

A FEW REMARKS ON THE DISTRIBUTION AND GROWTH OF QUEENSLAND PLANTS.

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The following notes on a few Queensland plants, I am in hopes may not prove uninteresting to some Members of the Society. Some of our trees, &c., are met with far away from what would be supposed their habitat, and not, so far as known, on intermediate country. Others again, which have always been supposed to have been introduced by cultivation are met with at so great a distance from where cultivation is being carried on as to make one think that mode of introduction impossible. Again the soil and situation in which we find a tree growing, are at times so very different that it would lead one to suppose them planted in these situations by the erring hands of man, and not by the unerring hand of nature.

In bringing this before your notice, I will do so by enumerating a few illustrative examples: a striking one, which has only recently been brought under my notice, is that of the *Lysicarpus ternifolius*, Muell. This small, valuable, timber tree I met with in abundance, on the broken, ridgy country, at the eastern foot of the main range, where the soil was dry, and the rocks cropping out in all directions. The trees and shrubs with which it was growing was such as are usually met with in similar places, *Casuarina*, *Eucalypti*, *Banksia*, *Acacias*, *Petalostigma*, *Daviesia*, *Pultenea*, *Xanthorrhæa*, &c. Before this I had supposed the tree only to inhabit sandy knolls, such as are common on wide, open country, and are usually covered with scrub, composed of the following genera, viz: — *Acacia*, *Hakea*, *Grevillea*, *Myoporum*, *Capparis*, *Atalaya*, *Dodonæa*, *Hovea*, *Eremophila*, *Notelæa*, &c. The country surrounding these knolls is generally good for pastoral purposes, and has nothing in common with that first mentioned, with the exception that the underlying rock is said by Geologists to be the same in both places. Another curious instance of trees, as it were straying away from their supposed natural habitat was furnished by *Timonius Rumphi*, De C., two specimens of which I found a few years back, in one of the gullies of Taylor's Range, about 6 miles west of Brisbane. These trees were healthy and strong, and afforded good shade, although the leaves were not so large as those of the plant in its natural habitat. They seemed to have suffered nothing from frost, although the Orange and Lemon trees of a garden not more

than a mile away had suffered more or less every season. What makes the situation of this tree most remarkable is that so far as is known, it has never been met with outside the tropics, except in this solitary instance. How came it here? An Araliaceous tree, *Astrotriche pterocarpa*, Benth., is another which is found occasionally in a site far distant from its natural habitat, I found it on Mitchell's Pinches, in the Leichhardt district, which must be upwards of 300 miles south of Fitzroy Island, the only habitat given for it in the *Flora Australiensis*, and I may remark that so peculiar a tree, or rather tall shrub, no collector would be likely to pass unnoticed. Its beautiful leaves and rich, dark purple panicle would be sure to attract attention.

I have met a remarkably pretty fern, *Schizæa Forsteri*, Sprengel, in two very distant places:—First, in the dense scrubs of Maroochie, about 80 miles from Brisbane, in a northerly direction; and also in the dense tropical scrubs inland, from Trinity Bay. I believe I was the first to notice this Fern in Australia, which is somewhat strange, considering its delicate beauty. Some European writers on ferns, have confused it with Swartz's *S. dichotoma*, but besides the difference of habits in the two species, this latter is much more robust, and as far as Australia is concerned, is found only on the sandy land near the coast. It is wanting also in the pretty radiating fructification of *S. Forsteri*. While collecting a short time back at Tarampa, a station west of Brisbane, and about 60 miles from the coast, on an isolated hill, with an elevation of say 80 feet, the greater part of which was composed of loose rock, among which I could not find a particle of soil, I noticed amidst the scrub which covered the hill, many shore plants, and in particular *Sarcostemma australe*, Bth., which was growing luxuriantly, binding the shrubs together with its succulent, leafless stems. But on searching the scrub near, I failed to find either this or any of the other maritime shrubs. There is a curious fact respecting the flora about Maroochie, a rich locality before mentioned, situated in the great dividing range, and where I had a week's collecting, some few years back. Though far north, this place possesses a greater number of those plants, supposed only to belong to the cooler parts of Australia than any other part of Queensland I have seen. Here is one of the widely divided habitats of *Symplocos Thwaitesii*, and as far as known the only Queensland habitat of *Quintinia Verdonii*, F. Muell., a New South Wales tree. In a swamp I noticed also a large amount of broom-like shrub, *Viminaria denudata*, Sim., another southern shrub; in this swamp too, was a large amount of the beautiful, and most useful moss *Sphagnum obtusifolium*, Ehr.,

and *S. acutifolium*, Ehr. The Tasmanian plant, *Mazus pumilio*, Benth., was abundant on the low damp land, and the Fern so common in Tasmania, *Gramonitis Billardieri*, in the bed of the creeks, might be seen covering the rocks. Some plants become naturalized so quickly, and spread with such rapidity over the face of the country that it makes it a difficult task to trace their introduction, or to state with certainty whether they are indigenous or not. For instance, the Red Head, *Asclepias curassavica*, Linn., with which hundreds of acres of Queensland soil are now covered. The Horehound *Marrubium vulgare*, which is to be seen in rich profusion, but generally confined to old sheep yards. The little bright-eyed Pimpernel, *Anagallis arvenensis*, has also secured a footing far and wide through the colony; some of our swamps and streams are full of the common Water-cress, *Nasturtium officinalis*, *Sium latifolium*, &c. The South Australian pest, *Cryptostemma calendulacea*, R. Br., has tried many times to gain footing here, but has failed hitherto. Should it however, once be carried into our far western districts it will in all probability, spread with the same rapidity it has done in the other colonies. All these, and many others doubtless are introductions. But there are others commonly thought to be introduced, as to which I think there is room to doubt, such an one is *Carpesium cernuum*, Linn., a quantity of which I found growing on One Tree Hill, and from thence for some distance along the top of Taylor's Range, this genus seems to delight in locating itself in places far apart, some of the species being found in South Europe, Caucasus, Himalayan Mountains, and now in Australia. My reasons against its supposed introduction, are:—There is no settlement within some miles of the spot where I found it growing; therefore, it could not be brought into the colony in packing, the way in which doubtless, many weeds are introduced. Again from the nature of its achenes it would be most unlikely, if not impossible for it to have been brought adhering to clothing. The achenes are destitute of pappus or retentive hairs by which to adhere, and thus be carried to a distance. *Goodenia grandiflora*, Sims, I have found in company with the *Carpesium*, and until then was not aware of it being within many miles of the spot. With regard to the Cape Gooseberry, *Physalis peruviana*, Linn., I had always thought it an introduced plant, and accounted for its appearance at every fresh clearing by its being eaten by birds, and thus carried and deposited. But when at Trinity Bay in April last, I saw a plant growing in a small opening in the scrub on the Range, where the foot of the white man had not trod, three months previously, and where the seed from which this plant sprung, if introduced

must have been carried by a bird over 80 miles, which to me seems very improbable.

I shall now ask attention to a peculiarity of growth. It is always of the greatest importance that we should possess a correct idea of the various organs which make up the whole plant, and this can only be obtained by a close study of the function which they perform. But some have, as it would seem, a double or triple place to fill in the economy of nature. Thus, with regard to some of our *Loranthæ*, they produce roots both under and above the part of the tree upon which they are living. These upper or aerial roots are rather modifications of the stem, and would seem to take an intermediate place between the creeping stem *Soboles* of Lindley, and the *Sarmentum* of Fuchs and Linnæus. This latter, as in the case of the strawberry, sends out its prostrate thread-like stems, which after stretching along the surface of the soil for some distance forms a fresh plant at its extremity. The *soboles* sends its creeping stem out in a horizontal direction, between the surface of the soil, and sends up new plants at various intervals. Like this latter subterranean stem, the root-like stems of some species of *Loranthus* in Queensland run along the surface of the bark of the tree upon which they are living, and form plants at various intervals, this root-like stem still extending, or perchance dipping below the surface of the bark and ramifying as the true root of the plant. Thus, it will be seen to resemble the *soboles* in mode of reproduction and growth, and the *sarmentum* in position, being aerial not subterranean. I will now draw attention to a plant where a triple function seems to be performed by one organ. I refer to the roots, or what have been supposed roots of the small, leafless, epiphytical orchid, *Tæniophyllum Muelleri*, Lindl. Having one day brought a small plant of this minute and interesting orchid home with me from the scrub, I placed it with the stick upon which it was growing in an empty fruit bottle. In this position it has both flowered and fruited. The fruit is an angular capsule 4 or 5 inches long, with a short neck, and tapering towards the base, of a light green color, and is the most conspicuous part of the plant. The roots are of a very light color, almost white, and often more than one foot long. On one of the roots of this plant I have noticed a bud, formed at a part where there was a slight indentation. caused, I should think, by a stoppage of growth at some time. This bud is now forming a plant, therefore the supposed root is in reality a stem, and performing the triple functions of a root, stem, and leaf. It will be most interesting to watch the development of the much larger leafless epiphyte *Sarcophilus phyllorhizus*, F. Muell., for in all

probability the broad flattened roots of this plant, are after all, but a modification of the stem. I am in hopes of being able to watch the growth of this curious plant, as there are at present fine growing specimens at Bowen Park, the grounds of The Queensland Acclimatization Society, whose President, L. A. Bernays, Esq., F.L.S. takes a very deep interest in Phytology.

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