1862–3.

VICTORIA.

ANNUAL REPORT

OF THE

GOVERNMENT BOTANIST AND DIRECTOR OF THE BOTANIC GARDEN.

PRESENTED TO BOTH HOUSES OF PARLIAMENT BY HIS EXCELLENCY'S COMMAND.

By Authority:
JOHN FERRES, GOVERNMENT PRINTER, MELBOURNE.

No. 61.

REPORT.

Melbourne Botanic Garden,
15th April, 1863.

Sir,

I have the honor of submitting to you a succinct report on the progress of the labors in the Botanic Garden during the past year; and simultaneously I beg to offer some brief remarks on the intended work of the coming season.

The extensive ground under cultivation absorbs already for its maintenance and improvements a proportion of labor so large as to render measures for any considerable new access to the flower borders undesirable, especially since hitherto no means for obtaining an adequate supply of water are available. But, as new works of the past season, I may instance the extension of the Pineta, both in the eastern and western part of the garden; the formation of the western lower main walk, edged with basalt boulders along the base of the declivity above; the interplantation of elms in the Eucalyptus avenue leading from the city bridge to the Botanic Garden, and the formation of pineries in the latter locality, on the slopes along the Yarra. The latter plantation was commenced last season, and is at present under progress of extension. The total effect of masses of Deodoras, Wellingtonias, Italian firs, and of superior Californian pines, which, with the quickly growing cluster pines, are mainly selected and reared for this locality, cannot be otherwise than grand, when at a future period viewed from the city; and we may anticipate that, by the display of these noble trees, a most picturesque feature will be introduced into the metropolitan landscape. This plantation will afford, after a series of years, also, the means of obtaining large annual supplies of seeds of these pines for forest-culture.

An avenue, from the Richmond Park railway station to the foot-bridge of the Yarra, is under process of formation. Another avenue of walnut trees is formed between the office building and the Museum. A considerable variety of roses have been consociated in the rear of the larger conservatory. Numerous trees, chiefly of deciduous foliage, have been added to the evergreen ones which line the passage between the lake and Yarra River. A number of select trees from the subtropical parts of Eastern Australia have found a permanent place on the sheltered slopes of the middle part of the garden. By the removal of some of the native trees, the noble forms of the now already conspicuous Araucarias, planted on the slope fronting the western part of the lagoon, have come advantageously into view. To the variety of hedges, established with a desire that visitors may be able to judge of their respective value, and amongst which the Ceanothus-hedges are deserving of particular attention, one has been added of the evergreen South European May, a highly ornamental bush, seemingly well adapted for the purpose. A row of the shady West Australian Red Gum trees (Eucalyptus calophylla) has been recently established along the Domain-road, and a short avenue of the Abele poplar is under formation.

The Superintendent of the Immigrants' Home, T. Harcourt, Esq., has this year again materially aided in the improvements in the reserve, by nearly completing, by labor from his establishment, a walk from the city bridge, along the base of the Yarra ridges, to the Botanic Garden.

By labor and material, available at the garden, an exterior division has been added to the forcing house. Some substantial shades have been erected in the nurseries, roofed advantageously with densely perforated galvanized iron; and the extension of the older propagating house in the central portion of the garden, together with the application of an improved heating apparatus, is now under contract. Some arrangements have been made to substitute box edgings in some parts of the garden for those of the chamomile, since the latter are suffering so much from the summer drought, and involve for being kept in neatness a great amount of labor.

The Miarum, which forms in our highlands dense cushion-like patches of turf of low growth, has been introduced into the garden with a view of testing its adaptability for edgings.

Three hundred public institutions have been supplied for the ornamentation of their ground with plants, seeds and cuttings from this establishment. An exact record of these supplies is kept at the office of this garden, alike in this and all former years of my administration, and new supplies are provided for distribution during the current season.

On one hundred and twelve occasions supplies of flowers have been granted to public festivals, instituted mainly for ecclesiastic, educational, or charitable purposes.

Four exhibitions of the Horticultural and Gardeners' Societies were held at the gardens within this year.

During the coming season it is contemplated to devote the necessary means and labor for carrying a line of water-pipes from the south-east point along the main ridge of the garden to the rise beyond the western upper entrance, in anticipation of the early extension of the Yan Yean aqueducts to the Domain-road, as contemplated by Government. This measure will provide, it is hoped, during the next summer, a timely and adequate supply of water for the principal part of the garden, although the further local distribution must remain a gradual work of future years. When water becomes thus, by gravitation, copiously accessible, not only a considerable amount of labor now expended in manual work for the conveyance of water will be saved, but furthermore, irrigation may be applied to many of the arid parts of the garden, and its beneficial effects may be demonstrated on our public ground to great advantage, whilst fountains may be established to render our cheerful locality still more attractive, and opportunities more favorable will arise for instituting experiments on the growth and yield of plants calculated to be of utility to this country. On this, amongst new works, and on the copious storage of surface water, will, therefore, our energies be mainly concentrated during the coming season.

It is further intended to provide a number of bowers, some rockeries, grottoes, and other ornamental work; also, copses for the shelter of water-birds on the north lagoon; and the lake will probably be embellished with some floating islands to serve as places of retreat for the increasing variety of water-fowls, until at a subsequent period permanent islands can be formed.

The tall Danubian reeds, New Zealand flax, willows, and other conspicuous plants, need to be planted along the margin of the lagoon in the reserve towards the city bridge.

The slope between the western walk along the lagoon, where the soil is better than in most parts of the garden, is to be divided into about thirty experimental areas for the reception of strictly useful plants requiring a sheltered position. Probably it will be within our means to raise water for this new experimental ground from the adjoining lagoon by a small wind-mill, such as at present provides a constant flow of water for the fish-tanks

of the garden. The areas may, for the sake of ornamentation, be interspersed with such trees of deciduous foliage as need a place comparatively secure against the blast of our hot winds.

Appropriate objects of experiments will be the various fibre plants, including the hitherto little appreciated Lavatera arborea, the almost unknown Cyperus vaginatus, and especially the Bœhmeria nivea, which latter yields the Chinese grass-cloth or Rhea-fibre, and has, since the invention of Mr. T. Hill Dickson's patent process, become of such high mercantile value, and is proved to grow here with the utmost luxuriance; further, various kinds of olives, the hardier varieties of cotton, the Chinese tea, rice, various fodder herbs, and a number of grasses. Amongst the latter the so-called Californian prairie grass (Bromus unioloides of Humboldt) has far surpassed in its yield all other kinds hitherto experimented on in this garden; and as a perennial species, of broad blade and of nutritive properties, prolific even in dry ground, and capable of enduring the influence of our occasionally scorching summer heat, this grass is entitled to a general introduction on our pastures. The Cynodon Dactylon or South European couch-grass, and the densely matted Hemitaphrum glabrum or buffalo-grass appear by their rigid foliage to be well adapted for maintaining a verdure on those parts of our lawns which are most frequently traversed by visitors. The latter grass was obtained by the favor of Charles Moore, Esq., Director of the Botanic Garden of Sydney.

If half the experimental areas remain unirrigated, the effect of application of water to each kind of culture plant experimented upon could be ascertained with precision. Many of the plants intended for this ground had hitherto a temporary place in the experimental orchard, from whence, with the increase of variety of vines and fruit trees, they require now to be removed.

The necessary number of plants of the Moreton Bay fig and of maples is set apart, the former for lining a new walk from the Botanical Museum to the city bridge, the latter tree for forming an additional avenue in the northern reserve.

Some walks, as well in the northern as southern reserve, remain to be completed; with the final choice of these the opportunity will arise of submitting a perfect plan of the garden for the guidance of visitors.

It is further deemed advisable to erect a special structure for the accommodation of epiphytal orchids, and other plants needing a higher degree of humidity and heat than can be applied to the general collections of plants in the conservatory. From the latter, in the vicinity of which the new building is to be placed, the means of heating the new structure may be derived with hardly any additional expenditure of fuel.

It may not be inappropriate to record on this occasion that during the last International Exhibition the commercial importance of many of the products and educts of Victorian plants (principally secured by the direct or indirect instrumentality of this office) has been fully recognised. It has led, for instance, to extensive orders for the volatile oil of eucalyptus, for the distillation of which a factory on a large scale has recently been erected by Joseph Bosisto, Esq., near Western Port. The gum-resins of eucalyptus and the bark of our native sassafras have also since become articles of mercantile export.

It has also been ascertained from specimens transmitted by A. Thozet, of Rockhampton, that the "bitter-bark" of New South Wales and Queensland, to which recently attention has been drawn as a powerful tonic, is yielded by the Alstonia constricta, a tree which occurs not only in the jungles but also in the Brigalow scrubs of the warmer parts of East Australia. A chemical analysis of the bark has been furnished by Professor Dr. Wittstein, of Munich. For similar investigations into the properties of many of our vegetable products, and other experiments, it

would be needful, in the course of time, to construct a small laboratory on our ground.

I further deem it of interest to remark, that the here so vigorously growing New Zealand flax, which could be cultivated in swampy localities hardly available for any other purposes, has realised in London sales as raw material £20 per ton, a price remunerative for a more general cultivation of this useful fibre plant.

The following plants, of more general interest or utility, have well withstood the influence of the sudden and lasting drought of the last season :—

The Argan tree (which flowered for the first time), Amyris terebinthifolia, the Dye tree of Norfolk Island, the Paper Mulberry, the Red Cedar, the Carob tree, the Karaka, Corypha Australis, the Dammar pines, the Bottle tree, the East Australian Sassafras, Ficus macrophylla and F. syringifolia, the Manna ash, Flindersia Australis, Flindersia Oxleyana (one kind of yellow wood of Queensland), Hovenia dulcis, the Camphor tree, the Totara, Prunus mahaleb, the Valonia oak, the Sumach, the Scotino, Rhamnus erythroxylon and Rhamnus infectorius, the British bramble, which proves remarkably fruitful, Sophora Japonica, Strelitzia Reginæ.

The garden enjoyed again during the year the support of many liberal donors, whose names are here subjoined.

LIST OF DONORS TO THE BOTANIC GARDEN.

Allan, J., Warrnambool.
Allitt, W., Superintendent of the Portland Botanic Garden.
Anderson, Colonel, South Yarra.
Backhouse, Rev. Dr., Sandhurst.
Baggott, G. D., Emerald Hill.
Balfour, Professor, Director of the Edinburgh Botanic Garden.
Bates, —, Sandridge.
Bathe, James.
Batson, W., Hernhill.
Beveridge, P., Murray River.
Birman, F., Jamieson's Diggings.
Black, Dr. Jos.
Board of Agriculture.
Bajie, Alex., Prahran.
Bookey, Inspector, Beechworth.
Brewster, George, Sandridge.
Brooke, J. H., M.L.A.
Brown, Capt. W., of the *Tom Brown*.
Brown, J., Como.
Bucknall, Henry, Carisbrook.
Bunce, Daniel, Geelong.
Burry, Th., Tarrangower.
Campbell, Duncan, Lake Lalbert.
Cannon, Thos., South Yarra.
Carter and Watts, Messrs.
Catherwood, F. A., St. Kilda.
Chalmers, Rev. G. J., Christchurch, New Zealand.
Cobham, Mrs. Mary, Darling Downs, New South Wales.
Coghill, Donald.
Cole, Commissioner, Murray River.
Cole, E. W., Castlemaine.
Cole, T. C., Richmond.
Dardell, J., Batesford.
Delisse, Mons., Bordeaux.
Devine, Capt., of the barque *Lorenzo Sabine*.
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Douglass, A., Geelong.
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Embling, Dr. Th., Kew.
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Godfrey, H.
Goodwin, Rev. Th., Darling River.
Greeves, Dr. Aug.
Guiness, Rev. Mr., South Yarra.
Haage and Smith, Erfurt.
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Hardy, Mons. W., Algiers.
Harrington, H. G., Bath.
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Huber and Co., Hyarès.
Hugham, Allan, Swan Hill.
Hughes, Th.
Joachimi, Collingwood.
Johnson, B. J., Thomastown.
Judd, W., South Yarra.
Kay, Miss, South Yarra.
Kochler, Consul, St. Kilda.
Kramer, Fr., Sandhurst.
Krause, Rev. E., Raratongo.
Long and Co., Th., Ballaarat.
Laurie, Capt., of the *Formosa*.
Ledger, Charles, New South Wales.
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Manyfold, Mrs., South Yarra.
Minnett, D. J., Geelong.
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Moore, John, Toorak.
Mount, Dr., Ballaarat.
Murray, Andrew.
McAlpine, W., Tyers River.
McGowan, Sam.
McKinlay, J., Adelaide.
McMillan, Angus, Gipps Land.
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Niall, Rev. P. W., Brighton.
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Pamplin, W., London.
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Perry, R. D., London.
Ploes, Mark, Heathcote.
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Schaefer, Dr., Dutch ship *Everdine Elizabeth*.
Schaefer, Edw., Collingwood.
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Smith, James, South Australia.
Smith, J. H., Captain of *Mary Anne Wilson*.
Smith, Rev. James, Castlemaine.
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Snowball, Joshua, South Yarra.
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Thomson, Wm., Ipswich, England.
Thozet, A., Rockhampton.
Tripp, Mrs., Prahran.
Turner, D. A.
Tyler, J. Ch., South Yarra.
Vernon, W., Sydney.
Vilmorin, Andrieux and Co., Paris.
Wade, Th., Launceston.
Walker, W. C.
Watts, W.
Webster, A., Richmond.
Weidenbach, Max., Glen Osmond, South Australia.
Westall, W. F.
Wilhelmi, C., South Yarra.
Wilkinson, Rev. G., Williamstown.
Wilson, Wilfr., Dunedin.
Winterstein, E., Alexandria.
Wood, J. B., Queensland.
Wood, Rev. W., Hawthorn.
Wright, A. J., South Yarra.
Wright, Geo.
Wright, Horatio, Ballaarat.
Wright, W.
Young, D., Geelong.
Young, John.

As worthy of special record, I feel it incumbent on me to enumerate—

Various consignments of seeds of useful plants from the Imperial Acclimation Society of France.

An extensive collection of vines from l'école de Luxembourg, transmitted through M. Pr. Ramel, of Paris.

Large collections of herbaceous seeds from Sir William Hooker, Director of the Royal Gardens of Kew.

Extensive collections of seeds from the Imperial Botanic Gardens of Petersburg and Vienne.

Collections of valuable pine seeds from the Horticultural Society of Petersburg.

Acorns of Mediterranean oaks from Consul Saunders, of Alexandria, and Mons. Hardy, of Algiers.

Seeds of Sumach and other Mediterranean plants from Professor Dr. Planchon, Director of the Botanic Garden of Montpellier.

Chinese and Japanese seeds from G. W. Rusden, Esq.

Seeds of Californian pines from C. Walker, Esq., of San Francisco.

Seeds of Himalaian pines from Professor Dr. Th. Anderson, Director of the Botanic Garden of Calcutta.

Oriental planes from Edw. Wilson, Esq.

Seeds of South African, especially esculent, plants from His Excellency Sir George Grey, Governor of New Zealand.

Miscellaneous select seeds from Messrs. Vilmorin, Andrieux and Co., of Paris.

Valuable bulbs from J. P. Rothwell, Esq., of Port Natal.

Epiphytal orchids of the Madras Presidency from His Excellency Sir William Denison, Governor of Madras.

Wardian cases with miscellaneous plants from the Botanic Gardens of Amsterdam, Hobart Town, Adelaide, Buitenzorg, Brisbane, Hong Kong, from the Horticultural Society of Calcutta, T. H. Hulke, Esq., of New Plymouth, T. Butler, Esq., of Calcutta, W. Butler, Esq., of Manilla.

Various collections of seeds from Messrs. Handasyde, McMillan and Co.

Seeds from the Botanic Garden of Cape Town, Natal, Giessen, Darmstadt, Munich, Mauritius, Edinburgh, Marseilles, Ceylon, Copenhagen.

In the transit of many of these consignments we are indebted to the disinterested aid of the gentlemen of the Peninsular and Oriental Steam Navigation Company, and many of our mercantile firms.

The Botanical Museum—comprising now 1139 arranged fascicles of dried plants, lodged in demy printing paper (irrespective of a herbarium of Victorian plants and considerable supplemental collections as yet unarranged) —has not less experienced the generosity of many contributors, as will be perceived from the subjoined list of donors :—

Abel, A., Ballaarat.
Atkinson, Miss L., Fernhurst, New South Wales.
Beckler, Dr. Herm.
Bowman, Edwd , Walloon, Queensland.
Burkitt, J., Lachlan.
Davenport, Honorable Sam., Glen Osmond, South Australia.
Fisher, M., Dunkeld.
Krefft, G., Sydney.
McHaffie, J., Phillip Island.
Panton, Sandhurst.
Paulson, Mrs. H., Castlemaine.
Ramsey, E. J., Sydney.
Ramsey, W., Syndey.
Scott, Miss Helena, Hunter River.
Stuard. Ch., Clifton.
Sutherland, E., Suttor River.
Thozet, A., Rockampton.
Travers, Barrister, Christchurch, New Zealand.
Ward, Dr. N. B., London.
Wehl, Mrs. Dr., Mount Gambier.
Williams, Dr., Queenscliff.
Woolls, W., Parramatta.

Deserving of special record are—

Ferns collected in Jamaica and Essequibo, and presented by His Excellency Sir Henry Barkly, K.C.B.

Plants collected by Dr. Traill Green, Dr. C. C. Parry, D. C. Eaton, Esq., J. W. Chickering, Esq., and others, in various parts of North America, and presented by Professor Dr. Asa Gray, of Boston.

Plants illustrative of the flora of France, and an extensive collection of Algæ, from the Mediterranean and South African shores, presented by M. Réné Lénormand, Vire, Calvados.

Alpine plants from the province of Canterbury, New Zealand, collected during his expeditions by Dr. Jul. Haast.

Ceylon plants presented by G. Thwaites, Esq., Director of the Botanic Garden of Paradenia.

Plants collected on the Gulf of Carpentaria during his expedition and presented by W. Landsborough, Esq., an index of which accompanies his journal.

Plants of Queensland, collected and presented by Jos. Nernst, Esq., of Ipswich.

Extensive collection of Indian plants, especially from the Himalaian Mountains, collected and presented by Drs. Hooker and Thomson, of Kew.

The Museum also acquired during the year—

Additional collections of Abyssinian plants formed by Doctor Schimper.

Plants from the Island of Bourbon, collected by Mr. Bowin.

Guiana plants from Sir Robert Schomburgk's expedition.

Indian plants from the collections of Heyne and Roxburgh.

Fiji plants gathered by Dr. Berth. Seemann.

Plants collected on the western extremity of the Great Bight, by Mr. George Maxwell.

Further collections for our Herbarium were formed by Mr. Diedrich Henne during the voyage of the *Victoria* to the Gulf of Carpentaria; and Mr. J. Dallachy continues collecting in the northern districts of Queensland.

A series of all the plants collected during Mr. J. M. Stuart's last expedition was presented by the Hon. H. Strangeways, Commissioner of Crown Lands of South Australia, and those of the former expeditions of

that highly distinguished explorer, by the late J. Chambers, Esq., of North Adelaide; whilst the plants obtained by Dr. J. Murray, during Mr. A. Howitt's expeditions, were placed by the latter gentleman at my disposal for the Botanical Museum. Of both these collections I have the honor to append a systematic enumeration.

Of the plants gathered by Messrs. Pemberton Walcott and Maitland Brown, during Mr. Francis Gregory's expedition into the tropical tracts of Western Australia, a full account has been furnished for the New Philosophical Journal of Edinburgh in the course of this year.

Many of the novelties acquired for our Museum found, during the year, their first elucidation in the Fragmenta Phytographiæ Australiæ, of which the third volume has recently been issued.

A series of lithographed octavo plates, with analytical illustrations, of indigenous mosses has also been completed during the year.

The plates for the Corolliflorae and the remainder of the Calyciflorae of "The Plants Indigenous to Victoria" have been completed, as well as some new, although as yet unpublished, portions of the text of this work.

For the Universal Flora of Australia, now under elaboration by George Bentham, Esq., the President of the Linnean Society of London, all our normal collections, corresponding to the text of the first volume of the work, have been transmitted for comparison to London, and have been already partially returned; for the same purpose the fascicles comprising the extensive orders of Myrtaceæ and Leguminosæ, as part of the material for the second volume, are now placed in order, and will be despatched successively for Mr. Bentham's perusal. It is pleasing to observe, that thus our young establishment is already able to afford some material aid towards a great work, by which one of the most learned, experienced, and laborious naturalists of this age is now crowning his phytological labors, commenced more than forty years ago.

Whilst Professor Dr. Harvey, of Dublin, is bringing his important and beautifully illustrated work on the Algæ of Australia rapidly to a close, I have recently endeavored by the formation of further collections of seaweeds, on the shores of Phillip Island, to add to his material.

The botanical investigation of the territory of our colony, now nearly completed, has during the last summer been extended from the Bunyip River to the sources of the Tarwan, Tyers and La Trobe River, and thence along the Upper Yarra Ranges to the sources of the Thomson River and Mount Useful.

Accompanied by Messrs. Alfred Walker and George Johnson, I succeeded also in traversing the alpine elevations of the Barkly Ranges, which front the western tributaries of the Macallister River, although we experienced much difficulty in penetrating the dense scrubs of the surrounding ranges, through part of which we had to cut our way for the sake of connecting existing tracks.

It is not improbable that many of the gullies adjoining the ranges over which I passed will prove auriferous; and, for the exploration of their mineral wealth, no measure would be more stimulating than the cutting of tracks along the main ranges, for the purpose of enabling the miners to advance with pack-horses to those positions from which the valleys can be readily explored.

I have the honor to be,
Sir,
Your most obedient and humble servant,
FERD. MUELLER,
Government Botanist and Director of the
Botanic Garden.

The Honorable the Chief Secretary,
&c., &c., &c.

ENUMERATION

OF THE

PLANTS COLLECTED DURING MR. J. MACD. STUART'S EXPEDITIONS ACROSS THE AUSTRALIAN CONTINENT IN 1860, 1861 AND 1862.

By FERDINAND MUELLER, M.D., Ph.D., F.R.S.

Dilleniaceæ.

Pachynema macrum, F. M. Purdie's Ponds. Waterhouse.

Hibbertia glaberrima, F. M. Fragmenta Phyt. Austr. iii. 1. Brinkley's Bluff, McDonnell's Ranges. J. M. Stuart.

Nymphæaceæ.

Nymphæa gigantea, Hook. Bot. Mag. 4647. Strangeway's River.

Nelumbium speciosum, W. Sp. Pl. ii. 1258. Arnhem's Land.

Capparideæ.

Capparis nummularia, Cand. Prodr. i. 246. Central Australia.

Capparis lasiantha, R. Br. in Cand. Prodr. i. 247. Near Central Mount Stuart.

Busbeckea umbonata (Capparis umbonata, Lindl. in Mitch. Trop. Austr. 257). Near Newcastle's Waters and Attack Creek. Flowers similar to those of B. Mitchellii.

Droseraceæ.

Drosera Indica, Linn. Sp. Pl. 403. On the Bonney and Finke Rivers and Attack Creek, also in Central Australia.

Violaceæ.

Ionidium enneaspermum, Vent. Malmais. p. 27. Burke's Creek. An allied species with a blue labellum occurs in the collection, gathered at Purdie's Ponds.

Ionidium aurantiacum, F. M. Forster's Range, Purdie's Ponds.

Frankeniaceæ.

Frankenia lævis, Linn. Sp. 473 var. Finke's River.

Zygophylleæ.

Zygophyllum apiculatum, F. M. in Linnæa, 1852, p. 373. Stevenson's River.

Tribulus terrestris, Linn. Sp. 554. Mount Morphett. A large flowering variety with petals 1″ long; at Merchant's Springs, Burke's River and Attack Creek.

Malvaceæ.

Hibiscus brachysiphonius, F. M. Fragm. Phyt. Austr. i. 67. Near the Strangeway's Range.

Hibiscus pentaphyllus, F. M. Fragm. Phytogr. Austr. ii. 13. Newcastle's Waters and Daly's Waters.

Hibiscus radiatus, Cav. Diss. iii. 150, t. 54, fig. 2. Purdie's Ponds, Newcastle's Waters, Attack Creek.

Hibiscus Sturtii, Hook. in Mitch. Trop. Austr. p. 363. North of McDonnell's Ranges.

Hibiscus solanifolius, F. M. Fragm. ii. 116. Mount Denison.

Hibiscus panduriformis, Burm. Fl. Ind. p. 151, t. 47, f. 2. Burke's River.

Gossypium Australe, F. M. Fragm. i. 46. Newcastle's Waters. Waterhouse. Between Mount Woodcock and the Davenport Ranges.

Gossypium Sturtii, F. M. Fragm. iii. 6. As far north as the Stevenson River.

Abutilon tubulosum, All. Cunn. in Mitch. Trop. Austr. 390. Burke's River.

Abutilon leucopetalum, F. M. Fragm. iii. 12. Daly's Waters.

Abutilon diplotrichum, F. M. in Linnæa, 1852, 381. Attack Creek. J. M. Stuart.

Sida corrugata, Lindl. in Mitch. Three Expedit. ii. 12. Var. filipoda. Attack Creek. J. M. Stuart.

Sida cryphiopetala, F. M. Fragm. iii. 4. Brinkley's Bluff, McDonnell's Ranges. J. M. Stuart.

Tiliaceæ.

Corchorus sidoides, F. M. Fragm. iii. 9. McDonnell's Ranges. J. M. Stuart.

Triumfetta plumigera, F. M. Fragm. i. 69. Purdie's Ponds. F. Waterhouse.

Buettneriaceæ.

Keraudrenia nephrosperma, Benth. in Proceed. Lin. Soc.; Seringea nephrosperma, F. M. in Hook. Kew Miscell. 1857, 15. Towards Arnhem's Land.

Keraudrenia Hookeri, Walp. Annal. Bot. Syst. ii. 164. Near the Roper River.

Rulingia loxophylla, F. M. Fragm. i. 68. Towards Arnhem's Land.

Melhania incana, Heyne in Wall. List. 1200. Burke's River and Purdie's Ponds.

Sterculiaceæ.

Brachychiton ramiflorum, R. Br. in Horsf. Plant. Savan. rarior. 234. From Burke's Creek onward to Arnhem's Land.

Cochlospermeæ.

Cochlospermum Gregorii, F. M. Fragm. Phyt. Austr. i. 71. Strangeway's River.

Cochlospermum heteronemum, F. M. in Hook. Kew Miscell. 1857, 15. Strangeway's River.

Meliaceæ.

Owenia acidula, F. M. in Hook. Kew Miscell. ix. 304. Central Mount Stuart.

SAPINDACEÆ.

Thouinia variifolia, Fragm. Phyt. Austr. i. 45. Crawford's Range.

Diplopeltis Stuartii, F. M. Fragm. iii. 12. Between Mount Morphett and the Bonney River. J. M. Stuart.

Distichostemon phyllopterus, F. M. in Hook. Kew Miscell. ix. 306. Purdie's Ponds. Var. serrulatus; leaves tender, lanceolate, acute, serrulated; stamens about 44. Burke's River.

Dodonæa lanceolata, F. M. Fragm. Phyt. Austr. i. 73. Purdie's Ponds, Waterhouse; Mount Woodcock, Stuart.

Dodonæa platyptera, F. M. Fragm. i. 73. Strangeway's River.

Dodonæa physocarpa, F. M. Fragm. i. 74. Daly's Waters.

Dodonæa microzyga, F. M. Somewhat viscid, almost glabrous; *leaves with* 1–2 *pairs of small obovate-cuneate leaflets*, in front rounded or truncate or retuse or sometimes 3-toothed, flat at the margin; rachis dilated; fruit-bearing pedicels solitary; capsules 3–4-celled; valves cymbeo-semiorbicular, all around broadly winged; the wing rounded-blunt on both extremities; dissepiments persistent with the columella. On the River Neales. J. M. Stuart.

A shrub with spreading and rigid branches. Most leaves about $\frac{1}{2}''$ long; leaflets 1–2″ long; flowers unknown; caspule with the wings added about $\frac{1}{2}''$ long, shining, reddish; valves ceding from the septa; ripe seeds unknown.

The fruit of this species is almost alike to that of D. viscosa.

MOLLUGINEÆ.

Mollugo trigastrotheca, F. M. Plants Indig. to Victoria, i. 201. Arnhem's Land.

CARYOPHYLLEÆ.

Polycarpæa corymbosa, Lam. Mount Samuel. J. M. Stuart.

PORTULACEÆ.

Portulaca oleracea, Linn. Sp. Pl. 638. Common in the interior and in North Australia.

Calandrinia Balonnensis, Lindl. in Mitch. Trop. Austr. p. 148. River Finke.

PHYTOLACCEÆ.

Codonocarpus cotinifolius, F. M. Plants of Victoria, i. 200. From 300 to 800 miles north of Adelaide, F. Waterhouse; Central Mount Stuart, J. M. Stuart.

Gyrostemon ramulosus, Desf. in Mémoir. du Muséum, vi. 17. Finke's River. J. M. Stuart.

Didymotheca pleiococca, F. M. Plants Indig. to Victor. i. 198. Between the River Bonney and Mount Morphett. J. M. Stuart.

LEGUMINOSÆ.

Acacia retivenea, F. M. Fragm. iii. 128. Short's Range.

Acacia dictyophleba, F. M. Fragm. iii. 128. Mount Humphries.

Acacia aneura, F. M. in Linnæa, xxvi. 627. "Mulga." Over the whole of Central Australia. F. Waterhouse.

Acacia tumida, F. M. in Proceed. Linn. Soc. iii. 144. Attack Creek.

Acacia impressa, F. M. in Proceed. Linn. Soc, iii. 133. Short's Range.

Acacia lycopodifolia, A. Cunn. in Hook. Icon. ii. t. 172. Towards Arnhem's Land.

Acacia umbellata, All. Cunn. in Hook. Lond. Jour. of Bot. i. 378. Robinson's River. Stuart.

Acacia holosericea, All. Cunn. in Don. Gen. Syst. ii. 407. Near Newcastle's Waters.

Pithecolobium moniliferum, Benth. in Hook. Jour. of Bot. iii. 211. Arnhem's Land.

Neptunia spicata, F. M. Fragm. Phyt. Austr. iii. 151. Arnhem's Land.

Erythrophlæum Laboucherii, Laboucheria chlorostachya, F. M. in Proceedings of Linn. Soc. iii. 159. Newcastle's Waters, Stuart; Strangeway's River, Waterhouse.

Cassia venusta, F. M. Fragm. Phyt. Austr. i. 165. Newcastle's Waters and Mount Freeling. J. M. Stuart.

Cassia notabilis, F. M. Fragm. iii. 28. Between the River Bonney and Mount Morphett.

Cassia Absus, Linn. Spec. Plant. 537. Arnhem's Land.

Cassia oligoclada, F. M. Fragm. iii. 49. Attack Creek.

Cassia desolata, F. M. in Linnæa, 1852. Central Australia.

Cassia eremophila, A. Cunn. in Sturt's Centr. Austr. Append. ii. 77. Central Australia.

Petalogyne labicheoides, F. M. in Hook. Kew Miscell. 1856. From lat. 30° S. to lat. 17° 58′ S. J. M. Stuart.

P. cassioides forms merely a variety of this species.

Erythrina biloba, F. M. in Hook. Kew Miscell. 1857, p. 21. Common to most creeks from lat. 22° to 19° S. Wood soft, corky. J. M. Stuart.

Stuart's Bean-tree is a species of Erythrina.

Bauhinia Leichhardtii, F. M. in Transact. Phil. Inst. Vict. iii. 50. Hayward's Creek. J. M. Stuart.

Gastrolobium grandiflorum, F. M. Fragm. Phyt. Austr. iii. 17. Withrington Range, J. M. Stuart; Purdie's Ponds, where it attains a height of 8′, Waterhouse.

Gompolobium polyzygum, F. M. Fragm. iii. 29. Between Mount Morphett and the Bonney River.

Jacksonia odontoclada, F. M. Between Newcastle's Water's and Attack Creek. J. M. Stuart.

Isotropis atropurpurea. F. M. Fragm. Phyt. Austr. iii. 16. Attack Creek and between Mount Morphett and the Bonney River. J. M. Stuart.

Leptosema Chambersii, F. M. Essay on the Plants of the Burdekin Exped. p. 8. Near Davenport's Range, and between the Rivers Finke and Stevenson.

Crotalaria medicaginea, Lam. Diet. ii. 201. Newcastle's Waters. J. M. Stuart.

Crotalaria dissitiflora, Benth. in Mitch. Trop. Austr. 386. Newcastle's Waters and McDonnell's Ranges. Stuart.

Crotalaria Mitchellii, Benth. l. c. 120. Central Australia.

Crotalaria Cunninghami, R. Br. in Sturt's Central Austr. Append. 71. Burke's Creek, Waterhouse; Mount Humphries, Stuart.

Indigofera hirsuta, L. Sp. Pl. 1862. Arnhem's Land.

Indigofera viscosa, Lam. Encyel. Meuth. iii. 247. Brinkley's Bluff. Stuart.

Indigofera oxycarpa, F. M. Fragm. Phyt. Austr. iii. 103. Burke's Creek. Waterhouse.

Indigofera brevidens, Benth. in Mitch. Trop. Austr. 385. Central Australia.

Indigofera lasiantha, F. M. Report on Gregory's Plants from Cooper's Creek, p. 6. Denison's Range. J. M. Stuart.

Swainsona phacoides, Benth. in Mitch. Trop. Austr. 363. River Neales. J. M. Stuart.

Swainsona campylantha, F. M. Report on Greg. Plants from Cooper's Creek. Bagot's Range. J. M. Stuart.

Psoralea patens, Lindl. in Mitch. Three Exped. ii. 8. Attack Creek. Var. cinerea. Mount Kingstone.

Psoralea balsamica, F. M. in Proceed. Phil. Inst. Vict. iii. 55. Attack Creek and McDonnell's Ranges. J. M. Stuart.

Psoralea leucantha, F. M. l. c. iii. 51. Attack Creek.

Clianthus Dampierii, All. Cunn. in Transact. Horticult. Soc. ii. Ser., vol. i. 522. Near Mount Hnmphries.

ONAGREÆ.

Jussiæa suffruticosa, Linn. Sp. Pl. 555. Attack Creek and Strangeway's River.

RHAMNACEÆ.

Alphitonia excelsa, Reiss. in Endl. Gen. Plant. p. 1098. Daly's Waters.

EUPHORBIACEÆ.

Euphorbia hypericifolia, Linn. Sp. Plant. Attack Creek.

Flueggea leucopyris, W. Sp. Plant. McDonall's Ranges and Roper's River.

Petalostigma quadriloculare, F. M. in Hook. Kew Miscell. ix. 17. Near Mount Blyth.

COMBRETACEÆ.

Macropteranthes Kekwickii, F. M. Fragm. iii. 151. Newcastle's Waters, near Ashburton's Range.

Terminalia circumalata, F. M. Fragm. Phytogr. Austr. iii. 91. Attack Creek.

Terminalia bursarina, F. M. Fragm. Phyt. Austr. ii. 149. Newcastle's Waters.

RHIZOPHOREÆ.

Carallia integerrima, Cand. Prodr. iii. 33. Roper's River. Waterhouse.

CUCURBITACEÆ.

Cucumis jucunda, F. M. in Transact. Phil. Inst. Vict. iii. 45. Central Australia.

MELASTOMACEÆ.

Osbeckia Australiana, Nandin in Annal. des Scienc. Naturell. Ser. iii. xiv. 59. Arnhem's Land.

Melastoma Novæ Hollandiæ, Nand. l. c. xiii. 290. Adelaide River.

MYRTACEÆ.

Careya arborea, Roxb. Coromand. iii. t. 218. Billiart's Springs. Waterhouse.

Melaleuca Leucadendron, L. Maut. 105. Attack Creek, Roper's River.

Melaleuca dissitiflora, F. M. Fragm. iii. 153. Between the Bonney River and Mount Morphett.

Eucalyptus setosa, Schauer in Walp. Report, ii. 926. Sandy scrub near the River Bonney.

Calycothrix microphylla, All. Cunn. in Bot. Mag. 3323. Sources of the River Roper.

Bæckea polystemonea, F. M. Fragm. Phyt. Austr. ii. 124. Brinkley's Bluff, McDonnell's Ranges.

UMBELLIFERÆ.

Didiscus glaucifolius, F. M. in Linnæa, 1852, p. 395. Var. cyanopetalus. Finke's River. J. M. Stuart.

The color of the petals varies likewise blue and white in D. cœrulens and in one species of Dimetopia.

RUBIACEÆ.

Canthium oleifolium, Hook. in Mitch. Trop. Anstr. 397. Var. latifolium. Central Australia, in Mulga scrubs. J. M. Stuart.

COMPOSITÆ.

Calotis Waterhousii, F. M. Purdie's Ponds. Waterhouse.

Eurybia Ferresii, F. M. Fragm. Phyt. Anstr. iii. 18, t. xviii. Brinkley's Bluff, McDonnell's Ranges. J. M. Stuart.

Pluchea ligulata, F. M. Enumerat. of Plants of Babbage's Exped. p. 12. Strangeway's River. Waterhouse.

Monenteles globifer, Cand. Prodr. v. 455. McDonnell's Ranges, J. M. Stuart; Attack Creek, Waterhouse.

Helichrysum Davenportii, F. M. Fragm. Phyt. Anstr. iii. 32. (Sect. Acroclinium.) On the River Neales.

Helichrysum stipitatum, F. M. Fragm. Phyt. Austr. iii. 133. River Finke.

Helichrysum Cassinianum, Gaudichaud Voyage Freycenet. p. 466, t. 87. (Sect. Pteropogon.) River Finke. J. M. Stuart.

The capitula are rather smaller than those figured by Gaudichaud; but in Mr. Oldfield's collection from the Murchison River we observe analogous specimens, with intermediate gradations. The involucre-scales are sometimes delicately rose-colored.

Senecio Gregorii, F. M. Report on Gregory's Plants from Cooper's Creek, p. 7. Finke's River. J. M. Stuart.

GOODENIACEÆ.

Goodenia grandiflora, Sims Bot. Mag. 890. Mount Freeling. Stuart.

Goodenia hirsuta, F. M. Fragm. iii. 35. Central Australia.

Goodenia heterochila, F. M. Fragm. iii. 142. Newcastle's Waters.

Goodenia Vilmoriniæ, F. M. Fragm. Phyt. Anstr. iii. 19. Between the River Bonney and Mount Morphett. J. M. Stuart.

Goodenia Ramelii, F. M. Fragm. iii. 20. Attack Creek. Stuart.

Velleya connata, F. M. Transact. Phil. Soc. i. 18. Between the River Bonney and Mount Morphett. Stuart.

Scævola microcarpa, Cavan. Icon. vi. 6, t. 509. Towards Central Australia.

LOBELIACEÆ.

Isotoma petræa, F. M. in Linnæa, 1852, p. 420. James Range and Hugh River.

ASCLEPIADEÆ.

Leichhardtia Australis, R. Br. in Stuart's Central Anstr. ii. Append. p. 81. Daly's Waters.

APOCYNEÆ.

Carissa lanceolata, R. Br. Prodr. 468. Strangeway's River.

ACANTHACEÆ.

Dipteracanthus Australasicus, F. M. Report on Gregory's Plants from Cooper's Creek, p. 8. Near Anna's Reservoir.

Rostellularia procumbens, Nees in Wall. Plant. Asiat. rarior. iii. 101. Purdie's Ponds.

SOLANEÆ.

Solanum pulchellum, F. M. Transact. Phil. Soc. Viet. i. 18. Purdie's Ponds.

Solanum chenopodinum, F. M. Fragm. ii. 165. On Stuart's Creek, and between Mount Blyth and Mount Fisher. J. M. Stuart.

SCROPHULARINEÆ.

Buchnera linearis, R. Br. Prodr. 437. King's Ponds.

Vandellia plantaginea, F. M. in Trans. Viet. Inst. iii. 62. Arnhem's Land.

Morgania floribunda, Benth. in Mitch. Trop. Austr. Var. glandulosa. Central Australia.

Rhamphicarpa adenophora, F. M. Near Attack Creek.

BIGNONIACEÆ.

Spathodea heterophylla, R. Br. Prodr. 470. King's chain of ponds.

Tecoma Australis, R. Br. Prodr. 471. Var. angustifolia. McDonnell's Ranges, and distributed over a wide range of latitude in the interior, according to Mr. Stuart.

T. Oxleyi, T. floribunda and T. diversifolia are mere varieties of T. Australis.

ASPERIFOLIÆ.

Halgania solanacea, F. M. in Hook. Kew Miscell. 1857, p. 21. Between Bonney's River and Mount Morphett.

Halgania strigosa, Schlecht. Linnæa, xx. 640. Brinkley's Bluff, McDonnell's Ranges.

Trichodesma Zeilanicum, R. Br. Prodr. 496. Newcastle's Waters.

LABIATÆ.

Prostanthera striatiflora, F. M. in Linn. 1852, p. 376. Mount Morphett.

CONVOLVULACEÆ.

Evolvulus linifolius, Linn. Sp. Pl. 392. Brinkley's Bluff.

Ipomæa reptans, Poir. Encycl. Suppl. iii. 460. A white-flowering variety. Purdie's Ponds.

Ipomæa pannosa, R. Br. Prodr. 487. Newcastle's Waters, Attack Creek and Strangeway's River.

JASMINIÆ.

Jasminum calcarium, F. M. Fragm. i. 212. Common to most creeks of the interior. Stuart.

The lobes of the calyx are narrower than in the specimina from the Murchison River; the lobes of the corolla likewise narrower, and occasionally augmented to nine. The leaflets are sometimes ovate. Transient forms are sent from Champion Bay by Mr. Walcott.

MYOPORINÆ.

Avicennia officinalis, L. Sp. Pl. p. 110. Var. angustifolia. Daly Waters.

Eremophila Goodwinii, F. M. Report on Babb. Plants, p. 17. Mount Freeling, Attack Creek and Mount Samuel. Stuart. Var. angustifolia; leaves linear; calyx and pedicel glabrous; corolla outside glabrous or scantily hairy. Merchant's Springs.

Another variety occurs in the collection, with an almost glandless corolla of double the length of the calyx.

Eremophila Macdonnellii, F. M. Rep. on the Plants of Babbage's Exped. p. 18. Var. glabra. Valley of the Elizabeth River.

Eremophila Latrobei, F. M. in Papers of the Royal Soc. of Tasm. 1858. Arnhem's Land and near Anna's Reservoir. J. M. Stuart.

Eremophila Brownii, F. M. in Papers of Roy. Soc. of Tasm. 1858. McDonnell's Ranges. Stuart.

Eremophila Willsii, F. M. Fragm. Phyt. Austr. iii. 21, t. xx. River Finke. J. M. Stuart.

Eremophila Sturtii, R. Br. in Sturt's Centr. Austr. App. p. 85. Daly's Waters.

Eremophila longifolia, F. M. in Papers of Roy. Soc. of Tasmania. 1858. Strangeway's Ranges, Stuart; Billiart's Springs, Waterhouse.

Eremophila maculata, F. M. in Papers of Roy. Soc. of Tasmania, 1858. Sandy scrub country from the south through Central Australia to Attack Creek. Waterhouse.

VERBENACÆ.

Clerodendron cardiophyllum, F. M. Fragm. iii. 144. Mulga scrub, Stuart; Daly's Waters, Waterhouse.

Newcastlia spodiotricha, F. M. Frag. Phyt. Austr. iii. 21. Between the Victoria River and the Gulf of Carpentaria, from the 17° to the 19° S. latitude.

LENTIBULARIÆ.

Utricularia fulva, F. M. in Trans. Phil. Inst. iii. 63. Strangeway's River.

LAURINEÆ.

Gyrocarpus sphenopterus, R. Br. Prodr. p. 405. Short's Range.

THYMELEÆ.

Pimelea sanguinea, F. M. Frag. Phyt. Austr. i. 84. Purdie's Ponds.

PROTEACEÆ.

Grevillea mimosoides, R. Br. Prodr. p. 380. Roper River.

Grevillea agrifolia, All. Cunn. in R. Br. Supp. p. 24. McDonnell's Ranges, Short's Ranges. Var. laneifolia. Central Australia.

Grevillea Sturtii, R. Br. in Sturt's Central Austr. Append. p. 24. Central Mount Stuart. Var. pinnatisecta, segments usually five. Scrub near Forster's Range. J. M. Stuart.

Grevillea lineata, R. Br. in Sturt's Centr. Austr. Append. p. 24. Scrub, near Forster's Range.

Grevillea chrysodendron. R. Br. 379. Billiart's Springs. Waterhouse.

Grevillea refracta, R. Br. Prodr. 380. Newcastle's Waters, Billiart's Springs and Short's Range.

Grevillea dimidiata, F. M. Fragm. Phyt. Austr. iii. 146. Roper River. Waterhouse.

Hakea arborescens, R. Br. Prodr. 386. Arnhem's Land.

Hakea lorea, R. Br. Suppl. p. 25. Central Australia. Bark corky.

AMARANTHACEÆ.

Alternanthera denticulata, R. Br. Prodr. 417. Burke's River.

Alternanthera nana, R. Br. Pr. 417. Burke's River.

Gomphrena humilis, R. Br. Pr. 416. Attack Creek. The upper pair of leaves stand either next to the flower-heads or remote from them.

The same species has been found by the author on the Dawson River, and by Mr. Fitzalan at Port Denison.

Gomphrena canescens, R. Br. Pr. 416. Attack Creek, J. M. Stuart. (Victoria River and Sturt's Creek, F. M.; Sweer's Island, Henne; Nickol Bay, Walcott.)

Capsula usually beautifully pink, sometimes purple or white. Peduncles occasionally more than 6" long; the staminodia excel sometimes the anthers in length.

Ptilotus corymbosus, R. Br. Pr. 415. Var. spicatus. Attack Creek.

Trichinium gracile, R. Br. 415. Tropical Australia.

Trichinium nobile, Lindl. in Mitch. Three Exped. ii. 22. Short's Range.

Trichinium brachytrichum, F. M. Fragm. iii. 157. Central Australia. J. M. Stuart.

URTICEÆ.

Ficus Stuartii, F. M. McDonnell's Ranges; Brinkley's Bluff.

Several other undescribed species of fig trees occur in the collection, but cannot be satisfactorily characterized from the material extant.

CYCADEÆ.

A cycadeous plant, seemingly distinct from the seven Australian species, occurs on McDonnell's Range, and is mentioned as a palm in the journal of the explorers. Only leaves being now submitted for examination, it remains for future researches to throw light on this plant.

AMARYLLIDEÆ.

Calostemma luteum, Sims in Bot. Mag. 2101. Mount Margaret. Stuart.

The edge of the corona is sometimes rather undulated than toothed.

Crinum angustifolium, R. Br. 297. From lat. 22° to 32° S. J. M. Stuart.

ORCHIDEÆ.

Cymbidium canaliculatum, R. Br. Prodr. 331. Strangeway's River.

COMMELYNEÆ.

Commelyna ensifolia, R. Br. Prodr. 269. McDonnell's Ranges and near Mount Freeling. J. M. Stuart.

Commelyna agrostophylla, F. M. Arnhem's Land.

LILIACEÆ.

Bulbine semibarbata, Haw. Revis. 33. Thring River. Stuart.

GRAMINEÆ.

Eriachne obtusa, R. Br. Prodr. 184. Short's Range.

Ectrosia leporina, R. Br. Prodr. 186. Purdie's Ponds.

Perotis rara, R. Br. Prodr. 172. Purdie's Ponds, Waterhouse; Short's Range, Stuart.

Andropogon bombycinus, R. Br. Prodr. 202. Central Australia, McDonnell's Ranges.

Chloris ventricosa, R. Br. Prodr. 186. Arnhem's Land.

Lappago racemosa, W. Sp. i. 484. Attack Creek.

Panicum decompositum, R. Br. Prodr. 191. Stevenson River.

Oryza sativa, L. Sp. Pl. Newcastle's Waters. J. M. Stuart.

Pappophorum commune, F. M. Enumer. of Greg. Plants from Cooper's Creek, p. 10. Central Australia.

CYPERACEÆ.

Hypælyptum microcephalum, R. Br. Prodr. 221. Attack Creek.

FILICES.

Marsilia quadrifolia, L. Sp. Pl. Var. hirsuta. Nardoo. Through Central and North Australia, on localities subject to inundations.

Lygodium semibipinnatum, R. Br. Prodr. 162. Roper's River.

Blechnum Orientale, L. Sp. Pl. 1535. River Adelaide.

This fern was not previously recorded as existing in Australia.

Cheilanthes tenuifolia, Swartz Filic. 129. River Roper. Mount Freeling.

ENUMERATION

OF THE

PLANTS COLLECTED BY DR. J. MURRAY DURING MR. A. HOWITT'S EXPEDITION INTO CENTRAL AUSTRALIA IN THE YEAR 1862.

By FERDINAND MUELLER, M.D., Ph.D., F.R.S., Government Botanist for the Colony of Victoria.

Cruciferæ.

Blennodia lasiocarpa, F. M. Transact. Phil. Soc. Vic. i. 100. Cooper's Creek.

Capparideæ.

Busbeckea Mitchellii, F. M. Plants Indig. to Victoria, i. 53. Cooper's Creek. Native orange of the travellers.

Frankeniaceæ.

Frankenia lævis, L. Sp. Pl. 473. In multifarious varieties widely dispersed over the interior.

Malvaceæ.

Sida petrophila, F. M. in Linnæa, 1852, 381. Cooper's Creek.

Sida corrugata, Lindl. in Mitch. Three Exped. ii. 12. Cooper's Creek.

Malva brachystachya, F. M. in Linnæa, 1852, 378. Cooper's Creek.

Lavatera plebeja, Sims Bot. Mag. 2269. Extends from the Darling River to the vicinity of Wills's Creek.

Meliaceæ.

Owenia sp. Cooper's Creek. Collected without fruit.

Zygophylleæ.

Zygophyllum Howittii, F. M. Fragm. Phyt. Austr. iii. 150. Sandy country near Wills's Creek.

Tribulus terrestris, L. Sp. 554. In various varieties. Cooper's Creek.

Tribulus Hystrix, R. Br. in Sturt's Central Austr. ii. App. p. 69. Cooper's Creek.

Sapindaceæ.

Atalaya hemiglauca, F. M. Fragm. i. 98. Cooper's Creek.

Dodonæa viscosa, L. Suppl. 218. Cooper's Creek.

Elatineæ.

Bergia tripetala, F. M. in Transactions Phil. Inst. Viet. ii. 66. Cooper's Creek, above Burke's first dépôt. The specimina transmitted prove this species to be perennial.

Molluginеæ.

Glinus lotoides, Loefl. Iter. Hisp. 145. Extensively dispersed over the interior.

Portulaceæ.

Portulaca filifolia, F. M. Fragm. Phyt. Austr. i. 169. Cooper's Creek.

Portulaca oleracea, L. Sp. Pl. 638. Widely distributed over the interior.

Calandrinia Balonnensis, Lindl. in Mitch. Trop. Austr. 148. South of Wills's Creek.

Leguminosæ.

Acacia Pence, F. M. Fragm. Phyt. Austr. iii. 151. Beyond Wills's Creek, 25° 30′.

Acacia sphacelata, Benth. in Hook. Lond. Journ. of Bot. i. 338. Cooper's Creek.

Acacia homolophylla, All. Cunn. in Hook. Lond. Journ. i. 365. Cooper's Creek.

Acacia salicina, Lindl. in Mitch. Three Exped. ii. 20. Cooper's Creek.

Acacia aneura, F. M. in Linnæa, 1853, 627. This is the "Mulga" of the natives, and forms the main constituent of the Mulga scrub.

Acacia decora, Reichenb. Icon. Exot. t. 199. Not rare in the desert country, where it forms the favorite food of the camels.

Acacia Farnesiana, W. Sp. Pl. iv. 1083. Common on Cooper's Creek.

Cassia platypoda, R. Br. in Sturt's Centr. Austr. ii. App. 77. With the variety C. phyllodinea from the Darling River to Cooper's Creek.

Cassia eremophila, All. Cunn. in Sturt's Centr. Austr. App. 77. Desert country up to Cooper's Creek.

Cassia heteroloba, Lindl. in Mitch. Three Exped. ii. 121. With the preceding species.

Cassia desolata, F. M. in Linnæa, xxv. 389. From the Darling River to Cooper's Creek.

Bauhinia Leichhardtii, F. M. in Transact. Phil. Inst. Viet. iii. 50. Cooper's Creek.

Psoralea patens, Lindl. in Mitch. Three Exped. ii. 8. Cooper's Creek.

Crotalaria Cunninghami, R. Br. in Sturt's Central Austr. ii. Append. 70. Northwards from within fifty miles of the Stony Desert.

Crotalaria eremæa, F. M. Report on Gregory's Plants from Cooper's Creek, p. 5. Flooded borders of Wills's Creek.

Lotus Australis, Andr. Bot. Rep. 624. Var. parviflorus. Cooper's Creek.

Trigonella suavissima, Lindl. in Mitch. Three Exped. i. 255. Depressed ground north of the Stony Desert.

Vigna Benthami, F. M. V. lanceolata et V. suberecta, Benth. in Mitch. Trop. Austr. pp. 350, 388. South of Wills's Creek.

Sesbania Australis, F. M. in Transact. Viet. Inst. i. 36. Cooper's Creek.

Swainsona phacoides, Benth. in Mitch. Trop. Austr. 363. On the borders of the depresed ground south of Wills's Creek.

FICOIDEÆ.

Trianthema decandra, Linn. Mantiss. 70. Between Cooper's Creek and Wills's Creek.

HALORAGEÆ.

Haloragis glauca, Lindl. in Mitch. Trop. Austr. 91. Cooper's Creek.

ONAGREÆ.

Jussiæa repens, Linn. Mantiss. 381. Cooper's Creek.

CUCURBITACEÆ.

Cucumis jucunda, F. M. Transact. Phil. Inst. iii. 45. Wills's Creek.

Another cucurbitaceous plant, probably the Muckia micrantha, was also noticed at Cooper's Creek, but no specimens occur in the collection.

MYRTACEÆ.

Eucalyptus microtheca, F. M. in Proceed. of the Linnean Soc. iii. 87. Cooper's Creek.

Eucalyptus rostrata, Schlechtend. Linnæa, 1847, 655. Cooper's Creek, and along some other watercourses.

EUPHORBIACEÆ.

Euphorbia Chamæsyce, L. Sp. Pl. 652. Frequent on depressed occasionally humid localities of the interior.

Euphorbia desertieola, F. M. in Linnæa, 1852, p. 410.

Adriana aecrifolia, Hook. in Mitch. Trop. Austr. p. 371. Cooper's Creek.

Phyllanthus trachyspermus, F. M. in Transact. Phil. Soc. Vict. i. 14. Cooper's Creek.

LORANTHACEÆ.

Loranthus pendulus, Sieb. in Springel's Cur. Poster. 139. Var. minor. Cooper's Creek.

Loranthus Exocarpi, Behr in Linnæa, xx. 624. With the preceding and following species.

Loranthus Preissii, Miq. in Lehm. Plant. Priess. i. 281. Berries eaten by the natives.

RUBIACEÆ.

Dentella repens, Forst. Gen. 26, t. 13. Cooper's Creek.

COMPOSITÆ.

Calotis plumuligera, F. M. in Transact. Phil. Inst. iii. 57. Var. porphyroglossa Cooper's Creek.

Calotis hispidula, F. M. (Sect. Cheiroloma.) Extends to the depressed ground north of the Stony Desert.

Myriogyne Cunninghami, Cand. Prodr. vi. 139. Cooper's Creek.

Sphæromorphæa petiolaris, Cand. Prodr. vi. 140. Cooper's Creek.

Therogeron integerrimus, Cand. Prodr. v. 283. Cooper's Creek.

Elachopappus Rudallii, F. M. Fragm. Phyt. Austr. iii. 156. Cooper's Creek.

Polycalymma Stuartii, Sond. and Muell. in Linnæa, 1852, p. 494. Sandhills south of Wills's Creek.

Monencyanthes gnaphaloides, As. Gray in Hook. Kew Miscell. 1852, 229. With the foregoing plant.

Rutidosis helichrysoides, Cand. Prodr. vi. 159. South of Wills's Creek very abundant.

Helipterum chionolepis, F. M. in Linnæa, xxv. 416. Flooded ground south of Wills's Creek.

Chrysocephalum apiculatum, Steetz in Lehm. Plant. Preiss. i. p. 173. Cooper's Creek.

Senecio Cunninghami, Cand. Prodr. vi. 371. Cooper's Creek.

Senecio Gregorii, F. M. Report on Greg. Plants from Cooper's Creek. p. 7. Depressed ground south of Wills's Creek.

GOODENIACEÆ.

Scævola microcarpa, Cav. Icon. b. t. 509. South of Wills's Creek.

Leschenaultia divaricata, F. M. Fragm. Phyt. Austr. iii. 33. Cooper's Creek, at the dépôt.

CAMPANULACEÆ.

Wahlenbergia gracilis, Alph. Cand. Monogr. Camp. 142. Cooper's Creek.

MYOPORINÆ.

Eremophila Latrobei, F. M. in Papers Roy. Soc. Tasm. 1858. Cooper's Creek.

Eremophila maculata, F. M. in Papers Roy. Soc. Tasm. 1858. Cooper's Creek.

Eremophila Freelingii, F. M. in Papers Roy. Soc. Tasm. 1858. Cooper's Creek.

Eremophila longifolia, F. M. in Papers Roy. Soc. Tasm. 1858. Cooper's Creek.

Eremophila scoparia, F. M. in Papers Roy. Soc. Tasm. 1858. Cooper's Creek.

Eremophila Mardonnellii, F. M. Report on Plants of Babbage's Exped. p. 18. Cooper's Creek and South of Wills's Creek. Var. parvifolia; leaves only 2–3‴ long; flowers about ½″ long; calyx shorter than the pedicel. South of Wills's Creek.

Myoporum Cunninghami, Benth. in Hueg. Enum. 78. Cooper's Creek.

PEDALINEÆ.

Josephinia Eugeniæ, F. M. in Hook. Kew Miscell. 1857, 370, pl. xi. Near Kyejeron, a north branch of Cooper's Creek.

ASPERIFOLIÆ.

Trichodesma Zeilanicum, R. Br. Pr. 496. Cooper's Creek and Wills's Creek.

Seeds used as food by the natives.

Coldenia procumbens, L. Sp. Plant. Cooper's Creek.

LABIATÆ.

Mentha Australis, R. Br. Prodr. 506. Cooper's Creek.

Teucrium racemosum, R. Br. Prodr. 504. Cooper's Creek.

CONVOLVULACEÆ.

Evovulus linifolius, L. Sp. Pl. 392. Cooper's Creek.

SCROPHULARINEÆ.

Morgania floribunda, Benth. in Mitch. Trop. Austr. 384. Temporary flooded plains between Wills's Creek and the Stony Desert.

SOLANEÆ.

Nicotiana suaveolens, Lehm. Hist. Nicot. 43. As far north as Wills's Creek abundant.

Solanum lithophilum, F. M. in Linnæa, 1852, 334. Cooper's Creek.

Solanum Stuartianum, F. M. in Transact. Phil. Soc. Vict. i. 19. Cooper's Creek.

Solanum pulchellum, F. M. in Trans. Phil. Soc. Vict. i. 18. Cooper's Creek.

Solanum chenopodinum, F. M. Fragm. Phyt. Austr. ii. 165. South of Wills's Creek.

AMARANTACEÆ.

Trichinium alopecuroideum, Lindl. in Mitch. Three Exped. i. 13. Cooper's Creek.

Alternanthera denticulata, R. Br. Prodr. 417. Cooper's Creek.

Ptilotus latifolius, R. Br. in Sturt's Centr. Austr. ii. Append. p. 88. Sandy country between Cooper's Creek and the Stony Desert.

Ptilotus Murrayi, F. M. Fragm. Phyt. Austr. iii. 145. Beyond the Stony Desert towards Wills's Creek.

NYCTAGINEÆ.

Boerhaavia mutabilis, R. Br. Prodr. 422. Cooper's Creek.

POLYGONEÆ.

Polygonum plebejum, R. Br. Prodr. 420. Cooper's Creek.
Seeds gathered for food by the natives.

Polygonum attenuatum, R. Br. Prodr. 420. Cooper's Creek.
The plant, baked in ashes, is eaten by the natives. Camels fatten on this plant, according to Mr. Howitt's opinion.

SANTALACEÆ.

Santalum lanceolatum, R. Br. Pr. 356. Cooper's Creek.

SALSOLACEÆ.

Kentropsis lanata, Moquin Chenop. Enum. 83. Cooper's Creek.

Rhagodia nutans, R. Br. Pr. 408. Cooper's Creek.

Rhagodia spinescens, R. Br. Pr. 408. Var. deltaphylla. Cooper's Creek.

Sclerochlamys brachyptera, F. M. in Trans. Viet. Inst. ii. 76. Cooper's Creek.

Enchylæna tomentosa, R. Br. Prodr. 408. Cooper's Creek.

Osteocarpum salsuginosum, F. M. in Transact. Viet. Inst. ii. 77. Cooper's Creek.

Kochia Brownii, F. M. Report on Babbage's Plants, 20. Cooper's Creek.

Salsola Australis, R. Br. Pr. 411. Cooper's Creek.

Halocnemum Australasicum, Moq. Chenop. Enum. 110. Cooper's Creek.

Dysphania littoralis, R. Br. Pr. 412. Flooded ground south of Wills's Creek and north of the Stony Desert.

PROTEACEÆ.

Grevillea lineata, R. Br. in Sturt's Central Austr. Append. 87. Cooper's Creek.
The gum-resin obtained from this plant is called "Pinta" by the natives, and is used for fastening tomahawk heads.—*Howitt*.

Grevillea Sturtii, R. Br. l. c. Sandhills along Cooper's Creek.

Hakea stricta, F. M. in Linnæa, 1853, 360. Cooper's Creek.

AMARYLLIDEÆ.

Calostemma luteum, Sims Botan. Mag. t. 2101. South of Wills's Creek.

CYPERACEÆ.

Cyperus vaginatus, R. Br. Prodr. 213 Cooper's Creek.
The tough fibre of this plant is used by the natives for making nets, &c.

GRAMINEÆ.

Triraphis mollis, R. Br. Prodr. 185. Cooper's Creek.

Dactyloctenium radulans, Beauv. Agrost. 72. Cooper's Creek.

Panicum decompositum, R. Br. Pr. 191. Cooper's Creek.
Pa-Pa of the natives, who use the seeds for food.

MARSILEACEÆ.

Marsilea quadrifolia, L. Sp. 1563. Var. hirsuta. "Nardoo." Fine specimina with abundant fructification from Wills's Creek.

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