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## An Enumeration of all ORCHIDÆ hitherto recorded from Borneo.

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[Read 21st December, 1893.]

(PLATES XIII.-XV.)

Few countries so rich in Orchids as Borneo have been so much neglected in the elucidation of these plants, although a considerable number of the showier kinds have been introduced and described in various horticultural periodicals. Unfortunately the localities given in these publications are nearly all worthless, owing to the desire of the introducers to keep the localities secret whence they were procured. I have had the gratification of working through the important collections made by Dr. Haviland in the neighbourhood of Sarawak, and the plants in this collection form the basis of my remarks; to which I have added description and notes of species collected in Sarawak by Bishop Hose, and in Sandakan by Mr. Pryer, together with a few obtained from various other collectors and orchid dealers in Singapore, and there cultivated in the Botanic Gardens. Many of the latter are described from living plants, which must be taken into account when comparing the descriptions with dried specimens. In the list I have incorporated the names of species recorded from Borneo which there is reason to believe were really obtained there.

It will be noticed that there is a preponderance of *Epidendrea*, due to the prominence of the large genera *Eria*, *Dendrobium*, and *Bulbophyllum*. *Neottia* are not well represented; but I believe that careful searching will produce a considerable number. Always difficult to find in the dark recesses of the jungle, seldom met with in flower, and difficult to bring home alive, they are more likely to be neglected than the more conspicuous epiphytes easily brought down and cultivated.

The most interesting plant in the list is the new genus *Porphyroglottis*, allied to *Chrysoglossum*, but with the habit of *Grammatophyllum*.

There are a considerable number of species common to Borneo and the Malay peninsula, and very nearly all the Bornean genera are represented in the latter region; but certain genera, such as *Phalenopsis*, *Platyclinis*, and *Cypripedium*, are more abundant in Borneo, probably from local causes.

Taking it as a whole, the Malayan region, from the Isthmus

of Kra to Java inclusive, is, as regards Orchids, at least tolerably homogeneous. The *Dendrobia*, among others, mark off the Malayan regions very distinctly. In India and Siam occur the sections *Stachyobium* and *Eudendrobium*, with the great section of *Speciosæ* (e. g. *D. nobile*, Lindl., *D. aggregatum*, Roxb.). These are nearly absent from the Malayan region, of which the most characteristic sections are *Aporum*, *Strongyle*, *Cadetia*, *Pedilonum*, and *Distichophyllæ*. In the Papuan region occurs the *Taurinum* section with twisted petals, quite absent from the Malayan region. The most characteristic genera of the Malay region are *Platyclinis*, *Dendrochilum*, *Nephilaphyllum*, *Thelasis*, *Microsaccus*, *Adenoncos* (*Sarcochilus*), *Appendicula*, *Podochilus*, and *Plocoglottis*.

The Orchids of the highest ranges of Mt. Kinabalu are typically Malayan. There is nothing to show any connexion with the Himalayan flora; though from the other plants collected by Dr. Haviland and the fauna obtained there, it appears that there is a decided trace of a Himalayan element. I have added some notes on the *Apostasiaceæ*, not because I consider them to bear close relationship to the Orchids, but rather for convenience, since it is usual for botanists to look for accounts of these plants under *Orchideæ*.

#### EPIDENDRÆ.

*OBERONIA CILIOLATA*, Hook. f. *Fl. Brit. Ind.* vi. p. 181. Sitam; Sarawak (*Dr. Haviland*).

*O. MULTIFLORA*, sp. nov.

Cæspitosa, subcaulis. Folia pauca, falciformia, acuta, 2 pollices longa,  $\frac{1}{4}$  poll. lata. Racemus gracillimus ad 3 pollices longus, floribus plurimis conspicue verticillatis minutis. Bracteæ pallidæ, lanceolatæ, acuminatæ. Sepala lanceolata acuta. Petala minora lanceolata. Labellum trilobum, lobis lateralibus ovato-lanceolatis, subfalcatis, acutis, medio latiore obtusato, apice lato sinuato submarginato aurantiaco. Capsula  $\frac{1}{8}$  poll., subglobosa.

Trusan River (*Haviland*!).

This is chiefly remarkable for the minuteness of its flowers, which are much smaller than those of most *Oberonias*. It really belongs to the *Caulescentes*, though the stem is very short.

DOSSINIA MARMORATA, *C. Morr. in Ann. Soc. Gand*, iv. (1848) p. 171, t. 198. Limestone rocks, Matang, Sarawak (*Haviland*).

CYSTORCHIS VARIEGATA, *Blume, Orch. Archip. Ind.* p. 89, tt. 24, 36. Trusan River; 1 mile from Kuehing (*Haviland*).

C. GLANDULOSUS, *Benth. & Hook. f. Gen.* iii. p. 598, in nota sub *Physuro*. Borneo: this I have not seen.

CYSTOPUS SPICATUS, *Blume, Orch. Archip. Ind.* p. 84. Western Borneo (*Mueller, fide Blume*).

CORYSANTHES FORNICATA, *Lindl. Gen. et Sp. Orch.* p. 394. In *Sphagnum*; Santabong and near Tegura, Sarawak (*Haviland*).

#### O P H R Y D E Æ.

HABENARIA MARMAROPHILA, sp. nov.

Radices crassi, lanuginosi. Folia plura lanceolata congesta acuta, basi attenuata, tenuia, 12 pollices longa,  $1\frac{1}{2}$  poll. lata. Scapus crassus elatus, 18-pollicaris vel ultra, vaginis foliaceis pluribus in bracteis superne attenuatis. Racemus laxis pluriflorus. Bracteæ lanceolatæ acuminatæ, pollicem longæ,  $\frac{1}{4}$  poll. latæ ad basin, superiores minores. Flores majusculi, pedicellis quam bracteæ longioribus. Sepalum posticum cum petalis connatum, galeam erectam,  $\frac{1}{2}$  poll. longum formans, lateralia oblonga ovata falcata deflexa. Labellum trifidum; lobi lineares, medius ultra dimidium pollicis, laterales breviores. Calcar longum pendulum clavatum, pollicare. Columna lata; anthera obtusa, processibus longis porrectis. Pollinia oblongo-ovoidæ, pedicellis longis, tenuibus  $\frac{1}{4}$ -pollicaribus, discis ellipticis. Processus rostellii elongati porrecti, iis antheræ æquales. Stigmata subglobosa papillosa. Glandulæ laterales columnæ lamelliformes.

Buseau, Sarawak, limestone hills (*Haviland*).

A tall plant with the habit of *H. ovalifolia*, Wight.

H. BORNEENSIS, *Ridl. in Trans. Linn. Soc. ser. II., Bot.* iv. (1894) p. 240. Kinabalu, 10,000 ped. alt. (*Haviland*).

#### C Y P R I P E D I Æ.

CYPRIPEDIUM DAYANUM, *Reichb. f. in Bot. Zeit.* xi. (1862) p. 214. Kinabalu.

C. HOOKERÆ, *Reichb. f. in Hook. Bot. Mag.* t. 5362. Sarawak.

CYPRIPEDIUM JAVANICUM, *Reinw. ex Blume Cat. Gew. Buitenz.* p. 98, nomen. A single plant is reported to have been introduced into England from Borneo by Messrs. Low.

C. LAWRENCEANUM, *Reichb. f. in Gard. Chron.* (1878) II. p. 748. Lawas River; Meringit!

C. LOWEI, *Lindl. in Gard. Chron.* (1847) p. 765. Sarawak! Baram River!

C. STONEI, *Hook. f. Bot. Mag.* t. 5349. Sarawak!

C. NIGRITUM, *Reichb. f. in Gard. Chron.* (1882) II. p. 102. Borneo.

#### APOSTASIACEÆ.

APOSTASIA NUDA, *R. Br. in Wall. Pl. As. Rar.* i. p. 76, t. 85. Penkulu Ampat, at 2000 feet alt.; Santubong, at 200 feet alt. (*Haviland*).

A. GRACILIS, *Rolfe, in Journ. Linn. Soc. (Bot.)* xxv. (1889) p. 242. Borneo (*fide Rolfe*).

A. LOBBII, *Reichb. f. in Flora*, lv. (1872) p. 278. Labuan (*Lobb*); Banjermassing, South Borneo (*Motley*).

I confess I am not able from description to separate these species. There is a stout broad-leaved form commonly to be met with growing with typical forms of *A. nuda*, R. Br., which may be the plant intended by *A. Lobbii*, Reichb. f. Dr. Haviland's Penkulu Ampat specimen is of this form; it is apparently only a local variety. *A. nuda*, R. Br., in all places where I have seen it, and it is very common, has white and not yellow flowers as described and figured by Wallich.

NEUWIEDIA LINDLEYI, *Rolfe, in Journ. Linn. Soc. (Bot.)* xxv. (1889) p. 232. Borneo (*Low fide Rolfe*).

#### DESCRIPTION OF THE PLATES.

##### PLATE XIII.

*Bulbophyllum pedicellatum*, Ridl.

- Fig. 1. Entire plant, natural size.  
 2. Flower, enlarged.  
 3. Flower partially opened.  
 4. Column and lip.  
 5. Lip, front view.  
 6. Anther, front and side views.