96.—ERYTHRA QUADRISTRIGATA, Horsf.

One obtained, and the only one seen.

97.—GRUS AUSTRALASIANUS, Gould.

Rather plentiful, but very wary; an egg only of this species obtained.

98.—HERODIAS PICATA, Gould.

99.—HERODIAS MELANOPUS, Wagl.

Both kinds rather plentiful about the fresh water lagoons, but difficult to get.

100.—NYCTICORAX CALEDONICUS, Gmel.

Not uncommon, but rarely seen.

101.—BUTOROIDES FLAVICOLLIS, Lath.

Not plentiful.

102.—NETTAPUS PULCHELLUS, Gould.

Very common on fresh water lagoons; ten fine specimens obtained.

103.— TADORNA RADJAH, Garn.

Seen occasionally; five obtained.

104.—PHALACROCORAX MELANOLEUCUS, Vieill.

105.—PHALACROCORAX STICTOCEPHALES, Bonap.

Not very plentiful, and frequent both salt and fresh water.

106.—PLOTUS NOVÆ HOLLANDIÆ, Gould.

Not common; one female obtained.

A General Account of the Flora of Tropical Queensland. By F. M. Bailey, Esq., Botanical Gardens, Brisbane (Corresponding Member of the Society.)

If we look back some thirty or forty years we can scarcely now believe that it was often then said that the Australian flowers were without beauty or fragrance, yet nevertheless such was the cry, as many of us can well remember. Of timber trees also we were said to possess but few, just Gums and Wattles, the wood of which was thought to be too heavy and hard ever to be brought into much use. But now what a change has taken

place. Our Eucalypts and a few others of our timber trees are sought after for planting in all parts of the Globe, where there is the least chance of their succeeding. Tree after tree is now being brought into use, and as each becomes better known, growing the more appreciated. In our early days of colonial life little was really known of the flora of Australia, although many of the plants were named and classified. The writings of the few botanists who had approached the subject were scattered and confused. But, thanks to the persevering zeal of Baron von Mueller of Victoria, aided by a few others, these early writings have been brought together, and the Flora carefully collected and preserved, by which means the way has been paved for the grand work now in course of publication by G. Bentham, Esq., a gentleman of world-wide reputation as a botanist. With this work, the Flora Australiensis, at hand, together with the various writings of Baron Mueller, the botanical student of the present day has his path cleared of many troubles and perplexities. Yet he will find difficulties still in determining his plants, some being caused by the great diversity of form assumed by the same plant as found within or without the tropics. In the Orchids this is very marked. No one seeing for the first time Dendrobium tetragonum, A. Cunn., in the tropics would think it was identical with the more southern plant; the same may be said of D. teretifolium, R. Br.; both plants being so much finer in the north. It will be remembered that it was this deviation from the normal form which led Sir W. J. Hooker, when he first flowered our common variety of D. speciosum, Sm., to suppose it a new species.

I also found on the ranges near Cardwell, a well-marked variety of this species, and under the impression of its being a distinct species described it under the name of *D. fusiforme*. This variety differs from all others in the whole plant being more lax in its growth. The stems vary from 3 to 12 inches in height, are quite fusiform, deeply corrugated, often of a dark color, and at times having a tendency to form pseudo-bulbs at their base; the leaves are from 2 to 7, distichous at the summit

of the stems, ovate-oblong, acuminate and undulate, of a thin texture compared with other forms of D. Speciosum flowers also are much more delicate. Our common Elkshorn fern, Platycerium alcicorne, Desc., on account of its fronds in the tropics being at times, and especially when found growing on logs near the ground, of a much thicker substance than elsewhere, has been thought to be a distinct species, and named as such in some of our gardens. It is this luxuriant growth which astonishes the traveller on first seeing tropical vegetation. Who can see a tree of Pittosporum rubiginosum, A. Cunn., with its bunches of large orange-coloured terminal fruit nestling in its magnificent foliage, which is so membranaceous that it waves with the least puff of wind, without admiration? These fruits, although so tempting, are not fit to eat. But this is not the case with all our tropical fruits, several being excellent. A species of Antidesma, A. Dallachyanum, Baill., produces a fruit which will doubtless some day be collected, and be made into preserves for exportation. The tree is an abundant bearer, and the fruits are equal in size to the European Cherry. Another of this genus A. erostre, F. von M., bears a smaller fruit, resembling the Red Currant of Europe; it possesses an agreeable acid, and would doubtless make a fine jelly. The shrub grows from 15 to 20 feet high, and when laden with fruit has a very pretty appearance. Making one's way through these northern scrubs, one is often amazed at the singular forms of vegetation there displayed. As for instance, the mode of flowering of Eugenia cormiflora, F. von M. The flowers of this tree are large, of a white or delicate pink color, but instead of being produced on the branches of the heart, they form a belt round the trunk-say, two feet wide, at about three or four feet from the ground, and often 20 feet below the lowest branch. The stems of the trees, as also the old logs of these scrubs, will be found of special interest to the botanist; here he will fall in with his Epiphytes, Lichens and Fungi. Of these latter he will find many beautiful examples, for instance, the shining fungus Polyporus lucidus, Fr., which has the

appearance of only just having left the hands of the polisher; and this beautiful species may be met with at times 18 inches in diameter, though those of 3 or 4 inches are by far the most brilliant. A large species of Clavaria, resembling masses of coral, is sure to attract attention. This species will only be found where the scrub is dense and damp, and on logs which are much decomposed. In this situation may often be seen a large white (when fresh) species of Hypoxylon. This and the last species are thought by C. E. Brooms, Esq., of Bath, England, a great authority on Fungi, and to whom I am indebted for most of my knowledge in mycology, to be new species. Here also the Jew's ears fungus, Exidia auricula Judæ, Fr., will be seen in abundance. This species is said to be exported from Tahiti to China to be used in the preparation of soups. Hirneola polytricha, Mont., is a somewhat similar fungus, but usually met with in more open country, and is easily distinguished by the velvety hairs of its upper surface. Among the beauties of this family must be reckoned the large goblet-formed Thelephora lamellata, B. and C., which at times will be found to measure near a foot across—but nothing I think can surpass the beauty of a log covered with Lentinus descendens, Fr. This species is of a cream color, and has not the rough exterior of the several other Australian species, neither does it form so complete a funnel. Polyporus fruticum, Berk., is a most extraordinary fungus, that attaches itself to the small branches of the heads of some of our scrub trees, giving to them the appearance of being laden with fruit. This species is of a very light spongy substance, and from 1 to 4 inches in diameter. Before quitting this curious family of plants, I must point out a lovely little pure white-capped species to be usually found on the loose dark brown bark of Wormia alata, Laschia Thwaitesii, B. and Br. The many interesting representatives of this much neglected family in Australia will some day yield a rich harvest to the Mycologist.

Among the many singular plants met with in Northern Queensland, none are perhaps more grotesque in appearance than the thick fleshy Hydnophytum formicarum. F. v. Muell.,

an epiphyte usually met with on the tea-trees. At first sight one would imagine he had fallen in with one of the fleshy stemmed Euphorbias, common to South Africa, but should he be fortunate enough to meet with it in flower he would at once find it to belong to the Rubiaceæ, an order to which belong many of our northern timber trees. The thick gouty stem, often hollow, and the close mat of roots, together with the loose bark of the tea-tree, its favorite support, are taken advantage of by a small black ant which makes it anything rather than pleasant to collect specimens of this vegetable curiosity. In close proximity to the last, but usually found on trees having a close hard bark, is often to be seen an interesting orchid Sarcochilus phyllorrhizus, F. v. Muell. So unlike indeed is this to a phænogamous plant, that while at Trinity Bay I got out my knife and began to cut it off the close bark of an Excecaria for a Lichen before seeing my mistake. The flattened roots in no way resemble a leaf, but doubtless they perform all the functions of that organ. They adhere so closely to the bark as to be removed with difficulty, and resemble rather the thallus of a Lichen than the roots of an orchid. Speaking of curious epiphytes Dischidia nummularia, R. Br., and D. timorensis, Decaisne, must not be over-looked, as both are interesting. The flowers of the last-named have as yet not been seen, but the curious pitchers it produces in such abundance point it out as a most desirable plant for decorative purposes. The firstnamed species produces small white flowers in abundance, which mixed with its round fleshy white leaves have a pretty appearance, especially when growing on the dark stems of the Wormia alata, R. Br., and from the branches of which it may often be seen hanging down in long streamers. In noticing plants of eccentric habit the root parasite, Balanophora fungosa, Forster, should not be over-looked. This strange plant, often on a root no thicker than one's finger, will grow to a foot or more in diameter. No botanist should travel through our northern scrubs without looking up this extraordinary parasite. It is by no means difficult to discover, for in the dense scrubs bordering rivers,

where the soil is of a light sandy nature, its thick whitish head may be frequently seen coming through the surface like large heads of asparagus. With these few short notes on some of the peculiar forms of vegetation in Northern Queensland, I will now pass on to point out a few of her magnificent flowers. Of aquatics we have some of the finest known. Take, for instance, the grand Pythagorean Bean, Pink Water Lily as it is called here, Nelumbo nucifera, Gærtn., which, in ancient days was so plentiful in Egyptian waters. What can equal in beauty the lagoons where this plant is in full bloom? But I would draw special attention to the splendid white flowering water-lily of the lagoons off the Barron River, Trinity Bay. In growth and general appearance this superb aquatic differs widely from all others of the colony, and this difference may be noticed as far as the eye can reach. Its leaves, instead of lying flat on the water, and floating wide over the surface of the lagoon in which it is growing, often may be seen standing up some little distance above the water, and always in a close cluster immediately over the root, giving one the idea of their having been blown in a heap by a high wind. In size the leaf equals those of N. gigantea, Hook., but differs from that species in the edges being much more sharply toothed, the basal lobes ending in a sharp thorn often from $\frac{1}{2}$ to 1 inch long, and in the vascular structure being much stronger. flowers are large, of a pure white, and beautifully double, and also very fragrant. Some float on the surface of the water, but the majority stand up like the Nelumbo. In removing the plants from the lagoons I failed to find any trace of the thick rhizome of N. gigantea, although I searched carefully for it at the time; but this with all my care may have been left behind. observed by the painstaking botanist of Victoria, Baron von Mueller, to whose persevering research I must again say the botanists of Australia are so deeply indebted, this and N. gigantea, Hook., approach very near to N. Lotus, and in this I perfectly agree, and consider this white variety the nearest approach. The most common blue water-lily of Northern

Queensland is N. cœrulea, Savigny, a quite distinct species from either of the above, and for which it could only be mistaken in a dry specimen. A minute variety of this species I met with in some of the still shallow waters of the Barron River. This variety has light blue flowers, in size and form resembling an Ottelia; the leaves are numerous, of a thin texture, and from 1 to 2 inches in diameter. The pretty leaves, flowers, and close growth of this aquatic would recommend it for cultivation in small aquariums, in company with another delicate aquatic Blyxa Roxburghii, Rich. On the low sandy land near these northern swamps will be noticed a few showy plants, such as Eurycles amboinensis, Loud., a fine bulbous plant, which should be more frequently seen in our gardens, for both flower and leaf are beautiful. In company with this will often be found Tacca pinnatifida, Forst., the dichotomous ramifications of whose leaves make it a most conspicuous object. With these are also found a few terrestrial Orchids, as the pretty Geodorum pictum, Lindl., with its reflexed head of pink flowers and several kinds of Pogonias, the leaves of which are beautiful while they last, but usually die away before the plant comes into bloom. As the land rises and becomes more rocky the Phaius grandifolius, Lour., will be found in perfection, together with various Scitamineous plants as Alpinia arctiflora, F. von M., a species about 6 or 8 feet high, with soft velvety leaves and terminal panicle of rather large white flowers. Some other species of this genus will be seen with the genera Musa, Curcuma, Amomum, Elettaria, Costus, and the noble Tapeinocheilos, which when growing strong attains the height of 7 or 8 feet, resembling a strong 'Canna,' but the stems are rather weak, and, failing the support of neighbouring shrubs, fall to the ground, take root at the nodes, and send up other stems to add to the mass of foliage. The spike of flowers does not, as stated in the Flora Australiensis, vol. VI., p. 267, terminate the main stem, but is borne on an independent stem of 1 or 2 feet. The spike of flowers is about 6 inches long and three through, the bracts recurved, and of a deep crimson, but the colouring is so rich that it passes description.

No botanist or lover of plants travelling in Northern Queensland should lose an opportunity of examining the rocks in our close damp gullies. For a finer sight than one of these covered with Bæa hygroscopica, F. v. Muell., in full flower, could scarcely be imagined; the rich deep blue flower which it bears in such profusion contrasting so well with its soft green Gloxinia-like leaves. It has often been a wonder to me that this plant has not been brought more prominently into cultivation. This may be caused by the want of knowing the proper situation for it in the plant house or garden. In its natural habitat it is found growing on the face or in the crevices of the perpendicular rock, in company with the plantain-like fern Antrophyum semicostatum, Blume, and the creeping ivy-like fern Humata pedata, J. Sm., with the beautiful feather-like Selaginella flabellata, Spreng. As my object in this paper is only to draw some little attention to the more curious or beautiful phenomena of our vegetation, and thus point out what a traveller through Northern Queensland should see, I only notice such trees or shrubs as produce fine, showy, conspicuous foliage, or are otherwise interesting and but little known in cultivation. Such a tree is Hedera australiana, F. v. Muell., which often flowers as a shrub. It has a terminal panicle of 3 or 4 feet diameter composed of pretty white flowers. The leaves are very long, and well supplied with large somewhat oblong pinnæ; and although of the same genus as the Ivy of Europe, to the unbotanical observer seems quite as distinct from it, as the Exocarpus from the European Cherry. In this order Araliaceæ is another conspicuous, tall, upright shrub of great beauty, Astrotriche pterocarpa, Benth. Its leaves are of a dark glossy green on the upper side, and white with a close tomentum on the under side. The unusual form (cordate-lanceolate), and length 10 inches, are sure to attract attention. It bears a large terminal panicle of dark purple flowers, seemingly speckled, on account of the numerous light yellow anthers. The two northern species of Harpullia have handsome foliage, H. alata has the rachis of its large leaf winged, and the pinnæ of H. Wadworthii, F. v. M., are abruptly truncate, giving a most curious

appearance to the leaf. Weinmannia Biagiana, F. v. Muell., is a noble tree producing, especially when young, leaves of immense size and much divided; these are also attended with broad stipules, which add much to the beauty of the object. The Davidsonia plum, Davidsonia prurens, F. v. M., now well known in our gardens, belongs to the same order, Sarifrageæ.

A fine shade tree, Xanthostemon chrysantha, F. v. Muell., rather common on some of our northern creeks, will attract the traveller's attention. This tree would be a great acquisition to our gardens and pleasure grounds, in which, if once introduced, it would soon become a general favorite, both on account of its flowers and foliage. The climbing plants, which make our jungle scrubs almost impenetrable, are in many instances very beautiful, some on account of their flowers, others on account of their fruit. Who can have seen the delicate vines Eustrephus latifolius, R. Br., with its broad green leaves, star-like flowers, and orange colored fruit, some of which are often seen open, displaying the glossy black seeds, without a wish that it, with a great many more indigenous plants, were more frequently to be seen in our gardens? The large Calamus cannot fail to be admired, especially should it be in fruit; but I would advise a wide berth being given to its long tendrils. Two small climbing beans are sure to draw the attention of the traveller. The first, Abrus precatorius, L., on account of its bright scarlet seeds, and the other, Rhynchosia Cunninghamii, Benth., for its brilliant blue seeds; the pods of these two climbers open with age, and display their pretty bright seeds, held by their funicles for a considerable length of time, like many of the Acacias. Faradaya splendida, F. v. M., a verbenaceous rampant climber, bearing large white flowers, is thought by some the handsomest climber of the north. It usually flowers about September and October.

Ferns will be found to constitute the greater portion of the plants with creeping stems that clothe the trunks of our scrub trees. In some of these the fronds will be found small, and adhering like a thin skin to the bark of the tree, as the

beautiful little Trichomanes peltatum, which I lately found on the trees in some of the deep gullies of the Trinity Bay Range. others, the fronds stand out from the tree, 3 or 4 feet, as in the case with the broad pinnatifid-fronded Selliguea pothifolia, J. Sm., and the equally beautiful pinnato-fronded Lomariopsis Brightia, F. v. Muell., and Stenochlæna scandens, J. Sm. Pothos, Rhaphidophora, Piper, &c., are plants having similar habits, and will be found mixed with the above. Many of our tropical maritime trees and shrubs possess great beauty, and might, with advantage, be introduced into arboriculture; but there seems to be a strong belief that plants of the sea-coast, and especially those of coast swamps, will not thrive, but in similar situations. I may take this opportunity to state in contradiction to this generally received opinion, that while at Port Mackay a few years back, I collected out of a salt-water swamp some young plants of Heritiera littoralis, Ait. (Red mangrove), and brought to Brisbane, where they were potted, and kept in a bush house for a season, and afterwards planted out in a comparatively dry situation, where they are now, after two or three years, looking strong and healthy. The same success has attended the introduction of the Wormia alata into our gardens. It is probable that equal success might attend the introduction of the following coast plants: Tournefortia argentea, Linn. f., a large growing succulent shrub densely covered with a silvery tomentum, the flowers are small, white, in large terminal panicles: Guettarda speciosa, Linn., a small rounded tree, with roundish leaves, 6 inches in diameter, and showy white flowers that are succeeded by globular fruit, somewhat similar in appearance to the fruit of the Calophyllum: Acanthus ilicifolius, L., a shrub of 6-7 feet, with large holly-like leaves and terminal spikes of bright blue flowers. The leaves of this shrub are most variable at times, being quite entire on the same plant with leaves bordered by sharp prickly teeth: Scævola Kænigii, Vahl., a large succulent shrub often met with along the sandy beach. It at times goes by the name of Native Cabbage. Its large rich green foliage and pretty axillary flowers are sure to attract attention.

I cannot close this paper without noticing one more coast plant, Entada Scandens, Benth., for to see the trees covered with this immense climber, with its long beans often $4\frac{1}{2}$ feet long hanging from their branches, is a sight that will not easily be forgotten.

In conclusion, I may hope that although only a very short sketch has been taken of our North Queensland plants in this paper, enough has nevertheless been said to show that a wide and glorious field is open for the botanist and others who delight to contemplate "the works of an Almighty hand."

Descriptions of three supposed new species of Birds from the New Hebrides.

By E. P. RAMSAY, F.L.S.

I purposed this evening to give an account of a small collection of Birds made by Dr. Mackinlay, containing about 20 species, from some of the seldom visited Islands of the New Hebrides Group, but finding less time on my hands than I anticipated, and rather than hurry over the matter, I shall confine myself to describing two or three of those which appear to me to be new. At our next meeting I hope to give a complete list of all the species obtained.

MACROPYGIA MACKINLAYI, SP. NOV.

The whole of the upper surface dark ashy brown, darker in the wings, the 2nd, 3rd, and 4th primary quills with an unconspicuous narrow line of white on the edge of the outer web, the rump and upper tail-coverts, wing-coverts and scapularies minutely freckled with ashy white, giving a powdery appearance to those parts; the under surface is of a light ashy brown, blackish in the centre of the chest feathers which are forked; the throat and the whole of the under surface minutely freckled with a light ashy tint, under wing-coverts and inner webs of quills ashy white; tail ashy brown, lighter below the outer feathers, above blackish, with the tips ash white and an oval cream-colored patch occupying the central portion of the feathers



Bailey, Frederick Manson. 1878. "A general account of the flora of tropical Queensland." *Proceedings of the Linnean Society of New South Wales* 2, 276–286.

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