

WEDNESDAY, 28TH SEPTEMBER, 1881.

The President J. C. Cox, M.D., F.L.S., &c., in the Chair.

MEMBERS ELECTED.

E. L. Layard, C.M.G. &c., Noumea ; Alex. Oliver, M.A., and Dr. Charles Mackellar, M.D., Sydney.

DONATIONS.

Geological Sketch Map of New South Wales, from the Department of Mines.

Report of the Tasmanian Salmon Commissioners for 1880.

PAPERS READ.

THE BOTANY OF THE SPRINGSURE DISTRICT.

BY P. A. O'SHANESY, F.L.S.

The town of Springsure is situate in 24° South Latitude, and about 148° 15' East Longitude, and is botanically and geologically one of the most interesting districts in this part of Queensland. The surrounding country is entirely volcanic, and it can scarcely be surpassed for pastoral purposes, its rich, rolling downs spreading out almost as far as the eye can reach, covered with nutritious grasses, and here and there intersected by creeks of beautiful water. The Orange, Grape, and other fruits thrive here, and evidently at no very distant date its rich volcanic downs will be converted into immense wheat fields. All the efforts of the squatter to check the marsupials in this district appear unavailing, for late in the evening these downs are literally alive with kangaroos, as they emerge from their retreats to feed at night on the tender herbage. The elevation of Springsure above the sea is about 1,000 feet, and consequently its climate is very temperate ; its distance from Rockhampton is about 170

miles, and between thirty and forty miles south of west. It lies at the Southern extremity of a steep, broken, rocky range of mountains, which appears to be entirely detached, but is probably a broken spur from the southern part of the Drummond Range, from which it is distant about forty-five miles due west. Several of the mounts in the neighbourhood of Springsure shoot up to a height of 200 or 300 feet above the surrounding country, and the sides, which are mostly perpendicular, consist of naked rock, but their summits are clothed with various kinds of trees and plants. Evidently the inhabitants of Springsure are determined to perpetuate the name of the "Prince" of the Apostles, as several mounts in the neighbourhood are named after St. Peter, and one in particular is called the Great St. Peter's. This is an immense, square, flat-topped rock, with perpendicular sides, and it is plainly discernible from Emerald Downs Station, a distance of fifty-five miles. As another instance of the religious enthusiasm of the Springsure people, the "Madonna" is pointed out in the rocky face of the mountain, within a mile of the town, and the reverend gentlemen who accompanied the writer imagined they could trace another Madonna in the side of another mountain, so that, with the enchanting scenery and the holy and venerable names associated therewith, one almost fancies himself in some celestial region.

But to be serious. As already remarked, this district is very interesting to the geologist, the surrounding hills abounding in opals, chalcedony, jasper and hyalite or "Glass-stone." Valuable opals have been found on a rocky ridge within half a mile of Springsure, and opaline rocks are to be met with everywhere, and it is the opinion of an eminent geologist, the Rev. Tenison-Woods, who has visited the mine, that if properly worked it would prove remunerative. But though opals are more precious than botanical specimens, which are of little or no pecuniary value, yet to search for opals was not the object of the writer's visit, and therefore he will leave that subject to some

more competent person, and proceed to enumerate the plants we noticed during our excursion from Emerald to Springsure, a distance of about fifty miles. We crossed the Nogoia River half a mile from Emerald, in the bed and along the banks of which we noticed large trees of *Melaleuca trichostachya*, *Casuarina Cunninghamiana*, *Eucalyptus tereticornis* and *E. brachypoda*. The track then runs through a solitary patch of rich open volcanic downs, covered with the yellow flowered *Bulbine bulbosa* and the beautiful red-flowered *Pimelea hæmatostachya*, which formed a charming contrast. Here and there, too, we noticed the pretty white-flowered *Hibiscus ficulneus*, the dwarf *H. trionum*, *Plumbago zeylonica* and the curious little *Indigofera glandulosa* with its small scarlet flowers and winged pods. Half a mile farther on we enter a dense Brigalow scrub, which continues unbroken for the next fourteen miles. There we saw *Carissa ovata* very plentiful, the black, milky berries of which are not to be despised.

The term "Brigalow" is applied by Southern writers to *Acacia excelsa*, which they evidently mistake for *A. harpophylla*, which is the true Brigalow, but it is easy to conceive how this error has been propagated seeing that neither *A. excelsa* nor *A. harpophylla* appear to occur in the southern part of the Colony. We noticed several different kinds of trees and shrubs in this scrub, among which are the following: *Ventilago viminalis*, a tree of 30 to 40 feet, *Elæodendron australe*, 15 to 20 feet, *Myoporum deserti*, a low shrub, *M. acuminatum*, a shrub of 10 to 15 feet, *Heterodendron oleifolium*, a tree of 40 to 50 feet, *Cassia australis*, *C. eremophila*, *Terminalia oblongata*, a tree of 30 to 30 feet, *Albizia basaltica* and a few species of *Eucalyptus*. At the far off end of this scrub we saw *Acacia pendula* or "Gidea" 20 to 30 feet high. We also noticed the variety *Amplexifolius* of *Loranthus longiflorus*, which I consider as a distinct species. It is not, as Bentham considers probable, an inconstant form of the leaves of *L. longiflorus*, nor does it occur on the same tree with that species. It is rare in this district, but I have seen it on two or three occasions. The

narrow-leaved form of *Loranthus exocarpi* is common in this scrub, and is most frequently found on *Bauhinia Carronii*, but I have also noticed it on *Acacia excelsa*, hanging to a length of four or five feet. *L. quandang* is very common on *Acacia harpophylla*, to which tree it appears to be entirely peculiar, and it assumes the hoary colour of the foliage of that tree. The peduncles of this *Loranthus* are reflexed, causing the flowers to be pointed upwards although the branches are pendulous. Evidently there are two species confounded in the *Flora Australiensis* under *Loranthus pendulus*, which is also common in this scrub. The typical *L. pendulus* has long lanceolate-falcate leaves, with three to five prominent nerves, and the flowers are on slender peduncles nearly two inches long, of three to six rays, each ray with two or three pedicellate flowers of a bright scarlet colour, and the plant is, as far as I have seen, entirely peculiar to the Eucalypts. This is the most constant species of the *Loranthi*; for no matter on what Eucalypt it is found it always presents the same appearance. The plant described as a form of the above species with *obovate-oblong-cuneate* leaves is evidently a distinct species. The leaves are very thick, one to two inches in length, with three obscure nerves; the common peduncle is very short, with one to three rays, each bearing one to three flowers, with the central one or all three sessile; anthers adnate, petals free, *yellow* and reflexed, and of a dark colour for some distance above the base. This species appears to be almost entirely peculiar to *Geijera parviflora*, and it seldom exceeds more than one or two feet in length, with thick, rigid branches. *Loranthus longiflorus* is peculiar in this district to *Eucalyptus melanophloia*, but I have noticed it at Rockhampton on *E. tereticornis*. From the scrub to within a short distance of Springsure are open downs, thinly timbered, mostly with *Eucalyptus terminalis*, and in the moist gullies and water courses *Melaleuca genistifolia*, which is here only a tall bushy shrub. On the downs we noticed *Teucrium argutum*, *Rhynchosia minima* and a few other plants which are common everywhere.

We now arrive at Wills' Station (Culinlaringo) about thirty miles from Emerald, where we were hospitably entertained. On the following morning we started for Springsure by the near road which goes through the "Gap," shorter by four or five miles than the road via Fernlees. The scenery from Wills' to Springsure is delightful; for the greater part of the way the track runs along a narrow valley between two steep ranges, where the botanist can fully occupy his mind, especially when he has to steer a vehicle over a rugged bush track.

Being now in the Springsure district I shall notice the Orders represented separately, in order to give the reader a more accurate idea of the botany of the district. But it must not be taken for granted that this includes the whole of the Springsure Flora, as our observations were necessarily confined to a few spots; indeed I am fully convinced that, if properly explored, the ranges in the neighbourhood would yield many rare plants, and probably new and interesting species.

In the *Leguminosæ* we noticed *Acacia salicina* in several places along the road, where it attains a height of 40 to 50 feet. It is a very variable species and is widely distributed in Queensland, and yet it is perhaps the most easily recognised of all its congeners. *A. excelsa* is also common here, and approaches to a height of 50 feet, and though somewhat resembling the last named species it is easily distinguished from it. The thorny *A. Farnesiana* is common on the downs, and never exceeds a height of four or five feet; its flowers yield a delicious perfume. This shrub is known as the "Dead Finish" in the southern parts of the Colony, though it does not occur there, and evidently the name should apply to *Albizzia basaltica*, which is the true "Dead Finish." In the Government Exhibition Catalogue the wood mentioned as *Acacia Farnesiana* is evidently *Albizzia basaltica*, as the former species never attains a size to produce wood of any use, and neither of the two appears to be found in the neighbour-

hood of Brisbane. Trifling as these errors appear, they not unfrequently lead to several awkward ones. We found the pretty little *Acacia conferta* among the sheltered ranges near Minerva Creek, where, covered with a profusion of golden yellow flowers, it lent a charming effect to the landscape. It is a pretty shrub of four to five feet, the small lanceolate leaves crowded on the branches, and not exceeding three or four lines in length. I subsequently found this species at Duaringa near the Dawson River. We found two other species of *Acacia* here, one a middle-sized, spreading tree resembling *A. macradenia*; the other a shrub or small tree with short, broad, oblique phyllodia and flowers in short cylindrical spikes of about an inch and a half in length; this shrub is found on the summit of the ranges. *Albizia basaltica* or "Dead Finish" is also of frequent occurrence; the wood is red, with a fine straight, silky grain, and is valued for making stock-whip handles and fancy articles. We also noticed *Hovea longipes*, a pretty shrub with a profusion of bright blue flowers; the young pods of this shrub are eaten by the aborigines. The following are of frequent occurrence among the ranges: *Crotalaria trifoliastrum*, *C. juncea*, *Erythrina vespertilio* or "Cork-tree," *Psoralea tenax*, *Cassia eremophila* and *C. concinna* (which deserves cultivation) and *C. australis* which is common in all the scrubs in the neighbourhood. *Indigofera pratensis* deserves to be cultivated, and we also saw *I. linifolia*, *I. enneaphylla*, and *I. hirsuta* which is a common weed. The curious little *Zonia diphylla* and the pink-flowered *Lotus australis* were also noticeable, and on the gravelly ridges among the ranges we found a shrubby species of *Atylosia*.

Of *Apocynaceæ* we only found *Alyxia ruscifolia*, a handsome shrub with small, dark green, pungent leaves, and white fragrant flowers, which are succeeded by large, red, milky berries. *Asclepiadaceæ* we found represented by *Cynanchum floribundum*, a perennial milky twiner with large bunches of lilac flowers and peculiar capsules of nearly three inches in length; it is well worth

cultivating. The only other plant of this Order we saw was *Secamone elliptica*, a tall milky climber of frequent occurrence in most scrubs. Of *Campanulaceæ* or the Blue-bell family, we only found the ubiquitous blue-flowered *Wahlenbergia gracilis*, and the more rare *Isotoma axillaris* with large, purplish, bell-shaped flowers. This pretty little plant is found hanging from cliffs, and always in company with *Psilotum triquetrum*; it would be very ornamental for rock-work. The last named plant belongs to the *Lycopodiaceæ* or "Club-mosses" and it deserves a place among every collection of plants: it is also found growing on trees in dense mountain scrubs throughout the Colony, as well as in New South Wales. As far as we saw, the *Filices* or ferns are but poorly represented around Springsure, but evidently a number of them must exist in the deep moist gorges at the head of the creeks, which we had not an opportunity of exploring. We only found *Pteris tremula*, *P. falcata*, *Adiantum hispidulum* and *Platynerium aleicorne* or "Elk's-horn," ferns that are common throughout the Colony. The *Urticæ* or Nettle tribe we only found represented by *Ficus platypoda*, (which is mostly parasitical) and *F. Cunninghamii*, a large deciduous tree common in the humid jungles along the coast; the fruit of neither species is edible.

Among the *Proteaceæ* the graceful *Hakea lorea* was the most conspicuous, its long, wiry, pendulous leaves hanging in bunches from the ends of the branches, resembling large chandeliers. *Persoonia falcata* is a remarkable stunted little tree, and it cannot be mistaken once it has been seen. The bark is dark and rough, leaves long and falcate, reminding one of the phyllodia of some Acacias, and the flowers are pale yellow, in long rigid racemes. I am not aware that this species is found east of Cometville, and it was hitherto unknown south of Rockingham Bay. *Grevillea striata* with its long strap-like leaves is common in this district, but besides that species we saw but one other, without flowers, resembling *G. polystachya*, which is found in the neighbourhood of Emerald. Like most places in Australia the

Myrtaceæ are well represented at Springsure, but chiefly by *Eucalyptus*, of which we found the following species, *E. terminalis*, *E. melanophloia*, *E. crebra*, *E. brachypoda*, *E. tessellaris*, *E. tereticornis*, *E. citriodora*, and a species belonging to the Section *Micranthera*, resembling *E. brachypoda*, but the capsules are much larger and the leaves dotted: it is confined to the sides of the ranges. *Leptospermum attenuatum* is plentiful on the sides of the ranges, where it attains the size of a small tree; the bark is soft and lamellar, like that of *Melaleuca leucodendron*.

Hanging from the naked cliff to a length of six or eight feet we found a *Callistemon* resembling *C. lanceolatus*, with narrow acuminate leaves and yellow anthers. I have never known *C. lanceolatus* to be found except where its roots can reach the water, but Baron Mueller, after comparing the Springsure plant with the other Australian species, assures me that it is only a form of *C. lanceolatus*. We also noticed *Melaleuca trichostachya* and *M. genestifolia* in several places.

The *Rubiaceæ* we found represented by *Pomax umbellata*, which is always found in the crevices of cliffs in elevated situations. *Psychotria daphnioides*, the remarkable stunted little tree, *Cælospermum reticulatum*, and the humble little *Asperula conferta*. Of *Sterculiaceæ* we only found *Sterculia rupestris* or Bottle Tree, *S. diversifolia* and the showy little shrub *Melhania incana*, which is common throughout the Colony. Among the *Labiataæ* we noticed the fragrant plants *Plectranthus parviflorus* and *Anisomeles salvifolia* very plentiful among the ranges; the latter plant would yield a delicate perfume. We found *Teucrium racemosum* at Minerva Creek, and *T. corymbosum*, and *T. argutum* at Springsure; the latter has rose-coloured flowers, and the two former species white flowers. We found the *Sapindaceæ* represented by *Nephelium connatum*, a middle-sized tree bearing edible fruit, *Heterodendron oleifolium*, a tree common in the brigalow scrubs, *H. diversifolium*, a tall shrub, the leaves of which are toothed like those of a holly,

Dodonæa viscosa and *D. filifolia*. The hop-like capsules of the *Dodonæas* are used as hops, and are said to be a very good substitute. The *Compositæ* are generally well represented everywhere. *Cassinea levis* is a pretty, slender shrub three to five feet high, with small linear leaves, and cottony-white all over; it is not very plentiful, but we found another species (I believe *C. aculeata*) very plentiful among the ranges. The leaves of these shrubs are fragrant, and they deserve cultivating. The straggling shrub, *Olearia stellulata*, and the tall, fragrant plant *Monenteles glandulosus* are common in the bushes. *Monenteles sphacelatus*, *Wedelia aspera*, *Brachycome graminea*, *Calotis hispidulum* *C. scabiosifolium*, and the pretty yellow-flowered *Ixiolena tomentosa* make up our list of Composite plants. Of the *Ampelidæ* or Grape Vine family we only found *Vitis oblonga*, which climbs to the tops of the tallest trees, and the herbaceous *V. climatidea*, which produces small edible tubers. Like the *Leguminosæ* the *Myrtaceæ* and the *Compositæ* we found the *Euphorbiaceæ* well represented, but only by a few genera. The handsome fragrant flowered shrub, *Securinega leucopyrus* is of common occurrence, and the ubiquitous *Petalostigma quadriloculare*, the bark of which is used as a febrifuge, is very common.

The poison plant of the coast district, (*Sponia aspera*) is very plentiful among the ranges, and we found the middle-sized tree, *Bridelia tomentosa*, in the scrub at the base of the mountain, near Springsure. We found a species of *Bertya* which we had not seen before, on one of the ranges; the young branches are tomentose, leaves oblong-lanceolate, obtuse, with a broad, almost cordate base, half to one and a half inch long, on short petioles, cottony-white underneath, the margins revolute, prominent midrib, and numerous almost transverse veins; young fruit glabrous, ovoid, obtuse, sessile in the axils, with four or five small, tomentose, calyx-like bracts; we saw no flowers. We found *Euphorbia eremophila* near Minerva Creek, and *E. pilulifera* and *E. Drummondii* are common at Springsure. The former

species is perennial, and has thick, fleshy roots; *E. pilulifera* is now a well known remedy for asthma, and *E. Drummondii* is said to be an infallible remedy for dysentery and low fever; but it is also said to have proved poisonous to sheep on the Barcoo. Of the *Acanthaceæ* or *Acanthus* family we only found two very common representatives, namely *Ruellia australis* and *Justitia procumbens*. *Thymelaceæ* are a remarkable Order in Australia; it consists of three genera, one of which (*Wikstroemia*) has but a single species, (*W. Indica*) only occurring in Queensland and New South Wales; *Phalaria*, the second genus, has but three species, which only extend southward to Rockingham Bay; while the third genus, *Pimelea*, is found throughout Australia as well as in Tasmania, and 67 species are already described in the *Flora Australiensis*. But though numerous in species the *Pimeleas* are nowhere plentiful, and we were agreeably surprised to discover three species in the Springsure district, namely *Pimelea glauca*, a very pretty, white-flowered plant suitable for cultivation, *P. haematostachya* a beautiful, red-flowered species, and *P. leptostachya* with small yellowish-green flowers. Except by the botanist the last-named species would never be taken for a *Pimelea*; it is said to have been found at Rockhampton by Bowman, but I have never seen it there.

Of *Solanaceæ* we found *Solanum ellipticum*, *S. stelligerum*, *S. esuriale* and another species which does not appear to be described. It is annual, and seldom exceeds six or eight inches in height; the leaves are six to eight inches in length and three to five inches in breadth; flowers large, violet; fruit large, green. *Nicotiana suaveolens*, (native tobacco) and *Datura Leichhardtii* or Thorn Apple are the only other members of this Order we found. The native Thorn Apple would be worth trying in asthmatical complaints. We found *Meliaceæ* represented by *Melia composita* or White Cedar, which is here a great favourite in cultivation; it is quite deciduous, and is one of our most beautiful flowering trees. *Flindersia maculosa* or "Prickly Pine" and *Owenia acidula*

or "Emu Apple" are mostly confined to the brigalow scrubs in the neighbourhood, and these with the pretty shrub *Turraea pubescens* make up our list of the *Meliaceæ*. The last-named shrub is deciduous, its white fragrant flowers appearing with the young leaves, and it is entirely peculiar to Queensland. *Bignoniaceæ* are but a small Order in Australia, and it is mostly confined to Queensland. Of the two *Tecomas* found in Australia, one, *Tecoma australis*, is common at Springsure. The flowers of this climber have a most disagreeable smell. *Geraniaceæ* we only found represented by the humble *Oxalis corniculatus* (the "Sour Grass" of the Colonists); and *Linaceæ* or the Flax tribe, have also but a single representative, *Erythroxyton australe*, a shrub very common in the brush along the coast. It would be interesting to know if this species possess any stimulating properties like its congener *E. coca*, of South America.

The *Capparideæ* are represented by three genera, *Capparis*, *Apophyllum* and *Gynandropsis*. *Capparis canescens* and *C. Mitchellii* are common, and *C. Shanesii* is less frequent, and of recent discovery; the fruit of these shrubs is known by the name of "Native Pomegranates" and the pulpy part in which the seed is imbedded is a good substitute for mustard. *Apophyllum anomalum* is a most remarkable shrub, and will be readily recognised in the brigalow scrubs by its wiry, leafless branches and small pea-like fruit; it is the only known species. *Gynandropsis pentaphylla* is more rare, but is always met with in old sheep yards. It is an herbaceous plant, and its long pod-like capsules, which have a pungent taste, could be used for pickling. The only members of the *Rutaceæ* we saw, are *Geijera parviflora*, a tall shrub peculiar to the brigalow scrub and *G. salicifolia*, a handsome middle-sized tree; the old name *G. latifolia*, would be much more appropriate for this tree. The *Myoporineæ* have but a single representative, *Eremophila Mitchellii* or "Bastard Sandal-wood," which is common in all the brigalow scrubs. We found several species of *Malvaceæ*, which are generally plentiful everywhere. *Gossypium (Fugosia) australe* is

a shrub of three to four feet high, with pink flowers resembling those of an *Hibiscus*; it is found on dry ridges near Springsure and also at Cometville. The writer has discovered another species of *Gossypium* near Emerald, but it cannot be specifically determined until flowers shall have been seen; the leaves are orbicular and peltate. The other Malvaceous plants found are *Malvastrum spicatum*, a common weed, *M. tricuspidatum*, *Hibiscus heterophyllus*, a tall shrub with pink or white flowers, *H. trionum* a low shrub with pink flowers, *H. ficulneus* and *H. vitifolius*. The last-named species is the most remarkable of its congeners. Its leaves are covered with pungent hairs which run into the flesh and cause considerable pain; the flowers are of a sulphur colour and the capsule is winged. *Sida corrugata* and *S. subspicata* make up our list of this interesting Order.

Of the *Umbelliferæ* we found *Hydrocotyle hirta* and a species with orbicular, peltate, and deeply cut leaves, which we had not seen before, but not having seen the flowers we are unable to determine the species. *Daucus brachiatus* or native carrot, is not unfrequent, and sheep and cattle thrive wonderfully where this plant is plentiful. The *Lythraceæ* have but a single representative, *Lythrum hyssopifolium*; and the *Juncaceæ* or rush tribe are also but few. Of this Order we only saw *Juncus pallidus*, *Xerotes longifolia*, and a species of *Xanthorrhoea* or Grass-tree on the summit of the ranges. *Caryophyllaceæ* are only represented by *Polycarpaea corymbosa*, and *Ebenaceæ* by *Maba obovata*, a small tree. Of *Lobeliaceæ* we only found the common plant *Pratia erecta*, (*Lobelia concolor*, R. Br.)

The *Ranunculaceæ* or Crow-foot family are rare in Queensland, and the only representative we found is *Clematis microphylla* or "Traveller's Joy" which covered the bushes with its slender twining branches. *Verbenaceæ* is represented by the common blue-flowered weed *Verbena officinalis* or "Vervain," and the beautiful flowering shrub *Clerodendron floribundum*, which is here

mistaken for the "Bitter-bark" (*Alstonia constricta*). Of *Goodenovia* we only found the pretty undershrub *Goodenia grandiflora*, which is very common in the brushes; and *Scrophulariaceæ* are represented by the rare little plant *Striga curviflora*, which I have only noticed at Rockhampton. *Trichodesma zeylonica* is the only plant of the *Boraginaceæ* we saw; and of *Nyctagineæ*, *Boerhaavia mutabilis*, a common weed, said to be an effectual remedy for measles. The *Convolvulaceæ* are plentiful in most parts of Queensland, but here we only found the creeping little plants *Polymeria pusila* and *Convolvulus erubescens*, and the ubiquitous *Ipomœa plebeia*, which bears small white flowers. Of the *Chenopodiaceæ* or Goose-foot family we saw the tall fragrant weed *Chenopodium ambrosioides* and *C. auricomum* or "Fat Hen," which is used as a culinary vegetable, also *Salsola Kali* "Salt-wort" or "Rolly polly," and a species of *Sclerolaena* or *Anisacantha* which we had not seen before. This plant has the woolly heads of the former genus but the spines of the latter. The representatives of the *Amaranthaceæ* are only common weeds, namely, *Amaranthus macrocarpus*, *A. Blitum* and *Achyranthes aspera*.

Menispermaceæ are represented by the tall twiner *Stephania hernandiaefolia*, which we found at Minerva Creek; *Casuarineæ* by *Casuarina glauca* or "Scrub oak"; *Stackhousiæ* by the pretty plant *Stackhousia monogyna*; *Santalaceæ* by *Santalum lanceolatum*, "Sandal-wood"; and *Commelynaceæ* by the blue-flowered *Commelyna cyanea*. Of *Cucurbitaceæ* we only saw the annual twiner *Bryonia lacinosa*, which bears large variegated berries. We only saw two representatives of the *Polygonaceæ* or "Dock" family, namely, *Meuhlenbeckia Cunninghamii* (the "wiry polygonum" of Australian explorers) and *Rumex Brownii*. Of *Cyperaceæ* we noticed *Scirpus lacustris* or "Bulrush" in wet places, and one or two species of *Cyperus*. Of *Typhaceæ* the only species known in Australia are *Typha angustifolia* or "Reed Mace" and one species of *Sparganium*. The former is found near Springsure, and is common throughout Australia and Tasmania; it is also

very common in the British Isles. We have not as yet noticed the *Cycadaceae*, of which we saw but one representative, namely, a species of *Macrozamia*, respecting which there is evidently some mistake. *M. spiralis* is mentioned in the *Flora Australiensis* as having been found at Springsure by Dr. Wuth, but the common one in that neighbourhood is evidently not that species, and most probably is the one mentioned from Springsure. The trunk of the Springsure plant attains at least a height of twelve feet, and is one foot thick; leaves four to five feet long, the rachis flat, and one inch broad between the pinnæ near the base, with a broad longitudinal furrow along the centre on both sides; longest pinnæ about the middle of the leaf twelve to fourteen inches long and more than half inch wide, narrowed at the base and tapering into fine, straight pungent points: the lower pinnæ are much smaller, some not exceeding two or three inches in length. The upper scales of the male cones are large and thick, with rigid subulate points nearly two inches long; the lower scales are smaller and rather flat. Fruiting cones much larger than the males, twelve to eighteen inches long, and four to six inches thick; the apex of the scales nearly two inches broad, thick, and very convex, with rigid incurved points about one inch long, and decurrent along the centre of the scale on each side, forming raised angles or wings. The whole plant is apparently glabrous. This species is mistaken by horticulturists for *M. Perowskiana*, (*Encephalartos Denisonii*) from which however, it is entirely different, nor does it agree with any species described in the *Flora Australiensis*.

The *Gramineae* or Grasses only remain to be noticed, and they are, at least to the Squatter and the Selector, by far the most interesting family of indigenous plants. We found several species of excellent grasses on the downs, but those most highly prized for pasturage are *Andropogon sericeus* and *A. pertusus*. These are known by the name of Blue Grass, and are considered superior to the other grasses for fattening stock. *A. refractus* is

a tall fragrant grass, but it is not relished by stock. It may be recognised by its white, woolly seed-heads, and the seeds as it were broken downwards, from which this species derives its name. *A. bombicinus* is the most conspicuous grass in the district, but, like the preceding species, it is not at all relished by cattle, and it will be recognised by its long erect spikes of wool seeds. The "Spear-grass," *Heteropogon contortus*, is common on the downs, though not plentiful, and but for its destructive seeds is one of our best pasture grasses. *Chrysopogon parviflorus* is a pretty grass, and cattle are fond of it, but it is not plentiful in this district. *Cenchrus australis* affects moist banks, and is a very nutritious grass, but its long spikes of clinging seeds prevent cattle from feeding on it. We also noticed the two pretty little grasses *Lapago racemosa* and *Perotis rara*; regarding the latter species I have noticed in the present dry season that goats will not eat it even in places where there are no other grasses. *Pollinea fulva* is a good perennial grass, and its long tawny spikes are very conspicuous among the other herbage. *Panicum decompositum* and *P. trachyraphis* are excellent perennial grasses, and they yield a large quantity of forage; the latter species is the prevailing grass on the downs. The tall perennial grass *Ophiuris corymbosa* is also common, but is not suitable for pasture; it is the only species found in Australia. We found the tall ornamental grass, *Leptochloa subdigitata*, near Wills' Station, and a species of *Spinifex*, probably *S. Cunninghamii*, on the summit of the ranges near Springsure, and these with *Cynodon dactylon*, "Couch Grass," *Imperata arundinacea*, *Arundinella Nepalensis* and two or three species of *Aristida* make up our list of native grasses. When properly explored the Springsure mountains will evidently yield several other rare plants, and a week would be profitably spent among them.
