

ART. XI.—*Notes on the Physiography of the Western portion of the County of Croajingolong.*

With two Wood-cuts.

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PART I.—TOPOGRAPHY.

The extreme eastern portion of the Colony of Victoria is, perhaps the least known area within its boundaries. Having recently traversed the area in several directions, from the coast line to the colony boundary, in order to examine areas being prospected for gold, the author embraced the opportunity of making, in addition to geological observations, some notes on the native vegetation or botany, and climate or meteorology of the area, which it is hoped may serve as an introductory notice of the physiography of this little known region of Victoria.

THE WATERCOURSES.

The principal valleys excavated from the area are the Snowy and its tributaries, and the Bemm and Cann rivers. The Snowy forms the western boundary of the county of Croajingolong, and has the largest drainage area. Rising outside the limits of the area, amid the snow-clad heights of Mount Kosciusko, the Pilot, and Mount Cobberas, at an elevation between 6000 and 7256 feet, the Snowy has eroded its passage through rock masses which may be said to present geotectonic features of great interest to the geologist, mainly, palaeozoic rocks in the upper valley, and tertiary in the lower. The effects of the unequal ratios of denudation and erosion of different rock masses under similar and different climatal conditions, are strikingly exhibited in the Snowy watershed area; but as the main features lie outside the county of Croajingolong, partly in the county of Tambo, Victoria, and in the Maneroo table land in New South Wales, they cannot be properly discussed in this paper. In the Rev. W. B. Clarke's "Southern Gold Fields," and

A. W. Howitt's "Devonian Rocks of North Gippsland, will be found most interesting information on the eastern and western sources of the Snowy River. The enormous erosion of the middle portion of the Snowy Valley is plainly seen from Turnback Mountain on the old Maneroo road, or from the summit of Mount Tingiringy, near the New South Wales border. The landscape looking north from the latter mountain is perhaps the finest mountain scene in Australia—it is certainly one of grandeur. To the north, beyond the deep gorge formed by the Snowy River, rise a series of bold wooded mountains, the lower spurs of the latter almost invisible in the soft haze of the deeper portions of the valley. Beyond the wooded mountain ranges appear in silhouette the rugged porphyry heights of Mount Cobberas, the coned peak of Mount Pilot, and rising tier above tier the bold granite knobs of the Snowy Kosciusko plateau. Away to the right stretches the fine open and undulating downs of the Maneroo plateau, relieved here and there by minor ridges covered with timber, or along the creeks by belts of the Snowy River pine. While to the south the bold outlines of Mount Delegate, Mount Bowen, and the coast range, mark the sites of rock masses which have longest resisted the effects of subaerial denudation and the borderland between the jungle country of Croajingolong and the south-western extension of the Maneroo table land.

As the Snowy drains the highest elevations in Australia, and runs almost due south from their high altitudes to the coast line, its course is almost torrential throughout, except where it enters the rich alluvial flats of Orbost, where the stream becomes sluggish. To enter into a minute description of the salient points in the topography of the eastern watershed area, would form the subject matter for an interesting paper, so varied is the surface configuration. The principal eastern source affluents drain the extensive Maneroo plateau outside the boundary of the colony, and need not be referred to. The streams within the county comprise the Deddick or Jingallala and its tributaries, the Tingiringy, Dellieknora, Cabanandra, and Bonang. There are several others which, ultimately flowing into the parent stream in New South Wales, rise in the coast range, such as the Delegate, Bendoc, Queensborough. Below the junction of the Deddick, several torrential streams enter the Snowy from the east, their courses mainly south-westerly, such as Mountain Creek, the Broadbent, Yalma, and Rodgers Rivers. Below the Orbost

flats, and near its estuary, the most important tributary the Broadribb and its affluent, the Cabbage-tree Creek, enter the parent stream. Rising in the coast range at Bonang Mountain, and running parallel with the Snowy, the Broadribb drains the western slopes of the highest points in the county, viz., Mount Ellery and the M'Culloch ranges. With the exception of some moderate extent of flats and undulatory slopes at Goonegerah in the upper portion of the valley, and the flats and morasses near its junction with the Snowy, this river intersects rangy territory of very little use for cultivation, while the tributaries are covered with dense jungle. In the heads of the Cabbage-tree Creek, St. Patrick's Creek, and other eastern affluents draining the M'Culloch ranges, is a very rich vegetable mould and soil, which may hereafter repay cultivation, although the cost of clearing would necessarily be considerable. The flats and spurs towards the coast regions are already occupied by an enterprising body of selectors, who are fast reclaiming the morass and forest lands in the vicinity.

The streams which flow southerly through the central portion of the county comprise the Bemm and Cann, with two other unimportant minor streams, the Little River and Yeerung. The Cann forms the eastern boundary of the area under consideration, and has the largest area of land available for settlement. To the north of Morgan's station, on the road to Genoa, a considerable area of flats and undulatory ranges has been selected, and west of Mount Kate there is a limited area of well grassed pasture lands awaiting settlement, and on the upper portion of the valley, as at Buldah, are other limited areas.

In the Bemm valley, as at Combinebar Creek, are rolling well grassed hills, and some rich but densely timbered flats, while several of the western affluents, as the Glen Arte River and portions of the McKenzie, present favourable areas for future settlement, although the dense jungle in the gullies and the large trees in the flats will make clearing expensive.

In the Yeerung valley towards the coast, and also in the Cabbage-tree Creek, are open heath lands which may be converted into pasture lands, especially in places where there is a coating of black, vegetable mould and clayey material overlying the sandy deposits. The area in which the cabbage palm (*Livistona Australis*) flourishes has been reserved from destruction.

THE RANGES AND MOUNTAINS.

The main features of the mountain system is indicated by the courses of the principal streams. The principal watershed line is the coast range intersecting the northern portion of the county in an easterly direction and lateral ridges running southerly towards the coast from this main watershed line. The highest points on the coast range are Mount Bowen at the head of Mountain Creek, Mount Goonmurk, 4300ft., at the head of the Bemm, and Mount Tennyson on the Colony boundary towards the head of the Cann river.

The most prominent peak in the county is perhaps Mount Ellery, on the ridge dividing the Broadribb and Bemm. Viewed from the coast, the southward extension of this watershed line, the McCulloch Ranges are next in importance, while near the coast, on the ridge dividing the Broadribb and Cabbage-tree Creek, rises a rounded peak, Mount Raymond. The highest point on the divide between the Bemm and the Cann is perhaps Mount Bengow (near the Coast Range), while towards the south, nearer the coast, Mount Cann is a prominent landmark. On the eastern watershed of the Cann, Mount Kate stands high above the surrounding ranges.

The higher points on the north of the Coast Range—Mount Goolinbabylon, between the Bonang and Delegate Rivers; Mount Delegate, between the Bendoc and Delegate Rivers; and Mount Tingiriny, near the Colony boundary, between the Jingallala and Mount Richie Creek.

METEOROLOGY.

In looking at these mountains as a whole, and after examining the character of their rocky structure, viz., hard silicious rocks, quartzites, and indurated slates, granites, &c., the conviction is forced on the observer that they are formed by sub-aerial denudation, having longest resisted the degrading influences of the rain, frost, and snow, while the surrounding softer materials have been removed.

The difference in the amount of excavation exhibited by the south-flowing streams and those flowing northerly may, I think, be ascribed to greater precipitation of rainfall on the southern slopes, the combined influence of the south-west and south-easterly moisture-laden winds, an extension of the

warm tropical rains coming from the east north-east along the eastern Australian coast reaching the area.

In the Bendoc district, at an elevation of 2500 feet, severe frosts are not uncommon, and the range of temperature is frequently great. The snow falls annually over this area, but in the upper valleys of the Broadribb, Bemm, and Cann humidity prevails, and the temperature is more equable, frosts being far less frequent. This difference in the hygrometric and thermometric conditions produces the differences observed in the vegetation at similar elevations north and south of the coast range. And this is again very marked as the coast line is reached, so that the meteorologic conditions affect the vegetation directly. And the latter are mainly due to the varied surface configuration, resulting from the unequal decay of the different rock masses.

BOTANY.

NOTES ON THE VEGETATION (PECULIAR FEATURES)

The most striking feature in the vegetation of the areas examined in Croajingolong is the presence of many East Australian types not found elsewhere in Victoria, and in the luxuriance of the climbing plants. The arboreous form of the Waratah (*Telopea oreades*) with its magnificent clusters of rich carmine-tinted flowers on terminal spikelets, surrounded by glossy sap-green leaves, at once arrests the attention of the botanical observer. Flowering during October and early in November it attains in the rich humid valleys surrounding the M'ulloch Ranges, the heads of Cabbage-tree Creek, and in the upper portions of the Bemm valley — along the coast range, &c., a height of between 40 and 50 feet.

Next to the Waratah, the profusely flowering native climbing pea (*Kennedya rubicunda*) is, with its brick-red blossoms, one of the most striking features, and is widely distributed over the area. In localities where it flourishes along with the native virgin's bower (*Clematis aristata*) and the native sarsaparilla (*Kennedya monophylla*), the contrasts of red, white, and blue, are most charming. Although in those places where it is interwoven with the wire grass (*Ehrharta stipoides*), it is the *bête noire* of the prospector or explorer. Even the dreaded thorns of the climbing lawyer (*Smilax Australis*) are less objection-

able than the finely serrated stems and leaves of the latter, *i.e.*, the wire grass. On the eastern tributaries of the Snowy River and in the Bemm valley, the most prolific undergrowth is that of *Haloragis tetragyna* or fire weed, which forms here a most useless herb, supplanting the native grasses with the exception of the scented grass—*Hierochloa rariflora* (a comparatively useless grass for fodder purposes, and which flourishes along with the fire weed or *Haloragis tetragyna*). The occurrence of the cabbage palm, *Livistona Australis*, on Cabbage-tree Creek, near Orbost, where it grows to a height of over 100 feet, is also a remarkable feature in the vegetation of the area. The isolation of this species from its tropical home in a humid valley in the temperate zone, require further elucidation at the hands of botanists, or of those interested in the geographical distribution of plants. I am inclined to consider it as a survival of a once tropic vegetation which covered South Eastern Australia in earlier Pliocene times, and which was destroyed by the subsequent glacial action of which there are not wanting evidences in South Eastern Australia since Miocene times.

NUMERICAL PROPORTION OF THE ORDERS.

There does not appear to be any exception to the general rule respecting the orders richest in species and genera from what prevails generally over South-Eastern Australia, except that there is a closer alliance with the flora of Southern New South Wales than with the southern and western portions of Victoria. Here, as elsewhere, the grand order—Leguminosæ, and the sub-orders—Papilionaceæ and Minosæ, are richest in species and genera. Comparing the different orders, we find that comprised within the list are thirty species of Leguminous plants represented by fourteen genera, that the genera richest in species are Acaciæ and Pultenæ. Of Myrtaceæ there are twenty-nine species and nine genera, the genus *Eucalyptus* being richest in species. Among Compositæ there are twenty-five species and twelve genera, the *Helichrysa* being most abundant. Among Proteaceæ the *Persoonias* are richest in species. This interesting order is represented by fifteen species and seven genera. The Filices or fern-family has twenty-one species and eleven genera, the Orchids twelve species and eight genera, and the Lillies or Liliaceæ eight species and seven genera, while the Gramineæ or grasses include nine genera and species.

DISTRIBUTION OF SPECIES.

The area under examination may be said to comprise four well-marked regions, each broadly characterised by the presence of certain species of plants which impart a distinct physiognomy to the situations wherein they flourish.

If a line is drawn parallel to the coast line at a distance of 6 miles, it will be found that up to an elevation of 300 feet above sea level the vegetation differs from that found in the gullies and valleys further inland up to the flanks of the coast range to, say 4000 feet elevation; that the crests of the ridges within the middle area contain species not found in the gullies; and that in the more open table land north of the coast range there are abundance of sub-alpine species not found in any of the other areas or situations.

THE COASTAL REGIONS.

Along the sand hammocks, *Salsolaceæ* and *Ficoideæ* prevail—*Rhagodia*, *Chenopodium*, *Atriplex*, and *Mesembrianthemum* (or pig's face); and in the hollows, such Myrtaceous shrubs as *Melaleuca armillaris*, *Kunzea corifolia*, *Leptospermum myrsinoides*; and grasses, as *Zoysia pungens*. In the open undulating coastlands, between belts of *Eucalyptus*, including the mahogany *E. botryoides* and abundance of *Banksia serrata*, are grass-tree flats with *Xanthorrea Australis*, and *X. minor*—the dwarfed sheoak, *Casuarina paludosa*, in the undulating sand hills, where the timber vegetation is more prolific, an abundance of *Caustis flexuosa* and *Lycopodium densum*, *Ricinocarpus pinifolius*, and other shrubby and herbaceous species, together with a great number of species less peculiar to the coastal areas as *Epacris impressa*, *Hibbertias*, *Styphélias*. To enumerate them would extend this paper to an unusual length.

INLAND REGION.—GULLIES AND RIVER FLATS.

The most arboreous vegetation is found in the moist gullies and on the river flats, and with the exception of the hollows or lowest points in the ridges yields characteristic forms, differing from those on the ridges. Among many such arboreous forms may be mentioned the Waratah (*Telopea oreades*), the native musk (*Aster argophyllus*), Lillypillies,

(*Eugenia Smithii*), native pepper tree (*Drimys aromatica*), the native sassafras (*Atherosperma moschatum*), native firewood (*Hedycarya Cunninghamii*), *Pittosporum undulatum*, *P. bicolor*, *Zieria Smithii*, *Acacia decurrens*, *A. melanoxylon*, *Eucalyptus amygdalina*, *E. pilularis*, *E. longifolia*, and others; *Prostanthera lasiantha*, *Lomatia ilicifolia*, *Sambucus Gaudichaudiana*; and such creepers as *Lyonsia stramina*, *Smilax Australis*, *Vitis hypoglauca*, &c., and *Sarcopetalum Harveyanum*, *Rubus rosifolius*.

RIDGES.

On the heads of gullies and lower points of the ridges—*Eriostemon trachyphyllus*, *Senecio Bedfordii*, *Correa Lawrenceana*, *Dodonaea*, *Oxylobium ellipticum*, *Hovea longifolia*, *Indigofera Australis*, *Goodia lotifolia*, and several *Acacias*, *Eucalypts*, *Pomaderris*, *Panax*, *Persoonia*, *Lomatia longifolia*, *Pimelea*, *Coprosma hirtella*, *Asters*, *Notelea lanceolata*, *Solanum*, *Helichrysum obtusatum*, *Cassinia aculeata*, *Helichrysum cuneifolium*, and others.

THE SUB-ALPINE OR TABLE-LAND AREAS.

Here in the open grassy valleys and woodlands are found, between 2500 and 4000 feet, numerous species, which extend over large areas in the Australian Alps, patches of *Stellaria pungens*, fine undershrubs, as *Oxylobium procumbens*, *Mirbelia*, *Pulteneas*, *Persoonia Chamaepeuce*, *Hakea microcarpa*, *Pimelia ligustrina*, *Brachycomes*, *Aster megalophyllus*, *Lagenophora Billardieri*; *Helichrysums*, as *H. apiculatum*, *H. semipapposum*, *Gnaphalium Traversii*, *Gentiana saxosa*, *Euphrasia Brownii*, *Ajuga Australis*, *Styphelia Macraei*, *Epacris microphylla*; *Diplarrhena Moraea*, and many others. Around Bonang the latter attains its richest luxuriance at an elevation of 2000 feet, although it also flourishes in the river flats towards the coast line as at Goonegerah and Cann.

TERRITORIAL RANGE OF SPECIES.

Here, as elsewhere, the gum trees have the greatest territorial range, and magnificent forests of splendid splitting timber exists, notably on the flanks of the McCulloch Range

in the Broadribb and Bemm watersheds, and along the south side of the coast range in the heads of the Bemm and Cann rivers. While it is patent, that many of the giant gums exceed a height of 350 feet, I have not yet observed any over 400 feet; if there are any exceeding the latter length, it is probably in the Arte, Goolingook, or Cabbage-tree Creek valleys that they will be met with. The tallest trees are not always those with the greatest diameter of trunk. I have certainly measured trunks fully 40 feet in circumference, but as a rule the taller trees measured had a lesser circumference of from 20 to 30 feet. Next to the Eucalypts the Acacias have the greatest range, and after these the *Daviesias*, *Haloragis tetragyna*, *Comesperma ericinum*, and *Kennedya rubicunda*, together with the wire-grass.

THE EVOLUTION OF VARIETAL FORMS.

Between the summits of the higher peaks, Mount Ellery, Mount Kate, Mount Goonmurk, on the Coast Range, Mount Tingiringy north of it and the coast line, there are considerable variations in the hygrometric and other meteorologic conditions, which I believe so powerfully affect the evolution of varietal forms. I have elsewhere* endeavoured to point out as regards the Alpine and sub-Alpine flora of South-East Australia that under the slowly changing surface configuration, due to prolonged sub-aerial denudation and erosion, the transfer of soils, abraded and decomposed from the great rock masses, and the action of their chemical constituents on plant, food, &c., gradually modifying its environment, may eventually result in the differentiation of the varieties as to assume characters so distinct and apparently constant as to justify the appellation of species. Among many species which present differential characters over large areas in different habitats, I would mention *Craspedia Richea*, *Daviesea latifolia*; some *Helichrysa*, especially *Helichrysum rosmarinifolium*; some *Rutaceæ*, *Drimys aromatica*, *Hymenanchera Banksii*, *Claytonia Australasica*, *Panax sambucifolius*, *Gentiana saxosa*, *Styphelia ericoides*, and *Microseris Forsteri*.

* On the Physiography of the Australian Alps. Transactions of Australian Association for Advancement of Science, 1888.

LIST OF SPECIES OF PLANTS COLLECTED IN THE AREA,
AND ARRANGED ACCORDING TO BARON VON MUELLER'S
CLASSIFICATORY SYSTEM, "SYSTEMATIC CENSUS OF
AUSTRALIAN PLANTS."

Ranunculaceæ (A. L. de Juss.)

- Ranunculus aquatilis (Dod.) Orbost.
 „ lappaceus (Sm.) Orbost and Bendoc.
 „ rivularis (Bks.) Orbost.
 Clematis aristata (R. Br.) Orbost, Broadribb, & Coast Range.

Dilleniaceæ (Salsb.)

- Hibbertia Billardieri (F. v. M.) Cann River.
 „ dentata (R. Br.) Goolingook River.

Magnoliaceæ (J. de St. Hil.)

- Drimys aromatica (F. v. M.)
 Coast Range and Goolingook Valley; tree 20 to 30 ft. high.

Menispermææ.

- Stephania hernandifolia (Walp.) Cann Valley.
 Sarcopetalum Harveyanum (F. v. M.) Lower Snowy River.

Monimieæ (A. L. de Juss.)

- Atherosperma moschatum (Labill.)
 Forms dense forests along Coast Range; at Mt. Goonmurk,
 trees are 120 feet to 150 feet high, with trunks 6 feet
 in diameter.

- Hedycaria Cunninghamsi (Tulasne).
 Mt. Goolinbabylon and Coast Range.

Lauraceæ (Vent.)

- Cassytha pubescens (R. Br.) Upper Cann Valley.
 „ melantha (R. Br.) Broadribb and Orbost.

Crucifereæ (A. L. de Juss.)

- Cardamine hirsuta (Linn.) Bendoc.

Violaceæ (De Cand.)

- Viola hederacea (Labill.) Orbost.
 „ Caleyana (Don.) Bendoc and Orbost.
 Hymenantha Banksii (F. v. M.) Broadribb and Cann.

Pittosporææ (R. Br.)

- Pittosporum undulatum (Andr.)
 Snowy, Broadribb, Bemm, and Cann Rivers, near Coast.

- Pittosporum revolutum* (Aitn.) Cann Valley.
 „ *bicolor* (Hook.)
Bursaria spinosa (Cav.) Broadribb and Cann.
Marianthus procumbens (Benth.) Broadribb and Orbost.
Billardiera scandens (Smt.) Cann and Orbost.

Droseraceae (Sals.)

- Drosera auriculata* (Bach.) Orbost and Cann.

Polygaleae (A. L. de Juss.)

- Comesperma ericinum* (De Cand.) Orbost and Benn.
 „ *volubile* (Labill.)
 Orbost, Broadribb, Cann and Benn Valleys.
 Very aromatic, like true sarsaparilla root, and can be used as an alterative.
Comesperma defoliatum (F. v. M.) Broadribb River.

Tremandree (R. Br.)

- Tetratea ciliata* (Linn.)
 Very abundant on eastern tributaries of Snowy River.

Rutaceae (A. L. de Juss.)

- Zieria Smithii* (Andr.) Coast Range, Cann, & Benn Valleys.
Eriostemon trachyphyllus (F. v. M.)
 Upper Bonang and Broadribb Valleys.
Correa Lawrenciana (Hook.) M'Culloch Ranges, Bonang.
 „ *speciosa* (Andr.) Coast region.

Lineae (De Cand.)

- Linum marginale* (Cunn.) Orbost.

Geraniaceae (A. L. de Juss.)

- Pelargonium Australe* (Willd.) Coast region.

Malvaceae (Adanson).

- Howittia trilocularis* (F. v. M.) Orbost.

Stereuliaceae (Vent.)

- Brachychiton populneum* (R. Br.) Broadbent River.
Commersonia Frazeri (J. Gay) Cann Valley.
Lasiopetalum dasyphyllum (Sieb.)
 Coast Range, Broadribb Valley.

Tiliaceae (A. L. de Juss.)

- Elæocarpus holopetalus* (F. v. M.)
 Broadribb, Benn, Cann, Bonang, and Mt. Goonmurk.

Euphorbiaceae (A. L. de Juss.)

<i>Micrantheum hexandrum</i> (Hook.)	Cann Valley.
<i>Ricinocarpus piniifolius</i> (Desfont).	Broadribb, near Coast.
<i>Bertya Cunninghamii</i> (Planch.)	Snowy River.
<i>Amperea spartioides</i> (Brong.)	Broadribb River.
<i>Phyllanthus thymoides</i> (Sieb.)	Cann and Bemm Rivers.
„ <i>Gunnii</i> (Hook.)	Broadribb.
<i>Adriana acerifolia</i> — <i>tomentosa</i> —(Hook.)	Snowy River.

Casuarineae (Mirb.)

<i>Casuarina paludosa</i> .	Marlow.
„ <i>distyla</i> (Vent.)	Orbost.

Viniferae (L. de St. Hil.)

<i>Vitis hypoglauca</i> (F. v. M.)	Broadribb, Bemm, and Cann Valleys.
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Sapindaceae (A. L. de Juss.)

<i>Dodonaea viscosa</i> (Linn.)	Broadribb.
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Stackhousieae (R. Br.)

<i>Stackhousia linearifolia</i> (Cunn.)	Orbost.
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Portulacaeae (A. L. de Juss.)

<i>Claytonia Australasica</i> (Hook.)	Bendoc.
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Caryophylleae (Linn.)

<i>Stellaria pungens</i> (Brong.)	Bendoc.
„ <i>flaccida</i> (Hook.)	Bemm and Cann Valleys.

Salsolaceae (Linn.)

<i>Rhagodia Billardieri</i> (R. Br.)	Coast Region.
<i>Chenopodium murale</i> (Linn.)	Cann, towards Coast.
„ <i>glaucum</i> (Linn.)	Coast Region.
<i>Atriplex crystallinum</i> (Hook.)	Coast, Snowy River.

Ficoideae (A. L. de Juss.)

<i>Mesembrianthemum æquilaterale</i> (Haw.)	Sand Hammocks.
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Polygonaceae (A. L. de Juss.)

<i>Mühlenbeckia axillaris</i> (Hook.)	Snowy River.
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Leguminosae, sub order *Papilionaceae*.

<i>Oxylobium ellipticum</i> (R. Br.)	Glen Arte River, Coast Range.
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Oxylobium procumbens (F. v. M.)	Mt. Tingiringy.
Mirbelia oxyloboides (F. v. M.)	Near Bendoc.
Gompholobium Huegelii (Benth.)	Delegate & Bonang Rivers.
Daviesia latifolia (R. Br.)	Orbost.
" ulicina (Sm.)	Delegate River.
Aotus villosa (Sm.)	Broadribb.
Pultenea daphnoides (Wend.)	Bemm Valley.
" retusa (Sm.)	Broadribb.
" juniperina (Labill.)	Bonang.
" fasciculata (Benth.)	Cann Valley.
Platylobium obtusangulum (Hook.)	Orbost.
Bossica buxifolia (Cunn.)	Cann Valley.
" microphylla (Sm.)	Orbost.
Hovea longifolia (R. Br.)	Broadribb.
Goodia lotifolia (Sals.)	Broadribb, Bemm, and Cann Valleys.
Indigofera Australis (Willd.)	Goolingook, Bonang River.
Glycine clandestina (Wend.)	Orbost and Broadribb.
Kennedyia rubicunda (Vent.)	All over Middle of County.
" monophylla (Vent.)	Orbost, Bonang, &c.

Sub order, *Mimoseæ.*

Acacia juniperina (Willd.)	Cann Valley.
" vomeroformis (Cunn.)	Cann.
" stricta (Willd.)	Cann.
" penninervis (Sieb.)	Cann and Snowy.
" pycnantha (Benth.)	Broadribb Valley.
" myrtifolia (Willd.)	Cann Valley.
" linearis (Sims.)	"
" melanoxyton (R. Br.)	Broadribb, Bemm, and Cann.
" longifolia (Willd.)	Cann Valley.
" decurrens (Willd.)	Cann, Bemm, and Broadribb.

Rosaceæ (A. L. de Juss.)

Rubus parvifolius (Linn.)	Orbost.
" rosifolius (Sin.)	Orbost, near Marlow.

Saxifrageæ (Vent.)

Bauera rubiodes (Andr.)	All over the Bemm Valley and around Orbost.
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Crassulaceæ (De Cand.)

Tillea verticillaris (De Cand.)	Orbost.
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Onagraceæ.

Epilobium tetragonum (Linn.)	Bendoc and Snowy River.
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Salicariace (Adanson).

Lythrum Salicaria (Linn.)
Broadribb and Snowy River, on marshy flats.

Haloragace (R. Br.)

Haloragis heterophylla (Brogn.) Snowy River.
" *tetragyna*—fire weed—(R. Br.)
All over the County; a useless weed, replacing the
grasses over large areas.
Myriophyllum elatinoides (Gaud.) Delegate River.

Myrtaceae (Adanson).

Baeckea virgata (And.) Snowy River.
Leptospermum lanigerum (Sm.) Coast Regions.
" *myrsinoides* (Schlech.) " "
Kunzea peduncularis (F. v. M.) Upper Snowy River.
" *corifolia* (Reich.) Coast Regions.
Angophora intermedia (De Cand.) Cann Valley.
Eucalyptus stellulata (Sieb.) Bendoc.
" *capitellata* (Sm.) Bemm, Cann, and Broadribb.
" *pauciflora* (Sieb.)
Mounts Ellery, Tingiringy, and Delegate.
" *amygdalina* (Labill.) Cann and Bemm Valleys.
" *obliqua* (F. v. M.) Broadribb River.
" *piperrita* (Sm.)
Mount Goonmurk and Cann Valley.
" *melliodora* (Cunn.) Cann and Snowy Rivers.
" *longifolia*. Coast Regions, Cann, and Bemm.
" *botryoides* (Sm.) Snowy and Broadribb.
" *tereticornis* (Sm.) Snowy River.
" *Stuartiana* (F. v. M.) Bendoc.
" *Gunnii* (Hook.) Mount Goonmurk.
" *eugenioides* (Sieb.) Bendoc and Cann Valley.
" *robusta* (Sm.)
" *pilularis* (Sm.) "Broadribb and" Bemm.
" *macrorrhyncha* (F. v. M.) Orbost.
" *Sieberiana* (F. v. M.) Coast Range.
" *hemiphloia* (F. v. M.) Snowy River.
Tristania laurina (R. Br.) Bemm Valley.
Eugenia Smithii—Lilly pillies—(Poir.)
Snowy River, Orbost.

Rhamnaceæ (A. L. de Juss.)

Pomaderris elliptica (Labill.)	Broadribb.
„ apetala (Labill.)	Bemm and Broadribb.
„ prunifolia (A. Cunn.)	Near Coast, Snowy River.
Discaria Australis (Hook.)	Upper Snowy River.

Araliaceæ (Vent.)

Astrotricha ledifolia (De Cand.)	Cann Valley.
Panax sambucifolius (Sieb.)	
(a) Var. with broad leaves.	Cann Valley.
(b) „ with narrow pinnate foliage.	Bemm and Broadribb.

Umbelliferae.

Trachymeme Billardieri (F. v. M.)	Broadribb, on ridges.
Crantzia lineata (Nutt.)	Snowy River (entrance).

Santalaceæ (R. Br.)

Leptomeria aphylla (R. Br.)	Bonang.
Omphacomeria acerba (De Cand.)	Cann.
Exocarpus cupressiformis (Labill.)	Cann, Bemm, Broadribb.
„ stricta (R. Br.)	Goonegrab and Cann.

Proteaceæ (A. L. de Juss.)

Conospermum patens (Sch.)	Bendoc.
Persoonia confertiflora (Benth.)	Cann and Marlow.
„ linearis (Andr.)	Snowy River, Orbost.
„ Chamapeuce (Lhot.)	Yeerung River.
„ lanceolata (Andr.)	Bonang.
„ juniperina (Labill.)	Cann.
Grevillia ericifolia (R. Br.)	Cann River.
„ parviflora (R. Br.)	Broadribb.
Hakea eriantha (R. Br.)	Broadribb and Cann.
„ microcarpa (R. Br.)	Orbost.
Telopea oreades (F. v. M.)	
Broadribb, Cann, Bemm, Cabbage Tree Creek, Coast Range near Bombay.	

Attains a height of 50 feet in humid valleys near McCulloch Ranges.

Lomatia longifolia (R. Br.)	Coast Range.
„ ilicifolia (R. Br.)	Cann River and Orbost.
Banksia serrata (Linn.)	Coastal Regions.
„ collina (R. Br.)	Shrubby species Near Cann.

Thymeleae.

<i>Pimelea ligustrina</i> (Labill.)	Mount Goonmurk and Coast Range.
„ <i>axiflora</i> (F. v. M.)	Bendoc River.
„ sp.	Orbost.

Rubiaceae.

<i>Coprosma Billardieri</i> (Hook.)	Cann and Orbost.
„ <i>hirtella</i> (Labill.)	Bonang.
<i>Morinda jasminoides</i> (A. Cunn.)	Broadribb and Snowy.

Compositae.

<i>Brachycome decipiens</i> (Hook.)	Bonang and Orbost.
<i>Aster megalophyllus</i> (F. v. M.)	Delegate River.
„ <i>argophyllus</i> (Labill.)	Coast Range and streams flowing South.
„ <i>stellulatus</i> (Labill.)	Bemm Valley.
	(Var. <i>quercifolia</i> .)
„ <i>iodochrous</i> (F. v. M.)	Snowy River, Orbost, Cann, &c.
<i>Calotis lappulacea</i> (Benth.)	Snowy River and Orbost.
<i>Lagenophora Billardieri</i> (Cass.)	Bendoc.
<i>Podolepis acuminata</i> (R. Br.)	Bendoc.
<i>Helipterum anthemoides</i> (De Cand.)	Mount Delegate.
<i>Helichrysum scorpioides</i> (Labill.)	Bonang.
„ <i>bracteatum</i> (Willd.)	Coast Range.
„ <i>leucopsidium</i> (De Cand.)	Broadribb.
„ <i>apiculatum</i> (De Cand.)	Bendoc and Orbost.
„ <i>semipapposum</i> (De Cand.)	Bendoc and Bonang.
„ <i>rosmarinifolium</i> (Less.)	Delegate River.
	(Var. <i>thyrisoides</i> .)
„ <i>obcordatum</i> (F. v. M.)	Mount Buck.
„ <i>cuneifolium</i> .	„
<i>Cassimia aculeata</i> (R. Br.)	Bonang and Delegate Rivers.
<i>Humea elegans</i> (Sm.)	Broadribb.
<i>Gnaphalium Traversii</i> (Hook.)	Craigie Bog.
<i>Craspedia Richea</i> (Cass.)	Bendoc and Orbost.
<i>Senecio spathulatus</i> (A. Rich.)	Orbost.
„ <i>lautus</i> (Sol.)	Bemm Valley.
„ <i>Australis</i> (A. Rich.)	Snowy River.
„ <i>Bedfordii</i> (F. v. M.)	Broadribb, Bemm and Cann, Coast Range, Bonang.

Cuprifoliaceae.

<i>Sambucus Gaudiehandiana</i> (De Cand.)	Orbost.
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Campanulaceæ (A. L. de Juss.)

- Lobelia purpurascens* (R. Br.) Snowy River.
Wahlenbergia gracilis (A. de Cand.) Orbost.

Candolleaceæ (R. Br.)

- Stylidium graminifolia* (Swartz.) Orbost.

Goodeniaceæ (R. Br.)

- Goodenia paniculata* (Sm.) Snowy River.
Seævola hispida (Cav.) Broadribb and Bemm.
Dampiera stricta (R. Br.) Goolingook Ranges and Orbost.

Gentianeæ (B. de Juss.)

- Limnanthemum crenatum* (F. v. M.) Delegate River.
Gentiana saxosa (Forst.) Mount Goonmurk.

Primulaceæ (Vent.)

- Samolus Valerandi* (Linn.) Orbost.

Myrsinaceæ (R. Br.)

- Myrsine variabilis* (R. Br.)
 Snowy, Broadribb, Bemm, and Cann Rivers.

Jasmineæ (A. L. de Juss.)

- Notelæa lanceolata* (Vent.) Sardine Creek Ridges.

Apocynææ (A. L. de Juss.)

- Lyonsia straminea* (R. Br.) Bonang, Broadribb.

Asclepiadeæ (Jacq.)

- Tylophora barbata* (R. Br.) Snowy River.
Marsdenia rostrata (R. Br.) Broadribb.

Convolvulaceæ (A. L. de Juss.)

- Convolvulus erubescens* (Sims.) Orbost, Bonang.
 „ *marginatus* (Poir.) Broadribb & Snowy Rivers.

Solanaceæ (Hall.)

- Solanum vescum* (F. v. M.) Bonang, Orbost.
 „ *aviculare* (Forst.) Snowy River.
 „ *pungetium* (R. Br.) Broadribb River.

Scrophularinæ (Mirb.)

Gratiola Peruviana (Linn.)	Snowy and Bonang Rivers.
Veronica Derwentia (Andr.)	Orbost.
„ perfoliata (R. Br.)	Bonang and Delegate.
Euphrasia Brownii (F. v. M.)	Bendoc.

Labiatae (Adanson).

Mentha laxiflora (Benth.)	Snowy River.
Plectranthus parviflorus (Willd.)	Broadribb and Snowy.
Salvia plebeja (R. Br.)	Broadribb and Snowy.
Prostanthera lasiantha (Labill.)	Coast Range, Bonang.
Teucrium corymbosum (R. Br.)	Upper Bemm Valley.
Ajuga Australis (R. Br.)	Orbost and Bonang.

Myoporinæ (R. Br.)

Myoporum floribundum (Cunn.)	Orbost and Bonang.
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Epacrideæ (R. Br.)

Styphelia lanceolata (Sm.)	Cann River.
„ Macraei (F. v. M.)	Cann and Upper Bemm.
Epacris impressa (Labill.)	Marlow.
„ microphylla (R. Br.)	Bendoc.

Orchideæ (Hall.)

Dipodium punctatum (R. Br.)	Broadribb Valley.
Spiranthes Australis (Linn.)	Broadribb Valley, Snowy River.
Thelymitra ericoides (Sm.)	Snowy River.
„ longifolia (Forst.)	Orbost
Diuris punctata (Sm.)	„
„ pedunculata (R. Br.)	„
„ longifolia (R. Br.)	Cann.
Cryptostylis longifolia (R. Br.)	Orbost.
Pterostylis nutans (R. Br.)	„
Caladenia Patersoni (R. Br.)	Cann.
„ carnea (R. Br.)	Bonang.
Glossodia minor (R. Br.)	Cann and Bemm.

Irideæ (Vent.)

Diplarrhena Moraea (Labill.)	Broadribb, Bonang, Orbost, and Snowy Rivers.
Patersonia glabrata (R. Br.)	Snowy River, Marlow.
Sisyrinchium paniculatum (R. Br.)	„ „

Liliaceæ (Hall.)

<i>Smilax Australis</i> (R. Br.)	Bonang and Snowy Rivers.
<i>Rhipogonum album</i> (R. Br.)	Snowy River.
<i>Eustrephus latifolius</i> (R. Br.)	"
<i>Thysanotus tuberosus</i> (R. Br.)	Cann and Broadribb.
<i>Stypandra glauca</i> (R. Br.)	Orbost.
<i>Xerotes longifolia</i> (R. Br.)	Goonegerah and Marlow.
<i>Xanthorrhœa minor</i> (R. Br.)	Coast Regions.
" <i>Australis</i> (R. Br.)	"

Palmeæ (Ray).

<i>Livistona Australis</i> (Mart.)	Cabbage Tree Creek.
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Typhuceæ (A. L. de Juss.)

<i>Typha angustifolia</i> (Linn.)	Snowy River.
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Junceæ (R. Br.)

<i>Luzula campestris</i> (De Cand.)	Orbost.
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Restiaceæ (R. Br.)

<i>Centrolepis strigosa</i> (Roe.)	Snowy River.
<i>Leptocarpus Brownii</i> (Hook.)	"

Cyperaceæ (Hall.)

<i>Cyperus lucidus</i> (R. Br.)	Orbost.
<i>Schœnus axillaris</i> (Poir.)	"
<i>Caustis flexuosa</i> (R. Br.)	Coast Region, Cann.

Gramineæ (Hall.)

<i>Panicum marginatum</i> (R. Br.)	Snowy River.
<i>Oplismenus compositus</i> (Pal.)	Broadribb.
<i>Zoysia pungens</i> (Willd.)	Coast Region.
<i>Anthistiria ciliata</i> (Linn.)	Broadribb.
<i>Hierochloa rariflora</i> (Hook.)	

(Scented grass.)

All over the Broadribb, Snowy, Cann, Bemm, and Bonang Valleys.

<i>Pappophorum commune</i> (F. v. M.)	Snowy River.
<i>Poa cæspitosa</i> (Forst.)	Broadribb Valley.
<i>Agropyron pectinatum</i> (Pal.)	Snowy River.
<i>Erharta stipoides</i> (Labill.)	All over the area.
(Wire grass.)	

Lycopodineae (Swartz.)

Phylloglossum Drummondii (Kunze)	Cann.
Lycopodium clavatum (Linn.)	Snowy River.
" densum (Labill.)	Cann River.

Filices (Linn.)

Gleichenia circinata (Swartz.)	Bonang.
" flabellata (R. Br.)	Yalma River.
Todea Africana.	Broadribb, Bonang.
Dicksonia antarctica (Labill.)	
McCulloch Ranges, Broadribb, Cann, Bemm.	
Adiantum Aethiopicum (Linn.)	Orbost.
Adiantum formosum (R. Br.)	Broadribb and Snowy.
Pteris falcata (R. Br.)	Bemm, Cann, and Broadribb
" tremula (R. Br.)	Snowy River.
" aquilina (Linn.)	"
Lomaria discolor (Willd.)	
Orbost, Bonang, Bemm, and Broadribb.	
" capensis (Willd.)	Bonang, Mt. Goonmurk.
Blechnum cartilagineum (Swartz.)	
Broadribb and Cabbage Tree Creek.	
Doodia aspera (Mett.)	Broadribb and Snowy Rivers.
Asplenium trichomanes (Linn.)	Rodgers River.
" flabellifolium (Cav.)	Bendoc.
" bulbiferum (Forst.)	Bonang.
" umbrosum (J. Sm.)	Snowy and Broadribb.
Aspidium aculeatum (Swartz.)	Snowy River.
" decompositum (Spreng.)	"
Polypodium punctatum (Thun.)	Broadribb and Snowy.
" serpens (Forst.)	
Cabbage Tree Creek, Broadribb, Orbost.	

THE GEOLOGICAL STRUCTURE.

The rocks of the western portion of Croajingolong do not present many peculiar features. In the upper portion of the area, silurian slates and sandstones prevail; in the middle, a belt of granite stretches across from east to west; and towards the coast, are pliocene bouldery deposits overlying occasional outliers of partially denuded mioene gravels, clays, and limestone bands.

Infolded with the Silurian are occasional outliers of conglomerate shales and limestone bands, and some patches of tertiary basalt. Towards the Cann Valley are masses of

brown and red sandstones and conglomerates, and grits apparently Devonian; while still further eastward towards the colony boundary are some yellow sandstones and grits bearing a striking resemblance to the lower members of the N.S.W. carboniferous series. The localities where each group of rock formations are found may be best described by taking each group according to stratigraphical succession.

SEDIMENTARY ROCKS.

Lower Silurian.

The oldest sediments observed are the black slates of the eastern tributaries of the Snowy, as at Deddick and at the Yalma, where graptolites occur. These black slates are vertical and finely laminar, and are evidently lower Silurian. So far as known at present, these black graptolitic slates do not extend further to the eastward. At Bonang they are replaced by ash-coloured and brownish shales and grey quartzites, and at Bendock by fawn-coloured, pinkish, and yellowish slates, shales, and fine-grained felsitic sandstones with a lesser angle of dip by from 50° to 80° . In the Broadribb Valley, the sediments are more indurated, and have suffered much contortion, as seen on the range dividing the Broadribb and Sardine Creeks, northerly from Mount Buck, where they consist of brown, indurated sandstones, and flexured hard slates full of quartz segregations. On the Black Watch Creek and Goolingook the slates are blue and more persistent in strike, with interlaminated bands of grey close-grained quartzite. The former resemble upper Silurian sediments, while the latter the lower. No line of demarcation has yet been found within the area. The lithological characters and angle of dip are not sufficient to determine a stratigraphical horizon. The induration of much of the sedimentary masses is evidently due to the intrusion of granite masses either as bosses *in situ* or ramifying dykes of hornblende (diorite) rock associated with the intrusive masses.

Upper Silurian.

On the range dividing the Broadribb and Snowy Rivers at the head of Sardine Creek (northern branch) is a band of greyish and whitish marble and masses of coarse conglomerates and jointed shales. The marble band yields some stems of *Actinocrinus* of apparently upper Silurian facies. The con-

glomerates are lithologically similar to certain beds lying at the base of the middle Devonian elsewhere, as at Bendi,* and also to some outliers at Giblo River † They may, I think, be provisionally classed as upper Silurian.

Devonian.

On the divide between the Bemm and Cann, the eastern watershed of the Combinebar Creek, and at Buldah, are masses of quartzose conglomerate and red sandstones, presenting in places a low angle of dip 30° to 60° , presenting similar features to the Devonian sandstones and conglomerates of Mount Tambo. ‡ They are certainly stratigraphically superior to the slates and sandstones of the Yalma and Bendoc, and may be provisionally classed as Devonian. Like the former, they have been subjected to the indurating effects of adjacent granite masses occupying the lower part of the Cann valley. The sandstones being converted into quartzites, and the conglomerates into porphyries or porphyritic conglomerate, I cannot assign any age to these masses; they may represent upper Devonian. All that can be safely said in the absence of fossils is, that they are younger than any members of the upper Silurian, and are overlaid further to the east by what appears to be an outlier of carboniferous sandstone. The latter will be referred to in a subsequent paper on the "Physiography of the Eastern Portion of the County of Croajingolong," for which I am preparing data.

PLUTONIC.

From the Cabanandara valley, and also at Bonang and the Delegate River north of the coast range, a mass of granite stretches through the centre of the county to the Cann River at Morgan's homestead—Mount Ellery is the centre of this broad band of granite. A huge tor, occupying the highest point of the mountain, forms a prominent feature in the landscape. From the induration and metamorphism which this plutonic mass has effected along its margin, it is younger than any of the palæozoic sediments. At Bonang it is a ternary compound of glassy quartz, white and greyish

* Notes on the Physiography of the Tambo Valley. J. Stirling, in Transactions Geological Society of Australasia, 1887.

† Notes on the Giblo River Tableland. J. Stirling, in Mining Reports for September, 1887.

‡ On the Devonian Rocks of North Gippsland. By A. W. Howitt, F.G.S. Government Report Geological Survey of Victoria.

orthoclase felspar, and greenish mica. The upper portion of the mass has a gneissose appearance, as if the mass had been subject to lateral strain and crushing, causing rearrangements of the constituents subsequent to its original solidification from a plastic molten mass.

To the south as at Sardine Creek, on the Broadribb, the middle portion of the Erinundra, on the Bemm, the heads of Tongii Creek, and on the Cann at Morgan's, it has accessory hornblende in places, is in fact syenitic. The age of these granitic masses is probably Devonian: they form part of the plutonic masses which invaded the Palæozoic sediments at the close of the Devonian period, and exposed by subsequent denudation.

At the Yeerung River are masses of quartz, porphyry, and felsites, also probably part of the later Devonian volcanic activities. So far as known at present, the Mesozoic series are absent.

TERTIARY.—MIOCENE.

The next defined group of rocks are the yellow limestone bands resting on the denuded surfaces of the Silurian or granite rocks, and overlaid by bouldery wash clays, gravels, and sand deposits. This formation is found near the coast, well exposed cliffs are seen on the west side of the Snowy near Orbost, and occasional remnants are met with on the east side, yielding characteristic fossils.

At Bonang, and in certain places along the western watershed of the Broadribb River, are outliers of tertiary basalt which appear to have filled the Miocene River valleys although the surrounding hills have been degraded. At Bonang, underlying the basalt there and on the western rim, are outcrops of what at first would be considered a heavy river bouldery deposit. Further close examinations suggested to me that it was in reality a remnant of a Devonian conglomerate (some of the waterworn boulders are 3 feet in diameter). The locality is about 450 feet above the Bonang river.

Unless these boulders are, as suggested, remnants of Devonian heavy conglomerates (they are probably of glacial origin), it is difficult to conceive of fluvial agencies transporting them along a comparatively flat valley such as existed *in situ* during Miocene times. A little gold has been obtained in some of the lighter gravelly wash associated with the larger boulders.

METAMORPHIC.

On the McCulloch Ranges, running south from Mt. Ellery, is a broad band of metamorphic schist and gneiss, apparently metamorphosed Silurian. The central mass is a coarsely siliceous gneiss, the siliceous material standing out in weathered samples in wavy lines. On either side is a band of micaceous schist, and outward from this, nodular schist and phyllites. The difference between this mass and the metamorphism exhibited along the contact with the hornblendic granites, is that in the latter the adjoining slates or sandstones are only altered for a short distance from the contact—in the former, the alteration has taken place along a north and south line over a large area. The lithological character of these metamorphic rocks at once places them on the same stratigraphical horizon as the Omeo metamorphic schists. Here, as elsewhere (in the Australian Alps), the approach to the metamorphic schists is marked by frequent quartz segregations along the margin of the schistose area. At Mount Raymond are numerous quartz diorites and felstones, apparently associated with an intrusive mass of Devonian age *in situ*.

PLIOCENE AND PLEISTOCENE.

The bouldery wash overlying the yellow miocene limestones and clays may be taken as a Pliocene. The deposition of these washes may be said to have taken place during an area of great rainfall. They are widely distributed along the coast regions of Gippsland, and are overlaid by the sandy coast deposits, which are probably Pleistocene and recent. The rich soils on the Snowy, at Orbost, and in the Bemm and Cann valleys, McCulloch Ranges, &c., are all younger formations.

AURIFEROUS AREAS.

The only metal mined for within the area is gold, and principally in the Bendoc and Bonang districts north of the Coast Range. Here both quartz and alluvial workings occur. Although the prospecting parties have discovered many new auriferous localities on the south side of the Coast Range, no payable goldfields have yet been opened up. The upper portion of the Bemm, as at Combinebar Creek, contains alluvial gold in the creek flats; while recently, the prospectors, under control of Mr. Norman Whitelaw, leader of track-cutting parties, found rich specimens in the

McKenzie, a western tributary rising in the McCulloch Ranges.

In the upper tributaries of the Broadribb, alluvial gold has also been found towards the Coast Range. At both the McKenzie, Combinebar, and Upper Broadribb a legitimate field exists for quartz prospecting, the geological conditions being favourable in each place for such discoveries. It is on the north side of the Coast Range that payable alluvial and quartz gold is found.

The Queensborough, Back Creek, Little River, Bendoc, Delegate, and Bonang Rivers have all been worked successfully for alluvial gold, and at present reefs are being worked in the Bendoc and Bonang valleys. In the former, the Eclipse, Morning Star, and Come Love mines; and in the latter, the Rising Sun, Duke of Westminster, Croesus, New Chum, Exhibition, and Young Australian. Most of these mines are in slate and sandstone formation, in some cases, as in the Rising Sun, heavily charged with pyrites and the joints coated with graphitic substance, rendering the ore refractory. Chlorination works, according to the Newbery-Vautin process, are being erected in the district. On the Snowy River are some cupreous lodes, which have not yet been mined. The original observations of that eminent geological observer, the Rev. W. B. Clarke, M.A., on the Bendoc auriferous areas, and his remarks as to future discoveries, have been amply borne out by recent mining developments. As one of the pioneers of geological research in Australia, his work stands, in the light of recent examinations, a model of patient and painstaking observation and sound geological reasoning. It must be borne in mind that Mr. Clarke did not follow the pick of the miner in these areas, but was in advance of such. I am confident the members of the Royal Society will pardon this digression from the subject matter of my paper, in the humble endeavour to do justice to the memory of one of Australia's scientific pioneers.

In a future paper, on the eastern portion of the county, I will endeavour to summarise the observations I have made on the physiography of the area, dealing at greater length with the meteorology, and also the mineralogy. The present article may serve as an introduction to the physiography of a little-known region of Victoria.