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[PART. V]DESCRIPTIVE NOTES ON PAPUAN
PLANTS,

BY

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THIS fifth contribution towards a list of Papuan plants contains the rest of the species, gathered last year by Messrs. D'Albertis and Goldie, except some which were not found in a state of development sufficient for exact examination. Among their yet omitted plants are species of the genera *Wormia*, *Myristica*, *Pittosporum*, *Dysoxylon*, *Harpullia*, *Vitis*, *Gomphrena*, *Acalypha*, *Piper*, *Quercus*, *Connarus*, *Cynometra*, *Albizzia*, *Eugenia*, *Psychotria*, *Ixora*, *Tournefortia*, *Coleus*, *Ipomœa*, *Sideroxylon*, *Costus*, *Pothos*, *Calamus*, *Hypælyptum*, *Scleria*, *Cyperus*; besides some representatives of other genera belonging to *Anonaceæ*, *Menispermæ*, *Rutaceæ*, *Anacardiaceæ*, *Urticeæ*, *Euphorbiaceæ*, *Laurineæ*, *Melastomeæ*, *Myrtaceæ*, *Acanthaceæ*, *Gesneriaceæ*, *Orchideæ*, *Scitamineæ* and *Palms*.

Melbourne, February 1877.

MELIACEÆ.

FLINDERSIA PAPUANA.

Fly-River; D'Albertis.

Only a solitary fruit without well developed seeds has been as yet obtained. It is not dissimilar to that of *F. Bennettiana* and *F. Oxleyana* in tubercular roughness, while the seeds, like those of the latter, are also winged on both ends. It differs from *F. Schottiana* in fruits of only half the size. The only hitherto recorded Extra-Australian species is *F. Amboinensis* (Poiret, *Encycl. Methodiq. Suppl. iv.* 650); it differs from the Papuan *Flindersia* according to Rumphius's illustration (*Amboinsch Kruid-Boek*, iii. 201, t. cxxix.) in smaller and therefore more numerous and also more acute tubercles of the fruit-valves; it belongs to that series of species, which have their leaflets provided with conspicuous stalklets. Our Papuan plant received a temporary specific appellation, to place it on record, until foliage and flowers can be compared with that of its congeners. The Amboina *Flindersia* is described as producing fruits 5-6 inches long, though the plate represents them only about half that size; the leaflets are glabrous.

TILIACEÆ.

SLOANEA PARADISEARUM.

(Sect. *Echinocarpus*.)

Branchlets glabrous; leaves oblong-oval, narrow-acuminate, quite entire, on very short petioles; *fruit very large*, broadly oval, four-valved, red outside, thick-woody, densely invested by short closely set setaceous prickles; *seeds numerous in each cell*; cotyledons much thinner than the albumen.

Upper Fly-River; D'Albertis.

A tree, attaining a height of 40 feet. Petioles 2-3 lines long. Leaves scattered, 4-6 inches long, $1\frac{1}{2}$ - $2\frac{1}{2}$ inches broad, blunt at the base, glabrous. Flowers unknown. Fruit nearly 4 inches long; the innumerable bristles 1- $1\frac{1}{2}$ lines long. Seeds forming two rows and numbering about 16 in each cell, sessile, descending, oval-elliptical, angular from mutual pressure, entirely included in a yellow or orange-colored arillus, thus rather above $\frac{1}{2}$ an inch long. Cotyledons almost as long as the albumen; radicle extremely short.

This notable species approaches in size of the fruit closely to *S. Jamaicensis* (Hook. Icon. 693-696), thus far excelling any of the *Sloaneas* of the eastern hemisphere, so far as they are known, in the magnitude of the fruit. The petioles are much shorter than those of *S. Jamaicensis*, the covering bristles are finer and of less length, while the seeds are more numerous, closely packed along the whole cavity and not of almond-size.

Bentham and J. Hooker (Gener. Plant. i. 239) ascribe to the genus a 1-4-seeded capsule; but Sir Will. Hooker found already 8 or more seeds in *S. Jamaicensis*, and he figures also a 5-valved fruit. The nature of the wood of the Papuan species should be tested, that of the Jamaica *Sloanea* being so hard as to have given rise to the name *Brake-Axetree*. The seeds of the Papuan plant are probably also of agreeable taste. I have given this plant its particular specific name, because it comes from the forest-haunts of the birds of Paradise.

The Rev. Dr. Turner has brought a *Corchorus* from Port Moresby, but the plant is not in fruit for specific determination.

GUTTIFERÆ.

GARCINIA SUBTILINERVIS.

Glabrous; branchlets quadrangular; leaves coriaceous, oval-lanceolate, with a short and blunt acumen; *nerves and veins of the leaves extremely subtle*, almost concealed; petioles short; sepals four, very unequal; *stigma undivided, depressed*, sessile, orbicular; berry globular, eight-celled.

Fly-River; D'Albertis.

Leaves 3-5 inches long, 1-1½ inch broad. Petioles of ½ an inch or less length. Flowers unknown, except the persistent sepals, the two larger of which measuring ¼ an inch, the two others about half the size. Stigma flat, rough, of about ⅓ of an inch diameter. Fruit measuring about 1½ inch. Seeds brown, much compressed.

Foliage and fruit are not unlike *G. Cowa* (Roxb. Fl. Indic. ii. 622), but the stigma places the Papuan species near to *G. anomala* (Planch. et Trian. mem. Guttif. 174) and *G. Maingayi* (J. Hook. Flor. of British Ind. i. 267), both of which have fewer-celled fruits. Ours has also some resemblance to *G. multiflora* (Champ. in Hook. Kew Miscell. iii. 310), but the leaves are not so conspicuously veined, the sepals are not equal in size, and the fruit of the Hongkong plant remained hitherto unknown.

Full comparisons with the imperfectly described *G. rostrata* (Benth. and Hook. Gen. i. 174; *Discostigma rostratum*, Hassk. Cat. Hort. Bogor. 212) require yet to be instituted; but the bicelled ovary removes it already from our new plant. Another evidently allied species is *G. rigida* (Miq. Prodr. Flor. Sumatran. 493), the leaves of which are described as rounded at the base, and the internal structure of its fruit is unknown.

Other Papuan Guttiferæ are :

Garcinia picrorrhiza, Miq. Annal. Mus. Bot. Lugd. i. 209.

Garcinia Teysmanniana, Scheff. Annal. du Jard. Bot. de Buitenz. 7.

VINIFERÆ.

VITIS TRIFOLIA.

Linné, Spec. Plant. 203.

Port Moresby; Goldie. Fly-River; D'Alberty.

CARYOPHYLLÆ.

DRYMARIA DIANDRA.

Blume, Bijdr. tot de Fl. van Nederl. Indie, 63.

Leaves glabrous, rhomboid- or cordate-orbicular, conspicuously stalked; stipules fringed-cleft; cymes paniculate, with elongated glandular-powdery peduncles; flowers small; *sepals only slightly scarious, their middle nerve forming a narrow pulverulent keel*; petals deeply cleft into two segments; stamens usually two; style almost none; stigmas two; *fruit valveless or imperfectly two-valved*; *seeds large, one rarely two, closely filling the cavity of the pericarp, black, opaque, granular-scarious.*

Near Port Moresby; Goldie.

From inspection of original material I find this to be the *D. cordata* of Thwaites's Enum. Pl. Zeilan. 25, and of J. Hooker's Flora of British India, i. 244; to this may also belong the plants of Bentham's Flora Hongk. 22, and of Oliver's Flora of Tropic Africa, 143; yet it is not specifically combinable with the real *D. cordata* (Willd. in Roem. and Schult. Syst. Veg. v. 406), which is frequent in the warm regions of the western hemisphere, but rare and perhaps introduced only in the eastern. That typical plant has a tendency to hairiness, has broader very scarious calyces, not distinctly keeled along the sepals, has longer stigmas and a deeply three-valved capsule with several minute pale-brown seeds.

The Javanic plant was cautiously distinguished by Miquel (*Plant. Junghuhn. i. 391*) as var. *Indica*. The specific name, given by Blume, would become ambiguous unless it coincides with the homonymous appellation, bestowed by Macfadyen on an Antillan plant, the *Holosteum diandrum* (*Swartz Prodr. Deser. Veget. Ind. Occid. 27*), which however is reduced as a variety to *D. cordata* by Grisebach (*Fl. of the British West Indian Islands, 56*). Should further researches prove Blume's and Macfadyen's plants distinct, then I would propose the species-name *D. gerontogea* for the former. Our species verges in structure of calyx somewhat to *Polycarpon*; its wide dispersion through the tropic zone of the eastern half of the globe leads to anticipate, that this species will yet be found in North Queensland. A thorough systematic revision of all congeners is needed.

AMARANTACEÆ.

EUXOLUS INTERRUPTUS.

Moquin, in *Cand. Prodr. xiii. Part ii. 272.*

Port Moresby; Rev. Dr. Turner.

EUPHORBIACEÆ.

PHYLLANTHUS URINARIA.

Linné, *Spec. Plant. 982.*

Port Moresby; Goldie.

PHYLLANTHUS NIRURI.

Linné, *Spec. Plant. 981.*

Darnley's Island; Reedy. Port Moresby; Goldie.

MALLOTUS RICINOIDES.

J. Mueller, in *Linnaea xxxiv. 187.*

Port Moresby; Goldie.

MALLOTUS PHILIPPINENSIS.

J. Mueller, in *Linnaea xxxiv. 196.*

Port Moresby; Goldie.

LEGUMINOSÆ.

DESMODIUM GANGETICUM.

Candolle, Prodr. ii. 327.

Port Moresby; Goldie.

It was also found in New Britain by Mr. C. Walter, while collecting there for Baron Anthole von Huegel.

DESMODIUM DEPENDENS.

Blume, in Miq. Flor. Ind. Batav. i. 248.

Port Moresby; Goldie.

This also was found in New Britain.

PHASEOLUS MAX.

Linné, Spec. Plant. 725.

Port Moresby; Rev. Dr. Turner.

Also in New Britain. The specific name here adopted is the oldest.

DOLICHOS LABLAB.

Linné, Spec. Plant. 725.

Port Moresby; Goldie.

A variety with small pods, not conspicuously rough at their edge.

MYRTACEÆ.

MELALEUCA LEUCADENDRON.

Fly-River; D'Albertis.

ARALIACEÆ.

CISSODENDRON AUSTRALIANUM.

Seemann, Journal of Botany, iii. 201.

Var. disperma; fruits two-celled and two-seeded.

Fly-River; D'Albertis.

The specimens are all in fruit, but so far show no differences to distinguish them from the Queensland species, except in the number of the cells and seeds of the fruit.

By this variety or perhaps new species an approach to the genus *Sciadopanax* is established. The albumen is rather sinuous and wrinkled than really ruminant, whereby a clearer distinction of *Cissodendron* from *Hedera* can be drawn. The testa also is of bony hardness not thin as in the last mentioned genus. The minute embryo lodges at the summit of the albumen and is proportionately much shorter than that of *Hedera*.

The following araliaceous plants are from New Guinea on record :

Brassaia macrostachya, Seem. Revis. of the Hederac. 10.

Tetraplasandra paucidens, Miq. Annal. Mus. Bot. Lugd. Bat. i. 4.

Polyscias Papuana, Seem. Revis. 56.

Osmoxylon Amboïnense, Miq. Annal. Mus. Lugd. Bat. i. 5.

Panax Zippelianum, Miq. l. c. 15.

Arthrophyllum pinnatum, Seem. l. c. 102.

Trevesia insignis, Miq. l. c. i. 220.

Trevesia Novo-Guineensis, Scheff. Annal. du Jard. Bot. de Buitenz. i. 26.

HEPTAPLEURUM FIMBRIATUM.

Leaves simply digitate; *stipules dissected into copious narrow fringes; leaflets chartaceous*, 5-6, on long stalklets, glabrous, broadly lanceolate, acuminate, quite entire, at the base acutely narrowed; *racemes spike-like, the rachis rigidly tomentose*; fruits verging from an oval to a roundish form, 5-seeded, the vertex conspicuously emersed.

On the Fly-River; D'Albertis.

Petioles attaining a length of $1\frac{1}{2}$ feet. Stipules dry, long-persistent, broadly expanded, $\frac{1}{3}$ inch long. Leaflets 5-8 inches long, $1\frac{1}{2}$ - $2\frac{1}{2}$ inches broad, with ascending conspicuous lateral nerves, finely net-veined, slightly rough from minute dots; their stalklets 1 - $2\frac{1}{2}$ inches long. Flowers unknown. Spikes about a span long. Pedicels less than a line long or almost obliterated. Fruits about 2 lines long, crowded at intervals along the rachis, terminated by a very short thin style. Pyrenæ obliquely narrow-elliptical, slightly turgid, smooth, hardly longer than 1 line.

I am not acquainted with any other *Heptapleurum*, which is provided with similar stipular fringes, except *Trevesia Novo-Guineensis*, which with all other *Trevesias* is transferable to *Heptapleurum*. D'Albertis collected a second species of this genus, but without fruit.



RUBIACEÆ.

MYRMECODIA ECHINATA.

Gaudichaud, Voy. Freycinet. t. 96.

Fly-River; D'Albertis.

In Mr. Goldie's collection from Port Moresby are fragments of an *Uncaria*.

COMPOSITÆ.

BLUMEA HIERACIFOLIA.

Candolle, Prodr. v. 442.

Port Moresby; Goldie.

SCROPHULARINÆ.

VANDELLIA CRUSTACEA.

Bentham, Scrophularin. Indic. 35.

Fly-River; D'Albertis.

VANDELLIA PEDUNCULATA.

Bentham, Scrophularin. Indic. 37.

Port Moresby; Goldie.

LABIATÆ.

OCIMUM SANCTUM.

Linné, Mantiss. Plantar. 85.

Port Moresby; Rev. Dr. Turner.

The same species I have seen from New Britain, where also *O. Basilicum* (L. Sp. 597) occurs.

PLECTRANTHUS PARVIFLORUS.

Henckel von Donnersmarck, Adumbrat. Plant. Hort. Halens. 1806.

Fly-River; D'Albertis.

VERBENACEÆ.

CLERODENDRON FLORIBUNDUM.

R. Brown, Prodr. Flor. Nov. Holl. 511.

Port Moresby; Goldie.

The specimens are in fruit only, but so far agree with the broad-leaved form of the Australian plant.

CLERODENDRON TRACYANUM.

F. v. Mueller, in Benth. Flor. Austr. v. 62.

Fly-River; D'Albertis.

Flowers could not be obtained, but otherwise it seems not to differ from the Queensland typical plant.

Miquel and Scheffer mention as Papuan Verbenaceæ:

Clerodendron Papuanum, Scheff. Annal. du Jardin de Buitenz. 41.

Callicarpa erioclona, J. C. Schauer in Cand. Prodr. xi. 643.

Gmelina lepidota, Scheff. l. c. 41.

Faradaya Papuana, Scheff. l. c. 42.

Avicennia officinalis, L. Sp. Pl. 110.

SOLANACEÆ.

SOLANUM REPANDUM.

G. Forster, Florul. Insul. Austr. Prodrum. 18.

Fly-River; D'Albertis.

Differences between the Papuan plant and that figured by Seemann (Flor. Vitiens. xxxviii.) are not observable, except that the branchlets are minutely aculeolate.

CONVOLVULACEÆ.

IPOMŒA PES CAPRÆ.

Roth, Nov. Plantar. Spec. 109.

Port Moresby; Goldie.

Signor D'Albertis brought from the Fly-River an Ipomœa, allied to *I. cymosa* (Roem. et Schult. Syst. Veget. iv. 241), but differing in its broadly cordate leaves and entirely glabrous corolla; the fruit is as yet unknown.

APOCYNEÆ.

TABERNÆMONTANA PUBESCENS.

R. Brown, Prodrum. Fl. Nov. Holl. 468.

Fly-River; D'Albertis.

A variety with leaves protracted into a long acumen. Fruit not yet seen.

ALSTONIA LONGISSIMA.

Glabrous; *leaves* large 3-4 in a whorl, decurrent into a very short petiole, lanceolar-oval, with very spreading nerves, *hardly paler beneath*; *fruits very long*; cilia longer than the seeds.

Fly-River; D'Albertis.

Leaves about a span long, 2-3 inches broad, of chartaceous consistence, distantly ribbed, almost equally green on both sides. Flowers unknown. Fruits about $1\frac{1}{2}$ foot long, $\frac{1}{4}$ inch thick. Seeds scarcely 3 lines long, very slightly downy, rounded-blunt at the base, narrow-acuminate at the apex, on both extremities softly bearded.

I failed to identify this among Indian species, but it seems nearest to *A. spectabilis* (R. Brown in the Mem. of the Wernerian Society, i. 75).

MYRSINEÆ.

MÆSA HAPLOBOTRYS.

F. v. Mueller, Fragm. Phytogr. Austr. v. 161.

Fly-River; D'Albertis.

The Papuan and Australian plants seem identical. The width of the leaves is particularly variable. The inflorescence is almost spicate.

MÆSA PROTRACTA.

Glabrous, *leaves lanceolate, gradually long-acuminate, slightly wavy* at the margin, decurrent into the petiole; *racemes simple*, axillary and terminal, shorter than the leaves, solitary or 2 or more together; pedicels as long as the flowers or somewhat longer, twice or thrice as long as the bracts; corolla hardly half exerted, as well as the calyx 5-cleft; fruit ovate-globular, about as long as the pedicel.

Fly-River; D'Albertis.

Leaves 4-7 inches long, 1-2 inches broad, chartaceous, on a petiole of less than one inch length; their dots extremely minute; pellucid lines almost absent. Racemes 3 inches long or variously shorter. Corolla hardly above one line long; its roundish lobes nearly equalling the tube in length. Fruit scarcely two lines long.

This *Mæsa* verges towards *M. acuminata* (A. de Candolle, Prodr. viii. 77) from Nepal, but the leaves are longer and not quite entire; besides there are likely other differences between them, which D. Don's diagnosis (Prodr. Flor. Nepal 149) does not admit of pointing out. It comes also very near *M. Novo-Guineensis* (Scheff. Annal. du Jardin Bot. de Buitenz. 32); the leaves of the latter are considerably larger, and the flowers are described as three times as long as the calyx. Other *Myrsineæ* of Papua are:

Mæsa verrucosa, Scheff. Commentat. de Myrsinac. Archip. Indic. 16.

Mæsa lævigata, Scheff. l. c. 17.

Mæsa mollissima, A. de Cand. in the *Transact. of the Linn. Soc.* xvii. 134.

Myrsine densiflora, Scheff. *Comm.* 70.

EBENACEÆ.

MABA ELLIPTICA.

R. and G. Forster, *Charact. Generum*, 122, t. 61.

Fly-River; D'Albortis.

The plant from this locality has its fruits covered by a rust-colored velvet. It is on the authority of Hiern (*Transact. of the Cambridge Philos. Society*, xii. 122), that I place D'Albortis' plant in this specific position, that able monographer regarding the presence or absence of the vestiture of the fruit of no avail for specific characteristic. Our specimens are without flowers. Plants of this order, producing Ebony-wood, occur doubtless in New Guinea.

CONIFERÆ.

NAGEIA RUMPHII.

Podocarpus Rumphii; Blume, *Rumphia* iii. 214.

New Guinea; Zippelius.

This is mentioned on the present occasion to refer to another *Nageia*, the fruits of which were brought from the Fly-River by Signor D'Albortis, to whom the species may be dedicated, should it prove new. The nut is globular like that of *N. Blumei* (Gordon, *Pinet.* 135, *Podocarpus agathifolia*; Blume, *Rumphia* iii. 217, t. 173), but slightly larger, the receptacle a good deal thicker and the embryo rather more like that of *N. bracteata* (*Podocarpus bracteata*, Blume *Enumerat. Plant. Javæ*, 88). I see no reason why the genus *Nageia* should be discarded in favor of *Podocarpus*; the former was fully established by Gærtner already in 1788 (*de Fructib. et Seminib.* i. t. 39) on *N. Japonica*, whereas L'Heritier's genus *Podocarpus* seems really to have been published only in 1806 (*Labillardière, Novæ Holl. Plant. Specimen* ii. 71, t. 221). "Suum cuique."

As yet no other Coniferæ are on record from New Guinea, except *Nageia thevetiæfolia* (*Podocarpus thevetiæfolius*, Bl. *Rumphia* ii. 213) and the *Araucaria* mentioned by Dr. Beccari; but it may be expected

that this order of plants is well represented in the colder altitudes of the island. Of the allied Gnetaceæ we know as Papuan: *Gnetum Gnemum*, L. Mantiss. 125 and *Gnetum latifolium*, Blume Nov. Plant. Famil. 30.

The occurrence of *Nagais* within the tropics indicates usually an approach to elevated regions. From such probably came also the acorns of two species of *Quercus*, brought by Signor D'Albertis, and which may have been washed by mountain-torrents to the upper waters of the Fly-River, or may perhaps have been carried as articles of food by the natives down from the mountains.

PANDANEÆ.

FREYCINETIA GAUDICHAUDI.

R. Brown, in Horsfield's *Plantæ Javan. Rarior.* 31, t. ix.

Fly-River; D'Albertis.

Blume and Miquel record from New Guinea:

Freycinetia scandens, Gaudich. Voy. Freycenet. Bot. 432, t. 42.

Freycinetia marginata, Blume, Rumphia i. 159.

The specific position of the Papuan Pandani remained hitherto unascertained.

