# THE FLORA

OF

# SOUTH AUSTRALIA,

BY

**R. SCHOMBURGK, Dr. Phil., Director,**

KNIGHT OF THE IMPERIAL ORDER OF THE CROWN; OF THE ORDER OF MERIT OF PHILLIPPE THE MAGNANIMOUS, AND THE ORDER OF THE CROWN OF ITALY; MEM. OF THE IMPERIAL CAROL. LEOPOLD. ACADEMY; HON. MEM. BOT. SOC., MADEBURG; COR. MEM. ZOOL. SOC., LONDON; C.M.R.B.S., LOND.; C.M.B.S., EDIN.; C.M.G.S., BERL. AND DRESD.; C.M. SOC. NAT. CHERB. FRANCE; C.M.H.S. BERL. AND FRANK. ON M.; C.M. SOC. PHYS. MEDICA, ERLANGEN; H.M.R.S., N. S. WALES; ETC., ETC.

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# FLORA OF SOUTH AUSTRALIA.

By R. Schomburgk, Phil. Dr., Director of Botanic Garden.

South Australia does not offer the contrasts and changes in its configuration and climatical condition that are found to exist in the east, north, and west of the vast continent. It is deficient in high wooded mountain chains and deep moist gullies; and, with the exception of the River Murray, has no great rivers, and but few lakes or swamps. The rainy season is of short duration, and its rainfall limited, the average being only 19 to 21 inches during the year. Its climate also, with the exception of the intra-tropical part, is of a more equal character than that of the other parts of Australia. All these characteristics may account for the flora of South Australia being less numerous in genera and species of plants, compared with those of the other parts of Australia.

Throughout its varied zones there is not a greatly marked diversity in the physiognomy of its vegetation, and its exhibits on the greater part of its area are of a similar character. In character the South Australian flora is intermediate between the south-eastern, south-western, and the tropical floras of Australia. The absence of high mountain chains imparts to the country and vegetation a degree of monotony from the absence of the umbrageous forest region.

The most predominant orders of the South Australian flora, like those of the other parts of the Continent, are—*Leguminosae*, *Myrtaceae*, *Compositae*, *Proteaceae*, *Cruciferae*, *Rubiaceae*, and *Gramineae;* abundant in genera, species, and individuals. Very singularly circumscribed are the genera and species in area; many are found in one spot alone, and a diversity in soil and locality brings forth other genera and species. The rapid succession of forms, and the contrast in this respect between the northern and southern parts being remarkable.

The bark of most of the trees is usually smooth and of a greyish color, which no doubt is accounted for by the slight atmospheric changes—the contrast not being so sudden and great as in colder climates. Most of the leaves of the trees and shrubs are coriaceus, rigid, and pungent, and of a shining glauceous color, which is especially perceptible in the orders *Proteaceae* and *Epacrideae.* Yellow-colored flowers are the most predominant.

The preponderance of the two great genera of the Australian flora, viz., *Eucalyptus* and *Acacia*, also prevails over the whole area of South Australia, but with a deficiency in species in comparison with those of the west and east flora. The number of species of *Eucalypts* know at present in Australia is about 134, of these only 30, and of *Acacia*, of which 300 species are described, only 70 appear in South Australia.

The trees of South Australia do not reach so great a height as those in the east, north, and west; the average that our tallest trees, the *Eucalypts*, obtain, being from 100ft. to 120ft., with a stem of from 4ft. to 5ft. in diameter; and such trees are only found in districts favored by good soil, or on the banks of the rivers; but these heights sink into insignificance compared with those of trees indigenous to Victoria, Tasmania, and Western Australia, where it is stated that *Eucalyptus globulus* reaches 300ft., and *E. colloxa*, F. Muell., of Western Australia, 400ft.; but more astonishing still, that a fallen tree of *E. amygdalina*, Lab., in the Dandenong Mountains, Victoria, measured 420ft. in length.

The presence of different species of trees in South Australia is also limited in comparison to the other parts of Australia. According to Baron von Mueller, the list of trees above 30ft. in height in Australia comprises 950 kinds. Of these 88 are found in South-Western Australia, only 63 in South Australia, 146 in Victoria, 385 in New South Wales, 526 in Queensland, 212 in North Australia, and 29 in Central Australia. Only the *Eucalypts* furnish South Australia with timber. They are found in all parts over the area of the Colony, and constitute most useful timber-producing trees.

Amongst the eighteen to twenty species of *Eucalypts* appearing in the extra-tropical part of South Australia, there are only four to six kinds which are most valued. These are distinguished by certain colonial names, such as red, white, and blue gum, stringybark, and peppermint, *Eucalyptus rostrata*, Schlecht.; *viminalis*, Labil.; *odorata*, Behr. Their timber is highly valued for building, railway, water, and wheelwright work, as naves, felloes, and spokes, and as posts for fencing and other purposes. The stringybark, *Eucalyptus obliqua*, Lher., is much valued, being the only kind fit for shingles, and, as a free-splitting wood, the best for forming rails; but it is not so durable as the other kinds.

The wood of the *Acacia* tribe is only useful for cabinetwork and turning, for which purpose the blackwood, *Acacia melanoxylon*, R. Br., is very much valued. The wattle of the colonists, *Acacia pycnantha*, Benth., is very valuable, on account of its freely-exuding gum, and also for its bark, the latter containing excellent tanning qualities; and both these products form a very important article of export. The wood of

the so-called sheaoak, *Casuarina stricta*, Ait., is of an excellent character and used for cabinetwork, turning, and handles for tools.

The tea-trees, a name applied by the colonists to the genera *Melaleuca* and *Leptospermum*, constitute a class of hardwood usually found in low, moist situations, and on the banks of creeks; is valuable on account of its imperishable nature when used underground, or even in water. The timber is remarkably close-grained, extremely hard when dry, very heavy, and generally sound in the heartwood, which is not always the case with other hard-wooded trees.

The pretty mottled wood of the native pines of South Australia, *Frenela robusta*, A. Cun., and *rhomboidea*, Endl., lack durability, and are mostly used for fencing stuff and fuel. The native cherry, *Exocarpus cupressiformis*, Labil., the honeysuckle, *Banksia marginata*, Cav., furnish also handsome woods for cabinetwork; and *Myoporum acuminatum*, R. Br., has a white soft timber, extremely tough, forming excellent knees for boats.

A most remarkable fact in South Australian vegetation is the absence of native eatable fruits, of which there are none deserving the name, except a few berry-bearing shrubs belonging to the order of *Epacrideae* and *Santalaceae*, *Astroloma*, and *Leucopogon*, the principal species of which, the native currant of the colonists, *Astroloma humifusum*, R. Br., and the so-called native peach, *Fusanus acuminatus*, R. Br., bearing a globular fruit of the size of a small peach, with a succulent epicarp and a hard, bony, much-pitted endocarp, are all South Australia can boast of. There is also a deficiency in eatable root-bearing plants.

A great many genera of plants of other countries which possess valuable and powerful medicinal properties, have numerous congeners in the extra-tropical, and more especially in the intra-tropical portions of South Australia, of which I will only mention the following orders, viz. — *Euphorbiaceae*, *Urticeae*, *Campanulaceae*, *Solaneae*, *Apocineae*, *Leguminosae*, *Asclepiadeae*, *Gentianeae*, *Scrophularineae*, &c.; containing numerous genera and species, probably possessing similar valuable properties, which may be considered as so much buried riches hitherto unheeded, and therefore not utilized. Only lately the wonderful febrifugal properties of the *Eucalypts* have been discovered in Europe. The polygonaceous plant, *Muehlenbeckia adpressa*, Meisn., called by the colonists "Native Sarsaparilla," produces the same effects as the true *Smilax Sarsaparilla*, Lin.; and the *Erythraea australis*, R. Br., contains the same bitter as its congener in Europe, *Erythraea Centaurium*, *Pers.* There are no doubt many trees of the orders *Urticeae* and *Sapindaceae* containing also that valuable substance caoutchouc, especially the species of *Ficus*, so abundant in the intra-tropical part of South Australia.

The same ignorance prevails also with regard to the fibrous and dye plants. Of the first I will only mention the *Linum marginale*, A. Cun.; *Hibiscus tiliaceus*, Lin.; the *Crotalaria dissitiflora*, Benth., from the fibres of which the natives prepare their fishing nets and cordage. Several other plants are known to possess the same properties, especially *Pimelea stricta*, Meisn.; *axiflora*, F. Muell.; and *microcephala*, R. Br.

Gum and resin bearing trees are also abundant. I have already mentioned the valuable gum of the wattle, *Acacia pycnantha*, but there are several more species producing gum, as *Acacia acuminata*, Benth., &c.

The conspicuous plants which greatly contribute to the interesting character of the Australian Flora, the grass trees of the colonists—*Xanthorrhoea quadrangulata*, F. Muell., and *semiplana*, F. Muell., exclude a resin, which contains nitro-picric acid, from which a valuable dye may be prepared.

The flora of South Australia provides copious material for the manufacture of the best paper. Not alone a great number of representatives of the *Gramineae* and *Cyperaceae*, viz.: — *Dichelagne crinita*, Hof., *Xerotes longifolia*, R. Br., *Cyprus lucidus*, R. Br., *vaginatus*, R. Br., *Scirpus lacustris*, Lin., but also the bark of *Eucalypts*, and the leaves and bark of *Casuarina*, provide splendid material for paper.

Poisonous plants are known, though there are not many in South Australia. One of the most dangerous to the sheep stock is the *Lotus australis*, Andr., which is very generally distributed, and does great injury; but I consider the poisonous principle lies mostly in the seed. The River Darling Pea, *Swainsona Grayana*, Lindl., produces also poisonous effects on the cattle, especially on horses. A *Lobelia*, *L. pratioides*, Benth., fortunately is not frequently seen in South Australia, but it appears more plentiful in Victoria, to the great injury of stock.

Although the injurious weed *Solanum nigrum* is common in most tropical and temperate parts of the globe, I think it has been introduced into Australia with cultivation. *Lawrencia spicata*, Hook., is also considered by the stockholders on the Peninsula injurious to cattle and sheep. But as the plant is eaten by the cattle before seeding without injury, I believe that the rigid, pungent, bracteate leaves with which the flower-spike is densely covered, especially in the upper part, and which, as the seed ripens, become more coraceous and pungent, are the dangerous parts of the plants, and these parts, when eaten in quantity, will, no doubt, injure the mucus membrane of the stomach, and produce inflammation. As the uniform character of the order of *Malvaceae* is that it abounds only in mucilage, and is totally destitute of all unwholesome qualities, it would be very peculiar should this species contain poisonous properties.

A very peculiar phenomenon of the South Australian vegetation is, that most kinds of trees and shrubs, when dying, die from the tops downwards. It is also a remarkable characteristic that by age the common habit of plants is often much changed, which is proved by the fact that during the period of development and subsequently the individual parts of those which are not flowering and fruit-bearing are different. This anomaly, caused by age and time, not only refers to the dimensions of leaves and flowers, but also to their nature.

If we review the several orders of plants of South Australia, we find that the extra-tropical part is characterized by the remarkable absence of several orders, although it is not impossible that by further discoveries in the central part—as this part has, as yet, been but imperfectly explored

—a few representatives of one or the other order may yet be found; but probably the number will not be extensive. The extra-tropical part of South Australia is destitute of the following orders, viz.:—*Simarubeae, Burseraceae, Meliaceae, Salicineae, Celastrineae, Ampelidae, Anacardiaceae, Magnoliaceae, Bixineae, Araliaceae, Malpighiaceae, Guttiferae, Ericaceae, Plumbagineae, Myrsineae, Sapotaceae, Ebenaceae, Styriaceae, Hydrophyllaceae, Gesneriaceae, Bignoniaceae, Saxifrageae, Samydaceae, Elaeagneae, Cupuliferae, Piperaceae, Selagineae, Scitamineae.*

Although the order *Orchideae* is represented by numerous species of terrestrial ones, there is an entire absence of epiphital *Orchids* in the extra-tropical part. So are also *Cryptogamic* plants extremely rare; even the order *Filices* is poorly represented.

The orders most abundantly distributed over the whole area are:—*Leguminosae, Myrtaceae, Compositae, Chenopodiaceae, Cruciferae, Proteaceae, Goodenoviaceae, Euphorbiaceae, Scrophularineae, Ficoideae, Boragineae, Labiatae, Amarantaceae, Convolvulaceae, Epacrideae, Urticeae, Orchideae, Amaryllideae, Liliaceae, Restiaceae, Cyperaceae,* and *Grammineae.*

Having given a general description of the flora of South Australia, I proceed now to its special peculiarities in the several localities or regions individualized and distinguished by the predominance of one or more families, although the boundary is in no way so sudden as to preclude certain species from spreading over all regions, especially trees, which, at the same time, are equally common in the scrub and grass lands; and also herbaceous plants, a great number of which appear in the grass land, scrub, and forest region.

Notwithstanding the little apparent difference in the formation of its surface soil and climate, the flora of South Australia introduces itself to the observer in its geographical extension by special and peculiar forms of plants in regions. These are the regions of the forest land, scrub land, grass land, and the intra-tropical region.

Forest Land Region.—The region of the forest land in South Australia occupies mostly the mountainous districts, and extending along the base of the mountain chains. The forests have not the fullness and lofty growth of those of other countries. The underwood is of a medium size, more open and less difficult to penetrate; the forests are of less extent and are intercepted by tracts of grass land. The *Eucalypts* are the most predominant forests trees—the stringybark forming often whole forests in some mountainous districts, but seldom seen on the plains. *Eucalyptus paniculata*, Sw.; *viminalis*, Labil.; *rostrata*, Schlecht.; *odorata*, Behr., are the most prevalent species.

The trees of the forest do not appear crowded, and seldom do the branches of a tree reach those of a neighboring one. The declivities of the mountain ranges are for the most part similarly timbered, the trees sometimes extending to the summits, often only half or two-thirds of the remaining part being grassed, here and there with copses of low growing shrubs, and stunted and much ramified trees; often the whole declivities are grassed without even a shrub or tree.

Another feature of the tableland in the hilly districts is the appearance of occasional hills, clothed only with a scanty covering of tussocky grasses, among fragments of ironstone, quartz, and sand, destitute of all other vegetation, except small scattered trees of the *Casuarina stricta*, Ait., and *glauca*, Sieb., and the peppermint, *Eucalyptus odorata*, Behr.

The level tableland is generally covered with grass, but deficient in shrubs. Here, scattered, are to be seen the most stately and majestic trees of *Eucalypts;* such tablelands appearing more like a park—the trees standing seemingly at measured distances, single or in small clumps, as if planted by the hands of a landscape gardener. The soil of such tableland is generally speaking very rich, and produces abundant crops of cereals. The underwood of the forests is mostly represented by the following genera, viz., *Correa*, *Alyxia*, *Prostranthera*, *Grevillea*, *Hakea*, *Isopogon*, *Exocarpus*, *Acacia*, *Banksia*, *Cassia*, *Calythrix*, *Pommaderis*, *Leucopogon*, *Leptospermum*, *Daviesia*, *Dillwynia*, *Eutaxia*, *Platylobium*, *Pultenaea*, and shrubby *Eucalypts*.

The beautiful genus *Epacris*, which is only represented in South Australia by one species, *E. impressa*, Labil, frequently covers whole mountain ridges and declivities; when in bloom the different shades of color of its flowers produce an effect not easily described.

The most prominent and striking effect of the mountain forest region is produced by the grass trees, *Xanthorrhoea quadrangulata*, F. Muell.; and *semiplana*, F. Muell. These plants have a peculiar grotesque appearance of a type unknown in other countries, at once arresting every traveller's attention by their strangeness.

They appear mostly on the ridges and declivities of rocky and stony hills, almost devoid of any other vegetation, and are also found on some wooded lands, but never on the plains. *Xanthorrhoea quadrangulata* grows from 10 to 12 feet high, often with a trunk about one foot or eighteen inches in diameter, and the flower stalk from 6 to 10 feet high. Sometimes specimens are found repeatedly branched in a dichotomous manner, all the branches of equal thickness, which gives them a most grotesque appearance. This species appears only in hilly districts on the most rocky declivities; they drive their straggling roots into the crevices of the rocks several feet down amongst the accumulated vegetable soil. The grass trees are of slow growth; the largest specimen must be several hundred years old. The second species, *Xanthorrhoea semiplana*, is often found at the base of the hills in sandy soil; it forms its stem underground, which extends often two to three feet before the few straggling roots appear, and the leaves lie close on the ground. This species is also of an ornamental character. The valuable brownish yellow, resinous exudation of the root and lower part of the stem, I have already mentioned.

The deep gullies formed by the ridges and hills, in which the dew most frequently supplies the place of rain during the dry season, are covered with shrubs and ferns. The soil is generally formed of black or sandy peat of a very humid nature, being watered by streamlets running throughout the year, and forming, in some rocky situations, picturesque

cascades. In such gullies are associated the most delicate and beautiful plants the flora of South Australia produces. Only in such places do we find assembled the handsomest ferns in great profusion, the stately *Todea africana*, Willd., with trunks often 5ft. to 6ft. in circumference, often forming impenetrable thickets along the rocky banks of the streamlets; *Gleichenia microphylla*, R. Br., thriving luxuriantly in the crevices of the rocks; with the elegant *Adiantum aethiopicum*, Lin., *Botrychium ternatum*, Swartz., *Lomaria discolor*, Willd., and *capensis*, Willd., *Aspidium molle*, Sw., *Grammitis leptophylla*, Swartz., and *rutifolia*, R. Br., interspersed with the lovely *Viola betonicaefolia*, Sw., and *hederacea*, Labil., which border the water edges; and the blue flowers of *Caesia* and white of *Burchhardia* give a great charm to such waterfalls not easily described.

The declivities of the gullies are mostly taken possession of by the luxuriant-growing *Pteris esculenta*, Forst., massed together and forming often impenetrable thickets, while the graceful *Cheilanthes tenuifolia*, Swartz., is generally found in the grass land at the base of the hills, extending even a short distance into the plains. There also grow magnificent trees of *Eucalypts*.

In such gullies, with their fertile soil and cool clime, the greatest part of our culinary vegetables are grown for the market to a degree of perfection unknown elsewhere, and uninterruptedly supplied throughout the year. Not vegetables alone, but fruits. viz:—Gooseberries, strawberries, raspberries, and currants, &c., are raised in the same perfection.

At the base, and also extending further up on the slopes of the hills generally, in spots least covered with underwood, appear the various and beautiful terrestrial *Orchids*, with their delicate and quaint flowers, together with other monocotyledonous plants, viz :—*Patersonia longiscapa*, Sweet., *Hypoxis glabella*, R. Br., *Caesia parviflora*, R. Br., *Arthropodium laxum*, R. Br.

The most conspicuous *Orchids* are :—*Glossodia major*, R. Br., *Caladenia Patersoni*, R. Br., *latifolia*, R. Br., *carnea*, R. Br., *Cyrtostylis reniformis*, R. Br., *Pterostylis cucullata*, R. Br., *reflexa*, R. Br., *barbata*, Lindl., *longifolia*, R. Br., *Thelymitra aristata*, R. Br., *carnea*, R. Br., *Diuris palustris*, Lindl., *maculata*, Sm., *longifolia*, R. Br. The genus *Pterostylis* is represented by numerous species. This aspect of the forest region applies to the Barossa Range, the most prominent near the coast. Other mountain ranges in the far north may present different features.

The Scrub Land Region.—The regions of the so-called scrub land appear over the whole area of South Australia, extending more or less in the different districts; but more so in the north and east, occupying about one-eighth of the whole area of the Colony. They form long stretches of desolate arid plains—the soil being of the poorest description, and unfit for cultivation, changing from loamy clay to pure sand; the surface is covered with fragments of silicious rock, ferruginous sand, and iron stone; of water in these tracts there is no indication. The vegetation is of a stunted character, and the scrub is nearly destitute of grasses and other herbage; the few genera of the first are mostly

*Neurachne*, *Stipa*, *Isolepsis*, *Spinifex*, the well-known kangaroo grass, *Anthistiria ciliata*, and a few *Juncaceae*, viz., *Xerotes glauca*, R. Br., and *filliformis*, R. Br.; and these grow only in tufts, considerably apart from each other. The absence of other herbage is as great during the summer; but this almost entire deficiency is compensated by an endless variety of genera and species of shrubs. The general impression given by the scrub is dismal, although the great variety of shrubby plants associated there, make it highly interesting to the botanist. These shrubs reach generally the height of four to six feet, interspersed with stunted and ramified trees of the genera *Casuarina*, *Eucalyptus*, *Santalum*, *Melaleuca*, *Exocarpus*, *Camphoromyrtus*, *Dodonaea*, *Frenela*, *Banksia*, &c. Smaller shrubs of the genera *Pimelea Leucopogon Dillwynia*, *Hibbertia*, *Acrotriche*, *Calythrix*, cover the ground, and are overtopped by higher growing ones, such as *Hakea*, *Logania*, *Alyxia*, *Myoporum*, *Stenochilus*, *Euphrasia*, *Thomasia*, *Bursaria*, *Pomaderris*, *Halorayis*, *Melaleuca*, *Leptospermum*, *Eutaxia*, *Acacia*, *Isopogon*, *Correa*, *Rhagodia*, &c., forming sometimes impenetrable thickets; in other localities the scrub consists only of *Eucalyptus dumosa*, A. Cun.; sometimes formed by other bushy *Eucalypts*, viz., *Eucalyptus uncinata*, Turcz.; *bicolor*, A. Cun.; and *incrassata*, Labil; growing only six to eight feet high, and extending hundreds of miles.

The most predominant color of the leaves of the scrub is a glaucous green, interspersed here and there with whitish leaves of the *Rhagodia* and other shrubs, having reddish brown leaves. Most of the leaves are ovate, entire, coriaceous, and pungent; shrubs with pinnated leaves are seldom met with.

The monotonous and dismal look of an extensive scrub is depressing, especially when viewed from an eminence. The equal height of the vegetation, the dull glacuous color of the foliage, look in the distance like a rolling sea reaching the horizon—at least the first sight of the Murray scrub, extending hundreds of miles, produced this impression on my mind. Everyone avoids the scrub as much as possible—many have lost their way there and perished for want of water.

All the scrubs in the different districts produce the same common impression, but the plants comprising them are not the same genera and species, locality and soil affecting the character of the flora.

Shrubs of one kind or another are found in flower in the scrub throughout the year. Most kinds produce their flowers in September and October, the rainy season therefore alters the physiognomy of the scrub very little; but it calls into life numerous terrestrial orchids, of which a good many kinds inhabit the scrub, viz.:—*Erochilus*, *Caladenia*, *Diuris*, *Prassophyllum*, *Dipodium*, *Microtis*, *Cyrtostylis*, &c. These appear with some perennial and annual plants, viz.:—*Helichrysum*, *Drosera*, *Helipterum*, *Scaevola*, *Brunonia*, *Thysonanthus*, *Euphrasia*, *Goodenia*, *Hypoxis*, *Senecio*, &c., and annual grasses; but their duration is short, as with the setting in of the dry season they disappear as rapidly as they appeared.

A most valuable scrub plant, at least for the pastoral community, and appearing copious in the northern districts, is the so-called salt bush,

*Atriplex nummularia*, R. Br., on which during the summer and in times of drought the sheep subsist. If all other vegetation is suffering from the drought, the salt bush alone withstands the intense heat of the sun and maintains its freshness, and saves thousands of sheep from starvation.

The Grass Land Region.—The so-called grass land forms the principal part over the whole area of South Australia, consisting in endless undulating plains, stretching from the coast towards the north and east. Along the coast and hundred of miles inland the grass plains have mostly disappeared, and now form agricultural districts producing the finest cereals known—the soil varying from the best to some indifferently good.

But the grass plains of the interior, especially towards the north, so extensive as to be lost in the horizon, are like deserts, emphatically monotonous and desolate. Only here and there will be found some fertile spots of grass land, but not of large extent, alternating with bare sandstone ridges or rolling sandhills, interspersed with gravelly and waterless flats. Their surface is often saline, covered with sharp angular or weatherworn fragments of various sizes of ironstone, quartz, reddish-colored sandstone, and conglomerate, supporting only a scanty herbage of *Atriplex*, *Kochia*, *Salicornia*, and *Salsola*, *Spinifex* and other perennial grasses, growing in tufts, tinging the sandy surface. Groups of stunted shrubs and small ramified trees, sometimes of a limited extent, rise from the plains like islands of the ocean. They mostly consist of the shea-oak, *Casuarina stricta*, Ait., *glauca*, Sieb., and *distyla*, Vent., *Eucalyptus odorata*, Behr., *dumosa*, A. Cun., *virgata*, Sieb., wattle, *Acacia pycnantha*. The plains near the coast are of a different character, the soil mostly fertile, extending often to the sea, and constituting a great part of our arable land.

The stratum of humus or fertile soil covering these plains occasions is also an essential alteration in their vegetation. The grasses consist of more nourishing kinds, viz.:—*Poa*, *Panicum*, *Festuca*, *Agrostis*, *Airia*, *Andropogon*, *Cynodon*, *Stipa*, *Pennisetum*, *Bromus*, *Eriachne*, *Anthistiria*, *Hordeum*, &c. Here appear also a great number of low-growing shrubs, such as *Bursera*, *Grevillea*, and small ramified trees of peppermint, *Myoporum*, *Pittosporum*, *Cas uarina*, and *Acacia*, either single, or sometimes forming groves, without underwood, like oases in the desert. The banks of the rivers and creeks, which mostly cease running during the summer, are lined with majestic gum trees, often of immense dimensions, and shrubs extending more or less upon the plains, according to the nature of the soil. This vegetation, on both sides of the rivers, appears like green ribbons, following their curves; these banks have their peculiar flora; here appears *Viminaria*, *Leptospermum*, *Melaleuca*, *Myoporum*, *Hardenbergia*, &c.; herbaceous plants, *Sium*, *Mimulus*, *Myriogyne*, *Senecio*, *Lobelia*, *Petroselinum*, *Eryngium*, *Lotus*, and the following *Juncaceae* and *Gramineae*—*Juncus*, *Luzula*, *Xerotes*, *Neurachne*, *Deyeuxia*, *Stipa*, &c.

The grass land, in fact the whole configuration of the plains, has a great similarity to the Savannas of British Guiana—naturally there is a

great discrepancy with regard to the two vegetations; but the Savannas have mostly the undulating ground, the scattered ramified trees, the oases, the rivers lined with a green belt; and the appearance of the grasses and herbage covering the area, has, during the dry season, the same sunburnt yellow character, and is destitute of all green herbage. After the setting in of the rainy season, there is the same magic appearance of the grasses and herbage.

In the month of May the rainy season generally commences, which has a magical effect upon the herbage of the plains; a few heavy showers change the aspect of the dried-up grasses and herbage into a green and beautiful carpet.

The rapidity with which especially the annual grasses spring up, is such that in a few days the plains appear clothed with luxuriant verdure, which only northern countries ordinarily produce. With the grass are also recalled to new life the yellow flowers of *Ranunculus aquatilis*, Lin.; *lappaceus*, Sm.; *rivularis*, Banks.; *Oxalis cognata*, Steud.; *Hypoxis glabella*, R. Br.; with the white flowers of *Drosera rosulata*, Lehm.; the blue of the *Wahlenbergia gracilis*, Dec.; *Anguillaria biglandulosa*, R. Br.; *Stackhousia obtusa*, Lindl., with its perfume spreading flowers.

Every week adds new colors to the beautiful carpet. The scarlet flowers of *Kennedya prostrata*, the violet ones of *Swainsona procumbens*, F. Muell.; and *lessertifolia*, Dec.; the delicate flowers of *Thysanotus Patersoni* climbing up the dry grass stalks, or overruning small shrubs. The flowers of the isolated trees or copses of the wattles soon glitter in their yellow clothing. The *Loranthus Exocarpi*, Behr., and *Miqueli* Lehm., growing parasitical of the *Casuarinas* and *Eucalyptus odorata*, adorned with their red flowers hanging in the air. The small shrubs of *Bursera spinosa* are covered with their white flowers, mingled with the red of different shrubby *Grevilleas*, *Compositae*, are seen blooming over the plains in all colors; and every week brings new representatives of floral beauty.

But by the middle of November the number of flowering plants already lessens considerably, the annual grasses and other herbaceous plants begin to dry up, droop, and disappear, and in January the grass land resembles a ripe thinly-sown cornfield, and we find only solitary shrubs covered with a few flowers or a few plants of *Convolvulus erubescens*, *Lobelia gibbosa*, Labil, the latter with their leafless and fleshy stalks, and *Mesembryanthemum australe*, Soland. In some localities this period appears earlier or later.

The seeds of the annual plants have been scattered, perennial herbage returned to its dormant state, to awake to new life at the setting in of the following rainy seasons; and the plains have during the summer months a dismal dried up appearance.

There is another kind of grass land, appearing here and there in large tracts, called "Bay of Biscay land." Such tracts have a peculiar, undulating surface, and look like a waving sea which has suddenly become motionless. The soil is considered very good, of a chocolate color and produces fine wheat crops, but it must be ploughed several years before the surface becomes level.

The flora of the Bay of Biscay land too has its peculiarity. The Eucalypts shunning such tracts, which, however, are rich in *compositae* and grasses, but poor in *Monocotyledons*.

The sea beach is mostly bordered with a belt of arborescent shrubs and small trees of ramified growth, viz. :—*Melaleuca Preissiana, Schau, decussata*, R. Br., *Alyxia*, shrubby *Eucalypts*, *Myoporum*, *Pittosporum*, and *Santalum*, interrupted with a thick belt of *Avicennia officinalis*, Lin., extending along the coast. The sandy, often saline, tracts stretching towards the plains, are covered with *Atriplex*, *Tetragona*, *Aster*, *Apium*, *Euphrasia*, *Zygophyllum*, *Nitraria*, *Erigeron*, *Cotula*, *Podolepis*, *Erodium*, *Helichrysum*, *Leptorhynchus*, *Dianella*, *Arthropodium*, *Salsola*, and *Mesembrianthemum*, which are often supplanted by tracts of *Spinifex*, *Xerodes*, *Juncus*, *Anthistiria*, *Lepidosperma*, *Isolepis*, *Chaetospora*, *Cladium*, and *Carex*.

Intra-tropical Region.—According to G. W. Goyder, Esq., Surveyor-General, the country, especially near the coast of the intra-tropical part of South Australia, consists principally of tableland of from 60 to 150 feet above the level of the sea, falling thence gently towards the sea, although forming here and there into cliffs, which are fringed with dense thickets of various-sized timber, matted together with bamboo, and a variety of climbing plants and shrubs. The low lands near the sea, especially such as are under the influence of the tide, are covered with dense mangroves, *Avicennia officinalis*, Lin., and *Rhizophora mucronata*, Lam. These, as the land ascends to a higher level, give place to palms, *Pandanus*, *Melaleucas*, *Leptospermums*, *Grevilleas*, *Eucalypts*, and *Acacias*, forming an open forest. Amongst the underwood are found ferns, *Aroids*, as *Amorphophalus campanulatus*, *Decas*, and *Taccaceæ*, *Tacca pinnatifida*, Lin.

The grass over the whole, or nearly the whole, of the surface of the ground, grows luxuriantly, of which the most prominent genera are the following :—*Fuirena*, *Cpprus*, *Eleocharis*, *Cimbopogon*, *Fimbristylis*, *Panicum*, *Setaria*, *Sporobolus*, *Anthistiria*, *Eriachne*, &c. The soil is mostly good, and of a dark brown color, with small nodules of ferruginous sandstone upon the surface.

Near the sea, and generally upon a watercourse near its junction with the sea, swampy flats occur, containing timber of large growth and rank vegetation. The lakes and waterpools are covered with waterlilies, *Nymphaea gigantea* and *Nelumbium speciosum*, Willd., showing their beautiful flowers in various shades of blue, pink, or crimson. The flats on either side of large rivers also contain good soil, except where they join the higher land, where there is a belt of sandy character, poor to look at, though covered with timber and grass. The same kind of open forest, undulating and flat land, exists over the area, sometimes the soil changing suddenly from a dark brown to a very light loam, the soil improving and the vegetation along the rivers becoming luxuriant.

Judging from the plants collected by Mr. Schultz, who was employed for about two years there as a naturalist, during which time he obtained about 700 species of plants, the intra-tropical flora of South Australia

does not present the luxuriant growth and umbrageous foliage we are used to see in other tropical floras. The number of species is also very small, owing, no doubt, to the dryness of the climate; and from the same cause it is deficient in *Epiphytal Orchids*, palms and ferns. *Acacias*, *Eucalypts*, *Ficus*, *Bombax Cupania*, *Terminalea*, *Psychotria*, *Grevillea*, form the prevailing timber trees, and line the rivers; but the *Eucalypts* and *Acacias* do not reach the gigantic size of their brethren in the extra-tropical region. The following orders are well represented, viz.:—*Euphorbiaceae*, *Compositae*, *Convolvulaceae*, *Rubiaceae*, *Goodenoviaceae*, *Leguminosae*, *Urticeae*.

The representatives of the intra-tropical flora of South Australia seem to extend towards the east, as a great number of genera and species reach to the Gulf of Carpentaria, and even further. A great many species of the Indian flora appear along the coast of the intra-tropical part, viz.:—*Strychnos*, *Tamarindus*, the Cajaput tree, *Melaleuca leucadendron*, appear abundant along the banks of the rivers, and even over the dry sandstone tableland, but of less luxuriant growth.

THE NATURALIZED PLANTS OF SOUTH AUSTRALIA.—It is a historical fact that whenever man settles in a new country he not only carries the weeds that are most troublesome in cultivated ground along with him, but he also exercises a potent influence over the indigenous vegetation, especially when he engages in agricultural and pastoral pursuits. The plough, the axe, the flocks and herds, are enemies to existing vegetation; and as cultivation advances one representative after another succumbs to the foreign influence. But the plough, axe, and herds are not the sole destroyers of the native herbage, for with cultivation are introduced noxious weeds, and the new comers, finding a suitable soil and climate, spread with alarming rapidity, and become possessors of the ground—ejecting the native plants, or taking their places by them as if they were truly indigenous.

In proof of this I will only mention the names of a few of such intruders, not only upon cultivated ground, but also over the uncuti-l vated districts, to the great injury of the native herbage, viz.:—The Cockspur, *Centaurea melitensis*, Lin.; the Scotch thistle, *Carduus Marianus*, Lin., and *Onopordon Acanthium*, Lin.; the Cape Dandelion, *Cryptostemma calendulacea*, R. Br.; the Bathurst burr, *Xanthium spinosum*, Lin.; the French catchfly, *Silene gallica*, Lin.; the Stink Aster, *Anthemis Cotula*, Lin.; the so-called sheepweed, *Lithospermum davuricum*, Lehm.; and *arvense*, Lin., which already cover large tracts of pasture land, and will extend further and further, to the destruction of the native herbage. Legislation has not succeeded, notwithstanding large sums have been expended in extirpating the two most injurious intruders, viz., the Scotch thistle and the Bathurst burr, and it remains to be seen whether the altered circumstances, which seem to be so favorable to their growth, will prove permanent, or, by an over-stimulation, a change will be gradually effected in the constitution of the intruders, bringing about degeneracy and subsequent extinction.

It will not be uninteresting to give here a list of the more troublesome weeds naturalized in South Australia, in addition to those already mentioned:—

Lepidium ruderale, Lin.
Capsella Bursa pastoris, Lin.
Atriplex patula, Lin.
Urtica urens, Lin.
Polygonum aviculare, Lin.
Cnicus lanceolatus, Lin.
arvensis, Hoffm.
palustris, Willd.
Cynara Scolymus, Lin.
Anagallis arvensis, Lin.
Gnaphalium luteo album, Lin.
Cerastium vulgatum, Lin.
Fumaria officinalis, Lin.
Rhaphanus Rhaphanistrum, Lin.
Stellaria media, Lin.
Lythrum hyssopifolium, Lin.
Portulaca oleracea, Lin.
Foeniculum vulgare, Lin.
Sonchus asper, Vill.
Solanum nigrum, Lin.
Cirsium lanceolatum, Scop.
arvense, Scop.

A good many grasses from other countries, especially European, have become domiciled in South Australia, which have improved the pasture near the coast materially.

The South Australian cereals are considered to be the finest grown in the world; and it is a fact that, with the exception of the intra-tropical, all fruits from other parts of the globe thrive most luxuriantly in South Australia, and come to a perfection, in size and flavor, in the different localities of the Colony, hardly known in other countries; and most fruits, vegetables, and useful plants are found to improve materially by the change, as the climatic conditions often succeed in modifying and improving their condition. The finest grapes are grown on the plains; here they ripen to great perfection, and the South Australian wine must soon obtain a high character in the foreign markets. On the plains also grow apricots, peaches, nectarines, oranges, citrons, lemons, and shaddocks, plums, cherries, figs, almonds, mulberries, olives, &c., &c., &c.; while in the hills and gullies are grown strawberries, raspberries, currants, wallnuts, chestnuts, filberts, &c., &c., of the best quality. In such gullies are also raised the finest vegetables and other culinary herbs, at all seasons, in great abundance as also on the plains, during the rainy season; cauliflowers, often two feet in diameter, are not seldom seen; cabbage, turnips, asparagus, artichoke, leaks, onions, beet, carrots, potatoes, endive, lettuce, radish, celery, &c.; cucumbers, the luscious fruits of the sweet and water melon, pumpkins, &c., growing to a flavor and size, which at home would be considered an exaggeration when described.

The advancement in the taste for horticulture and floriculture in South Australia is most praiseworthy and on the increase, as proved by the many tasteful gardens which are now seen, not only in town, but in the environs and country; therefore the importation and acclimatization of the most choice foreign plants, especially florists' flowers, is marvellous, and most of these newcomers improve so in size and the perfection of their flowers as to astonish any European gardener. At the Botanic Gardens are cultivated about 5,000 outdoor plants, mostly from all parts of the world.

The Alpine plants will not prosper in the gardens of the plains, but find a genial clime in the hills and gullies (from about 1,000ft. to 2,000ft.

above the level of the sea), where we find the camellias, azaleas, rhododendrons, and other Alpine plants in great profusion. In such situations thrive also our northern forest trees, oaks, beaches, birch, abies, &c.; while the elms, ash, poplars, Robinias, &c., luxuriate in the plains. In the same localities the Californian pines, cypresses, and some of the European pines thrive, but the Himalayan and several of the European pines succeed only in the hills.

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[The observations contained in the following pages have been extracted from papers read by me before the Chamber of Manufactures, in Adelaide, with the object of giving greater publicity to several undeveloped resources of South Australia.]

The following vegetable productions, although not yet forming articles of export, or of much colonial consumption, might be raised with advantage by immigrants who may not be in possession of large capital. The lands, especially the gullies in the hilly districts, are adapted for many other branches of agriculture than the all-engrossing object—the cultivation of cereals—and from amongst those mentioned the less wealthy cultivator can make his selection.

Sericulture.—The importance of introducing sericulture into South Australia is undeniable, as we have clear evidence of the adaptability of our climate to the production of an excellent quality of silk, for which the demand is now unlimited, in consequence of the disease amongst the silkworms prevailing in the silk-producing countries in Europe, which is unknown here. Considering how silk manufacture has increased for centuries, and still continues to do so, the demand can never fail. For many years, with all my energy, I have advocated sericulture as a paying industry, and advised the extensive planting of the mulberry. To facilitate the scheme, I made inquiries in Europe as to what kind of mulberry was now considered the best for feeding the silkworm, and introduced the seeds, and offered for distribution the young plants of the most approved kinds; but I am sorry to say the demand for these was very limited, and I hailed with delight the judicious act of the Government in providing the means for laying out the first mulberry plantation in South Australia at the Magill Orphanage, where my surplus stock could be used. The object aimed at in this scheme will prove in future most advantageous to that establishment. There is no doubt that the production of silk will become one of our most important industries, which will at the same time be a practical and useful aid to the ordinary occupation of our farmers. As the silk manufacturers now prefer the cocoons to the reeled silk, this will save a good deal of the tedious work of sericulture. Many will say I am too sanguine in regard to the result of sericulture in South Australia, but I think I see my way clearly; and I am more and more convinced by the favorable letter Mr. G. Francis received some time ago from the Silk Supply Association, London. This gentleman had sent different cocoons of his raising to that body to test their value, and received the gratifying news that they were worth from 3s. to 5s. 6d. per pound. If we consider that 6s. per pound is the highest

price obtainable for the best cocoons in England, is not 5s. 6d. per pound a most encouraging fact in regard to the quality of the South Australian cocoons? I am informed by another gentleman, an enthusiastic sericulturist, Mr. Wurm, that by receiving 6s. per pound cocoons would pay well. In regard to the growth of the mulberry throughout the Colony, I may say it grows everywhere. We find the trees growing at Glenelg and Brighton, close to the beach in sand, as luxuriant even as in the hills or elsewhere. In Italy, as I understand, sericulture is divided into three different branches—namely, the growing and selling of the mulberry leaves, the rearing of the cocoons, and the reeling of the silk; and, in comparison with the work employed, one pays as well as the other. But it is not my intention to give a scientific description of the manufacture of silk, or the culture of the mulberry, and in order not to trespass too much, I will not go into the dry details of figures as to the enormous amount of money which is spent in producing silk, but will only call your attention to the extraordinary fact that the sum paid for silkworm eggs from China and Japan is about £100,000 yearly. Although I feel aware that in giving bonuses great caution must be exercised, yet I feel confident that a bonus for the first half ton of coocons, in four bales of 250lbs. each would be worth the consideration of our Parliament. I have mentioned half a ton, feeling that, limited to a smaller quantity, it might only lead people to cultivate for the bonus, without an earnest desire to promote the industry. I am expecting by every mail a quantity of mulberry seeds, and probably next season will be prepared to distribute a number of plants. This, I find, is a good plan to lay the basis of new industries. There are many people who shrink from the trouble of procuring seed and raising the plants, but if they can get trees they will plant them. I may also mention here that, after many trials of different kinds of mulberries for the food of the silkworm in the silk-producing countries have been made, the white mulberry *(Morus alba)* is now considered the best; but a variety *(Morus multicaulis)* is used for the young worms, it beginning to leaf four weeks earlier than *Morus alba*, and this kind should not be omitted in any mulberry plantation.

Flax and Hemp.—We may say, with gratification, that the energetic and enterprising farmers in the South have laid the basis of a new and probably remunerative industry—that of flax-growing. If we consider the unfavorable season the flax-growers had to contend with, the first result is in every way most encouraging; and I hope for the well-doing of the Colony that other districts will follow the example, as there is no doubt that flax will grow in most of our districts, and yield a fair return. I would also call the attention of the farmers to the growth of the hemp plant, another saleable article, much sought after in the home markets, both for its fibre and seed. The latter is noted in the last price current at 44s to 48s per hundredweight; and considering the heaviness of the seed, it yields a remunerative price. The hemp plant will grow in any kind of soil, and could probably be grown throughout the Colony with profit; and to show what an important plant

hemp is which produces one of the best cordages, during the last three quarters of the year 1,050 tons of cordage and rope have been imported. This shows the great importance of the attention of our colonists being called to the subject.

Beetroot.—I am convinced that the soil and climate, especially in the neighborhood of Mount Gambier, is admirably adapted for the growth of the beetroot, for the manufacture of sugar and other purposes. According to the latest statistical news from home, there are at present 1,184 beet sugar works on the Continent of Europe, and the total produce of these is about four and a half million hundredweights of sugar annually; upon an average about 4,000lbs. is obtained from 500cwt. of beet, and this quantity is the yield of about two and a-half acres. The refuse, after the sugar is extracted, forms an excellent article of food for cattle, and is considered even better than any specially cultivated for the purpose; a good quality of paper is also made from it. The molasses is also used up for fodder, not being fit for sweetening on account of the mineral salt it contains. As mentioned before, there is no doubt that the beet will grow in many districts of the Colony; and if we can produce the beet sugar for the same price as cane sugar imported, it will become a flourishing industry; and then we must consider the fact that with a beet sugar manufactory the fattening of cattle must be connected, which will also produce a fair return. But this is not all—the farmers, by beet-growing, will have the advantage of a rotation crop, the want of which is severely felt in South Australia. In Prussia, where beet sugar manufactories are established, no cereal fields are observable for miles around—the eye only meets beet fields, they paying the farmer far better than cereals.

Hops.—Of this very important plant we have already proof of successful growth in the samples of hops grown at Lobethal, Encounter Bay, Mount Barker, and Mount Gambier; at the latter locality it is already cultivated extensively, with satisfactory results. It is true we have not many favorable districts in the Colony for the profitable growth of this valuable plant; but there is no doubt that in other districts besides the above-named, suitable spots will be found.

Tobacco.—There is no doubt that many districts of the Colony are well adapted for the culture of tobacco. Much attention was given to its cultivation in the early days of the Colony, and superior tobacco was made; but its cultivation became entirely neglected when the high prices of wheat which have since ruled, made that cultivation more remunerative than that of tobacco. I remember in the year 1851 seeing at Lyndoch Valley a tobacco-field which not only attracted my attention, but created my surprise and admiration, having scarcely seen better plants during my travels on the Orinoco. I will not maintain that the South Australian tobacco could, or ever will, surpass the South American or West Indian in flavor; but we shall produce, no doubt, a fair sample, just as good as is produced on the Continent. I was so much astonished at seeing this Lyndoch Valley field of tobacco that I measured some of the leaves—and on referring to my note-book I find that their average

size was twenty-one inches long, by twelve inches wide. I am convinced that having gained experience in its manufacture, we shall produce a fair sample; and should we even fail in this the first or second year, the produce could be used for sheepwash, and remunerate the grower. If we consider the great sum which the Government derives from the duty on imported tobacco, I think we should endeavor as much as possible to retain at least one part of the money in the Colony, which is yearly sent away for tobacco. I may repeat, there is not the slightest doubt that a great many districts in our Colony are adapted for the growth of this, I may say, indispenable luxury—namely, the South, the neighborhood of Adelaide, Hope Valley, Mount Barker, Gumeracha, Blumberg, Lyndoch Valley—and many more favorable spots would be found. At the Botanic Garden good plants may be seen growing, notwithstanding the late unfavorable season, producing good leaves, without the slightest attention being paid to them. Local tobacco and cigar factories have been established, but at present mainly depend on imported leaf tobacco for their supply.

Zante Currant, Sultana and other Raisins.—It is a gratifying fact to observe that our first sample of Zante currants sent to Melbourne are considered by our neighbors as of most excellent quality, superior, cleaner, and of better quality than that of the imported ones. And we in South Australia till now have thought little of them. The proverb, "A prophet is not thought much of in his own country," is here applicable. We produce an article which is considered superior to that we import, and yet very little has been done in the culture of the Zante currant and raisins. If we consider that the annual import of dried fruits into the Australian Colonies is generally more than £120,000, and as we know that our climate is in every way favorable to these productions, is it not surprising that no more attention has been paid to these sources of profit? I would strongly recommend all the vignerons, especially the smaller ones, having from one to three acres of vineyard, to graft all the worthless kinds of grapes with Zante currant, Sultana and other raisin grapes. It is gratifying to me to have added something to this extensive branch of industry by the introduction of the Sultana grape, which is regarded by the vignerons with extreme satisfaction. I may say that from information received probably more than two-thirds of the 1,100 grafts I distributed last year have grown; and this valuable raisin, which commands the highest prices in the European markets, may be considered as established in the Colony. Very little attention has been paid to the drying of apples, apricots, plums, figs, and other fruits, from which some profit could be derived, but which unfortunately are frequently left to rot on the ground.

Almonds.— Of these till now very little has been thought, and in consequence the trees have been utterly neglected, because, as the phrase goes, "they won't pay;" but I am of a different opinion, since I have seen that the almonds will form a profitable export. In the last London Prices Current, Jordan almonds are quoted at 85s. to 240s. per cwt.; and in their shells, 60s. to 70s. Is this not an encouragement to pay

more attention to this, till now, neglected tree, which will grow in every locality—a tree which is satisfied with every soil, and will produce every year a bountiful return? We see hundreds, I may say thousands, of almond trees scattered over the Colony; we see trees in nearly every garden—but their fruits are worthless. I think two-thirds of the trees grown here are only seedling plants. Naturally they never will produce a marketable fruit; the grafting knife should be used, and I would recommend the Jordan and Brandis varieties, which are much sought after by the trade. I hope horticulturists, as well as agriculturists, will take this into their consideration; for it must be plain to them that almonds will pay for export for the little trouble bestowed on them. There may be many nooks and corners on their property where almost nothing else will grow. I can assure them the almond tree will be satisfied with such spots—only they must not neglect trenching the ground first.

Olives.—I think there is scarcely any country where the olive thrives better than in South Australia. Having been largely planted by the early colonists in a variety of situations, and in diverse soils, there is abundant evidence of their facility of culture in the fine growth of the trees, yielding larger quantities of fruit, which is eagerly sought for by manufacturers of oil, now carrying their operations on with success. The samples produced are considered as fine as the best Italian oil, and being pure, are of course far better than that usually imported. But little labor is required in the cultivation of the olive after the seedlings (which can be procured in abundance) are planted and grafted, and the picking of the fruit is easily done by women and children. The market price of the berries is about 5s. to 5s. 6d. per cwt., and oil in quantity has been sold at auction at from 6s. 6d. to 10s. per gallon, the retail price being 12s. for best quality. Large plantations have lately been made, and this industry may now be considered an established fact. There is a large home consumption and an unlimited export market.

Ricinus, or Castor-oil Plant.—This tree, considered as worthless as the almond, we see thrive in every locality, and in every soil, poor or rich. We see it grow close to the coast in almost pure sand, covered with seed, and generally regarded as a nuisance. But the hundredweight of seed of this nuisance is noted, according to the last Prices Current as worth 10s. to 12s. The ricinus, as I remarked, will grow where scarcely any other vegetation will grow, and such spots are generally found on farms. Why not plant them with ricinus? After planting, there is little or no trouble except gathering the seeds, which can be accomplished by children; and if a tree brings only 3s. to 4s. a year, it is worth the little attention bestowed on it.

Mustard furnishes a very important, and, I believe, a paying article of commerce, and I am satisfied would thrive with us in all our districts if it were not for the aphis. The mustard plant belongs to the same natural order as the cabbage plant—the *Cruciferæ*—whose representatives are, without exception, so unmercifully attacked by this scourge that I fear the mustard plant would not escape its ravages; but, as

Australia is the land of anomalies, my fear may be premature, and the aphis may after all not do so much harm to the plant as I fear. Our farmers should at least make some trials. The northern plains would probably be well adapted for the growth of the mustard, as the plants in too rich a soil would grow too luxuriant in their stalks and leaves. If we consider the great quantity of mustard imported into this Colony, there is no doubt the cultivation of the plant would pay.

RAPE.—If I did not fear the ravages of the aphis, as rape belongs to the same natural order as that of the mustard, I would strongly recommend the culture of this most valuable oil-producing plant, as its oil maintains high prices in the European markets, in consequence of the crops on the Continent not being with certainty depended on, as they are often destroyed by frost or snow, which we have not to fear in South Australia.

SUNFLOWER.—The extensive culture of the sunflower, especially in Russia and Germany is a fact. The chief profit from this plant is procured from the seed, which contains forty per cent. of a sweet oil only second in value to the olive oil. It is now more than 200 years since this valuable plant, a native of Peru and Mexico, was introduced into Europe; and, strange to say, until now its valuable qualities were never brought to account. The Russian husbandmen were the first who bestowed their attention on the useful oil which the seeds contain. They commenced the cultivation of the sunflower first on a small scale, planting the seeds in nooks and corners, on the sides of walks, &c. The value of the oil soon became known, and was more and more appreciated, so that at the present time the cultivation of the sunflower in Russia is carried on to such an extent that in the year 1866, more than 100,000cwt. of sunflower oil was manufactured, the value of which was one and a-half million roubles. The third part of this oil was exported to the Prussian port of Stettin, where it was rapidly sold with rising prices. This export from Russia, and the steady increase of the culture of the sunflower there, opened the eyes of the German farmers, and they began the cultivation of the sunflower with the same profitable result. The oil, as I have already mentioned, is only second to the olive oil, and is not only used in housekeeping like the former, but mostly as a lubricator for the delicate machinery of textile fabrics which increase throughout Europe, and which in consequence have increased the demand for the expensive olive oil. From the stalks of the plant the Russians manufacture a valuable potash, the residuum is used as oil-cake for fattening cattle, and the leaves of the plant for manure. Should not this profitable culture of the sunflower in Russia and Germany also be an inducemeut to our farmers to introduce this payable branch of industry to our Colony? Climatic difficulties in the way of the growth of the sunflower do not exist in South Australia. We see the sunflower, with its smiling face, in our gardens, thrive most luxuriantly in every kind of soil. The only fault that could be found with it is that it exhausts the soil; yet this could be remedied by manure. Would it not be desirable that experimental trials should be made this season? Let us begin like the Russians, and plant the seeds first in

nooks and corners; and should it succeed, cultivate it more extensively. The result should be freely discussed in our Farmers' Clubs. It may become in the future as profitable to South Australia as it is at the present time to Russia and Germany; and it is to be hoped that the farmers will give their earnest attention to this most important branch of industry.

The following extract from the new Land Act, lately brought into operation, shows the importance attached to this industry, and the special facilities granted to those who may intend planting olive, almond, and other trees mentioned therein:—

Cultivation of Olives, &c.

46. If any selector shall be desirous of engaging in the cultivation of osiers, olives, mulberries, vines, apples, pears, oranges, figs, almonds, or hops, or such other plants as the Governor in Council may define by Proclamation in the *Gazette*, the planting and cultivating in a husbandlike manner of one acre of land with any of the above trees or plants shall, for all the purposes of this Act, be deemed to be equivalent to the cultivation of six acres of such land as hereinbefore defined: Provided that such cultivating be *bonâ fide* continued and kept up to the satisfaction of the Commissioner until full payment of the purchase-money, but not otherwise: Provided that if such selector shall wish to grow artificial grass, as a rotation of crops, he may, every third year, plant and cultivate lucern or artificial grass for such purpose, and in that case the planting of three acres of land with lucern or artificial grass during such third year shall be deemed to be equivalent to the cultivation of one acre of cereal or root crops.

Canary-Seed.—This is another plant whose culture till now has been entirely overlooked by our farmers, and which I am sure will thrive all over the Colony. It is a fact to be wondered at, if we consider the enormous prices often paid for this seed in the Colony, which not seldom have risen to 2s. and 2s. 6d. per pound. I think the generally ruling price—3d. to 4d. per pound—would leave the grower a fair margin for the little trouble in cultivating it, and it is a plant which would be satisfied with any soil and situation.

Gram, Vetches, Yellow Lupin, and Maize.—With the exception of oats and barley, very little attempt has been made by our farmers to grow other grain for cattle. I am most sanguine of the profitable growth of gram in this Colony. "Gram" (says the *Inglewood Advertiser*) "bids fair to be ranked among our profitable products before long. Its value as horse-feed has long been acknowledged, and the possibility of growing it is now beyond a doubt. Some time ago Mr. J. Roberts, who cultivates one of those little patches of ground that dot the clearings made from the scrub here and there, planted a few rows of this valuable East India pea, and now he has a capital crop nearly ripe. The plants look strong and healthy, the drought notwithstanding, and are covered with fitted pods. On one plant, covering not over four inches of ground, no less than 139 full-grown pods were counted." The successful cultivation of this plant would be great good, and the attention of farmers can be very fairly directed towards it. The yellow lupin has for some years gained on the Continent a high fame with the farmers; in fact, it has supplanted the oats, vetches, and other horse-feed, as a plentiful and wholesome fodder, in its green state as well as the seeds. The cultivation of maize is also overlooked, which I am sure will thrive in the South profitably.

Lentils.—This is a plant, I believe, very little known for food in

England, but thought much of on the Continent, where it is cultivated to a great extent as one of the most profitable crops, as it thrives well even on stony and barren soils, and may be admirably adapted for certain districts in our Colony. The lentil has a traditional history, not alone on the Continent, but also in Arabia, where it is grown still more extensively, being considered as the plant used in the preparation of the dish for which Esau sold his birthright to Jacob, as stated in the 25th chapter of Genesis. I am glad to see, in the last number of the "Journal of the Agricultural Society of New South Wales," a gentleman (R. Wynne) also recommends the plant for extensive growing in Sydney. He says—"I saw hundreds of acres sown with the lentil in the neighborhood of Bethlehem. The soil where I found the lentil flourishing with such abundant growth was of the poorest description, and so stony that it was a wonder to me how any kind of useful plant could thrive there at all. Having myself, as an invalid, derived very great benefit from it in the form of Dr. Barry's Revalenta, I can honestly recommend it as the most wholesome article of diet of which I have any experience, the most essentially valuable property of it being the facility with which it can be assimilated, and its great power of nutrition. I need hardly say it would be a source of real gratification to me if my humble efforts to introduce it to this country should have succeeded in calling the attention of agriculturists and all well-wishers of the Colony to its valuable properties as a health-restoring food; and I am not without hope of seeing it become one of the ordinary products of this Colony." The Continental people in this Colony know its value, and large quantities of lentils are imported by our German merchants.

Capers.—There is no doubt we could produce this desirable luxury equally well as in the southern part of Europe. In the neighborhood of Toulon it is cultivated in the orchards in the intervals between figs and olive-trees. As a pickle the flower-buds of the caper are in great esteem, and form an important article of commerce throughout Europe. In the Mediterranean the flower-buds of the caper are gathered just before they begin to expand, which forms a daily occupation for children during six months, when the plants are in a flowering state. As the buds are gathered they are thrown into a cask, among as much salt and vinegar as is sufficient to cover them, and, as the supply of capers is increased, more vinegar is added. When the caper season closes the casks are emptied, and the buds assorted according to their size and color—the smallest and greenest being reckoned the best—and put in smaller casks of fresh vinegar for commerce; and in this state they will keep for five or six years. Considering the little work the growing of this important commercial article involves, it would be worth while for our horticulturists, especially in the gullies, where this plant will grow most luxuriantly, to make the attempt to cultivate the true caper *(Capparis spinosa)*.

Chicory.—Since the introduction of this plant in the Colony it has become in some places so prolific as to be considered a nuisance, and yet of this we import yearly great quantities, as shown in our import returns,

viz.:—Total for the last three quarters, 54,960 lbs., say at 23s. 4d. per cwt., £629 15s. The manufacture of chicory is so simple and inexpensive, that we might easily produce sufficient not only for our home consumption, but also for that of the neighboring Colonies.

Liquorice.—My attention has been called to the liquorice plant, *Glycyrrhiza glabra*, Dec., on which, in perusing the last number of the *Journal of Applied Science*, I found an interesting article in reference to the consumption of this valuable commercial plant. It could be grown here with little trouble and cost in almost any locality and soil. According to the above-mentioned journal, it arrives at maturity in from three to four years, when the roots can be taken up, and the proprietor may expect to derive some return for his outlay in rent and labor. The depth to which these strike downwards, often equals the height of a man, and the soil needs, therefore, to be free from stones, which cause the roots to become crooked or warped, and thus diminish the value of the liquorice as a saleable commodity. The same land will produce a continuous crop; but then a good addition of manure is needed. The ground to be properly prepared, must be spade-trenched to a depth of three to four feet, and laid in ridges upon the top until the Spring; when the mould has become pulverized, the ridges can be levelled and prepared for planting. The beds are three to four feet wide, and must be kept clean during the summer, and about November (this in South Australia would be in June) when the sap has descended and the tops appear yellow, the old stems or stalks are cut off close to the ground with a sharp pruning knife, the spaces between the roots being turned over and left rough. The roots are usually dug up with a large three-pronged fork, and stacked in trenches, and this stacking is effected in a dry and sheltered place, the roots being placed upright with layers of sand between them, and a good layer of several inches thick on the top. In this manner the stack is preserved by the proprietor until required for market.

Osier.—Not only does this very useful shrub keep the embankments of rivers from falling in, but it would also give a profit to the grower, having the advantage of giving employment to the basketmakers. I need only mention the great number of baskets and various other osier work yearly imported into this Colony from Europe and America. For favorable places for its cultivation, I mention only the banks of the Onkaparinga, the Murray Flats, and Inman Valley; but many other localities undoubtedly would be found.

Broom Millet supplies the material of a not unimportant article, viz., American brooms, which are so much imported, and for which we send a large sum of money away, that could be retained in the Colony, as there is not the slightest doubt that the broom millet will grow just as well with us as the *Sorghum saccharatum* does, and the skill for manufacturing the broom might soon be obtained. The millet will grow well especially in the hills and the Southern Districts. It should be sown in the latter end of August, but rather thin, so that the plants may grow vigorous, and produce a greater development of inflorescence, which part is used for the manufacture of the broom. This industry has already

been introduced into Victoria and New South Wales; and in the latter Colony, especially Newcastle, the brooms are largely manufactured, and already exported to South Australia.

The Esparto Grass *(Macrochloa tenacissima)*—A native of Spain, Portugal, Greece, and North Africa. It has gained during the last few years a great mercantile reputation in regard to the valuable fibre, not alone for the manufacture of ropes and other articles, but as contributing also an excellent material for the best writing paper, without any other admixture. Thus, from the great use now made of it by the paper-makers, it has become an essential article of import into England and other places, and a source of wealth to the countries producing it. The import in 1871 into England alone is considered about 140,000 tons, and that of Esparto grass, ropes, and other articles manufactured from it, about 19,000 tons. Notwithstanding this large importation of the raw material for papermaking, and that the papermakers use of late a good many other substances for papermaking not used before, the scarcity of material becomes more evident every day, and the consequence is the constant rise in the price of paper. The *Gardeners' Chronicle*, 15th June, 1872, says:—"It is with some concern that we learn that both in Algeria and Spain, instead of mowing the Esparto grass at the proper season, the natives pluck it up in the most reckless manner." Consul Turner, of Cartagena, says:—"It is very evident to all concerned that these people are destroying the growth of the grass by their manner of plucking it." From the above-named port there was a falling-off during the past year in quantity exported to the amount of 5,000 tons, which in a great measure is to be accounted for by the present reckless system of collecting it. Here again is an instance of natural production being wantonly destroyed by man, in spite of his deriving a benefit from it; we may thus say the progress of civilization is the occasion of waste and destruction. The value of dry Esparto grass is about £5 to £5 10s. per ton; and it is said that, under favorable circumstances, as much as from six to eight tons can be obtained from an acre. It grows on the poorest soil, especially limestone or sand; in fact, where the soil will produce no other vegetation the Esparto grass will grow. It grows even in the sands of the Sahara, on stony hills, and on the very brink of the coast. I have not the slightest doubt that the grass will thrive with us, and that the many thousands of acres of arid land, of a limestone or sandy nature, which is scarcely fit for pasture, may, by sowing with Esparto grass, become useful. Considering the similarity of our climate with that of Spain, and, in fact, the north of Africa, we have no fear that our droughts would affect its growth—and how its introduction would benefit South Australia if our deserts could be changed into productive districts! For a long time past I have endeavored to introduce seed of this valuable grass as an experiment, but without success. I communicated with the Botanic Gardens and seedsmen in Europe on the subject; the answer was—"Not obtainable, the seed is not in the trade; the Spaniards won't part with it"—and I had already given up the hope of obtaining any. The more agreeably therefore was I surprised by receiving one ounce of seed from

Mr. Bull, of London. I am glad to say that this seed arrived in good condition, though it is said the Spaniards, before parting with the seed, destroys its power of germinating, to prevent its introduction into other countries. My seed must have escaped such manipulation, as it has nearly all grown, and I am now in possession of about 1,000 plants, all of which I intend to plant out to procure as much seed as possible for distribution next year. It is now most extensively planted in the south of France; and it is said that no other crop will pay better, especially considering that it will grow on the poorest soils. It is propagated by seeds, and also by dividing the roots. The question will naturally be asked—Suppose we succeed in growing the grass here, where shall we find a market for it?—Our enterprising and go-ahead neighbors in Victoria have already established a paper mill, and a second one is contemplated in Sydney; so that, if we succeed, the market for the grass is close at hand, and I think it would even pay to export to England, as a hydraulic press would reduce the bulk materially.

Opium.—South Australia, as far as climate and soil are concerned, offers no difficulty to the cultivation of the poppy, as we see it thriving in many parts of the Colony, and probably we could produce a good sample of the drug. Mr. G. Francis exhibited not long ago at the Agricultural Show opium prepared by him, which was considered as fair a sample as could be derived from the first experiment. If we consider the enormous sum which is yearly expended in opium, and that the cultivation and manufacture can be undertaken by young people, it is highly desirable that an attempt should be made to cultivate the poppy.

Cochineal.—Every one of us is acquainted with the cochineal insect, which produces, the splendid, valuable, and much-used dye called "carmine," and of which Mexico and the West India Islands export large quantities every year. The trade is likewise supplied with the same article from Brazil and East India, but Mexico furnishes the largest quantity, and at the same time the finest quality. Till the year 1725, the breeding of the cochineal insect was entirely confined to Mexico; and the Government, with the strictest care, kept it secret; and till then it was generally believed in Europe that the cochineal was not an insect, but a kind of seed. In the year 1785, Theirre de Menonville, a Frenchman, with the greatest danger to his life, brought a few living insects to French Domingo, where they soon were acclimatized. During 1827 the insect was, by Bertholet, introduced to the Canary Islands, and lately, with the best results, in Corsica and Spain. If the insect thrives well in Spain and Corsica, why should it not do the same in Australia? Both kinds of the cochineal plant, *Opunchia Tuna* and *Opuntia coccinellifera*, which I introduced by raising from seed, grow luxuriantly in the borders at the garden, without having had bestowed the slightest care upon them; this gives the fact that the plant will thrive in South Australia. The second and most important question is, how to introduce the insect. This could be done only on living plants in so-called Wardian cases. It is not the place to give a description of the treatment of the cochineal insect, and the preparation of the carmine; but to give you only one

instance of the greatness of the cochineal trade, I will mention that the export of cochineal alone ot the Mexican Province Oaxaca, amounts to three-fourths of a million dollars annually. Now assuming that one pound of cochineal is worth $10, and that 70,000 insects make a pound, they must rear an immense quantity of insects. Not that I am sanguine of its success in this Colony, but we should try it. It is true the discovery of the splendid anoline colors have done the carmine trade some harm; notwithstanding which, it is still a most flourishing trade.

PERFUMES.—An abler pen than mine has already drawn the attention of the public to this one of the great industries. Mr. S. Davenport, in his able pamphlet on the same subject, has referred to the great benefit to be derived from this source; and I have much pleasure in commending its perusal. If we consider that British India and Europe consume about 150,000 gallons of handkerchief perfume yearly, and that the English revenue for Eau de Colonge alone is about £8,000 a year, and that the total revenue for imported perfumes is estimated at about £40,000, and that one great perfume distillery at Cannes, in France, uses annually about one hundred and forty thousand pounds of orange blossoms, twenty thousand pounds of acacia flowers *(Acacia Farnesiana)*, one hundred and forty thousand pounds of rose flower leaves, thirty-two thousand pounds of jasmin blossoms, twenty thousand pounds of tuberoses, together with a great many other sweet herbs, we may judge of the immense quantity of material used for perfumes. Most of the flowers which provide the material for perfumes grow luxuriantly with us, namely, minionette, verbena, jasmin, rose, lavender, acacia fernesiana, heliotrope, rosemary, peppermint, violets, wallflowers, laurel, and oranges, from which alone three different scents are produced. These plants thrive probably in greater perfection here than in any part of the world. No doubt South Australia should be a perfume-producing country. We see flourishing here some of the most valuable scent plants. We have the wattle, myall wood, and other native plants, yielding valuable scents. But two things are needed to encourage the enterprize. First—Freedom of the still, so as to licence distilling in vessels of less than twenty-five gallons capacity; and, secondly, the *bonâ fide* advertisement of a capitalist manufacturer, that he will buy any quantity of specified flowers, leaves, roots, or plants, at a marketable price. Then some farmers might be tempted to plant a few acres of lavender or mint, another geraniums or rosemary, another aniseed, whilst plantations in hedgerows, or such like places, of roses, cassia, together with contributions from gardens, would lay the foundation for an export trade. Then it must be also noted, that whatever the value which the plants yield in flower, fruit, leaves, and stems, it is increased threefold under manufacture, and this manufacture consumes other local produce, called into existence by it, such as olive and other oils, fats, alkalies, wheaten flour, coloring matter, pottery and glass ware, which combine to make the farmers and the manufacturers contribute largely to the maintenance of population and the wealth of the perfume countries. To advance this highly remunerative industry, as I have already mentioned, a modification in the law of licensing stills should be made to

*bonâ fide* perfume distillers, as the present law restricts stills to a range of capacity between 25 and 50 gallons. Perfume stills for the finer perfumes, are best at about 8 to 10 gallons. It is therefore to be hoped that our legislators would take this into their earnest consideration. To encourage the development of new industries, every facility, with respect to distillation of perfumes, should be given, even at the sacrifice of a small amount of revenue. To show you the value of perfumes to the countries adapted for their production, the following table, compiled from the publications of Piesse and Brande, and the *Cornhill Magazine*, October, 1864, may show why it is so:—

| | £ |
|---|---|
| One acre of jasmin plants, 80,000, will produce 5,000lbs. of flowers, value 1s. .. .. .. .. .. .. .. .. .. .. .. .. .. | 250 |
| One acre rose trees, 10,000, will produce 2,000lbs. of flowers, value 9d. .. .. .. .. .. .. .. .. .. .. .. .. .. .. | 75 |
| One acre of orange trees, 100, at ten years' old, 2,000lbs. of flowers, value 6d. .. .. .. .. .. .. .. .. .. .. .. .. | 50 |
| One acre of violets, 1,600lbs. of flowers, value 2s. .. .. .. .. | 160 |
| One acre of cassia trees *(Acacia Farnesiana)*, 302, at 3 years, 900lbs. of flowers, value 2s. .. .. .. .. .. .. .. .. .. | 90 |
| One acre geranium plants, 16,000, 40,000lbs. leaves, producing 2ozs. of distilled otto per cwt., at 5s. per oz. .. .. .. .. .. .. .. | 200 |
| One acre of lavender, 3,547, giving flowers for distillation, value .. | 30 |

Further, without knowing the produce per acre, I add the otto per cwt., which the following plants are said to yield:— Rosemary, per cwt., will yield 24ozs. of otto oil; aniseed, 35ozs.; carraways, from 3lbs. to 4lbs. 12ozs.; fennel seed, 2lbs.; pachouli, 28ozs.

## THE NORTHERN TERRITORY.

In addition to what is said in a previous chapter, giving a general outline of the Northern Territory, it is now my intention to state how far its capabilities and resources may prove of advantage to colonists and the Mother Country, in regard to its capabilities for tropical agriculture.

I will first say a few words on the great importance of my scheme proposed to the late Government, for the establishment of a standard experimental nursery for tropical commercial plants, at our young settlement, Port Darwin. My idea is, to lay out about eighty acres of land adapted to the growth of tropical commercial plants, so that at least plants or cuttings may be available for cultivation by the settlers; and it would be a matter of very considerable moment to new settlers who contemplate tropical agriculture, to obtain from such an establishment suitable plants, seeds, &c., at a low price, to commence with. If the grower had to import his own, the delays would be great, as there would be, at least during the first few years, little opportunity to import such plants from other countries. The cost of such an establishment would not be great; and, in a few years, if the Government charges a trifle for the plants, probably the garden would pay its own expenses. I made the following proposal to the late Government:—"Sir—I have the honor to lay before you a scheme for forming at Port Darwin a standard experimental

nursery of tropical commercial plants, for the benefit of future colonists who may settle there as tropical agriculturists. Of all the vegetable products capable of being propagated within the tropics, a very large proportion are objects of commercial value in Europe. The favorable report of competent judges who have visited the country leaves no doubt that Port Darwin is eminently suited to the cultivation of such productions. Having had now an opportunity of examining various soils from the Northern Territory, I find they are very similar, and by no means inferior, to the soils which I have received from Java, Hongkong, Ceylon, Mauritius, and other tropical countries with which I am acquainted. I am strongly of opinion that the soils of the Northern Territory would prove appropriate for the same tropical productions as are cultivated in the countries above named; and the climate may be also considered very favorable for the growth, leaving every prospect of success for tropical agriculture. With respect to the mode with which these objects might be usufully carried out, I would suggest that about thirty acres of land should be selected as a standard nursery. In making a choice of such land it would be very desirable that due regard should be had to the variety of soil and undulating character of the country, as suitable to the various physical requirements of the plants intended to be cultivated. The following plants I have good reason to believe could be cultivated with success, viz., sugar, cotton, coffee, tea, rice, cassava, arrowroot, indigo, ginger, cardemon, nutmeg, cocoa, tobacco, maize, pepper, caster-oil plant, pimento, vanille, sarsaparilla, rhea or Chinese grass plant, cocoanut palm, and many more. From the information I have received I think that the tableland situated about thirty miles from the coast would prove favorable for the cultivation of the chincona or quinine tree; the importance of which is so well known that most of the Governments of tropical and subtropical countries are now turning their attention to its cultivation, the demand for quinine now exceeding the supply rendering it a matter of great consideration. I would beg to add in laying out such a standard experimental nursery the success would greatly depend on the ability and experience of the superintendant appointed. It would prove highly important, if judiciously managed, to the future settlers by enabling them to procure from such an establishment plants, cuttings, seeds, &c., only to commence the cultivation of such as are suitable to the country. As Director of this Garden I could materially assist the carrying out of this project, as being in constant communication with the Botanic Gardens of tropical countries, I could readily procure from them such plants, seeds, &c., as might be required, and conveniently forward them when the intended communication with the new settlement is established." We have the proof how important and necessary such an establishment would be for the development of the resources of our new Province. It would be useless to dwell upon the importance of the cultivation of sugar and cotton, which has been the foundation of the prosperity of many Colonies; and I do not hesitate to say that all kinds of cotton, from the best long staple down to the finest short staple, might be cultivated, which would vie with the best in the world; nor do

I hesitate to say that sugar and cotton will become in future the great staples of Port Darwin.

But the fertility of the soil is adapted for numerous other branches of tropical agriculture, and we may expect a safe return for the investment of capital in the cultivation of other crops demanding less capital and less manual labor than sugar and cotton, of which other crops I will enumerate a few.

Of the cereal grains Indian corn deserves more attention than it has hitherto received. Indian millet, which under the name of Guinea corn, is so extensively cultivated in the West Indies, might be raised to a large extent. The cultivation of cocoa will be most suitable to the less wealthy individual, as it demands so litttle labor and outlay. Alexander Humboldt observes, in alluding to Spanish America, that cocoa plantations are occupied by persons in humble condition, who prepare for themselves and their children a slow but certain fortune. A single laborer is sufficient to aid them in their plantations, and thirty thousand trees assure competence for a generation and a half.

Of equal interest would prove the cultivation of cinnamon and nutmeg, of which the average home consumption is estimated at one hundred and twenty thousand pounds weight per annum. Pepper, pimento, could undoubtedly be cultivated with great success in Port Darwin, and form an article of export. A rich soil in mountains, valleys, or along the banks of rivers which are not subjected to inundations, is considered to be the most eligible for the growth of ginger, cardamons, and turmeric.

These valuable commercial plants I am convinced will grow in marshy situations. Also the valuable dye Indigo, which thrives so well in a moist climate, would pay the cultivator most handsomely.

Numerous other articles might be recommended to be raised, viz., senna and numerous species of cassia, to which genus that drug belongs; sarsaparilla, and many other medical plants, for all of which the Northern Territory would afford proper soil for cultivation.

Before closing I must say a few words in regard to the cultivation of the chichona or quinine tree, for which every possible attempt should be made at Port Darwin. It is a well-known fact that the consumption of quinine has increased enormously, but in consequence of the wanton destruction of the quinine tree forest in South America, the demand has exceeded the supply during the last few years; and any effort that can be made to increase the supply, and thus reduce the high price, is well worthy the attentive consideration of every one interested in alleviating the sufferings of humanity. Thousands of people died in the late fever in Mauritius and East Indies for want of quinine; they had not the means to give the enormous prices asked for it. Probably the tree might thrive at Port Darwin. Why should we not make the attempt to grow quinine there, and thus become benefactors to ourselves and others? It is well known that most of the Governments of tropical and subtropical countries are now turning their attention to its cultivation. About 1,000 quinine trees have lately been planted in the Island of St. Helena. The quinine trees do well in Mauritius, Queensland, Ceylon. Probably their cultivation can also be successfully accomplished at Port Darwin.

The synopsis of the Flora of South Australia is mostly compiled from the valuable work of G. Bentham and F. Mueller's "Flora Australiensis." By the constantly occurring new discoveries, especially in the central part of South Australia, the synopsis cannot be considered quite complete.

The plants enumerated in the intra-tropical Flora have been mostly collected by Mr. Schultz in that locality.

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## DICOTYLEDONS.

### RANUNCULACEAE.

Indigenous in Australia, 5 Genera.
in South Australia 2 Genera.

Extra-Tropical Flora.

Clematis microphylla, Dec.
Ranunculus aquatilis, Lin.
Ranunculus lappaceus, Sm.
rivularis. Banks.

Intra-Tropical.

Clematis glycinoides, Dec.

### DILLENIACEAE.

Indigenous in Australia, 5 Genera.
in South Australia 2 Genera.

Extra-Tropical.

Hibbertia sericea, Benth.
virgata, R. Br.
Billardieri, F. Muell.
Hibbertia stricta, R. Br.
fasciculata, R. Br.
glaberrima, F. Muell.

Intra-Tropical.

Hibbertia dealbata, Benth.
angustifolia, Benth.
lepidota, R. Br.
Hibbertia oblongata, R. Br.
Pachynema dilatatum, Benth.
junceum, Benth.

### MAGNOLIACEAE.

Indigenous in Australia, 1 Genus.
No representative in South Australia.

### ANONACEAE.

Indigenous in Australia, 6 Genera.
in South Australia 1 Genus.

Intra-Tropical.

Polyalthia nitidissima, Benth.

### MENISPERMACEAE.

Indigenous in Australia, 7 Genera.
in South Australia, 1 Genus.

Intra-Tropical.

Stephania hernandiaefolia, Walp.

NYMPHAEACEAE.

Indigenous in Australia, 3 Genera.
in South Australia, 2 Genera.

Intra-Tropical.

Nymphaea gigantea, Hook. | Nelumbium speciosum, Willd.

PAPAVERACEAE.

Indigenous in Australia, 1 Genus.
in South Australia, 1 Genus.

Extra-Tropical.

Papaver horridum, Dec.

CRUCIFERAE.

Indigenous in Australia, 15 Genera.
in South Australia, 8 Genera.

Extra-Tropical.

Nasturtium palustre, Dec.
Alyssum linifolium, Steph.
Sisymbrium officinale, Scop.
Cardamine laciniata, F. Muell.
hirsuta, Lin.
Blennodia filifolia, Benth.
trisecta, Benth.
nasturtioides, Benth.
cardaminoides, F. Muell.
curvipes, F. Muell.
brevipes, F. Muell.
lasiocarpa, F. Muell.

Blennodia canescens, R. Br.
Stenopetalum velutinum, F. Muell.
lineare, R. Br.
sphaerocarpum, F. Muell.
nutans, F. Muell.
Capsella procumbens, Fries.
Lepidium phlebopetalum, F. Muell.
strongylophyllum, F. Muell.
papillosum, F. Muell.
foliosum, Desv.
ruderale, Lin.

CAPPARIDEAE.

Indigenous in Australia, 7 Genera.
in South Australia, 4 Genera.

Extra-Tropical.

Capparis Mitchelli, Lindl.

Intra-Tropical.

Cleome tetrandra, Banks.
oxalidea, F. Muell.
Polanisia viscosa, Dec.
Cadaba capparoides, Dec.

Capparis umbellata, R. Br.
umbonata, Lindl.
lucida, R. Br.
quiniflora, Dec.

VIOLARIEAE.

Indigenous in Australia, 3 Genera.
in South Australia, 2 Genera.

Extra-Tropical.

Viola betonicaefolia, Sm.
hederacea, Labil.

Ionidium floribundum, Walp.

Intra-Tropical.

Ionidium aurantiacum, F. Muell.

BIXINEAE.

Indigenous in Australia, 4 Genera.
in South Australia, 1 Genus.

Extra-Tropical.

Cochlospermum Fraseri, Planch.
heteroneurum, F. Muell.

Cochlospermum Gregorii, F. Muell.

## PITTOSPOREAE.

Indigenous in Australia, 9 Genera.
in South Australia, 4 Genera.

Pittosporum phillyraeoides, Dec.
Bursaria spinosa, Cav.
Marianthus bignoniaceus, F. Muell.
Billardiera scandens, Sm.
Billardiera cymosa, F. Muell.
Cheiranthera linearis, A. Cunn.
volubilis, Benth.

Intra-Tropical.

Citriobatus pauciflorus, A. Cunn.

## TREMANDREAE.

Indigenous in Australia, 3 Genera.
in South Australia, 1 Genus.

Extra-Tropical.

Tetratheca pilosa, Labil.

## POLYGALEAE.

Indigenous in Australia, 3 Genera.
in South Australia, 2 Genera.

Extra-Tropical.

Comesperma volubile, Labil.
calymega, Labil.
Comesperma polygaloides, F. Muell.

Intra-Tropical.

Polygala leptalea, Dec.
eriocephala, F. Muell.
orbicularis, Benth.
Polygala arvensis, Willd.
rhinanthoides, Soland.
stenoclada, Benth.

## FRANKENIACEAE.

Indigenous in Australia, 1 Genus.

Extra-Tropical.

Frankenia pauciflora, Dec.

## CARYOPHYLLEAE.

Indigenous in Australia, 10 Genera.
in South Australia, 8 Genera.

Extra-Tropical.

Gypsophila tubulosa, Boiss.
Silene gallica, Lin.
Cerastium vulgatum, Lin.
Stellaria glauca, With.
multiflora, Hook.
Sagina procumbens, Lin.
Spergularia rubra, Pers.
Polycarpon tetraphyllum, Lin.
Polycarpaea synandra, F. Muell.

Intra-Tropical.

Polycarpaea longiflora, F. Muell.
violacea, Benth.
staminodina, F. Muell.
Polycarpaea corymbosa, Lam.
breviflora, F. Muell.
involucrata, F. Muell.

## PORTULACEAE.

Indigenous in Australia, 4 Genera.
in South Australia, 3 Genera.

Extra-Tropical.

Portulaca oleracea, Lin.
Calandrinia polyandra, Benth.
pusilla, Lindl.
volubilis, Benth.
Calandrinia calyptrata, Hook.
pygmaea, F. Muell.
Claytonia australasica, Hook.

Intra-Tropical.

Portulaca bicolor, F. Muell.
napiformis, F. Muell.
australis, Endl.
Portulaca digyna, F. Muell.
Calandrinia uniflora, F. Muell.
gracilis, Benth.

## ELATINEAE.

Indigenous in Australia, 2 Genera.
in South Australia, 2 Genera.

Extra-Tropical.

Elatine americana, Arn.
Bergia pusilla, Benth.
Bergia perennis, F. Muell.

## HYPERICINEAE.

Indigenous in Australia, 1 Genus.

Extra-Tropical.

Hypericum japonicum, Thunb.

## GUTTIFERAE.

Indigenous in Australia, 1 Genus.
No representative in South Australia.

## MALVACEAE.

Indigenous in Australia, 15 Genera.
in South Australia, 13 Genera.

Extra-Tropical.

Lavatera plebeia, Sims.
Malvastrum spicatum, A. Gray.
Plagianthus spicatus, Benth.
glomeratus, Benth.
microphyllus, F. Muell.
Sida corrugata, Lindl.
intricata, F. Muell.
virgata, Hook.
petrophila, F. Muell.
calyxhymenia, J. Gay.
Abutilon leucopetalum, F. Muell.
Avicennae, Gaertn.
Fraseri, Hook.
Hibiscus trionum, Lin.
Krichauffianus, F. Muell.
Huegelii, Endl.
Fugosia hakeaefolia, Hook.
Gossypium Sturtii, F. Muell.
Codonocarpus cotinifolius, F. Muell.

Intra-Tropical.

Sida macropoda, F. Muell.
subspicata, F. Muell.
spinosa, Lin.
rhombifolia, Lin.
cordifolia, Lin.
Abutilon indicum, G. Don.
amplum, Benth.
auritum, G. Don.
Urena lobata, Lin.
Hibiscus rhodopetalus, F. Muell.
trionum, Lin.
Hibiscus radiatus, Cav.
zonatus, F. Muell.
leptocladus, Benth.
geranioides, A. Cunn.
tiliaceus, Lin.
divaricatus, Grah.
Fugosia punctata, Benth.
Thespesia populnea, Corr.
Adansonia Gregorii, F. Muell.
Bombax malabaricum, Dec.

## STERCULIACEAE.

Indigenous in Australia, 19 Genera.
in South Australia, 6 Genera.

Extra-Tropical.

Thomasia petalocalyx, F. Muell.
Lasiopetalum discolor, Hook.
Behrii, F. Muell.
Lasiopetalum Baueri, Steetz.
Schulzenii, Benth.

Intra-Tropical.

Sterculia foetida, Lin.
ramiflora, Benth.
caudata, Heward.
quadrifida, R. Br.
Helicteres Isora, Lin.
Melochia corchorifolia, Lin.
Waltheria americana, Lin.

## TILIACEAE.

Indigenous in Australia, 7 Genera.
in South Australia, 4 Genera.

Intra-Tropical.

Grewia orientalis, Lin.
multiflora, Juss.
polygama, Roxb.
breviflora, Benth.
Triumfetta appendiculata, F. Muell.
glaucescens, R. Br.
Corchorus acutangulus, Lam.
fascicularis, Lam.
pumilio, R. Br.
sidoides, F. Muell.
Elaeocarpus obovatus, G. Don.

## LINEAE.

Indigenous in Australia, 2 Genera.
in South Australia, 1 Genus.

Extra-Tropical.

Linum marginale, A. Cunn.

## MALPIGHIACEAE.

Indigenous in Australia, 2 Genera.
No representative in South Australia.

## ZYGOPHYLLEAE.

Indigenous in Australia, 3 Genera.
in South Australia, 3 Genera.

Extra-Tropical.

Tribulus terrestris, Lin.
hystrix, R. Br.
Nitraria Schoberi, Lin.
Zygophyllum apiculatum, F. Muell.
glaucescens, F. Muell.
Zygophyllum iodocarpum, F. Muell.
prismatothecum, F. Muell.
Billardieri, Dec.
fruticulosum, Dec.

Intra-Tropical.

Tribulus cistoides, Lin.
pentandrus, Benth.
Tribulus bicolor, F. Muell.
angustifolius, Benth.

## GERANIACEAE.

Indigenous in Australia, 4 Genera.
in South Australia, 4 Genera.

Extra-Tropical.

Geranium dissectum, Lin.
Erodium cygnorum, Nees.
cicutarium, L'Her.
Pelargonium australe, Willd.
Rodneyanum, Lindl.
Oxalis corniculata, Lin.

## SIMARUBEAE.

Indigenous in Australia, 6 Genera.
in South Australia, 1 Genus.

Intra-Tropical.

Harrisonia Brownii, A. Juss.

RUTACEAE.

Indigenous in Australia, 29 Genera.
in South Australia, 9 Genera.

Extra-Tropical.

Zieria veronicea, F. Muell.
Boronia Edwardsii, Benth.
caerulescens, F. Muell.
polygalifolia, Sm.
inornata, Turcz.
filifolia, F. Muell.
Eriostemon difformis, A. Cunn.
Phebalium pungens, Benth.
bilobum, Lindl.
Phebalium linearis, A. Cunn.
glandulosum, Hook.
Microcybe pauciflora, Turcz.
Correa aemula, F. Muell.
alba, Andr.
speciosa, Ait.
decumbens, F. Muell.
Geijera parviflora, Lindl.

Intra-Tropical.

Boronia affinis, R. Br.
lanceolata, F. Muell.
Zanthoxylum parviflorum, Benth.
Micromelum pubescens, Blume.

BURSERACEAE.

Indigenous in Australia, 2 Genera.
in South Australia, 1 Genus.

Extra-Tropical.

Canarium australasicum, F. Muell.

MELIACEAE.

Indigenous in Australia, 10 Genera.
in South Australia, 3 Genera.

Intra-Tropical.

Dysoxylon Muelleri, Benth.
Owenia vernicosa, F. Muell.
Owenia reticulata, F. Muell.
Carapa moluccensis, Lam.

OLACINEAE.

Indigenous in Australia, 6 Genera.
in South Australia, 1 Genus.

Extra-Tropical.

Olax Benthamiana, Miq.

Intra-Tropical.

Opilia amentacea, Roxb.

ILICINEAE.

Indigenous in Australia, 1 Genus.
No representation in South Australia.

CELASTRINEAE.

Indigenous in Australia, 5 Genera.
in South Australia, 2 Genera.

Intra-Tropical.

Celastrus Cunninghamii, F. Muell.
Denhamia oleaster, F. Muell.
Denhamia obscura, Meisn.

STACKHOUSIEAE.

Indigenous in Australia, 1 Genus.

Extra-Tropical.

Stackhousia spathulata, Sieb.
Stackhousia monogyna, Labil.

Intra-Tropical.

Stackhousia viminea, Sm.

## RHAMNEAE.

Indigenous in Australia, 12 Genera.
in South Australia, 7 Genera.

Extra-Tropical.

Pomaderris apetale, Labill.
obcordata, Fenzl.
racemosa, Hook.
Spyridium parvifolium, F. Muell.
spathulatum, F. Muell.
phlebophyllum, F. Muell.
coactilifolium, Reissek.
halmaturinum, F. Muell.
bifidum, F. Muell.
Spyridium subochreatum, Reissek.
vexilliferum, Reissek.
eriocephalum, Fenzl.
Stenanthemum leucophractum, Reissek.
Waterhousii, Benth.
Cryptandra hispidula, Reissek.
amara, Sm.
tomentosa, Lindl.

Intra-Tropical.

Ventilago viminalis, Hook.
Zizyphus Oenoplia, Mill.
Alphitonia excelsa, Reissek.

## AMPELIDEAE.

Indigenous in Australia, 14 Genera.
in South Australia, 2 Genera.

Intra-Trophical.

Vitis cordata, Wall.
trifolia, Lin.
Leea sambucina, Willd.

## SAPINDACEAE.

Indigenous in Australia, 14 Genera.
in South Australia, 4 Genera.

Extra-Tropical.

Heterodendron oleaefolium, Desf.
Dodonaea viscosa, Lin.
attenuata, A. Cunn.
procumbens, F. Muell.
lobulata, F. Muell.
bursarifolia, Behr.
Dodonaea Baueri, Endl.
hexandra, F. Muell.
humilis, Endl.
boraniaefolia, G. Don.
stenozyga, F. Muell.

Intra-Tropical.

Cardiospermum Halicacabum, Lin.
Schmidelia serrata, Dec.
Cupania anacardioides, A. Rich.
Dodonaea viscosa, Lin.
Distichostemon phyllopterus, F. Muell.

## ANACARDIACEAE.

Indigenous in Australia, 5 Genera.
in South Australia 2 Genera.

Intra-Tropical.

Buchanania angustifolia, Roxb.
Semecarpus Anacardium, Roxb.

## LEGUMINOSAE.

Indigenous in Australia, 92 genera.
in South Australia 57 Genera.

Extra-Tropical.

Isotropis Wheeleri, F. Muell.
Viminaria denudata, Sm.
Daviesia corymbosa, Sm.
ulicina, Sm.

Daviesia genistifolia, A. Cunn.
incrassata, Sm.
brevifolia, Lindl.
pectinata, Lindl.
Aotus villosa, Sm.
Phyllota Sturtii, Benth.
pleurandroides, F. Muell.
Brachysema Chambersii, F. Muell.
Pultenaea daphnoides, Wendl.
stricta, Sims.
mucronata, F. Muell.
pedunculata, Hook.
mollis, Lindl.
rigida, R. Br.
acerosa, R. Br.
vestita, R. Br.
laxiflora, Benth.
largiflorens, F. Muell.
densifolia, F. Muell.
villifera, Sieb.
involucrata, Benth.
prostrata, Benth.
canaliculata, F. Muell.
tenuifolia, R. Br.
Eutaxia empetrifolia, Schlecht.
Dillwynia hispida, Lindl.
floribunda, Sm.
cinerascens, R. Br.
patula, F. Muell.
Platylobium obtusangulum, Hook
Bossiaea prostrata, R. Br.
riparia, A. Cunn.
Templetonia retusa, R. Br.
egena, Benth.
Hovea longifolia, R. Br.
Goodia lotifolia, Salisb.
Crotalaria Cunninghamii, R. Br.
dissitiflora, Benth.
Pentadynamis incana, R. Br.
Trigonella suavissima, Lindl.
Lotus corniculatus, Lin.
australis, Andr.
Psoralea eriantha, Benth.
patens, Lindl.
adscendens, F. Muell.
Indigofera viscosa, Lam.
brevidens, Benth.
australis, Willd.
Sesbania aculeata, Pers.
Clianthus Dampieri, A. Cunn.
Swainsona Greyana, Lindl.
galegifolia, R. Br.
phacoides, Benth.
Burkittii, F. Muell.
oligophylla, F. Muell.
campylantha, F. Muell.
procumbens, F. Muell.
phacifolia, F. Muell.
lessertiifolia, Dec.
Swainsona microphylla, A. Gray.
laxa, R. Br.
Lespedeza lunata, Benth.
Glycine falcata, Benth.
clandestina, Wendl.
Latrobeana, Benth.
tabacina, Benth.
Hardenbergia monophylla, Benth.
Kennedya prostrata, R. Br.
Vigna lanceolata, Benth.
Cassia eremophila, A. Cunn.
artemisioides, Gaud.
Sturtii, R. Br.
desolata, F. Muell.
Petalostyles labicheoides, R. Br.
Acacia continua, Benth.
spinescens, Benth.
colletioides, A. Cunn.
tetragonophylla, F. Muell.
rupicola, F. Muell.
rhigiophylla, F. Muell.
aneura, F. Muell.
stereophylla, Meissn.
oxycedrus, Sieb.
verticillata, Willd.
rigens, A. Cunn.
papyrocarpa, Benth.
calamifolia, Sweet.
armata, R. Br.
vomeriformis, A. Cunn.
obliqua, A. Cunn.
acinacea, Lindl.
lineata, A. Cunn.
anceps, Dec.
microcarpa, F. Muell.
montana, Benth.
verniciflua, A. Cunn.
dodonaeifolia, Willd.
sentis, F. Muell.
retinodes, Schlecht.
neriifolia, A. Cunn.
pycnantha, Benth.
notabilis, F. Muell.
salicina, Lindl.
prominens, A. Cunn.
brachybotrya, Benth.
Wattsiana, F. Muell.
myrtifolia, Willd.
sublanata, Benth.
homalophylla, A. Cunn.
Oswaldi, F. Muell.
stenophylla, A. Cunn.
farinosa, Lindl.
melanoxylon, R. Br.
longifolia, Willd.
Burkittii, F. Muell.
cyperophylla, F. Muell.
sclerophylla, Lindl.
decurrens, Willd.

Intra-Tropical.

Isotropis parviflora, Benth.
Burtonia subulata, Benth.
Jacksonia dilatata, Benth.
odontoclada, F. Muell.
vernicosa, F. Muell.
Crotalaria crispata, F. Muell.
linifolio, Lin.
Novae Hollandiae, Dec.
trifoliastrum, Willd.
dissitiflora, Benth.
Psoralea badocana, Benth.
pustulata, F. Muell.
leucantha, F. Muell.
Indigofera hirsuta, Lin.
saxicola, F. Muell.
linifolia, Retz.
viscosa, Lam.
cordifolia, Heyne
haplophylla, F. Muell.
trita, Lin.
Tephrosia juncea, R. Br.
porrecta, R. Br.
simplicifolia, F. Muell.
reticulata, R. Br.
crocea, R. Br.
polyzyga, F. Muell.
Stuartii, Benth.
eriocarpa, Benth.
filipes, Benth.
Sesbania grandiflora, Pers.
aegyptiaca, Pers.
Zornia diphylla, Pers.
Desmodium trichostachyum, Benth.
Muelleri, Benth.
biarticulatum, F. Muell.
Pycnospora hedysaroides, R. Br.
Uraria cylindracea, Benth.
lagopoides, Dec.
Alysicarpus rugosus, Dec.
Clitoria australis, Benth.
Glycine tomentosa, Benth.
Galactia tenuiflora, Willd.
Canavalia obtusifolia, Dec.
Phaseolus Mungo, Lin.
vulgaris, Lin.
Vigna vexillata, Benth.
lutea, A. Gray
lanceolata, Benth.
Erythrina vespertilio, Benth.
Atylosia grandifolia, F. Muell.
Atylosia cinerea, F. Muell.
Rhynchosia rhomboidea, F. Muell.
australis, Benth.
minima, Dec.
Eriosema chinense, Vog.
Flemingia pauciflora, Benth.
lineata, Roxb.
Abrus precatorius, Lin.
Dalbergia densa, Benth.
Pongamia glabra, Vent.
Peltophorum ferrugineum, Benth.
Guilandina Bonducella, Lin.
Cassia Absus, Lin.
Chamaecrista, Lin.
suffruticosa, Koen.
venusta, F. Muell.
notabilis, F. Muell.
oligoclada, F. Muell.
leptoclada, Benth.
Bauhinia Hookeri, F. Muell.
Erythrophloeum Laboucherii, F. Muell.
Dichrostachys cinerea, W. & Arn
Muelleri, Benth.
Neptunia gracilis, Benth.
Acacia crassicarpa, A. Cunn.
Cunninghamii, Hook
dimidiata, Benth.
holosericea, A. Cunn.
latescens, Benth.
loxocarpa, Benth.
pilifera, Benth.
polystachya, Benth.
Simsii, A. Cunn.
tumida, F. Muell.
patens, F. Muell.
Baueri, Benth.
hemignosta, F. Muell.
Wickhami, Benth.
lysiphloea, F. Muell.
linarioides, Benth.
umbellata, A. Cunn.
xylocarpa, A. Cunn.
conspersa, F. Muell.
torulosa, Benth.
plectocarpa, A. Cunn.
tumida, F. Muell.
latifolia, Benth.
humifusa, A. Cunn.
farnesiana, Willd.

## ROSACEAE.

Indigenous in Australia, 7 Genera.
in South Australia 5 Genera.

Extra-Tropical.

Rubus parvifolius, Lin.
Alchemilla arvensis, Scop.
Acaena ovina, A. Cunn.
sanguisorbae, Vahl.

Intra-Tropical.

| | |
|---|---|
| Parinarium Griffithianum, Benth. | Rubus moluccanus, Lin. |
| Nonda, F. Muell. | |

SAXIFRAGEAE.

Indigenous in Australia, 20 Genera.
No representative in South Australia.

CRASSULACEAE

Indigenous in Australia, 1 Genus.
in South Australia, 1 Genus.

Extra-Tropical.

| | |
|---|---|
| Tillaea verticillaris, Dec. | Tillaea recurva, Hook. |
| macrantha, Hook | |

DROSERACEAE.

Indigenous in Australia, 2 Genera.
in South Australia, 1 Genus.

Extra-Tropical.

| | |
|---|---|
| Drosera glanduligera, Lehm. | Drosera Whittakerii, Planch. |
| pygmaea, Dec. | auriculata, Backh. |
| binata, Labil. | Menziesii, R. Br. |

Intra-Tropical.

| | |
|---|---|
| Drosera indica, Lin. | Drosera petiolaris, R. Br. |

HALORAGEAE.

Indigenous in Australia, 7 Genera.
in South Australia 6 Genera.

Extra-Tropical.

| | |
|---|---|
| Loudonia aurea, Lindl. | Haloragis teucrioides, A. Gray |
| Behrii, Schlecht. | Meionectes Brownii, Hook |
| Haloragis mucronata, Benth. | Myriophyllum variaefolium, Hook |
| Gossei, F. Muell. | elatinoides, Gaud. |
| elata, A. Cunn. | verrucosum, Lindl. |
| ceratophylla, Endl. | Muelleri, Sond. |
| acutangula, F. Muell. | integrifolium, Hook |
| micrantha, R. Br. | Ceratophyllum demersum, Lin. |
| heterophylla, Brongn. | Callitriche verna, Lin. |
| tetragyna, Hook | |

Intra-Tropical.

| | |
|---|---|
| Haloragis acanthocarpa, Brongn. | |

RHIZOPHOREAE.

Indigenous in Australia, 4 Genera.
in South Australia 4 Genera.

Intra-Tropical.

| | |
|---|---|
| Rhizophora mucronata, Lam. | Bruguiera Rheedii, Blum. |
| Ceriops Candolleana, Arn. | Carallia integerrima, Dec. |

COMBRETACEAE.

Indigenous in Australia, 4 Genera.
in South Australia, 3 Genera.

Intra-Tropical.

| | |
|---|---|
| Terminalia platyptera, F. Muell. | Terminalia platyphylla, F. Muell. |
| volucris, R. Br. | grandiflora, Benth. |
| bursarina, F. Muell. | Macropteranthes Kekwickii, F. Muell. |
| circumalata, F. Muell. | |

## MYRTACEAE.

Indigenous in Australia, 42 Genera.
in South Australia, 18 Genera.

### Extra-Tropical.

Darwinia micropetala, Benth.
Schuermanni, Benth.
Verticordia Wilhelmii, F. Muell.
Calythrix tetragona, Labil.
Lhotzkya glaberrima, F. Muell.
genetylloides, F. Muell.
Thryptomene Miqueliana, F. Muell.
ericaea, F. Muell.
Elliottii, F. Muell.
Maisonneuvii, F. Muell.
Micromyrtus microphylla, Benth.
Baeckea crassifolia, Lindl.
Behrii, F. Muell.
Leptospermum laevigatum, F. Muell.
scoparium, Forst.
lanigerum, Sm.
myrsinoides, Schlecht.
Kunzea pomifera, F. Muell.
Callistemon coccineus, F. Muell.
salignus, Dec.
teretifolius, F. Muell.
brachyandrus, Lindl.
Melaleuca acuminata, F. Muell.
decussata, R. Br.
Wilsonii, F. Muell.
Preissiana, Schau.
armillaris, Sm.
Melaleuca uncinata, R. Br.
glomerata, F. Muell.
squamea, Labill.
lasiandra, F. Muell.
linophylla, F. Muell.
Eucalyptus virgata, Sieb.
obliqua, Lher.
capitellata, Sm.
leucoxylon, F. Muell.
gracilis, F. Muell.
paniculata, Sm.
bicolor, A. Cunn.
odorata, Behr.
uncinata, Turcz.
hemiphloia, F. Muell.
cneorifolia, Dec.
corynocalyx, F. Muell.
brachypoda, Turcz
cosmophylla, F. Muell.
dumosa, A. Cunn.
incrassata, Labill.
viminalis, Labill.
rostrata, Schlecht.
Stuartiana, F. Muell.
oleosa, F. Muell.
foecunda, Schau.

### Intra-Tropical.

Verticordia Cunninghamii, Schau.
Calythrix microphylla, A. Cunn.
conferta, A. Cunn.
arborescens, F. Muell.
laricina, R. Br.
Thryptomene Maisonneuvii, F. Muell.
Leptospermum abnorme, F. Muell.
Melaleuca acacioides, F. Muell.
symphyocarpa, F. Muell.
leucadendron, Lin.
genistifolia, Sm.
dissitiflora, F. Muell.
Eucalyptus miniata, A. Cunn.
platyphylla, F. Muell.
corymbosa, Sm.
terminalis, F. Muell.
clavigera, A. Cunn.
grandifolia, R. Br.
pruinosa, Schau.
Eucalyptus crebra, F. Muell.
brachypoda, Turcz.
patellaris, F. Muell.
tesselaris, F. Muell.
phoenicea, F. Muell.
latifolia, F. Muell.
ptychocarpa, F. Muell.
dichromophloia, F. Muell.
terminalis, F. Muell.
tetrodonta, F. Muell.
Tristania lactiflua, F. Muell.
Xanthostemon paradoxus, F. Muell.
Osbornia octodonta, F. Muell.
Eugenia Smithii, Poir
eucalyptoides, F. Muell.
Armstrongii, Benth.
Barringtonia acutangula, Gaertn.
Careya arborea, Roxb.

## MELASTOMACEAE.

Indigenous in Australia, 4 Genera.
in South Australia 2 Genera.

### Intra-Tropical.

Osbeckia australiana, Naud.
Melastoma malabathricum, Lin.

## LYTHRARIEAE.

Indigenous in Australia, 5 Genera.
in South Australia, 3 Genera.

Extra-Tropical.

Ammannia indica, Lam.
Lythrum Salicaria, Lin.
Lythrum hyssopifolium, Lin.

Intra-Tropical.

Ammannia Rotala, F. Muell.
pentandra, Roxb.
Ammannia indica, Lam.
Lythrum arnhemicum, F. Muell.

## ONAGRARIEAE.

Indigenous in Australia, 4 Genera.
in South Australia 2 Genera.

Extra-Tropical.

Epilobium junceum, Forst.
glabellum, Forst.
tetragonum, Lin.
Epilobium pallidiflorum, Soland.
Jussiaea repens, Lin.

Intra-Tropical.

Jussiaea suffruticosa, Lin.
Ludwigia parviflora, Roxb.

## SAMYDACEAE.

Indigenous in Australia, 2 Genera.
No representative in South Australia.

## PASSIFLOREAE.

Indigenous in Australia, 2 Genera.
in South Australia 1 Genus.

Intra-Tropical.

Modecca australis, R. Br.

## CUCURBITACEAE.

Indigenous in Australia, 9 Genera.
in South Australia, 6 Genera.

Intra-Tropical.

Trichosanthes cucumerina, Lin.
Luffa aegyptiaca, Mill.
graveolens, Roxb.
Cucumis trigonus, Roxb.
Bryonia laciniosa, Lin.
Melothria Cunninghamii, F. Muell.
Mukia scabrella, Arn.

## FICOIDEAE.

Indigenous in Australia, 8 Genera.
in South Australia 7 Genera.

Mesembryanthemum aequilaterale, Haw.
australe, Soland
crystallinum, Lin.
Tetragonia expansa, Murr.
implexicome, Hook
Aizoon quadrifidum, F. Muell.
Gunnia septifraga, F. Muell.
Mollugo orygioides, F. Muell.
Cerviana, Ser.

Intra-Tropical.

Sesuvium portulacastrum, Lin.
Trianthema crystallina, Vahl.
pilosa, F. Muell.
Trianthema rhynchocalyptra, F. Muell.
Mollugo trigastrotheca, F. Muell.

## UMBELLIFERAE.

Indigenous in Australia, 13 Genera.
in South Australia 7 Genera.

Extra-Tropical.

Hydrocotyle vulgaris, Lin.
hirta, R. Br.
laxiflora, Dec.
callicarpa, Bunge.
capillaris, F. Muell.
asiatica, Lin.
Trachymene australis, Benth.
pilosa, Sm.
eriocarpa, Benth.
Trachymene glaucifolia, Benth.
Xanthosia pusilla, Bunge.
dissecta, Hook
Eryngium rostratum, Cav.
vesiculosum, Labill.
Apium australe, Thou.
Crantzia lineata, Nutt.
Daucus brachiatus, Sieb.

Intra-Tropical.

Hydrocotyle grammatocarpa, F. Muell.
Trachymene villosa, Benth.
Trachymene glandulosa, Benth.
hemicarpa, Benth.

## ARALIACEAE.

Indigenous in Australia, 6 Genera.
No representative in South Australia.

## CORNACEAE.

Indigenous in Australia, 1 Genus.
No representative in South Australia.

## LORANTHACEAE.

Indigenous in Australia, 5 Genera.
in South Australia, 2 Genera.

Extra-Tropical.

Loranthus angustifolius, R. Br.
linearifolius, Hook.
Exocarpi, Behr.
linophyllus, Fenzl.
Loranthus pendulus, Sieb.
Quandang, Lindl.
grandibracteus, F. Muell.
Viscum articulatum, Burm.

Intra-Tropical.

Loranthus celastroides, Sieb.
longiflorus, Desr.
pendulus, Sieb.
Exocarpi, Behr.
Loranthus signatus, F. Muell.
Quandang, Lindl.
grandibracteus, F. Muell.
Viscum angulatum, Heyne

## CAPRIFOLIACEAE.

Indigenous in Australia, 1 Genus.

Extra-Tropical.

Sambucus Gaudichaudiana, Dec.

## RUBIACEAE.

Indigenous in Australia, 29 Genera.
in South Australia, 7 Genera.

Extra-Tropical.

Hedyotis tillaeacea, F. Muell.
Dentella repens, Forst.
Canthium latifolium, F. Muell.
Opercularia scabrida, Schlecht
hispida, Spreng.
ovata, Hook.
varia, Hook.
Opercularia umbellata, Gaert.
Asperula scoparia, Hook.
Galium geminifolium, F. Muell.
Gaudichaudi, Dec.
australe, Dec.
Aparine, Lin.

Intra-Tropical.

Hedyotis Auricularia, Lin.
pterospora, F. Muell.
Dentella repens, Forst.
Knoxia corymbosa, Willd.
Gardenia megasperma, F. Muell.
suffructiosa, R. Br.
Randia densiflora, Benth.
Ixora timorensis, Dcna.
tomentosa, Roxb.
coccinea, Lin.
Timonius Rumphii, Dec.
Guettarda speciosa, Lin.
Canthium lucidum, Hook.
coprosmoides, F. Muell.
Coclospermum reticulatum, Benth.
Psychotria nesophila, F. Muell.
Spermacoce breviflora, F. Muell.
exserta, Benth.
leptoloba, Benth.
brachystema, R. Br.
membranacea, R. Br.
marginata, Benth.
auriculata, F. Muell.
Scyphiphora hydrophylacea, Gaert.

## COMPOSITAE.

Indigenous in Australia, 94 Genera.
in South Australia, 66 Genera.

Extra-Tropical.

Adenostemma viscosum, Forst.
Olearia grandiflora, Hook.
pannosa, Hook.
stellulata, Dec.
tubuliflora, Benth.
ramulosa, Benth.
floribunda, Benth.
lepidophylla, Benth.
pimeleoides, Benth.
conocephala, F. Muell.
Muelleri, Benth.
Stuartii, F. Muell.
decurrens, Benth.
glutinosa, Benth.
teretifolia, F. Muell.
glandulosa, Benth.
rudis, F. Muell.
picridifolia, Benth.
ciliata, F. Muell.
Vittadinia australis, A. Rich.
Podocoma cuneifolia, R. Br.
Erigeron linifolius, Willd.
Minuria leptophylla, Dec.
Candollei, F. Muell.
Cunninghamii, Benth.
integerrima, Benth.
denticulata, Benth.
suaedifolia, F. Muell.
Calotis cuneifolia, R. Br.
cymbacantha, F. Muell.
erinacea, Steetz.
scabiosifolia, Sond.
scapigera, Hook.
lappulacea, Benth.
plumulifera, F. Muell.
porphyroglossa, F. Muell.
hispidula, F. Muell.
dentex, R. Br.
Lagenophora Billardieri, Cass.
Lagenophora Huegelii, Benth.
Brachycome diversifolia, Fisch.
goniocarpa, Sond.
pachyptera, Turcz.
Muelleri, Sond.
graminea, F. Muell.
basaltica, F. Muell.
trachycarpa, F. Muell.
exilis, Sond.
debilis, Sond.
decipiens, Hook.
cardiocarpa, F. Muell.
ciliaris, Less.
calocarpa, F. Muell.
collina, Benth.
Monenteles sphacelatus, Labil.
Pluchea Eyrea, F. Muell.
Epaltes australis, Less.
Siegesbeckia orientalis, Lin.
Eclipta platyglossa, F. Muell.
Glossogyne tenuifolia, Cass.
Cotula filifolia, Thunb.
coronopifolia, Linn.
australis, Hook.
reptans, Benth.
Myriogyne minuta, Less.
Blachanthus pusillus, F. Muell.
Myriocephalus rhizocephalus, Benth.
Rudallii, Benth.
Stuartii, Benth.
Angianthus tomentosus, Wendl.
pleuropappus, Benth.
brachypappus, F. Muell.
pusillus, Benth.
Preissianus, Benth.
strictus, Benth.
Gnephosis Burkittii, Benth.
skirrophora, Benth.
arachnoidea, Turcz.

Calocephalus Brownii, F. Muell.
Sonderi, F. Muell.
lacteus, Less.
citreus, Less.
platycephalus, Benth.
Cephalipterum Drummondii, A. Gray.
Gnaphalodes uliginosum, A. Gray.
Craspedia Richea, Cass.
pleiocephala, F. Muell.
chrysantha, Benth.
globosa, Benth.
Chthonocephalus pseudoevax, Steetz
Ixodia, achilleoides, R. Br.
Cassinia aculeata, R. Br.
laevis, R. Br.
aculeata, R. Br.
spectabilis, R. Br.
Eriochlamys Behrii, Sond.
Toxanthus perpusillus, Turcz.
Muelleri, Benth.
Rutidosis helichrysoides, Dec.
Pumilo, Benth.
Millotia tenuifolia, Cass.
Ixiolaena leptolepis, Benth.
supina, F. Muell.
tomentosa, Sond.
Athrixia, tenella, Benth.
Podotheca angustifolia, Cass.
Podolepis acuminata, R. Br.
canescens, A. Cunn.
rugata, Labill.
Lessoni, Benth.
Siemssenia, F. Muell.
pallida, Turcz.
Leptorhynchus squamatus, Less.
ambiguus, Benth.
pulchellus, F. Muell.
elongatus, Dec.
Waitzia, Sond.
Schoenia Cassiniana, Steetz.
Helichrysum Lawrencella, F. Muell.
Cotula Dec.
Baxteri, A. Cunn.
scorpioides, Labill.
rutidolepis, Dec.
obtusifolium, F. Muell.
bracteatum, Willd.
Helichrysum leucopsidium, Dec.
Blandow skianum, Steetz.
podolepideum, F. Muell.
apiculatum, Dec.
adnatum, Benth.
ferrugineum, Less.
Waitzia corymbosa, Wendl.
Helipterum anthemoides, Dec.
polygalifolium, Dec.
floribundum, Dec.
stipitatum, F. Muell.
incanum, Dec.
hyalospermum, F. Muell.
strictum, Benth.
corymbiflorum, Schlecht.
pygmaeum, Benth.
moschatum, Benth.
pterochaetum, Benth.
exiguum, F. Muell.
dimorpholepis, Benth.
Gnaphalium luteo-album, Lin.
japonicum, Thunb.
indutum, Hook.
Stuartina Muelleri, Sond.
Erechthites arguta, Dec.
mixta, Dec.
quadridentata, Dec.
hispidula, Dec.
Senecio Gregorii, F. Muell.
megaglossus, F. Muell.
magnificus, F. Muell.
lautus, Forst.
australis, Willd.
Behrianus, Sond.
brachyglossus, F. Muell.
odoratus, Hornem.
Cunninghamii, Dec.
hypoleucus, F. Muell.
velleioides, A. Cunn.
Cymbonotus Lawsonianus, Gaudich.
Microseris Forsteri, Hook.
Hypochoeris glabra, Lin.
Picris hieracioides, Lin.
Sonchus oleraceus, Lin.
Erodiophyllum Elderi, F. Muell.
Pterigeron densatifolius, F. Muell.

Intra-Tropical.

Vernonia cinerea, Less.
Pleurocarpæa denticulata, Benth.
Elephantopus scaber, Lin.
Vittadinia brachycomoides, F. Muell.
macrorhiza, A. Gray.
Calotis breviseta, Benth.
Sphaeranthus hirtus, Willd.
microcephalus, Willd.
Monenteles sphacelatus, Labill.
sphaeranthoides, Dec.
Blumea integrifolia, Dec.
diffusa, R. Br.
Cunninghamii, Dec.
Pluchea indica, Less.
Eyrea, F. Muell.
Epaltes australis, Less.
Pterigeron filifolius, Benth.
macrocephalus, Benth.
odorus, Benth.
Coleocoma centaurea, F. Muell.

Thespidium basiflorum, F. Muell.
Eclipta platyglossa, F. Muell.
Wedelia verbesinoides, F. Muell.
biflora, Dec.
Moonia ecliptoides, Benth.
procumbens, Benth.
Spilanthes grandiflora, Turcz.
Bidens bipinnata, Lin.
Glossogyne tenuifolia, Cass.
Flaveria australasica, Hook.
Myriogyne minuta, Less.
Rutidosis Brownii, Benth.
Helichrysum bracteatum, Willd.
apiculatum, Dec.

## STYLIDIEAE.

Indeginous in Australia, 3 Genera.
in South Australia, 2 Genera.

Extra-Tropical.

Stylidium graminifolium, Swartz
caespitosum, R. Br.
calcaratum, R. Br.
Stylidium despectum, R. Br.
Levenhookia dubia, Sond.

Intra-Tropical.

Stylidium Floodii, F. Muell.
floribundum, R. Br.
leptorhizum, F. Muell.
Stylidium alsinoides, R. Br.
schizanthum, F. Muell.
pedunculatum, R. Br.

## GOODENOVIEAE.

Indigenous in Australia, 12 Genera.
in South Australia, 8 Genera.

Extra-Tropical.

Leschenaultia divaricata, F. Muell.
Velleia connata, F. Muell.
paradoxa, R. Br.
Goodenia ovata, Sm.
amplexans, F. Muell.
varia, R. Br.
caerulea, R. Br.
geniculata, R. Br.
hirsuta, F. Muell.
calcarata, F. Muell.
Nicholsoni, F. Muell.
grandiflora, Sims.
Mitchellii, Benth.
Chambersii, F. Muell.
albiflora, Schlecht.
cycloptera, R. Br.
Goodenia pinnatifida, Schlecht.
glauca, F. Muell.
Selliera radicans, Cav.
Scaevola spinescens, R. Br.
depauperata, R. Br.
collaris, F. Muell.
suaveolens, R. Br.
ovalifolia, R. Br.
crassifolia, Labill.
aemula, R. Br.
humilis, R. Br.
microcarpa, Cav.
linearis, R. Br.
Dampiera rosmarinifolia, Schlecht.
Brunonia australis, Sm.

Intra-Tropical.

Goodenia Armstrongiana, Dec.
pumilio, R. Br.
purpurascens, R. Br.
sepalosa, F. Muell.
azurea, F. Muell.
heterochila, F. Muell.
hispida, R. Br.
auriculata, Benth.
coronopifolia, R. Br.
Goodenia microptera, F. Muell.
lamprosperma, F. Muell.
Calogyne pilosa, R. Br.
Scaevola Koenigii, Vahl.
Cunninghamii, Dec.
angulata, R. Br.
revoluta, R. Br.
ovalifolia, R. Br.

## ERICACEAE.

Indigenous in Australia, 3 Genera.
No representative in South Australia.

## CAMPANULACEAE.

Indigenous in Australia, 4 Gerena.
in South Australia, 4 Genera.

Extra-Tropical.

Lobelia gibbosa, Labill.
rhombifolia, Vr.
anceps, Thunb.
pratioides, Benth.
Lobelia heterophylla, Labill.
Pratia puberula, Benth.
Isotoma petraea, F. Muell.
Wahlenbergia gracilis, A. Dec.

Intra-Tropical.

Lobelia membranacea, R. Br.
stenophylla, Benth.
quadrangularis, R. Br.
Lobelia dioica, R. Br.
Wahlenbergia gracilis, A. Dec.

## EPACRIDEAE.

Indigenous in Australia, 24 Genera.
in South Australia, 8 Genera.

Extra-Tropical.

Styphelia pusilliflora, F. Muell.
Astroloma humifusum, R. Br.
conostephioides, F. Muell.
Brachyloma ericoides, Sond.
daphnoides, Benth.
Lissanthe strigosa, R. Br.
Leucopogon Richei, R. Br.
australis, R. Br.
virgatus, R. Br.
Leucopogon ericoides, R. Br.
cordifolius, Lindl.
hirtellus, F. Muell.
rufus, Lindl.
Woodsii, F. Muell.
Acrotriche serrulata, R. Br.
ovalifolia, R. Br.
Epacris impressa, Labill.
Sprengelia incarnata, Sm.

## PLUMBAGINEAE.

Indigenous in Australia, 3 Genera.
in South Australia, 2 Genera.

Intra-Tropical.

Plumbago zeylanica, Lin.
Acgialitis annulata, R. Br.

## PRIMULACEAE.

Indigenous in Australia, 3 Genera.
in South Australia, 2 Genera.

Extra-Tropical.

Anagallis arvensis, Lin.
Samolus repens, Pers.

## MYRSINEAE.

Indigenous in Australia, 5 Genera.
in South Australia, 1 Genus.

Intra-Tropical.

Aegiceras majus, Gaertn.

## SAPOTACEAE.

Indigenous in Australia, 5 Genera.
in South Australia, 3 Genera.

Sersalisia sericea, R. Br.
Achras myrsinoides, A. Cunn.
Mimusops parvifolia, R. Br.

EBENACEAE.

Indigenous in Australia, 3 Genera.
in South Australia, 3 Genera.

Intra-Tropical.

Diospyros cordifolia, Roxb.
Cargillia laxa, R. Br.
Maba humilis, R. Br.

STYRACACEAE.

Indigenous in Australia, 1 Genus.
No representative in South Australia.

JASMINEAE.

Indigenous in Australia, 5 Genera.
in South Australia, 2 Genera.

Intra-Tropical.

Jasminum didymum, Forst.
lineare, R. Br.
simplicifolium, Forst.
Jasminum aemulum, R. Br.
Notelaea microcarpa, R. Br.

APOCYNEAE.

Indigenous in Australia, 12 Genera.
in South Australia, 6 Genera.

Extra-Tropical.

Alyxia buxifolia, R. Br.

Intra-Tropical.

Carissa lanceolata, R. Br.
Alyxia spicata, R. Br.
thyrsiflora, Benth.
Tabernaemontana orientalis, R. Br.
pubescens, R. Br.
Alstonia verticillosa, F. Muell.
Wrightia pubescens, R. Br.
saligna, F. Muell.
Parsonsia velutina, R. Br.

ASCLEPIADEAE.

Indigenous in Australia, 14 Genera.
in South Australia, 9 Genera.

Extra-Tropical.

Sarcostemma australe, R. Br.
Cynanchum floribundum, R. Br.
Marsdenia Leichhardtiana, F. Muell.

Intra-Tropical.

Gymnanthera nitida, R. Br.
Secamone elliptica, R. Br.
Sarcostemma australe, R. Br.
Vincetoxicum carnosum, Benth.
Cynanchum pedunculatum, R. Br.
floribundum, R. Br.
Tylophora macrophylla, Benth.
Tylophora flexuosa, R. Br.
Marsdenia cinerascens, R. Br.
velutina, R. Br.
Hullsii, F. Muell.
Gymnema stenophyllum, A. Gray
sylvestre, R. Br.
Hoya Nicholsoniae, F. Muell.

LOGANIACEAE.

Indigenous in Australia, 6 Genera.
in South Australia, 4 Genera.

Extra-Tropical.

Mitrasacme paradoxa, R. Br.
Logania longifolia, R. Br.
crassifolia, R. Br.
Logania onata, R. Br.
linifolia, Schlecht.

Intra-Tropical.

Mitrasacme stellata, R. Br.
tenuiflora, Benth.
lutea, F. Muell.
longiflora, F. Muell.
laevis, Benth.
indica, Wight.
Mitrasacme connata, R. Br.
elata, R. Br.
laricifolia, R. Br.
Fagraea racemosa, Jack.
Strychnos lucida, R. Br.
psilosperma, F. Muell.

GENTIANEAE.

Indigenous in Australia, 7 Genera.
in South Australia, 5 Genera.

Extra-Tropical.

Sebaea ovata, R. Br.
Erythraea australis, R. Br.
Gentiana montana, Forst.
Villarsia reniformis, R. Br.

Intra-Tropical.

Erythraea australis, R. Br.
Canscora diffusa, R. Br.
Limnanthemum geminatum, Griseb.
indicum, Thw.

HYDROPHYLLACEAE.

Indigenous in Australia, 1 genus.
in South Australia, 1 genus.

Intra-Tropical.

Hydrolea zeylanica, Vahl.

BORAGINEAE.

Indigenous in Australia, 12 Genera.
in South Australia, 10 Genera.

Extra-Tropical.

Coldenia procumbens, Lin.
Heliotropium curassavicum, Lin.
europaeum, Lin.
undulatum, Vahl.
asperrimum, R. Br.
ovalifolium, Forsk.
pleiopterum, F. Muell.
Heliotropium filaginoides, Benth.
Halgania strigosa, Schlecht.
Trichodesma zeylanicum, R. Br.
Myosotis australis, R. Br.
Eritrichium australasicum, A. Dec.
Echinospermum concavum, F. Muell.

Intra-Tropical.

Cordia Myxa, Lin.
subcordata, Lam.
Ehretia acuminata, R. Br.
saligna, R. Br.
Tournefortia argentea, Lin.
Coldenia procumbens, Lin.
Heliotropium fasciculatum, R. Br.
ovalifolium, Forsk.
Heliotropium prostratum, R. Br.
ventricosum, R. Br.
pauciflorum, R. Br.
tenuifolium, R. Br.
paniculatum, R. Br.
diversifolium, F. Muell.
Trichodesma zeylanicum, R. Br.

CONVOLVULACEAE.

Indigenous in Australia, 11 Genera.
in South Australia, 8 Genera.

Extra-Tropical.

Ipomoea costata, F. Muell.
Convolvulus erubescens, Sims.
Cressa cretica, Lin.
Evolvulus alsinoides, Lin.
Dichondra repens, Forst.
Wilsonia humilis, R. Br.
rotundifolia, Hook

Intra-Tropical.

Ipomoea alata, R. Br.
angustifolia, Jacq.
eriocarpa, R. Br.
dissecta, Willd.
diversifolia, R. Br.
flava, F. Muell.
Pes-caprae, Roth.
sessiliflora, Roth.
paniculata, R. Br.
quinata, R. Br.
hederacea, Jacq.
longiflora, R. Br.
carnosa, R. Br.
reptans, Poir
abrupta, R. Br.

Ipomoea gracilis, R. Br.
Muelleri, Benth.
incisa, R. Br.
heterophylla, R. Br.
erecta, R. Br.
Convelvulus parviflorus, Vahl.
Polymeria angusta, F. Muell.
ambigua, R. Br.
Breweria linearis, R. Br.
media, R. Br.
brevifolia, Benth.
pannosa, R. Br.
Cressa cretica, Lin.
Evolvulus alsinoides, Lin.
Dichondra repens, Forst

## SOLANEAE.

Indigenous in Australia, 7 Genera.
in South Australia, 3 Genera.

Extra-Tropical.

Solanum nigrum, Lin.
aviculare, Forst.
simile, F. Muell.
oligacanthum, F. Muell.
esuriale, Lindl.

Solanum chenopodinum, F. Muell.
Sturtianum, F. Muell.
hystrix, R. Br.
petrophilum, F. Muell.

Intra-Tropical.

Solanum nigrum, Lin.
tetrandrum, R. Br.
discolor, R. Br.
esuriale, Lindl.
diversiflorum, F. Muell.

Solanum horridum Dun
quadriloculatum, F. Muell.
ellipticum, R. Br.
Physalis minima, Lin.
peruviana, Lin.
Nicotiana suaveolens, Lehm.

## SCROPHULARINEAE.

Indigenous in Australia, 30 Genera.
in South Australia 15 Genera.

Extra-Tropical.

Anthocercis anisantha, Endl.
angustifolia, F. Muell.
Eadesii, F. Muell.
Mimulus repens, R. Br.
prostratus, Benth.
Morgania floribunda, Benth.
Gratiola peruviana, Lin.
Limosella aquatica, Lin.

Veronica decorosa, F. Muell.
Derwentia, Andr.
gracilis, R. Br.
distans, R. Br.
calycina, R. Br.
Euphrasia collina, R. Br.
scabra, R. Br.

Intra-Tropical.

Adenosma Muelleri, Benth.
Stemodia viscosa, Roxb.
debilis, Benth.
Morgania glabra, R. Br.
Limnophila gratioloides, R. Br.
punctata, Blume
hirsuta, Benth.
serrata, Gaudich
Vandellia pubescens, Benth.

Vandellia subulata, Benth.
Centranthera hispida, R. Br.
Buchnera tetragona, R. Br.
urticifolia, R. Br.
linearis, R. Br.
tenella, R. Br.
Striga curviflora, Benth.
multiflora, Benth.
Hemiarrhena plantaginea, Benth.

LENTIBULARIEAE.

Indigenous in Australia, 2 Genera.
in South Australia, 1 Genus.

Intra-Tropical.

Utricularia stellaris, Lin.
fulva, F. Muell.
Utricularia chrysantha, R. Br.
exoleta, R. Br.

OROBANCHACEAE.

Indigenous in Australia, 1 Genus.
South Australia.

Extra-Tropical.

Orobanche cernua, Loefl.

GESNERIACEAE.

Indigenous in Australia, 2 Genera.
No representative in South Australia.

BIGNONIACEAE.

Indigenous in Australia, 4 Genera.
South Australia, 1 Genus.

Intra-Tropical.

Spathodea filiformis, Dec.
Spathodea heterophylla, R. Br.

ACANTHACEAE.

Indigenous in Australia, 11 Genera.
in South Australia, 7 Genera

Extra-Tropical.

Justicia procumbens, Lin.

Intra-Tropical.

Nelsonia campestris, R. Br.
Hygrophila salicifolia, Nees.
Ruellia acaulis, R. Br.
Acanthus ilicifolius, Lin.
Justicia procumbens, Lin.
Dicliptera glabra, Dcne.
Hypoestes floribunda, R. Br.

PEDALINEAE.

Indigenous in Australia, 1 Genus.
South Australia, 1 Genus.

Extra-Tropical.

Josephinia Eugeniae, F. Muell.

Intra-Tropical.

Josephinia imperatricis, Vent.

MYOPORINEAE.

Indigenous in Australia, 13 Genera.
in South Australia, 3 Genera.

Extra-Tropical.

Myoporum serratum, R. Br.
deserti, A. Cunn.
parvifolium, R. Br.
platycarpum, R. Br.
Pholidia Dalyana, F. Muell.
scoparia, R. Br.
crassifolia, F. Muell.
Behriana, F. Muell.
Pholidia gibbifolia, F. Muell.
divaricata, F. Muell.
santalina, F. Muell.
Eremophila rotundifolia, F. Muell.
oppositifolia, R. Br.
Paisleyi, F. Muell
Sturtii, R. Br.
Christophori, F. Muell.

Eremophila Latrobei, F. Muell.
Macdonellii, F. Muell.
longifolia, F. Muell.
polyclada, F. Muell
Freelingii, F. Muell.
Goodwinii, F. Muell.

Eremophila Brownii, F. Muell.
scoparia, F. Muell.
Duttoni, F. Muell.
maculata, F. Muell.
latifolia, F. Muell.
alternifolia, R. Br.

Intra-Tropical.

Eremophila Latrobei, F. Muell.
longifolia, F. Muell.

Eremophila Willsii, F. Muell.

## SELAGINEAE.

Indigenous in Australia, 1 Genus.
No representative in South Australia.

## VERBENACEAE.

Indigenous in Australia, 20 Genera.
in South Australia, 8 Genera.

Extra-Tropical.

Verbena officinalis, Lin.
Clerodendron floribundum, R. Br.

Avicennia officinalis, Lin.

Intra-Tropical.

Dicrastyles ochrotricha, F. Muell.
Denisonia ternifolia, F. Muell.
Premna obtusifolia, R. Br.
integrifolia, Lin.
acuminata, R. Br.
Clerodendron inerme, R. Br.
floribundum, R. Br.

Clerodendron Cunninghamii, Benth.
Gmelina macrophylla, Benth.
Vitex trifolia, Lin.
acuminata, R. Br.
glabrata, R. Rr.
Avicennia officinalis, Lin.

## LABIATAE.

Indigenous in Australia, 21 Genera.
in South Australia, 15 Genera.

Extra-Tropical.

Mentha australis, B. Br.
gracilis, B. Br.
serpyllifolia, Benth.
grandiflora, Benth.
satureioides, R. Br.
Lycopus australis, R. Br.
Prunella vulgaris, Lin.
Scutellaria humilis, R. Br.
Prostanthera rotundifolia, R. Br.
spinosa, F. Muell.
Behriana, Schlecht.

Prostanthera striatiflora, F. Muell.
eurybioides, F. Muell.
microphylla, A. Cunn.
aspalathoides, A. Cunn.
calycina, F. Muell.
chlorantha, F. Muell.
Westringia rigida, R. Br.
Teucrium racemosum, R. Br.
corymbosum, R. Br.
sessiliflorum, Benth.
Ajuga australis, R. Br.

Intra-Tropical.

Ocimum sanctum, Lin.
Moschosma australe, Benth.
Plectranthus parviflorus, Willd.
Coleus scutellarioides, Benth.

Hyptis suaveolens, Poit.
Dysophylla verticillata, Benth.
Anisomeles salvifolia, R. Br.

## PLANTAGINEAE.

Indigenous in Australia, 8 Genera.
in South Australia, 1 Genus.

Extra-Tropical.

Plantago coronopus, Lin.

Plantago varia, R. Br.

## PHYTOLACCACEAE.

Indigenous in Australia, 5 Genera.
in South Australia, 3 Genera.

### Extra-Tropical.

Didymotheca thesioides, Hook.
Gyrostemon cyclotheca, Benth.
Codonocarpus pyramidalis, F. Muell.
cotinifolius, F. Muell.

### Intra-Tropical.

Gyrostemon ramulosus, Desf.

## CHENOPODIACEAE.

Indigenous in Australia, 15 Genera.
in South Australia, 13 Genera.

### Extra-tropical.

Rhagodia Billardieri, R. Br.
parabolica, R. Br.
Gaudichaudiana, Moq.
crassifolia, R. Br.
spinescens, R. Br.
nutans, R. Br.
Chenopodium nitrariacea, F. Muell.
microphyllum, F. Muell.
glaucum, Lin.
carinatum, R. Br.
pumilio, R. Br.
cristatum, F. Muell.
atriplicinum, F. Muell.
Dysphania littoralis, R. Br.
Atriplex stipitata, Benth.
paludosa, R. Br.
nummularia, Lindl.
cinerea, Poir.
incrassata, F. Muell.
vesicaria, Heward
patula, Lin.
velutinella, F. Muell.
fissivalve, F. Muell.
angulata, Benth.
semibaccata, R. Br.
Muelleri, Benth.
prostrata, R. Br.
pumilio, R. Br.
leptocarpa, F. Muell.
Atriplex halimoides, Lindl.
holocarpa, F. Muell.
spongiosa, F. Muell.
Enchylaena tomentosa, R. Br.
villosa, F. Muell.
Kochia lanosa, Lindl.
oppositifolia, F. Muell.
brevifolia, R. Br.
eriantha, F. Muell.
villosa, Lindl.
sedifolia, F. Muell.
appressa, Benth.
aphylla, R. Br.
ciliata, F. Muell.
brachyptera, F. Muell.
Chenolea sclerolaenoides, F. Muell.
Babbagia dipterocarpa, F. Muell.
Sclerolaena uniflora, R. Br.
diacantha, Benth.
bicornis, Lindl.
biflora, R. Br.
paradoxa, R. Br.
Threlkeldia diffusa, R. Br.
Anisacantha divaricata, R. Br.
bicuspis, F. Muell.
Salicornia tenuis, Benth.
australis, Soland
Salsola Kali, Lin.

### Intra-tropical.

Rhagodia crassifolia, R. Br.
Chenopodium nitrariacea, F. Muell.
auricomum, Lindl.
Dysphania littoralis, R. Br.
Atriplex humilis, F. Muell.
Anisacantha glabra, F. Muell.
Salicornia leiostachia, Benth.
Salsola Kali, Lin.

## PARONYCHIACEAE.

Indigenous in Australia, 3 Genera.
in South Australia, 1 Genus.

### Extra-Tropical.

Scleranthus pungens, R. Br.

## AMARANTACEAE.

Indigenous in Australia, 9 Genera.
South Australia 7 Genera.

### Extra-Tropical.

Hemichroa pentandra, R. Br.
diandra, R. Br.
Trichinium obovatum, Gaudich
alopecuroideum, Lindl.
nobile, Lindl.
corymbosum, Gaudich
exaltatum, Benth.
helipteroides, F. Muell.
Beckerianum, F. Muell.
gomphrenoides, Moq.
Trichinium erubescens, Moq.
spathulatum, R. Br.
leucocoma, Moq.
parvifolium, F. Muell.
Ptilotus Murrayi, F. Muell.
alopecuroideus, F. Muell.
latifolius, R. Br.
Alternanthera nodiflora, R. Br.
nana, R. Br.
Gomphrena brachystylis, F. Muell.

### Intra-Tropical.

Amaranthus leptostachyus, Benth.
interruptus, R. Br.
Trichinium obovatum, Guadich.
incanum, R. Br.
astrolasium, F. Muell.
dissitiflorum, F. Muell.
distans, R. Br.
alopecuroideum, Lindl.
exaltatum, Benth.
fusiforme, R. Br.
calostachyum, F. Muell.
Ptilotus conicus, R. Br.
corymbosus, R. Br.
spicatus, F. Muell.
Achyranthes aspera, Lin.
Alternanthera nodiflora, R. Br.
nana, R. Br.
Gomphrena canescens, R. Br.
flaccida, R. Br.
conica, Spreng.
diffusa, Spreng.
parviflora, Benth.

## POLYGONACEAE.

Indigenous in Australia, 4 Genera.
in South Australia, 4 Genera.

### Extra-Tropical.

Emex australis, Steinh.
Rumex crispus, Lin.
Brownii, Campd.
dumosus, A. Cunn.
bidens, R. Br.
Polygonum aviculare, Lin.
Polygonum plebeium, R. Br.
prostratum, R. Br.
minus, Huds.
attenuatum, R. Br.
Muhlenbeckia adpressa, Meissn.
Cunninghamii, F. Muell.

### Intra-Tropical.

Rumex halophilus, F. Muell.
Polygonum minus, Huds.

## NYCTAGINEAE.

Indigenous in Australia, 2 Genera.
in South Australia, 1 Genus.

### Extra-Tropical.

Boerhaavia diffusa, Lin.

### Intra-Tropical.

Boerhaavia diffusa, Lin.

## MYRISTICEAE.

Indigenous in Australia, 1 Genus.
in South Australia, 1 Genus.

### Intra-Tropical

Myristica insipida, R. Br.

## MONIMIACEAE.

Indigenous in Australia, 8 Genera.
No representative in South Australia.

## LAURINEAE.

Indigenous in Australia, 8 Genera.
in South Australia, 2 Genera.

Extra-Tropical.

Cassytha glabella, R. Br.
pubescens, R. Br.

Cassytha melantha, R. Br.

Intra-Tropical.

Tetranthera laurifolia, Jacq.

Cassytha glabella, R. Br.

## PROTEACEAE.

Indigneous in Australia, 29 Genera.
in South Australia, 11 Genera.

Extra-Tropical.

Petrophila circinata, Kipp.
multisecta, F. Muell.
Isopogon ceratophyllus, R. Br.
Adenanthos sericea, Labill.
terminalis, R. Br.
Conospermum patens, Schlecht.
Persoonia juniperina, Labill.
Xylomelum pyriforme, Knight.
Grevillea Thelemanniana, Endl.
pterosperma, F. Muell.
ilicifolia, R. Br.
Youngii, F. Muell.
juncifolia, Hook.
Treuriana, F. Muell.
lavandulacea, Schlecht.
aspera, R. Br.

Grevillea Wickhami, Meissn.
pauciflora, R. Br.
Huegellii, Meissn.
stricta, R. Br.
parviflora, R. Br.
Hakea Pampliniana, Kipp.
vittata, R. Br.
rostrata, F. Muell.
rugosa, R. Br.
leucoptera, R. Br.
cycloptera, R. Br.
multilineata, Meissen
ulicina, R. Br.
flexilis, F. Muell.
Banksia marginata, Cav.
ornata, F. Muell.

Intra-Tropical.

Persoonia falcata, R. Br.
Helicia australasica, F. Muell.
Grevillea agrifolia, A. Cunn.
Goodii, R. Br.
chrysodendron, R. Br.
Dryandri, R. Br.
heliosperma, R. Br.
Wickhami, Meissn.

Grevillea dimidiata, F. Muell.
pungens, R. Br.
leucadendron, A. Cunn.
Hakea chordophylla, F. Muell.
lorea, R. Br.
arborescens, R. Br.
Stenocarpus Cunninghamii, R. Br.

## THYMELEAE.

Indigenous in Australia, 4 Genera.
in South Australia, 1 Genus.

Extra-Tropical.

Pimelea glauca, R. Br.
spathulata, Labill.
ligustrina, Labill.
humilis, R. Br.
simplex, F. Muell.
microcephala, R. Br.
serpyllifolia, R. Br

Pimelea flava, R. Br.
petrophila, F. Muell.
curviflora, R. Br.
octophylla, R. Br.
petraea, Meissn.
phylicoides, Meissn.
stricta Meissn.

Intra-Tropical.

Pimelea punicea, R. Br.

Pimelea concreta, F. Muell.

### ELAEAGNACEAE

Indigenous in Australia, 1 Genus.
No representative in South Australia.

### NEPENTHACEAE.

Indigenous in Australia, 1 Genus.
No representative in South Australia.

### EUPHORBIACEAE.

Indigenous in Australia, 37 Genera.
in South Australia, 18 Genera.

Extra-Tropical.

Euphorbia australis, Boiss.
Drummondii, Boiss.
Wheeleri, Baill.
eremophila, A. Cunn.
Poranthera ericoides, Klotzch.
microphylla, Brongn.
Beyeria opaca, F. Muell.
uncinata, F. Muell.

Bertya rotundifolia, F. Muell.
Amperea spartioides, Brongn.
Phyllanthus calycinus, Labill.
Fuernrohrii, F. Muell.
thymoides, Sieb.
Gunnii, Hook
Adriana Klotzschii, F. Muell.

Intra-Tropical.

Euphorbia atoto, Forst.
Schultzii, Benth.
Armstrongiana, Boiss.
Muelleri, Boiss.
Drummondii, Boiss.
micradenia, Boiss.
serrulata, Reinw.
eremophila, A. Cunn.
Poranthera microphylla, Brongn.
Antidesma Ghaesembilla, Gaertn.
Schultzii, Benth.
Dissiliaria baloghioides, F. Muell.
tricornis, Benth.
Petalostigma quadriloculare, F. Muell.
Phyllanthus ditassoides, F. Muell.
Adami, F. Muell.
ochrophyllus, Benth.
rigidulus, F. Muell.
baccatus, F. Muell.

Phyllanthus Urinaria, Lin.
trachygyne, Benth.
maderaspatanus, Lin.
Carpentariae, F. Muell.
grandisepalus, F. Muell.
minutiflorus, F. Muell.
lacunarius, F. Muell.
Breynia stipitata, F. Muell.
Securinega obovata, F. Muell.
Hemicyclia sepiaria, W. & Arn.
lasiogyne, F. Muell.
Briedelia tomentosa, Blume.
Croton Schultzii, Benth.
Verreauxii, Baill.
arnhemicus, F. Muell.
Mallotus nesophilus, F. Muell.
Sebastiania chamelaea, F. Muell.
Excaecaria Agallocha, Lin.
parvifolia, F. Muell.

### URTICEAE.

Indigenous in Australia, 17 Genera.
in South Australia, 7 Genera.

Extra-Tropical.

Parietaria debilis, Forst.

Urtica incisa, Poir.

Intra-Tropical.

Celtis philippinensis, Blanco.
paniculata, Planch
Trema amboinensis, Blume.
aspera, Blume
Ficus nesophila, Miq
retusa, Lin.
leucotricha, Miq.

Ficus coronulata, F. Muell.
orbicularis, A. Cunn.
aculeata, A. Cunn,
scobina, Benth.
aspera, Forst.
Malaisia tortuosa, Blanco.
Fatoua pilosa, Gaudich
Parietaria debilis, Forst.

CASUARINEAE.

Indigenous in Australia, 1 Genus.
South Australia, 1 Genus.

Extra-Tropical.

| | |
|---|---|
| Casuarina stricta, Ait. | Casuarina torulosa, Ait |
| glauca, Sieb. | bicuspidata, Benth. |
| distyla, Vent. | |

Intra-Tropical.

| | |
|---|---|
| Casuarina suberosa, Otto. | Casuarina equesitifolia, Forst. |

PIPERACEAE.

Indigenous in Australia, 2 Genera.
No representative in South Australia.

ARISTOLOCHIACEAE.

Indigenous in Australia, 1 Genus.
South Australia, 1 Genus.

Intra-Tropical.

Aristolochia Thozetii, F. Muell.

CUPULIFERAE.

Indigenous in Australia, 1 Genus.
No representative in South Australia.

SANTALACEAE.

Indigenous in Australia, 8 Genera.
South Australia, 5 Genera.

Extra-Tropical.

| | |
|---|---|
| Fusanus acuminatus, R. Br. | Leptomeria aphylla, R. Br. |
| persicarius, F. Muell. | Exocarpus cupressiformis, Labill. |
| spicatus, R. Br. | spartea, R. Br. |
| crassifolius, R. Br. | aphylla, R. Br. |
| Choretrum glomeratum, B. Br. | stricta, R. Br. |
| spicatum, F. Muell. | |

Intra-Tropical.

| | |
|---|---|
| Santalum lanceolatum, R. Br. | Exocarpus latifolia, R. Br. |
| ovatum, R. Br. | |

BALANOPHOREAE.

Indigenous in Australia, 1 Genus.
No representative in South Australia.

CONIFERAE.

Indigenous in Australia, 11 Genera.
in South Australia, 1 Genus.

Extra-Tropical.

| | |
|---|---|
| Frenela robusta, A. Cunn. | Frenela rhomboidea, Endl. |

Intra-Tropical.

Frenela robusta, A. Cunn.

CYCADEAE.

Indigenous in Australia, 3 Genera.
in South Australia, 1 Genus.

Intra-Tropical.

Cycas media, R. Br.

# MONOCOTYLEDONS.

## HYDROCHARIDEAE.

Indigenous in Australia, 5 Genera.
in South Australia, 3 Genera.

Intra-Tropical.

Ottelia alismoides, Pers.
**Blyxa Roxburghii, Rich.**
Vallisneria spiralis, Lin.

## SCITAMINEAE.

Indigenous in Australia, 7 Genera.
No representative in South Australia.

## ORCHIDEAE.

Indigenous in Australia, 48 Genera.
in South Australia, 20 Genera.

Extra-Tropical.

Thelymitra ixioides, Sw.
aristata, Lindl.
longifolia, Forst.
fusco-lutea, R. Br.
carnea, R. Br.
antennifera, Hook.
Diuris palustris, Lindl.
maculata, Sm.
pedunculata, R. Br.
sulphurea, R. Br.
longifolia, R. Br.
Orthoceras strictum, R. Br.
Prasophyllum striatum, R. Br.
patens, R. Br.
fuscum, R. Br.
nigricans, R. Br.
Microtis porrifolia, Spreng.
Corysanthes fimbriata, R. Br.
Lyperanthus nigricans, R. Br.
Pterostylis concinna, R. Br.
Pterostylis curta, R. Br.
nutans, R. Br.
cucullata, R. Br.
reflexa, R. Br.
barbata, Lindl.
mutica, R. Br.
rufa, R. Br.
longifolia, R. Br.
vittata, Lindl.
Acianthus exsertus, R. Br.
Eriochilus autumnalis, R. Br.
Cyrtostylis reniformis, R. Br.
Caladenia Menziesii, R. Br.
filamentosa, R. Br.
Patersoni, R. B.
latifolia, R. Br.
carnea, R. Br.
deformis, R. Br.
Glossodia major, R. Br.

Intra-tropical.

Dendrobium dicuphum, F. Muell.
Vanda Hindsii, Lindl.
Geodorum pictum, Lindl.
Eulophia venosa, Reichb.
Dipodium punctatum, R. Br.
Habenaria trinervis, Wight
elongata, R. Br.
graminea, Lindl.
Calanthe veratrifolia, R. Br.

## BURMANNIACEAE.

Indigenous in Australia, 1 Genus.
South Australia, 1 Genus.

Intra-tropical.

Burmannia disticha, Lin.
Burmannia juncea, Soland.

## IRIDEAE.

Indigenous in Australia, 7 Genera.
South Australia, 2 Genera.

Extra-tropical.

Patersonia longiscapa, Sweet | Orthrosanthus multiflorus, Sweet.

## AMARYLLIDEAE.

Indigenous in Australia, 13 Genera.
South Australia, 8 Genera.

Extra-tropical.

Crinum flaccidum, Herb.
pedunculatum, R. Br.
Calostemma purpureum, R. Br.
luteum, Sims
| Hypoxis glabella, R. Br.
pusilla, Hook
hygrometrica, Labill.

Intra-tropical.

Hæmodorum laxum, R. Br.
brevicaule, F. Muell.
coccineum, R. Br.
subvirens, F. Muell.
parviflorum, Benth.
| Curculigo ensifolia, R. Br.
Hypoxis marginata, R. Br.
Crinum asiaticum, Lin.
venosum, R. Br.
Calostemma album, R. B.

## TACCACEAE.

Indigenous in Australia, 1 Genus.
in South Australia, 1 Genus.

Intra-Tropical.

Tacca pinnatifida, Forst.

## DIOSCORIDEAE.

Indigenous in Australia, 2 Genera.
in South Australia, 1 Genus.

Intra-Tropical.

Dioscorea transversa, R. Br.
glabra, Roxb.
| Dioscorea sativa, Lin.

## ALISMACEAE.

Indigenous in Australia, 3 Genera.
in South Australia, 3 Genera.

Extra-Tropical.

Posidonia australis, Hook | Cymodocea antarctica, Endl.

Intra-Tropical.

Alisma oligococcum, F. Muell.

## PALMAE.

Indigenous in Australia, 6 Genera.
in South Australia, 3 Genera.

Intra-Tropical.

Livistona inermis, R. Br.
humilis, R. Br.
| Seaforthia elegans, R. Br.
Corypha australis, R. Br.

## PANDANEAE.

Indigenous in Australia, 1 Genus.
in South Australia, 1 Genus.

Intra-Tropical.

Pandanus pedunculatus, R. Br. | Pandanus piralis, R. Br.

## TYPHACEAE.

Indigenous in Australia, 2 Genera.
in South Australia, 2 Genera.

Extra-Tropical.

Typha angustifolia, Lin. | Sparganium angustifolium, Mich.

## AROIDEAE.

Indigenous in Australia, 4 Genera.
in South Australia, 3 Genera.

Extra-Tropical.

Arum orixense, Roxb. | Gymnostachys anceps, Benth.

Intra-Tropical.

Amorphophallus campanulatus, Decaisn. |

## LEMNACEAE.

Indigenous in Australia, 1 Genus.
in South Australia, 1 Genus.

Extra-Tropical.

Lemna minor, Lin. | Lemna trisulca, Lin.

## LILIACEAE.

Indigenous in Australia, 14 Genera.
in South Australia, 6 Genera.

Extra-Tropical.

Thysanotus paniculatus, R. Br.
Patersoni, R. Br.
Stypandra caespitosa, R. Br.
Arthropodium paniculatum, R. Br.
fimbriatum, B. Br.
pendulum, Spr.
minus, R. Br.
Arthropodium laxum, R. Br.
Bulbine bulbosa, Haw.
semibarbata, Spr.
Tricoryne scabra, R. Br.
Caesia parviflora, R. Br.
vittata, R. Br.

Intra-Tropical.

Tricoryne elatior, R. Br. | Thysanotus chrysanthus, F. Muell.

## MELANTHACEAE.

Indigenous in Australia, 3 Genera.
in South Australia, 3 Genera.

Extra-Tropical.

Anguillaria biglandulosa, R. Br.
dioica, R. Br.
uniflora, R. Br.
indica, R. Br.
Burchardia umbellata, R. Br.
Schelhammera undulata, R. Br.
multiflora, B. Br.

## SMILACEAE.

Indigenous in Australia, 3 Genera.
in South Australia, 3 Genera.

Intra-Tropical.

Smilax latifolia, R. Br.
elliptica, R. Br.
Ripogonum album, R. Br.
Drymophila cyanocarpa, R. Br.

## ASPARAGEAE.

Indigenous in Australia, 6 Genera.
in South Australia, 4 Genera.

Extra-Tropical.

Eustrephus latifolius, R. Br.
angustifolius, R. Br.
Dianella coerulea, Tims
revoluta, R. Br.

Intra-Tropical.

Cordyline cannaefolia, R. Br.
Dracaena angustifolia, Roxb.
Asparagus fasciculatus, R. Br.

## XEROTIDEAE.

Indigenous in Australia, 6 Genera.
in South Australia, 4 Genera.

Extra-Tropical.

Xerotes glauca, R. Br.
filiformis, R. Br.
leucocephala, R. Br.
rigida, R. Br.
longifolia, R. Br.
fluviatilis, R. Br.
Xerotes tenuifolia, R. Br.
aemula, R. Br.
Dasypogon bromeliaefolius, R. Br.
Xanthorrhoea semiplana, F. Muell.
quadrangulata, F. Muell.

## JUNCEAE.

Indigenous in Australia, 2 Genera.
in South Australia, 2 Genera.

Extra-Tropical.

Juncus pallidus, R. Br.
prismatocarpos, R. Br.
maritimus, R. Br.
vaginatus, R. Br.
gracilis, R. Br.
revolutus, R Br.
Holoschoenus, R. Br.
Juncus caespitosa, E. Mey.
planifolius, R. Br.
australis, Desf.
pallidus, R. Br.
communis, E. Mey.
pauciflorus, R. Br.
Luzula campestris, Des.

## PHILYDREAE.

Indigenous in Australia, 1 Genus.
in South Australia, 1 Genus.

Intra-Tropical.

Philydrum lanuginosum, R. Br.

## COMMELINACEAE.

Indigenous in Australia, 3 Genera.
in South Australia, 3 Genera.

Extra-Tropical.

Commelina ensifolia, R. Br.
lanceolata, R. Br.
Aneilema anthericoides, R. Br.
Aneilema acuminata,, R. Br.
Cartonema spicatum, R. Br.

## XYRIDEAE.

Indigenous in Australia, 2 Genera.
South Australia, 1 Genus.

Extra-Tropical.

Xyris operculata, Labil.
gracilis, R. Br.
barcteata, R. Br.
Xyris paludosa, R. Br.
scabra, R. Br.
denticulata, R. Br.

## FLAGELLARIEAE.

Indigenous in Australia, 1 Genus.
in South Australia, 1 Genus.

Intra-Tropical.

Flagellaria indica, Lin.

## ERIOCAULONEAE.

Indigenous in Australia, 1 Genus.
in South Australia, 1 Genus.

Extra-Tropical.

Eriocaulon australe, R. Br.
pallidum, R. Br.
Eriocaulon nanum, R. Br.
cinereum, R. Br.

Intra-Tropical.

Eriocaulon scariosum, R. B.
stillulatum, Hook.
Eriocaulon nutans, F. Muell.

## RESTIACEAE.

Indigenous in Australia, 6 Genera.
in South Australia, 6 Genera.

Extra-Tropical.

Restio australis, R. Br.
tetraphyllus, Lab.
complanatus, R. Br.
Leptocarpus tenax, R. Br.
Brownii, Hook.
Hypolaena fastigiata, R. Br.
Calorophus elongatus, Lab.
Centrolepis aristata, Roem. & Schult.
pulvinata, Roem & Schult
Alepyrum Muelleri, Hook.
polygnum, R. Br.

## CYPERACEAE.

Indigenous in Australia, 29 Genera.
South Australia, 15 Genera.

Extra-Tropical.

Cyperus Gunnii, Hook.
vaginatus, R. Br.
carinatus, R. Br.
lucidus, R. Br.
alopecuroides, Rottb.
Chaetospora tenuissima, Hook.
nitens, R. Br.
imberbis, R. Br.
axillaris, R. Br.
Gymnoshoenus sphaerocephalus, Hook.
Chorizandra enodis, Ness.
Eleocharis sphacelata R. Br.
gracilis, R. Br.
palustris, R. Br.
Isolepsis multicaulis, Schlecht.
fluitans, R. Br.
nodosa, R.Br.
Isolepsis prolifera, R. Br.
setacea, R. Rr.
cartilaginea, R. Br.
riparia, R. Br.
Scirpus maritimus, Lin.
triqueter, Lin.
Lepidosperma concavum, R. Br.
gladiatum, Lab.
longitudinale, Lab.
laterale, R. Br.
linearis, R. Br.
Cladium junceum, Hook
tetraquetrum, Hook
schoenoides, R. Br.
Gahnia trifida, Lab.
Psittacorum, Lab.

Intra-Tropical.

Cyperus Haspan, Lin.
Abildgardia monostachya, Vahl.
schoenoides, R. Br.
Carex inversa, R. Br.
appressa, R. Br.
littorea, Labil.
fascicularis, Soland.
longifolia, R. Br.
Fimbristylis dichotoma, Vahl.
Fimbristylis squarrulosa, F. Muell.
acuminata, Nees.
rythicarpa, F. Muell.
communis, R. Br.
Fuirena glomerata, Vahl.
Isolepis barbata, R. Br.
Diplacrum caricinum, R. Br.
Eleocharis acuta, R. Br.

## GRAMINEAE.

Indigenous in Australia, 64 Genera.
in South Australia, 44 Genera.

### Extra-Tropical.

Tetrarrhena tenacissima. Nees.
acuminata, R. Br.
laevis, R. Br.
Spinifex hirsutus, Lab.
fragilis, R. Br.
sericeus, R. Br.
Microlaena stipoides, R. Br.
Anthesteria australis, R. Br.
Hemarthria compressa, R. Br.
uncinata, R. Br.
Hierochloa rariflora, Nob.
antarctica, R. Br.
Alopecurus geniculatus, Lin.
Stipa semibarbata, R. Br.
pubescens, R. Br.
setacea, R. Br.
elegantissima, R. Br.
micrantha, R. Br.
mollis, R. Br.
ramosissima, Trin.
Dichelachne crinita, Nob.
stipoides, Nob.
Pentapogon Billardieri, R. Br.
Eragrostis lacunaria, F. Muell.
Agrostis quadriseta, R. Br.
stolonifera, Lin.
Billardieri, R. Br.
æmula, R. Br.
scabra, R. Br.
parviflora. R. Br.
Echinopogon ovatus, Pal.
Polypogon monspeliensis, Desf.
Phragmites communis, Trin.
Danthonia semi-annularis, R. Br.
nervosa, Hook.
pilosa, R. Br.
pauciflora, R. Br.
pallida, R. Br.
paradoxa, R. Br.
Glyceria fluitans, R. Br.
Poa australis, R. Br.
affinis, R. Br.
Poa parviflora, R. Br.
digitata, R. Br.
concinna, R. Br.
tenera, F. Muell.
Koeleria cristata, Pers.
Festuca bromoides, Lin.
distichophylla, Hook.
littoralis, Lab.
plebeia, R. Br.
Triticum scabrum, R. Br.
Andropogon tenuis, R. Br.
triticeus, R. Br.
sericeus, R. Br.
Lagurus ovatus, Lin.
stipoides, R. Br.
Aristida contorta, F. Muell.
vagans, Cav.
Arundo Phragmites, Lin.
Cynodon Dactylon, Pers.
tenellus, R. Br.
Chloris truncata, R. Br.
late vulvis, F. Muell.
meccana, Hochst.
Hordeum pratense, Huds.
Microlaena stipoides, R. Br.
Panicum Crus-galli, Lin.
decompositum, R. Br.
Triraphis mollis, R. Br.
Cinna ovata, Knth.
Cenchrus australis, R. Br.
Brownii, R. S.
Sporobolus elongatus, R. Br.
actinoclados, F. Muell.
Erianthus fulvus, Benth.
Pappophorum commune, F. Muell.
Setaria glauca, Beauv.
Lappago racemosa, Willd.
Deyeuxia Forsteri, Knth.
Dactyloctenium ægyptiacum, Willd.
Monachather paradoxa, Steud.
Cymbopogan cygnorum, Minor.

### Intra-Tropical.

Sporobolus pulchellus, R. Br.
Anthesteria ciliata, Lin.
frondosa, R. Br.
Eragrostis polymorpha, R. Br.
Eriachne avenacea, R. Br.
Ischaemum triticum, R. Br.
Setaria glauca, Beauv.
Spinifex fragilis, R. Br.
Cymbopogon procerus, R. Br.
Panicum angustum, Trin.
polyphyllum, R. Br.
effusum, R. Br.
ovalifolium, Beauv.
Petiverii, Trin.
decompositum, R. Br.
Ectrosia leporina, R. Br.
Aristida stipoides, R. Br.

# ACOTYLEDONS.

## FILICES.

Indigenous in Australia, 35 Genera.
in South Australia, 23 Genera.

Botrychium Lunaria, Siv.
ternatum, Siv.
Ophioglossum vulgatum, Lin.
Schizaea dichotoma, Sw.
Todea africana, Willd.
Gleichenia circinata, R. Br.
Lindsaea linearis, Sw.
Adiantum aethiopicum, Lin.
Lomaria capensis, Willd.
discolor, Willd.
procera, Sw.
lanceolata, Spreng.
Patersoni, Spreng.
fluviatilis, Spreng
Cheilanthes tenuifolius, Sw.
distance, A. Br.
Sieberii, Kunz.
vellea, F. Muell.
Pteris falcata, R. Br.
incisa, Thunb.
umbrosa, R. Br.
esculenta, Forst.
Asplenium flabelliformis, Cav.
obtusatum, Forst.
bulbiferum, Forst.
Aspidium molle, Sw.
decompositum, Spreng.
Grammitis leptophylla, Sw.
rutifolia, R. Br.
australis, R. Br.
Gymnogramma Pozoi, Kunz.
Notochlaena Reynoldii, F. Muell.
fragilis, Hook.
Polystichium vestitum, Presl.
Nephrodium decompositum, R. Br.

Intra-Tropical.

Schizaea dichotoma, Sw.
Acrostichum aureum, Lin.
pteroides, Hook
Adiantum lunulatum, Beauv.
Lindsaya ensifolia, Sw.
tenera, Dryand
flabellulata, Dryand
Lygodium scandens, Sw.
semibipinnatum, R. Br.
microphyllum, R. Br.
Gleichenia dichotoma, Willd.
Polypodium quercifolia, Lin.
Polypodium Linnaei, Borg.
Aspidium unitum, Sw.
Blechnum orientale, Lin.
serrulatum, Rich.
striatum, R. Br.
Ceratopteris thalictroides, Brongn.
Cheilanthes fragillina, F. Muell.
tenuifolia, Sw.
Pteris aquilina, F. Muell.
Ophioglossum vulgatum, Lin.
Botrychium virginianum, Sw.
Notochlaena fragilis, Humb. & Bonpl.

## LYCOPODIACEAE.

Indigenous in Australia, 2 Genera.
South Australia, 2 Genera.

Extra-Tropical.

Lycopodium densum, Lab.
varium, R. Br.
L. volubile, Forst.
Selaginella Belangeri, Sw.

## MARSILEACEAE.

Indigenous in Australia, 1 Genus.
in South Australia, 1 Genus.

Extra-Tropical.

Marsilea macropus, Hook.
M. quadrifolia, Lin.

## SALVINIEAE.

Indigenous in Australia, 1 Genus.
South Australia, 1 Genus.

Extra-Tropical.

Azolla rubra, R. Br.
A. pinnata, R. Br.