district. The years 1850 and 1855 have been chosen—the former as being the year immediately preceding the separation of the Colony from New South Wales, and the latter the date of

STATISTICS OF VICTORIAN PROGRESS, 1842 TO 1907.

	1842.	1850.	1855.	1861.	1871.	1881.	1891.	1901.	1906-7.
Population, 31st December ..	23,799	76,162	864,324	541,800	747,412	879,886	1,157,678	1,210,882	1,258,140
Revenue ..	£ 87,296	259,433	2,728,656	2,592,101	3,734,422	5,186,011	8,343,588	7,712,099	8,345,534
Expenditure from Revenue ..	£ 124,631	196,440	2,612,807	3,092,021	3,665,534	5,108,642	9,128,699	7,672,770	7,679,143
Public Funded Debt ..	£ ..	..	480,000	6,345,060	11,994,800	22,426,502	43,638,897	49,546,275	52,954,989
Gold produced ..	oz. ..	..	2,793,065	1,967,453	1,355,477	858,850	576,400	789,562	754,269
Wool produced ..	lbs. 2,752,330	16,345,468	22,470,443	22,640,745	37,177,646	45,970,560	76,503,635	73,235,138	88,434,296
Butter produced ..	..	..	..	..	..	..	16,703,786	46,857,572	68,088,168
Agriculture—									
Land in cultivation ..	acres 8,124	52,341	115,060	427,241	793,918	1,582,998	2,512,593	3,647,459	4,294,553
Wheat ..	bushels 55,360	556,167	1,148,011	3,607,727	4,500,795	8,714,377	13,679,268	12,127,382	22,618,043
Oats ..	.. 66,100	99,585	614,614	2,136,430	3,299,889	3,612,111	4,455,551	6,724,900	8,845,654
Wine ..	gallons ..	4,621	9,372	47,568	713,589	539,191	1,554,130	1,981,475	2,044,833
Live Stock—Horses ..	No. 4,065	21,219	33,430	84,057	181,643	278,195	440,696	392,237	406,840
.. Cattle ..	.. 100,792	378,806	534,113	628,092	799,509	1,286,677	1,812,104	1,602,384	1,804,323
.. Sheep ..	.. 1,404,333	6,032,783	4,577,872	6,239,258	10,002,381	10,267,265	12,928,148	10,841,790	12,937,440
.. Pigs ..	.. ..	9,260	20,686	43,480	177,447	239,926	286,780	350,370	220,452
Imports—Value ..	£ 277,427	744,925	12,007,939	13,532,452	12,341,995	16,718,521	21,711,608	18,927,340	28,197,448
Exports—Value ..	£ 198,783	1,041,796	13,493,338	13,828,606	14,557,820	16,252,103	16,006,743	18,646,097	28,735,672
Shipping ..	tonnage 78,025	195,117	1,133,283	1,090,002	1,355,025	2,411,602	4,715,109	6,715,491	8,136,991
Railways open ..	miles ..	..	..	214	276	1,247	2,764	3,238	3,400
Telegraph wire ..	..	..	..	2,586	3,472	6,626	13,989	15,356	14,950
Postal business—Letters ..	No. 97,490	381,651	2,990,992	6,109,929	11,716,166	26,308,347	62,526,448	83,973,499	126,349,003
.. Newspapers ..	.. 147,160	381,158	2,349,656	4,272,179	5,172,970	11,440,732	22,729,005	27,125,251	42,230,000
Savings Bank Deposits ..	£ ..	52,697	173,090	582,796	1,117,761	2,569,438	5,715,687	9,662,006	12,951,779
Factories—									
Number of ..	..	..	278	531	1,740	2,488	3,141	3,249	4,360
Hands employed ..	..	..	..	..	19,468	43,209	52,225	66,229	85,229
Value of machinery, plant, land and buildings ..	£ ..	..	..	..	3,626,340	8,068,101	16,472,859	12,298,500	14,512,465
Value of articles produced ..	£ ..	..	..	..	..	13,370,836	22,390,251	19,478,780	28,102,480
State Primary Education—									
Number of schools ..	..	61	370	671	988	1,757	2,233	1,967	1,994
Expenditure on ..	£ ..	..	115,099	162,547	274,384	546,285	726,711	701,034	754,521
Total value of rateable property in municipalities ..	£ ..	..	..	29,638,091	50,166,078	87,642,459	203,351,360	185,101,993	222,598,941
Friendly Societies—									
Number of Members ..	..	..	1,698	7,166	35,706	47,908	89,269	101,045	114,060
Total funds ..	£ ..	..	..	..	213,004	475,954	961,933	1,370,692	1,708,346

NOTE.—In a few instances in the earlier years, where it is not possible to give figures for the exact date or period shown, those for the nearest dates or periods are given. Gold was discovered in 1851, in which year the return was 145,137 oz. Butter figures were not collected prior to 1891.

The introduction of responsible government for Victoria. The subsequent years are census years, except the last:—

The population of the State at the end of 1842 was 23,799; and at the end of 1907 it had increased to 1,258,140. During the period 1842-1907, the revenue steadily increased from £87,296 to over £8,300,000. There was no public debt until after separation. In 1855 the State indebtedness was £480,000, and in 1907 the funded debt had reached £52,955,000, which has been spent on revenue-yielding and other works of a permanent character, and during the last financial year the net return from the reproductive works was more than sufficient to meet the total interest due for the year upon the public debt. The land in cultivation in 1842 was slightly over 8,000 acres; it now amounts to nearly 4,300,000; in the number of horses, cattle, and pigs increases are generally shown. The value of imports in 1842 was £277,427; in 1907 it was over £28,000,000. Exports amounted to £198,783 in 1842; and in 1907 to nearly £29,000,000. No railways or telegraphs were in existence up to the end of 1855; in 1861 there were 214 miles of railway open, and 3,400 miles in 1907; 2,586 miles of telegraph wires had been erected up to 1861, 14,950 miles up to the end of 1906. Postal business in letters and newspapers shows a large increase, and the deposits in savings banks rose from £52,697 in 1850 to £12,951,779 in 1907.

The expenditure on State primary education amounted to £115,000 in 1855, which had increased to £755,000 in 1906-7—the amount spent since the introduction of the present Act in 1873 being £23,368,714. Members of friendly societies numbered 1,698 in 1856, and 114,000 in 1906—the funds amounting to £213,000 in 1871 and £1,708,000 in 1906. Hands employed in factories rose from 19,468 in 1871 to 85,229 in 1906. The total value of rateable property in municipalities, which was £29,600,000 in 1861, aggregated £222,500,000 in 1906-7.

GEOGRAPHICAL POSITION, AREA, AND CLIMATE.

Victoria is situated at the south-east extremity of the Australian continent, of which it occupies about a thirty-fourth part, and contains about 87,884 square miles, or 56,245,760 acres. It is bounded on the north and north-east by New South Wales, from which it is separated by the River Murray, and by a right line running in a south-easterly direction from a place near the head-waters of that stream, called The Springs, on Forest Hill, to Cape Howe. On the west it is bounded by South Australia, the dividing line being about 242 geographical miles in length, approximating to the position of the 141st meridian of east longitude, and extending from the River Murray to the sea. On the south and south-east its shores are washed by the Southern Ocean, Bass Strait, and the Pacific Ocean. It lies between the 34th and 39th parallels of south latitude, and the 141st and 150th meridians of east longitude. Its extreme length from east to west is about 420, its greatest breadth about 250, and its extent of coast-line nearly 600 geographical miles. Great Britain, exclusive of the islands in the British Seas, contains 88,309 square miles, and is therefore slightly larger than Victoria.

Area of
Victoria.

The southernmost point in Victoria, and in the whole of Australia, is Wilson's Promontory, which lies in latitude 39 deg. 8 min. S., longitude 145 deg. 26 min. E.; the northernmost point is the place where the western boundary of the State meets the Murray, latitude 34 deg. 2 min. S., longitude 140 deg. 58 min. E.; the point furthest east is Cape Howe, situated in latitude 37 deg. 31 min. S., longitude 149 deg. 59 min. E.; the most westerly point is the line of the whole western frontier, which, according to the latest correction, lies upon the meridian 140 deg. 58 min. E., and extends from latitude 34 deg. 2 min. S. to latitude 38 deg. 4 min. S., or 242 geographical miles.

Climate.

From its geographical position, Victoria enjoys a climate more suitable to the European constitution than any other State upon the Continent of Australia. In the fifty years ended with 1907, the maximum temperature in the shade recorded at the Melbourne Observatory was 111.2 deg. Fahr., viz., on the 14th January, 1862; the minimum was 27 deg., viz., on the 21st July, 1869; and the mean was 57.3 deg. Upon the average, on four days during the year, the thermometer rises above 100 deg. in the shade; and, generally, on about three nights during the year, it falls below freezing point. The maximum temperature in the sun ever recorded (*i.e.*, since 1857) was 178.5 deg., viz., on the 4th January, 1862. The mean atmospheric pressure, noted at an Observatory 91 feet above the sea level was, in the 50 years ended with 1907, 29.93 inches; the average number of days on which rain fell was 131, and the average yearly rainfall was 25.59 inches.

PHYSICAL GEOGRAPHY, GEOLOGY, AND FAUNA OF VICTORIA.

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PHYSICAL GEOGRAPHY.

In shape, Victoria is roughly triangular, its breadth from north to south along its western border being about one-half its length from east to west. The highlands also form a triangle, but in this case the greatest north and south measurement is in the east, while the base stretches nearly to the western boundary. This area of high land attains its greatest elevation in the east, and gradually sinks towards the west. The elevated region consists of palæozoic, and perhaps older rocks, of various ages, with, in a few cases, as at Dargo High Plains, and at Bogong High Plains, patches of older-tertiary basalts.

There are thus constituted two main drainage areas. A series of rivers flows northwards from the highlands, forming the Murray and its southern tributaries, while another series flows southwards to the sea. At the western end the Glenelg taps streams which arise both on the northern and the southern slopes. The water-parting between the north and the south flowing streams is spoken of as the Main Dividing Range, and along its course are some of the highest mountains of the State, as Mount Cobboras, 6,030 feet, Mount Hotham 6,100 feet, and several others nearly as high. The average elevation of the Divide is about 3,000 feet. The

highest mountains in Victoria lie to the north of the water-parting, namely, Mount Bogong, 6,508 feet, and Mount Feathertop, 6,306 feet. On the higher mountains snow occasionally lies in sheltered localities throughout the year, but we have no permanently snow-clad mountains in Australia. The Divide, which is of considerable geological age, forms a well-marked boundary between two distinct zoological areas. The animals to the north are allied to those of Central Australia, while those to the south are almost identical with the Tasmanian.

The strike of the palæozoic rocks is, roughly, north and south, so that the direction of the Dividing Range is not due to the primary rock-folding. The Divide, owing to stream capture and general denudation, has doubtless shifted its position from time to time, but the existence of the highlands is possibly, in part, due to an east and west series of folds, of which the "pitch" in the anticlines of our older rocks affords evidence; and in part to faulting.

Highlands occur to the north of Cape Otway, where they rise to a height of over 2,000 feet, and also in South Gippsland. These districts are densely clothed with forests, and rich in fern gullies, the rocks consisting of fresh-water jurassic strata. Geographically isolated from the rest of the State is the rugged granitic area of Wilson's Promontory, which rises in places to about 2,500 feet.

The north-west of Victoria is occupied by a large plain which borders the highlands on the north, and sweeps west, and especially north far beyond the boundaries of the State. It represents in the main the flood-plain of the Murray and its tributaries. This area is for the most part covered by a dense growth of several dwarf species of Eucalyptus, known collectively as Mallee.

The south-west is occupied by another plain, consisting chiefly of recent basalts and tuffs. It is typically treeless, owing to the small depth of soil, and to poor subsoil drainage, but it is richly grassed, and contains some of the best and most easily worked agricultural land in the State.

As already indicated, the main river system consists of the Murray and its tributaries, the Murray itself being our only stream that is navigable for any distance, and forming an important highway. Owing to the building up of its flood plain by the river its western tributaries can no longer reach it, but spread out in times of flood into broad, shallow lakes which disappear in dry seasons.

As regards the streams to the south of the Dividing Range, the south-westerly drift bars the mouths of all which debouch into the open sea, and long continued action has built up a ridge off the Gippsland coast behind which the rivers spread out to form large shallow lakes. The volcanic plains of the west are dotted with lakes and swamps owing to the imperfect drainage of the almost level expanse, the low barriers formed by the irregular flows of lava, and the distribution of the sheets of volcanic ash. Some of these lakes have been ascribed to sinking of the surface as a subsequent result of the volcanic outburst, while others, many of

Rivers and
lakes.

which are very deep, occupy the sites of volcanic vents. Many of the western lakes have no outlet, and are salt, while those with a permanent or occasional overflow are fresh.

Coastline.

From the Glenelg on the west as far eastward as the Gellibrand river, the western plains abut on the sea. Sometimes it is the volcanic rocks which reach the coast, but in most places the underlying marine tertiaries border the shore, with or without an intervening belt of sand dunes. When dunes are present they usually disturb the drainage, and extensive swamps and marshes are the result. These are extensively developed between Nelson and Cape Bridgewater. Where the plain, as at its eastern end, reaches the height of 200 or 300 feet it is deeply eroded, and, as is the case in the area occupied by the Heytesbury forest, its essential character is not at first apparent, and the coast itself is bordered by vertical cliffs. East of the Gellibrand, and sweeping past Cape Otway to near Split Point, the highlands of the Otway Ranges with their forests, streams, and waterfalls afford a coast of great beauty. From Split Point, as far as Wilson's Promontory, the land shows no great elevation, rarely rising more than 200 feet. Sand dunes and cliffs of marine tertiaries, or of basalt, border it nearly all the way. At Cape Woolamai we have an isolated mass of granite, and about Cape Patterson the jurassic coal series forms the shore line. Near Cape Liptrap is a small, rugged outcrop of palæozoic rocks. Beyond Wilson's Promontory, with its beautiful scenery of small bays backed by lofty tree-clad ranges, and with its clusters of precipitous islets, comes the long, dune-fringed Ninety-mile-beach. Behind these dunes at their eastern end lie the Gippsland Lakes. Beyond Lakes' Entrance high ranges of palæozoic rocks and granite approach the sea, and extend to Cape Howe, the most easterly point in the State.

The only good natural harbor is the land-locked basin of Port Phillip. Portland Bay, on the west, is formed under the lee of a projecting tongue of volcanic rocks. Lady Bay, Warrnambool Bay, Port Campbell, and it is said Apollo Bay and Loutit Bay, owe their main outlines to the fact that they are drowned valleys. Port Phillip has itself a similar origin, its eastern side being defined by a north and south fault. Western Port, Corner Inlet, and Malla-coota Inlet are also due to subsidence. The estuaries of the Curdie, Gellibrand, Aire, Barwon, and other smaller streams were formerly inlets of a similar nature, but are now more or less filled with river-borne material.

As regards islands, we are poorly off. Lady Julia Percy Island, near Portland, is volcanic. East of this, where hard bands occur at sea-level, in the marine tertiaries, the coast is fringed by stacks and precipitous islets carved out by the waves. These are absent along the Otway coast, where the jurassic rocks reach the shore. Phillip and French Islands, like those off Wilson's Promontory, are due to subsidence, the old hill tops standing above the sea which now fills the intervening valleys.

GEOLOGY.

The triangular shape of the area occupied by the palæozoic rocks has already been pointed out. The stratified rocks of this age have a general north and south strike, and the older ones are acutely folded. The mesozoic and tertiary strata show no great crumpling, though considerable faulting has occurred in places. Their strike is in the main parallel to the coast, or east and west.

For details as to the distribution of the rocks reference may be made to the beautiful geological map of the State published a few years ago by the Department of Mines.

Scattered irregularly over the State are numerous outcrops of quartz-mica-diorites and granitoid rocks of various types. They are post-silurian, and intrude the older rocks. They range from Cape Howe to beyond the Glenelg, and from Wilson's Promontory in the south to near Swan Hill in the north. Older
Plutonic
rocks.

At Mounts Macedon and Dandenong occurs a series of dacites and various other associated rocks of uncertain age. Long regarded as palæozoic, they have of late years, on very slender evidence, been spoken of as cretaceous. The results of more recent work on them have not yet been published.

Another series of rocks, and possibly older, of basic composition, is found to the north of Heathcote, and in a few other localities.

In the extreme north-east in Benambra, and in the south-west in Dundas, are two large areas of crystalline schists. Their age is in dispute. By some they are regarded as archæan, and by others as altered ordovician. A few small patches occur elsewhere. Metamor-
phic.

At Heathcote a few imperfect fossils have been found, which have been referred to middle cambrian age, but this reference has been disputed in favour of ordovician. At Dookie and at Waratah Bay certain other beds have been thought to be cambrian, but fossils are wanting. Cambrian.

Slates and sandstones of ordovician age, all acutely folded, and more or less cleaved, occur. Limestones are practically absent. One large area is situated in the east, and the same rocks re-appear in the centre of the State. From Ballarat westward is a large mass of rocks having similar characters, and generally regarded as ordovician. Recently many places which were thought to be occupied by silurian rocks have yielded ordovician fossils, as will be seen on comparing the last two editions of the geological map. Since then ordovician, in the place of silurian, has been proved in several places on the Mornington Peninsula. Ordovician.

As regards fossils, the absence of calcareous beds greatly limits their variety. A few sponges and lower types of crustacea occur. No trilobites have been found, unless the Heathcote rocks be ordovician,

and not cambrian. The dominant forms are graptolites, of which a large number are known. The series is divided into upper and lower. Of the former there is but little accurate information available. The rocks of the eastern area, a prolongation of similar beds in New South Wales, are of this age, as also are certain rocks near Matlock, Sunbury, and some other places north of Melbourne. The lower ordovician has been divided into four. These, in descending order, are typically developed at Darriwell (north of Geelong), and at Castlemaine, Bendigo, and Lancefield. Most of our auriferous quartz veins occur in the ordovician, but some are in younger, and perhaps some in older, rocks. The best studied gold-field is that of Bendigo, where the veins fill lenticular spaces arching over the anticlines. They have considerable extension along the strike, and several usually occur on the same anticline, one below the other. These veins are known as "saddle-reefs." "Pitch" of the strata, or undulation of the axis of the anticlines in a vertical direction, is a marked feature, and of considerable importance from its effect on mine working.

Silurian.

The older rocks round Melbourne, and for some distance to the north and east, are of this age. Sandstones, mudstones, and, at a few places, as at Lilydale, near Mansfield, and on the Thomson River, limestones occur. The rocks have not been subjected to the same amount of disturbance as the ordovician, and fossils are fairly common, though, except in the limestones, rarely well preserved. A large number have been recorded. Graptolites, corals, polyzoa, brachiopoda, mollusca, trilobites, and crustacea have been found. An apparent approach to a devonian facies is shown at some localities. In the neighbourhood of Melbourne the strata are much disturbed. There is an upper and a lower series, formerly known by names borrowed from British geology, though the local names, Melbournian for the lower or graptolite bearing series, and Yeringian for the upper, are now more suitably employed. The rocks are frequently auriferous.

Devonian.

A long and narrow belt of quartz-porphyrries, and allied rocks, running parallel to the Snowy River, and partly intersected by it, marks a volcanic axis. In places tuffs rest on the edges of the ordovician, and are in turn overlain by limestones rich in devonian fossils. The volcanic rocks have been referred to lower devonian, and the limestones to middle devonian. Several patches of these limestones occur widely scattered over the eastern parts of the State, the largest being at Buchan and at Bindi. Corals, brachiopods, and molluscs abound in them. A series of much-folded shales and quartzites of apparently the same age, judging by the fossils, is to be seen at Tabberabbera and Cobannah. In places overlying these highly-inclined, middle devonian beds are found nearly horizontal strata. These, as at Iguana Creek, yield plant remains, and are regarded as upper devonian. The Grampian sandstones, which form a bold range with an abrupt south-easterly fault-scarp over 2,000 feet in height, have yielded no fossils, but are provisionally regarded as upper palæozoic. The Cathedral Range, near Marysville, belongs probably to the same series.

Certain sandstones on the Avon with *Lepidodendron* are, it is considered, of this age. From here northward, across the Divide, a belt of similar rocks extends, forming very rugged mountains. A series of fossil fish from near Mansfield, at the northern extremity, has lately been critically examined, and declared to be of carboniferous age, and not devonian, as was formerly held. Carboniferous.

At several localities occur beds of glacial origin, sometimes of considerable thickness. At Bacchus Marsh the boulder beds are associated with sandstones containing the fossil fern-like plant *Gangamopteris*, which affords a means of correlating them with beds elsewhere. Permian-Carboniferous.

About Coleraine and in the Otway district, and in South Gippsland, there are large areas of fresh-water shales and sandstones, in places conglomeratic. A few fish and fresh-water molluscs have been found; but the chief fossils are plants, of which a large number are now known, as *Baiera*, *Sphenopteris*, *Taeniopteris*, &c. Coal is worked in the beds in Gippsland, as at Jumbunna and Outtrim. Jurassic.

The rocks hitherto spoken of are confined in the main to the highlands previously described. The lowlands are for the most part occupied by tertiary rocks of volcanic and marine origin, with, over large tracts, a cover of fluviatile, or wind-formed source. They form a belt between the Dividing Range and the sea, or the jurassic rocks, where these occur, from near the mouth of the Snowy River to beyond the western boundary of the State. They sweep round the western end of the Divide, and underlie the greater part of the Mallee district in the north-west. Where they, or the fluviatile or the aeolian deposits, overlie auriferous bedrock, the buried river channels usually contain gold. In other places lignite beds or brown coals, sometimes of considerable extent and thickness, are formed, as at Deans Marsh, Altona Bay, Lal Lal, and several localities in South Gippsland. Both these types of deposit, the gold and lignite bearing, are of various ages, from oldest tertiary upwards. Tertiary.

The marine beds are extremely rich in fossils, and have been divided into three main groups. Owing to the difficulty, or perhaps the impossibility, of correlating them with the subdivisions of the northern hemisphere, local names are now generally applied.

Barwonian (? Eocene).—Sands, clays, and limestones composing beds of this age are widely spread, occurring about the Gippsland Lakes, and along the southern coast from Flinders to the Glenelg. Inland they underlie the western plains from Geelong to Hamilton, and have been proved in bores from Stawell to beyond the Murray northwards. East of this line they appear to be bounded by a ridge of palæozoic rocks, extending northwards from the Divide, and only thinly mantled by non-marine beds. The fauna of the marine beds is extremely rich and varied, all types being represented,

and in number of species and excellence of preservation is scarcely anywhere surpassed. Associated with the marine beds is a series of basalts and tuffs, which are found more especially in the central and eastern parts of the State. Under certain climatic conditions these volcanic rocks have decomposed to form a valuable agricultural soil.

Kalimnan (? Miocene).—These rocks are widely spread, though not so extensively as the Barwonian. They are well represented near Bairnsdale, Shelford, Hamilton, and, though the age is in dispute, at Beaumaris. As a rule they are more arenaceous than the lower beds, and ferruginous sands are typical. The fauna is fairly rich.

Werrikoonian (? Pliocene).—Marine beds of this age are not common, but are found in the lower Glenelg district, overlying Barwonian. The fossils are almost all existing species.

After the deposit of these beds there occurred an extensive outpouring of basaltic lavas in the southern and south-western parts of the State, and large lava plains were formed, through which deep gorges have been cut by the creeks and rivers. Fine examples of volcanic cones in all stages of denudation are plentiful. In deposits, both immediately before and after this last volcanic outburst, there are found the bones of numerous extinct marsupials, such as *Diprotodon*, *Nototherium*, and gigantic kangaroos. Raised beaches point to an elevation of some twenty feet since the previous subsidence, which formed many of our harbors.

In conclusion, it may be stated that many of the writer's sins of omission are due to the small space allotted to him, and even that small space has been exceeded.

FAUNA.

The peculiarity of the Australian mammalian fauna has often been remarked upon. Nowhere else in the world do we find representatives of the three great groups into which the class is divided, namely, the eutheria, the marsupials, and the monotremes. The last group, containing the spiny anteater (*Echidna*) and the platypus (*Ornithorhynchus*), is confined to the continent and neighbouring islands, while the marsupials exist, nowadays, only in the Australian region and America.

Of the eutheria, which comprises all mammals above the marsupials, we have but a few terrestrial forms—the dingo, a few bats, and rats and mice. The seas afford a few more, such as whales and porpoises, seals, and in certain places the dugong (*Halicore*).

In Victoria itself we find the Australian fauna typically developed. The echidna ranges over the whole continent, while its ally, the platypus, is confined to the eastern side of Australia, from Tasmania to the tropics. Both are still common in certain parts of the State.

Among the marsupials the kangaroo family (*Macropodidae*) is well represented, though the larger forms are rapidly disappearing. These comprise the red, grey, and the black-faced kangaroos. The smaller forms, such as wallabies and rat-kangaroos, are still plentiful in many of the more densely forested regions. The southern wallaby (*Macropus billiardieri*) is identical with the Tasmanian one, and the other common one (*M. ualabatus*) ranges far to the north of our boundaries. A few other northern forms come down south as far as the Dividing Range. The small kangaroo-rats (*Bettongia*), dwelling in thick scrub, are hard to catch sight of, and still harder to shoot.

The Australian opossum family (*Phalangeridae*) comprises our so-called opossums, flying squirrels, and the native bear—unfortunate names, but the only local ones in common use. The silver opossum and the Tasmanian brown are the same species (*Trichosurus vulpecula*), the island form being a little larger and of a darker hue. This species ranges over practically the whole of Australia. They form their nests in hollow trees, or, where these are absent, as on some of the islands in Bass Straits and in Central Australia, on the ground. The ring-tailed opossum (*Pseudocheirus peregrinus*) builds a hollow, ball-like nest of grass and bark in the dense scrub. The flying opossums, or, as they are sometimes called, flying foxes (*Petaurus*) and the flying squirrels (*Acrobates*) are represented by several species, ranging from the size of a cat to that of a mouse, and are very beautiful forms. They have not the power of true flight, but can glide for a considerable distance from a greater to a less height. The native bear (*Phascolarctos cinereus*) has a very restricted range. It does not occur in South Australia nor Tasmania, but passes north up the eastern coastal region. Despite its name, it is a harmless vegetable feeder, and its valuable skin dooms it to early extermination.

Of the wombat family we have but one representative (*Phascolomys mitchelli*), which is still common in the eastern parts of the State.

In the native cat family we have three of the spotted species, the large tiger cat (*Dasyurus maculatus*) and the common native cat (*Dasyurus viverrinus*), which occur south of the Dividing Range, and dwell also in Tasmania. The third species (*Dasyurus geoffroyi*) occurs only to the north of the Divide. The weasels (*Phascologale*) and the pouched mice (*Sminthopsis*) are numerous in species and fairly common. Some are arboreal, others terrestrial. The pouched mice are fierce little cannibals, and a few years ago about fifty were sent down alive in a case to the University. Two days after there were two living, while a few rags of fur represented the other four dozen. The survivors engaged in mortal combat in the glass jar in which they were put to be chloroformed. Examples of these small forms and of their skeletons are desiderata in the National Museum. The jumping pouched mouse (*Antechinomys laniger*), which hops like a diminutive kangaroo, comes south only into North-western Victoria, and is not well known with us.

The bandicoot family is a small one, though three species of bandicoot (*Perameles*) are found in the State. They live in grass land. The rabbit-bandicoot, or bilbie (*Peragale*) and the pig-footed bandicoot (*Choeropus ecaudatus*) occur in the north-west, the latter being a rare animal.

In eutheria, the higher mammals, we are, as already stated, poorly off. The dingo, apparently, got here before man arrived, and its remains are found fossil. Bass Straits was a barrier to it, and it did not reach Tasmania.

Among bats the large flying-fox (*Pteropus poliocephalus*) often does harm to the fruit in the northern parts of the State and in Gippsland. It is widely spread up the eastern sea-board of the continent. We have also several other small bats, but must pass them over.

Among rats, the golden water rat (*Hydromys chrysogaster*) is a large, handsome animal ranging all over Australia, and occurring also in Tasmania and New Guinea. There appears to be only the one species. The bush rats of the State (*Mus gouldi* and *Mus greyi*) are common, and probably others occur. They have not been satisfactorily worked out here, and specimens are needed in the Museum.

Only one species of seal, the Australian sea-bear (*Euotaria cinerea*) is now found in Bass Straits, and is protected. There are colonies on a few outlying islands and rocks. Other species occasionally stray up from the far south. The yellow-sided dolphin (*Delphinus novae-zelandiae*) is common in our waters, and whales of several species are occasional visitors.

As regards birds, we have only some two or three species practically confined to the State, the Victorian lyre-bird (*Menura superba*) being the best known. The emu is still common in the north-west. Wild fowl are plentiful, and occasionally great incursions are made from the north. Our most striking birds are the lorries and honey-eaters, which gather "the harvest of the honey-gums." Quail are common at times, and pigeons of various kinds occur. The mound-building lowan, or mallee-hen (*Leipoa ocellata*), and the bower birds (*Ptilonorhynchus violaceus* and *Chlamydodera maculata*) are remarkable for their habits, so often described, while the mutton bird (*Puffinus brevicaudus*) is of great economic value for its eggs, which are gathered, together with its young, in countless numbers. Field naturalists have investigated our birds more thoroughly than any other group of our fauna, and are now busy collecting data for the study of their migrations, an almost untouched subject here.

Turning to the reptiles, we have two tortoises, the short-necked (*Emydura macquariae*), found north of the Divide, and the long-necked (*Chelodina longicollis*) occurring both there and in South Gippsland.

As regards lizards, the most remarkable are the so-called legless forms of the family Pygopidae. They have no front legs, while the hind ones are represented by two scaly flaps usually fitting into grooves on the side of the body, and so escaping casual examination. They are the main source of the stories of snakes with legs which occasionally fill our newspapers. The large "goanna" (*Varanus varius*) derives its name from Iguana, a genus not found in Australia. It is common north of the Divide, and reaches a length of five or six feet. A smaller cousin (*Varanus gouldi*) ranges as far south as Gippsland, and as it frequents streams is dignified by the name of the Gippsland crocodile. Our other lizards are small and harmless, though some have such terrifying names as "bloodsucker" (*Amphiholurus*), and so on. Altogether we have some fifty species of lizards in the State.

Among snakes, we find the non-venomous blind-snakes (*Typhlops*), with bodies as smooth as glass, the green tree snakes (*Dendrophis*) and the carpet snake (*Python spilotes*). All these forms are commoner in the north of the State. We have about a dozen venomous species, though some from their small size are not dangerous to man. The tiger snake (*Notechis scutatus*), a handsomely marked species, is the most active and dangerous. Most of the others are timid, though quite as deadly when large. The deaf-adder of the drier parts of the State lies quite still till nearly or quite stepped on, and then strikes without warning. It is a short thick-set reptile, and to be dreaded on account of its habits.

We have about eighteen amphibians in Victoria, all of them being frogs and toads. The largest is the handsome green and gold "bull-frog" (*Hyla aurea*), very common in Southern Victoria. The sand frogs (*Limnodynastes*) are widely distributed, even far from water. All the frogs are great insect-eaters, and in their turn are a favorite food of the snakes.

In fresh-water fish we are not rich, owing mainly to our poor river development. There is a marked distinction between the forms found to the north of the Divide, and those to the south. In the Murray basin we have the Murray cod (*Oligorus macquariensis*), which occasionally reaches the weight of 100 lbs. This fish, together with the cat-fish (*Copidoglanis tandanus*), the bony bream (*Chaetoessus richardsoni*), and a few others are absent from the southern waters. The southern forms are nearly all found also in Tasmania, and include the blackfish (*Gadopsis marmoratus*), and the eel (*Anguilla australis*). The voracious little mountain trout (*Galaxias truttaceus*), which rarely reaches a quarter of a pound in weight, has a similar southern distribution, while the minnow (*Galaxias attenuatus*), common in the south, is said to range into the Murray waters, though we need specimens in the Museum to settle the point. Most of our other southern river-fish occur in the sea as well, and only pass up into the rivers for a longer or a shorter distance. Lampreys are found in most of our streams, but are not often caught.

Want of space prevents any discussion of the marine fish, which are of considerable economic value, though fish-preserving is a very small industry with us.

The treatment of our invertebrate fauna must be brief, and confined to land and fresh water forms, though of some of the marine groups, as for instance the mollusca, we now know a good deal. In shell-fish we are poorly off. There is black-shelled snail (*Paryphanta atramentaria*), about $\frac{3}{4}$ inch in diameter in our southern fern-gullies, and another snail (*Panda atomata*) about the same size in Eastern Gippsland. Most of the other species are small, and attract the eye of the naturalist only. One water-dwelling form (*Bulinus tenuistriata*), which has its shell coiled in the opposite way to the ordinary—a left-handed screw—is the temporary host of the liver-fluke of the sheep, and this is the reason why wet ground is “fluky country.”

Scorpions are very common in the warmer parts, but none are very large. Amongst the spiders, we have only one harmful species, the katipo (*Latrodectes scelio*), which is identical with the New Zealand form. It is black with a scarlet, or deep orange spot on the hinder end of its back. The so-called “tarantula,” though hideous and terrifying to most people, is quite harmless, and could not bite a human being, if it wanted to. A spider with a much larger body is found in the northern districts, and spins a very strong web from bush to bush.

Among insects, the beetles, butterflies, and moths alone have been examined with anything like thoroughness. Many of our striking beetles, while in the larval stage, are injurious to vegetation, such as the buprestids, longicorns, cetonids, and cockchafers. The lady-birds, (*Coccinellidae*), are carnivorous in the larval stage, and great foes of the scale insects. We have no large butterflies such as occur in Queensland, but possess some very fine moths, some of which, in their larval stage, are plant-eaters, and work considerable damage. We have a few fine stick-insects which mimic dead twigs, and are therefore not often detected, though when seen they always attract notice. Locusts and grasshoppers at times do considerable harm. Dragon-flies, white ants, and ant lions are common enough in certain districts. Our native bee is stingless, but is being starved out by the imported bee, which is now widely spread. The shrill deafening song of the cicada (*Cicada mærens*) in its countless thousands must be heard on a hot day to be appreciated. Hosts of other forms must be passed unnoticed, though it may be said that our bull-dog ant is the largest ant known.

Of crustacea, we can mention only the fresh-water crayfish, of which we have several kinds. The Murray crayfish (*Astacopsis serratus*) is a spiny form growing to the length of a foot, and occasionally seen in the Melbourne market. The yabbie, or pond crayfish (*Astacopsis bicarinatus*) is found in all suitable situations, and ranges

widely over Australia. It is a small species, but is eaten. The so-called land-crab (*Engaeus*) is really a crayfish, and is found in the damper parts of the State. It also occurs in Tasmania.

Centipedes are common, especially in the warmer parts, but do not seem to do much harm to human beings.

We are rich in earthworms, though our native species are disappearing before the imported European ones, which are now found everywhere in the State. In the Gippsland giant earthworm we have by far the largest species known. A living specimen recently measured at the University was seven feet two inches long. Gorgeously coloured planarian worms, a few inches in length, abound in the moister parts of the State, being generally found under logs.

The same localities are the home of two or three species of land-leech, which are blood-thirsty, though small. A fresh-water leech (*Limnoddella quinquestriata*), used surgically, is common enough in ponds.

Pond life generally is actively studied by our field naturalists, but an attempt to deal with it would require a volume in itself, and appeal to professed naturalists alone. Suffice it to say that it is rich and varied, and presents us with many interesting problems.

As to the origin of our fauna, much has been said and written. Briefly, the marsupials, and, perhaps, some birds, the tortoises, certain frogs, fresh-water fish, many insects, earthworms, and other animals point definitely to a former land connexion with South America, where they find their nearest living relatives. The eutheria are of Malaysian origin, as also are most of our birds, some of our land mollusca, and the fresh-water crayfishes. This incursion is of later date than the Antarctic one. It may almost be said that the fauna and flora of the Queensland and New South Wales scrubs represent an invasion in force from the north.

In conclusion, one point may be noticed, and that is the popular names given to our animals and plants. The early settlers found themselves in a new world where nearly every thing alive differed from what they had been accustomed to. In their difficulties about names they adopted a few—far too few—from the aborigines, but in the main applied the names they knew to the fresh forms they found. Some of the names came from Britain, others from America, and a small number from other countries. So we have oaks and gum trees, box trees, and so on among plants. Among animals, we have bears, badgers, cats, bandicoots, opossums, squirrels, weasels, magpies, larks, wagtails, robins, turkeys, trout, cod, and a host of others, which are in no way related to their namesakes elsewhere. The result is often very confusing, but not nearly as much so as when scientific names, such as *iguana*, are wrongly applied to animals of a very different character from the rightful owners of the names.

MOUNTAINS AND HILLS.

Mountains
and hills.

The highest mountain in Victoria is the Bogong Range,* situated in the county of the same name, 6,508 feet above the sea-level; the next highest peaks are—Mount Feathertop, 6,306 feet; Mount Hotham, 6,100 feet; and Mount Cope, 6,015 feet; all situated in the same county; also the Cobboras, 6,030 feet, situated in the county of Tambo. These, so far as is known, are the only peaks which exceed 6,000 feet in height; but, according to the following list, which has been corrected for this work by Mr. J. M. Reed, the Surveyor-General, there are 20 peaks between 5,000 and 6,000 feet high, and 25 peaks between 4,000 and 5,000 feet high; it is known, moreover, that there are many peaks rising to upwards of 4,000 feet above the level of the sea whose actual heights have not yet been determined:—

MOUNTAINS AND HILLS IN VICTORIA.

Name of Mountain.	County.	Approximate Height above Level of Sea.	Name of Mountain.	County.	Approximate Height above Level of Sea.
		feet.			feet.
Abrupt ..	Dundas, Ripon and Villiers	2,721	Barker ..	Talbot and Bendigo	—
Acland ..	Polwarth ..	—	Bass Range ..	Mornington	—
Aitken's Hill ..	Bourke ..	1,608	Battery ..	Delatite ..	—
Alexander ..	Talbot ..	2,435	Baw Baw ..	Evelyn ..	5,062
Alexander's Head ..	Bourke and Dalhousie	—	Bealiba ..	Gladstone ..	—
Alexander's Crown ..	Bourke and Dalhousie	—	Bear's Hill ..	Bendigo ..	—
Alexina ..	Anglesey ..	—	Beckwith ..	Talbot ..	2,087
Almond Peak ..	Ripon ..	—	Bellarine ..	Grant ..	463
Anakie, Mount ..	Grant ..	1,327	Benambra ..	Benambra ..	4,843
Angus ..	Tanjil ..	—	Ben Cruachan ..	Tanjil ..	2,765
Arapiles ..	Lowan ..	1,176	Bindi ..	Tambo ..	—
Ararat ..	Ripon ..	2,020	Bendock ..	Croajingolong	—
Ararat ..	Mornington	—	Ben Nevis ..	Kara Kara	2,875
Arnold ..	Anglesey, Evelyn and Wonnangatta	—	Big Hill ..	Bourke ..	—
Arthur's Seat ..	Mornington	1,031	Big Hill ..	Evelyn ..	—
Atkinson ..	Bourke ..	—	Birch Hill ..	Talbot ..	—
Avoca ..	Kara Kara	2,461	Black Mount ..	Rodney ..	—
Bald Head ..	Dargo ..	4,502	Black Hill ..	Grant ..	2,310
Bald ..	Dargo and Bogong	5,541	Black Hill ..	Grenville ..	—
Bald Hill ..	Ripon ..	1,117	Black Range ..	Anglesey ..	—
Balmattum Range ..	Delatite ..	—	Black Range ..	Polwarth ..	—
Bainbridge ..	Dundas ..	—	Black Range ..	Lowan ..	—
Baranhet ..	Delatite ..	—	Blackwood, or Myrning	Bourke ..	2,432
Baringhup ..	Talbot ..	—	Bland ..	Bourke ..	—
			Blowhard ..	Ripon ..	—
			Blue Mountain ..	Bourke ..	—
			Blue Range ..	Delatite ..	—
			Bogong Mt. ..	Bogong ..	6,508
			Bolangum ..	Kara Kara	1,225
			Bolga ..	Benambra ..	2,860

* The highest mountain on the Australian Continent is Mount Kosciusko in New South Wales; one peak of which is 7 328 feet high.

MOUNTAINS AND HILLS—continued.

Name of Mountain.	County.	Approximate Height above Level of Sea.	Name of Mountain.	County.	Approximate Height above Level of Sea.
		feet.			feet.
Bolton ..	Talbot ..	—	Cole ..	Ripon ..	—
Boon ..	Croajingolong	4,500	Colite ..	Grant ..	—
Boswell ..	Ripon ..	1,748	Concongella ..	Borong ..	1,376
Boulder ..	Buln Buln ..	1,725	Concord ..	Anglesey ..	1,500
Boundary Hill	Anglesey ..	—	Conical Hill ..	Evelyn ..	—
Bowen ..	Croajingolong	—	Consultation ..	Talbot ..	—
Brenanah ..	Gladstone ..	—	Coopragambra	Croajingolong	—
Brigg's Bluff	Borong ..	—	Cooyatong ..	Benambra ..	3,270
Brock's Hill	Bourke ..	—	Cope ..	Bogong ..	6,015
Brown's Hill	Heytesbury	—	Corranwarrabul	Mornington	—
Bryarty's Hill	Evelyn ..	—	Cotterill ..	Bourke ..	—
Buangor ..	Kara Kara	3,247	Crinoline ..	Wonnangatta	4,500
Buckle ..	Croajingolong	1,465	Cunningham ..	Anglesey ..	1,920
Buckrabanyule	Gladstone ..	—	Dandenong ..	Evelyn and	2,077
Budgee Budgee	Tanjil and	—		Mornington	—
	Wonnangatta		Dargo Hill ..	Dargo ..	—
Buffalo ..	Delatite ..	5,645	Darriwil ..	Grant ..	—
Bulla Bulla ..	Croajingolong	—	Dawson ..	Tambo ..	—
Bullancrook	Bourke ..	2,306	Deddick ..	Croajingolong	—
Bullarook ..	Talbot ..	2,400	Deboobetic ..	Kara Kara	—
Buller ..	Wonnangatta	5,934	Delegete Hill	Croajingolong	4,307
Bullioh ..	Benambra ..	2,360	Despair ..	Anglesey ..	—
Buninyong ..	Grant ..	2,443	Difficult ..	Borong ..	2,657
Burramboot	Rodney ..	—	Dingle Range	Bogong ..	—
Burrowa ..	Benambra ..	4,181	Diogenes ..	Dalhousie ..	—
BurrumbEEP	Ripon ..	—	Direction ..	Kara Kara	—
Hill			Disappointment	Bourke ..	2,631
Byron ..	Lowan ..	—	Djoandah ..	Wonnangatta	2,000
Callender ..	Ripon ..	—	Drummond ..	Borong ..	—
Camel ..	Rodney ..	—	Dryden ..	Borong ..	—
Camel's Hump	Bourke and	3,295	Dundas ..	Dundas ..	1,535
	Dalhousie		Duneed ..	Grant ..	—
Cameron ..	Talbot ..	—	Eccles ..	Normanby ..	590
Cannibal Hill	Mornington	—	Eckersley ..	Normanby ..	529
Carlyle ..	Croajingolong	1,189	Egbert ..	Gladstone ..	—
Cardinal, The	Ripon ..	—	Egerton ..	Grant ..	—
Castle Hill ..	Borong ..	—	Elephant ..	Hampden ..	1,294
Castle Hill ..	Wonnangatta	4,860	Eliza ..	Mornington	530
Cathedral ..	Anglesey ..	2,120	Ellery ..	Croajingolong	4,251
Cavendish ..	Dundas ..	—	Ellery E. Bump	Croajingolong	3,908
Cavern ..	Talbot and	—	Emu ..	Ripon ..	1,687
	Ripon		Emu ..	Hampden ..	—
Chalamber ..	Ripon ..	1,549	Enterprise ..	Wonnangatta	—
Chalicum ..	Ripon ..	1,594	Erica ..	Tanjil ..	4,800
Charlton Hill	Dargo ..	2,090	Erip ..	Grenville ..	1,539
Chaucer ..	Normanby ..	—	Everard ..	Croajingolong	1,200
Christmas Hills	Evelyn ..	—	Fainter ..	Bogong ..	—
Clay ..	Normanby ..	622	Fainting Range	Tambo ..	—
Cobbler ..	Delatite ..	5,349	Fatigue ..	Buln Buln ..	2,110
Cobboras ..	Tambo ..	6,030	Feathertop ..	Bogong ..	6,306
Coghill's Creek	Talbot ..	—			

MOUNTAINS AND HILLS—continued.

Name of Mountain.	County.	Approximate Height above Level of Sea.	Name of Mountain.	County.	Approximate Height above Level of Sea.
		feet			feet.
Ferguson's Hill	Polwarth ..	708	Juliet, Mount	Evelyn ..	3,631
Forest Hill ..	Tambo on the N.S.W. frontier	5,000	Kangaroo Range	Normanby ..	—
Forest Hill ..	Talbot ..	—	Kay	Croajingolong	3,284
Franklin ..	Talbot ..	2,092	Keilawarra ..	Moirā ..	—
Franklin Range	Bogong ..	—	Kent ..	Wonnangatta	5,129
Friday ..	Dargo ..	2,700	Kerang ..	Gladstone ..	—
Fyans ..	Hampden ..	957	Kerang ..	Gunbower ..	—
Gap ..	Talbot ..	—	Kerange Moorah	Polwarth ..	—
Gaspard ..	Talbot ..	—	Kernot ..	Tanjil ..	4,800
Gellibrand ..	Grenville ..	871	Kersop Peak	Buln Buln ..	740
Genoa Peak	Croajingolong	1,611	Kincaid ..	Normanby ..	655
George ..	Polwarth ..	—	Kinross	Hampden ..	908
Gibbo ..	Benambra ..	5,764	Kirk's Hill ..	Ripon ..	—
Glasgow ..	Talbot ..	—	Koala ..	Dalhousie ..	—
Glenrowen ..	Moirā ..	1,680	Koang ..	Hampden ..	891
Good Morning Bill	Ripon ..	1,716	Kooroongh ..	Talbot ..	—
Gowar ..	Gladstone ..	—	Kooyoora ..	Gladstone ..	—
Graham ..	Evelyn ..	—	Korong ..	Gladstone ..	1,408
Granyah ..	Benambra ..	3,620	Kororoit ..	Bourke ..	—
Green Hill ..	Dalhousie ..	—	Kurtweeton ..	Hampden ..	—
Green Hill ..	Grenville ..	—	Lady Franklin	Bogong ..	1,789
Greenock ..	Talbot ..	—	Lady Mount..	Ripon ..	—
Gregory ..	Evelyn, Wonnangatta, and Tanjil	4,000	Langdale Pike	Polwarth ..	—
Hamilton ..	Hampden ..	1,050	Landsborough Hill	Kara Kara	1,903
Hardie's Hill	Grenville ..	—	Langi Ghiran	Ripon ..	3,123
Hat Hill ..	Delatite ..	2,544	La Trobe ..	Buln Buln ..	2,366
Heath Point..	Normanby ..	627	La Trobe's Range	Polwarth ..	—
Hermit ..	Bogong ..	—	Lawaluk ..	Grenville ..	—
Hesse ..	Grenville ..	—	Leading Hill	Mornington	—
Hoad ..	Dargo ..	2,160	Leinster ..	Dargo and Benambra	—
Hoddle Range	Buln Buln ..	—	Leura ..	Hampden ..	1,030
Hollowback Hill	Talbot ..	—	Lianiduk ..	Karkaroc ..	—
Hooghly ..	Gladstone ..	—	Livingstone ..	Bogong ..	4,007
Hope ..	Gunbower ..	—	Liptrap ..	Buln Buln ..	551
Hope ..	Benambra ..	4,505	Lock ..	Bogong ..	5,900
Hore's Hill ..	Benambra ..	—	Loinman ..	Karkaroc ..	—
Hotspur ..	Villiers ..	—	Lookout (2) ..	Tanjil ..	3,500
Hotham ..	Bogong ..	6,100	Lyll ..	Mornington	—
Howe Hill ..	Croajingolong	1,292	Macedon ..	Bourke ..	3,324
Howitt ..	Delatite ..	5,718	Mackenzie ..	Anglesey ..	—
Hume's Range	Bourke ..	—	Mackersey ..	Dundas ..	—
Hunter ..	Buln Buln ..	1,136	Magdala ..	Wonnangatta	—
Ida ..	Rodney ..	1,537	Maindample	Delatite ..	—
Jeffcott ..	Kara Kara	—	Major ..	Moirā ..	1,251
Jenkins ..	Weeah ..	339	Mannibadar ..	Grenville ..	—
			Maramingo ..	Croajingolong	1,274

MOUNTAINS AND HILLS—continued.

Name of Mountain.	County.	Approximate Height above Level of Sea.	Name of Mountain.	County.	Approximate Height above Level of Sea.
		feet.			feet.
Martha ..	Mornington	544	Prospect ..	Anglesey ..	1,025
Martin ..	Bogong ..	—	Puckapanyal	Dalhousie ..	—
Matlock ..	Wonnangatta	4,544	Hill		
Maxwell ..	Anglesey ..	740	Puzzle Range	Anglesey ..	—
Melbourne Hill	Bourke ..	—	Pyramid Hill	Gunbower ..	—
Meningorot ..	Hampden ..	766	Quoin Hill ..	Talbot and	—
Mercer ..	Grenville ..	—	Ripon	Ripon	—
Misery ..	Ripon ..	—	Raven's Hill	Kara Kara	—
Mitchell ..	Talbot ..	—	Ravenscroft	Ripon and	—
Moliagul ..	Gladstone ..	—	Hill	Talbot	—
Mournot ..	Ripon ..	—	Raymond ..	Croajingolong	980
Monda ..	Evelyn and	2,974	Red Hill ..	Buln Buln ..	—
	Anglesey		Red Hill (Mount	Ripon ..	1,211
Monk, The ..	Talbot ..	—	Weejort)		
Moolort ..	Talbot ..	—	Richmond Hill	Normanby ..	727
Moorokyle ..	Talbot ..	—	Riddell ..	Evelyn ..	—
Moornambool	Ripon ..	—	Ross ..	Ripon ..	—
Moorul ..	Talbot ..	—	Rouse ..	Villiers ..	1,220
Moriac ..	Grant ..	839	Sabine ..	Polwarth ..	1,912
Mormbool ..	Dalhousie ..	—	Samaria ..	Delatite ..	3,138
Mueller ..	Tanjil ..	5,400	Sargent ..	Talbot ..	—
Murindal ..	Tambo ..	—	Scobie ..	Rodney ..	—
Murramurang-	Bogong ..	—	Selwyn ..	Wonnangatta	—
bong				and Dela-	
Myrtoon ..	Hampden ..	713		tite	
Nanimia ..	Ripon ..	—	Separation ..	Delatite ..	—
Napier ..	Normanby ..	1,453	Shadwell ..	Hampden ..	962
Navarre Hill	Kara Kara	1,355	Sherwin's	Evelyn ..	—
Nibo ..	Anglesey ..	—	Range		
Noorat ..	Hampden ..	1,024	Shillinglaw ..	Wonnangatta	—
Norgate ..	Buln Buln ..	1,390	Serra Range	Dundas and	—
Notch Hill ..	Dargo ..	4,507		Ripon	
Nowa Nowa	Tambo ..	—	Singapore ..	Buln Buln ..	451
Oberon ..	Buln Buln ..	1,968	Singleton ..	Wonnangatta	—
Ochertyre ..	Bogong ..	—	Sister Rises ..	Hampden ..	—
One-Mile Hill	Talbot ..	—	Sisters ..	Anglesey ..	—
One-tree Hill	Evelyn ..	—	Skene ..	Wonnangatta	—
One-tree Hill	Normanby ..	—	Smeaton ..	Talbot ..	—
Paradox ..	Anglesey ..	—	Snake's Ridge	Buln Buln ..	—
Peter's Hill ..	Polwarth ..	1,280	Snodgrass ..	Anglesey ..	—
Pierrepoint ..	Normanby ..	936	Spring Hill ..	Gladstone ..	—
Pilot Range ..	Bogong ..	—	Spring Hill ..	Ripon ..	—
Pine Mount ..	Benambra ..	—	Spring Hill ..	Talbot ..	—
Pininbar ..	Benambra ..	4,100	Square Mount	Dargo ..	4,900
Pisgar ..	Ripon and Tal-	—	Stanley ..	Bogong ..	3,444
	bot		Station Peak	Grant ..	1,154
Pleasant ..	Rodney ..	—	Stavely Range	Villiers ..	1,070
Pollock ..	Grant ..	—	Steel's Hill ..	Evelyn ..	—
Porndon ..	Heytesbury	947	Steiglitz ..	Bourke ..	—
Powlett's Hill	Talbot ..	—	St. Bernard ..	Bogong ..	5,060

MOUNTAINS AND HILLS—continued.

Name of Mountain.	County.	Approximate Height above Level of Sea.	Name of Mountain.	County.	Approximate Height above Level of Sea.
		feet.			feet.
St. George ..	Polwarth ..	—	Tower Hill ..	Villiers ..	322
St. Gwinear ..	Tanjil ..	5,000	Traawool ..	Anglesey ..	—
St. Leonard's	Evelyn and Anglesey	—	Twins, The ..	Delatite and Wonnangatta	5,582
St. Mary's Hill	Ripon ..	—	Tyers ..	Tanjil ..	4,900
St. Phillack ..	Tanjil ..	5,210	Upton Hill ..	Delatite ..	—
Strathbogie Ranges	Delatite ..	—	Useful ..	Wonnangatta and Tanjil	4,720
Sturgeon ..	Dundas ..	1,946	Valentia ..	Wonnangatta	—
Sugarloaf (Bear's)	Evelyn ..	—	Vandyke ..	Normanby ..	—
Sugarloaf (Mt. Piper)	Dalhousie ..	—	Vereker ..	Buln Buln ..	2,092
Suggan Buggan	Tambo ..	—	Victoria Range	Dundas ..	—
Survey Peak	Anglesey ..	—	Vite Vite ..	Hampden ..	—
Table Top ..	Delatite ..	—	Wagra ..	Benambra ..	2,638
Talbot ..	Lowan ..	—	Wallace ..	Grant ..	—
Tallarook ..	Anglesey ..	2,652	Wallerson ..	Tambo ..	—
Talgarna ..	Benambra ..	2,101	Warrambal ..	Wonnangatta	—
Tambo ..	Benambra ..	4,707	Warrenheip ..	Grant ..	2,463
Tamboritha ..	Wonnangatta	5,381	Warrion Hill, Gt.	Grenville ..	921
Tara ..	Tambo ..	2,009	Warrnambool	Hampden ..	712
Tarrangower	Talbot ..	1,861	Watershed Hill	Ripon ..	—
Taylor ..	Dargo ..	1,571	Weejort ..	(See Red Hill)	—
Telegraph Hill	Ripon ..	1,854	Wellington ..	Mornington	314
Templar ..	Tatchera ..	—	Wellington (Trig)	Wonnangatta and Tanjil	5,355
Tennyson ..	Croajingolong	3,422	Wellington (Nap-Nap-Marra)	Tanjil ..	5,269
Terrick Terrick	Gunbower ..	—	Wermatong ..	Benambra ..	—
Thackeray ..	Dundas ..	—	Whittaker's ..	Croajingolong	—
The Brothers	Benambra ..	4,667	Widderin ..	Hampden ..	1,132
The Sisters ..	Benambra and Dargo	4,038	William ..	Ripon and Borung	3,827
Timbertop, or Warrambat	Wonnangatta	—	Wills ..	Bogong ..	5,758
Tingariny ..	Croajingolong	4,771	Wilson ..	Buln Buln ..	2,350
Tikatory Hill	Delatite ..	2,002	Wilson ..	Bourke ..	—
Tom's Cap ..	Buln Buln ..	1,258	Wiridgil ..	Hampden ..	—
Tongio ..	Tambo ..	—	Wombat ..	Delatite ..	2,659
Tooborac Hills	Dalhousie ..	—	Wombat Hill	Talbot ..	—
Torbreck ..	Anglesey and Wonnangatta	5,001	Yandoit Hill	Talbot ..	—
Towanga ..	Bogong ..	4,151	Zero, Mount	Borong ..	—

With the exception of the Yarra, on the banks of which the metropolis is situated; the Goulburn, which empties itself into the Murray about eight miles to the eastward of Echuca; the La Trobe and the Mitchell, with, perhaps, a few other of the Gippsland streams; and the Murray itself, the rivers of Victoria are not navigable except by boats. They, however, drain the watershed of large areas of country, and many of the streams are used as feeders to permanent reservoirs for irrigation and water supply purposes and manufactures. The Murray, which forms the northern boundary of the State, is the largest river in Australia. Its total length is 1,300 miles, for 980 of which it flows along the Victorian border.* Several of the rivers in the north-western portion of the State have no outlet, but are gradually lost in the absorbent tertiary flat country through which they pass. The names and lengths of the principal Victorian rivers, with their positions and approximate lengths, corrected by the Surveyor-General, Mr. J. M. Reed, according to the latest information, are as follow:—

RIVERS IN VICTORIA.

Name of River.	Position.	Approximate Length.
		Miles.
Aberfeldy	Tanjil. Falls into Thomson	30
Acheron	Anglesey. Falls into Goulburn, 4 miles S. of Alexandra	35
Aire	Polwarth. Falls into sea, 6 miles W. of Cape Otway	25
Arthur's Creek	Evelyn. Falls into Yarra Yarra	30
Avoca	Tatchera, and western boundary of Gladstone	163
Avon, or Dunlop	Tanjil. Flows into Lake Wellington	60
Avon	Kara Kara. Source about a mile N. of Navarre	55
Back Creek	Moir. Falls into Broken Creek	60
Back Creek	Villiers. Falls into Moyne	25
Baillie's Creek	Ripon. Falls into Mount Emu Creek	20
Barkly	Wonnangatta. West of Macallister	20
Barr Creek	Bendigo. Falls into Murrabit	20
Barwon	Grant. Runs into Lake Connewarre. Part of W. boundary of county	95
Bass	Mornington. Falls into Western Port near East Head	35
Bemm	Croajingolong. Falls into sea at Sydenham Inlet	60
Benambra Creek	Benambra. Near Lake Omeo'	45
Bet Bet Creek	Between Talbot and Gladstone. Falls into Loddon	70
Big	Wonnangatta. Joins Goulburn, 16 miles S.W. of Mansfield	32
Birregurra Creek	Polwarth and Grenville. Falls into Barwon	20
Black	Wonnangatta. Falls into Goulburn	24
Boggy Creek	Tambo. Falls into Lake Tyers	20
Boort Creek	Gladstone. Overflow from Loddon into Lake Boort	25
Bream Creek	Grant. Falls into the sea W. of Barwon	30
Broadbent Creek	Croajingolong. Falls into Snowy River	25

* From the source of its longest tributary, the Darling, to the Murray mouth, the total length of this river is 2,345 miles.

RIVERS—continued

Name of River.	Position.	Approximate Length.
		Miles.
Brodribb	Croajingolong. Falls into Snowy River near its mouth	80
Broken	Delatite and Moira. Joins Goulburn, 2 miles S. of Shepparton	120
Broken Creek ..	Moira, effluent of Broken River. Falls into Murray near Lake Moira	120
Broken Creek ..	Ripon. Falls into Mount Emu Creek	20
Bruthen Creek ..	Buln Buln. Falls into Shoal Inlet	25
Buchan	Tambo. Tributary of Snowy River from westward	75
Buckland	Delatite. 40 miles S.E. of Wangaratta	35
Buffalo	Delatite. S. of Ovens, 25 miles S.E. of Wangaratta	50
Bullabul Creek ..	Gladstone. Falls into Loddon	30
Bullarook Creek ..	Ripon. Falls into Tullaroop Creek	35
Bundarra	Bogong. Falls into Victoria River. Tributary of Mitta Mitta	25
Bunee	Part of eastern boundary of Mornington	20
Burnt Creek	Borong. Falls into Wimmera	30
Burrumbeet Creek ..	Part of southern boundary of Ripon. Falls into Lake Burrumbeet	35
Campaspe	Dalhousie, at Kyneton. Flows into Murray at Echuca	150
Cann	Croajingolong. Falls into Tamboon Inlet, 5 miles west Cape Everard	55
Castle Creek	Delatite. Falls into Goulburn	50
Chetwynd	Dundas. Falls into Glenelg	30
Cherry-tree Creek ..	Kara Kara. Falls into Avoca	25
Cobungra Creek ..	Bogong. Falls into Victoria	26
Cochrane's Creek ..	Gladstone. Falls into Avoca	20
Coliban	Dalhousie. Boundary between counties of Talbot and Dalhousie. Flows into Campaspe	60
Concongella Creek ..	Borong. Falls into Wimmera	30
Cornella Creek ..	Rodney. Falls into Lake Cooper	35
Crawford	Normanby. Joins Glenelg at Dartmoor	45
Cudgee Creek	Heytesbury. Falls into Hopkins	25
Cudgewa Creek ..	Benambra. Falls into Murray, 8 miles N. of Towong	45
Curdie's River ..	Heytesbury. Flows from Lake Purrumbete. Falls into sea, 28 miles S.E. from Warrnambool	50
Corryong Creek ..	Benambra. Falls into Murray, 3 miles N. of Towong	55
Dabyminga Creek ..	Anglesey, western boundary. Falls into Goulburn	35
Dandenong Creek ..	Mornington, western boundary. Falls into Port Phillip Bay	30
Dargo	Dargo. Joins Mitchell River	85
Darlot's Creek ..	Normanby. Falls into Fitzroy	25
Dart	Benambra. Falls into Mitta Mitta	25
Delatite, or Devil's River	Boundary between Delatite and Wonnangatta. Joins the Goulburn, 10 miles below Darlingford	60
Deegay Ponds ..	Dalhousie. Falls into Goulburn	20

RIVERS—continued.

Name of River.	Position.	Approximate Length.
		Miles.
Delegete	Croajingolong. Joins Snowy River in New South Wales	30*
Doma Mungi	Bogong. Falls into Murray	45
Drysdale Creek	Villiers. Falls into Merri	25
Dundas	Dundas. Joins Wannon 1½ miles W. of Caven-dish	20
Dunmunkle Creek	Borong. Effluent of Wimmera	60
Dwyer's Main Creek	Normanby. Falls into Wannon	25
Emu Creek	Bourke. Falls into Saltwater	30
Eumerella	Normanby. Falls into Lake Yambuk	80
Ferrer's Creek	Grenville. Falls into Woody Yaloak	35
Fiery Creek	Ripon. Falls into Lake Bolac	90
Fifteen-Mile Creek	Delatite. Joins Three-Mile Creek	50
Fitzroy	Normanby. Falls into Portland Bay	35
Ford's Creek	Delatite. Falls into Delatite	20
Franklin	Buln Buln, at Corner Inlet, W. of Welshpool	25
Fyan's Creek	Borong. Falls into Lake Lonsdale	30
Gellibrand	Polwarth. Falls into sea, 23 miles W. of Cape Otway	75
Genoa	Croajingolong. Falls into sea, 12 miles S.W. of Cape Howe	45†
Gibbo	Benambra. Falls into Mitta Mitta	25
Glenelg	Normanby. Part of western boundary of county; a bend at the mouth enters South Australia	281
Gnarkeet Ponds	Hampden, on eastern boundary. Falls into Lake Corangamite	30
Goulburn	Anglesey, part of western boundary of county. Joins Murray, 6 miles E. of Echuca	345
Gray's Creek	Villiers. Falls into Hopkins	25
Gunbower Creek	Bendigo. Falls into Murray	75
Happy Valley Creek	Bogong. Falls into Ovens	20
Henty's Creek	Normanby. Falls into Wannon	25
Hodgson's Creek	Bogong. Falls into Ovens	20
Holland	Delatite. Source at Wombat Hill and Tabletop. Joins Broken River at Benalla	45
Hopkins	Villiers. Falls into sea at Warrnambool	155
Howqua	Wonnangatta. Rises at Mount Howitt. Falls into Goulburn	45
Hughes' Creek	Anglesey, part of northern boundary of county. Falls into Goulburn	50
Indigo Creek	Bogong. Falls into Murray	20
Jackson's Creek	Bourke. Falls into Saltwater	55
Jamieson	Wonnangatta. Falls into Goulburn	60
Jim Crow Creek	Ripon, part of southern boundary of county. Falls into Loddon	35
Jingallala or Deddick	Croajingolong. Joins Snowy from eastward	37
Joyce's Creek	Ripon. Falls into Middle Creek	35
Kiewa	Bogong. Falls into Murray, 8 miles below confluence of Mitta Mitta with Murray	95
King	Delatite. Joins Ovens at Wangaratta	90
King Parrot Creek	Anglesey. Falls into Narrangeanong	20

* Length in Victoria only.

† Length in Victoria only; total length, 60 miles.

RIVERS—continued.

Name of River.	Position.	Approximate Length.
		Miles.
Koetong Creek ..	Benambra. Falls into Murray ..	25
Koroit Creek ..	Normanby. Falls into Wannon ..	35
Kororoit Creek ..	Bourke. Falls into Port Phillip Bay ..	40
Lang Lang ..	Mornington. Falls into Western Port Bay ..	30
La Trobe ..	Buln Buln. Falls into Lake Wellington. Boundary between Tanjil and Buln Buln	140
Leigh (<i>see</i> Yarrowee).		
Lerderberg ..	Bourke. Falls into Werribee at Bacchus Marsh	35
Lindsay ..	Millewa. Falls into Murray ..	35
Little ..	Grant. Falls into Port Phillip Bay ..	40
Little ..	Tambo. Falls into Tambo ..	15
Little Woody Yaloak	Grenville. Falls into the Woody Yaloak ..	20
Loddon ..	Talbot, and western boundary of Bendigo and Gunbower. Joins Murray at Swan Hill	225
Macallister ..	Tanjil and Wonnangatta. Falls into Thomson	115
Marraboor ..	Tatchera. Falls into Murray ..	35
Mather's Creek ..	Normanby. Falls into Glenelg ..	20
Merri ..	Villiers. Falls into sea at Warrnambool ..	40
Merri Merri Creek ..	Bourke. Falls into Yarra Yarra ..	50
Merriman's Creek ..	Buln Buln. Falls into sea at Ninety-mile Beach	60
Middle Creek ..	Ripon. Falls into Loddon ..	40
Mitchell ..	Boundary between Dargo and Tanjil. Falls into Lake King	80
Mitta Mitta ..	Boundary between Benambra and Bogong. Joins Murray about 8 miles east from Wodonga	175
McKenzie ..	Borong. Falls into Wimmera, 5 miles W. of Horsham	55
Moorarbool ..	Grant. Joins Barwon at Fyansford, near Geelong	80
Moroka ..	Wonnangatta. Joins Wonnangatta, 12 miles N. of Mount Wellington	30
Morwell ..	Buln Buln. Tributary of La Trobe ..	35
Mountain Creek ..	Croajingolong. Falls into Snowy ..	25
Moynes ..	Villiers. Falls into sea at Belfast ..	45
Mount Cole Creek ..	Borong. Falls into Wimmera ..	25
Mount Emu Creek ..	Hampden. Falls into Hopkins ..	150
Mount Greenock Creek	Ripon. Falls into Tullaroop Creek ..	35
Mount Hope Creek ..	Bendigo and Gunbower. Falls into Kow Swamp	120
Mount Pleasant Creek	Rodney. Falls into Campaspe ..	25
Mount William Creek	Borong. Falls into Lake Lonsdale, thence into Wimmera, 12 miles E. of Horsham	80
Muckleford Creek ..	Talbot. Falls into Loddon ..	20
Muddy or Pranjip Creek	Delatite. Falls into Goulburn ..	35
Murray ..	Northern boundary line of State of Victoria ..	980*
Murrabit ..	Bendigo. Falls into Loddon ..	35
Murrindal ..	Tambo. Falls into Buchan ..	35
Muston's Creek ..	Villiers. Falls into Hopkins ..	50
Myer's Creek ..	Bendigo ..	30
Myrtle Creek ..	Ripon, part of north boundary. Falls into Coliban	20
Naringhil Creek ..	Grenville. Falls into Woody Yaloak ..	30

* Length in Victoria only; total length, 1,300 miles.

RIVERS—continued.

Name of River.	Position.	Approximate Length.
		Miles.
Nicholson ..	Dargo. Falls into Lake King	50
Norton Creek ..	Lowan, part of eastern boundary. Falls into Wimmera	35
Outlet Creek ..	Weeah. Flows from Lake Hindmarsh into Lake Albacutya; thence north to Pine Plains	80
Ovens	Boundary between Bogong, Delatite, and Moira. Joins Murray, 23 miles below Wangaratta	140
Perry	Tanjil. Falls into Lake Wellington	38
Plenty	Bourke. East boundary of county	35
Pyramid Creek ..	Bendigo and Gunbower. Falls into Loddon at Kerang	160
Reedy Creek ..	Bogong. Falls into Ovens	45
Richardson ..	Kara Kara. Joins Avon about 26 miles N.W. from Navarre	35
Rose	Delatite. Falls into Buffalo	50
Salt Creek	Hampden, outlet of Lake Bolac. Falls into Hopkins	35
Saltwater	Bourke. Joins the Yarra at Footscray	170
Serpentine Creek ..	Bendigo. Falls into Loddon	35
Seven Creeks ..	Delatite. Falls into Goulburn	35
Shaw	Villiers. Falls into Lake Yambuk	20
Snowy	Tambo and Croajingolong. Falls into sea near Point Ricardo	120*
Snowy Creek ..	Bogong. Falls into Mitta Mitta	26
Spring Creek ..	Villiers. Falls into Merri Merri	30
Stokes, or Emu ..	Normanby. Joins the Glenelg, 5 miles N. of Dartmoor	30
Stony Creek ..	Delatite. Falls into Violet Ponds	32
Sugarloaf Creek ..	Dalhousie. Falls into Goulburn	30
Sunday Creek ..	Dalhousie. Falls into Sugarloaf Creek	35
Surrey	Normanby. Falls into Portland Bay	28
Sutherland Creek ..	Grant. Falls into Moorarbool	20
Tallangatta Creek ..	Benambra. Falls into Mitta Mitta	40
Tambo, or Thomson ..	Boundary between Tambo and Dargo. Falls into Lake King	120
Tanjil	Buln Buln and Tanjil. Falls into La Trobe ..	50
Tarra Tarra	Buln Buln. Falls into Shoal Inlet, near Tarra-ville	25
Tarwin	Buln Buln. Falls into sea at Anderson's Inlet	60
Thomson	Tanjil. Falls into La Trobe	100
Thowgla Creek ..	Benambra. Falls into Corryong Creek	30
Thurra	Croajingolong. Falls into sea at Cape Everard	55
Toonginbooka ..	Tambo. Joins Snowy River	30
Tom's Creek ..	Tanjil. Falls into Lake Victoria	20
Trawalla Creek ..	Ripon. Falls into Mount Emu Creek	20
Tsheca Creek ..	Rodney. Falls into Murray	25
Tullaroop Creek ..	Talbot. Falls into Loddon near Eddington, with Creswick's and Adekate Creeks	120
Tyers	Tanjil. Tributary of La Trobe	35
Tyrrell Creek ..	Kara Kara and Tatchera. Effluent of Avoca. Falls into Lake Tyrrell	95

* Length in Victoria only; total length, 300 miles.

RIVERS—*continued.*

Name of River.	Position.	Approximate Length.
Victoria	Bogong. Falls into Mitta Mitta, 8 miles W. of Lake Omeo	Miles. 30
Violet Ponds	Moirra. Falls into Goulburn	35
Wabba Creek	Benambra. Falls into Cudgewa Creek	20
Wallpolla Creek	Millewa. Falls into Murray	30
Wando	Dundas. Falls into Wannon	25
Wannon	Dundas. Part of south boundary of county	150
Watts	Evelyn. Falls into Yarra Yarra	25
Warrambine Creek	Grenville. Falls into Barwon	45
Wellington	Wonnangatta	24
Wentworth	Dargo. Falls into Mitchell	55
Western Moorarbool	Grant. Falls into Moorarbool	30
Werribee	Bourke. West boundary of county	70
Whorouly	Delatite. Joins Ovens about 15 miles S.E. of Wangaratta	20
Wimmera	Wimmera district. Falls into Lake Hindmarsh	228
Wingan	Croajingolong. Falls into sea at Ram Head	30
Woody Yaloak	Grenville. Flows from north into Lake Corangamite	60
Wongungarra	Falls into Wonnangatta, 43 miles N.W. of Lake Wellington	50
Wonnangatta	Falls into Mitchell	75
Woori Yaloak	Evelyn. Joins Yarra Yarra about 4 miles west from Warrandyte	25
Yackandandah Creek	Bogong. Falls into Kiewa	30
Yarra Yarra	Bourke. Falls into Hobson's Bay	150
Yarriambiack Creek	Borong. Effluent of Wimmera. Falls into Lake Coorong	95
Yarrowee, or Leigh	Grant. Joins Barwon at Inverleigh	80
Yea	Anglesey. Falls into Goulburn	35

LAKES.

Lakes.

Victoria contains numerous salt and fresh water lakes and lagoons; but many of these are nothing more than swamps during dry seasons. Some of them are craters of extinct volcanoes. Lake Corangamite, the largest inland lake in Victoria, covers 90 square miles, and is quite salt, notwithstanding it receives the flood waters of several fresh-water streams. It has no visible outlet. Lake Colac, only a few miles distant from Lake Corangamite, is a beautiful sheet of water, 10½ square miles in extent, and quite fresh. Lake Burrumbeet is also a fine sheet of fresh water, embracing 8 square miles. The Gippsland lakes—Victoria, King, and Reeve—are situated close to the coast, and are separated from the sea only by a narrow belt of sand. Lake Wellington, the largest of all the Gippsland lakes, lies to the westward of Lakes Victoria and King, and is united to the first-named by a narrow channel. South-east of Geelong is Lake Connemare, connected with the sea at Point

Flinders. The following is a list of the lakes in Victoria, with their localities and areas, supplied by Mr. Surveyor-General Reed:—

LAKES IN VICTORIA.

(Those lakes which contain fresh water are distinguished by the letter *f*, and those which consist of salt or brackish water are indicated by the letters *s* and *b* respectively.)

Name of Lake.	Position.	Approximate Area.
		Acres.
Albacutya ..	Weeah, 10 miles N. of Lake Hindmarsh (<i>f</i>) ..	14,430
Albert Park ..	South Melbourne (<i>f</i>) ..	105
Bael Bael ..	Tatchera, 9 miles W. of Kerang (<i>f</i>) ..	1,075
Baker ..	Tatchera, 7 miles S.E. of Castle Donnington (<i>f</i>) ..	700
Barracootta ..	Croajingolong, 6 miles W. of Cape Howe (<i>f</i>) ..	600
Beeac ..	Grenville, 10 miles N. of Colac (<i>s</i>) ..	1,500
Birdebush ..	Hampden, 8 miles N.W. of Camperdown (<i>b</i>) ..	64
Bitterang ..	Karkaroc, 45 miles N.W. of Lake Tyrrell (<i>f</i>) ..	180
Boga ..	Tatchera, 8 miles S.E. of Castle Donnington (<i>f</i>) ..	2,120
Bolac ..	Ripon, 6 miles E. of Wickliffe (<i>f</i>) ..	3,500
Bookaar ..	Hampden, 6 miles N.W. of Camperdown (<i>b</i>) ..	1,075
Booroopki ..	Lowan 14 miles E. of South Australian boundary line (<i>f</i>) ..	1,030
Boort ..	Gladstone, fed by overflow of Loddon (<i>f</i>) ..	1,127
Bringalbert ..	Lowan, 10 miles N.E. of Apsley (<i>f</i>) ..	250
Bullen Merri ..	Hampden, 1 mile S.W. of Camperdown (<i>b</i>) ..	1,330
Buloke ..	Borong, 4 miles N. of Donald (<i>occasionally dry for a series of years</i>) (<i>f</i>) ..	600
Bunga ..	Tambo, 3 miles S.W. of Lake Tyers (<i>f</i>) ..	300
Bungaa ..	Tanjil, 90-mile beach (<i>b</i>) ..	1,000
Buninjon ..	Ripon, 6 miles S.W. of Ararat (<i>f</i>) ..	430
Burn ..	Grenville, 10 miles N.E. of Colac (<i>s</i>) ..	130
Burrumbeet ..	Ripon, 10 miles W. of Ballarat (<i>f</i>) ..	5,200
Calvert ..	Grenville, 5 miles N. of Colac (<i>s</i>) ..	5,200
Cantala ..	Karkaroc, 44 miles N.W. of Lake Tyrrell (<i>f</i>) ..	250
Carchap ..	Lowan, 20 miles N. of Mostyn (<i>f</i>) ..	220
Catcarrong ..	Villiers, near township of Winslow (<i>f</i>) ..	80
Catherine ..	Polwarth, W. boundary of county, 13 miles from sea (<i>f</i>) ..	130
Centre ..	Lowan, 10 miles N.W. of Mostyn (<i>f</i>) ..	660
Charm ..	Tatchera, 10 miles N. of Kerang (<i>f</i>) ..	1,390
Clear ..	Lowan, 17 miles N. of Mostyn (<i>f</i>) ..	300
Colac ..	Polwarth, at Colac (<i>f</i>) ..	6,650
Colongulac ..	Hampden, 3 miles N. of Camperdown (<i>b</i>) ..	3,500
Connearre ..	Grant, 5 miles S.E. of Geelong (<i>tidal</i>) ..	3,880
Cooper ..	Rodney, 9 miles E. of Runnymede (<i>f</i>) ..	2,400
Coorong ..	Karkaroc, fed by Yarriambiak Creek (<i>f</i>) ..	2,000
Cope Cope ..	Kara Kara, 16 miles N.W. of St. Arnaud (<i>f</i>) ..	400
Coragulac ..	Grenville, 7 miles N.W. of Colac (<i>b</i>) ..	90
Corangamite ..	Grenville (<i>s</i>) ..	57,700
Corringle ..	Tambo, 2 miles from coast (<i>f</i>) ..	400
Craver ..	Polwarth, 5 miles N.W. of Cape Otway (<i>tidal</i>) ..	200
Cullens ..	Tatchera, 8 miles N.W. of Kerang (<i>f</i>) ..	1,660
Cundare ..	Grenville, 12 miles N. of Colac (<i>s</i>) ..	350
Curlip ..	Croajingolong, fed by overflow of Snowy River (<i>f</i>) ..	400
Denison ..	Buln Buln, 28 miles N.E. of Alberton (<i>f</i>) ..	350
Dock ..	Borong, 6 miles S.E. of Horsham (<i>f</i>) ..	370
Doling Doling ..	Dundas, 3 miles N.E. of Hamilton (<i>f</i>) ..	50

LAKES—continued.

(Those lakes which contain fresh water are distinguished by the letter *f*, and those which consist of salt or brackish water are indicated by the letters *s* and *b* respectively.)

Name of Lake.	Position.	Approximate Area.
		Acres.
Drung Drung or Taylor's	Borong, 11 miles S.E. of Horsham (<i>f</i>)	750
Duck	Tatchera, 6 miles N.W. of Kerang (<i>f</i>)	870
Durridwarrah	Grant, reservoir for town of Geelong, 25 miles N.W. (<i>f</i>)	—
Elingamite	Heytesbury, 11 miles S.W. of Camperdown (<i>f</i>)	800
Elizabeth	Tatchera, 5 miles W. of Kerang (<i>f</i>)	200
Eyang	Hampden, 9 miles E. of Chatsworth (<i>f</i>)	180
Furnell	Croajingolong, 8 miles N.W. of Cape Everard (<i>f</i>)	800
Garnouk	Tatchera, 10 miles S.E. of Castle Donnington (<i>f</i>)	500
Garry	Moir, 10 miles N.W. of Shepparton (<i>f</i>)	1,700
Ghentghen	Ripon, 5 miles E. of Wickliffe (<i>s</i>)	40
Gherang Gherang	Grant, 3 miles E. of Winchelsea (<i>f</i>)	250
Gnarput	Hampden, at Northern extremity of Lake Corangamite (<i>s</i>)	5,800
Gnotuk	Hampden, 2 miles W. of Camperdown (<i>s</i>)	600
Goldsmith	Ripon, 7 miles S. of Beaufort (<i>f</i>)	2,130
Goulburn Weir	Moir and Rodney (<i>f</i>)	4,500
Green	Borong, 7 miles S.E. of Horsham (<i>f</i>)	250
Hattah	Karkaroc, 42 miles N.W. of Lake Tyrrell (<i>f</i>)	150
Hindmarsh	Lowan, fed by Wimmera River (<i>f</i>)	30,000
Jollicum	Hampden, 4 miles S.W. of Streatham (<i>f</i>)	130
Kakydra	Tanjil, 7 miles E. of Sale (<i>b</i>)	452
Kanaguik	Lowan, 6 miles N.E. of Mostyn	870
Kangaroo	Tatchera, 11 miles N.W. of Kerang (<i>f</i>)	2,250
Kariah	Hampden, 5 miles N.E. of Camperdown (<i>b</i>)	350
Karnak	Lowan, 18 miles N.E. of Edenhope (<i>b</i>)	300
Keilambete	Hampden, 15 miles W. of Camperdown (<i>b</i>)	770
Kemi Kemi	Lowan, 2 miles S. of Edenhope (<i>f</i>)	130
Kennedy	Villiers, 8 miles N.W. of Peshurst (<i>b</i>)	690
Kerferd	Bogong, Beechworth Water Supply (<i>f</i>)	100
King	Tanjil, near Bairnsdale, 23 miles N.E. of Seacombe (<i>tidal</i>)	22,500
Konardin	Karkaroc, 44 miles N.W. of north shore of Lake Tyrrell (<i>f</i>)	300
Koreetnung	Hampden, 6 miles N.E. of Camperdown (<i>s</i>)	560
Kow	Gunbower (<i>f</i>)	6,800
Laanecoerie Weir	Bendigo and Gladstone (<i>f</i>)	1,620
Lalbert	Tatchera, 31 miles W. of Kerang (<i>f</i>)	1,250
Leaghur	Tatchera, 18 miles S.W. of Kerang (<i>f</i>)	130
Learmonth	Ripon, 11 miles N.W. of Ballarat (<i>f</i>)	1,200
Linlithgow	Villiers, 8 miles N.W. of Peshurst (<i>b</i>)	2,450
Little	Tatchera, 10 miles S.W. of Kerang (<i>f</i>)	80
Lockie	Karkaroc, 42 miles N.W. of Lake Tyrrell (<i>f</i>)	350
Long	Tatchera, 8 miles S.E. of Castle Donnington (<i>f</i>)	500
Lonsdale	Borong, 7 miles S.W. of Glenorchy (<i>f</i>)	6,000
Lookout	Tatchera, 14 miles W. of Kerang	130
Mallacoota	Croajingolong, 12 miles W. of Cape Howe (<i>tidal</i>)	1,700
Malmsbury	Dalhousie and Talbot, reservoir for northern gold-fields' population, borough of Malmsbury (<i>f</i>)	640
Mannaor	Tatchera, fed by overflow of Murray (<i>f</i>)	40

LAKES—continued.

(Those lakes which contain fresh water are distinguished by the letter *f*, and those which consist of salt or brackish water are indicated by the letters *s* and *b* respectively.)

Name of Lake.	Position.	Approximate Area.
		Acres.
Marmal	Gladstone, 12 miles N.E. of Charlton (<i>f</i>) ..	250
Marsh, The	Tatchera, 10 miles N.W. of Kerang (<i>f</i>) ..	1,700
Meering	Tatchera, 11 miles S.W. of Kerang (<i>f</i>) ..	500
Melanydra	Tanjil, 6 miles E. of Sale (<i>b</i>) ..	153
Middle	Tatchera, 4 miles N. of Kerang (<i>f</i>) ..	560
Miga	Lowan, 20 miles N.W. of Mostyn (<i>f</i>) ..	230
Mitre	Lowan, 20 miles W. of Horsham (<i>s</i>) ..	1,280
Modewarre	Grant, 6 miles E. of Winchelsea (<i>s</i>) ..	1,025
Moodemere	Bogong, 3 miles W. of Rutherglen (<i>f</i>) ..	850
Morea	Lowan, 13 miles N. of Edenhope (<i>f</i>) ..	180
Mournpall	Karkaroc, 44 miles N.W. of Lake Tyrrell (<i>f</i>) ..	600
Mundi	Follett, 1 mile E. of South Australian boundary line (<i>f</i>) ..	1,280
Murdeduke	Grenville, 25 miles W. of Geelong (<i>s</i>) ..	2,800
Murphy's	Tatchera (<i>f</i>) ..	560
Natimuk	Lowan, 14 miles W. of Horsham (<i>f</i>) ..	922
Omeo	Benamtra, 10 miles N.E. of Omeo (<i>f</i>) ..	1,966
Ondit	Tatchera, 5 miles N. of Colac (<i>s</i>) ..	250
Oundell	Hampden, 5 miles S.W. of Streatham (<i>f</i>) ..	180
Paragalmir	Ripon, 6 miles E. of Wickliffe (<i>s</i>) ..	160
Pelican	Tatchera, 2 miles W. of Kerang (<i>f</i>) ..	94
Pertobe	Villiers, town of Warrnambool (<i>tidal</i>) ..	50
Pine	Borong, 8 miles S.E. of Horsham (<i>f</i>) ..	360
Pine Hut	Lowan, 22 miles N.W. of Mostyn ..	200
Powell	Karkaroc, 36 miles N. of Lake Tyrrell (<i>f</i>) ..	322
Pumpundhal	Hampden, W. of Lake Corangamite (<i>s</i>) ..	60
Purgagoolah	Croajingolong, 18 miles W. of Cape Howe (<i>tidal</i>) ..	30
Purumbete	Heytesbury, 4 miles S.E. of Camperdown (<i>f</i>) ..	1,450
Racecourse	Tatchera, 10 miles N.W. of Kerang (<i>f</i>) ..	196
Reedy	Tatchera, 3 miles N. of Kerang (<i>f</i>) ..	550
Reeve	Buln Buln, 2 miles S.E. of Seacombe on coast (<i>tidal</i>) ..	9,000
Repose	Villiers, 7 miles S.E. of Dunkeld (<i>f</i>) ..	280
Rosine	Grenville, 3 miles W. of Cressy (<i>s</i>) ..	380
Round	Tatchera, 10 miles S.W. of Kerang (<i>f</i>) ..	35
Salt	Weeah, 46 miles N.W. of Lake Albacutya (<i>s</i>) ..	4,480
"	Grenville, 9 miles N.E. of Colac (<i>s</i>) ..	870
"	Ripon, 6 miles N.E. of Streatham (<i>s</i>) ..	500
"	Ripon, 9 miles S. of Beaufort (<i>s</i>) ..	180
"	Lowan, 12 miles N.W. of Mostyn (<i>s</i>) ..	500
"	Lowan, 5 miles N.W. of Natimuk (<i>s</i>) ..	600
"	Tatchera, 13 miles N.W. of Kerang (<i>s</i>) ..	700
"	Tatchera, 8 miles W. of Kerang (<i>s</i>) ..	100
Sand Hill	Tatchera, 13 miles W. of Kerang (<i>s</i>) ..	160
Sea Lake	Karkaroc (<i>f</i>) ..	30
Spectacle (Great)	Tatchera, 10 miles S.W. of Kerang (<i>f</i>) ..	128
" (Little)	Tatchera, 10 miles S.W. of Kerang (<i>f</i>) ..	43
St. Mary's	Lowan, 4 miles W. of Mount Arapiles (<i>f</i>) ..	280
Swan	Mornington, in Phillip Island (<i>f</i>) ..	60
Sydenham	Croajingolong, 8 miles E. of Cape Conran (<i>tidal</i>) ..	2,300
Tamboon	Croajingolong, 8 miles W. of Cape Everard (<i>tidal</i>) ..	1,150
Tatutong	Hampden, W. of Lake Corangamite (<i>s</i>) ..	50

LAKES—*continued.*

(Those lakes which contain fresh water are distinguished by the letter *f*, and those which consist of salt or brackish water are indicated by the letters *s* and *b* respectively.)

Name of Lake.	Position.	Approximate Area.
		Acres.
Tcham	Tatchera, near Birchip (<i>f</i>)	260
Terang	Hampden, 12 miles W. of Camperdown (<i>f</i>) ..	300
Terang Pom	Hampden, 11 miles N.E. of Camperdown (<i>s</i>) ..	500
Timboon	(See Colongulac.)	
Tobacco	Tatchera, 10 miles S.W. of Kerang (<i>f</i>) ..	25
Tooliorook	Hampden, 4 miles S.E. of Lismore (<i>b</i>) ..	850
Tower Hill	Villiers, 7 miles N.E. of Belfast (<i>f</i>) ..	850
Turang-moroke	Ripon, 9 miles E. of Wickliffe (<i>s</i>) ..	250
Tyers	Tambo, 22 miles west of mouth of Snowy River (<i>tidal</i>)	3,950
Tyrrell	Karkaroc, fed by overflow of Avoca River (<i>s</i>)	42,600
Upper Coliban Reservoir	Talbot and Dalhousie (<i>f</i>)	574
Victoria	Tanjil, 21 miles E. of Sale (<i>tidal</i>)	28,500
Walwalla	Millewa, 13 miles S.E. of intersection of South Australian boundary line by Murray River (<i>f</i>)	600
Wallace	Lowan, at Edenhope (<i>f</i>)	450
Wangoom	Villiers, 6 miles N.E. of Warrnambool (<i>f</i>) ..	200
Waranga Basin	Rodney (<i>f</i>)	11,009
Wartook Reservoir	Borong (<i>f</i>)	2,556
Wau Wauka	Croajingolong, near Cape Howe (<i>f</i>) ..	600
Weerancanuck	Hampden, 7 miles N.E. of Camperdown (<i>s</i>) ..	1,280
Weering	Grenville, 17 miles N. of Colac (<i>s</i>) ..	921
Wellington	Tanjil, 8 miles E. of Sale (<i>f</i>)	34,500
Wendouree	Grenville, at Ballarat (<i>f</i>)	500
White	Lowan, 8 miles N.W. of Mostyn (<i>s</i>) ..	1,400
Wirraan	Hampden, 9 miles N. of Camperdown (<i>s</i>) ..	60
Wooronook	Kara Kara, 10 miles W. of Charlton (<i>f</i>) ..	250
Wurdee Boluc	Grant, 5 miles S.E. of Winchelsea (<i>f</i>) ..	440
Yallakar	Lowan, 7 miles N.E. of Edenhope (<i>f</i>) ..	870
Yambuk	Villiers, 10 miles W. of Belfast (<i>tidal</i>) ..	200
Yando	Tatchera, 22 miles S.W. of Kerang (<i>f</i>) ..	200
Yan Yean	Evelyn, reservoir for supply of metropolis, 22 miles N.E. of Melbourne (<i>an artificial lake</i>) (<i>f</i>)	1,360
Yeeangmaria	Ripon, 10 miles E. of Wickliffe (<i>s</i>) ..	75
Yellwell	Karkaroc, 44 miles N.W. of Lake Tyrrell (<i>f</i>)	200
Yerang	Karkaroc, 44 miles N.W. of Lake Tyrrell (<i>f</i>)	160

THE FLORA OF VICTORIA.

In the 1905 issue of the *Year-Book* will be found an interesting and instructive article upon the flora of Victoria, from the pen of Gustav Weindorfer, Esq. (late Chancellor Austro-Hungarian Consulate, Melbourne). That gentleman divides the flora into three main divisions, and describes each in detail in his article.

PRINCIPAL EVENTS.

The following are the dates of some of the principal events connected with the history of Victoria since the establishment of the Commonwealth on 1st January, 1901. For principal events prior to that year the reader is referred to previous issues of this work:—

- Principal events.
1901. January 1st—Proclamation and inauguration of the Commonwealth at Sydney, and swearing in of the Rt. Hon. E. Barton, first Prime Minister, and other members of the Ministry. State departments of Customs and Excise transferred, whilst those of the Post and Telegraph and Defence followed on 1st March.
- „ January 22nd—Death of Queen Victoria. Accession of King Edward VII. His Majesty's Coronation took place on 9th August, 1902.
- „ March 31st—Eleventh census of Victoria, and third simultaneous census of Australia and New Zealand.
- „ May 9th—Opening of the first Parliament of the Commonwealth of Australia, in Melbourne, by His Royal Highness the Duke of Cornwall and York, Heir-Apparent to the Throne, under commission from His Majesty King Edward VII.
- „ October 8th—Inter-State free-trade established by the introduction of a provisional tariff by resolution of the Commonwealth House of Representatives.
1902. September 16th—The Commonwealth Tariff finally passed.
1903. April 15th-22nd—Conference of Premiers, held at Sydney. Temporary settlement, pending appointment of the Inter-State Commission, of the rival claims to the waters of the River Murray. The question of taking over of States' debts by the Commonwealth and several other matters were also considered.
- „ October 6th—Inauguration of the Federal High Court, and the swearing-in of Sir Samuel Griffith, late Chief Justice of Queensland, as Chief Justice, and of the Right Hon. Sir Edmund Barton, K.C., late Prime Minister of the Commonwealth, and the Hon. R. E. O'Connor, K.C., as judges.
- „ December 16th—Commonwealth elections. Female franchise exercised for the first time in Victoria.
1904. February 1st—The British Government decided on important changes in the British Army, including the establishment of an Army Council, on the lines of the Board of Admiralty.
- „ February 5th-12th—Conference of States and Federal Treasurers at Melbourne to consider the question of the taking over by the Commonwealth of the States' debts.
- „ March 17th—Death of H.R.H. the Duke of Cambridge. The deceased peer was a grandson of King George III., and first cousin of the late Queen Victoria.
- „ April 8th—Signing of Convention adjusting foreign and colonial questions at issue between Great Britain and France.
- „ August 9th—House of Representatives chose Dalgety as site for Federal Capital.
- „ August 10th—Senate agreed to Dalgety site.

1904. December 12th—Appointment of Tariff Commission, in Federal House of Representatives, to inquire into the effect of the operation of Customs Tariff of the Commonwealth of Australia upon Australian industries, and into the working of the Tariff generally.
1905. February 1st—Beginning of the poundage system in English mail contracts.
- „ February 6th—Conference of Premiers and other Ministers (State and Commonwealth) at Hobart opened.
- „ February 15th—Tariff Commission opened at Melbourne.
- „ February 15th—Opening of the Continuation School, Melbourne. The purpose is to give an advanced education to those who wish to qualify as teachers.
- „ April 25th—Royal Letters Patent for the Constitution of the Transvaal colony issued. There is to be a Legislative Assembly, to be re-elected every four years, the franchise being extended to every burgher of the late Boer Republic who was entitled to vote for its first Volksraad; and all white Britishers earning £100 per annum, or occupying a house with a rental of £10 per annum. Power of initiating taxation bills is withheld from the chamber. Members are to receive £2 per day during the session, but not more than £200 per annum. The House comprises the Lieutenant-Governor of the Transvaal, between six and nine official members, and between thirty and thirty-five elected members. The debates will be conducted in English, but, with the President's consent, the Dutch language may be used by members. The Orange River Colony has not yet been given a new Constitution.
- „ May 16th.—Agreement signed between the Butter Export Committee and the White Star, Lund, and Aberdeen lines of steamers, for the carriage of butter. The freight reduction effected by the contract is 50 per cent. on former rates, and the temperature of the butter in transit is not to exceed 20 deg.
- „ May 24th—Empire Day—first observation in Melbourne.
- „ August 12th—Treaty signed between Great Britain and Japan, renewing, for ten years, the old treaty, and adding thereto.
- „ August 29th—Peace arranged between Japan and Russia.
- „ September 26th—Text of the English-Japanese treaty made public. The preamble states that the Governments have agreed upon articles having for their object :—First, the consolidation, maintenance, and general peace of the regions of Eastern Asia and India; second, the preservation of the common interests of all the powers in China, by ensuring the independence and integrity of the Chinese Empire, and the principle of equal opportunities in commerce and industry to all nations in China; third, the maintenance of the territorial rights of the high contracting parties, and the defence of their special interests, in the said regions.
- „ October 30th—Annexation under an Order-in-Council, of Town of North Melbourne and Borough of Flemington and Kensington, to City of Melbourne.

1905. December 5th—Balfour Ministry (Imperial) having resigned, Sir Henry Campbell-Bannerman undertook to form a Cabinet. Five days later the new Ministry was submitted to the King, and on 11th December the seals of office were transferred.
1906. January 1st—Importation of opium into Australia prohibited (other than for medical purposes).
- „ January 16th—Second annual conference of the Federal Council of the Chambers of Manufactures of the Commonwealth commenced.
- „ January 27th—Opening of the first A.N.A. Exhibition of Australian Manufactures.
- „ January 29th—Death of King Christian IX. of Denmark, father of the reigning Queen of England.
- „ February 9th—Government loan of £1,600,000, for the purpose of redeeming in part a loan falling due in London, floated with decided success in Melbourne.
- „ February 19th—Opening of the Imperial Parliament by His Majesty the King.
- „ February 22nd—Loss of the sailing vessel *Speke*, wrecked on Phillip Island.
- „ February 23rd—Tobacco Commission's report (a majority report) to Prime Minister. Nationalization of the tobacco industry favoured.
- „ March 14th—Death of Mr. G. S. Coppin, veteran actor, at the age of 86 years.
- „ March 18th—Death of Mr. Geo. Lansell, pioneer quartz miner of Bendigo, at the age of 83 years.
- „ March 19th—Mr. L. F. B. Cussen appointed to the Supreme Court Bench.
- „ April 5th—Conference of Premiers and other Ministers opened at Sydney. The principal subjects discussed were the taking over by the Commonwealth of State debts, the liability for transferred properties, and the disputed territory between Victoria and South Australia.
- „ April 23rd—Melbourne University jubilee celebrations commenced.
- „ April 24th—Conference of Federal and State electoral officers opened in Melbourne.
- „ April 29th—Census of New Zealand taken.
- „ June 10th—Death of the Right Hon. R. J. Seddon, Prime Minister of New Zealand.
- „ July 12th—Wireless telegraphy installed—Queenscliff (Victoria) to Devonport (Tasmania).
- „ August 15th—Conference of Federal and State public works officers with reference to transferred properties.
- „ September 1st—Papua Act came into operation by proclamation of the Governor-General.
- „ October 8th—Commonwealth free-trade instituted, by disappearance of the Western Australian special Tariff.
- „ October 8th—Inter-State Conference of Premiers opened at Melbourne. The subjects considered were the transfer of the State debts and the future of the Braddon clause.
- „ October 12th—Hon. I. A. Isaacs, K.C., Attorney-General, and Hon. H. B. Higgins, K.C., appointed to the High Court Bench.
- „ October 12th—Prorogation of the Federal Parliament.

1906. November 1st—Strike in the building trade in Melbourne. About 1,000 men directly affected. The demand of the strikers was that 44 hours, instead of 48 hours, constitute a week's work at the current rate of wages. After being on strike for ten weeks, both sides agreed that the dispute should be submitted to Judge Cussen for arbitration, and he decided that the men should continue to work 48 hours per week, but receive an increase of wages.
- „ November 21st—Celebration of the first 50 years of Responsible Government in Victoria.
- „ November 30th—Conference of the Statists of the Australian States and New Zealand (with Mr. G. H. Knibbs, Commonwealth Statistician, president), convened for the purpose of securing uniformity in the compilation of statistical information, and of preventing overlapping between the Commonwealth and States.
- „ December 2nd—Judgment delivered by the Privy Council in *Webb v. Outtrim*, affirming the liability of members of the Commonwealth Public Service to pay State income tax.
- „ December 12th—Elections for the third Commonwealth Parliament held.
- „ December 12th—New constitution of the Transvaal Colony proclaimed.
- „ December 28th—Prorogation of the State Parliament.
1907. January 7th—Opening of the eleventh session of the Australasian Association for the Advancement of Science at Adelaide.
- „ January 14th—Earthquake in Jamaica, with terrible loss of life.
- „ January 19th—Cooktown (Queensland) wrecked by a hurricane.
- „ January 21st—Mr. Townsend MacDermott, "father of the bar" in Victoria, died at Ballarat, in the 89th year of his age.
- „ January 28th—Rev. Dr. John G. Paton, missionary of the Presbyterian Church, died at the age of 83.
- „ February 20th—Third Parliament of the Commonwealth opened.
- „ March 7th—Station and all cars destroyed by fire on the Brighton Electric Tramway line.
- „ March 13th—Buildings for Talbot Colony of Epileptics opened at Clayton by Lady Talbot.
- „ March 13th—Explosion on the French Battleship *Jena*, in Toulon Harbor, 118 deaths resulting.
- „ March 15th—Elections for the State Parliament held.
- „ March 17th—The steamship *Suevic* wrecked on Lizard Head, coast of Cornwall, England. The passengers and crew were saved.
- „ March 26th—Opening of the Navigation Conference in London.
- „ April 15th—Opening of the Imperial Conference in London, at which the Commonwealth of Australia was represented by the Hon. Alfred Deakin, the Prime Minister, and the other self-governing British Dependencies by their respective Premiers. The results of the Conference were as follow:—The right to cancel the Naval Agreement was affirmed; the privilege of coining silver conceded; favorable consideration was promised to schemes for facilitating cable and postal communication throughout the Empire; concessions considered probable in regard to Suez Canal dues; and a secretariat established to devote its time exclusively to Imperial affairs and to keep regular communication between Premiers.

1907. May 24th—Memorial to the late Queen Victoria unveiled in Alexandra-avenue.
- „ May 27th—Conference of Premiers of Australian States opened in Brisbane.
- „ July 9th—Opening of the State Parliament.
- „ July 10th—Opening of telephone between Melbourne and Sydney.
- „ July 24th—Death of the Rev. John Watsford, first Australian to enter the Wesleyan ministry, aged 86.
- „ July 30th—Appointment of Mr. W. H. Moule to the County Court Bench, *vice* Judge Molesworth, deceased.
- „ July 30th—Resignation of Sir John Forrest, P.C., G.C.M.G., as Treasurer of the Federal Government.
- „ August 8th—New Tariff introduced into the Federal Parliament, providing generally for large protective increases in Customs duties.
- „ August 13th—Union Steam Navigation Company's steamer *Kawatiri* totally wrecked at Macquarie Heads, Tasmania, with a loss of six lives.
- „ August 14th—Colonel Stanley appointed State Military Commandant, *vice* Colonel Ricardo, deceased.
- „ August 14th—Allowances of members of the Federal Legislature increased from £400 to £600 per annum.
- „ September 17th—The committee of the Melbourne Hospital accept an offer of £100,000 by the trustees of the Edward Wilson Estate towards the erection of new hospital buildings.
- „ September 26th—The colony of New Zealand proclaimed a "Dominion."
- „ September 28th—Strike of bakers in Melbourne for an increase in wages from £2 10s. to £2 14s. per week. The request was eventually agreed to on the 2nd October.
- „ October 23rd—Opening of the First Australian Exhibition of Women's Work at the Exhibition Building, Melbourne. As bearing on this subject, it may be stated that 120,000 females, or about 16 per cent. of the female population of Australia, were earning their own living in 1871; 185,000, or 18 per cent., in 1881; 277,000, or 19 per cent., in 1891; 356,000, or nearly 20 per cent., in 1901; and about 397,000 in 1907. In England and Wales the proportion is larger, 4,171,751, or nearly 25 per cent. of the total female population, having been returned as engaged in occupations at the census of 1901.
- „ November 4th.—Opening of a new Dental Hospital in Melbourne.
- „ November 13th—Coal strike in New South Wales—all the collieries in the Hunter River District remained idle till 21st November.
- „ November 30th—Wallach's Buildings, Elizabeth-street, Melbourne, destroyed by fire, the damage being estimated at £70,000.
- „ December 11th—Parliamentary Buildings, Wellington, New Zealand, destroyed by fire.
- „ December 23rd—Prorogation of the State Parliament.