

Contributions to the Knowledge of the Flora of New Caledonia

Rudolf Schlechter

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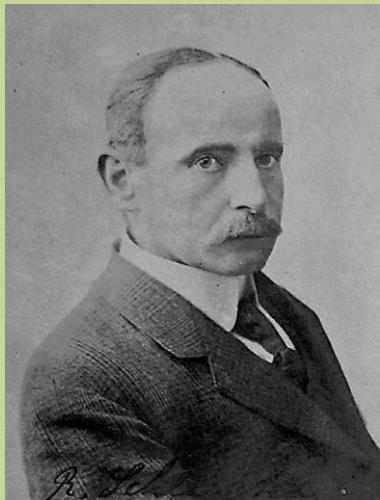
Beiträge zur Kenntnis der Flora von Neu-Kaledonien

as published in

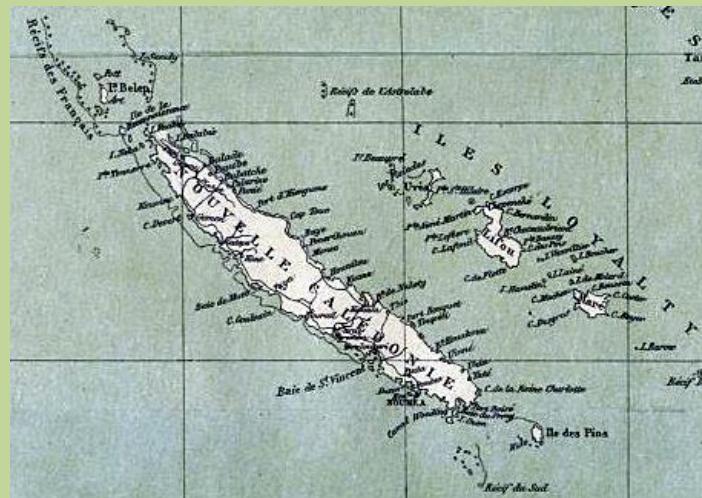
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with introduction and index.

D F Blaxell, H J Katz & J T Simmons



Rudolf Schlechter
(1872-1925)



New Caledonia



The Australian Orchid Foundation

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by

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INTRODUCTION

Rudolf Schlechter concluded his first journey to German New Guinea in August 1902, travelling by ship to Sydney, where, after a short stay, he embarked for New Caledonia, arriving in Noumea in September of the same year.

During the ensuing five months, he collected over 1000 plants for the Berlin Botanical Museum, who were anxious to expand their collection of New Caledonian material and made the funds available for Schlechter's visit.

After returning to Berlin, Schlechter continued his studies and obtained his Ph.D. at the end of 1904, the subject of his thesis being 'Pflanzengeographische Gliederung der Insel Neu-Kaledonien' (Plant Geography of the Island of New Caledonia). This paper was published in 'Botanische Jahrbücher für Systematik, Pflanzengeschichte und Pflanzengeographie' (Botanical Year Books for Taxonomy, Plant History and Plant Geography), published by A. Engler and commonly used as a vehicle for the publication new botanical works. The referenced paper appeared in Volume 35 (1904) pp. 1-41.

Following this work, Schlechter wrote a paper entitled 'Beiträge zur Kenntnis der Flora von Neu-Kaledonien' (Contributions to the Knowledge of the Flora of New Caledonia), published in Engl. Bot. Jahrb. Vol. 39 (1906) pp. 1-274. The text on the Orchidaceae section of this work (pp. 33-91), describes the collections of 139 specimens of 105 species or varieties from 44 genera. These include 68 new species or varieties and three new genera are created.

A scientific index has been included for the convenience of readers.

H.J. Katz

J.T. Simmons



With a more exact knowledge of all the species on the island, the family of the Orchidaceae may well prove to belong to the largest within the region [New Caledonia]. I have met with not less than 160 species, a few of which were not flowering and were therefore not collected.

It is interesting and very remarkable that amongst the terrestrial orchids there are decided affinities with those of eastern Australia and New Zealand, and that Malayan-Pacific forms also are found there, whereas the epiphytic forms, with few exceptions, belong either to distinct groups, or must be included in the Malayan genera.

Likewise, endemic genera are not lacking. In particular Eriaxis may be mentioned, as well as the genera Coilochilus, Gonatostylis and Pachylectron described here.

Details concerning the occurrence of the genera and species follow.

Habenaria Willd.

Of this large genus, which is widely distributed over the tropical and subtropical areas of the Earth, no species was previously known from the island of New Caledonia. However, it was to be expected, that the genus would be represented there by several species. The two described here are not at all interrelated, but belong to two sections, representatives of which have already been found in adjacent regions. Both species are inhabitants of the forest, where they are found in humus in shady places.

Habenaria ngoyensis Schltr., sp. nov.

Erecta, gracilis, c. pedalis; radicibus carnosis, villosis; caule erecto, stricto, pennae gallinae crassitudine, tereti, glabro, laxe squamis cucullato-vaginantibus obsesso, medio fere densius foliato; foliis rosulato-approximatis c. 6, patentibus, lanceolatis, acuminatis, glabris, textura tenuibus, basin versus angustatis, basi sursum dilatata vaginantibus, 8—12 cm longis, medio fere 1—2 cm latis; spica laxe c. 15-flora, elongata, glabra; bracteis lanceolatis acuminatis, ovario fere aequilongis, lanceolatis; floribus in genere inter minores, viridibus, erectis; sepalis lanceolato-oblongis obtusiusculis, vix 0,3 cm longis, glabris, intermedio galeato-concavo, lateralibus subfalcato-obliquis; petalis oblique ellipticis obtusiusculis, sepalo intermedio fere aequilongis, glabris; labello e basi cuneato-ligulata dente corniformi erecto ornata, trilobo, lobis lateralibus divaricatis linearibus falcatis obtusiusculis, intermedio ovato-triangulari obtusiusculo, lateralibus plus duplo breviore, calcare cylindrico brevi, apice vesiculoso-inflato, obtuso, ovario plus duplo breviore; anthera apice breviter excisa, canalibus adscendentibus; rostello humili; processibus stigmatiferis brevibus, canalibus antherarum brevioribus; ovario subfusiformi, glabro, 0,4 cm longo.

Southern District : In the mountain forests, near the Ngoye [River], alt. c. 300m - [R. Schlechter] no. 15283, flowering in Nov. 1902.

Obviously this species belongs to the Peristyloidea group [section] and I

would like to place it next to H. goodyeroides A.Rich. It is distinguished by the shape of the labellum and by the dentate, erect extension on the lip-claw. A similar extension has already been observed in various species of this genus, e.g. in H. arenaria Lindl. from South Africa.

Habenaria insularis Schltr., sp. nov.

Erecta, gracilis, c. 40—50 cm alta; caule stricto vel substricto, ima basi squamis vaginantibus vestito, dimidio inferiore bene foliato, dimidio superiore sensim denudato, vaginis dissitis foliaceis in bracteas abeuntibus donato; foliis erecto-patentibus, lanceolato-ligulatis acuminatis c. 8, tenuibus, utrinque glabris, usque ad 14 cm longis, medio fere usque ad 3 cm latis, superioribus sensim brevioribus demum ovatis; racemo oblongo brevi, interdum subcorymboso, 8—10-floro; bracteis ovatis acuminatis, glabris, ovario pedicellato multo brevioribus; floribus in genere inter mediocres, albis, glabris; sepalis ovatis obtusiusculis, 1 cm. longis, intermedio paulo recurvo, galeato-concavo, lateralibus deflexis, falcato-obliquis; petalis erectis ovato-ellipticis, obliquis, obtusiusculis, glabris, sepalorum fere longitudine; labello e basi ligulata tripartito, segmentis lateralibus subfiliformibus, flexuosis, 0,8 cm longis, intermedio linearis subacuto, lateralibus paulo breviore, calcare filiformi obtusiusculo, ovarium paulo excedente; anthera vix resupinata, apice subemarginata, canalibus e basi lata angustatis, adscendentibus; rostelli lobo medio subulato antherae connectivo paulo breviore; processibus stigmatiferis gracilibus teretibus, 0,5 cm longis, canalibus antherarum paulo longioribus, interdum apice cohaerentibus; ovario pedicellato cylindrico, apice breviter rostrato, 2,3 cm longo, glabro.

Northern District : In the mountain forests near Ou Hinna, alt. c. 800m — [R. Schlechter] no. 15746, flowering in Jan. 1903.

This clearly belongs to the Chlorinae group [section], within which it is characterised by those species with large flowers.

Thelymitra Forst.

The only known species in the country hardly differs from the widely distributed T. longifolia Forst. It is perhaps one of the most common orchids on the island. In the plains near the coast, as well as on the ranges, it is found on the highest peaks everywhere, at open sunny places. I have noticed it on the dry hills, as well as on the borders of swamps. In colour, the flowers are usually a lustrous blue, but varieties with paler flowers also occur, often having a pale red-rose colour.

Thelymitra longifolia Forst.

Southern District : On the hills near Yaouhé, alt. c. 100m — [R. Schlechter] no. 14727, flowering in Sept. 1902; on the mountains near Paita, alt. c. 500—1200m — [R. Schlechter] no. 15013, flowering in Oct. 1902.

Northern District : On the mountains near Oubatche, alt. c. 900m — [R. Schlechter] no. 15587, flowering in Dec. 1902.

Orthoceras R.Br.

The only known species of the genus, which occurs also in Australia and New Zealand is now recorded from this region. It appears to be rare and is found only as individual specimens. I found my specimens in company with Gleichenien, Lycopodien, Eriaxis and Baeckea in sunny places.

Orthoceras strictum R.Br.

Southern District : On the mountains near Yaouhé, alt. c. 600m - [R. Schlechter] no. 15045, flowering in Oct. 1902.

Coilochilus Schltr., gen. nov.

Flores inversi. Sepalum intermedium anticum oblongum, lateralia intermedia similia, paulo obliqua. Petala sepalis similia paulo angustiora. Labellum posticum erectum cucullato-concavum carnosum, breviter acuminatum, supra basin utrinque lobulo parvulo donatum, glabrum, intus nudum. Columna perbrevis, stigmate basilari, rostello cuneato, apice obtusato-truncato, medio breviter exciso. Anthera subreniformi-cordata obtusa, glabra. Pollinia bipartita, sine stipite glandulae minutae affixa.

Herba perennis; radicibus crassis, villosis, folia radicali singulo, angusto; scapo gracillimo erecto, vaginato; spica dense multiflora, cylindrica elongata; floribus in ordine minutis, virescentibus.

Species una adhuc nota, Novae Caledonia incola.

I believe that this interesting new genus should best be placed adjacent to Microtis R.Br., with which it shows the greatest similarity in habit, in that Microtis also has a spike of small flowers. There are, however, quite substantial differences between the two genera in the floral structure, both in the shape of the labellum and in the column. In Microtis the cap is formed by the dorsal sepal, but in this genus, it is by the labellum.

Coilochilus neo-caledonicum Schltr., sp. nov.

Terrestris, erecta, gracillima, 35—75 cm alta; radicibus carnosis, villosis; folio radicali solitario, ligulato acuto, basi in petiolum sensim angustato, utrinque glabro, 14—20 cm longo (petiolo inclusus), medio fere 1—1,5 cm lato, textura tenui; scapo gracillimo substricto, vaginis paucis dissitis, arcte amplectentibus acuminatis, vestito, tereti, glabro; spica cylindrica, dense multiflora, elongata, usque ad 13 cm longa c. 1 cm diametente; bracteis minutis lanceolatis acuminatis, ovario multo brevioribus; floribus minutis, virescentibus, inversis; sepalu intermedio antico, oblongo obtuso, c. 0,4 cm longo, glabro, lateralibus aequilongis obliquis, obtusis; glabris, intermedio paulo angustioribus; petalis ligulatis obtusis glabris, sepalis subaequilongis; labello postico carnosulo, cucullato-concavo, breviter acuminato, supra basin margine utrinque lobulo parvulo donato, glaberrimo, intus omnino nudo, sepalu intermedio fere aequilongo; columna et anthera generis; ovario recto, glabro, cylindrico, 0,4 cm longo.

Southern District : On the mountains near the Ngoye [River], in forests, alt. c. 800m - [R. Schlechter] no. 15279, flowering in Nov. 1902.

I have observed this plant repeatedly in New Caledonia, but only once was I fortunate enough to find it in bloom. The flowers are yellowish green, the labellum with a brownish flush.

Microtis R.Br.

Nearly all the individual species of this genus are very difficult to distinguish in the dry state. Reichenbach in his 'Beiträge zur Systematischen Pflanzenkunde' has already pointed out this difficulty. Especially the species of the affinity of M. porrifolia R.Br., gave that botanist considerable trouble. Lately it has been the custom, when dealing with any plants externally resembling that species, no matter what region they come from, to describe them either as M. porrifolia R.Br. or M. parviflora Sprgl., thereby adding appreciably to the confusion. There is now, however, a plant from New Caledonia which, in spite of its resemblance in habit, must surely be regarded as a separate species, on account of the shape of the labellum. It is widely distributed on the island and is amongst the most common orchids there.

The species occurring in Formosa and the Liukiu Islands also differs and is to be regarded as a separate species, M. formosana Schltr., differing in that the labellum has two double calli at the base.

Microtis aemula Schltr., sp. nov.

Terrestris, gracilis, erecta, 25—45 cm alta; tuberibus globosis, vel ovoideis, glabris; caule stricto, interdum flexuoso, tereti, glabro, infra medium unifoliato; folio tereti filiformi vulgo inflorescentiam paulo excedente, nunc breviore, apice mox emarcescente, basi dilatata arcte caulem amplectente; spica subdense multiflora elongata, cylindrica, 5—13 cm longa; bracteis ovatis acuminatis, ovario breviter pedicellato brevioribus, glabris; floribus viridi-flavescens illis M. porrifoliae R. Br. fere aequimagnis; sepalо intermedio suborbiculari, cucullato-concavo, apice breviter acuminato vel apiculato, glabro, 0,2 cm longo, lateralibus lanceolato-ligulatis obtusis, glabris, apice revolutis, 1,5 mm longis; petalis sepalis similibus sed paulo brevioribus, obtusis glabris; labello e basi ovata apicem versus angustato obtuso, margine paulo undulato, basi callis 2 subfalcato-quadratis medium spectantibus ornato, dimidio anteriore medio densius tuberculato, 1,5 mm longo; columna brevi apicem versus dilatata; anthera ovoidea basi cordata, polliniis oblique pyriformibus.

Southern District : On the hills near Yaouhé, alt. c. 200m - [R. Schlechter] no. 14724, flowering in Sept. 1902.

This species is distinguished from M. porrifolia R.Br., by the labellum, which distinctly narrows towards the front and has calli.

Pterostylis R.Br.

None of the many species of this genus represented in Australia and New Zealand has previously been recorded from our region. Only three species are known to me, viz. the two described below and one which appears to be closely

related to P. ophioglossa R.Br. I received the latter from a correspondent in Noumea. Two of these species occur in the Southern District, P. Bureaviana Schltr. being found at shady borders of the forest, especially on rocks, whilst the one mentioned above occurs near Noumea, on barren hills of the Niauli-formation. P. neo-caledonica Schltr. from the Northern District, often occurs in open places on the mountains amongst short grasses and herbs.

Pterostylis Bureaviana Schltr., sp. nov.

Terrestris, erecta, 45—30 cm alta; tuberibus globosis, pisi fere magnitudine; caule gracili, stricto vel substricto, tereti, glabro, foliato, apice unifloro, basi vaginulis paucis vestito; foliis erecto-patentibus patentibusve dissitis, lanceolato-vel oblongo-ellipticis, acutis vel breviter acuminatis, utrinque glabris, textura tenuibus, 2,5—4 cm longis, medio fere 0,8—1,4 cm latis; bractea foliacea ovato-lanceolata acuta, ovario breviter pedicellato fere aequilonga; flore illi P. foliatae Hk. f. fere aequimagna pallide viridi-picta; sepalo intermedio cucullato-concavo apice porrecta acuto, c. 2 cm longo, glabro, lateralibus usque ad dimidium fere connatis subito oblique acuminatis 1,8 cm longis; petalis lanceolato-ligulatis acutis, falcatis, sepalo intermedio fere aequilongis glabris; labello crassiusculo unguiculato, lamina erecta anguste ligulata obtusiuscula 4 cm longa, 0,2 cm lata, basi appendice adscendente, apice plumosa, 0,3 cm longa ornata; columna gracili 1,8 cm longa, auriculis apice breviter acuminatis basi paulo ampliata incurvis; anthera breviter ovata cordata; ovario breviter pedicellato, cylindrico, glabro, 1,8—2 cm longo.

Southern District : At forest borders on rocks, on the mountains near Paita on [Mount] Kariconyé , alt. c. 600m - [R. Schlechter] no. 14970, flowering in Oct. 1902.

This species should perhaps be best placed alongside P. foliata Hook.f. from New Zealand.

Pterostylis neo-caledonica Schltr., sp. nov.

Terrestris erecta, 44—20 cm alta; tuberibus subglobosis, pisi fere magnitudine; foliis ad basin caulis rosulatis 3—6, patentibus petiolatis, lamina oblonga vel elliptica vel obovata, vulgo apiculata, glabra, textura tenui, 2—4 cm longa, medio fere 0,9—1,8 cm lata, petiolo 1—1,5 cm longo, glabro, basi vaginante; caule gracili basi foliata excepta vaginis 3—4, lanceolatis acutis vel apiculatis, glabris dissitis donato; tereti, glabro, apice unifloro; bractea vaginis caulis conformi, ovario breviter pedicellato paulo breviore; flore illi P. Bureaviana Schltr. fere aequimagna, erecta, pallida viridi-picta; sepalo intermedio cucullato-concavo, glabro, acuminato, 2 cm longo, lateralibus ad medium usque connatis oblique lanceolatis breviter acuminatis, glabris 1,8 cm longis; petalis falcatis lanceolato-ligulatis acutis, margine interiore basi angustatis, sepalo intermedio fere aequilongis; labello breviter unguiculato, lamina ligulata medio apicem versus carinato-incrassata obtusa glabra, 4 cm longa, 2,5 mm lata, basi appendice brevi

incurva apice lacerato-incisa donata, infra apicem lamella inciso-lacerata aucta; columpa gracili, glabra, auriculis apice breviter acuminatis, basi paulo ampliata rotundata incurvula; ovario breviter pedicellato, glabro, 1,8 cm longo.

Northern District : On open grassy areas, on the mountains near Oubatche, alt. c. 1400m - [R. Schlechter] no. 15472, flowering in Jan. 1902 [1903].

Although the external structure of the flower is not unlike that of the previous species, the plant under examination is recognisable easily by the whorled leaves and the quite different lip appendage.

Acianthus R.Br.

Among the genera of the Neottiinae, Acianthus may be regarded as the most abundant in species in New Caledonia. Besides the five new species described here, three others were previously known from the region, viz. A. elegans Rchb.f., A. atepetalus Rchb.f. and A. cymbalariaefolius F.v.M. et Krzl. I have no doubt that apart from these eight species, a whole series of new forms may be expected from the region. In addition, I possess others which I collected during my travels in the island, but which were too far advanced in fruit to permit a description.

The genus Cyrtostylis R.Br. can in no respect be distinguished from Acianthus. The individual floral segments and the column of both genera are quite identical. The location of the leaf is immaterial, all the more so since in Acianthus, leaves occur low down on the stem, whilst in less robust specimens of Acianthus reniformis Schltr. (Cyrtostylis reniformis R.Br.) and A. oblongus Schltr. (Cyrtostylis oblonga Hook.f.) they may be found higher up on the stem.

Acianthus atepetalus Rchb.f.

Southern District : On the summit of Mount Mou, near Paita, in forest humus, alt. c. 1250m - [R. Schlechter] no. 14948, flowering in Oct. 1902.

Acianthus grandiflorus Schltr., sp. nov.

Terrestris, erectus, gracilis, 44—30 cm altus; caule stricto vel flexuoso, tereti, glabro, medio fere unifoliato, apice laxe 2—5-floro; folio late ovato profunde cordato, sessili, apiculato, 1,5—2,3 cm longo, basi fere 2—3,5 cm lato, utrinque glabro, textura tenui; bracteis foliaceis ovatis obtusiusculis, ovario brevioribus; floribus in genere inter majores, roseis, erectis; sepalo lanceolato subacuto, concavo, glabro, 0,8 cm longo, lateralibus oblique linearibus, acutis, glabris, 0,7 cm longis, petalis subfalcatis late oblongis acutis, glabris, 0,7 cm longis; labello obovato obtusissimo basin versus angustato, basi contracto, margine lobulo minuto oblongo-falcato ornato, 0,8 cm longo, infra apicem 0,5 cm lato, glabro; columna gracili, arcuata, supra basin margine paulo dilatata, 0,5 cm longa; ovario sessili cylindrico, glabro, 0,8 cm longo.

Southern District : Between shrubs, on the mountains near the Ngoye [River], alt. c. 400m - [R. Schlechter] no. 15243, flowering in Nov. 1902.

Most similar in habit to A. atepetalus Rchb.f., but differing appreciably in the deeply cordate leaves, the non-candate sepals and in the labellum.

Acianthus macroglossus Schltr., sp. nov.

Gracilis, tenellus, erectus, 15—22 cm altus; caule stricto vel flexuoso, tenui, tereti glabro, infra apicem unifoliato, apice laxe 3—6-floro; folio sessili, circuitu ovato profunde cordato, acuto, plus minusve distincte 7-lobato 3—4 cm longo, supra basin 2—2,5 cm lato, utrinque glabro, textura tenerrimo; bracteis lanceolatis acuminatis, ovario aequilongis vel paulo longioribus; floribus erectis purpurascensibus; sepalis filiformibus e basi angustissime linearis, 2 cm longis; petalis e basi angustissime linearis filiformibus, c. 0,5 cm longis; labello oblongo-elliptico apice setaceo-acuminato, glabro, c. 4,5 cm longo, medio fere 0,7 cm lato, nervo medio paulo incrassato; columna arcuata apice paulo incrassata, 0,3 cm longa, gracillima glabra; ovario pedicellato, subcylindrico, glabro, 0,7 cm longo.

Southern District : Alongside the creeks in the mountain forests near Paita, between stones, alt. c. 500m - [R. Schlechter] no. 14862, flowering in Oct. 1902.

Although the fruit had already set in my specimens, I was nevertheless able to determine the separate segments of the flowers, except in regard to the length of the petals, where I was not quite certain, since their tips may possibly have been broken off. The species is distinguished from all others by the large labellum.

Acianthus oxyglossus Schltr., sp. nov.

Tenerrimus, erectus, pusillus, vix 10 cm altus; caule plus minusve flexuoso, gracillimo (subfiliformi) tereti, glabro, medio vel infra medium unifoliato, apice laxe 3—7-floro; folio parvulo, cordato acuto, utrinque glabro, textura tenui, 0,4—0,7 cm longo, supra basin 0,4—0,6 cm lato; bracteis foliaceis late ovatis acuminatis ovario pedicellato brevioribus; floribus in genere inter minores, luride purpureis, erecto-patentibus; sepalis intermedio anguste lanceolato valde acuminato, concavulo, glabro, vix 0,6 cm longo, lateralibus e basi anguste linearis filiformi caudatis, c. 4 cm longis; petalis oblique lanceolatis valde acuminatis glabris, vix 0,4 cm longis; labello e basi late unguiculata late ovato subito valde angustato acuminatissimo, basi margine utrinque callo minuto lunato ornato, 0,4 cm longo, medio fere 0,2 cm lato, glabro; columna arcuata gracili, pro genere brevi, anthera magna; ovario graciliter pedicellato, subcylindrico, c. 0,5 cm longo.

Southern District : Between stones in the forests, near the Ngoye [River], alt. c. 200m - [R. Schlechter] no. 15262, flowering in Nov. 1902.

An extremely delicate little plant, which is difficult to find. Unfortunately a portion of my specimens, which were overlooked owing to their small size, got mixed up with other exsiccati, so that I could only save two pieces and a few inflorescences, which as a precaution, I placed in a small capsule. A. caudatus R.Br. should be regarded as its nearest relative.

Acianthus cymbalariifolius F.v.M. et Krz1.

Gracilis, erectus, pusillus, 4—13 cm altus; caule tenui, tereti, glabro, medio vel infra medium unifoliato, apice laxe 1—4-floro, folio suborbiculari cordato, brevissime acuminato, integro vel plus minusve profundius 3-lobato, lobis rotundatis vel minute apiculatis, utrinque glabro, textura tenui, 0,8—1,8 cm diametente; bracteis lanceolatis vel ovato-lanceolatis acuminatis, glabris, ovario breviter pedicellato vulgo brevioribus; floribus in genere inter majores, roseis; sepalو intermedio linearи apicem versus paulo angustato obtusiusculo, glabro, 1,5 cm longo, lateralibus oblique ligulatis obtusis, glabris, porrecto-patulis, 1 cm longis; petalis sigmoideo-lanceolatis apice obtusiuscule linearи-attenuatis, 0,8 cm longis, glabris; labello ligulato, apice trilobo, lobis lateralibus abbreviatis rotundatis, intermedio paulo producto oblongo obtuso, auriculis 2 lunatis obtusis ad basin labelli sepalis lateralibus aequilongi; columna gracili apice incurva, medio paulo incrassata, c. 0,4 cm longa; ovario breviter pedicellato, subcylindrico, glabro, c. 0,5 cm longo.

Southern District : In forest humus in damp places, on the summit of Mount Mou, near Paita, alt. c. 1250m — [R. Schlechter] no. 14929, flowering in Oct. 1902.

I publish a further description of the plant, since considerably better material is now at my disposal, than was available to the two authors in making their description.

Acianthus tenellus Schltr., sp. nov.

Gracilis, pusillus, tenellus, 10—15 cm altus; caule flexuoso vel substricto, tenui, medio fere unifoliato, apice laxe 2—5-floro; folio patente late ovato, profunde cordato breviter acuminato, utrinque glabro, textura tenerrimo, 0,8—1,3 cm longo, supra basin 0,6—1 cm lato; bracteis ovato-lanceolatis acuminatis, ovario fere duplo brevioribus; floribus erecto-patentibus purpurascensibus, in genere inter mediocres; sepalis e basi anguste linearи elongato-acuminatis glabris, 0,5 cm longis, lateralibus basi paulo obliquis, glabris, petalis sepalis similibus sed paulo brevioribus glabris, vulgo patulis; labello ampio porrecto obovato-oblongo, apice breviter acuminato, 0,6—0,7 cm longo, infra apicem 0,3 cm lato, basin versus paulo angustato; columna gracili arcuata apicem versus paulo incrassata 0,2 cm longa; ovario breviter pedicellato subcylindrico, glabro, 0,3 cm longo.

Southern District : On shaded rocks, in the forest of Pic Malaoni, above Yaouhé, alt. c. 500m — [R. Schlechter] no. 14799, flowering in Sept. 1902.

This species is characterised by a labellum which places it midway between the typical *Acianthus* and *Cyrtostylis*. In the shape of the leaf, the species is reminiscent of *A. rotundifolius* Schltr. (*Cyrtostylis rotundifolia* Hook.f.), whereas the flowers resemble those of *A. reniformus* (R.Br.) Schltr.

As regards the position of the leaf in *Cyrtostylis*, it appears to me not radical, but caudine, as is proved by the fact that the leaf in the less robust, long-shooted specimens, sometimes moves almost to the middle of the stem, as in the case of most *Acianthus* species. Through the species described here, all the differences between the genera previously assumed up to the present, entirely disappear, so that I am compelled to unite the two genera.

Acianthus tenuilabris Schltr., sp. nov.

Gracillimus, erectus, pusillus, 15—18 cm altus; caule tenuissimo, tereti, glabro, medio fere unifoliato, apice 1—3-floro; folio sessili cordato, distincte 3—5-lobato, utrinque glabro, textura tenui 0,8—1 cm longo, lobis apice brevissime acuminatis, vel apiculatis; bracteis ovatis acutis vel breviter acuminatis, glabris, ovario paulo brevioribus; floribus erectis in genere inter mediocres; sepalis anguste linearibus acuminatis, glabris, intermedio 0,7 cm longo, lateralibus paulo obliquis, 0,6 cm longis; petalis subfalcatis acuminatis, oblique ovato-ellipticis, utrinque glabris, 0,5 cm longis; labello anguste lanceolato acuto, supra basin paululo angustato, basi dilatato, basi medio callo parvulo oblongo donato, medio et apice minutissime papilloso, 0,7 cm longo; columna gracili apice incurvula dilatata, glabra; anthera late ovata, breviter acuminata; ovario clavato, glabro, pedicello brevi inclusus c. 0,5 cm longo.

Southern District : On the mountains near Yaouhé, on shaded rocks in the forests, alt. c. 500m — [R. Schlechter] no. 14780, flowering in Sept. 1902.

This species may be regarded as the nearest relative of A. cymbalariaefolius F.v.M. et Krzl. Although very similar in the remaining parts of the flower, it is excellently characterised by the labellum. The leaves also are smaller and the habit usually more slender than in A. cymbalariaefolius. The colour of the flowers is a muddy wine-red. As in many of the related species, the plant is always met with, in isolated specimens. For instance, I found only two small plants.

Calochilus R.Br.

This small genus was represented formerly only by four species in Australia. One of these, C. Holtzei F.v.M., came from the northern, tropical part of the continent. In the species described below, we have the first non-Australian form. The plant is evidently rare in the island of New Caledonia, for I found only two solitary plants which were growing in company with Thelymitra longifolia Forst., which they very much resemble in habit.

Calochilus neo-caledonicum [neo-caledonicus] Schltr., sp. nov.

Terrestre, erectum, c. 40 cm longum; folio basilari, solitario, basi caule amplectente, erecto-patente, anguste linearis, acuto, glabro, textura carnosulo, c. 20 cm longo, medio fere c. 0,3 cm lato, basin versus paulo dilatato; caule stricto, tereti glabro, vaginis 2 dissitis, arcte amplectentibus subulato-acutatis donato, apice laxe 3—7-floro; floribus breviter pedicellatis secundis, erecto-patentibus, illis C. Holtzei F. v. M. fere aequimagnis; bracteis lanceolatis acuminatis glabris, ovario pedicellato paulo brevioribus, superioribus sensim decrescentibus; sepalis ovato-oblongis acutis, glabris, c. 1 cm longis, lateralibus obliquis; petalis oblique ovato-lanceolatis, acutis, glabris, sepalis brevioribus, 0,7 cm longis; labello lanceolato subacuto, ima basi carina transversa donato, superne e dimidio anteriore margine dense papillis elongatis fimbriatis, obtecto; columna brevi, crassiuscula; stigmate medio lamella longitudinaliter divisa; rostellum abbreviatum; anthera erecta ovalo-lanceolata, obtusiuscula, glabra; ovario pedicellato c. 1 cm longo, clavato, glabro.

Southern District : On the summits of mountains near the Ngoye [River], alt. c. 1000m - [R. Schlechter] no. 15258, flowering in Nov. 1902.

In order to distinguish this from C. Holtzei F.v.M., the flowers may be described as gay coloured; the sepals and the petals are greenish with violet-brown veins; the labellum whitish, pink at the apex and violet towards the base.

Lyperanthus R.Br.

The circumscription of the genus is by no means so well defined as could be desired. Australian species especially, incline rather closely to Caladenia. Rather different in appearance however, are the species enumerated here. Among them we can again distinguish several types, so that I have often been doubtful whether L. glandulosus Schltr. and L. latilabris Schltr. should not be regarded as Types of separate genera. L. gigas (Rchb.f.) Schltr., L. latissimus Schltr. and L. montanus Schltr. are distinguished by their very close similarity in structural form and may perhaps best be regarded as a separate section Megalostylis, in contrast to the Australian species. They are all characterised by their large flowers and conspicuously robust growth.

Concerning the occurrence of the species, all of them are met with in the Southern District, L. gigas (Rchb.f.) Schltr. and L. glandulosus Schltr. are known also in the Northern District, but it may well be expected that the other species are also distributed over a large area. L. gigas (Rchb.f.) Schltr. and L. latilabris Schltr. are inhabitants of open slopes, whereas the other species seem to thrive well in the shade of the forests, or of larger rocks. L. latissimus Schltr. and L. montanus Schltr. have been found by me, only on the summits of higher mountains.

Lyperanthus gigas (Rchb.f.) Schltr., [comb. nov.]

Caladenia gigas Rchb.f.

Southern District : On the mountain slopes near Yaouhé, alt. c. 700m - [R. Schlechter] no. 15049, flowering in Oct. 1902; on the hills near the Ngoye [River], alt. c. 100m - [R. Schlechter] no. 15109, flowering in Nov. 1902.

Northern District : On the mountain slopes near Ou Hinna, alt. c. 500m - [R. Schlechter] no. 15681, flowering in Jan. 1903.

This magnificent plant should be regarded not only as one of the most beautiful orchids of the region, but also as one of the finest terrestrial orchids in the World. I have seen specimens which were more than a metre in height, with inflorescences 30cm long, containing no less than 30 magnificent white or rose-red flowers, each about 5.0cm in diameter. The plant deserves to be cultivated, because the flowers keep in good condition for a long time.

Lyperanthus glandulosus Schltr., sp. nov.

Terrestris, erectus, 40—120 cm altus; radicibus incrassatis, villosis; foliis radicalibus 3—4, longius petiolatis, anguste lanceolato-ellipticis vel lanceolatis, utrinque glabris, 13—20 cm longis, 1,5—4 cm latis, petiolo basi vaginante usque ad 20 cm longo; caule vulgo gracili basi 1—2-foliato glabro, supra glanduloso, vaginis amplectentibus dissitis, sensim decrescentibus obsesso; foliis caulinis radicalibus similibus mox vaginiformibus; racemo laxe 7—15-floro, glanduloso; bracteis lanceolatis acutis vel acuminate, ovario graciliter pedicellato brevioribus; floribus patentibus, viridibus; sepalis lanceolatis, glanduloso-puberulis, subacutis, c. 2 cm longis, lateralibus falcato-obliquis, patulis; petalis margine interiore vulgo cohaerentibus cum sepalo intermedio galeam acuminatam formantibus, oblique lanceolatis acuminatis, sepalis aequilongis, glabris; labello ex basi carnosa contracta elliptico breviter acuminato, glabro, c. 2 cm longo, medio fere 1 cm lato, glaberrimo, nudo; columna gracili, incurvula; anthera ovata cucullata, glabra; ovario graciliter pedicellato, clavato, dense glanduloso-puberulo 2—2,5 cm longo.

Southern District : On the mountains near Paita, alt. c. 500m — [R. Schlechter] no. 14971, flowering in Oct. 1902; on the mountains near the Ngoye [River], alt. c. 300m — [R. Schlechter] no. 15379, flowering in Nov. 1902.

Northern District : On the mountains near Ou Hinna, alt. c. 500m — [R. Schlechter] no. 15669, flowering in Jan. 1903.

The specimens from the Northern District are distinguished from others by the compact growth and broad leaves. The plant may therefore be separated as var. compacta Schltr., var. nov.

Lyperanthus latilabris Schltr., sp. nov.

Terrestris, erectus, 25—60 cm altus; radicibus incrassatis, vulgo villo-sulis; foliis radicalibus vulgo singulis, interdum 2—3, basi vaginatis, linearibus acutis, vel acuminatis, basi sensim in petiolum angustatis, utrinque glabris, textura subcoriaceis, 13—23 cm longis, medio fere 0,5—0,8 cm latis; caule erecto stricto vel parum flexuoso, tereti, glabro, vaginis 4—7 acuminatis, dissitis, amplectentibus, glabris, obsesso; racemo oblongo vel ovoideo, 5—25-floro, denso; bracteis lanceolatis acuminatis, ovario fere aequilongis, glabris; floribus erecto-patentibus, sepalo intermedio oblongo-lanceolato acuminato, glabro, 1,1 cm longo, lateralibus similibus sed paululo angustioribus, glabris, aequilongis, obliquis; petalis sepalis similibus acuminatis, glabris, falcatis, aequilongis; labello ex ungue brevissimo late ovato breviter acuminato, omnino superne papillis sparsis obsesso, ungue papillis glomeratis ornato, 0,7 cm longo, infra medium fere aequimargo; columna semitereti vix incurvula, basi excavatione lunata circumdata; anthera brevi obtusa; ovario subsessili, glabro, 1,2 cm longo.

Southern District : On the mountain summits near the Ngoye [River], alt. c. 1000m — [R. Schlechter] no. 15061, flowering in Oct. 1902.

Distinguished from the other species by the column, which is surrounded at the base by an excavated pad. The breadth of the small lip, also is striking.

Lyperanthus latissimus Schltr., sp. nov.

Validus, erectus, terrestris, usque ad 200 cm altus; radicibus incrassatis, villosis; foliis radicalibus 1—3 erectis, petiolatis, crassis, lamina 35—40 cm longa medio fere 13—15 cm lata, petiolo 20—25 cm longo, utrinque glaberrimis; scapo valido tereti, glabro, basi usque ad 1,5 cm diametente, vaginis dissitis arcte amplectentibus, acuminatis, obsesso; racemo elongato plus minusve secundo, sublaxe multifloro, 50—60 cm longo; bracteis lanceolatis acuminatis, inferioribus flores excedentibus, superioribus sensim brevioribus; floribus in genere inter maiores erecto-patentibus pedicellatis, sepalo lanceolato-elliptico concavo, acuto, glabro, c. 2 cm longo, lateralibus oblique lanceolato-ellipticis subfalcatis, glabris, intermedio fere aequilongis; petalis falcatis anguste lanceolato-ligulatis subacutis, glabris 1,8 cm longis; labello ovato obtuso, glabro, perbreviter unguiculato, intus nudo; columna arcuata basi utrinque obscure auriculato-lobulata; anthera galeato-cucullata; ovario pedicellato, clavato, 2,3—2,5 cm longo, glabro.

Southern District : On the slopes of Mount Humboldt, between large rocks in the forest, alt. c. 1400m — [R. Schlechter] no. 15349, flowering in Nov. 1902.

The tallest terrestrial orchid in the region. *L. montanus* Schltr. may be regarded as its nearest relative, although considerably more compact. In spite of its size, the plant is neither so beautiful, nor pretty as *L. gigas* (Rchb.f.) Schltr., because the white flowers are smaller than for the previous one.

Lyperanthus montanus Schltr., sp. nov.

Erectus, terrestris, 40—50 cm altus; foliis radicalibus 1—2 lanceolato-ellipticis acutis, basi sensim in petiolum angustatis, utrinque glabris, textura crassis, 15—20 cm longis, medio fere 5—6 cm latis, petiolo c. 40 cm longo; scapo stricto, tereti, glabro, basi usque ad 0,8 cm diametente, vagina amplectentibus acuminatis, dissitis, obsesso, racemo ovato vel oblongo 3—12-floro, brevi; bracteis lanceolatis, acutis vel acuminatis floribus vulgo haud aequilongis, glabris; floribus illis *L. latissimi* Schltr. minoribus; sepalis lanceolatis acuminatis, glabris, 1,5 cm longis, intermedio concavo, lateralibus subfalcatis, basin versus paulo angustatis; petalis sepalis lateribus similibus, paulo minoribus, 1,2 cm longis; labello perbreviter unguiculato ovato-oblongo obtusiusculo, glabro, nudo, c. 0,7 cm longo; columna arcuata, antice concava; anthera lanceolata-cordata, cucullata; ovario subsessili clavato, glabro, c. 1,5 cm longo.

Southern District : Between rocks on the summit of Mount Humboldt, alt. c. 1600m — [R. Schlechter] no. 15318, flowering in Nov. 1902.

Smaller in all its parts than the previous species. Although closely related to it, it is better regarded as a separate species. The white flowers have a violet spot on the labellum.

Lyperanthus rarus Schltr., sp. nov.

Terrestris, erectus, gracilis, c. 40 cm altus; radicibus crassiusculis, villosis; foliis radicalibus vulgo singulis, e basi subpetiolato-angustata ligulatis acutis, utrinque glabris, textura crassiuscula herbaceis, c. 16 cm longis, medio fere 0,6—0,8 cm latis; scapo erecto gracili, tereti, glabro, squamis 8—10 dissitis, arctius vaginantibus acuminatis, obsesso, apice laxe 3—6-

floro; bracteis lanceolatis acuminatis, ovario subsessili subaequilongis; floribus in genere inter minores, pallidis; sepalo intermedio lanceolato-elliptico acuminato, glabro, lateralibus aequilongis oblique lanceolatis acuminatis, glabris, 0,9 cm longis; petalis sepalis lateralibus similibus paulo minoribus, subfalcatis, glabris; labello oblongo apiculato medio longitudinaliter seriebus paucis irregularibus callorum substipitatorum ornato, 0,8 cm longo, medio fere 0,4 cm lato; columna semitereti paulo curvata, glabra, marginibus basi paululo arcuatis; anthera oblonga cordata, apice subacuta; ovario clavato, glabro, c. 1 cm longo; capsula subcylindrica.

Southern District : On open mountain slopes, near the Ngoye [River], alt. c. 150m - [R. Schlechter] no. 15112a, already well past blooming in Nov. 1902; alongside the path to Pont des Français, in Oct. 1902, collector from the Noumea Museum.

On the spot I made a sketch of the specimens, but later on in Noumea, I was able to improve on it from a better specimen. In both cases, only a solitary specimen was seen.

Caladenia R.Br.

The chief area of distribution of this genus lies in Australia, only a few species having been recorded outside the continent. Of these, C. javanica Bennett may be regarded as the most western and the species enumerated here, together with a few New Zealand ones, as the most eastern. I cannot, at present, separate this latter species from the widely distributed and variable C. alba R.Br. in Australia, although I consider it possible that in a monographic treatment of the genus, sufficient differences to do so may be found.

The plant is found over the whole island, in all formations and altitudes, as long as sufficient sunlight is present.

Caladenia alba R.Br.

Southern District : On the hills near Yaouhé, alt. c. 200m - [R. Schlechter] no. 14726, flowering in Sept. 1902; on open mountain slopes near Paita, alt. c. 1000m - [R. Schlechter] no. 14931, flowering in Oct. 1902.

Northern District : On the mountains near Ou Hinna, alt. c. 900m - [R. Schlechter] no. 15668, flowering in Jan. 1903.

Corysanthes R.Br.

One could hardly expect differently than that this island would produce at least one species of this genus, since many of the surrounding islands, as well as Australia possess their individual and very locally distributed species. Neighbouring New Zealand is especially rich in species, whilst further east there is a species, C. Betchei F.v.M., from Samoa, with another, C. minuta Schltr. (Liparis minuta Drake) recorded from Tahiti. Towards the west, the genus extends to the Himalayas, where it is represented by C. himalaica King et Pantl.

The one described here is most closely related to C. Cheesemanii Hook.f., from New Zealand. During my travels in the region, I have observed several Corysanthes leaves in many places in the Southern District, but flowers could only be found on those elevated localities enumerated below. I think it possible, or even probable, that several species occur on the island. On damp, mostly loamy slopes, overgrown with moss, in the mountain forests, I looked for Corysanthes leaves and frequently found them. The locality on the summit of Mount Mou is distinguished from others in that the plant grows there amongst low shrubs in damp soil.

Corysanthes neo-caledonica Schltr., sp. nov.

Perpusilla, acaulis, florifera c. 2 cm alta; tuberibus globosis, pisi fere magnitudine; folio solitario humistrato, suborbiculari acuto vel brevissime acuminate, cordato, utrinque glabro, textura tenui, 0,7—1,2 cm diametiente; flore subsessili, solitario, atropurpureo, bractea lanceolata acuminata, ovario sessili breviore; sepalo dorsali formicato-cucullato, glabro, antice obtuso, 1,2 cm longo; sepalis lateralibus minutis linearibus glabris inter calcara labelli descendentibus, 0,2 cm longis; petalis linearibus aculis patulis, sepalis lateralibus aequaremagnis; labello erecto trilobo, concavo 0,9 cm alto, lobis lateralibus erectis obtusatis, intermedio deflexo suborbiculari obtusissimo, sparsim puberulo, margine minute ciliato, 0,4 cm diametiente, laterales vix longitudine excedente, callo rotundato ad basim labelli, calcaribus 2 deflexis conicis acutis, glabris, vix 0,3 cm longis; columna perbrevi, anthera erecta oblonga obtusa; ovario cylindrico glabro, 0,4—0,5 cm longo.

Southern District : Between low shrubs and Xyris, on the summit of Mount Mou near Paita, alt. c. 1250m — [R. Schlechter] no. 14918, flowering in Oct. 1902.

Nervilia Gaud.

This genus, which is widely distributed in the Old World, has, in recent times, been included curiously by most authors in Pogonia Juss., to which, in fact, it bears little relationship, as proven by its altogether different vegetative development. Most of the species of the genus occur in India and the Malayan Archipelago. Four species, apart from one slightly doubtful one, have been found in northern Australia, viz. N. Dallachiana Schltr. (Pogonia Dallachiana F.v.M.), N. holochila Schltr. (P. holochila F.v.M.), N. Holzeana Schltr. (P. Holzeana F.v.M.) and N. uniflora Schltr. (P. uniflora F.v.M.). As the most eastern representative, only one species (from Samoa), is currently known to me, which is either identical with N. aragoana Gaud., or closely related to it. Regarding the two species occurring in New Caledonia (one of which I know only by its leaves and much withered inflorescences and is a forest plant, possibly identical with N. aragoana Gaud. as is the Samoan species), the other one I found on open slopes on the foothills in the Northern District.

Nervilia aragoana Gaud. ?

Southern District : In humus in the forests on the hills near Yaouhé, alt. c. 150m - [R. Schlechter] no. 15075, withered flowers in Oct. 1902.

Nervilia platychila Schltr., sp. nov.

Terrestris, erecta, 10—15 cm alta; cormo paulo depresso, subgloboso 1,5 cm diametente; folio nondum noto; scapo eretto, flexuoso, vaginis paucis alte vaginantibus, dissitis, donato, apice 2—3-floro, tereti glabro; bracteis lanceolatis acuminatis ovario pedicellato brevioribus, glabris; sepalis petalisque linearibus vel potius lanceolato-linearibus acutis glabris, 1,7 cm longis, petalis vix brevioribus, omnibus sepalo intermedio excepto paulo obliquis; labello late obovato obscure trilobato, antice subtruncato-obtuso, minute apiculato, nervis mediis paulo elevatis, ceterum nudo 1,7 cm longo, medio fere 1,2 cm lato; columna gracillima apice incrassata, clinandrio subintegro, 1,1 cm longa; ovario graciliter pedicellato, clavato, glabro, c. 1 cm longo.

Northern District : On open slopes, at the foot of the mountains near Ou Hinna, alt. c. 150m - [R. Schlechter] no. 15747, flowering in Jan. 1903.

I would like to consider N. biflora Schltr. (Pogonia biflora Wight) as the closest relative of this species, but unfortunately I am unfamiliar with the leaves. The sepals are brownish, the labellum light pink, almost white.

Cryptostylis R.Br.

This genus shows a peculiar scattered distribution, at least as far as our current acquaintance with it goes. Starting from the west, we meet a species in Ceylon, next we only find it again in the hinterlands of India, in Java and Sumatra; then finally I have recently described a species from Papuasia. Four species have been recorded in Australia, of which three come from eastern Australia and one from Western Australia. Here we have a species from New Caledonia, and lastly there is a Samoan species. The absence of the genus in New Zealand is conspicuous.

The species in tropical regions are all inhabitants of the humus of the primary forests, whilst the Australian species are mostly found in sandy places amongst shrubs.

Cryptostylis stenochila Schltr., sp. nov.

Terrestris, erecta, 25—35 cm alta; radicibus crassiusculis, villosulis; foliis radicalibus erectis, vulgo singulis interdum 2—3-nis, petiolatis, ovato-vel lanceolato-ellipticis acuminatis, basi angustatis, utrinque glabris, 10—15 cm longis, medio fere 3,5—5 cm latis, petiolo sulcato, 4,5—5 cm longo; scapo eretto, substricto, vaginis c. 4 laxe vaginantibus acuminatis dissitis obsesso, tereti glabro, apice subdense vel laxe 7—15-floro; bracteis lanceolatis valde acuminatis, ovario sessili brevioribus; floribus erectis, brunnescenti-viridibus, inversis; sepalis e basi-lanceolata valde acuminatis, glabris, c. 1,5 cm longis,

lateralibus paulo obliquis; petalis quam sepala paulo minoribus angustioribusque, c. 1,3 cm longis, glabris; labello erecto lanceolato acuminatissimo, marginibus incurvatis, sepalis subaequilongo; columna perbrevi, dorso lobulata, lobo linguiformi infra stigma instructo, stigmate erecto; anthera ovoideo-subcordata, obtusiuscula; ovario sessili, clavato, glabro, c. 1,2 cm longo.

Northern District : In humus in the mountain forest near Ou Hinna, alt. c. 1000m - [R. Schlechter] no. 15596, flowering in Jan. 1903.

This species is distinguished from others by the narrow sepal-like lip.

Eriaxis Rchb.f.

A so far, monotypic endemic genus of the region, inclusive of the small adjacent islands. Its closest relative is Galeola, but it is distinguished already by its peculiar rigid habit and contrary to the species of the previous genus, is not a saprophyte. Reichenbach's assertion that the 'seeds are not winged', is not quite accurate since, in fact, a narrow wing does exist. The plant occurs in the islands of the Southern and Northern Districts, especially on the serpentine mountains of the former, where it grows on the dry and moister sandy open localities and catches the eye by its beautiful flowers.

Eriaxis rigida Rchb.f.

Southern District : On the mountains near Paita, alt. c. 400m - [R. Schlechter] no. 15074, in bud in Oct. 1902; on the hills near the Ngoye [River], alt. c. 60m - [R. Schlechter] no. 15112, flowering in Nov. 1902.

Northern District : On open mountain slopes near Ou Hinna, alt. c. 700m - [R. Schlechter] no. 15670, flowering in Jan. 1903.

Since, so far no information is available regarding the colour of the flowers, which on the outside are pale brown and densely pillose, I will mention here that the sepals and petals are pure white, whilst the labellum has violet-red side lobes and golden-yellow appendages.

Didymoplexis Falc.

So far, only a few species of this genus have become known, mainly because they usually appear for a short time, in the shade in deep forest amongst fallen foliage, are furthermore often even covered by ferns, only to disappear again soon after fruiting. Besides the originally described Indian species, in which different species have probably been mixed together, several species are known from Japan, one from the northern parts of Australia and lastly one from the Fiji Islands. The genus is very closely related to Gastropdia and actually differs only in the short stigma.

Didymoplexis neo-caledonica Schltr., sp. nov.

Pusilla, erecta, simplex, saprophytica, aphylla; caule erecto, flexuoso, vaginulis parvulis dissitis, obpresso, tereti, glabro, c. 10 cm alto; floribus pallidis, illis *D. pallentis* Falc. vix majoribus, 3—4 ad apicem caulis, subsessilibus; bracteis lanceolato-deltoides, glabris, ovario multo brevioribus; sepalis petalisque plus minusve connatis, petalis margine anteriore ad medium usque liberis, apicibus liberis ovato-triangulis obtusiusculis, omnibus subaequilongis, glabris, omnino 0,5—0,6 cm longis; labello e basi unguiculato-angustata cuneato, apice trilobo, lobis lateralibus brevibus rotundatis, margine undulatis, intermedio paulo longiore lateralibus duplo latiore, obtuso, margine undulato, callis 2 oblongis ad basin labelli, medio lineis 3 papillarum, infra apicem papillis dense glomeratis ornato, 0,5 cm longo, apice 2,5 mm lato; columna gracili, labello aequilonga, pede perbrevi, stigmate brevi; anthera incumbente cordata, antice obtusa, minuta papillosa; ovario clavato, glabro, 0,7 cm longo.

Northern District : In the mountain forests near Ou Hinna, alt. c. 500m — [R. Schlechter] no. 15748, flowering in Jan. 1903.

This differs from the other species in its lip. Unfortunately, I am unable to describe the root of the specimen, since it was pulled up by one of my team, before I joined them.

Spiranthes L.C.Rich.

I am afraid that under the name *S. australis* Lindl., many forms that do not belong together have been included. The species before me differs greatly from the Australian species, in the shape of the lip and above all in that of the column. I have had the opportunity to sketch in the living state, both the Javanese plant and that of Ceylon, which were assigned to *S. australis* Lindl. and found considerable differences in the column, so that I am inclined to think that these also should be separated from the latter. Of course it would be very peculiar if one plant should be considered as endemic in all these very different climates, since the likelihood of a plant spreading under such varying conditions is very improbable. It would be desirable that some light be shed on this question. To do this, an exact study of all available material would be necessary, and this would probably lead to the conviction that we have been dealing here with a series of closely related species, as in North America.

Spiranthes neo-caledonica Schltr., sp. nov.

Pusilla, erecta, simple, c. 11 cm. alta; caule stricto tereti, glabro, basi foliato, supra vaginis paucis sensim decrescentibus, donato; foliis 2—3, erectis vel erecto-patentibus lanceolato-linearibus acutis, usque ad 6 cm longis, medio fere 0,4 cm latis, utrinque glabris; spica brevi, densius pluriflora; bracteis lanceolatis acuminatis, inferioribus ovarium excedentibus, superioribus sensim decrescentibus; floribus in genere inter minores, albis, erecto-patentibus; sepalo intermedio lanceolato obtuso, apicem versus extus carinato, glabro, 0,3 cm longo, lateralibus conniventibus subfalcato-obliquis, glabris, intermedio aequilongis, paulo angustioribus; petalis oblique linear-lanceolatis obtusis glabris, sepalis paululo brevioribus; labello e basi ovata cochleari dimidio angustiore angustato marginibus crispatis incurvulis, apice

subretuso-truncato, basi intus appendicibus 2 parvulis falcatis ornato, 0,3 cm longo; columna brevi, rostello suppresso; anthera lanceolata obtusiuscula erecta; parte libera filamenti late cuneata triloba; ovario clavato glabro, vix 0,4 cm longo.

Northern District : At sandy places on the mountains near Ou Hinna, alt. c. 50m [sic] -[R. Schlechter] no. 15594, flowering in Jan. 1903.

This is well separated from S. australis Lindl. by the white flowers, the lip and by the column.

Pachyplectron Schltr., gen. nov.

Sepalum dorsale concavum, lateralia valde obliqua nunc porrecta, nunc reflexa. Petala sepalo dorsali margine interiore adhaerentia cucullam formantia. Labellum cum columnae pede productum calcar formans concavatum apicem versus incrassatum disco puberulum. Columna gracilis clavata, pede producto. Stigma erectum breve. Anthera incumbens, brevis, cordata, medio dorso incrassata.

Herbae perennes; radicibus incrassatis fasciculatis; foliis radicalibus 1—2 petiolatis, oblongis vel sagittatis; scapo aphylo, vaginis arcte amplectentibus obtecto, glabro; floribus sublaxe spicatis; bracteis lanceolatis acuminatis; ovario glabro vel puberulo.

Species 2 adhuc notae Novae Caledoniae incolae.

For the present, I place this new genus besides Physurus, from which it differs in the presence of fewer basal leaves, in the column having a foot and in the short, inclined column.

Pachyplectron arifolium Schltr., sp. nov.

Terrestre, erectum, 20—45 cm altum; radicibus fasciculatis, incrassatis, glabris; foliis radicalibus 1—2-nis erecto-patentibus petiolatis, lamina ovata acuminata basi sagittato-auriculata, 10—15 cm longa, basi 4—5,5 cm lata, utrinque glabra, crassiuscule herbacea; petiolo sulcato 4—8 cm longo, basi vaginante; caule gracili stricto vel subflexuoso, tereti, glabro, vaginis pluribus arcte amplectentibus acuminatis obsesso; spica sublaxe multiflora elongata, usque ad 20 cm longa; bracteis lanceolatis acuminatis glabris, ovario sere aequilongis; floribus incurvis pro tribu mediocribus; sepalo intermedio oblongo-elliptico obtuso, concavo, glabro 0,8 cm longo, lateralibus falcato-reflexis brevioribus, basi margine anteriore valde dilatata decurrentibus, 0,6 cm longis; petalis subfalcato-ligulatis obtusis, sepalo intermedio paululo brevioribus; labelli lamina subquadrato-ovata obtusa, medio incrassata pilis brevibus aurantiacis puberula, 0,4 cm longa, calcare paulo depresso apice retuso, crasso, intus basi squamulis 2 parvulis oblongis donato, laminae sere aequilongo, glabro; ovario arcuato, subcylindrico, glabro; columna dorso carinata, clavata.

Northern District : In humus in the mountain forests near Oubatche, alt. c. 600m - [R. Schlechter] no. 15525, flowering in Dec. 1902.

As regards the shape of the leaves, this orchid might be unique, but the colouring of the leaves also surpasses all that I have seen so far in this family. Its leaves are dark bronze-brown, with paler and darker undulating lines. The flowers are closely speckled with brown, the spur white, and the labellum red-brown with short orange-red hairs.

Pachyplectron neo-caledonicum Schltr., sp. nov.

Terrestre, erectum, 30—50 cm altum; radicibus fasciculatis, incrassatis, villosulis; foliis radicalibus 4—3 erecto-patentibus, petiolatis, lamina oblonga vel oblongo-elliptica acuta vel acuminata, glabra, textura crassiuscula herbacea, 10—12 cm longa, medio fere 3—5 cm lata, petiolo sulcato, 3,5—6 cm longo, basi vaginante; scapo erecto, stricto vel substricto tereti, basi glabro, apicem versus puberulo, vaginis amplectentibus acuminatis sensim in bracteas decrescentibus obsesso; spica sublaxe 10—20-flora, usque ad 13 cm longa; bracteis lanceolatis acuminatis, ovario sessili nunc aequilongis, nunc paulo brevioribus; floribus erectis, illis *P. arifolii* Schltr. fere aequimagnis; sepalo intermedio oblongo-elliptico obtuso, apice subincrassato, glabro, 0,7 cm longo, lateralibus obliquis, fere aequilongis, sed paulo angustioribus, basi margine anteriore dilatata breviter decurrentibus; petalis oblique subspathulato-oblongis, obtusis, margine apicem versus subinconspicue serrulatis, 0,6 cm longis; labelli lamina subcucullato-concava, subtruncata, medio incrassata, intus puberula, c. 0,4 cm longa, calcare subcylindrico apicem versus paulo attenuato, obtuso, glabro, c. 0,6 cm longo; columna generis; anthera rotundata, cordata, dorso gibba donata; ovario subcylindrico, puberulo, c. 0,8 cm longo.

Southern District : In humus of the forests, on the slopes of Mount Humboldt, alt. c. 1250m — [R. Schlechter] no. 15299, flowering in Nov. 1902.

This is easily distinguished from the previous species by the leaves, the scapes and ovaries, hirsute above, as well as by the longer spur.

Erythrodes Bl.

Having recently advocated the re-establishment of Blume's genus Erythrodes, I am greatly pleased to be able to publish a new species from New Caledonia, whereby the assertions I advanced have been amply confirmed. As I had pointed out earlier, the distribution of these humus inhabitants of the primary forests extends from Ceylon through the Malay Archipelago, as far as New Guinea. The discovery of the species described here, moves the boundary considerably towards the east.

Erythrodes oxyglossa Schltr., sp. nov.

Terrestris, erecta, 25—35 cm alta; radicibus crassiusculis, villosulis; caule crassiusculo e basi decumbente radicante, erecto 4—5-foliato, supra vaginulis acuminatis sensim in bracteas abeuntibus obsesso, inflorescentiam versus glandulosso-puberulo; foliis erecto-patentibus oblique lanceolatis acuminatis, utrinque glabris, 5,5—7,5 cm longis, infra medium 1,5—2,7 cm latis, petiolo gracili, basi valde dilatata laxe amplectente, 2,5—3 cm longo; bracteis lanceolatis acuminatis, minute glandulosso-puberulis, ovario sessili aequilongis, vel paulo brevioribus; spica laxe 7—12-flora, usque ad 8 cm longa; floribus erectis, in genere mediocribus; sepalis lanceolatis acuminatis, extus glandulosso-puberulis, 0,7 cm longis, lateralibus obliquis; petalis more generis sepalo intermedio margine anteriore agglutinatis oblique et anguste subspathulato-rhomboideis, acutis, glabris, sepalis fere aequilongis; labello concavo lamina ovato-lanceolata acuta, glabra, sepalis paulo breviore, calcare saccato brevi, apice bipartito; columna clavata facie longitudinaliter bilamellata; anthera lanceolata acuta, basi cordata; ovario cylindrico, glandulosso-puberulo, 0,7—0,8 cm longo.

Northern District : In humus of the mountain forests near Ou Hinna, alt. c. 700m - [R. Schlechter] no. 15749, flowering in Jan. 1902.

Though similar to E. Blumei (Lindl.) Schltr. in habit, this species is distinguished by the petals and labellum. The flowers are flushed with brown.

Anoectochilus Bl.

No species of this genus has previously been described from New Caledonia. The two enumerated here prove to be new. The first of them shows such an approach to Goodyera subregularis (Rchb.f.) Schltr., that I cannot exclude that Goodyera may be a pelorial form of A. imitans Schltr. As often explained by Hooker fil., there are no sharp boundaries between Anoectochilus and Odontochilus, likewise with Zeuxine. In A. montanus Schltr., we have a species which might, with equal propriety, have been placed in Odontochilus, since one can hardly say that the labellum of this plant has a spur. I therefore propose to unite these two genera and to characterise Anoectochilus, in contrast to Zeuxine, in that the labellum-claw of the latter has no appendage nor teeth.

Anoectochilus imitans Schltr., sp. nov.

Terrestris, erectus, 15—20 cm altus; radicibus crassiusculis, villosis, vulgo simplicibus; caule e basi decumbente erecto, tereti, basi 3—6 foliato glabro, supra vaginis paucis dissitis, laxe amplexentibus, acuminatis, ob-sesso, apicem versus puberulo, apice laxe 2—4-floro; foliis subrosulato-approximatis erecto-patentibus, petiolatis, late ovatis vel ovato-oblongis, breviter acuminatis, 2,5—3,5 cm longis medio vel infra medium 2—3 cm latis, petiolo basi dilatata laxe amplexente, glabro, 0,8—1,5 cm longo; bracteis lanceolatis acuminatis minute puberulis vulgo ovario aequilongis, nunc paulo brevioribus; floribus in genere inter medioeres, erecto-paten-tibus; sepalo intermedio ovato-lanceolato acuto, concavo, extus glanduloso-puberulo 1,2 cm longo, lateralibus oblique lanceolatis acuminatis, extus minute glanduloso-puberulis, intermedio fere aequilongis; petalis sepalo intermedio margine interiore agglutinatis, oblique lanceolatis acuminatis, margine exteriore medio paulo dilatatis, glabris, sepalo intermedio aequi-longis; labello concavo ungue lato marginibus incurvis, latere utroque appendicibus dentiformibus ornato, lamina antica late rhomboideo-elliptica breviter acuminata, glabro, usque ad ostium calcaris 1 cm longo, calcare conico obtuso a latere paulo compresso, basi intus appendicibus parvulis 2 ornato, 0,7 cm longo; columna gracili, rostello peralto, facie carina dupla medio confluenta ornata; polliniis gracilibus usque ad medium parallelis, dimidio superiore falcato-divaricatis, glandula obovata; ovario subsusiformi-cylindrico, glanduloso-puberulo, sessili c. 1,1 cm longo.

Southern District : In humus in the mountain forests near Paita, alt. c. 400m - [R. Schlechter] no. 14864. [No date cited but number indicates Oct. 1902].

A very pretty plant with dark brown-green leaves, having reticulated veins of rose-red colour. The sepals are greenish, the lip and petals white.

Anoectochilus montanus Schltr., sp. nov.

Humilis erecta, 6—10 cm alta; radicibus crassiusculis villosulis; caule e basi decumbente radicante erecto, tereti, basi glabro, apicem versus puberulo, dimidio inferiore 4—7 foliato, dimidio superiore vaginis paucis lanceolatis acuminatis, sensim in bracteas abeuntibus obsesso, apice 2—4-floro; foliis nunc approximatis, nunc plus minusve dissitis erecto-patentibus, ovatis vel ovato-lanceolatis acuminatis, utrinque glabris, 1,5—2,5 cm longis, infra medium 0,8—1,4 cm latis, petiolo basin versus mox dilatato laxe amplectente 1—1,3 cm longo; bracteis lanceolatis acuminatis, ovario aequilongis vel paulo longioribus, glabris vel minute puberulis; floribus in genere inter mediocres, niveis; sepalis anguste lanceolatis obtusiusculis, basi sparse puberulis, 1—3 cm longis, lateralibus obliquis basi paulo dilatatis, cum sepalo intermedio quarta parte connatis; petalis oblique lanceolatis obtusis, glabris, margine posteriore sepalo intermedio adhaerentibus, fere aequilongis; labello e basi concava subsaccata late unguiculato, unguis marginibus incurvis, latere utroque serie appendicum gibberiformium donato, lamina transversa breviter apiculata, glabro, omnino 1,5 em longo, basi squamulis 2 parvulis lobulatis ornato; columna gracili, rostello alto, facie lamellis 2 genuflexis ornato; ovario cylindrico minute puberulo, c. 1 cm longo.

Southern District : In humus in the forests, on the summit of Mount Mou, near Paita, alt. c. 1250m — [R. Schlechter] no. 14933, flowering in Oct. 1902.

One of the intermediate forms between Odontochilus and Anoectochilus. I also possess specimens of this species from Aneitum (New Hebrides) and a very similar or identical species from Samoa. The leaves are pale green.

Zeuxine Lindl.

Only when the group [subtribe] Neottiinae, which Pfitzer designated as Physureae, has been treated monographically will the boundaries of the genus Zeuxine be extended and the number of its species thereby considerably increased. At present there are species in different genera which should really be regarded as Zeuxine. One of them is the species mentioned below, which was described by Reichenbach fil. as Monochilus. At present it is the only species of the genus [Zeuxine], which has been recorded in the region. In the Southern District it can be found in the humus of moist mountain forests. It has not yet been established with certainty, how far north it extends.

Zeuxine Vieillardii (Rchb.f.) Schltr., [comb. nov.]

Monochilus Vieillardii Rchb.f.

Southern District : In humus in the forests near Yaouhé, alt. c. 400m — [R. Schlechter] no. 14769, flowering in Sept. 1902.

As no details of the colour of the flowers are available, it may be mentioned here that the sepals are brownish, the petals white and the labellum pale yellow, with a darker centre.

Gonatostylis Schltr., gen. nov.

Sepalum intermedium concavum, glabrum, lateralia porrecta apice incrassata intermedio longiora. Petala sepalum intermedio margine posteriore adhaerentia ligulata glabra. Labellum cucullato-concavum circuitu ovatum obtusum, intus basi carunculis 6 oblongis ornatum subtus dimidio anteriore dense margaritaceo-verrucosum. Columna pro tribu bene elongata genuflexo-sigmoidea, rostellum humili, stigmate more Pogoniae excavatum. Anthera pro tribu valde abbreviata cucullato-concava, polliniis pyriformi-ovoideis, glandulae minutae sine stipite affixis.

Herba terrestris, erecta, gracilis; caule basi rosulato-foliata, ceterum vaginato; floribus in tribu inter minores, spica plus minusve dense multiflora, elongata.

Species una adhuc nota Novae Caledoniae incola.

This plant must be regarded as the Type of a well-defined, new genus. Not only the habit, but also the labellum and particularly the peculiar column, give it a distinct position in the group [Tribe] Physureae. The slender, conspicuous, long column is suddenly genuflexed forward at the middle and then rises straight up again from the stigma. The anther is conspicuously short and inclined, not erect, as in other related genera.

Gonatostylis Vieillardii (Rchb.f.) Schltr., [comb. nov.]Rhamphidia Vieillardii Rchb.f.

Southern District : In humus in the mountain forests near Paita, alt. c. 300m - [R. Schlechter] no. 15009, flowering in Oct. 1902; in the mountain forests near the Ngoye [River], alt. c. 100m - [R. Schlechter] no. 15121, flowering in Nov. 1902.

Northern District : In humus in the mountain forests near Ou Hinna, alt. c. 400m - [R. Schlechter] no. 15667, flowering in Jan. 1902 [1903].

Goodyera R.Br.

Almost the same remarks apply in regard to this genus, as for Zeuxine. It also will increase in numbers with the sifting of the species in related genera. This is especially so, for the genus Hetaeria, from which many additional species would be derived. Eucusia Bl. is nothing else than a Goodyera. The only species of G. carneae (Bl.) Schltr., which I was able to examine a few years ago, for the first time, in the living state since Blume's time, is perhaps always cleistogamous, and this will explain the stunted growth of the rostellum. In regard to the genus Hetaeria, I am of the opinion that in its present circumscription, it is a 'mixtum compositum' of Physureae, which without extending the generic diagnoses, could not be included under other genera. At a later date it will probably be dissolved completely.

The four species enumerated here, the only ones known from the relative regions, were, with the exception of G. grandiflora Schltr., described earlier by Reichenbach fil., viz. two of them as Rhamphidia and one as Georchis. Like

almost all the tropical and sub-tropical species of the genus, they are inhabitants of the forest. Two of them appear to belong exclusively to the Northern District, viz. G. scripta (Rchb.f.) Schltr. and G. grandiflora Schltr., whilst G. discoidea (Rchb.f.) Schltr. is known from both Districts and G. subregularis (Rchb.f.) Schltr., occurs only in the Southern District.

Goodyera discoidea (Rchb.f.) Schltr., [comb. nov.]

Rhamphidia discoidea Rchb.f.

Southern District : In the mountain forests near Paita, alt. c. 400m - [R. Schlechter] no. 14967, flowering in Oct. 1902.

Northern District : In the mountain forests near Ou Hinna, alt. c. 500m - [R. Schlechter] no. 15671, flowering in Jan. 1902 [1903].

In my opinion, this plant should certainly be regarded as a Goodyera. The lip and column decidedly give it a place in this genus. Even in habit, the plant entirely agrees with G. Erimae Schltr. It is an interesting fact that the stigma is divided into two parts by a furrow, which begins at the base of the column. Evidently, only two of the stigmatic surfaces undergo development. More observations regarding this matter, need to be made on living material. There definitely is a whole number of orchids, where the stigmatic surfaces are fertile.

Goodyera grandiflora Schltr., sp. nov.

Erecta, robusta, usque ad 30 cm alta; caule e basi decumbente radicante, erecto, basi 3—5-foliato, supra vaginis 3—4 dissitis, acuminatis laxe vaginantibus obpresso basi glabro, inflorescentiam versus puberulo; foliis erecto-patentibus ovato-ellipticis acuminatis, basi sensim in petiolum angustatis, utrinque glabris, textura tenuibus, 10—13,5 cm longis, medio fere 4,5—6 cm latis, petiolo basin versus conspicue dilatato, amplexente 4,5—5,5 cm longo; spica oblonga dense multiflora cylindrica usque ad 8 cm longa, c. 2,5 cm diametente; bracteis lanceolatis acuminatis, ovario fere aequilongis; floribus in genere inter majores, erecto-patentibus; sepalis lanceolatis acuminatis, basi puberulis, 1,2 cm longis, lateralibus paulo obliquis; petalis sepalō intermedio margine posteriore adhaerentibus, ligulatis obtusis, margine anteriore dimidio superiore paulo dilatatis, glabris, sepalis intermedio fere aequilongis; labello concavo, circuitu lanceolato longius acuminato, marginibus incurvis, infra medium paulo constricto glabro, basi intus utrinque seriebus 2 brevibus papillarum minutarum ornato, ceterum nudo; columna valde gracili facie carinato-incrassata, glabra; rostello erecto bifido; anthera lanceolata acuminata, glabra, basi cordata; ovario subfusiformi-cylindrico, sessili, minute glanduloso-puberulo.

Northern District : In the forests on the mountains near Oubatche, alt. c. 600m - [R. Schlechter] no. 15750, flowering in Jan. 1903.

G. brachiorhynehos Schltr. from New Guinea, may be regarded as closely related to this species.

Goodyera scripta (Rchb.f.) Schltr., [comb. nov.]

Rhamphidia scripta Rchb.f.

Northern District : In the forests on the mountains near Oubatche, alt. c. 1200m - [R. Schlechter] no. 15470, flowering in Dec. 1902.

This plant appears to be a true Goodyera, both in the structure of the lip and in that of the column.

Goodyera subregularis (Rchb.f.) Schltr., [comb. nov.]

Georchis subregularis Rchb.f.

Southern District : In humus in the forests on the mountains near Yaouhé, alt. c. 400m - [R. Schlechter] no. 14792, flowering in Sept. 1902.

As I have remarked above, this species, in the colour of its leaves, bears a remarkable resemblance to Anoectochilus imitans Schltr. Whether it should be regarded as a pelorial form, or a simple imitation, I am unable to establish, since I have never found the two plants side by side. Apart from the very different labellum, the column also shows a few divergencies.

Tropidia Lindl.

Probably, a still undescribed species, not uncommon in the mountain forests of both the Southern and Northern Districts. Although I have seen this plant in many different localities, I have never been fortunate enough to find it in flower. It is a small unbranched species, with short distichous inflorescences.

Tropidia sp.

Southern District : In humus in the mountain forests near Paita, alt. c. 200m - [R. Schlechter] no. 14835, fruiting in Sept. 1902.

Chrysoglossum Bl.

The distribution area of this genus, of which about seven species are known, stretches from Ceylon across India, through the Malayan Archipelago and New Guinea, to the Fiji Islands. By the discovery of a new species in New Caledonia, the boundaries of its distribution area are thus slightly enlarged. Most of the species, as well as the ones following, are closely related to C. javanicum and differ from one another in the development of a spur and small variations in the shape of the labellum and column, as well as of the anther.

Chrysoglossum neo-caledonicum Schltr., sp. nov.

Terrestre, erectum, gracile, 40—55 cm altum; rhizomate decumbente subterraneo, tereti: radicibus crassiusculis villosis, simplicibus; pseudo-bulbis dissitis erectis subcylindraceis, apicem versus paululo attenuatis, glabris, apice unifoliatis, 2,5—3 cm altis, basi 0,5—0,7 cm diametentibus; folio erecto graciliter petiolato, glaberrimo, lamina oblongo-elliptica acuminate, textura papyracea, 20—27 cm longa, medio fere 5,5—8,5 cm lata, petiolo sulcate 8—10 cm longo; scapo radicali gracili, tereti, glabro, vaginis brevibus acuminatis 3—5 dissitis arcte amplectentibus obsesso, laxe 6—15-

floro; bracteis patentibus patulisve lanceolatis acuminatis, ovario gracili brevioribus; floribus illis *C. ornati* Bl. bene similibus aequimagnisque, erecto-patentibus; sepalis lanceolato-ligulatis acutis, glabris, 1,2—1,3 cm longis, lateralibus obliquis paulo falcatis, intermedio subbrevioribus; petalis sepalis similibus subfalcatis, paululo latioribus; labello trilobo, supra basin utrinque margine auriculato-undulato, medio longitudinaliter lamellis 2 medio et apice paulo dilatatis usque ad medium lobi intermedii decurrentibus ornato, lamella tertia humiliore breviore interjecta, lobis lateralibus subtriangulis obtusis erectis, intermedio conspicue majore rotundato apiculato, labello toto 0,9 cm longo, ima basi subsaccato-foveolato; columna paulo incurva, pede perbrevi, alis medio et basi dilatatis, facie carinis 2 basi obtusatis donata, 0,7 cm alta; anthera cucullata antice breviter acuminata dorso gibbis 2 ornata, glabra; ovario pedicellato clavato, glabro, c. 1 cm longo, post aestivationem mox conspicue elongato.

Southern District : In the mountain forests near Yaouhé, alt. c. 500m — [R. Schlechter] no. 14786, leaves only [no date cited, but number indicates Sept. 1902].

Northern District : In the forests of Mount Iguambi, near Oubatche, alt. c. 1000m — [R. Schlechter] no. 15477, flowering in Dec. 1902.

Microstylis Nutt.

As far as I am aware, this large genus is represented in the region by only a solitary species. Ridley may have separated a second species in M. polyphylla Ridl., but now that more material is available, I find that I cannot separate it from M. taurina Rchb.f. The plant appears to be widely distributed on the island, since I have found it in every large forest complex of the Southern and Northern Districts. Like most of the species of this relationship, it is an inhabitant of the humus in the forests. Often it is found with Liparis Layardi F.v.M.

Microstylis taurina Rchb.f.

Southern District : In the mountain forests near Paita, alt. c. 500m — [R. Schlechter] no. 14879, flowering in Oct. 1902; in humus in the mountain forests near the Ngoye [River], alt. c. 200m — [R. Schlechter] no. 15377, flowering and fruiting in Nov. 1902.

Northern District : In humus in the mountain forests near Oubatche, alt. c. 900m — [R. Schlechter] no. 15499, flowering in Dec. 1902.

Liparis L.C.Rich.

The five species which I collected, all belong to very different sections of the genus and none of them are inter-related. We have forms which are terrestrial, such as L. dispala Rchb.f., growing in sunny places, L. Layardi F.v.M., in the shade of the primary forests and L. laxa Schltr., in the shade of large rocks. As well, there are epiphytical representatives such as L. disticha Lindl. and a species of the affinity of L. flaccida Rchb.f.

Liparis disepala Rchb.f.

Northern District : At damp grassy places on the mountains near Ou Hinna, alt. c. 500m - [R. Schlechter] no. 15592, flowering in Jan. 1902 [1903].

In the species before me, the lateral sepals are not connate as stated by Reichenbach fil., but only hang loosely together.

Liparis disticha Lindl.

Southern District : On trees in the mountain forests, near Paita, alt. c. 200m - [R. Schlechter] no. 14858, flowering and fruiting in Oct. 1902.

Northern District : On trees in the forest of Mount Iguambi, near Oubatche, alt. c. 800m - [R. Schlechter] no. 15489, flowering and fruiting in Dec. 1902.

Liparis Layardi F.v.M.

Northern District : In humus of the mountain forests, near Oubatche, alt. c. 1000m - [R. Schlechter] no. 15468, flowering in Dec. 1904 [1902].

Perhaps a specimen without flowers, which I collected in the Southern District, in the forest of Pic Malaoni, near Yaouhé, may belong here.

I do not regard it improbable, that L. longa Rchb.f., which was published without statement of locality and collector, together with a number of New Caledonian orchids, is identical with this species.

Liparis laxa Schltr., sp. nov.

Terrestris, erecta, 30—60 cm alta; rhizomate valde abbreviato; radicibus filiformibus flexuosis, villosalis; pseudobulbis valde approximatis ovoideis glabris, vaginis amplis obtectis, apice bifoliatis, 3—5 cm altis, infra medium 1,5—2 cm diametentibus, foliis erecto-patentibus ligulatis obtusis, utrinque glabris, textura coriaceis, 5—10 cm longis, medio fere 1—2 cm latis, basin versus paulo angustatis; scapo terminali flexuoso, plus minusve angulato, glabro, vaginis parvis lanceolatis acuminatis, glabris, sensim in bracteas abeuntibus obsesso; racemo laxe 7—15-floro, flexuoso, elongato; bracteis ovato-lanceolatis acuminatis, glabris, ovario pedicellato bene brevioribus; floribus in genere inter mediocres: sepalio intermedio sublanceolato-ligulato obtuso ima paulo dilatato, glabro, lateralibus subfalcato-oblongis obtusis, glabris, c. 0,4 cm longis; petalis linear-falcatis obtusis, deflexis, apicem versus paululo dilatatis; labello circuitu late rhomboideo antice 4-dentato, dentibus 2 intermediis lateralibus conspicue majoribus subfalcatis, basi biauriculato, auriculis triangulis, medio sulcato callo rotundato ornato, glabro, 0,4 cm longo, medio 3,5 mm lato; columna arcuata, semitereti, basin versus facie conspicue dilatata; anthera late ovata, obtusa, glabra; ovario graciliter pedicellato, clavato, glabro, c. 1 cm longo.

Southern District : At shaded places on the mountains near Paita, alt. c. 500m - [R. Schlechter] no. 14991, flowering in Oct. 1902; between shaded rocks on the mountains near the Ngoye [River], alt. c. 200m - [R. Schlechter] no. 15368, flowering in Nov. 1902.

As far as I can ascertain, this species is not related to any known previously.

Liparis sp., affinity flaccidae Rchb.f.

Northern District : On trees and rocks on the mountains, near Ou Hinna, alt. c. 600m - [R. Schlechter] no. 15692, fruiting in Jan. 1902 [1903].

As I have found this species in fruit only, I am unfortunately not able to state whether it is a separate species or if it is identical with L. flaccida Rchb.f., which it resembles closely in this condition.

Oberonia Lindl.

This genus is represented in the region by three species, of which Oberonia Vieillardii Rchb.f. has been known for a fairly long time. The others collected by me, on the other hand, proved to be new. All three species are epiphytes of the forests, as are all the other species of the genus. Two are related to the Australian species O. palmicola F.v.M. and O. Muelleriana Schltr. (O. iridifolia Fitzg., in Aust. Orch., nec Lindl.). The third, O. flexuosa Schltr., which belongs to the group [section] Caulescentes, may be related to O. glandulosa Lindl., from Tahiti. O. Vieillardii Rchb.f. and O. neo-caledonica Schltr. occur in the Southern District, whereas O. flexuosa Schltr. belongs to the Northern District.

Oberonia flexuosa Schltr., sp. nov.

Epiphytica, patula, 14—20 cm longa; radicibus filiformibus elongatis, flexuosis, glabris; caule elongato flexuoso, dense foliato, usque ad 14 cm longo; foliis distichis erecto-patentibus, anguste falcato-lanceolatis acutis, carnosulis, 2,5—4 cm longis, supra basin 0,4—0,6 cm latis; spica elongata, subdense multiflora, gracillima, usque ad 7 cm longa; rhachide bracteisque puberulis; floribus subverticillatis, patentibus, flavidis; sepalis oblongis obtusis, extus sparse subciliato-papillosis, c. 1 cm longis; petalis ovato-oblongis obtusis glabris, sepalis paulo minoribus; labello e basi subquadrata breviter biauriculata dilatato, bilobato, margine minute denticulato, lobis oblique rotundato-truncatis, c. 0,4 cm longo, basi concavulo; columna brevi teretiuscula; anthera rotundata, antice breviter et obtusiuscula acuminata; ovario subsessili, subglabro, c. 1,5 mm longo.

Northern District : On the trees alongside the creeks of the mountains, near Ou Hinna, alt. c. 600m - [R. Schlechter] no. 15496, flowering in Jan. 1903.

As already mentioned above, this species is related to O. glandulosa Lindl.

Oberonia neo-caledonica Schltr., sp. nov.

Acaulis, erecta, epiphytica, 2—8 cm alta; radicibus filiformibus, elongatis, flexuosis, glabris; foliis 4—9 erecto-patentibus, distichis, ligulato-subfalcatis; acutis vel breviter acuminatis, utrinque glabris, carnosulis, 1,5—2 cm longis, medio fere 0,3—0,6 cm latis; pedunculo gracili, tereti vaginulis paucis dissilis obsesso; spica cylindrica 1—4,5 cm longa, c. 0,2 cm diametente, dense multiflora; bracteis ovatis acutis, ovario brevioribus; floribus in genere inter minimos, aurantiacis, patentibus, vix 1,5 mm diametentibus; sepalis ovatis obtusis, glabris, lateralibus paulo obliquis; petalis ovato-oblongis obtusis, glabris, paulo obliquis, sepalis paulo minoribus; labello trilobo, lobis lateralibus ovato-triangulis obtusiusculis, intermedio

cuneato-obovato obtusissimo, glabro, sepalis paulo majore; columna brevi crassiuscula; anthera late ovata obtusiuscula; ovario breviter pedicellato subcylindrico, glabro.

Southern District : On trees in the mountain forests near Yaouhé, alt. c. 500m - [R. Schlechter] no. 14766, flowering and fruiting in Sept. 1902.

Externally not unlike O. palmicola F.v.M., but differing in the labellum.

Podochilus Bl.

Up to the present, P. Vieillardii (Rchb.f.) Schltr., mentioned below, is the only species of the genus which is known from the region. It is a plant widely distributed in the Northern and Southern Districts, and as far as I have observed, occurs preferably, if not perhaps always, as a terrestrial. In contrast, its relatives found in the Malayan region, are known to be epiphytes.

Podochilus Vieillardii (Rchb.f.) Schltr., [comb. nov.]

Southern District : On the slopes of Pic Malaoni, near Yaouhé, alt. c. 600m - [R. Schlechter] no. 14778, flowering and fruiting in Sept. 1902.

Northern District : On the mountain slopes near Ou Hinna, alt. c. 600m - [R. Schlechter] no. 15655, flowering in Jan. 1902 [1903].

Earina Lindl.

A small genus, whose distribution area, as far as is presently known, seems to be restricted to the islands of the Pacific Ocean, is represented in New Caledonia by two species, one of which E. Deplanchei Rchb.f., is always terrestrial, occurring on exposed slopes of the mountains in the Southern District. The other, E. valida Rchb.f. is distributed over the whole island, in the forests as an epiphyte on the tall primary forest trees, whilst E. samoensium F.v.M. is either identical to it, or at least a very close relative.

Earina Deplanchei Rchb.f.

Southern District : On dry mountain slopes near Paita, alt. c. 800m - [R. Schlechter] no. 14942, flowering in Oct. 1902.

Earina valida Rchb.f.

Southern District : On trees in the forests of Mount Mou, near Paita, alt. c. 1000m - [R. Schlechter] no. 14943, fruiting in Oct. 1902; on trees in the forests on the slopes of Mount Humboldt, alt. c. 1000m - [R. Schlechter] no. 15320, in bud in Nov. 1902.

Northern District : On trees in the mountain forests near Ou Hinna, alt. c. 700m - [R. Schlechter] no. 15686, flowering in Jan. 1903.

Ceratostylis Bl.

The discovery of C. micrantha Schltr. in New Caledonia, has rather widely extended the distribution area of the genus to the east. Formerly, the extreme eastern representatives were those described from New Guinea, which, like C. micrantha Schltr., belong to the affinity of C. subulata Bl. The New Caledonian species is known to me only as an epiphyte in the mountain forests of the Northern District, where it grows on trees, often in company with Phreatia species and Astelia neo-caledonica Schltr.

Ceratostylis micrantha Schltr., sp. nov.

Epiphytica erecta, habitu C. subulatae Bl., 10—17 cm alta; rhizomate valde abbreviato, densissime caulis obpresso; radicibus filiformibus elongatis, flexuosis, glabris; caulis (pseudobulbis) subulato-subfiliformibus, teretibus glabris, basi vaginis ventricoso-amplectentibus obtectis, apice unifoliatis, 7—14 cm longis, 0,2—0,3 cm diametentibus; folio erecto subulato, tereti, obtusiusculo, glabro, 3—4 cm longo, pseudobulbo vulgo paulo tenuiore; floribus ad apices pseudobulborum capitato-globeratis; in genere interiores, bracteis ovato-lanceolatis acutis, ovario bene brevioribus; sepalo intermedio ovato-oblongo obtuso, sparse stellato-puberulis, 3,5 mm longo, lateralibus aequilongis obtusis, sparse stellato-puberulis, obliquis, basi margine anteriore ampliatis, mentum breve formantibus; petalis oblique lanceolatis obtusiusculis, glabris, sepalis paulo brevioribus; labello vix unguiculato oblongo-obtuso, medio vix paululo constricto, apice incrassato, supra medium squama duplica transversa depressa donato, glabro, 0,3 cm longo; columna perbrevi, cornubus excavatis oblongis, antheram plus duplo excedentibus; anthera cucullata, antice subretusa, glabra; polliniis pyriformi-clavatis, glandula minuta rotundata; ovario subsessili, clavato, stellatum puberulo, 0,3 cm longo.

Northern District : On trees in the mountain forests near Oubatche, alt. c. 600m — [R. Schlechter] no. 15392, flowering in Dec. 1902.

In consequence of the short mentum of the labellum and the structure of the latter, this species must be separated from C. subulata Bl. and its other relatives.

Phaius Lour.

Up to the present, P. Robertsii F.v.M., described as an endemic species on the island, is evidently not rare. I was successful in finding a second species, which I would like to consider as being P. Bernaysii Rchb.f., and which is known from adjacent regions. Both species are terrestrial, and, as far as I can determine, occur only in the Southern District; P. Robertsii F.v.M. is found in the humus in dense forests, P. Bernaysii Rchb.f., at open places between grasses and Cyperaceae, preferentially at forest borders.

Phaius Bernaysii Rchb.f.

Southern District : In the forests on the summit of Mount Mou, near Paita, alt. c. 150m — [R. Schlechter] no. 14848, flowering in Sept. 1902.

Phaius Robertsii F.v.M.

Southern District : In forest humus on the mountains near Yaouhé, alt. c. 400m - [R. Schlechter] no. 14768, flowering in Sept. 1902.

The flowering time of the plant appeared to be just finished and only a few shed flowers could be found on the ground, which enabled me to sketch them. As far as I know this rare* species had never been found again, since being discovered by Roberts.

*[In the notes on the genus, Schlechter describes the species as not rare].

Calanthe R.Br.

Three species from New Caledonia have so far been described. One has been published by Reichenbach fil., as C. angraeciflora, but appears to me to be too closely related to C. veratrifolia R.Br. and may perhaps be regarded better, as a luxuriant form of that species. The two others are C. Langei F.v.M. and C. Balansae Finet, which resemble each other very closely and are closely related to certain forms from the Papuan-Malayan region. All three species are terrestrial and occur as inhabitants of the humus of the forests. C. veratrifolia R.Br. var. angraeciflora (Rchb.f.) Schltr. is very widely distributed over the whole region; the two other species, however, are known only in the Southern District. The colour of the flowers of C. Langei F.v.M. is golden-yellow, the other two are snow-white.

Calanthe Balansae Finet

Southern District : In the forests on the summit of Mount Mou, near Paita, alt. c. 1250m - [R. Schlechter] no. 14947, flowering in Oct. 1902; in humus in the forest on the slopes of Mount Humboldt, alt. c. 1000m - [R. Schlechter] no. 15314, flowering in Nov. 1902.

The illustration of this species by Finet is particularly good.

Spathoglottis Bl.

Up to the present, only three species have been known from New Caledonia, viz. S. Vieillardii Rchb.f., S. Deplanchei Rchb.f. and S. unguiculata Rchb.f. The publication of one of these, was based on an illustration of Limodorum unguiculatum Lab. Whether this was justified is still open to question, for if we examine the plate in 'Labillardieres Sertum Austro-Caledonicum' some peculiar features, illustrated with much care, are at once disclosed, which make it doubtful whether the plant is really a Spathoglottis. Firstly, according to the illustration, the labellum has a spur; and secondly, the very characteristic calli at the base of the middle lobe in all Spathoglottis species, are absent. I have never actually seen the plant. Whether the illustration is incorrect, can only be decided by an analysis of the Type.

All species are inhabitants of open sunny mountain slopes. Regarding the distribution of the individual species in the region, very little is known. They usually grow in colonies, but appear to occur rather locally.

Spathoglottis breviflora Schltr., sp. nov.

Terrestris, erecta, usque ad 60 cm alta; rhizomate valde abbreviato; radicibus filiformibus elongatis, flexuosis, villosulis; pseudobulbis ovoideis 4—6 cm altis, supra basin 2,5—3 cm diametentibus, omnino basibus foliorum obtectis; foliis erecto-patentibus anguste lanceolatis acuminatis, glabris, plicatis, basin versus sensim angustatis, articulatis, usque ad 60 cm longis, medio fere usque ad 3 cm latis; scapo erecto, vulgo plus minusve flexuoso tereti, subglabro, foliis vulgo breviore, vaginis paucis valde dissitis lanceolatis acutis obpresso; racemo abbreviato usque ad 10-floro; bracteis ovatis acuminatis subglabris, ovario brevioribus; floribus illis *S. plicatae* Bl. paulo minoribus; sepalis ovato-oblongis, obtusiusculis, glabris, c. 2 cm longis, lateralibus obliquis, paulo angustioribus; petalis sepalis paululo brevioribus, obliquis, obtusis, vix latioribus; labello e basi late cucurbitaceum trilobo, lobis lateralibus subquadratis, oblique rotundato-truncatis, intermedio late obovato obtusissimo glabro, callis 2 subclavatis obliquis puberulis amplis, ad basin lobi intermedii ornato; labello 1,3 cm longo, ad apices lobi amplius, ad basin lobi intermedii 0,7 cm lato; columna semitereti, apicem versus dilatata, facie longitudinaliter carinata; anthera cucullata, late rhomboideo-rotundata; polliniis 8 oblique clavatis, glandula minuta rotundata; ovario pedicellato, subcylindrico, 1,8 cm longo, subglabro.

Northern District : On open mountain slopes near Oubatche, alt. c. 700m — [R. Schlechter] no. 15486, flowering in Dec. 1902.

In the structure of the labellum, this plant shows a certain resemblance to *S. (?) unguiculata* (Lab.) Rchb.f., but has the typical calli of the genus and is without a spur. Should Labillardière's illustration prove inaccurate, I think it possible that the species described here could be identical with *Limodorum unguiculatum* Lab. Under the present circumstances, I must regard my plant as a new species.

Spathoglottis Deplanchei Rchb.f.

Northern District : On open mountain slopes, near Oubatche, alt. c. 600m — [R. Schlechter] no. 15421, flowering in Dec. 1902.

Pachystoma Lindl.

P. Holtzei F.v.M., the most eastern representative of this small genus known at present, was found in northern Australia. The discovery of a new species in New Caledonia is especially interesting, because the eastern boundary of the genus will thereby be considerably extended. The plant grows on partially shaded, grassy slopes on the mountains of the Northern District, where it appears to be rather rare, for in spite of my eager search, I could find only two specimens.

Pachystoma gracile Schltr., sp. nov.

Gracile, erectum, simplex, aphyllum, 45—60 cm altum; tubere cylindrico, hinc inde paulo constricto; caule erecto, tereti, glabro, vaginis acuminatis, mox emarcescentibus, apice sensim in bracteas abeuntibus, arcte vaginantibus, obpresso; racemo laxe 6—12-floro, rhachide minute puberulo; bracteis anguste lanceolatis acuminatis, vulgo patulis, ovarium pedicellatum excedentibus; floribus patulis, illis *P. sinensis* Ldl. fere aequimagnis, flavidis; sepalis ligulatis obtusiusculis, extus pilosulis, 1,1 cm longis, lateralibus subfalcatis, basi margine anteriore sensim paulo dilatatis; petalis subfalcatis linear-ligulatis, obtusiusculis, dimidio superiore paululo dilatatis; extus sparse pilosulis; labello cuneato trilobato, lobis lateralibus oblique oblongis obtusis, intermedio cuneato antice truncato-rotundato, breviter apiculato, lineis 3 verrucosis e basi concava labelli usque ad medium lobi intermedii decurrentibus, seriebus 2 brevibus verrucarum apice interjectis, labello toto sparse pilosulo, praesertim ad nervos, 1 cm longo, ad apices lobi orum lateralium 5—6 cm lato, lobo intermedio apice 0,3 cm lato; columna gracili, arcuata, pilosula, 0,8 cm lata, apice biauriculata; anthera cucullata, glabra, antice excisa; ovario pedicellato, clavato, velutino, 0,8 cm longo.

Northern District : On grassy slopes of the mountains near Ou Hinna, alt. c. 200m — [R. Schlechter] no. 15752, flowering in Jan. 1903.

This is related to *P. chinensis* Lindl., but easily distinguished by the lip.

Geodorum Jacks.

The species of this genus are so closely inter-related that their numbers will most likely have to be somewhat reduced. The area of distribution of the genus extends from eastern India, across Java and New Guinea to Australia. Now we have the species from New Caledonia, which I cannot separate from *G. pictum* R.Br. Like most, or all species of the genus, it grows in grassy places, but prefers loamy conditions. Since the nodding flower heads are hidden by the overtopping leaves, this plant is easily overlooked by collectors.

Dendrobium Sw.

This genus must be regarded as the most abundant in species of the family on the island, numbering about 25. These are arranged under the nine sections given below, of which I have previously known only three from the region. Most of the species are epiphytic and only those from the section Polycladum are always terrestrial and especially worth mention, because the tallest species of the genus belong here. The largest number of representatives of the genus is to be found in the Northern District of the island. Some however, such as *D. closterium* Rchb.f. and *D. cerinum* Schltr., are widely distributed over the entire island.

The sections of the genus which occur in the region, are as follows:-

I. Section Mekynosepalum : Characterised by tall, single-leaved pseudobulbs, tapering towards the apex, bearing at the top, a long-stemmed flower, with extended sepals and petals. This section is distributed from New Guinea to Samoa.

II. Section *Strongylophyllum* : Creeping and pendulous plants, with elongated, often branched rhizomes, with one to few-jointed, thin pseudobulbs, which bear at the apex, a single thick carnose, usually terete leaf. The inflorescences appear laterally. They are few to many-flowered. Up to the present, this group is known only from Australia and the islands of the South Seas. The most eastern species is *D. crispatum* Sw.

III. Section *Inobulbon* : Until now, a monotypic section, with short, multi-jointed, two-leaved pseudobulbs, surrounded by considerable fibre and bearing laterally branched, slender inflorescences, with very characteristic flowers. In habit, this form reminds one of the genus *Acriopsis*. It is represented by *D. muricatum* Finet

IV. Section *Platycaulon* : I have already characterised this section, which is distinguished by its broad, compressed, spathulate pseudobulbs, with few leaves and short, few-flowered, lateral inflorescences. Up to the present, there are four species reported from Malaysia, the Philippines, New Guinea and New Caledonia. The best known of these is *D. lamellatum* Lindl.

V. Section *Eleutheroglossum* : The three species described here, certainly belong to this section, also probably *D. closterium* Rchb.f. and *D. jocosum* Rchb.f. The section is characterised by swollen, two-leaved pseudobulbs, on the apices of which appear terminal or few-flowered inflorescences, the flowers have protruding sepals, leaving the labellum entirely free. The lip possesses a large bi-lobed middle division.

VI. Section *Dianthe* : I have previously characterised this large section, which is very similar to *Gemella* of Ridley and Hooker. In the region, I know of two species mentioned below. Concerning its general distribution, it may be said that representatives of the section occur almost everywhere the genus *Dendrobium* is found.

VII. Section *Distichophyllum* : This section has already been circumscribed by Hooker. Until now, it has been known really only from the hinterlands of the Indo-Malayan regions. The occurrence therefore, of a very typical species, *D. cerinum* Schltr., in New Caledonia is quite noteworthy.

VIII. Section *Macrocladum* : Terrestrial shrubs, usually rather tall (up to 2.5m), with distichous leaves and lateral, single to multi-leaved racemes, usually with very attractive flowers. Very characteristic are *D. Sarcochilus* Finet, *D. fractiflexum* Finet and *D. steatoglossum* Rchb.f., which are known in the

countryside as 'cane orchids' on account of their tall woody stems. It is still doubtful whether D. Finetianum Schltr. should be included in this section.

IX. Section Kinetochilus : A typical New Caledonia group, distinguished by small, densely-leaved stems, lateral, single to three-flowered inflorescences and a labellum moveable, as in the genus Bulbophyllum. Three species are known up to the present. D. fractiflexum Finet, which also possesses a moveable labellum, would, on account of its large size, appear better placed in the section Macrocladium.

§ Mekynosepalum

Dendrobium Ou-Hinnae Schltr., sp. nov.

Epiphyticum, erectum, 15—20 cm altum; rhizomate abbreviato pseudobulbis dense obsesso; radicibus filiformibus elongatis, flexuosis, glabris; pseudo-bulbis gracilibus, teretibus, glabris, e basi paulo ampliata attenuatis, apice unifoliatis, 8—14 cm altis supra basin 0,4 cm, apice 0,2—0,3 cm diametentibus; folio erecto lineari-ligulato, apice obtuse et inaequaliter bilobulato, glabro, textura coriaceo, 5—7,5 cm longo, medio fere 0,5—0,8 cm lato; floribus ad apicem pseudobulborum singulis graciliter pedicellatis; sepalis e basi lanceolata filiformi-caudatis, 2,4 cm longis, glabris, lateralibus obliquis, basi margine anteriore ampliatis; petalis e basi lineari-lanceolata filiformi-elongatis glabris, paulo obliquis, 2,4 cm longis; labello e basi late unguiculata trilobo, lobis lateralibus oblique oblongis, obtusis, brevibus, intermedio lineari-unguiculato, lamina late ovato-subcordata, obtusa, marginibus undulata, labello omnino glabro, lamellis 2 parallelis e basi usque ad basin laminae lobi intermedii decurrentibus, lamella tertia brevi apice interjecta, e basi usque ad apices loborum lateralium 0,5 cm longo, toto 1 cm longo, lobo intermedio supra basin 0,4 cm lato; columna brevi, clinandrio dorso altius apiculato, pede producto; ovario pedicello inclusu c. 3 cm longo, glabro.

Northern District : On trees in the mountain forests near Ou Hinna, alt. c. 1000m — [R. Schlechter] no. 15626, flowering in Jan. 1902 [1903].

This species is related to D. longicolle Lindl. The flowers are pale rose-red, the lamellae of the lip yellow.

§ Strongylophyllum

Dendrobium crispatum Sw.

Southern District : On Casuarina sp., along the creeks near Yaouhé, alt. c. 100m — [R. Schlechter] no. 14728, flowering in Sept. 1902.

I cannot distinguish this species from that endemic to Tahiti. It is related to D. teretifolium R.Br.

§ Inobulbum

Dendrobium muricatum Finet

Northern District : On trees in the mountain forests near Oubatche, alt. c. 1000m — [R. Schlechter] no. 15589, flowering in Dec. 1902.

A very peculiar plant, of which, however, I have also seen flowerless specimens in the forests at the foot of Mount Mou, near Paita, in the Southern District.

§ *Platycaulon*

Dendrobium camptocentrum Schltr., sp. nov.

Epiphyticum erectum, usque ad 25 cm altum; rhizomate valde abbreviato; radicibus filiformibus elongatis, flexuosis, glabris; pseudobulbis compressis e basi teretiuscula gracili valde compressis dilatatis, circuitu sere oblanceolato-spathulatis, 6—8-nodis, vaginis foliaceis mox emarentibus 2—4 obsessis, apice bifoliatis lucidis, 7—17 cm altis, supra medium 1,8—2,5 cm latis; foliis erecto-patentibus lanceolato-oblongis, subacutis, apice inaequalibus, basin versus paulo angustatis, glabris, textura pro genere tenuioribus, 8—10 cm longis, medio fere 2—3 cm latis; racemis lateralibus versus apicem pseudobulborum brevibus, laxe 2—3-floris, glabris; bracteis minutis ovatis obtusis, ovario pedicellato, multoties brevioribus; floribus illis *D. platycaulon* Rolfe fere aequimagnis; sepalo intermedio lanceolato-elliptico acuto, glabro, 1,3 cm longo, lateralibus sere aequilongis, acutis, margine anteriore basi valde dilatata calcar curvatum, longius conicum, obtusum formantibus, basi 1,5 cm latis; petiolis e basi subunguiculata oblique oblongis obtusis, glabris, sepalis fere aequilongis, sed latioribus; labello e basi unguiculata sensim ampliato subquadrato-ovato, marginibus undulato, apice minute apiculato, nervis 5 medianis usque supra medium lamellato-incrassatis, c. 2 cm longo, supra medium 1 cm lato; columna perbrevi, pede longius producta; anthera rotundato-cucullata, dorso gibba humili donata, glabra, antice obtusiuscula; ovario pedicellato, glabro, clavato, 1,3 cm longo.

Northern District : On trees in the mountain forests near Ou Hinna, alt. c. 500m — [R. Schlechter] [no number cited], flowering in Jan. 1902 [1903].

Related to *D. platycaulon* Rolfe, but distinguished by the lip. The flowers are pale pink and the lip almost white, with yellowish lamella.

§ *Eleutheroglossum*

Dendrobium eleutheroglossum Schltr., sp. nov.

Epiphyticum, erectum, 6—20 cm altum; rhizomate valde abbreviato; radicibus filiformibus elongatis, flexuosis glabris; pseudobulbis ovoideis vel crassiuscule obovoideis vel crasse subcylindraceis 1,5—3,5 cm longis, 0,7—2 cm diametentibus, demum sulcatis, vaginis paucis hyalinis, arcte amplectentibus primum obsessis, apice bifoliatis; foliis erecto-patentibus, ligulato-ellipticis apice acute et inaequaliter bilobulatis, glabris, textura coriaceis, 3,5—8,5 cm longis, medio fere 0,7—1,4 cm latis; racemis ad apicem pseudobulborum lateralibus vel pseudoterminalibus, gracilibus, folia plus minusve excedentibus, laxe 2—7-floris; pedunculo tereti, glabro, folia excedente; bracteis minutis ovatis obtusiusculis, ovario pedicellato multoties brevioribus; floribus in genere inter mediocres, erecto-patentibus; sepalo intermedio ovato obtusiusculo, glabro, 1 cm longo, lateralibus oblongis subacutis, margine anteriore basi valde dilatata, 1,5 cm latis, fere 1,5 cm longis, glabris, petalis oblique ligulatis acutis, glabris; labello e basi oblonga trilobato, lobis lateralibus rotundatis, abbreviatis, intermedio e basi subquadrata bilobato, lobis oblongis obtusis, lobulo minuto (vix conspicuo) interjecto, labello toto 2 cm longo, ad apices loborum lateralium 1,4 cm

lato, ad apices lobi intermedii 0,9 cm lato, lamellis 2 parallelis e basi apicem versus paulo undulatis usque infra apicem labelli decurrentibus; columna brevi, pede producto, clinandrio dorso apiculato; ovario pedicellato, glabro, subclavato, c. 1 cm longo.

Southern District : On trunks of Melaleuca viridiflora Forst., near Yaouhé, alt. c. 150m - [R. Schlechter] no. 15077, flowering in Oct. 1902.

Northern District : On Casuarina trees near Ou Hinna, alt. c. 50m - [R. Schlechter] no. 15593, flowering in Jan. 1903.

Probably related to D. closterium Rchb.f. and D. jocosum Rchb.f., but distinguished from both by the lip. The flowers are yellow, the labellum has white crests and is red-speckled.

Dendrobium ngoyense Schltr., sp. nov.

Epiphyticum, humile, 4—7 cm altum; rhizomate valde abbreviato; radicibus filiformibus, elongatis, flexuosis, glabris; pseudobulbis oblongis vel ovoideis, vel cylindraceis, demum sulcatis, 1—2 cm altis, medio fere 0,4—0,7 cm diametentibus, vaginis paucis hyalinis, arcte amplectentibus obsessis, apice 2-foliatis; foliis erecto-patentibus, patentibusve oblongis vel ligulatis, apice obtusis inaequalibus, utrinque glabris, textura crassiuscula coriaceis, 1,5—4 cm longis, medio fere 0,4—0,8 cm latis; inflorescentiis ad apicem pseudobulborum terminalibus; pedunculo brevi, foliis breviore 1—3-floro; bracteis parvulis ovatis acutis, ovario graciliter pedicellato multoties brevioribus; floribus illis D. eleutheroglossi Schltr. similibus aequimagnisque; sepalo intermedio ovato-oblongo acuto, 0,7 cm longo glabro; lateralibus oblique oblongis acutis, margine anteriore basi valde dilatatis, 1,2 cm longis, basi 1,3 cm latis; petalis oblique lanceolato-oblongis, acutis subfalcatis, glabris, 0,8 cm longis; labello e basi subcuneato-ligulata trilobato, lobis lateralibus parvulis obtusis, intermedio amplio profunde bilobato, lobis oblongis obtusis, margine subundulatis, labello toto 1,8 cm longo, ad apices lobi lateralium 0,6 cm lato, infra apices lobi intermedii 1 cm lato, glabro, lamellis 2 parallelis apice falcato-curvatis, e basi usque in basin lobi intermedii decurrentibus; columna brevi, pede longius producto, clinandrio dorso breviter et obtuse apiculato; anthera cucullata obtusa; ovario graciliter pedicellato, glabro, c. 2 cm longo.

Southern District : On trees on the mountains near the Ngoye [River], alt. c. 150m - [R. Schlechter] no. 15269, flowering in Nov. 1902.

The species is related to D. eleutheroglossum Schltr., but is easily distinguished by its labellum.

Dendrobium Poissonianum Schltr., sp. nov.

Epiphyticum, erectum, gracile, 9—20 cm altum; rhizomate valde abbreviato; radicibus filiformibus elongatis, flexuosis, glabris; pseudobulbis gracilibus subcylindricis, apicem versus paulo incrassatis, demum sulcatis, vaginis paucis arctius amplectentibus siccis obsessis, apice bifoliatis, 3—4 cm longis infra apicem 0,4—0,6 cm diametentibus; foliis erecto-patentibus ligulatis obtusiusculis, apice inaequalibus, glabris, textura crassiuscula coriaceis, 3,5—5,5 cm longis, medio fere 0,7—1,1 cm latis; racemis versus apicem pseudobulborum gracilibus lateralibus, laxe paucifloris, pedunculo gracili, folia paulo excedente; bracteis minutis, ovato-triangulis, ovario pedicellato multoties brevioribus; floribus illis D. eleutheroglossi Schltr. similibus fere aequimagnis, erecto-patentibus; sepalo intermedio oblongo apiculato, glabro, 1,1 cm longo, lateralibus obliquis oblongis, subacutis, glabris, basi margine anteriore

valde dilatatis, intermedio fere aequilongis, basi 1,3 cm latis, petalis oblique oblongo-ligulatis, apiculatis, glabris, 0,9 cm longis; labello e basi subcuneato-ligulato trilobato, lobis lateralibus oblique oblongis obtusis, parvulis, intermedio e basi subquadrato-subunguiculata cuneato-dilatato bilobo, lobis obliquis rotundatis, labello toto glabro, 1,8 cm longo, ad apices loborum lateralium 0,8 cm lato, infra apices lobi intermedii 1 cm lato; lamellis 2 parallelis e basi usque ad basin lobi intermedii decurrentibus, callis 2 oblongis subconfluentibus, dense granuloso-verruculosis ad basin lobi intermedii ornato; columna brevi, pede longius producto, clinandrio antice utrinque unidentato, dorso obtuse lobulato; anthera cucullata, obtusa, glabra; ovario pedicellato, glabro, c. 2 cm longo.

Northern District : On Casuarina sp., alongside the mountain creeks near Ou Hinna, alt. c. 50m - [R. Schlechter] no. 15590, flowering in Dec. 1902.

Well distinguished from the two previous species by its slender, clavately-thickened pseudobulbs and by the labellum. As in the other two species, the flowers are yellowish, with brownish red or brownish violet markings on the labellum.

§ Dianthe

Dendrobium camaridiorum Rchb.f.

Southern District : On trees in the mountain forests near the Ngoye [River], alt. c. 800m - [R. Schlechter] no. 15280, flowering in Nov. 1902.

Northern District : On trees in the mountain forests near Ou Hinna, alt. c. 600m - [R. Schlechter] no. 15680, flowering in Jan. 1903.

Dendrobium crassifolium Schltr., sp. nov.

Epiphyticum, erectum, pluricaule, 20—30 cm altum; rhizomate valde abbreviato, radicibus filiformibus elongatis, flexuosis, glabris; caulis terebribus glabris, bene foliatis, vaginis foliorum arcte amplexentibus strictis omnino obtectis; foliis erecto-patentibus anguste lanceolato-ligulatis apice obtuse et inaequaliter bilobulatis, 3,8—7 cm longis, supra basin 0,7—1,2 cm latis utrinque glabris, textura crasse coriaceis; floribus geminatis e vaginis lateralibus compresso-cucullatis; bracteis minutis, ovario pedicellato multo brevioribus; floribus patentibus illis *D. salaccensis* Bl. fere aequimagnis; sepalis ligulatis subacutis, glabris, c. 1,3 cm longis, lateralibus subfalcato-obliquis, basi margine anteriore paulo dilatatis; petalis e basi linearis paulo dilatatis subacutis, glabris, subfalcatis, 1,2 cm longis; labello e basi late cuneata trilobo, lobis lateralibus oblongis obtusis, intermedio ovato-triangulo acuto, margine basi undulato, lateralia excedente, labello toto 0,5 cm longo, ad apices loborum lateralium 0,6 cm lato, linea media incrassata, lamina lobo medio excepto seriebus transversis papillarum sparsarum ornata, lobo medio seriebus papillarum densarum longitudinaliter ornata; columna brevi, pede producto, basi macula concavata ornata, clinandrio humili, integro, dorso obtuse apiculato; anthera cucullata, antice obtusato-truncata, glabra; ovario pedicellato, glabro, clavato, 0,7 cm longo.

Northern District : On trees in the mountain forests near Ou Hinna, alt. c. 900m - [R. Schlechter] no. 15603, flowering in Jan. 1903.

I propose to place this species close to *D. salaccense* Bl. The flowers are

pale yellow, the labellum has an orange-yellow middle vein, the column-foot has an orange-yellow spot at the base.

§ *Distichophyllum*

Dendrobium cerinum Schltr., [nom. nov.]

D. inaequale Finet (non Rolfe)

Southern District : On trees alongside the mountain creeks near Paita, alt. c. 400m - [R. Schlechter] no. 14987, flowering in Oct. 1902; on trees in the mountain forests near the Ngoye [River], alt. c. 300m [R. Schlechter] no. 15277, flowering in Nov. 1902.

Northern District : On trees alongside the mountain creeks near Ou Hinna, alt. c. 100m - [R. Schlechter] no. 15654, flowering in Jan. 1903.

Since the species name 'inaequale' has already been applied once by Rolfe to a Dendrobium species from New Guinea, the name given by Finet, which incidentally is rather unsuitable, has been altered. The wax-like flowers are yellowish.

§ *Macrocladum*

Dendrobium cymatolegum Schltr., sp. nov.

Terrestre, erectum, pluricaule, 50—90 cm altum; rhizomate valde abbreviato; radicibus crassiusculis, teretibus, glabris; caule lignoso, rigido, bene foliato, tereti, glabro, primum vaginis foliorum alte amplectentibus omnino obtecto, demum nudo, vulgo simplici, interdum parum ramoso; foliis erecto-patentibus, patentibusve, linearis-ligulatis, obtusis, apice inaequibus, 4—6 cm longis, medio fere 0,5—0,7 cm latis; inflorescentiis lateralibus vulgo simplicibus interdum pauciramosis, foliis aequilongis vel paulo longioribus, laxe plurifloris; bracteis lanceolatis acuminatis, parvulis, ovario pedicellato multoties brevioribus; floribus in genere inter mediocres, erecto-patentibus; sepalo intermedio oblongo subacuto, glabro, 0,7 cm longo, lateralibus oblique oblongis basin versus margine anteriore paulo dilatatis, glabris, sepalo intermedio fere aequilongis; petalis oblique angusti-spathulatis obtusis glabris, 0,8 cm longis; labello e basi cuneato-ligulata trilobato, lobis lateralibus parvulis triangulis acutis, intermedio labelli totius dimidium aequante quadrato-oblongo antice retuso, marginibus valde undulatis erectis, lamellis 3 parvulis parallelis e basi labelli usque ad basin lobi intermedii decurrentibus, labello toto 4 cm longo, ad apices loborum lateralium 0,4 cm lato, apice lobi intermedii 0,5 cm lato; columna perbrevi, pede longius producto, clinandrio latere minute pauci-denticulato; anthera cucullata, obtusa antice truncata; ovario pedicellato clavato, glabro, 0,5 cm longo.

Southern District : Between river rubble on the banks of the Ngoye [River], alt. c. 50m - [R. Schlechter] no. 15141, flowering in Nov. 1902.

var. major Schltr., var. nov.

differ a forma typica floribus paulo majoribus et
racemis laxioribus.

Southern District : On the mountain slopes near the Ngoye [River], alt. c.

600m - [R. Schlechter] no. 15151a, flowering in Nov. 1902.

This species is closely related to D. Sarcochilus Finet in floral structure, and especially in the labellum. However, it is easily recognised by its smaller foliage, shorter inflorescences and by its labellum. The flowers are brown, with white crests on the labellum.

Dendrobium Finetianum Schltr., sp. nov.

Terrestre, gracile, pulchellum, 25—40 cm altum, pluricaule; rhizomate valde abbreviato; radicibus filiformibus elongatis, flexuosis, glabris; caulis gracilibus demum angulato-sulcatis, laxe foliatis, vaginis foliorum arcte amplectentibus obtectis, 0,2—0,3 cm diametentibus; foliis erecto-patentibus lineariligulatis, apice inaequaliter ac obtuse bilobulatis, glabris, textura coriaceis, 3—5 cm longis, 0,3—0,5 cm latis; racemis lateralibus erecto-patentibus, folia paulo excedentibus, laxe 5—10-floris; bracteis minutissimis; floribus erecto-patentibus in genere vix inter mediocres; sepalis oblongis obtusiusculis, glabris, c. 5,5 mm longis, lateralibus paulo obliquis, basi margine anteriore paulo dilatatis; petalis oblique spathulatis obtusis, sepalis subaequimagnis; labello e basi breviter subunguiculato-cuneata quinquelobato, lobis inferioribus subquadratis, mediocribus oblique et breviter oblongis, intermedio subquadrato transverso, margine paulo crenulato-undulato, lobis 3 anterioribus minute papilloso-granulosis, seriebus 3 papillarum inter lobos inferioribus sitis, callo parvulo oblongo in labelli dimidio inferiore minute puberulo, labello toto c. 0,5 cm longo, ad apices loborum inferiorum c. 0,4 cm lato; columna brevi, pede producto, facie paulo puberulo, clinandrio dorso inaequaliter denticulato; anthera cucullata, antice minute puberula; ovario pedicellato glabro subclavato, 0,8 cm longo.

Northern District : At forest borders on the mountains near Oubatche, alt. c.

1000m - [R. Schlechter] no. 15505, flowering in Dec. 1902.

A very characteristic species, of which at present I know of no relatives, hence I am doubtful whether it should be included in this section. It is distinguished by its prolific flowers, the latter being yellow with brown markings, the labellum and column white and the anther violet.

Dendrobium fractiflexum Finet

Southern District : In forests of the Ngoye Valley, alt. c. 100m - [R. Schlechter] no. 15092, flowering in Nov. 1902.

Dendrobium Sarcochilus Finet

Southern District : At forest borders on the mountains near the Ngoye [River], alt. c. 150m - [R. Schlechter] no. 15132, flowering in Nov. 1902.

§ Kinetochilus

Dendrobium cleistogamum Schltr., sp. nov.

Epiphyticum, erectum, pluricaule, usque ad 45 cm altum; rhizomate valde abbreviato; radicibus filiformibus, flexuosis, glabris; caulis gracili-oribus, quadrangulari-sulcatis, laxe foliatis, vaginis foliorum arcte amplec-

tentibus obtectis, 0,3 cm diametentibus; foliis erecto-patentibus, apice profundius et inaequaliter bilobulatis, utrinque glabris, textura coriaceis, 3—5 cm longis, 0,5—0,7 cm latis; inflorescentis tenuibus lateralibus apice laxe 2—3-floris, nunc foliis aequilongis nunc paulo longioribus; bracteis minutis, glabris, ovario pedicellato multoties brevioribus; floribus in genere inter minores pallide flavidis, cleistogamis; sepalis lanceolatis subacutis glabris, c. 0,5 cm longis, lateralibus subfalcatis, basi margine anteriore dilatatis; petalis sepalis subaequilongis oblique lanceolatis acutis, glabris; labello articulato e basi rotundata paulo contracto, deinde sursum dilatato ovato obtuso, ima basi callo dupli oblongo utrinque cornu marginem labelli verso, linearis, recurvulo, aucto, donato, 0,4 cm longo, medio fere 0,2 cm lato; columna brevissima, pede producto, clinandrio humillimo, anthera cucullata, dorso retusa, antice obtuse truncata, ovario pedicellato, clavato, glabro, c. 4 cm longo.

Southern District : On tree trunks on the mountains near the Ngoye [River], alt. c. 900m — [R. Schlechter] no. 15194, flowering in Nov. 1902.

This species, always possessing cleistogamous flowers which do not open, is easily distinguished by its labellum, from the two other species of the section.

Dendrobium crassicaule Schltr., sp. nov.

Epiphyticum, erectum, 30—60 cm altum, pluricaule; rhizomate valde abbreviato; radicibus filiformibus elongatis, flexuosis, glabris; caule crassiusculo, stricto vel substricto, vulgo simplici, tetragono sulcato, breviter foliato, vaginis foliorum minute verruculoso-punctatis, arcte amplectentibus obsesso, glabro, 0,6—0,8 cm diametente; foliis erecto-patentibus ovato-oblongis vel oblongo-ligulatis, apice breviter et inaequaliter bilobulatis, glabris, textura crasse coriaceis, 1—2 cm longis, infra medium 0,7—1,2 cm latis; racemis gracilibus, erecto-patentibus, flexuosis laxe 4—8-floris, folia multo excedentibus (usque ad 10 cm longis), glabris; bracteis minutis ovatis obtusis, ovario pedicellato multo brevioribus; floribus illis D. pectinati Finet paululo majoribus; sepalis lanceolatis acutis, glabris, 0,8 cm longis, lateralibus obliquis, basi margine anteriore paulo dilatatis; petalis elliptico-lanceolatis acutis glabris, 0,7 cm longis, labello articulato, ovato-lanceolato acuto, basi paulo dilatato, medio carinis obtusis 3 parallelis, basi confluentibus, usque supra medium ornato, 0,5 cm longo; columna brevi, pede lato producto, clinandrio humili dorso utrinque paucidentato, medio late apiculato; anthera cucullata obtusa, antice truncato-obtusata; ovario pedicellato, subclavato, glabro, c. 4 cm longo.

Southern District : On the slopes of Mount Humboldt, growing mostly at the base of tree-trunks, alt. c. 1200m — [R. Schlechter] no. 15351, flowering in Nov. 1902.

This species is distinguished from the related D. pectinatum Finet, by the thick stems, the broader and shorter leaves, larger flowers and by the labellum. The flowers are greenish, petals violet-margined, likewise the labellum at its widened base.

Dendrobium pectinatum Finet

Southern District : On trees on the mountains near the Ngoye [River], alt. c. 900m — [R. Schlechter] no. 15237, flowering in Nov. 1902.

Northern District : On trees in the mountain forests near Ou Hinna, alt. c. 900m - [R. Schlechter] no. 15660, flowering in Jan. 1903.

Eria Lindl.

This genus, which has reached its highest development in the Malay Archipelago, diminishes very rapidly from there towards the east. It is not surprising therefore, that only two species are known on the island of New Caledonia. In New Guinea and Australia only a few species occur, whilst finally the genus reaches the most eastern limits of its distribution, in the Fijian and Samoan Islands.

The two species mentioned here are epiphytes or, as in the case of Eria karikouyensis Schltr., sometimes inhabitants of wet rocks at the water's edge.

Eria karikouyensis Schltr., sp. nov.

Epiphytica, vel rupium incola, minuta, decumbens, 1—1,5 cm alta; rhizomate decumbente pseudobulbis obsesso; radicibus filiformibus elongatis, flexuosis, glabris; pseudobulbis depressis ovoideis, glabris, unifoliatis, 0,3—0,4 cm longis, infra medium c. 0,2 cm diametentibus; folio erecto-patente oblongo- vel elliptico subspathulato obtuso, utrinque glabro, textura crassiusculo, 0,4—0,8 cm longo, medio vel supra medium 0,3—0,5 cm lato; scapo gracili, filiformi, singulo, ad apicem pseudobulbi terminali, glabro, unifloro, 0,6—0,8 cm longo; bractea ovata acutiuscula, glabra, ovario breviter pedicellato breviorc; floribus pro magnitudine plantae inter majores flavidis; sepalo intermedio oblongo obtusiusculo, glabro, 0,4 cm longo, laterali bus fere aequilongis subfalcato-obliquis, basi margine anteriore paulo dilatatis; petalis oblique oblongis obtusiusculis glabris, sepalis paulo brevioribus angustioribusque; labello subspathulato-elliptico obtuso, omnino nudo et glabro, petalorum longitudine; columna brevi, pede producto, clinandrio dorso breviter et obtusiuscule acuminato; anthera cucullata subquadrata, antice truncata; polliniis 8 oblique ob lanceolatis; ovario breviter pedicellato subclavato, glabro, c. 2,5 mm longo.

Southern District : On wet rocks on the mountain near Karikouyé, near Paita; in places which are flooded, often for days on end, during high water, alt. c. 500m - [R. Schlechter] no. 14963, withered flowers in Oct. 1902; on trees in the forests at the summit of Mount Nekando, near the Ngoye [River], alt. c. 900m - [R. Schlechter] no. 15238, flowering in Nov. 1902.

Eria Vieillardii Rchb.f.

Southern District : On trees in the forests of Mount Humboldt, alt. c. 1300m - [R. Schlechter] no. 15317, flowering in Nov. 1902.

Northern District : On trees in the mountain forests near Oubatche, alt. c. 800m - [R. Schlechter] no. 15451, flowering in Dec. 1902.

Phreatia Lindl.

It is noteworthy that this genus should be represented by so many forms

on the small island of New Caledonia. During my short stay there, I discovered seven new species, which appear to have a very local distribution, so that we may well expect a series of new forms from there. One species only, Phreatia paleata Rchb.f., has been described from the region. I did not find it, but possess specimens kindly given to me by M. Bernier, the late Director of the Museum in Noumea. It differs from all other forms described here, in the size of its flowers. All the species are epiphytes and are particularly prolific in the Northern District.

Phreatia hysorrhynchos Schltr., sp. nov.

Epiphytica, acaulis, erecta, 5—10 cm alta; rhizomate abbreviato, polyrhizo; foliis erecto-patentibus, distichis, c. 6—12, linearibus obtusis, apice inaequaliter bilobulatis, glabris, textura coriaceis, 2,5—6,5 cm longis, medio fere 0,2—0,4 cm latis; racemis axillaribus, subdense multifloris, elongatis, foliis semper brevioribus, 2,5—3 cm longis; bracteis lanceolatis acuminatis mox patulis, floribus subaequilongis; floribus virescentibus in genere inter minimos, erecto-patentibus; sepalis oblongis, glabris, c. 0,4 cm longis, intermedio subacuto, lateralibus obliquis acutis; petalis lanceolato-ligulatis obtusis, glabris, sepalis paululo brevioribus; labello cuneato-obovato, apice breviter subapiculato-acuminato, glabro, carnosulo, petalis fere aequilongo; columna brevi, pede brevi; rostellum subdense multifloro, secundo, folia vulgo paulo excedente; bracteis lanceolatis acuminatis, glabris, ovario pedicellato paulo brevioribus; floribus in genere inter minores, niveis, erecto-patentibus; sepalo intermedio ovato-lanceolato obtuso, c. 0,2 cm longo, lateralibus oblique ovatis obtusiusculis, glabris, intermedio fere aequilongis; petalis oblique ovato-lanceolatis obtusis, glabris, sepalis paulo minoribus; labello e basi cuneato-unguiculata, ima basi concava, subito in laminam semiorbicularem, obtusam, basi angulis acutatam dilatato, glabro, 0,2 cm longo, lamina basi vix 0,2 cm lata; columna perbrevi, pede breviter producta, clinandrio dorso paulo dilatato, rostellum apice breviter bidentatum, paululo excedente; stigmate humili; anthera late cordata, obtusiuscula; polliniis 8, oblique pyriformibus, stipite linearis, polliniorum longitudine, glandula rotundata, parvula; ovario pedicellato, clavato, glabro, 0,2 cm longo.

Northern District : On trees in the mountain forests near Oubatche, alt. c. 700m — [R. Schlechter] no. 15427, flowering in Dec. 1902.

P. paleata Rchb.f. and P. neo-caledonica Schltr. are the only two species in the region, where a distinct pseudobulb is formed. P. paleata Rchb.f. is a much more robust plant and possesses larger flowers than P. hysorrhynchos Schltr.

We can distinguish three sections in this genus:

I. Section Octarrhena : With an elongated stem.

II. Section Eu-Phreatia : Stemless plants, with distichous leaves and lacking pseudobulbs.

III. Section Bulbo-Phreatia : With distinctly developed pseudobulbs.

Phreatia oberonioides Schltr., sp. nov.

Epiphytica, erecta, gracilis, 5—8 cm alta; rhizomate valde abbreviato, polyrhizo; radicibus filiformibus elongatis, flexuosis, glabris; caule teretiusculo bene foliato, omnino vaginis foliorum amplectentibus obtecto; foliis erecto-patentibus equitantibus, linearibus acutis, glabris, textura subcoriaceis, 1,5—4 cm longis, 0,2—0,3 cm latis; racemis gracillimis, erecto-patentibus, lateralibus, flexuosis, vaginulis paucis dissitis obsessis, laxe plurifloris, foliis aequilongis vel paulo longioribus; bracteis ovatis acutis, glabris, ovario breviter pedicellato brevioribus; floribus in genere inter minimos, erecto-patentibus, flavo-virescentibus; sepalo intermedio late ovato obtuso, glabro, 1,5 mm longo, lateralibus aequilongis, oblique ovatis obtusis; petalis late oblongis obtusissimis, obliquis, sepalis conspicue minoribus; labello oblongo obtusissimo, basi utrinque paulo cuneato-angustato, petalis paululo longiore; columna perbrevi, pede perbrevi, rostello late triangulo, apice breviter exciso, clinandrium conspicue excedente; anthera subreniforme-cucullata, medio dorso ampliata; polliniis oblique pyriformibus, 8, stipiti linearis paululo brevioribus, glandula rotundata, parvula; ovario breviter pedicellato, clavato, glabro, vix 0,2 cm longo.

Northern District : On trees in the forests of Mount Iguambi, near Oubatche, alt. c. 600m - [R. Schlechter] no. 15394, flowering in Dec. 1902.

A species of the section Octarrhena, which should be arranged alongside P. parvula Hook.f. (Octarrhena parvula Lindl.).

Phreatia macrophylla Schltr., sp. nov.

Epiphytica, acaulis, erecta, 18—25 cm alta; rhizomate valde abbreviato, polyrhizo; radicibus filiformibus elongatis, flexuosis, glabris; foliis erecto-patentibus, ligulatis obtusis, apice inaequalibus, 14—20 cm longis, 1,2—2 cm latis, glabris, textura tenuiter coriaceis; scapis axillaribus gracilis, teretibus, glabris, vaginis paucis, dissitis, arctius amplectentibus obsessis; racemis cylindricis, elongatis, subdense multifloris, folia excedentibus; bracteis lanceolatis acuminatis, ovario pedicellato duplo fere brevioribus; floribus in genere inter minimos, niveis, subpatentibus; sepalis late ovatis, glabris, 1,5 mm longis, intermedio obtuso, lateralibus obtusiusculis obliquis; petalis oblique ovatis obtusis, glabris; sepalis paululo brevioribus; labello subrhomboideo obtuso, sepalis fere aequimargo, basi medio gibbis conicis obtusiusculis ornato, marginem versus utrinque gibbo aequimago aucto; columna brevi, pede breviter producto, clinandrio dorso peralto trilobulato, rostello humili medio breviter exciso latere utrinque denticulo subinconspicuo donato; anthera suborbiculari; polliniis oblique pyriformibus, stipite linearis, polliniis paululo breviore, glandula suborbiculari, pro magnitudine polliniorum ampla; ovario pedicellato, clavato, glabro, c. 1,5 mm longo.

Northern District : On trees in the mountain forests near Oubatche, particularly alongside creeks, alt. c. 900m - [R. Schlechter] no. 15465, flowering in Dec. 1902.

This species is related to P. oxyantheroides Schltr., from New Guinea and to P. platyphylla (Krzl.) Schltr. (Thelasis platyphylla Krzl.) from Samoa. It is well characterised by the labellum, which has four tubercles at the base. The clinandrium is noticeably high at the back.

Phreatia neo-caladonica Schltr., sp. nov.

Epiphyticum, gracile, 7—9 cm alto; rhizomate decumbente, dense pseudobulbis obsesso; radicibus filiformibus elongatis, flexuosis, glabris; pseudobulbis conico-ovoideis, c. 0,5 cm altis, supra basin 0,5 cm diametribus, 2-foliatis; foliis erectis vel erecto-patentibus, inaequimagnis, ligulatis obtusis, apice inaequaliter bilobulatis, basin versus paulo angustatis, utrinque glabris, textura subcoriaceis, 3—7,5 cm longis, medio fere 0,5—0,8 cm latis; scapis radicalibus erectis, flexuosis, teretibus, glabris, vaginulis paucis dissitis, obsessis; racemo lato pro genere satis alto, clinandrium superante, apice breviter exciso, stigmate subquadrato antice altermarginato; anthera subreniformi obtusa; polliniis 8, oblique obovoideis, stipite linearis, polliniis aequilongo, glandula parvula rotundata; ovario pedicellato, clavato, glabro, c. 1 cm longo.

Southern District : On trees in the forests and on creek edges in the mountains, near Yaouhé, alt. c. 500m — [R. Schlechter] no. 14755, flowering in Sept. 1902; on trees in the mountain forests near the Ngoye [River] no. 15288, flowering in Nov. 1902.

This species is distinguished by the shape of the labellum and the relatively tall rostellum.

Phreatia oubatchensis Schltr., sp. nov.

Epiphytica, erecta, acaulis, 10—20 cm alta; rhizomate valde abbreviato, polyrhizo; radicibus filiformibus elongatis, flexuosis, glabris; foliis distichis, 6—10, linearis-ligulatis obtusiusculis, basin versus angustatis, 7—13 cm longis, 0,4—0,7 cm medio fere latis; racemis axillaribus, plus minusve flexuosis, sublaxe multifloris, foliis vulgo subaequilongis, nunc paulo longioribus, pedunculo pro longitudine racemi perbrevi; bracteis oblongis acuminatis, ovario fere aequilongis; floribus erecto-patentibus quaquaversis, in genere inter minimos, niveis; sepalis late ovatis obtusis, glabris, longitudine 0,4 cm vix excedentibus, lateralibus paulo obliquis; petalis oblique ovatis obtusis, glabris, sepalis paulo brevioribus; labello e basi rotundato-unguiculata, concava, subito in laminam semiorbicularem brevissime apiculatam dilatato, angulis laminae basilaribus obtusatis, glabro, 1,5 mm longo, lamina basi 0,1 cm lata; columna perbrevi, pede producto, clinandrio dorso in lobulum obtusum rostellum paulo excedentem dilatato, rostello antice breviter trilobulato, lobulo intermedio breviter exciso; anthera subreniformi antice obtusiuscula; polliniis oblique pyriformibus, stipite linearis, polliniorum longitudine, glandula minuta rotundata; stigmate valde humili, transverso; ovario brevissime pedicellato, glabro, 1,5 mm longo.

Northern District : On trees in the forests of Mount Iguambi, near Oubatche, alt. c. 600m — [R. Schlechter] no. 15393, flowering in Dec. 1902.

This species belongs to the section Eu-*Phreatia* and is distinguished by the broad, roundish claw of the labellum and by slim inflorescences.

Phreatia pachyphylla Schltr., sp. nov.

Epiphytica, acaulis, pusilla, 2,5—4,5 cm alta; rhizomate valde abbreviato, polyrrhizo; radicibus filiformibus elongatis, flexuosis, glabris; foliis equitantibus, erecto-patentibus, subfalcatis, linearibus apiculatis, utrinque glabris, carnosis, superne basin versus sulcatis, 1,5—4,5 cm longis, latere 2,5—3,5 cm latis; racemis lateralibus erectis, secundis, sublaxe 10—20-floris, foliis vulgo brevioribus interdum aequilongis, pedunculo brevi; bracteis lanceolatis acuminatis, floribus subaequilongis; floribus in ordine inter

minimos, patulis, pallide virescentibus; sepalo intermedio late ovato, breviter apiculato, glabro, concavo, longitudine 0,4 cm haud attingente, lateralibus oblique ovatis subapiculatis, glabris, intermedio aequilongis; petalis oblique oblongis, obtuse apiculatis, sepalis paulo brevioribus; labello late ovali-oblongo, obtuso, margine medio fere angulis obtusis instructis sub-rhomboideo, basi medio gibbo obtuso subinconspicuo aucto; basi marginem versus paulo incrassato, sepalis fere aequimagni; columna perbrevi, pede breviter producto, clinandrio dorso semiorbiculari-ampliato, tamen rostello altius triangulo apice breviter exciso subbrevoire; anthera subreniformi, antice obtusiuscula; polliniis oblique pyriformibus, stipite linearis aequilongo, glandula minuta rotundata; ovario breviter pedicellato, clavato, glabro, 0,4 cm longitudinis haud attingente.

Northern District : On trees in the mountain forests, near Oubatche, alt. c. 600m - [R. Schlechter] no. 15471, flowering in Dec. 1902.

This species is distinguished from all others in the region, by the thick, carnosae leaves. It is most closely related to P. limenophylax Rchb.f.

Phreatia saccolabioides Schltr., sp. nov.

Epiphyticum, erectum vel adscendens, c. 40 cm altum; rhizomate valde abbreviato, polyrhizo; radicibus filiformibus elongatis, flexuosis, glabris; caule tereti glabro, bene foliato, vaginis foliorum arcte amplectentibus vestito; foliis distichis, equitantibus, erecto-patentibus, linearis-ligulatis acutis, glabris; carnosulis, interdum subfalcatis, 2—4,5 cm longis, 0,2—0,3 cm latere latis; racemis lateralibus erecto-patentibus, breviter pedunculatis, dense multifloris, cylindricis, foliorum fere longitudine; bracteis patentibus linearis-lanceolatis acuminatis, glabris, inferioribus quam flores paulo brevioribus, superioribus aequilongis; floribus in genere inter minimos, patentibus, flavidis; sepalis ovato-lanceolatis acutatis, glabris, 0,4 cm paulo excedentibus, lateralibus obliquis; petalis e basi ovato-lanceolata acuminatis, margine anteriore basi paulo dilatatis, glabris sepalis paulo minoribus; labello oblongo-ligulato acuminato, petalis vix longiore, paulo crassiore; columna perbrevi, pede perbrevi, rostello late rotundato, medio breviter acutato, breviter exciso, clinandrium excedente; stigmate semilunato transverso; anthera subreniformi-cordata, medio ampliata obtusata; polliniis oblique pyriformibus, stipite linearis, polliniis multo breviore, glandula rotundata, minuta; ovario breviter pedicellato, clavato, glabro, 1,5 mm longo.

Northern District : On trees in the mountain forests, near Ou Hinna, alt. c. 700m - [R. Schlechter] no. flowering in Jan. 1903.

An extremely well distinguished species of the section Octarrhena.

Cirrhopetalum Lindl.

A new Cirrhopetalum from the island was previously described by F. von Mueller and Kränzlin. [C. Layardii F.v.M. et Krzl.] Whether this species really differs from C. clavigerum Fitzg. is still uncertain. Judging from Fitzgerald's illustration, I think it probable that the two species are identical. This question can be decided, only when living or herbarium material of C. clavigerum Fitzg. is available, which is not the case at present, since Fitzgerald had no herbarium and only scanty fragments of his species are available here and there.

The other species, which I have described here, now belongs to that section of the genus, which is characterised by single-flowered peduncles, hence it should be arranged next to C. Blumei Lindl.

Cirrhopetalum Layardii F.v.M. et Krzl.

Northern District : On trees in the mountain forests near Oubatche, alt. c. 900m - [R. Schlechter] no. 15463, flowering in Dec. 1902.

Cirrhopetalum uniflorum Schltr., sp. nov.

Epiphyticum, decumbens in ramis arborum, 5—7 cm altum; rhizome tereti, crassiusculo, dense vaginato; radicibus filiformibus elongatis flexuosis, glabris; pseudobulbis ovoideo-oblongis acute angulatis, unifoliatis, 4—4,5 cm altis, supra basin 0,6—0,9 cm latis; folio erecto oblanceolato-ligulato obtuso, basin versus conspicue angustato, utrinque glabro, textura crasse coriaceo, 3,5—5 cm longo, supra medium 0,8—1,2 cm lato; scapis numerosis, erectis, strictis, folia vulgo paulo excedentibus, teretibus glabris, vaginulis paucis dissitis ob sessis, apice unifloris; bractea minuta ovata, glabra, ovario multoties breviore; flore illi C. Blumei Ldl. fere aequimago, erecto; sepalo intermedio e basi cucullato-concava dorso et apice peralte carinato, 1 cm longo, glabro, lateralibus anguste lanceolato-falcatis, acuminatis, glabris, 2,3 cm longis; petalis parvulis oblique oblongo-lanceolatis, breviter apiculatis, glabris; labello carnosulo curvato, linguiformi, obtusiusculo, glabro, vix 0,2 cm longo; columna perbrevi, crassiuscula, brachiis triangulis valde abbreviatis, clinandrii dente posteriore brachia excedente, pede longius producto adscendente; anthera cucullata dorso gibbo conspicuo donata, antice breviter excisa, glabra; ovario breviter pedicellato, graciliter clavato, c. 2 cm longo, glabro.

Northern District : On trees in the mountain forests, near Ou Hinna, alt. c. 1000m - [R. Schlechter] no. 15615, flowering in Jan. 1903.

As already stated above, this species is related to C. Blumei Lindl., from Java. The flowers are yellowish, rose-red towards the base; the petals white and the labellum olive-brown.

Bulbophyllum Thou.

Up to the present, no species of this genus had been reported from the region. When I arranged to go to New Caledonia, I nevertheless expected to find a few species of the genus there, since their presence could probably be taken for granted. I was hardly surprised when, during my stay on the island, the number of species discovered constantly increased, since the climatic conditions were favourable in every respect, in fact, all that could be desired for the satisfactory development of these orchids. Especially in the Northern District, a whole series of unknown species still remains to be discovered. It is interesting to note that representatives of very different groups are present amongst the species collected, and furthermore, none of them can be regarded as representing an endemic group.

Bulbophyllum aphanopetalum Schltr., sp. nov.

Epiphyticum, decumbens, 6—9 cm altum; rhizome decumbente; radicibus filiformibus elongatis, flexuosis, glabris; pseudobulbis subapproximatis, cylindraceo-conicis, apice unifoliatis, 4—4,2 cm altis, supra basin 0,3—0,4 cm diametentibus, glabris; folio erecto sublanceolato-ligulato, oblique apiculato, glabro, textura coriaceo, 3,5—4,5 cm longo, medio fere 0,8—1,2 cm lato, basin versus sensim paulo angustato; scapis radicalibus gracillimis, vulgo 2—3-nis, filiformibus, glabris, vaginulis perpaucis dissitis obsessis, apice unifloris, nunc folia haud excedentibus, nunc paulo longioribus; bractea ovata acuminata, glabra, ovario pedicellato multo breviore; flore patulo inverso, pallide flavo; sepalis oblongo-lanceolatis acuminatis, glabris, 0,8 cm longis, lateralibus paulo obliquis; petalis subinconspicuis minutissimis, semiorbicularibus, subapiculatis, glabris; labello circuitu ovato-lanceolato obtuso obscure bilobulato, basi auriculato excavato, glabro, c. 0,3—0,4 cm longo; columna teretiuscula glabra, apice excavata, pede producto, apice subito dilatato; anthera rotundato-cucullata; ovario pedicellato, clavato, glabro, 0,7—1 cm longo.

Northern District : On trees in the mountain forests near Ou Hinna, alt. c. 900m — [R. Schlechter] no. 15598, flowering in Jan. 1903.

A rather peculiar species, whose petals are so small that they are easily overlooked. In the flowers, which I examined in the living state, I discovered a deeply excavated stigmatic surface, into which the anther hung. Whether this is a normal condition, I was unable to decide, since only a few flowers were available.

Bulbophyllum atrorubens Schltr., sp. nov.

Epiphyticum, decumbens, 9—17 cm altum; rhizome brevi, dense pseudobulbis obsesso; radicibus filiformibus elongatis, flexuosis, glabris; pseudobulbis parvulis, ovoideis, glabris, unifoliatis, 0,3—0,5 cm altis; folio erecto petiolato obovato- vel oblongo-spathulato, obtuso, glabro, basi sensim in petiolum angustato, glabro, textura crasse coriaceo, petiolo inclusu 5—10 cm longo, medio fere 1,5—2,2 cm lato; scapo gracillimo, filiformi, folia plus minusve excedente, vaginulis 3—4 dissitis amplectentibus obsesso glabro; racemo abbreviato, subcapitato, dense multifloro, nutante, ovoideo; bracteis lanceolatis acutis, parvulis, ovario brevissime pedicellato paulo brevioribus; floribus illis *B. trifolium* Ridl. paululo majoribus, atrorubentibus; sepalo intermedio late ovato obtuso, glabro, c. 0,2 cm longo, lateribus oblique ovato-oblongis obtusis, glabris, intermedio fere aequilongis; petalis oblique oblongo-ellipticis obtusis, glabris, sepalis bene brevioribus; labello circuitu suborbiculari, basi cordato, recurvo, antice obtusissimo marginibus recurvis, gibbis 2 e basi versus apicem decurrentibus, petalis paululo longiore; columna perbrevi, brachiis subquadratis, angulo superiore acuminatis, pede producto; anthera subquadrato-cucullata, antice emarginata; ovario brevissime pedicellato clavato, c. 0,2 cm longo.

Northern District : On trees in the forest on Mount Iguambi, near Oubatche, alt. c. 700m — [R. Schlechter] no. 15495, flowering in Dec. 1902.

A species of the affinity of *B. trifolium* Ridl.

Bulbophyllum Finetianum Schltr., sp. nov.

Epiphyticum dependens, simplex vel parum ramosum, 6—10 cm longum; rhizome tereti, dense vaginato, subdense pseudobulbis obsesso; radicibus filiformibus elongatis, flexuosis, glabris; pseudobulbis ovoideis, parvulis, unifoliatis, c. 0,4 cm altis, supra basin 2,5 mm diametentibus; folio erecto-patente ligulato, subacuto, apice inaequali, utrinque glabro,

textura crassiuscule coriaceo, 2—3,5 cm longo, medio fere 0,4—0,6 cm lato, basin versus paulo angustato; floribus singulis, pedunculo brevissimo vaginulis obtecto; bractea ovata acuminata glabra, ovario subsessili 3—4-plo breviore; floribus in genere inter minores; sepalis ovato-oblongis acuminatis glabris, 3,5 cm longis, lateralibus paulo obliquis; petalis minutis oblique oblongis obtusis, basi margine anteriore subangulato-dilatatis, 1,5 mm longis; labello carnosulo oblongo-ligulato basi leviter cordato, medio paululo constricto, apice obtuso, superne glabro, subtus minute puberulo, medio longitudinaliter sulcato, vix 0,3 cm longo; columna brevi, brachiis erectis subulatis acuminatis, antheram bene excedentibus; anthera alte galeato-cucullata glabra, antice leviter retusa; ovario subcylindrico, glabro, 0,4 cm longo.

Northern District : On tree-trunks in the mountain forests near Oubatche, alt. c. 600m — [R. Schlechter] no. 15416, flowering in Dec. 1902.

This species has its nearest relatives in New Guinea.

Bulbophyllum hexarhopalos Schltr., sp. nov.

Epiphyticum, dependens, simplex vel parum ramosum, usque ad 30 cm longum; rhizomate elongato, flexuoso, pseudobulbis laxe obsesso, vaginis dense obtecto, tereti; radicibus filiformibus elongatis, flexuosis, glabris; pseudobulbis parvulis, cylindraceo-ovoideis, unifoliatis, glabris, c. 0,6 m altis, supra basin 0,3 cm diametentibus; folio erecto vel erectopatente, ovato-elliptico acuto, glabro, textura crassiuscule coriaceo, 3—5 cm longo, infra medium 1,3—1,8 cm lato, basi breviter subpetiolato-angustato; floribus basilaribus singulis, pedunculo perbrevi, vaginato, bractea ovata acuminata glabra, ovario pedicellato multo breviore; sepalis ovato-oblongis breviter acuminatis, glabris, 0,7 cm longis, lateralibus paulo obliquis; petalis transversis, 5-partitis, partitionibus exterioribus 2 apice trifidis, segmentis filiformibus apice appendice cylindraceo flexuoso 0,4 cm longo ornatis, partitionibus 3 mediocribus subfiliformibus, dimidio superiore incrassato, 0,2 cm longo; labello carioso ovoideo subacuto, dense verruculoso, basi attenuata glabra incrassata auriculato-cordata, nudo, 0,3 cm longo; columna brevi; pede producto, brachiis subulatis acutis, antheram haud excedentibus, clinandrio serrulato; anthera cucullato-cordata, glabra; ovario pedicellato, subcylindrico, 0,9 cm longo, glabro.

Southern District : On trees in the forests of Pic Malaoni, near Yaouhé, alt. c. 500m — [R. Schlechter] no. 14746, fruiting in Sept. 1902.

Northern District : On trees in the mountain forests, near Ou Hinna, alt. c. 100m — [R. Schlechter] no. 15620, flowering in Jan. 1903.

This species is especially interesting, because it is closely related to B. Epierianthes Hook.f., from the hinterlands of India, Sumatra and Java. It is well distinguished from these by the petals and the labellum. The flowers are yellow, the appendages of the petals grey, the labellum dark purple.

Bulbophyllum neo-caledonicum Schltr., sp. nov.

Epiphyticum, dependens, ramosum, habitu B. clandestinum Griff. in mentem revocans, 6—10 cm longum; rhizomate tereti, flexuoso, dense vaginato, laxe pseudobulbis obsesso; radicibus filiformibus elongatis, flexuosis, glabris; pseudobulbis cylindraceo-conicis, apice unifoliatis, demum sultatis, 0,5—0,8 cm altis, supra basin 0,2 cm diametentibus; folio erecto

lanceolato-ligulato, glabro, apice subacuto, textura subcoriaceo, basi sub-petiolato-angustato, 4—1,7 cm longo, 0,2—0,3 cm lato; floribus basilaribus singulis, in genere inter minimos, pedunculo perbrevi vaginato, bractea ovata acuminata, ovario breviore; sepalis lanceolato-ovatis acuminatis, glabris, 0,2 cm longis; petalis oblique ovato-oblongis, obtusis, glabris, sepalis fere duplo minoribus; labello circuitu ovato obtuso, obscure trilobato, dimidio inferiore excavato, gibbis 2 depresso medium spectantibus medio aucto, 0,4 cm longo; columna brevi, crassiuscula, brachiis triangulis obtusiusculis brevibus, pede suborbiculari erecto; anthera late ovato-cordata, antice obtusa; ovario subsessili cylindrico, glabro, 1,5—2 mm longo; capsula oblonga, 0,3 cm longa, 0,2 cm diametente.

Northern District : On trees in the mountain forest near Oubatche, alt. c. 600m — [R. Schlechter] no. 15492, flowering and fruiting in Dec. 1902.

A species of the affinity of B. clandestinum Griff., from which it differs appreciably in larger pseudobulbs, in the labellum and column. The labellum, which is markedly concave in the lower half, is very characteristic.

Bulbophyllum ngoyense Schltr., sp. nov.

Epiphyticum in ramis arborum longe repens, 3,5—4 cm altum; rhizome elongato, vaginato, laxe pseudobulbis obsesso, polyrhizo; radicibus filiformibus elongatis, flexuosis, glabris; pseudobulbis ovoideo-cylindraceis, 0,5—0,7 cm altis, infra medium c. 0,3 cm diametentibus, mox angulatis, glabris, unifoliatis; folio erecto vel erecto-patente, oblongo-elliptico obtuso, apice breviter exciso, utrinque glabro, textura crasse coriaceo, 1—2,8 cm longo, medio fere 0,5—1 cm lato; scapis gracilibus, filiformibus, glabris, folia excedentibus vel aequilongis, vaginulis paucis dissitis, obsessis; bractea ovata acuminata, ovario graciliter pedicellato, multoties brevioribus; floribus illis *B. hirsuti* Ldl. fere aequimagnis; sepalis lanceolatis vel lanceolato-ligulatis subacuminatis, glabris, intermedio 0,7 cm longo, lateralibus obliquis subfalcatis, 1 cm longis; petalis oblique lanceolatis obtusiusculis, 0,3 cm longis; labello crassiusculo ligulato, obtusiusculo, subtus carinato, basi vix retuso, glabro, petalis vix longiore; columna brevi, crassiuscula, brachiis abbreviatis dentiformibus, pede producto, clinandrio dorso elato exciso; anthera e basi cordata cucullato-protrusa, glabra, obtusa; ovario graciliter pedicellato glabro, clavato, pedicello inclusu, c. 1,7 cm longo; capsula oblonga, leviter costata, glabra, c. 1,1 cm longa, medio fere 0,5 cm diametente.

Southern District : On trees alongside the creeks on the mountains, near Paita, alt. c. 500m — [R. Schlechter] no. 14989, fruiting in Oct. 1902; on trees alongside the creeks on the mountains, near the Ngoye [River], alt. c. 600m — [R. Schlechter] no. 15278, flowering in Nov. 1902.

This species belongs to the section Monanthaparva. The flowers are yellow or purple-brown, the former having dark stripes.

Bulbophyllum pachyanthum Schltr., sp. nov.

Epiphyticum, in ramis arborum decumbens, 25—30 cm altum; rhizome repente, pseudobulbis densius obsesso; radicibus filiformibus elongatis, flexuosis, glabris; pseudobulbis oblique ovoideis, 2—3 cm altis, supra basin 1—1,7 cm diametentibus, unifoliatis; foliis petiolatis, oblongo-ellipticis, obtusiusculis, 13—22 cm petiolo inclusu longo, lamina ipsa 10—17 cm longa, 3—5,2 cm lata, utrinque glabra, textura coriacea; scapo erecto foliis fere aequilongo, tereti,

glabro, vaginis paucis dissitis obpresso; apice 2—3-floro; bracteis late ovatis acuminatis, glabris, ovario pedicellato plus duplo brevioribus; floribus in genere inter maiores, erectis vel suberectis; sepalo intermedio ovato-triangulo acuminato, apice carinato-incrassata, glabro, 2,2 cm longo, lateralibus e basi oblique-lanceolata elongatis, dorso alti-carinatis, 3,3 cm longis; petalis oblique ovatis acutis, glabris, 1,2 cm longis; labello curvato, carnosulo, e basi oblonga angustato obtuso, longitudinaliter leviter bicarinato, glabro, petalis paulo longiore; columna brevi crassiuscula, brachiis subulatis, antheram multo excedentibus, pede longius producto; anthera cucullata, antice breviter retusa, glabra; ovario pedicellato, glabro, clavato, c. 2,5 cm longo.

Northern District : In the forest on the mountains near Ou Hinna, on trees, alt. c. 800m — [R. Schlechter] no. 15678, flowering in Jan. 1903.

This species is the only representative of the section *Sestochilus*, known to me in the region.

Bulbophyllum pallidiflorum Schltr., sp. nov.

Epiphyticum decumbens, pusillum, 3,5—5 cm altum; rhizomate brevi, densius pseudobulbis obpresso; radicibus filiformibus elongatis, flexuosis, glabris; pseudobulbis parvulis ovoideis, apice unifoliatis, c. 0,4 cm altis supra basin 0,2 cm diametentibus; folio erecto, ligulato, apice obtusiusculo, inaequali, basin versus paulo angustato utrinque glabro textura crassiuscule coriaceo, 2,5—4 cm longo, medio fere 0,3—0,5 cm lato; pedunculis basilaribus, gracillimis, vaginulis paucis dissitis obssessis, filiformibus, glabris, unifloris, foliis brevioribus; bractea ovata acuminata, glabra ovario pedicellato multo breviore; floribus in genere inter minores, pallidis; sepalis lanceolatis acuminatis, glabris, 0,6—0,7 cm longis, lateralibus paulo obliquis; petalis oblique ligulatis obtusis, glabris, 2,5 mm longis; labello rhomboideo-lanceolato acuto, carnosulo, dimidio inferiore margine minute margaritaceo-crenulato, basi foveolata minute puberula excepta glabro, 0,4 cm longo; columna brevi, brachiis subulatis erectis, antheram duplo excedentibus, pede longius producto; anthera cucullata, antice obtusa, glabra; ovario pedicellato, clavato, glabro, 0,6 cm longo.

Northern District : On trees in the mountain forests near Ou Hinna, alt. c. 1000m — [R. Schlechter] no. 15704, flowering in Jan. 1903.

This species belongs to the section *Monanthaparva*, and is distinguished from the other species, by its small pale yellow flowers.

Bulbophyllum polypodioides Schltr., sp. nov.

Epiphyticum, in ramis arborum decumbens, 8—18 cm altum; rhizomate teretiusculo, crasso, polyrhizo, pseudobulbis laxe obpresso, pseudobulbis depressis, parum conspicuis, semiorbicularibus, 0,2 cm altis, 0,4 cm diametentibus, unifoliatis; folio erecto, petiolato, oblongo-ligulato, apice breviter et inaequaliter exciso, utrinque glabro, textura coriaceo, 5—12,5 cm longo, medio fere 1—2,3 cm lato, petiolo teretiusculo, superne sulcato, glabro, 2—5 cm longo; scapis basilaribus, erectis, vaginis 3—4 alti-vaginantibus, obtusis obssessis, teretibus glabris; racemo subdenso, 15—20-floro, foliis vulgo breviore; bracteis lanceolatis acuminatis, glabris, ovarium brevissime pedicellatum paululo excedentibus; floribus in genere vix inter mediocres illis *B. apodi* Blk. f. similibus aequimagnisque, inversis, flavidis; sepalis lanceolatis acutis, glabris, intermedio 0,5 cm longo, lateralibus obliquis, basi margine anteriore ampliatis, 0,6 cm longis, petalis oblique lanceolato-ellipticis, subfalcatis, acutis glabris, sepalo intermedio

fere duplo brevioribus; labello ligulato, obtusiusculo, superne sulcato, glabro, c. 0,4 cm longo, columna perbrevi, brachiis erectis subulatis, pede producto; anthera cucullata, antice obtuse producta; ovario subclavato, glabro, 0,4 cm longo.

Northern District : On trees in the forests on Mount Iguambi, near Oubatche, alt. c. 600m - [R. Schlechter] no. 15422, flowering in Dec. 1902.

This species is related to B. apodium Hook.f. and B. flavescens Lindl., but differs in the flowers.

Dipodium R.Br.

In the island there is a species of this genus, representing the section Eu-Dipodium, previously known to occur only in Australia and the New Hebrides. The section Wailesia, which Pfitzer maintained was of generic rank, should without a doubt, not be separated generically. The structure of the flower is identical; the vegetative characters differ a little, since in Wailesia the stem is elongated, but much shortened in Eu-Dipodium. Pfitzer's assertion that the species of the latter section, Eu-Dipodium, are leafless at the time of flowering is incorrect. At the base, a shortened shoot with short leaves, always is present, which also always continues to grow at the apex, albeit, very slowly. At the time of flowering, a scape develops from the axils of the short upper leaves.

Dipodium squatum R.Br.

Southern District : On the hills near Yaouhé, alt. c. 500m - [R. Schlechter] no. 14725, flowering in Sept. 1902.

Northern District : On the mountain slopes near Ou Hinna, alt. c. 300m - [R. Schlechter] no. 15656, flowering in Jan. 1903.

Sarcochilus R.Br.

The opinion expressed by O. Kuntze, that Sarcochilus R.Br. must be dropped, because Thrixspermum Lour. has priority, cannot be sustained, since Sarcochilus R.Br. is in no way identical with Thrixspermum, as Ridley has explained in detail. Of course Ridley's circumscription of Thrixspermum does not seem to me to be quite correctly stated, since under any circumstances Dendrocolla Bl. must also be included in it, whereas in this circumscription, we have the two genera sharply separated from each other. Sarcochilus itself, from which Ascochilus Ridl. should not be separated, is well represented in Australia. The species do not extend much further east, though a few species are found in New Zealand and some doubtful ones in the islands of the Pacific Ocean. Sarcochilus Graeffei Rchb.f. is a Thrixspermum of the Dendrocolla group [section] and should now be known as T. Graeffei (Rchb.f.) Schltr. Towards the west, curiously enough, Sarcochilus species are to be found as far as the western borders of India and

Ceylon. Certain Australian species of the genus, e.g. S. tridentatus Rchb.f. and S. Beckleri F.v.M. should be regarded as Saccolabium.

Sarcochilus rarum Schltr., sp. nov.

Epiphyticum, subacaule, erectum, pusillum, 3,5—8 cm altum; caule subnullo, dense foliato; radicibus tenuibus, filiformibus, elongatis, flexuosis, glabris; foliis distichis erecto-patentibus linearibus acutis, utrinque glabris, textura coriaceis, interdum plus minusve falcatis, 2—6,5 cm longis, 1,5—4 mm latis; racemis lateralibus erecto-patentibus, laxe pauci-plurifloris, rhachi flexuosa; bracteis e basi triangulari subulatis, patentibus, ovario multo brevioribus; floribus in genere inter minores, illis S. Wightii Hk. f. fere aequimarguis; sepalo intermedio obovato-elliptico, obtuso, glabro, c. 0,6 cm longo, lateralibus oblique ligulatis, obtusis, margine posteriore medio dilatatis, glabris, intermedio vix longioribus; petalis anguste oblongo-ligulatis obtusis, oblique subfalcatis, basi margine anteriore paulo dilatatis, glabris, sepalis aequilongis; labello trilobo, basi excavato puberulo, biamellato, medio appendiculo ovato glabro donato, lobis lateralibus subfalcato-ligulatis, obtusis, glabris, intermedio brevi, carnosulo, dense farinoso-pube-rulo, antice breviter exciso, labello e basi ad apicem 0,4 cm longo, explanato ad apices loborum lateralium 0,7 cm lato, lobo intermedio 0,2 cm longo, fere aequilato; columna brevi, pede producto, rostello subulato elongato bifido; anthera cucullata glabra, antice acuta; polliniis globosis, stipite gracili, medio paulo constricto, glandula minuta, sub stipite abscondita; ovario subsessili, clavato, c. 0,4 cm longo.

Southern District : On tree branches in the forests at the summit of Mount Nekando, near the Ngoye [River], alt. c. 900m - [R. Schlechter] no. 15275, flowering in Nov. 1902.

In floral structure, this species resembles S. Wightii Hook.f. from Ceylon, but it always has long leaves and a somewhat different labellum. Furthermore, the inflorescence and ovaries are not hairy.

Microtatorchis Schltr.

In April 1902, when I discovered the genus Microtatorchis in the Torricelli Range [New Guinea], I hardly expected that a little later I would have an opportunity to examine two more species in New Caledonia. At the time I was very much in doubt as to whether the difference in the pollinia, a difference somewhat identical to that between Laelia and Cattleya, was really sufficient to justify the establishment of a new genus. Since the characters of the genera in the group Monopodiales still require more sifting, I believed that, in particular, I must carefully study the species of Microtatorchis in order to ascertain whether they did not really possess a very close relationship to the true species of Taeninophyllum. I think that from these observations, I am able to state that the character difference noted above is sufficiently important, in spite of the obviously similar floral structure, to justify the establishment of the genus.

Microtatorchis fasciola Schltr., sp. nov.

Epiphytica, acaulis, vulgo aphylla, pusilla, 2—8 cm alta; radicibus linearis-elongatis, compressis, flexuosis, glabris, 1,5—3 cm latis; foliis (vulgo deficientibus) oblanceolato-spathulatis, acutis, glabris, basin versus angustatis, 0,7—3 cm longis, supra medium 0,3—0,5 cm latis; scapis brevibus angulatis, paucivaginatis, mox in racemum abeuntibus, racemo inclusio 2—8 cm longis; racemo distiche pluri-multifloro, valde flexuoso; bracteis subrecurvo-patentibus, ovatis apiculatis, glabris, dorso carinatis, ovario subaequilongis, vel paulo brevioribus; floribus in ordine inter minimos erecto-patentibus; sepallo intermedio ovato-lanceolato subacuto, glabro, 2 mm longo, lateralibus oblique lanceolatis subacuminatis, glabris, 2,5 mm longis; petalis oblique ovato-lanceolatis subacutis, sepallo intermedio subaequilongis; labello carnosulo circuitu ovato, antice incrassato, apice carinato, calcare inflato obtuso fere ovoideo, lamina 0,2 cm longa, calcare paulo breviore; columna perbrevi crassiuscula, apoda, rostello incurvo antice exciso, clinandrio haud bene evoluto; stigmate cordato; anthera cucullata antice subquadrato-producta, glabra, apice excisa; polliniis 2 oblongis, stipite gracili apice et basi dilatato, glandula obovata, ampla, ovario breviter pedicellato clavato, glabro, vix 0,2 cm longo.

Southern District : On trees in the forest at the summit of Mount Mou, near Paita, alt. c. 1250m — [R. Schlechter] no. 14911, flowering in Oct. 1902; in the forest on the slopes of Mount Humboldt, alt. c. 1300m — [R. Schlechter] no. 15300, flowering in Nov. 1902.

Northern District : On trees in the mountain forests near Ou Hinna, alt. c. 500m — [R. Schlechter] no. 15695, flowering in Jan. 1903.

I have given this plant the species name 'fasciola', because I am not quite sure whether it is identical with Taeniophyllum fasciola Rchb.f., a plant which is still unknown to me, especially since it was founded on Gaudichaud's Vanilla fasciola, which perhaps will always remain an obscure species.

Micrototorchis oreophila Schltr., sp. nov.

Epiphytica, acaulis, aphylla?, 8—14 cm alta; radicibus compressis, linearibus, flexuosis, glabris, 0,2—0,3 cm latis; scapis erectis gracilibus teretiusculis, vaginulis ovatis dissitis obsessis, racemo excluso 5,5—8,5 cm longis; racemo disticho, sublaxe plurifloro, bracteis ovatis apiculatis, glabris, erecto-patentibus, ovario vulgo brevioribus; floribus illis *M. fasciola* Schltr. similibus aequimagnisque, erecto-patentibus; sepals petalisque oblongo-ligulatis obtusis, glabris, apice paululo incrassatis, sepalis 2,5 mm longis, petalis paululo brevioribus; labello ovato obtuso, antice incrassato, apice obscure carinato, calcare inflato obtuso, subgloboso, lamina 0,2 cm longa, calcare aequilongo; columna perbrevi, apoda; rostello decurvo, antice fisso, clinandrio dorso obtuso; stigmate cordato; anthera cucullata, antice subquadrato-ligulata, retusa, glabra; polliniis oblongis, stipite gracili, polliniis longiore, apice dilatato, glandula oblonga conspicua; ovario breviter pedicellato, clavato, glabro, c. 0,2 cm longo.

Southern District : On trees in the forests at the summit of Mount Nekando, near the Ngoye [River], alt. c. 900m — [R. Schlechter] no. 15233, flowering in Nov. 1902.

This species is certainly closely related to the previous one, but differs in so many respects, that I am compelled to regard it as distinct. Even in

habit, it can hardly be mistaken. Whether, as in the case of the other two species of the genus, it occasionally develops leaves, I could, unfortunately, not decide from the material available.

Taeniophyllum Lindl.

After having published a whole number of new species of this genus from New Guinea, there are still two more from New Caledonia. One of these, T. minutissimum Schltr. is related to T. Alwisii Lindl. from Ceylon, the other to species from New Guinea. This therefore, is further proof that orchids may often have closer relations in rather distant countries and indicates an amount of exploratory work is still necessary in tropical countries, before we can become acquainted with all orchid forms. It is highly probable that such forms also have close relatives, still unknown to us, in neighbouring countries. This, in particular, is the case of the regions between the countries in question, which are still covered by primary forests, in which the orchids are either hidden in the shadow of the forest, between shrubs and herbs, or grow in inaccessible tree-tops. These reasons lead one to believe that the family of the Orchidaceae, which already belongs to the largest known families of the Siphonogams, probably is the most abundant in species in this division.

Taeniophyllum minutissimum Schltr., sp. nov.

Epiphyticum, perpusillum, aphyllum, 1—2 cm altum, acaule; radicibus paucis filiformibus elongatis, flexuosis, glabris, paulo compressis; scapo gracillimo, filiformi, tereti, glabro, vaginulis paucis, dissitis, perparvis obpresso, apice laxe paucifloro; bracteis minutis ovatis, ovario brevissime pedicellato multo brevioribus; floribus in genere inter minimos, pallide flavidis, erecto-patentibus; sepalis lanceolatis subacutis glabris, usque ad medium fere connatis, 0,2 cm longis, lateralibus paulo obliquis; petalis e basi late unguiculata tubo sepalorum adnata dimidio superiore oblique ovato-lanceolatis obtusis, sepalis paululo brevioribus; labello ovato-lanceolato concavo, apicem versus paulo incrassato, apice ipsa appendice subulato refracto ornato, callis semiorbicularibus transverso in medio fere disci, calcare globoso, laminae fere triplo breviore, lamina sepalis aequilonga; columna perbrevi, apoda, rostello pro genere brevi antice leviter exciso; anthera cucullata, antice obtusata; polliniis 4 oblique pyriformibus, stipite linearie infra apicem paulo angulato-dilatato, glandula oblonga; ovario subsessili clavato, glabro, 0,2 cm longo.

Southern District : On trees alongside creeks, at the foot of the mountains near Paita, alt. c. 250m — [R. Schlechter] no. 15002, flowering in Oct. 1902.

This species is related to T. Alwisii Lindl., but is a much daintier species.

Taeniophyllum trachypus Schltr., sp. nov.

Epiphyticum, acaule, pusillum, 3—5 cm altum; radicibus numerosis compressis, elongatis, flexuosis, glabris, 1,5—2,5 mm latis; scapis erectis vel suberectis, omnino squamuoso- vel appendiculoso-hispidis, vaginulis paucis dissitis obsessis; racemo disticho flexuoso, laxe 6—10-floro; bracteis ovatis breviter acuminatis; floribus in genere mediocribus, flavis, erecto-

patentibus; sepalis ovato-lanceolatis acutis vel acuminatis, glabris, liberis,
vix 0,4 cm longis, lateralibus paulo obliquis; petalis oblique oblongis
obtusis, sepalis paululo brevioribus; labello cochleari breviter acu-
minato, glabro, sepalis aequilongo, antice incrassato trifoveolato, calcare
subcylindrico obtususcule, laminae paulo breviore; columna perbrevi, apoda,
rostello ampio ligulato, antice adscendente bifido, anthera cucullata longius
rostrata, apice adscendente; polliniis 4 oblique oblongis, stipite gracili polliniis
4—5-plo longiore, apice valde dilatato, glandula ampla, oblonga stipitis
dimidium excedente; ovario breviter pedicellato, clavato, glabro, 0,4 cm
longo.

Southern District : On trees in the forests at the summit of Mount Mou, near
Paita, alt. c. 1250m - [R. Schlechter] no. 14922, flowering in Oct. 1902.

This species differs from all the other New Caledonian members of the genus,
as the scarpe is beset with bristle-like scales. It is probably related to
T. torricellense Schltr., from New Guinea.



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