

# Additions to Papuan Orchidology

Rudolf Schlechter

A translation into English of

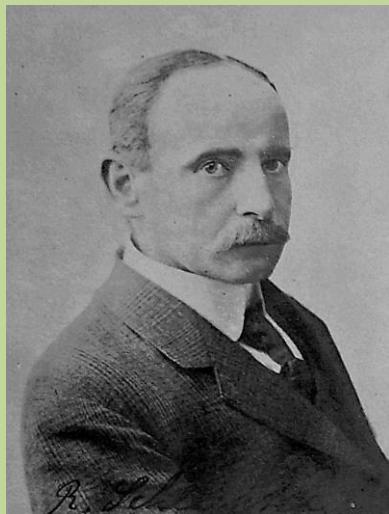
*Orchidaceae novae et criticae - Additamenta ad  
Orchideologiam Papuanum I, II, III & IV*

as published in

Fedde's *Repertorium specierum novarum regni vegetabilis*  
Vol XVI (1919), pp 42-47, 103-131, 214-219 & Vol XVII (1921) 366-382

with foreword and contents.

D F Blaxell, H J Katz, H R Toelken & J T Simmons



Rudolf Schlechter  
(1872-1925)



German New Guinea [now part of Papua New Guinea]





# **Additions to Papuan Orchidology**

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## ***Orchidacea novae et criticae - Additamenta ad Orchideologiam Papuanum I, II, III and IV***

by

**Rudolf Schlechter**

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FOREWARD.

A vehicle commonly used by Rudolf Schlechter and his contemporaries for publication of their work was 'REPERTORIUM SPECIERUM NOVARUM REGNI VEGETABILIS', published by Professor Friedrick Fedde. From 1905 this was published, usually annually, and is generally abbreviated to 'Fedde's Repertor'.

Schlechter's major work on Orchidaceae, 'DIE ORCHIDACEEN VON DEUTSCH-NEU-GUINEA' was published as fascicles of 'Fedde's Repertor.' between 1911 and 1914 and the complimenting 'FIGUREN ATLAS' also as fascicles between 1923 and 1928.

From 1906 up to 1925 Schlechter published in Fedde's Repertor. a series of 79 Decas, entitled 'ORCHIDACEAE NOVAE ET CRITICAE' where he described 790 new orchid species and a number of new genera from many parts of the world.

Of particular interest to those studying the orchid flora of Papua are four series of Decas entitled 'ADDITAMENTA AD ORCHIDEOLOGIAM PAPUANUM' and these describe 100 new species of 34 genera including one new genera.

In contrast with Schlechter's own thoroughness regarding collection details, the information available in respect to dates, elevations, locations, specimen numbers etc. is rather poor. It would appear that most of the collections were made between 1907 and 1913 but with a few made prior to this period.

Much of the material was collected by A. Kempter on the hinterland behind Angriffshafen (now Vanimo Harbour) in Kaiser-Wilhelms-Land and by A. Kempf in the Waria River District on the border of Kaiser-Wilhelms-Land and British Papua. However, other specimens came from Dr. Guppy, Sir William MacGregor, W. Bauerlen, Rev. J. Chalmers, Edelfeldt, Micholitz, C. Keysser, Dr. E. Werner, Dr. Schlaginhaufen and C.E. Kennedy in New Guinea with odd collections made on the Bismarck Archipelago and the Solomon Islands.

Unfortunately, all the Types were destroyed in 1943 with Schlechter's collection at the Berlin Herbarium. The existence of duplicates for most of the Types must be considered doubtful, and no illustrations were ever published or are known to exist.



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Additamenta ad Orchideologiam Papuanum I, II, III, IV.

The four parts of this text describe 100 new species of 34 genera including one genera described for the first time. The list of contents has been re-arranged in alphabetical sequence for the convenience of the reader. The text is maintained in the numerical sequence in which it was originally published.

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ORCHIDACEAE NOVAE ET CRITICAE

DECAS LVIII

ADDITIONA AD ORCHIDEOLIGAM PAPUANUM I

571. Corysanthes carinulifera Schltr., sp. nov.

Terrestris (?) erecta, pusilla, usque ad 3 cm alta; caule brevi, tereti, basi breviter 2-vaginalato, usque ad 1,2 cm longo, apice unifoliato; folio patente, suborbiculari-cordato, apiculato, usque ad 1,2 cm longo, c. 1 cm lato, glabro; flore sessili, in genere mediocri, erecto; bractea lanceolata, acuminata, ovario multo breviora; sepalo intermedio e basi ligulata suborbiculari-dilatato, apiculato, incurvo-concavulo, c. 1,7 cm longo, infra apicem 7 mm lato, glabro, sepalis lateralibus falcato-porrectis, anguste linearibus, acutissimis, c. 1,5 cm longis, glabris; petalis sepalis lateralibus similibus, sed minoribus, c. 1,2 cm longis, obliquis, basi paulo dilatatis; labello erecto, curvato, e basi cucullatato-ligulata abruptius reniformi-dilatato, flabellato, antice exciso, marginibus irregulariter et obtuse denticulato, neryis c. 18 subcarinato-incrassatis minuto papillosis ornato, toto c. 8 mm longo, vi explanato supra medium c. 12 cm lato, calcaribus 2 oblique cylindraceis subaculis, vix 3 mm longis ornato; columna perbrevi generis; ovario sessili, cylindraceo, glabro, c. 5 mm longo.

Kaiser-Wilhelms-Land : On the boundary between German and English New Guinea, Waria [River] District - A. Kempf.

The species reminds one mostly of C. picta Bl. from Java; however it differs considerably in the labellum. It belongs to the section Calcearia.

572. Cryptostylis concava Schltr., sp. nov.

Terrestris, erecta, c. 25 cm alta; radicibus fasciculatis carnosulis, villosulis; foliis basilaribus in specimine nostro 2, erectis, petiolatis, lamina elliptica, breviter acuminata vel apiculata, basi cuneata, 6,5-7,5 cm longa, medio fere 2,7-3 cm lata, petiolo gracili, canaliculato, 2,5-4 cm longo; scapo erecto, substrieto, vaginis c. 5 amplectentibus, acuminatis, dissitis obsesso, tereti, glabro, c. 2 mm diametiente; racemo sublaxe 6-9-floro, erecto; bracteis ovato-lanceolatis, acuminatis, ovario multo brevioribus; floribus more generis inversis, in genere vix inter mediocres; sepalis ligari-ligulatis, acutis, 1,3 cm longis, glabris, intermedio deflexo, lateralibus suberectis, obliquis, petalis subpatentibus, lanceolato-linearibus, acuminatis, falcato-patentibus, c. 6 mm longis; labello erecto, e basi reniformi-concava valde contracto, et in laminam elliptico-oblongam, concavam, acuminatam, subglabram producto, toto 1,3 cm longo, vi explanato supra basin 5 mm lato, lamina 9 mm longa, medio fere 3,5 mm lata, dimidio inferiore carina alta mediana ornato; dimidio-superiore hypochilii carina dupli brevi, crassiusecta ageto; columna perbrevi, crassiuseula, clinandrio humili, quam stigma vix elatiore; ovario subsessili, subfussiformi-cylindraceo, glabro, c. 1,2 cm longo.

Kaiser-Wilhelms-Land : On the boundary between German and English New Guinea, Waria [River] District - A. Kempf.

The numerous new species which were given to us by the genus Cryptostylis in New Guinea show clearly that we have discovered the centre of development. The species described is most closely related to C. carinata J.J. Sm.

573. Vrydagzenia Guppyi Schltr., sp. nov.

Terrestris, erecta, c. 15–20 cm alta; rhizomate decumbente, cauliniformi; caulo erecto, tereti, glabro, c. 4–5-foliato, usque ad 7 cm longo, c. 3 mm diametente; foliis erecto-patentibus, petiolatis, lamina oblique elliptico-oblonga, acuta vel apiculata, basi rotundato-cuneata, glabra, 5–7 cm longa, medio fere 2–2,5 cm lata, petiolo basi dilatata vaginante 1,5–2,8 cm longo; scapo erecto, stricto vel substricto, vaginulis perpaucis obsesso, glanduloso-puberulo, racemo pro genere laxo, 4–8-floro; bracteis erecto-patentibus, ovatis, acuminatis, ovarie c. 4-plo brevioribus; floribus in genere inter majores, glabris, illis *V. argyrotæniae* Schltr. similibus, sed majoribus; sepalis angusto oblongis, apicem versus angustatis, obtusis, glabris, c. 7 mm longis, lateralibus obliquis, basi margine anteriore dilatatis; petalis e basi subunguiculato-angustata oblique lanceolato-ligulatis, obtusis, sepalo intermedio paulo longiori margine interiore agglutinatis, glabris; labello circuitu ovato, e basi subreniformi trilobato, lobis lateralibus semiorbicularibus, obtusissimis, intermedio antico oblongo, medio incrassatione transversa ornato, dimidio anteriore bilobulato, lobulis falcato-oblongis, obtusis, toto c. 6 mm longo, infra medium incrassatione minute papilloso foveata obtecto, calcare oblongoideo, 5 mm longo, manifeste bifido, obtuso, appendicibus stipitatis obliquis, apice globosis supra basin instructo; columnæ generis, apicem versus manifeste dilatata, rostello emarginato, brevi; ovario cylindraceo, glabrato, c. 7 mm longo.

Solomon Islands : Dr. Guppy

Among the species of this genus, the one described which otherwise shows a relationship to *V. argyrotænia* Schltr., differs through the deeply divided frontal lobe of the labellum.

574. Microstylis euantha Schltr., sp. nov.

Terrestris, erecta, robusta, c. 40 cm alta; rhizomate brevi; radicibus filiformibus, flexuosis, villosulis, caulinis c. 2 cm inter se distantibus, cylindricis, carnosis, basi vaginis alte amplectentibus obtectis, supra 3–4-foliatis, 12–16 cm longis, c. 6 mm diametentibus; foliis erecto-patentibus, oblique ellipticis, acuminatis, basi cuneata in petiolum latum, canaliculatum transcurrentibus, lamina 10–14 cm longa, medio fere 4,5–6 cm lata, petiolo usque ad 5,5 cm longo; scapo stricto, angulato, racemo excluso c. 17 cm longo, racemo sublaxe 10–15-floro, c. 10–13 cm longo; bracteis patulis, anguste lanceolatis, acuminatis, ovario pedicellato subaequilongis vel paulo brevioribus; floribus in genere magnis, inversis, ut videtur atropurpureis, glabris; sepalis oblongis, obtusis, c. 1 cm longis, lateralibus obliquis; petalis oblique oblongis, obtusis, basin versus paulo angustatis, quam sepala subaequilongis; labello circuitu suborbiculari, basi profunde cordato-auriculato, lamina auriculis basilaribus exclusis 8 mm longa, infra medium 9 mm lata, dimidio anteriore margine utrinque dentibus 7–8 falcato-triangulis acutis ornata, antice in lobulum apicalem semioblongum, breviter excisum dentes paulo superantem producto, fovea basili anguste oblonga medio fere evanescente, lamina medio dense puncticulata, auriculis basilaribus oblique triangulis, obtusis, c. 4,5 mm longis; columnæ brevi, crassiœcula, glabra; ovario gracili, costato, c. 9 mm longo.

Kaiser-Wilhelms-Land : In the hinterland of Angriffshafen [Vanimo Harbour] – A. Kempter

With this species we have the largest-flowered form from New

Guinea with which I had become acquainted. In the flowers it reminds one of Herpetorhizis species, although it differs from these in the short rhizome, so that it would be better grouped with Pleidon Section. The flowers are obviously dark purple.

575. Coelogyne oligantha Schltr., sp. nov.

Epiphytica, pro sectione humilis, c. 15–17 cm alta; rhizomate brevi, crasso; radicibus filiformibus, flexuosis, glabris; pseudobulbis approximatis, cylindraceo-ovoideis, bifoliatis, exsiccatione longitudinaliter plurisuleatis et rugulosis, c. 4 cm altis, 1,3 cm diametentibus; foliis erecto-patentibus, ligulatis, obtusiusculis, basi sensim in petiolum c. 1,5 cm longum angustatis, petiolo ineluso c. 10 cm longis, medio fere 1,5 cm latis, nervis 5 subitus prominulis ornatis; scapo hysterantho, evaginato, pauci (2–4-)floro, pedunculo 8–9 cm longo; bracteis caducis in specimine nostro deficientibus; floribus succedaneis, in sectione inter minores, glabris; sepalis oblongo-ligulatis, acutis, dorso nervo medio costatis, 2 cm longis, concavis, lateralibus obliquis; petalis oblique linearibus, obtusis, glabris, sepolorum longitudine; labello circuitu oblongo tertia parte anteriore trilobato, 1,4 cm longo, inter apices lobi lateralium c. 7 mm lato, carinis 2 parallelis, leviter crenulatis e basi usque in medium lobi antici decurrentibus ornato, carina mediana tenuiore et paulo breviore (basin lobi antici vix attingente) interjecta, lobis lateralibus oblique oblongis, obtusis, intermedio sessili suborbiculari-quadrato, obtuso, 4,5 mm longo, infra medium 4,75 mm lato; columna levissime curvata, apicem versus sensim paululo dilatata, clinandrio amplio apice late triangulo, obtuso, subintegro; ovario pedicellato, clavato; 3-costato, costis leviter undulatis, c. 1 cm longo.

Kaiser-Wilhelms-Land : Waria [River] District – A. Kempf.

Judging by its fleshy flowers one would need to add it to the 'Speciosae'. However, its nearest relative is C. Sarasinorum Krzl.

576. Dendrobium brachyacron Schltr., sp. nov.

Epiphyticum, 15–17 cm altum; rhizomate valde abbreviato; radicibus filiformibus, flexuosis, gracilibus, glabris; pseudobulbis pro sectione longis, cylindraceis, apice vulgo bifoliatis, 6–8 cm longis, medio fere 2,5–3 mm diametentis; foliis suberectis, subacute, linearibus, basin versus sensim paululo angustatis, 7,5–10 cm longis, medio fero 3,5–5 mm latis; florescentia apicali, sessili, abbreviata, biflora; bracteis suborbicularibus, apiculatis, ovario pedicellato multo brevioribus; floribus in sectione vix inter maiores, erexit, glabris; sepalis ovatis, obtusiusculis, c. 7 mm longis, lateralibus valde obliquis, basi margine anteriore valde producta cum pede columnae mentum subrectum, calcariforme, apico brevissime bilobulatum, 1,5 cm longum formantitus; petalis oblique obovato-oblongis, obtusiusculis, quam sepala subaequifloris, glabris; labello ligulato, apicem versus sensim paululo dilatato, apice apiculato-subacuminato, tertia parte basilari marginibus columnae pedis adnato, 2 cm longo, infra apicem 4,5 mm lato, marginibus glabro; columna brevi, clinandrii lobis lateralibus truncatis, denticulatis, pedo ligulato c. 1,5 cm longo; ovario praesertim apicem versus 3-ptero, costis 6 interpositis, clavato, pedicello inclusu c. 1,8 cm longo, glabro.

Kaiser-Wilhelms-Land : In the hinterland of Angriffshafen  
[Vanimo Harbour] - A. Kempter.

Within the section Oxyglossum this species is distinguished by its relatively long pseudobulbs and the very short point of the lip.

577. Dendrobium diceras Schltr., sp. nov.

Epiphyticum, erectum, c. 40--45 cm altum; rhizomate valde abbreviato; radicibus filiformibus, flexuosis, crassiusculis, glabris; pseudobulbis graciliter fusiformibus, leviter plurisulcatis, apice vulgo 3-foliatis, usque ad 37 cm longis, rigidulis, supra medium 7--8 mm diametentibus; foliis erecto-patentibus, obtusiusculis, basi breviter contractis, 10--12,5 cm longis, infra medium 2,3--3 cm latis, coriaceis; racemis singulis sub-apicalibus, folia aequantibus vel paulo superantibus, laxe 5--7-floris; bracteis ovato-lanceolatis, acuminatis, ovario pedicellato 3--4-plo brevioribus; floribus in sectione vix inter mediocres, glabris, carnosulis; sepalis oblongis, obtusis, c. 1 cm longis, lateralibus obliquis, basi margine anteriore ampliata cum pede columnae mentum angulato-semiglobosum, c. 4 mm diametentem formantibus; petalis falcato-ligulatis, valde obtusis, apicem versus paulo dilatatis, quam sepala paulo latioribus; labello curvato, e basi contracto-unguiculata flabellato, antice trilobato, lobis apicalibus inclusis c. 8 mm longo, antice c. 1,2 cm lato, basi callo crasso trilobulato ornato, carnis 3 approximatis obtusis rugulosis, usque supra medium decurrentibus ornato, lobis lateralibus oblique quadratis, antice rotundatis, intermedio multo minore obtuse triangulo, carnososo, cornu subulato lobis lateralibus aequilongo utrinque basi ornato; columna brevi sectionis, clinandrii lobis lateralibus obliquis, obtuse apiculatis; ovario pedicellato clavato, glabro; c. 7--8 cm longo.

Kaiser-Wilhelms-Land : In the hinterland of Angriffshafen  
[Vanimo Harbour] - A. Kempter.

Due to the long pseudobulbs this species reminds one of D. torricellense Schltr. However, in the inflorescence and the flowers it is closer to D. cadetoides Schltr. [S. Diplocaulobium]

578. Ceratostylis minutiflora Schltr., sp. nov.

Epiphytica, humilis, 7--8 cm alta; rhizomate valde abbreviato; radicibus filiformibus, flexuosis, tenuibus, glabris; caulis valde approximatis, basi vaginis paucis brevibus circumdatis, teretibus, unifoliatis, 3--6 cm longis, 1,5--1,75 mm diametentibus; folio suberecto, breviter subulato, acuto, superne tenuiter sulcato, 1,5--2 cm longo, 0,75--1 mm diametente; inflorescentiis in apice caulis paucis fasciculatis, unifloris, vaginis triangulis acutis, diaphanis basi circumdati; pedunculo subnullo; bractea ovata, acuminata, florem fere aequante; flore in genere minuto, ovario excepto glabro, erecto; sepalis angusto ovatis, obtusiusculis, c. 1,5 mm longis, lateralibus obliquis, basi margine anteriore producta et connata-saccum oblique oblongoideum vix 0,75 mm longum formantibus; petalis oblique lanceolatis, acutis, basin versus paulo angustatis, quam sepala subaequilongis; labello anguste obovata-elliptico, basin versus sensim angustato, tertia parte anteriore carnososo, vix 1,25 mm longitudine excedente, carnis 2 brevibus tenuibus, e basi usque supra tertiam partem basilarem decurrentibus, parallelis ornato; columna generis, brevi, brachiis erectis concavis, semioblongis; ovario tenuiter puberulo, pedicellato, 3 mm longo.

Britisch Papua : Mount Musgrave 7000 - 8000 ft. [2132 - 2436m] - Sir William MacGregor.

This species could have the smallest flowers in the genus. It is conspicuous in that the lateral sepals form, in spite of the size, a distinct sac, where in other small flowered forms this sac hardly ever occurs.

579. Glomera oligantha Schltr., sp. nov.

Epiphytica, parvula 7—10 cm alta, e basi parum ramosa; radicibus filiformibus, flexuosis, tenuibus, glabris; caulinis simplicibus vel parum ramosis, dense foliatis, teretiusculis, vaginis foliorum verrucis transversis ornatis, paulo compressis omnino obtectis, vix 1,5 mm diametentibus; foliis patentibus, oblongis, obtusis, carnosis, 5—8 mm longis, medio fere 2,75—4 mm latis; inflorescentia terminali, sessili, pauci-(2-)flora, vaginis cucullatis 2 circumdata; bracteis parvulis ovatis, tenuibus, ovario brevioribus; floribus in genere parvulis, tenuibus, glabris, sepalis oblongis, obtusiusculo apiculatis, 5 mm longis, lateralibus valde obliquis, basi margine anteriore valde ampliata usque ad medium connatis et saccum semioblongoideum, labellum amplectentem formantibus; petalis oblique oblongo-ligulatis, obtusis, quam sepala subaequilongis; labelli lamina semi-rhomboe-quadrata antice late triangula, carnosa, parvula, vix 1,5 mm longa et basi lata, sacco subgloboso dorso appianato, 3 mm longo et lato; columna generis brevi, incurvula; ovario cylindraceo-fusiformi, c. 4 mm longo.

Kaiser-Wilhelms-Land : Waria [River] District, on the boundary between German and English New Guinea - A. Kempf.

With this very interesting small species it is unfortunate that only one specimen is available. Whether or not the inflorescences are, therefore, always twin-flowered cannot be definitely decided. As far as the flowers are concerned the plant is decidedly a typical Glomera.

580. Pedilochilus brachiatus Schltr., sp. nov.

Epiphyticus, 9—12 cm altus; rhizomate valde abbreviato; radicibus filiformibus, flexuosis, gracilibus, glabris; pseudobulbis ovoideis vel ovoideo-oblongoideis, unifoliatis, bene approximatis, 1,3—1,7 cm longis, infra medium 7—9 mm diametentibus; folio erecto, petiolato, lamina anguste elliptica, acuta, basi breviter cuneata, 4,5—7,5 cm longa, medio fere 1,4—2,2 cm lata, petiolo gracili, subrigidulo, canaliculato, 2—3,2 cm longo; scapis singulis, gracillimis, ascendentibus, vaginulis paucis obsessis, unifloris, 5—6 cm longis, glabris; bractea ovato-cucullata, breviter acuminata, ovario pedicellato multo breviore; flore in genere mediocri, glabro; sepalis oblongis, subapicuto-acuminatis, intermedio quam laterales angustiore, lateralibus obliquis; petalis valde obliquis, sigmoideo-curvatis, circuitu ovatis, apice acuminato falcato-ascendentibus, nervo mediano carinato-incrassatis, basi cuneato-subunguiculatis, 6 mm longis; labello d basi breviter unguiculata obovato-subcalceolari, apice in lobulum parvulum ovatum obtusum producto, 1 cm longo, supra medium 7 mm

lato, intus levissime tricostato, auriculis basilaribus parvulis, oblongis,  
obtusis retrorsis, callo retrorso oblongo obtuso, quam auriculae paululo  
longiore, quam unguis labelli dimidio fere breviore; columna parvula,  
stilidiis erectis subulatis, columna ipsa subaequiflora, pede perbrevi;  
ovario pedicellato, glabro, gracili, 1,8 cm longo.

Kaiser-Wilhelms-Land : On the boundary between German and  
English New Guinea, Waria [River] District - A. Kempf.

Because of its leaves the species is related most closely to  
P. petiolatum Schltr. However, it differs in the labellum which is  
wider at the front, the shape of the petals and in the conspicuously  
long stelidia [teeth] of the column.

## ORCHIDACEAE NOVAE ET CRITICAE

## DECAS LIX - LXIII

## ADDITAMENTA AD ORCHIDEOLOGIAM PAPUANAM II

581. Cryptostylis gracilis Schltr., sp. nov.

Terrestris, erecta, gracilis, 23—30 cm alta; radicibus fasciculatis, carnosulis, villosulis, flexuosis; foliis basilaribus 1—3, suberectis vel erectis, petiolatis, glabris, lamina oblonga vel elliptica, acuminata, basi cuneata, 6—9 cm longa, medio fere 1,7—2,2 cm lata; petiolo canaliculato, gracili, 2—4 cm longo; scapo gracili, tereti, vaginulis paucis, dissitis, acuminatis, aerte amplectentibus obpresso, glabro; racemo dense 8—15-floro, usque ad 6 cm longo; bracteis erecto-patentibus, lanceolato-oblongis, acuminatis, ovario sessili fere duplo brevioribus; floribus in genere inter minores erecto-patentibus, inversis, illis C. sigmoidea J. J. Sm. similibus; sepalis patentibus ligulato-lanceolatis, obtusiusculis, marginibus recurvulis, c. 1 cm longis, lateralibus obliquis; petalis patentibus oblique linearibus, obtusiusculis, marginibus recurvulis, c. 8 mm longis; labello erecto, e basi late triangula concava oblongo, obtuso, dense et brevissime papilloso, extus glabro, hypochilio concavo marginibus tantum papilloso, intus carina duplici usque infra basin decurrente ornato, toto 1,1 cm longo, supra basin 5 mm lato, in tertia parte basilari 3,25, in tertia parte apicali 3,5 mm lato; columna brevi generis; ovario sessili, graciliter cylindraceo, glabro, c. 7 mm longo.

Kaiser-Wilhelms-Land : In the hinterland of Angriffshafen  
[Vanimo Harbour] — A. Kempter.

Without doubt this species should be placed into closer affinity of C. sigmoidea J.J. Sm. It is, however, slimmer and daintier in growth or habit and has smaller flowers with more triangular hypochile, an epichile which becomes less narrow downwards and with longer and thicker keels on the hypochile.

[Ed. — Where the labellum shows a corset-like contraction and the front lobe is marked off from the rear one, Schlechter used the term 'hypochilum' (back part) or 'epichilum' (front part) for the sake of simplicity. R. Schlechter 'Die Orchidaceen von Deutsch-Neuguinea' (1912) p. 627]

582. Cryptostylis hamadryas Schltr., sp. nov.

Terrestris, erecta, gracilis, c. 26—30 cm alta; radicibus flexuosis, carnosis, villosulis; folio basili singulo, gracilius petiolato, erecto, lamina elliptico-oblonga, acuminata, basi rotundata, glabra, 8—9 cm longa, medio fere 3,8 cm lata, petiolo gracili, canaliculato, c. 4 cm longo; scapo gracili, stricto, tereti, glabro, vaginulis paucis, dissitis, acuminatis obpresso, c. 2 mm diametente; racemo laxe 6—10-floro, erecto, c. 8 cm longo; bracteis ovato-lanceolatis, acuminatis, ovario subduplo brevioribus; floribus in genere inter mediocres, suberectis, inversis; sepalis ligulato-linearibus, acuminatis, glabris, 1,5 cm longis, intermedio deflexo, lateralibus erecto-patentibus, obliquis; petalis patentibus, oblique ligulato-linearibus, acutis, glabris, 1 cm longis; labello erecto e basi concava, late triangulo-dilatata oblongo, obtusiusculo, subitus glabro, superne lamina perdense et brevissime papillosa, hypochilo tantum margines versus dense papilloso, toris 2 obscuris

longitudinalibus, minute papillosis ornato, caeterum glabro, labello toto 1,5 cm longo, supra basin 6 mm lato, medio fere 4,5 mm lato; columna perbrevi, clinandrio dorso crenulato, elatiore, stigma manifeste superante; ovario cylindraceo, subsessili, glabro, 1,5 cm longo.

Kaiser-Wilhelms-Land : In the hinterland of Angriffshafen [Vanimo Harbour] - A. Kempter.

This dainty species is related most closely, among the Papuasian ones, to C. fluva Schltr. but distinguished in the smaller dimensions of all parts. As in C. fluva Schltr., the spread of the labellum is not keeled at the top but is provided with two indistinct longitudinal callus in the hypochile.

583. Cryptostylis sororia Schltr., sp. nov.

Terrestris, erecta, 18-20 cm alta; radicibus fasciculatis, carnosulis, villosis; foliis basilaribus vulgo 2 erectis, petiolatis, lamina ovato-oblonga, acuminata, basi subrotundata, glabra, 4,5-6,5 cm longa, medio fere 1,8-2,8 cm lata, petiolo sulcato, 2-3 cm longo; scapo erecto, gracili, vaginulis paucis (2-3) dissitis, amplectentibus, acuminatis obpresso, tereti, glabro; racemo erecto, subdense 5-7-floro, usque ad 3 cm longo; bracteis erecto-patentibus, lanceolatis, acuminatis, ovarii dimidium vulgo excedentibus; floribus illis C. sigmoidea J. J. Sm. similibus, inversis; sepalis patentibus, linear-ligulatis, acutis, 9,5 mm longis, marginibus revolutis; laterilibus obliquis; petalis patentibus, oblique linearibus, subacute, basin versus paululo dilatatis, c. 7 mm longis; labello erecto, e basi reniformi-cucullata margine papilloso-puberula valde contracto et in laminam spatulato-ligulatam vel spatulato-oblongam, obtusiusculam, intus dense papillosam extus glabrum producte, 1 cm longo, explanato basi 4,5 mm lato, in tertia parte basilari vix 2 mm lato, in tertia parte apicali 3 mm lato, carina dupli usque in basin decurrente in hypobilio ornato; columna perbrevi, crassiuscula; ovario subsessili, glabro, c. 7 mm longo.

Kaiser-Wilhelms-Land : In the hinterland of Angriffshafen [Vanimo Harbour] - A. Kempter.

Without doubt, this species is related closely to C. gracilis Schltr. and Initially I had doubts as to whether to consider it a separate species. However, the specimens are shorter, with leaves with a more rounded base of the lamina, shorter stalks, [petioles] and shorter racemes. In addition the shape of the sepals and petals appear different and the lip is very strongly constricted above the broader hypochile.

584. Papuaea Schltr. gen. nov.

Flores inversi. Sepala ovata, obtusa, glabra, lateralia obliqua. Petala ligulata, sepallo intermedio marginibus intus arce agglutinata, glabra. Labellum superum, cucullato-concavum, circuitu oblongum, antice trilobatum, intus basi callis 2 sessilibus ornatum, lobis lateralibus rotundatis, brevibus, intermedio antico semioblongo, obtuso, extus incrassatione irregulariter crenata, antice margines loborum lateralium superante latere utrinque auctum, sepalis lateralibus fere aequilongum. Columna medioeris, semiteres; rostello erecto, triangulo, alte exciso. Stigma simplex.

illo generis *Goodyera persimilis*. Anthera ovato-cucullata, erecta, acuminate, basi cordata. Ovarium sessile, cylindraceum glabrum.

Herba perennis, fere pedalis, habitu fere *Macodes*, foliis petiolatis, rotundatis, nervis albis pictis; scapo gracili, praesertim apicem versus glandulos-puberulo; racemo subdense pluri- vel multi-floro, erecto; bracteis lanceolatis, acuminatis, ovario paulo brevioribus; floribus inversis, illis *Hetaeria obliquae* Bl. extus similibus.

Species singula adhuc nota, insulae Papuæ indigena.

A very remarkable genus which in some respects reminds one of Hetaeria but is different by the peculiar labellum, the simple stigma, and generally by the whole column. The column takes the plant into the relationship of Goodyera except the labellum does not fit this.

The eastern Platylepis species are in that respect more similar except that a labellum which has on the outside such characteristic proliferation is not yet known from this affinity [complex]. The leaves and the whole appearance of the plant remind one of Macodes, particularly as the obviously dark green leaves are covered with a beautiful white or yellow network of veins.

#### Papuæa reticulata Schltr., sp. nov.

Terrestris, erecta, c. 30 cm alta; rhizomate caulinormi, radicante; radicibus flexuosis, carnosulis, villosis; caule tereti, glabro, 4-5-foliato, c. 6-7 cm longo, 3-4 mm diametro; foliis erecto-patentibus, petiolatis, lamina late ovali vel suborbiculari, apiculata, basi rotundata vel retusa, 3.5-5 cm longa et lata, petiolo basi dilatata vaginante, 1.5-2 cm longo; scapo terminali, gracili, praesertim apicem versus glandulos-puberulo, vaginulis 4-5 acuminatis, dissitis obsesso, racemo excluso usque ad 20 cm longo, racemo ipso subdense pluri- vel multi-floro, erecto, usque ad 6 cm longo, rhachis dense glandulos-puberula; bracteis erecto-patentibus, lanceolatis, acuminatis, ovario paulo brevioribus; floribus inversis generis, glabris; sepalis 4,5 mm longis; petalis oblique ligulatis, subacutis, medio fere paulo dilatatis, quam sepalæ subaequilongis; labello sepalis aequilongo, basi cucullato, caeterum concavo; columnæ apoda, rostello satis alto inclusò c. 3,5 mm alta, glabra; ovario cylindraceo, glabro, c. 7 mm longo.

Kaiser-Wilhelms-Land : On the boundary between German and English New Guinea, Waria [River] District - A. Kempf.

Because of its beautifully coloured leaves this plant deserves to be imported into Europe alive.

#### 585. Hetaeria Baeuerlenii Schltr., sp. nov.

Terrestris, erecta, c. 65 cm alta; rhizomate caulinormi, tereti, c. 7 mm diametente; radicibus flexuosis, carnosulis, dense pilosis; caule tereti, 4-5-foliato, c. 12 cm alto, 6 mm diametro; foliis erecto-patentibus, petiolatis, lamina oblique elliptica, acuminata, 10-11 cm longa, medio fere 3,6-4,2 cm lata, petiolo sulcato basi valde dilatata vaginante, 4-5 cm longo; scapo erecto, stricto, praesertim apicem versus glandulos-puberulo vaginulis pluribus acuminatis obsesso; racemo elongato, dense multi-floro, quaquaverso, usque ad 23 cm longo; bracteis erecto-patentibus, lanceolatis, acuminatis, ovarium plus minusve superantibus; floribus suberectis, illis *H. latipetalæ* Schltr. similibus et fere aequimagnis, inversis; sepalis oblongo-ovatis, obtusis, extus glandulos-puberulis, 4 mm longis, lateralibus obliquis; petalis oblique oblongis, infra medium margine anteriore paulo dilatatis, tertia parte apicali anguste et oblique rhombis, obtusis, quam

sepala fere aequilongis; labello supero, circuitu anguste ovato, cucullato-concavo, antice in apiculum obtusiusculum incurvum producto, intus supra basin appendicibus 2 brevibus, falcato-subulatis appendicibusque 2 minoribus antepositis ornato, 3,25 mm longo; columna brevi, antice lamellis 2 apicem versus aliformibus, obtusis ornato, rostello mediocri alas paulo superante; stigmatibus crassis; ovario glanduloso-puberulo, gracilis cylindraceo, c. 7 mm longo.

Britisch-Papua - Fly River (Branch) - W. Bauerlen no. 184,  
Aug. 1885.

The closest relative of this species could be H. latipetala Schltr. It is however, specifically well separated through the petals and the lip.

586. Vrydagzenia Chalmersii Schltr., sp. nov.

Terrestris, erecta, c. 20 cm alta; rhizomate decumbente, cauliniformi; radicibus flexuosis, carnosulis, villosulis; caule subflexuoso, tereti, glabro, c. 10 cm longo, 6-7-foliato, 2,5-3 mm diametiente; foliis erecto patentibus, petiolatis, glabris, lamina oblique elliptico-lanceolata, acuta, subcuneato-rotundata, 2,8-4,5 cm longa, infra medium 1,1-1,7 cm lata, petiolo basi dilatata vaginante, c. 1 cm longo; pedunculo erecto subflexuoso, praesertim apicem versus minute glandulosopuberulo, 8-9 cm longo, tereti; racemo dense 15-20-floro, oblongo, c. 2,5 cm longo, c. 1,2 cm diametiente, rhachi glandulosopuberula; bracteis erecto-patentibus, lanceolatis, acutis, inferioribus flores paululo superantibus, superioribus flores fere acquantibus; floribus erecto-patentibus, in genere mediocribus, glabris; sepalo intermedio ovato, apice incrassato extus verruculoso, obtusissimo, vix 3 mm longo, lateralibus oblique oblongis, obtusissimis, apice incrassato extus verruculoso obtusissimis, c. 4 mm longis; petalis subfalcatis, e basi oblique ovata lanceolato-falcatis, obtusis, sepalo intermedio aequilongo margine interiore agglutinatis; labello parvulo, subquadrato, marginibus incurvulis obtuse apiculato, intus medio leviter incrassato, basi margine utrinque lobulo parvulo subquadrato incurvulo ornato, 2 mm longo, calcare oblongoideo, obtuso, 5,5 mm longo, infra apicem intus dorso appendicibus 2 graciliter stipitatis clavatis, incurvulis ornato; columna brevi, rostello stigmata bene superante; ovario fusiformi, torto, c. 6,5 mm longo.

Britisch-Papua - Cloudy Mountains - Rev. Chalmers  
This species is most closely related to V. Schumanniana Krzl., but has larger flowers and a differently constructed lip and column.

587. Tropidia corymbioides Schltr., sp. nov.

Terrestris, erecta, supra 60 cm alta; caulis strictis vel substrictis, simplicibus vel parum ramosis, bene foliatis, teretiusculis, vaginis foliorum plurinervosostriatis arctissime amplectentibus omnino obtectis, medio fere c. 3 mm diametentibus; foliis erecto-patentibus, lanceolato-ellipticis, acuminatis, basi sensim cuneato-angustatis, nervis 7 subtus prominulis ornatis, 15-20 cm longis, medio fere 3,8-4,5 cm latis; inflorescentiis terminalibus vel versus apicem caulis lateralibus, breviter pedunculatis, erectis, pedunculo 1-1,4 cm longo, racemo ipso dense pluri- vel multifloro, usque ad 2 cm longo; bracteis erecto-patentibus, lanceolatis, acuminatis, inferioribus flores paulo excedentibus, superioribus sensim paulo minoribus; floribus erecto-patentibus, inversis, illis T. acuminatae Schltr. similibus sed paululo majoribus, extus sparsim et minute furfuraceis, caeterum glabris; sepalis anguste ligulato-lanceolatis, acuminatis, 1,05 cm longis, lateralibus obliquis, tertia parte basilari connatis; petalis falcato-

linearibus, acutis, basin vensus paululo dilatatis, nervo mediano extus incrassatis, quam sepala paululo brevioribus; labello supero, circuitu oblongo, breviter acuminato, medio levissimme constricto, basi cucullato-vel subsacculato-concava breviter exciso, medio costis 2 longitudinalibus brevibus parallelis ornato, apice reflexo, toto c. 7 mm longo; columna recta, antice carinata, 4,5 mm longa; ovario cylindraceo, breviter furfuraceo, c. 4,5 mm longo.

Kaiser-Wilhelms-Land : In the hinterland of Angriffshafen

[Vanimo Harbour] - A. Kempfer.

In habit this species reminds one of a small Corymbis. Its closest relative is T. acuminata Schltr.

588. Microstylis gracilisaca Schltr., sp. nov.

Terrestris, adscendens, usque ad 20 cm alta; rhizomate cauliniformi, tereti; caule adscendente usque ad 10 cm longo, densius 9-12-foliato, tereti, glabro, 2,5-2,75 mm diametente; foliis erecto-patentibus, petiolatis, glabris, lamina oblique oblongo-ovata, obtusiuscula vel subacuta, margine breviter undulata, 3,5-5 cm longa, infra medium 1,9-2,2 cm lata, petiolo basi dilatata vaginante, 1,5-2,2 cm longo; inflorescenzia erecta, gracili, pedunculo angulato paucivaginulato, c. 7 cm longo; racemo sublaxe 15-25-floro, usque ad 8 cm longo, erecto; bracteis patulis, linear-lanceolatis, acuminatis, ovarium vulgo fere aequantibus; floribus in sectione inter minores, patentibus, inversis, glabris, ut videtur virescenti-flavidis; sepalis oblongis, obtusis, vix 2,5 mm longis, lateralibus obliquis, intermedio paulo latioribus; petalis oblique linear-ligulatis, obtusis, uninerviis, quam sepala fere aequilongis; labello erecto, circuitu quadrato-reniformi, basi alte auriculato, auriculis basilaribus exceptis vix 2,5 mm longo, infra medium 2,5 mm latitudine excedente, supra medium trilobato, fovea oblonga tenuiter incrassato-marginata e basi usque in medium, incrassatione V-formi angusta ante apicem foveae aucto, lobis lateralibus angulo exteriore triangulo obtuso, dentibus 2 falcatis acutis donato, lobo intermedio late oblongo obtuso, alte bifido, dentes loborum lateralium duplo fere superante, auriculis basilaribus triangulo-oblongis, obtusis, margine intiore 1,25 mm longis; columna brevi; ovario acute triquetro, costis 3 humilibus interjectis, pedicello inclusu glabro, vix 3 mm longo.

Kaiser-Wilhelms-Land : On the boundary between German and English New Guinea Waria [River] District - A. Kempf.

In habit this species has closest similarity to M. Warapussae Schltr., but has smaller flowers with a differently constructed lip, the lateral lobes of which have only two teeth and their small basal auricles are very blunt and broad.

589. Microstylis integrilabium Schltr., sp. nov.

Terrestris, adscendens, habitu M. Warapussae Schltr., rhizomate cauliniforme, decumbente; radicibus filiformibus, flexuosis, minute pilosulis; caule adscendente, bene foliato, tereti, glabro, c. 2 mm diametente; foliis erecto-patentibus, petiolatis, oblique elliptico-ovatis, subacutis, basi cuneato-rotundatis, lamina 4,5-5,5 cm longa, infra medium 1,8-2,5 cm lata, petiolo basi dilatata vaginante, 1,4-1,7 cm longo; racemo elongato, subdense multifloro, usque ad 10 cm longo; bracteis patulis, oblongis, acutis, ovarium fere duplo excedentibus; floribus parvulis, inversis, glabris, ut videtur viridiflavis; sepalis late elliptico- vel ovato-oblongis, obtusis c. 1,75 mm longis, lateralibus obliquis, intermedio latioribus; petalis oblongo-ligulatis, obtusis, uninerviis, falcato-obliquis, quam sepala fere aequilongis; labello semilunato, integro, apice exciso, auriculis basilaribus falcato-oblongis, obtusis, c. 1,5 mm longis, lamina ipsa 1,5 mm longa, basi 2,5 mm lata, fovea oblonga, incrassato-marginata e basi usque infra apicem ornata; columna perbrevi, glabra; ovario pedicellato glabro, c. 2,75 mm longo.

Britisch-Papua - Without location details - Edelfeldt.

According to the habitat I would have safely assumed that this species belong to the [Section] Commelinodes, but the structure of the lip indicates that it should be placed in the section Bothrocardia.

590. Microstylis Kempfii Schltr., sp. nov.

Terrestris, erecta, c. 40 cm alta; rhizomate valde abbreviato; caule cylindraceo, 6—7-foliato, c. 13 cm alto, 6—7 mm diametente; foliis erecto-patentibus, lanceolato-ellipticis, valde acuminatis, obliquis, basi sensim in petiolum latum, canaliculatum, 3,5—4 cm longum angustatis, lamina usque ad 16 cm longa, medio fere usque ad 4,3 cm lata; scapo stricto, angulato, racemo dense multifloro, elongato inclusio usque ad 25 cm longo; bracteis patulis, linearibus, acuminatis, inferioribus quam flores longioribus; superioribus sensim paulo brevioribus; floribus in sectione inter minores, inversis glabris, ut videtur flavidis; sepalis oblongis, obtusis, c. 3 mm longis; lateralibus obliquis; petalis anguste et oblique lanceolato-ligulatis, obtusis, uninerviis, quam sepala subaequilongis; labello erecto, basi alte sagittato-auriculato, auriculis basilaribus exclusis 3 mm longo, medio fere 3,5 mm lato, supra medium trilobo, lobis lateralibus angulo exteriore triangulis, subacutis, caeterum in dentes 3 aquilongos, falcato-subulatos, lobum intermedium superantibus fisis, lobo intermedio oblongo, apice acute forcipato, fovea laminae mediana oblonga infra medium, callo obscuro triangulo obtuso anteposito, auriculis basilaribus oblique lanceolatis, obtusis, 2,5 mm longis; columna brevi, crassiuscula; ovario 6-costato graciliter cylindraceo, glabro, 3,25 mm longo.

Kaiser-Wilhelms-Land : On the boundary between German and English New Guinea, Waria [River] District - A. Kempf.

A typical species of the section Pleidon. It is placed somewhere in the middle between M. wariana Schltr. and M. xanthochila Schltr. It has, however, a longer stem than both these with longer leaves, and also differs in the form of the labellum.

591. Oberonia Kempteri Schltr., sp. nov.

Epiphytica, decumbens, pusilla, 8—10 cm alta; rhizomate repente flexuoso, gracili; radicibus filiformibus, flexuosis, tenuibus, glabris; caulis c. 1 cm inter se distantibus, erectis, flexuosis, pluri- (8—12-) foliatis, usque ad 6 cm longis; foliis erecto-patentibus, equitantibus, linearibus, acutis, mediocribus 2,5—5 cm longis, medio fere 1,75—2,25 cm longis; racemis breviter pedunculatis, erectis, apice nunc arcuato-recurvis, dense multifloris, gracilibus, pedunculo pauci-vaginato usque ad 1 cm longo, racemo ipso usque ad 4 cm longo, 3,5 mm diametente; bracteis lanceolatis, acuminatis, ovario fere aequilongis; floribus subverticillato-congestis, patentibus, in genere inter minimos, glabris, inversis, c. 1,5 mm diametentibus; sepalis patentibus oblongo-ovatis, obtusis, c. 0,75 mm longis, lateralibus obliquis; petalis patentibus oblique oblongo-ellipticis, obtusis, margine irregularibus, subdentatis, quam sepala subaequilongis; labello erecto, circuitu oblongo-quadrato, infra medium pandurato-constricto, basi subcordato, antice in lobulos 2 breves, triangulos, obtusiusculos exente cum apiculo obtusissimo lato interjecto, dimidio anteriore margine irregulari, subdentato, quam sepala paulo majore; columna brevi generis; ovario cylindrico, glabro, vix 0,75 mm longo.

Kaiser-Wilhelms-Land: In the hinterland of Angriffshafen  
 [Vanimo Harbour] - A. Kempfer.

In habit this species decidedly reminds one of O. repens Schltr. with which it is without doubt closely related. However, it is well separated from this species by the shape of the labellum.

592. Oberonia lancipetala Schltr., sp. nov.

Epiphytica, erecta, 10—12 cm alta; rhizomate valde abbreviato; radicibus filiformibus, flexuosis, gracilibus, glabris; caulis leviter flexuosis, 4—5-foliatis, usque ad 6 cm longis; foliis suberectis, falcato-ligulatis, subacutis, equitantibus, carnosulis, usque ad 5 cm longis, infra medium usque ad 4,5 mm latis; racemis brevissime pedunculatis, arcuatis vei erectis usque ad 3 cm longis, c. 2 mm diametentibus; bracteis lanceolatis, acuminatis, subverticellatis, flores fere aequantibus, margine subdentatis; floribus patentibus, inversis, subverticellatis, glabris, in genere inter minimos, vix 1,5 mm diametentibus; sepalis patentibus, ovatis, subacutis, vix 0,7 mm longis, lateralibus obliquis; petalis patentibus, anguste et oblique lanceolatis, acutis, uninerviis, quam sepala subaequilongis; labello erecto, circuitu oblongo-quadrato, basi cordato-auriculato, dimidio anteriore 3-lobo, sepalis paulo majore, lobis lateralibus triangulo-semioblongis, abbreviatis, obtusis, intermedio antico, late obcordato, antice obtuse et late bilobulato; columna brevi, crassiuscula; ovario cylindraceo, glabro, c. 0,7 mm longo.

Kaiser-Wilhelms Land : In the hinterland of Angriffshafen  
 [Vanimo Harbour] - A. Kempfer.

It seems best to place this species into the affinity of O. brevispica Schltr.

593. Liparis Kempfii Schltr., sp. nov.

Epiphytica vel terrestris, pro sectione humilis, 20—25 cm alta; rhizomate valde abbreviato; radicibus filiformibus, flexuosis, dense pilosulis; caulis approximatibus, cylindraceis, c. 1 cm altis, ut videtur vulgo 3-foliatis; foliis erecto-patentibus vel suberectis, linearibus, acutis, basin versus levissime angustatis, 14—22 cm longis, medio fere 6—8 mm latis; scapo erecto, laxe paucifloro (in specimine nostro 3-floro), pedunculo 6—7 cm longo, paulo compresso; racemo floribus inclusis c. 5 cm longo; bracteis erecto-patentibus, lanceolatis, acuminatis, ovario pedicellato multo brevioribus; floribus in sectione vix inter mediocres, glabris, erecto-patentibus; sepalis reflexis, lanceolatis, acutis, 1,2 cm longis, lateralibus obliquis; petalis reflexis anguste linearibus, obtusis, quam sepala fere aequilongis; labello curvato, e basi breviter contracta ovato, obtuse apiculato, margine subcrenulato, basi callo oblongo antice emarginato brevi ornato, toto c. 1 cm longo, infra medium 6 mm lato; columna leviter curvata, c. 6 mm longa, glabra, margine utrinque subalato-marginata, exauriculata; ovario graciliter pedicellato, glabro, c. 2,5 cm longo.

Kaiser-Wilhelms-Land : On the boundary between German and English New Guinea, Waria [River] District - A. Kempf.

In the section Pleiophyllum this species distinguishes itself from all others so far known through the stunted growth, the short stem and the inflorescences. Incidentally, the labellum also is very characteristic.

594. Cadetia bicornuta Schltr., sp. nov.

Epiphytica, erecta, 12—16 cm alta; rhizomate valde abbreviato; radicibus filiformibus, flexuosis, gracilibus, glabris; caulis valde approximatis, teretibus, unifoliatis, basi vagina apiculata brevi circumdatis, 4—10 cm longis, 1,5—2 mm diametentibus; folio erecto, rigidulo, ligulato, acuto, basi paulo angustato; carnososo-coriaceo, glabro, 4,5—6 cm longo, medio fere 6—9 mm lato; inflorescentia vulgo singula, e spatha parvula compressa terminali, abbreviata, uniflora, pedunculo c. 5 mm longo; bractea parvula, deltoidea, squamiformis; flore in genere inter majores, carnosulo, glabro; sepalis late oblongis, breviter acuminatis vel apiculatis, 6 mm longis, lateralibus obliquis, basi valde dilatata decurrente cum pede columnae mentum calcariforme obtusum, medio paulo constrictum 5 mm longum formantibus; petalis linearibus, acutis, basi paulo dilatata breviter decurrentibus, obliquis, quam sepala subaequilongis; labello e basi ligulatunguiculata in laminam circuitu obovato-quadratam, alte trilobam dilatata, 8 mm longo, explanato inter apices loborum lateralium 5 mm lato, lobis lateralibus oblique triangulis, subacutis, incrassatione transvera alte bicornuta conjunctis, lobo intermedio e basi angustiore late reniformi, antice profunde exciso (i. e. alte bilobulato), 2 mm longo, 4 mm lato; columna brevi, pede concavo, dense pilosulo, 5 mm longo; ovario acute triquetro, pedicellato, clavato, glabro, c. 8 mm longo.

Kaiser-Wilhelms-Land : On the boundary between German and English New Guinea, Waria [River] District - A. Kempf.

This species is very well designated by its labellum into the section Pterocadetia.

595. Dendrobium cultrifolium Schltr., sp. nov.

Epiphyticum, erectum vel patulum, usque supra 70 cm longum; rhizomate valde abbreviato; radicibus filiformibus, flexuosis, tenuibus, glabris; caulis simplicibus vel subsimplicibus, basi vaginata excepta usque supra medium bene foliatis, compressis, usque ad 7 mm latis; foliis equitantibus, suberectis, anguste lanceolato-cultriformibus, acutis, carnosis, obliquis, usque ad 9 cm longis, medio fere usque ad 1 cm latis; floribus in parte superiore caulis gracili efoliata fasciculatis, fasciculis sensim evolutis, plurifloris; bracteis tenuibus, lanceolatis, acuminatis, ovario pedicellato multo brevioribus; floribus in sectione inter majores, tenuibus, glabris; sepalis c. 8 mm longis, intermedio oblongo obtusiusculo, concavo, lateralibus valde obliquis, triangulis, obtusiuscula apiculatis, basi margine anteriore valde dilatata cum pede columnas mentum leviter curvatum oblongum, obtusiusculum, c. 2 cm longum formantibus; petalis oblique oblongis, obtusiusculis, medio paululo dilatatis, quam sepala subaequilongis; labello cuneato, curvafolio, antice haud bene distinete et obtuse 4-lobato, ibique marginibus leviter undulato, infra medium nervis 3 mediapis leviter incrassatis ornato, c. 2 cm longo, infra apicem, i. e. inter apices loborum lateralium 1 cm lato; columna brevi, pede concavulo, intus apice linea vel carina verruculosa ornata, 2 cm longo; ovario pedicellato glabro, gracili, c. 1,5 cm longo.

Kaiser-Wilhelms-Land : On the boundary between German and English New Guinea, Waria [River] District - A. Kempf.

Among the species of the [section] Rhopalanthe in Papuasia this has the largest flowers. They are even larger than D. Goldfinchii F.v.M. and D. hymenocentrum Schltr. to which this species is related.

596. Dendrobium geminiflorum Schltr., sp. nov.

Epiphyticum, humile, 7--9 cm altum; rhizomate valde abbreviato; radicibus filiformibus, flexuosis, gracilibus, glabris; pseudobulbis anguste fusiformi-cylindraceis, apice vulgo bifoliatis, 2,5--3 cm longis, medio fere c. 3 mm diametentibus; foliis suberectis, linearibus, obtusiusculis, basin versus sensim paululo angustatis, 4--5,5 cm longis, medio fere 4--5,5 mm latis; inflorescentia apicali, sessili, biflora, abbreviata; bracteis deltoideo-latiovatis, breviter acuminatis vel apiculatis, ovario pedicellato multo brevioribus; floribus in sectione inter majores, erectis; sepalis apiculatis, glabris, 1,2 cm longis, intermedio oblongo, lateralibus valde obliquis, ovato-triangulis, basi margine anteriore valde producta cum pede columnae mentum calcariforme, apice brevissime bilobulatum subrectum, 1,8 cm longum formantibus; petalis oblique subspathulatis, oblongo-ligulatis, acutis vel apiculatis, margine minute papilloso-ciliolatis, quam sepala subaequilongis; labello linear-ligulato, apicem versus paulo dilatato, breviter acuminato, apicem versus margine minutissime papilloso-ciliolato, caeterum glabro, 2,6 cm longo, infra apicem 5 mm lato, tertia parte basilari marginibus columnae pedis adnato; columna brevi, auriculis lateralibus clinandrii oblique truncatis, irregulariter denticulatis; ovario pedicellato clavato, 3-pter, costis 3 interjectis, 2,2 cm longo.

Kaiser-Wilhelms-Land : On the boundary between German and English New Guinea, Waria [River] District - A. Kempf.

One of the large flowered species of the section Oxyglossum which is best placed into the affinity of D. pentapterum Schltr.

597. Dendrobium gracilicolle Schltr., sp. nov.

Epiphyticum, erectum, 35--42 cm altum; rhizomate valde abbreviato, denso pseudobulbis obsesso; radicibus filiformibus, flexuosis, gracilibus, glabris; pseudobulbis e basi fusiformi attenuatis, graciliter subulato-cylindraceis, unifoliatis, 12--17 cm longis, supra basin c. 4 mm diametentibus, atrobrunneis; folio anguste linear, apice minute et inaequaliter bilobulato, 20--25 cm longo, medio fere 3--4 mm lato; floribus ad apices pseudobulborum e spatha compressa, anguste oblonga, pedunculo subnullo; bractea deltoidea, ovario gracillime pedicellato multoties breviore; flore in sectione mediocri, tenui, suberecto; sepalis e basi lanceolata filiformi-elongatis, c. 3,3 cm longis, glabris, lateralibus basi margine anteriore producta cum pede columnae mentum conicum obtusum, 3 mm longum formantibus; petalis e basi oblique linear-lancea filiformi-elongatis, quam sepala paulo brevioribus, glabris; labello leviter curvato, e basi cuneata panduriformi, c. 1 cm longo, carinis 2 parallelis e basi labelli usque infra medium lobi antici decurrentibus basi minute papillosis apicem versus subcrenulatis, linea mediana pulvinata e tertia parte basilari usque in tertiam partem apicalem interposita, labelli dimidio inferiore circuitu obovato, c. 3,5 mm lato, dimidio superiore i. e. lobo antico e isthmo perbrevi suborbiculari-ovali, obtuso, c. 3,25 mm lato; columna brevi sectionis, pede leviter incurvo, ligulato, 3 mm longo; ovario pedicellato gracili, glabro c. 3 cm longo.

Kaiser-Wilhelms-Land : In the hinterland of Angriffshafen [Vanimo Harbour] - A. Kempter.

This very slender species of the section Diplocaulobium is distinguished by the very narrow long leaves and the lip. The latter shows a very narrow, almost linear or wedge-shaped central band which is densely papillose (flour-like), while in other species an elliptic or circular cushion is produced.

598. Dendrobium incurvifolium Schltr., sp. nov.

Epiphyticum, 15--18 cm altum; rhizomate valde abbreviato; radicibus filiformibus, flexuosis, crassiusculis, glabris; pseudobulbis graciliter fusiformibus, leviter plurisulcatis, apico bifoliatis, rigidulis, c. 8 cm longis, medio fere vel supra medium 5--6 mm diametentibus; foliis erecto-patentibus vel suberectis, anguste lanceolatis, acutis, basi breviter contractis, rigidiuscule coriaceis, 6--7,5 cm longis, infra medium 1,1--1,3 cm latis; inflorescentia apicali, suberecta, pauci-(1--2-)floro, foliis paulo breviore, pedunculo gracili, rigidulo, medio univaginulato. c. 2,5--3 cm longo; bracteis deltaeoides, ovario graciliter pedicellato multo brevioribus; floribus carnosulis, glabris, in sectione vix inter mediocre; sepalis late quadrato-ovalibus, obtusis, c. 1 cm longis, lateralibus obliquis, basi margine anteriore dilatata cum pede columnae mentum breve semigloboso-angulatum, 3,5 mm longum formantibus; petalis falcato-ligulatis, obtusis, 3-nerviis, quam sepala subaequilongis; labello curvato, circuitu obovato-cuneato, antice alte bilobato, lobis apicalibus inclusis c. 1,5 cm longo, vi explanato inter apices loborum apicalium c. 1 cm lato, medio margine utrinque lobulo brevi, oblique triangulo obtuso donato, basi callo crasso W-formi ornato, carinis 3 approximatis, carnosulis, obtusis, brevibus antepositis, dimidio anteriore incurvo; columna sectionis perbrevi, clinandrii lobis lateralibus dorsali subulato vix longioribus oblique triangulis; ovario pedicellato glabro, clavato, c. 1,8 cm longo.

Kaiser-Wilhelms-Land : In the hinterland of Angriffshafen  
[Vanimo Harbour] - A. Kempter.

So far I know of no other species in the section Latouria with which the present one is closely related. In habit it somewhat resembles Dendrobium Sayeria (Sayeria paradoxa Kranzl.) but has larger flowers and the lip is very differently constructed.

599. Dendrobium pityphyllum Schltr. sp. nov.

Epiphyticum c. 11 cm altum; rhizomate valde abbreviato; radicibus filiformibus, flexuosis, gracilibus, glabris; pseudobulbis valde approximatis, fusiformi-cylindraceis, bifoliatis, 2,7--8 cm longis, medio fere 2,5--3 mm diametentibus; foliis erectis, anguste linearibus, submucronulatis, usque ad 8 cm longis, medio fere 2--2,5 mm latis; inflorescentia apicali, subsessili, biflora; bracteis late ovalibus vel suborbicularibus, apiculatis, ovario multo brevioribus; floribus erectis, in sectione inter majores; sepalo intermedio cylongo, acuminato, glabro, 1,5 cm longo, lateralibus oblique ovato-triangulis, acuminatis, extus nervo medio carinato-incrassatis, basi margine anteriore valde dilatata decurrente cum pede columnae mentum ealariforme c. 2 cm longum, subacutum formantibus; petalis obovato-spathulatis, acuminatis, quam sepala paulo brevioribus; labello anguste linearis, usque infra medium marginibus columnae pedis adnato, 3 cm longo, infra apicem sensim paululo dilatato, 7-ta parte apicali abruptius subangulato-acuminato, glabro, in 7-ta parte apicali vix 3 mm lato; columna brevi, auriculis lateralibus semiorbicularibus subintegris, pede linearis c. 2 cm longo; ovario praesertim apicem versus 5-alato, costis 8 acutis interpositis, subclavato, 2,6 cm longo.

Kaiser-Wilhelms-Land : In the hinterland of Angriffshafen  
[Vanimo Harbour] - A. Kempter.

Closely related to D. rhampiotes Schltr. [S. Oxyglossum] but differs in the ovary, the longer mentum, and in the front a more sharply pointed, almost angular labellum.

600. Dendrobium prorepens Schltr., sp. nov.

Epiphyticum, repens, habitu *Bulbophyllum*, pusillum; rhizomate flexuoso, laxe pseudobulbis obsesso, flexuoso, c. 1,5 mm diametente; radicibus filiformibus, flexuosis, gracilibus, glabris; pseudobulbis adscendentibus, ovoideo-oblongoideis, unifoliatis, 4--5 mm longis, infra medium 2,5--3 mm diametro; folio erecto-patente, oblongo, obtuso, basi brevissime contracto, coriaceo, 1--1,7 cm longo, medio fere 4--7 mm lato; inflorescentia apicali, uniflora, pedunculo subnullo; bractea ovata, obtusiuscula, ovario pedicellato multo brevire; flore illo *D. bulbophylloides* Schltr. simili, et fere aequimpresso, glabro; sepalis ovatis, obtusiusculis, c. 5 mm longis, lateralibus valde obliquis, basi margine anteriore valde ampliata cum pede columnae mentum oblique ovoidem, obtusum, 5,5 mm longum formantibus; petalis oblique oblongis, subacutis, quam sepala paulo brevioribus, margine minutissime papilloso-ciliolatis; labello e basi late ligulata, incrassatione transversa bilobata vel subquadrilobulata terminata in lobum vel laminam suborbiculariem, antice excisam cum apiculo obtuso interjecto abrupte dilatato, 7 mm longo, parte basali vix 2 mm lato, lamina terminali 8 mm longa, 3,25 mm lata, margines versus minutissime papillosa; columna perbrevi, pede ligulato concavulo, c. 5,5 mm longo; ovario breviter pedicellato glabro, subclavato, c. 6 mm longo.

Kaiser-Wilhelms-Land : On the boundary between German and English New Guinea, Waria [River] District - A. Kempt.

We have here a species closely related to *D. bulbophylloides* Schltr. [*S. Microphytanthe*] but which is specifically well separated by its labellum. Unfortunately the material available is also this time very sparse and obviously these small *Dendrobium* species are very rare.

601. Dendrobium rhiphiotes Schltr., sp. nov.

Epiphyticum, humile, 10--14 cm altum; rhizomate valde abbreviato; radicibus filiformibus, flexuosis, gracilibus, glabris; pseudobulbis valde approximatis, anguste ovoideis vel fusiformibus, 2--3-foliatis, 1--1,5 cm altis, infra medium 4--5 mm diametentibus; foliis erectis, rigidis, aciformibus, superne canaliculatis, 8--10 cm longis, 1,5--2 mm latis; inflorescentia apicali, erecta, abbreviata, subsessili, ut videtur vulgo biflora; bracteis ovatis, breviter acuminatis, ovario multo brevioribus; floribus in sectione inter majores, erectis, glabris; sepala anguste ovatis, acutis vel acuminatis, 1,5 cm longis, lateralibus valde obliquis, basi conspicue elongata decurrente cum pede columnae mentum calcariforme, subrectum, 1,5 cm longum formantibus; petalis oblique oblongis, acutis, basin versus angustatis, quam sepala paulo brevioribus; labello ligulato, usque infra medium marginibus columnae adnato, quarta parte apicali subacuminato-acutato, 2,5 cm longo, marginibus tertia parte apicali leviter incurvulis; columna more sectionis brevi, clinandrii lobis lateralibus oblique semi-oblongis, margine interiore irregularibus, dorsali linearisubulato paululo longiore, pede elongato; ovario dorso acute 3-alato, ventre acute bicostato, basi sensim in pedicellum attenuato, pedicello inclusu c. 2,5 cm longo.

Kaiser-Wilhelms-Land : On the boundary between German and English New Guinea, Waria [River] District - A. Kempt.

Here we have a rather conspicuous species of the section Oxyglossum which can be easily recognised within the group [section] of species with large flowers, by the rigid needle-shaped leaves

reminding one of Pinus needles.

602. Eria brachybotrya Schltr., sp. nov.

Epiphytica, verosimiliter patula, certe supra 35 cm longa; caulis simplicibus, bene foliatis, leviter flexuosis, bene foliatis, vaginis foliorum striatis, arcte amplectentibus, primum rufo-tomentellis omnino obtectis, c. 3 mm diametentibus; foliis erecto-patentibus, anguste ligulatis, valde oblique et inaequaliter bilobulatis, (lobulo breviore vix prominulo, lobo longiore producto obtusiusculo) basin versus leviter angustatis, superne glabratibus, subtus brevissime rufo-tomentellis, 9—11 cm longis, medio fere 7—11 mm latis; racemis brevibus, subsessilibus, oblongoideis, subdense 5—8-floris, usque ad 2 cm longis, dense rufo-villosis vel rufo-hirtis; bracteis recurvis, late ovalibus vel suborbicularibus, quam flores paulo brevioribus; floribus leviter recurvis, in sectione inter minores; sepalis oblongis, obtusis, extus dense rufo-villosis, 4 mm longis, lateralibus obliquis, falcatis, basi margine anteriore producta cum pede columnae mentum semiglobosum breve formantibus; petalis oblique oblongis, obtusis, basin versus paulo angustatis, margine longiciliatis, quam sepala paulo brevioribus et angustioribus; labello leviter curvato, e basi semigloboso-concavula late cuneato-obovato, supra medium trilobo, carinis 2 parallelis e basi labelli usque ad basin lobi antici decurrentibus ornato, lobis lateralibus semioblongis, obtusatis, abbreviatis, intermedio antico, transverse oblongo, antice retuso cum apiculo, labello toto 4 mm longo, inter apices loborum laterali 2,5 mm lato, lobe antico 3,5 mm lato; columna mediocri, glabra, pede brevi; ovario obconico, perbrevi, dense rufo-hirto.

Kaiser-Wilhelms-Land : In the hinterland of Angriffshafen

[Vanimo Harbour] — A. Kempter.

This species is distinguished from the other Papuasian species of the section Trichotosia by the dense racemes of small flowers.

603. Eria singulifolia Schltr., sp. nov.

Epiphytica, c. 18—25 cm alta; rhizomate valde abbreviato; radicibus filiformibus, flexuosis, gracilis, dense et breviter pilosis; pseudobulbis approximatis, cylindraceo-oblongoideis, unifoliatis, 2,5—3 cm longis, medio fere 5—6,5 mm diametentibus; folio erecto, ligulato, obtusiusculo, basin versus sensim paulo angustato, 14—22 cm longo, medio fere 1,3—2,4 cm lato, textura tenuiore; inflorescentia singula, infra apices pseudobulborum laterali, gracili, usque ad 9 cm longa, laxe 6—10-flora, pedunculo 3—4 cm longo et rhachi tenuiter et brevissime puberulis; bracteis patentibus, deltoideis, obtusiusculis, ovario gracili multo brevioribus; floribus in sectione parvulis, erecto-patentibus; sepalis extus minute et breviter puberulis, obtusiusculis, 6 mm longis, intermedio oblongo, lateralibus oblique ovato-triangulis, basi margine anteriore conspicue ampliata cum pede columnae mentum obtusum, oblique semiovale, 3 mm longum formantibus; petalis oblique lanceolato-ligulatis, obtusis, glabris, quam sepala subaequilongis; labello e basi brevissime unguiculato-contracta obtriangulo-cuneato, antice trilobulato, 5 mm longo, infra apicem 3 mm lato, medio lamellis 2 oblique semitriangulis obtusis ornato, lobis lateralibus patentibus, oblique triangulis obtusis, intermedio antico anguste triangulo, obtuso, apice inocrassatulo; columna brevi, clinandrii lobis lateralibus truncatis, denticulatis; ovario gracili, pedicellato, minute puberulo, c. 1 cm longo.

Kaiser-Wilhelms-Land : In the hinterland of Angriffshafen

[Vanimo Harbour] — A. Kempter.

As this is the fourth species of a small group which includes

E. dischorensis Schltr., E. rhizophoreti Schltr. and E. montana Schltr. (E. oreogena Schltr., Orchid. Dtsch.-Neu-Guin. p. 667 non Fedde

Repert. X. p. 87) they will be separated as a separate section  
Cuneilabium. E. singulifolia Schltr. is characterised by the single-leaved pseudobulb.

604. Eria stenobulba Schltr., sp. nov.

- Epiphytica, erecta, 25–32 cm alta; rhizomate brevi; radicibus filiformibus, flexuosis, gracilibus, glabris; pseudobulbis gracilibus, apice 2–3 foliatis, cylindraceis, 13–15 cm altis, medio fere 2 mm diametentibus; foliis erecto-patentibus vel suberectis, lanceolato-ligulatis, subacutis, basin versus sensim subpetiolato-angustatis, 12–16 cm longis, infra medium 1,2–1,5 cm latis; inflorescentiis versus apices pseudobulborum singulis, suberectis, usque ad 8 cm longis, pedunculo vaginis 2–3 cincinnato-amplectentibus obpresso, brevi, c. 3 cm longo, racemo ipso laxe 10–15-floro; bracteis patulis, oblongis, acutis, ovario pedicellato fere aequilongis; floribus tenuibus, erecto-patentibus, in sectione vix intermediocres; sepalis oblongis, obtusis, subglabris, c. 5 mm longis, lateribus obliquis, basi margine anterius dilatata cum pede columnae mentum triangulum obtusum, c. 2,5 mm longum formantibus; petalis oblique ligulatis, obtusiusculis, basin versus sensim paululo angustatis, quam sepala paululo brevioribus; labello e basi cuneata circuitu rhombo-ovato, e medio trilobo, 5 mm longo, supra medium explanato 3 mm lato, carinis 2 obscuris apice libero truncatis parallelis usque infra medium decurrentibus, lobis lateralibus oblique semioblongis, obtusis, parvulis, intermedio ovali-quadrato, margine subundulato, minute et dense papilloso; columna brevi, semitereti, clinandrio subintegro; ovario pedicellato gracili, stellato-puberulo, c. 7 mm longo.

Kaiser-Wilhelms-Land : In the hinterland of Angriffshafen  
[Vanimo Harbour] A. Kempter.

In this plant we have a [Section] Hymeneria species which is related most closely to E. oligotricha Schltr., but well distinguished through the slim pseudobulb and the shape and structure of the lip.

605. Mediocalcar brachygenium Schltr., sp. nov.

- Epiphyticum, patulum, usque ad 25 cm longum, parum ramosum; rhizomate cauliformi cum pseudobulbis connato, flexuoso; radicibus filiformibus, flexuosis, tenuibus, glabris; pseudobulbis cum rhizomate omnino connatis, i. e. superpositis, cylindraceis, unifoliatis, 1–1,5 cm longis, 2,5 mm diametentibus; folio ligulato, obtusiusculo, interdum cum apiculo, basin versus sensim paululo angustato, textura pro genere tenuiore, 5–7 cm longo, medio fere 6,5–8 mm lato, glabro; inflorescentiis ut videtur singulis, unifloris, terminalibus, pedunculo c. 8 mm longo; bractea deltoidea, minuta; flore in sectione mediocri, glabro, carnosulo; sepalis usque supra medium in tubum oblique ovoideum connatis, c. 8 mm longis, intermedio ligulato subacuto, lateralibus oblique semiovatis; petalis oblique linearibus, obtusiusculis, uninerviis, quam sepala paululo brevioribus; labelli ungue oblongo-quadrato, basi subauriculato-dilatato, nervis 3 parallelis incrassatis ornato, 2,5 mm longo, lamina ovata obtusiuscula acuminata, basi cucullato-excavata, intus nervis 3 parallelis incrassatis ornata, 5,5 mm longa, infra medium 4 mm lata; columna semitereti, apicem versus paululo dilatata, 5 mm longa. pede brevissimo; ovario pedicellato gracili, c. 1 cm longo, glabro.

Kaiser-Wilhelms-Land : In the hinterland of Angriffshafen  
[Vanimo Harbour] – A. Kempter.

A particularly characteristic species, differing from others in the section Epicalcar by the fact that the pseudobulb only carries one

leaf. Furthermore it is conspicuous in that the corolla is split rather deeply (nearly to the middle) and that the formation of a chin is hardly perceptible. The lip-plate is strongly concave without a definite formation of a sac.

606. Mediocalcar rigidulum Schltr., sp. nov.

Epiphyticum, verosimiliter in truncis et rami arborum adscendens; rhizomate rigidulo, vaginis arte appressis omnino obtecto, c. 2 mm diametente; pseudobulbis 3—4 cm inter se distantibus, anguste cylindraceis, unifoliatis, 2,5—2,7 cm longis, c. 2 mm diametentibus; folio rigidulo, oblongo vel oblongo-ligulato, obtuso, basi in petiolum brevem, c. 5 mm longum contracto, lamina 4,5—5,5 cm longa, medio scere 1—1,2 cm lata, carnoso-coriacea; inflorescentia singula terminali, uniflora, pedunculo gracili, 1,5 longo; bractea parvula deltoidea, ovario pedicellato multo breviore; flore in genere medioeri, glabro, carnoso; sepalis usque ad tertiam partem apicalem in tubum oblique urceolarem antice basi ventricosam connatis, 9 mm longis, intermedio anguste oblongo, acutiusculo, lateralibus valde obliquis ovatis, acutis; petalis oblique ligulatis, acutis, sublinearis, supra medium paululo dilatatis, quam sepala subaequilongis; labello e ungue ligulato basi subauriculato in laminam sacciformem, ostio suborbiculari, apiculatum, 5-nerviam abrupte dilatato, ungue 4 mm longo, sacco cum apiculo 1 cm longo, cylindraceo, obtuso, basi unguem paululo superante; columna apicem versus paulo dilatata, 5,5 mm longa, pede c. 3 mm longo; ovario pedicellato gracili, glabro, c. 8 mm longo.

Kaiser-Wilhelms-Land : In the hinterland of Angriffshafen [Vanimo Harbour] — A. Kempter.

This species is easily recognisable from others in the section Eu-Mediocalcar by its rigid habit. The lip-sac is conspicuously deep and the species is best associated with M. uniflorum Schltr.

607. Ischnocentrum selaginellioides Schltr., sp. nov.

Epiphyticum, pusillum, usque ad 5 cm altum; rhizomate valde abbreviato; radicibus filiformibus, flexuosis, tenuibus, glabris; caulis erecto-patentibus valde ramosis, ramisque bene foliatis, vaginis foliorum eructo-verrucosis, arte amplectentibus omnino obtectis, c. 1,5 mm dense patentibus; foliis erecto-patentibus, anguste oblongis vel oblongis, obtusis, carnosis, 3—5 mm longis, 1,5—2 mm latis, basi breviter subpetiolato-contractis; inflorescentia ad apices ramorum, singulis, sessilibus, unifloris, vagina ovarium amplectente primum protectis; floribus in affinitate minutis, illis I. myrtillus Schltr. similibus sed paulo minoribus, ut videtur brunnescenti-carneis, glabris; sepalis patentibus, ovato-oblongis subacutis, vix 4 mm longis, lateralibus obliquis, apiculatis; petalis oblique lanceolatis, obtusiusculis, quam sepala paulo brevioribus, patentibus; labello plano, perlate ovato-suborbiculari, obtuso, 3 mm longo, infra medium 3 mm lato, calcare subrecto filiformi-cylindraceo, obtusiusculo ostium versus sensim subinconspicue dilatato, 4,5 mm longo; columna brevi-clinandro dorso triangulo obtuso, subcrenulata; ovario sessili, cylindraceo, vix 6 mm longo.

Kaiser-Wilhelms-Land : In the hinterland of Angriffshafen [Vanimo Harbour] — A. Kempter.

It is with a certain satisfaction that I can now describe a second species to a genus which up to now I considered monotypic. It

is related to a genus which up to now I considered monotypic. It is related closely to I. myrtillus Schltr., but has smaller, narrower thicker leaves with sheaths thickly wart-covered, smaller flowers with somewhat differently shaped sepals and petals and a shorter spur which widens towards its mouth. The whole plant appears to be even lower than I. myrtillus Schltr.

608. Podochilus biibulatus Schltr., sp. nov.

Epiphyticus, pergracilis, decumbens, habitu P. sciurooides Rehb. f.; radicibus filiformibus, flexuosis, glabris; caulis filiformibus, gracillimis, flexuosis, bene foliatis, vaginis foliorum amplectentibus omnino obtectis, vix 0,5 mm crassitudine excedentibus; foliis erecto-patentibus, lanceolato-linearibus, oblique acuminatis, glabris, 4,5–6 mm longis, medio vix 0,75 mm latis; inflorescentia terminali, laxe pauciflora, erecta, pedunculo ad 3 mm longo inclusa usque ad 6 mm longa; bracteis ovato-lanceolatis, acuminatis, ovarium fero aequantibus vel paulo superantibus, concavis; floribus in genere inter minores, glabris; sepalis ovatis, obtusiusculis, c. 1,5 mm longis, lateralibus basi margine anteriore valde ampliata cum pede columnae mentum subglobosum c. 0,8 mm diametentem obliquum formantibus; petalis oblique oblongis, obtusis; quam sepalis paululo brevioribus; labello supra basin peltatum affixo, oblongo, tertia parte anteriore paulo angustato, apice ipso obtuso cum apiculo minuto, basi bilobulato, lobulis retrorsis triangulis obtusis, toto c. 2,5 mm longo, medio fere vix 1 mm lato; columna brevi, rostellum erecto, lanceolato-triangulo breviter exciso, pede incurvo, satis longo; anthera ovato-cucullata, acuminata; polliniis 4 oblique oblanceolatis, stipite gracili, apice breviter bifido, polliniis sublongiore, viscidio parvulo; ovario pedicellato subclavato, glabro, c. 1 mm longo.

Kaiser-Wilhelms-Land : Waria [River] District – Kempf.

By its habit this species is hardly distinguishable from many others. In its flowers it stands nearest to P. bimaculatus Schltr. It has however, a spherical mentum, a labellum which is clearly double flapped at the base and particularly characteristic pollinia of this relationship.

609. Appendicula bracteata Schltr., sp. nov.

Epiphytica, erecta, c. 30 cm alta; rhizomate valde abbreviato; radicibus filiformibus, flexuosis, villosulis; caulis erectis vel suberectis, simplicibus, teretibus, vaginis foliorum arcte amplectentibus omnino obtectis, dense foliatis, 2,5–3 mm diametentibus; foliis erecto-patentibus, oblique oblongis, inaequaliter bilobulatis cum apiculo subulato interjecto, 1,7–2,8 cm longis, medio fere 5–9 mm latis; racemis terminalibus subsessilibus, sublaxe 8–14-floris, usque ad 4,5 cm longis; bracteis erecto-patentibus demum subrecurvis, flores paulo excedentibus, oblongo-lanceolatis, acutis; floribus in genere mediocribus, erecto-patentibus, glabris; sepalis ovato-lanceolatis, acuminatis, nervo mediano extus carinato-incrassatis, c. 7 mm longis, lateralibus falcato-obliquis, basi valde dilatata cum pede columnae mentum semi-oblongum, obtusum, c. 3 mm longum formantibus; petalis oblique et angusto ligulatis, obtusiusculis, quam sepalis paululo brevioribus; labello e ungue late ligulato rhombo-elliptico, acuminato, 7 mm longo, supra medium 3 mm lato, medio bicostato, infra medium callo retrorsi, obtuse biapiculato, carnoso ornato; columna brevi, in specimine nostro erostellato; anthera alte trifida, acuminata; ovario pedicellato, clavato, glabro, c. 7 mm longo.

Kaiser-Wilhelms-Land : In the hinterland of Angriffshafen  
 [Vanimo Harbour] - A. Kempter.

In this plant we obviously have the third species of the relationship of A. anomala Schltr. Through the conspicuous formation of its appendices and its shape, the labellum differs from all other species. Also the length of the bracts is conspicuous. Unfortunately we find again the rostellum not developed, but the flower is otherwise normal. It appears as if the genus Appendicula gives us some puzzles to solve in respect of its flower morphology as well as its biology.

610. Pedilochilus angustifolius Schltr., sp. nov.

Epiphyticus, erectus; 10–11 cm altus; rhizomate valde abbreviato; radicibus filiformibus, flexuosis, gracilibus, glabris; pseudobulbis cylindraceo-ovoideis, unifoliatis, 7–11 mm altis, infra medium 4–5 mm diametentibus; folio erecto, petiolato, lamina oblique linear-ligulata, acuta, basin versus sensim angustata, 5–7,5 cm longa, medio fere 6–7,5 mm lata, petiolo gracili, canaliculato, 1,5–3 cm longo; inflorescentiis 3–4-nis fasciculatis, erectis vel suberectis, unifloris, pedunculo gracillimo, subflexuoso, vaginulis paucis dissitis, arcte ampletenctibus obsesso, usque ad 8,5 cm longo; bractea tubulosa, breviter acuminata, ovario pedicellato multo breviore; flore in genere vix inter mediocres, glabro, erecto, textura tenui; sepalis ellipticis, obtusiuscula et breviter acuminatis, intermedio 1 cm longo, lateralibus obliquis, intermedio paulo latioribus, 1,1 cm longis; petalis e basi unguiculata oblique ovatis, igmoideo-curvatis, apice falcato-recurvulo acutis, 4 mm longis; labello e ungue brevi, subcæleolari-concavo, apice in lobulum oblongo-triangulum, obtusum producto, 8 mm longo, medio fere 3 mm alto, circuitus elliptico, supra basin in auriculas 2 lobuliformes subfalcatas, subrecurvulas producto, callo retrorso conico obtuso brevi inter auriculas ornato; columna subrecta, vix 3 mm alta, stelidiis subulatis, erectis, acutissimis, c. 1,75 mm longis, pede brevi.

Kaiser-Wilhelms-Land : In the hinterland of Angriffshafen  
 [Vanimo Harbour] - A. Kempter.

This species is distinguished through its narrow distinctly stemmed leaves and the not so deeply concave labellum.

611. Bulbophyllum asperilingue Schltr., sp. nov.

Epiphyticum, c. 22 cm altum, habitu B. verrucifero Schltr. bene simile; rhizomate repente, abbreviato; radicibus filiformibus, flexuosis, gracilibus, glabris; pseudobulbis approximatis, cylindraceo-ovoideis vel cylindraceis, unifoliatis, c. 1,5 cm altis, infra medium 3–4 mm diametentibus; folio erecto, ligulato, obtusiusculo, basi in petiolum 2,5–3 cm longum contracto, 15–17 cm longo, medio fere 1,6–1,9 cm lato; inflorescentia juxta basin pseudobulborum nata, erecta, laxe pauci-(2–4-)flora, folia fere aequante, pedunculo vaginis paucis dissitis obsesso, usque ad 12 cm longo, tereti, carnosulo; bracteis cucullatis, apiculatis, tenuibus, ovarium vulgo paulo excedentibus; floribus illis B. verruciferi Schltr. similibus et fere aequimagnis, glabris; sepalis oblongo-ligulatis, obtusiusculis, intermedio 2,5 cm longo, lateralibus obliquis, extus carinatis, 3 cm longis; petalis oblique ovato-lanceolatis, obtusiuscula acuminatis, 5,5 mm longis; labello carnoso, ovato-oblongo obtuso, basi cuneata excepta superne dense verrucis subulatis, acutis, brevibus obsesso, 1,6 cm longo; columna recta, crassiuscula, glabra, 5 mm alta; pede adscente, semioblongo, vix 2 mm longo, stelidiis subulatis, mediocribus; ovario subsessili, obconico-cylindraceo, glabro, c. 6 mm longo.

Kaiser-Wilhelms-Land : In the hinterland of Angriffshafen  
 [Vanimo Harbour] - A. Kempter.

This species is interesting as a supplement to the oligotypical group Pachyanthe. It is closely related to B. verruciferum Schltr., but has larger flowers and a well distinguished labellum.

612. Bulbophyllum blepharadenium Schltr., sp. nov.

Epiphyticum, 20—25 cm altum; rhizomate valde abbreviato; radicibus filiformibus, flexuosis, gracilibus, glabris; pseudobulbis approximatis, cylindraceis, unifoliatis, 2,7—3,3 cm longis, c. 2—3 mm diametentibus; folio erecto, angusto et oblique lanceolato-ligulato, obtuso, basi sensim petioliformi-angustato, 13—20 cm longo, medio fere 1,2—2,1 cm lato; inflorescentiis pluribus, juxta basin pseudobulborum natis. erecto-patentibus vel adscendentibus, unifloris, gracillimis, glabris, pedunculo setiformi, vaginulis paucis obsesso, 5—7 cm longo; bractea tubulosa, acuminata, ovario graciliter pedicellato multo breviore; flore in genere satis magno, illo B. rhodoleuci Schltr. similibus sed paulo minoribus; sepalis e basi elliptico-lanceolata acuminatissimis, glabris, c. 3,3 cm longis, lateralibus obliquis; petalis minutis, squamiformibus, oblique deltoideis, apiculatis, glabris, vix 1 mm longis; labello ovali-cordato, margine glandulosis sessilibus ornato, superne plano, basi dorso excavatione reniformi-quadrata ornato, supra basin bigibbo, 6 mm longo, medio fere 4 mm lato; columna brevi, 2 mm alta, brachiis abbreviatis oblique rhombatis, pede columna ipsa aequilongo, adscendente, apice peltato-dilatata; ovario graciliter pedicellato glabro, pedicello setiformi inclusu 3—3,5 cm longo.

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This species is closely related to B. rhodeleucum Schltr. in the section Peltopus. It is specifically well distinguished from it by the shape of the petals, the labellum and the column.

613. Bulbophyllum cylindrocarpum Schltr., sp. nov.

Epiphyticum, 14—16 cm altum; rhizomate brevi, dense pseudobulbis obsesso; radicibus filiformibus, flexuosis, gracilibus, glabris; pseudobulbis parvulis, e basi paululo dilatata cylindraceis, unifoliatis, valde approximatis, 1,3—1,5 cm altis, infra medium 3 mm diametentibus; folio erecto, anguste ligulato, obtusiusculo, basin versus sensim in petiolum brevem, canaliculatum, 1—1,5 cm longum angustato, coriaceo, petiolo inclusu 11—14 cm longo, medio fere 1—1,3 cm longo; inflorescentiis singulis juxta basin pseudobulborum natis, erectis, unifloris, pedunculo brevi, paucivaginulato, c. 8 mm longo; bractea tubulosa, apiculata, ovario longi-pedicellato multoties breviore; flore in sectione inter mediocres, suberecto; sepalو intermedio lanceolato, obtusiusculo, glabro, c. 1 cm longo, lateralibus oblique lanceolato-ligulatis, obtusiusculis, c. 1,2 cm longis, glabris; petalis oblique lanceolato-ligulatis, obtusiusculis, uninerviis, apicem versus minute papillosis, c. 3 mm longis; labello carnoso, e basi ovato-cordata anguste linguiformi, obtusiusculo, superne leviter sulcato, subtus altius carinato, vix 3 mm longo, leviter arcuato; columna subrecta, c. 3 mm longa, stelidiis oblique subulatis, margine interiore subdentatis, mediocribus, pede incurvo, c. 2,5 mm longo; ovario anguste cylindraceo, perlonge pedicellato, pedicello inclusu c. 3,7 cm longo; capsula anguste cylindrica, perianthio emarcido coronata.

Kaiser-Wilhelms-Land : On the boundary between German and English New Guinea Waria [River] District - A. Kempf.

A species of the section Papulipetalum which is related closely to B. brevilabium Schltr.

614. Bulbophyllum eubleparum Schltr., sp. nov.

Epiphyticum, parvulum, c. 8—9 cm altum; rhizomate valde abbreviato; radicibus filiformibus, flexuosis, gracilibus, glabris; pseudobulbis approximatis, anguste ovoideis, unifoliatis, 8—13 mm altis, infra medium 3—5 mm diametentibus; folio erecto, oblongo-ligulato, obtusiusculo vel apiculato, basi in petiolum brevem, 3—5 mm longum contracto, lamina 4—5,5 cm longa, medio fere 8—11 mm lata; inflorescentiis pluribus juxta basin pseudobulborum natis, erectis, gracilibus, unifloris, pedunculo setiformi, vaginulis 2—3 dissitis obpresso, 3,5—4,5 cm longo; bractea cucullato-ovata, breviter acuminata, ovario pedicellato multoties broviore; flore in sectione inter majores, suberecto; sepalis oblongo-ligulatis, subacutis, glabris, c. 8 mm longis, lateralibus obliquis, intermedio paulo latioribus; petalis parvulis, oblique lanceolatis, acutis, glabris, vix 1,5 mm longitudine excedentibus; labello curvato, ligulato, supra basin margine utrinque in laminam triangularem obtusam, ciliatam dilatato, deinde ligulato, apicem versus paulo dilatato, obtuso, tertia parte apicali aequaliter ciliato, toto vix 4 mm longo, columna subrecta, stelidiis in apiculus triangulus reductis, 3 mm alto, pede adscendente, brevi; ovario graciliter pedicellato, pedicello inclusu c. 3 cm longo.

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As I have not yet a clear determination of the relationship of this species I will for the time being relate it to the section Micromonanthe. I believe however that it must be placed elsewhere when we have more knowledge of related species.

615. Bulbophyllum lonchophyllum Schltr., sp. nov.

Epiphyticum, pensile, c. 40 cm longum; rhizomate cauliformi, tenui, vaginis amplectentibus, acuminatis, omnino obtecto, flexuoso; radicibus filiformibus, flexuosis, rhizomati appressis, tenuibus glabris; pseudobulbis minutis, cylindraceis, paulo compressis, c. 3 mm longis, 1 mm latis, unifoliatis; folio lanceolato, acuto, basi cuneato, carnosulo, 4—6 cm longo, infra medium 7—11 mm lato, glabro; inflorescentiis juxta basin pseudobulborum natis, breviter pedunculatis, abbreviatis, dense multifloris, pedunculo inclusu 1—1,3 cm longis; bracteis lanceolatis, acuminatis, ovarium pedicellatum paulo excedentibus; floribus parvulis, illis B. lepanthiflori Schltr. minoribus, tenuibus, ut videtur flavidis; sepalis suborbiculari-ovalibus, obtusis, glabris, apice in appendicem subulatam, obtusam brevem productis, appendice exclusa c. 2 mm longis, lateralibus obliquis; petalis e basi brevissime unguiculato-contracta oblongis, obtuse apiculatis, margine irregularibus, glabris, quam sepala subtriplo brevioribus; labello e basi trilobo, petalis aequilongo, supra basi excavatione anguste oblonga parvula ornato, lobis lateralibus divaricatis, obliquo ali-formi-oblongis, obtusis, intermedio triplo majore carnosulo, oblongo, subulato-acuminato, superne minute et dense papilloso; columna perbrevi, brachiis pro longitudine columnae magnis, oblique rhombeis, superne truncatis, pede incurvulo; ovario pedicellato, glabro, c. 7 mm longo.

Kaiser-Wilhelms-Land : On the boundary between German and English New Guinea, Waria [River] District - A. Kempf.

I am pleased that with this species and the one described below, B. mystrophyllum Schltr. we can add two species to the so far monotypic section Lepanthanthe, which proves that it was justified to keep the section separate from Trachyrachis. The species in question differs from B. lepanthiflorum Schltr. and B. mystrophyllum Schltr. already externally by the lanceolate leaves and is also well characterised in the flowers and particularly well in the labellum.

616. Bulbophyllum Louisiadum Schltr., sp. nov.

Epiphyticum, repens, usque ad 5 cm altum; rhizomate flexuoso, tereti, elongato, c. 2 mm diametente; radicibus filiformibus, flexuosis, gracilibus, minute et dense papillosum; pseudobulbis c. 2 cm inter se distantibus, oblongoideo-depressis, adscendentibus, 6–7 mm longis, 4–5 mm latis, unifoliatis; folio obovato vel late oblongo, obtuso, carnosocoriaceo, 1.6–2 cm longo, medio vel supra medium 8–10 mm lato; inflorescentiis in axillis vaginarum rhizomatis singulis natis, erectis, unifloris; pedunculo gracili, basin versus paucivaginulato, 2.5–3.3 cm longo; bractea cucullate-ovali, apiculata, ovario graciliter pedicellato multo breviore; flore in sectione mediocri, glabro; sepals ligulatis, obtusiusculis, c. 7–9-nerviis, intermedio apicem versus complicato-carinato, c. 1 cm longo, lateralibus obliquis, c. 1.6 cm longis; petalis oblongis, mucronulatis, juxta apicem margine anteriore breviter unidentatis, vix 2 mm longis; labello curvato, e tertia parte basilari carnosa oblonga sulcata contracto, sigmoideo-curvato, linearis, supra medium paulo dilatato, concavulo, obtuso, toto c. 7 mm longo, supra basin vix 1.5 mm crassitudine excedente; columna brevi, stelidiis oblique triangulis, obtusis, pede satis longo leviter curvata; ovario graciliter pedicellato glabro, 1.2 cm longo.

Louisiaden : South West Island : Sir William MacGregor, 1889.

This species belonging to the section Ephippium is well characterised by its habit as well as the shape and structure of the lip.

617. Bulbophyllum mystrophyllum Schltr., sp. nov.

Epiphyticum, pensile, c. 10 cm longum; rhizomate flexuoso, vaginis imbricantibus, acutis vel acuminatis, dorso carinatis, distichis omnino obtecto; radicibus filiformibus, flexuosis, tenuibus, glabris; pseudobulbis 1.5–3 cm inter se distantibus, cylindraceis, paulo compressis, unifoliatis, rhizomati appressis, 3.5–4.5 mm longis, 2 mm diametentibus; foliis suborbicularibus, concavulis, carnosis, sessilibus, 3–4 cm longis, medio fere 2.5–3.5 mm latis; inflorescentiis singulis, juxta basin pseudobulborum ortis, pedunculo paucivaginulato 1–1.5 cm longo, racemo dense plurifloro, abbreviato; bracteis deltoideis, acutis, ovarii pedicello fere 3-plo brevioribus; floribus in speciminiibus nostris jam defloratis, ut videtur flavidis, glabris; sepalo intermedio late ovali, concavo, apice appendice antenniformi, clavata, infracta, brevi ornata, appendice exclusa 3 mm longo, lateralibus concavulis, oblique ovato-triangulis, apice in appendicem subulatam obtusam, porrectam productis, intermedio vix majoribus; petalis oblique ellipticis, obtusis, c. 1.25 mm longis; labello curvato, linguiformi, infra medium paulo dilatato, petalis aequilongo, dimidio superiore margine obtuse et breviter lacerato-papilloso, apice obtuso, superne dimidio in-

feriore tenuiter bicostato, carinis 2 e medio marginibus ortis mox approximatis per medium longitudinaliter decurrentibus aucto; columna per breve, quam petala breviore, pede incurvo; ovario acute triquetro, pedicellato, c. 4 mm longo, glabro; capsula oblique oblongoidea, triquetra, glabra, c. 1,2 cm longa.

26.

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[Vanimo Harbour] - A. Kempter.

This very well characterised species is the third belonging to the section Lepanthanthe. In habit it most like B. lepanthiflorum Schltr. but is much shorter and quite well characterised by the flower characters. In the flowers which had already reached the fruiting stage, the individual parts were still easily recognisable.

618. Bulbophyllum nephropetalum Schltr., sp. nov.

Epiphyticum, gracile, c. 13 cm altum; rhizomate gracili, flexuoso, repente; radicibus filiformibus, flexuosis, gracilibus, glabris; pseudobulbis 1–1,5 cm inter se distantibus, globosis, unifoliatis, parvulis, c. 3 mm diametentibus; folio erecto vel suberecto, ligulato, obtusiusculo, basin versus sensim subpetiolato-angustato, carnosulo, c. 2,5 cm longo, c. 3–3,5 mm lato; inflorescentia juxta basin pseudobulborum nata, erecta, gracili, pedunculo c. 5 cm longo et rhachi sublaxe multiflora ad 8 cm longa muriculato-asperatis; bracteis erecto-patentibus lanceolatis, acuminatis, dorso muriculato-carinatis, pedicello ovarii articulati paulo longioribus; floribus in sectione inter minores, erecto-patentibus, illis B. erinacei Schltr. similibus; sepalis oblongis, obtusis, concavis, 3 mm longis, extus carina fimbriato-muricata ornatis, intermedio margine minute ciliolato, apice appendice antenniformi, apice globoso-incrassata, infracta, brevi ornato, lateralibus obliquis; petalis e ungue brevi subito in laminam oblique reniformem, obtusissimam, margine ciliatam dilatatis, 2 mm longis; labello circuitu ovato, supra basin trilobo, carnosulo, apice sigmoido-curvato, c. 1,5 mm longo, lobis lateralibus linear-falcatis, subacutis, intermedio e basi ovata, superne leviter carinata angustato, infra apicem sursum paululo incrassato, lateralibus fero 3-plo longiore, apicem versus subitus minute papilloso-puberulo; columna brevi, stelidiis in lacinias 3 subulatas fisis, pede mediocri; ovario dense muricato, articulato, pedicello inclusu c. 3 mm longo.

Kaiser-Wilhelms-Land : In the hinterland of Angriffshafen  
[Vanimo Harbour] A. Kempter.

One of the interesting species of the section Trachyrhachis and related most closely to B. erinaceum Schltr., but differs in the labellum.

619. Bulbophyllum pachynlossum Schltr., sp. nov.

Epiphyticum, validiusculum, 30–40 cm altum; rhizomate repente, flexuoso, polyrhizo, c. 5 mm diametente; radicibus filiformibus, flexuosis, glabris; pseudobulbis cylindraceis, unifoliatis, paulo compressis, c. 4 cm longis, medio fere 6–7 mm latis; folio erecto, ob lanceolato-oblongo, breviter acuminato, basin versus sensim in petiolum canaliculatum c. 4 cm longum angustato, 28–31 cm longo, supra medium 6–7 cm lato; inflorescentia singula, juxta basin pseudobulborum nata, erecta, 12–14 cm alta, pedunculo vaginis c. 4 amplectentibus, ovalibus breviter acuminatis magna pro parte obtecto, c. 3 mm diametente, racemo subdense 5–7 floro, usque ad 7 cm longo; bracteis late ellipticis, acuminatis, quam flores paulo brevioribus; floribus in genere inter maiores, illis B. foetidi Schltr. similibus, sepalis ellipticis, extus papilloso-muriculatis, apiculatis, c. 2 cm longis, lateralibus obliquis, mentum breve obtusum formantibus; petalis oblique ovalibus, breviter acuminatis, quam sepala distincte brevioribus.

1,2 cm longis, glabris; labello crasse carnoso, curvato, ovato, obtuso, basi retuso, glabro, c. 1 cm longo; columna brevi, crassa, vix 5 mm longa, brachiis triangulis, breviter et oblique acuminatis, angulo obtuso prosiliente, in medio columnae margine atrinque prosiliente, pede porrecto, apice incurvo, c. 8 mm longo; ovario obconico, subsessili, glabro, 8 mm longo.

Kaiser-Wilhelms-Land : In the hinterland of Angriffshafen  
[Vanimo Harbour] - A. Kempter.

This species represents the second of the so far monotypic section Brachyosteles. It is therefore a close relative of B. foetidum Schltr.

620. Bulbophyllum parvilabium Schltr., sp. nov.

Epiphyticum, validum, c. 30 cm altum; rhizomate valde abbreviato; radicibus filiformibus, flexuosis, glabris; pseudobulbis cylindraceo-ovoideis, unifoliatis, 3,5--4 cm altis, infra medium c. 1 cm diametentibus; folio erecto, oblanceolato-oblongo, breviter acuminato, basi sensim in petiolum canaliculatum, 4--5 cm longum angustato, lamina 21--23 cm longa, supra medium 5,5--6 cm lata; inflorescentiis pluribus juxta basin pseudobulborum natis, erectis, unifloris, pseudobulbos haud excedentibus; pedunculo brevi, paucivaginulato, c. 2 cm longo; bractea cucullato-ovata, obtusiuscula acuminata, ovario graciliter pedicellato multo breviore; flore in sectione inter minores, glabro; sepalis oblongo-lanceolatis, obtusiusculis, 1,3 cm longis, lateralibus subfalcato-obliquis; petalis oblique ligulatis, obtusiusculis, dimidio superiore rhombeo-lanceolatis, obtusiusculis, 3 mm longis, nervo medio extus carinato-incrassato; labello valde curvato rhombeo-ovato, tertia parte anteriore paulo angustato obtuso, usque ad medium obtuse bicostato, c. 3 mm longo; columnua brevi brachiis oblique lanceolatis, obtusis, pro columnae magnitudine satis amplis, pede adscendente quam columna ipsa paulo longiore; ovario pedicellato glabro, usque ad 2 cm longo.

Kaiser-Wilhelms-Land : In the hinterland of Angriffshafen  
[Vanimo Harbour] - A. Kempter.

One of the characteristic species of the section Brachypus to be best accommodated alongside B. rhomboglossum Schltr.

621. Bulbophyllum squamipetalum Schltr., sp. nov.

Epiphyticum, erectum, 16--23 cm altum; rhizomate abbreviato; radicibus filiformibus, flexuosis, gracilibus, glabris; pseudobulbis cylindraceis, basin versus paulo ampliatis, unifoliatis, 1,3--1,5 cm altis, infra medium usque ad 3 mm diametentibus; folio suberecto, oblique ligulato, acuto, basi sensim in petiolum brevem, 1--1,3 cm longum canaliculatum attenuato, lamina 9--17 cm longa, medio fere 0,9--1,5 cm lata; inflorescentiis juxta basin pseudobulborum natis, pluribus, suberectis, unifloris; pedunculo tenui, setiformi, vaginulis paucis dissitis obpresso; bractea ovata, acuminata, ovario pedicellato multo breviore; flore in genere inter minores, suberecto; sepalis e basi anguste ovata, elongato-acuminata, c. 2,2 cm longa, lateralibus obliquis; petalis minutissimis, squamiformibus, oblique et transverse oblongis, truncatissimis, vix 0,5 mm longitudine attingentibus; labello curvato, ovato, obtuso, basi profundius cordato, margine papillis sessilibus ciliolato, apice obtuse apiculato, superne plano, c. 5 mm longo, ima basi bicostato; columnua brevi, c. 2 mm alta, pede incurvo, apice subito reniformi-dilatato, stelidiis oblique semirhombeis, obtusis; ovario gracillime pedicellato, glabro, 1,5 cm longo.

Kaiser-Wilhelms-Land : In the hinterland of Angriffshafen  
 [Vanimo Harbour] - A. Kempfer.

Among the species of the section Peltopus, this one has comparatively small flowers but on the other hand has a column with a large foot which even in its length overlaps the column somewhat.

622. Phreatia Kempfii Schltr., sp. nov.

Epiphytica, erecta, c. 16 cm alta; radicibus filiformibus, flexuosis, glabris; rhizomate valde abbreviato; pseudobulbis depresso-globosis, bifoliatis, c. 4 mm altis, c. 6 mm diametentibus; foliis suberectis, ligulatis, oblique obtusis, usque ad 7 cm longis, 4-6 mm latis; scapo eretto, folia fere duplo superante, vaginis c. 6 amplectentibus, breviter acuminatis vel apiculatis, dissitis obsesso, glabro, racemo in specimino nostro nutante, dense multiflore, c. 5 cm longo; bracteis ovatis, acuminatis, flores paululo superantibus; floribus in sectione inter minores, verosimiliter albis; sepalis ovatis, breviter et obtusiusculae acuminatis, glabris, c. 2 mm longis, lateralibus valde obliquis, basi margine anteriore conspicue dilatata cum pede columnae mentum semiobvale obtusum, vix 1,5 mm longitudine superantem formantibus; petalis oblique ovatis, adscendentibus, apice subacuminato-attenuatis, obtusis, quam sepala paululo brevioribus; labello e basi breviter unguiculata abruptius in laminam quadrato-ovatam, breviter acuminatam, basi truncatam, superne basi papillis subulatis hispidulam dilatato, quam sepala lateralia paulo breviore, ima basi in sacrum porrectum oblique oblongoideum labello ipso 4-plo breviorem protruso; columna perbrevis, rostello eretto, clinandrium dorso elevatum paulo superante; ovario pedicellato clavato, c. 2,5 mm longo.

Kaiser-Wilhelms-Land : On the boundary between German and English New Guinea, Waria [River] District - A. Kempf.

Among the species of the section Saccophreatia this one is distinguished through the short comparatively rigid leaves and rather small flowers. Whether the raceme of flowers is always bent downwards or only in this specimen remains to be seen when examining further material.

623. Phreatia Kempferi Schltr., sp. nov.

Epiphytica, gracilis, 16-17 cm alta; rhizomate valde abbreviato; radicibus filiformibus, flexuosis, gracilibus, glabris; pseudobulbis valde approximatis, subglobosis, inaequaliter bifoliatis, vaginis 2-3 amplectentibus, interioribus foliiferis omnino obtectis, c. 5 mm diametentibus; foliis suberectis, ligulatis, obtusiusculis, basin versus subpetiolato-angustatis, exteriori c. 6, interiore c. 8 cm longo, 7-8 mm latis; inflorescentia erecta, juxta basin pseudobulborum nata, subflexuosa, gracili, pedunculo vaginis c. 5 dissitis, arcte amplectentibus acuminatis obsesso, 10-12 cm longo, racemo ipso dense multifloro, elongato, c. 6 cm longo; bracteis anguste lanceolatis, acuminatis, inferioribus flores fere aequantibus, superioribus sensim paululo brevioribus; floribus in sectione inter minores, glabris; sepalu intermedio ovali, obtuso, c. 1 mm longo, lateralibus valde obliquis, triangulis, obtusis, basi margine anteriore valde dilatata cum pede columnae mentum semioblongoideum, obtusum, vix 0,75 mm longum formantibus; petalis oblique oblongis, obtusis, quam sepala paululo brevioribus; labello e basi quadrato-ovali, concavo-unguiculata in lamina semilunato-reniformem, obtusissimam abrupte dilatato, quam sepala subaequilongo; columna brevi, rostello triangulo, breviter exciso, quam clinandrium dorso ampliatum paulo breviore; ovario pedicellato clavato, glabro, 3 mm longo.

Kaiser-Wilhelms-Land : In the hinterland of Angriffshafen  
[Vanimo Harbour] - A. Kempter.

In habit this species is most like P. constricta Schltr. (Phreatia potamophila Schltr., in Orch. Dtsch. - New-Guinea p. 937 non Fedde Rep. X p. 187). However, it differs considerably through the shape of the labellum.

624. Phreatia Micholitzii Schltr., sp. nov.

Epiphytica, erecta, c. 7 mm alta; rhizomate brevi, c. 1,5 mm diametro; radicibus filiformibus, flexuosis, glabris; pseudobulbis c. 7–10 mm inter se distantibus, oblongoideis, uni- (vel bi-) foliatis, c. 6–7 mm altis, medio fere 3 mm diametro; foliis erectis, linearibus, obtusis, basin versus angustatis, c. 4,5 cm longis, 3 mm latis; inflorescentia pergracili, pedunculo filiformi, vaginulis paucis, acuminatis obsesso, c. 5 cm longo, racemo c. 2 cm longo, subdense multifloro; bracteis ovato-lanceolatis, acuminatis, ovarium fero aequantibus; floribus niveis, parvulis, glabris; sepalis ovatis, obtusis, uninerviis, 1,25 mm longis, lateralibus valde obliquis, margine anteriore basin versus valde ampliata cum pede columnae mentum oblique semioblongoideum, obtusum, c. 1 mm longum formantibus; petalis oblique ovatis, obtusis, uninerviis, quam sepala paulo brevioribus; labello e basi semioblonga cuneato-dilatato, antice (explanato) semilunato, apiculato, basi concavulo, 1 mm longo, antice 1 mm lato; columna brevi, rostello bifido, erecto, clinandrium distincte superante; stigmate transverse oblongo; ovario clavato pedicellato, glabro, c. 1,75 mm longo.

Britisch Papua : Cloudy Mountains - Micholitz, 1894.

I received this small specimen years ago from Kränzlin without any identification and I cannot even identify the species in his since published 'monograph'. The species belongs to the Bulbophreatia and is distinguished by the form of the labellum.

625. Phreatia micrantha Schltr., sp. nov.

Epiphytica, erecta, 13–17 cm alta; rhizomate valde abbreviato; radicibus filiformibus, flexuosis, tenuibus, glabris; pseudobulbis depresso-subglobosis, parvulis, vix 5 mm diametentibus, unifoliatis, vaginis 2–3 foliiferis obtectis; foliis suberectis vel erectis, anguste ligulatis, subacutis, basin versus sensim paulo angustatis. 10–16 cm longis, medio fere 7–10 mm latis; inflorescentia adscendente vel suberecta, quam folia 2–3-plo breviore, pedunculo gracili, vaginis paucis amplectentibus, acuminatis obsesso, 3–3,5 cm longo, racemo ipso dense multifloro, usque ad 3,5 cm longo, 7 mm diametento; floribus in sectione perparvulis, glabris; sepalis ovatis, obtusis, vix 1,5 mm longis, lateralibus valde obliquis, basi margine anteriore conspicue dilatata cum pede columnae mentum semi-oblongum obtusum formantibus; petalis oblique oblongo-ovatis, valde obtusis, quam sepala paulo brevioribus; labelli lamina e basi perbreviter et late cuneata quadrato-ovata, obtusa, margine leviter undulata, dimidio inferiore papilloso-puberula, sepalis aequilonga, calcare porrecto, oblique oblongoideo-sacciformi, quam lamina subdupo breviore; columna brevi, rostello magno, errecto, alte bifido, clinandrium superante; stigmate reniformi; ovario perbreviter pedicellato clavato, glabro, vix 1,5 cm longo.

Kaiser-Wilhelms-Land : In the hinterland of Angriffshafen  
 [Vanimo Harbour] - A. Kempter.

In the section Saccophreatia this species is well characterised by having the smallest flowers of all species so far known.

626. Phreatia pleistantha Schltr., sp. nov.

*Epiphytica*, erecta, 10—20 cm alta; rhadicibus filiformibus, flexuosis, tenuibus, glabris; caule valde abbreviato, vaginis foliorum striato-nervosis, arcte amplectentibus omnino obtecto, 5—10-foliato; foliis suberectis, obliquo et angusto ligulatis, apicem versus angustatis, subacutis, basin versus sensim paulo angustatis, subcoriaceis, 7—15 cm longis, medio fere 4—9 mm latis; inflorescentiis erectis, dense permultifloris, elongatis, pedunculo paucivaginato brevi inclusu usque ad 16 cm longis, i. e. quam folia paulo brevioribus; bracteis erecto-patentibus, elliptico-ovatis, acuminatis, inferioribus flores vulgo paulo superantibus, superioribus sensim paulo minoribus; floribus in genere minutis, glabris, inversis; sepalis late ovatis obtusis, vix 1 mm longitudinis attingentibus, lateralibus valde obliquis, basi margine anteriore valde ampliata cum pede columnae mentum obtusum breve formantibus; petalis oblique oblongis, obtusis, quam sepala paululo brevioribus; labello e basi oblongo-cuneata dimidio superioro late rhomboe, obtusissimo, sepalis subaequilongo; columna brevi, crassiuscula, glabra, rostello breviter bidentato quam clinandrium paulo brevioro; ovario pedicellato clavato, glabro, c. 1 mm longo.

Kaiser-Wilhelms-Land : In the hinterland of Angriffshafen  
 [Vanimo Harbour] - A. Kempter.

This species is most closely related to P. polyantha Schltr. and P. kaniensis Schltr. but has even smaller flowers and a labellum more strongly widened in front.

627. Thrixspermum oeonioides Schltr., sp. nov.

Terestre, erectum, semimetrale; radicibus filiformibus, elongatis, flexuosis, glabris; caulis simplicibus, erectis vel adscendentibus, flexuosis, radicantibus, usque supra 50 cm longis, teretibus, pro genero laxius foliatis, c. 4 mm diametentibus; foliis erecto-patentibus, ovatis vel oblongo-ovatis, brevissime bilobulatis, basi amplexicaulibus, carnosocoriaceis, 4—5 cm longis, infra medium 1,7—2,5 cm latis; inflorescentiis in medio caule ortis, suberectis, caulem vulgo excedentibus, pedunculo gracili usque ad 25 cm longo, tereti, distanter paucivaginato; racemo pro sectione laxius multifloro, disticho, sensim evoluto, usque ad 13 cm longo; bracteis equitantibus, deltoideo-oblongis, obtusis, falcatis, ovario pedicellato-fere 3-plo brevioribus; floribus erecto-patentibus, illis *T. amplexicaulis* Rehb. f. similibus et fere aequimagnis, ut videtur roseis; sepalis oblongis, obtusis, 1,4 cm longis, glabris, lateralibus obliquis; petalis oblique elliptico-oblongis, obtusis, quam sepala paululo minoribus; labello cucullato-saccato, usque supra medium 3-lobo, c. 1 cm longo, explanato circuitu ovali, intus basi lineis 3 papillosis ornato, medio callo semioblongo-ligulato, obtuse, parvulo aucto, lobis lateralibus falcato-oblongis, obtusis, intermedio carnos, oblongo-ligulato, obtuso, laterales dimidio superante; columna brevi, crassiuscula, pede ligulato, c. 6 mm longo; ovario gracili, glabro, c. 1 cm longo; capsula cylindrica, gracili, supra 5 cm longa.

Kaiser-Wilhelms-Land : On the boundary between German and English New Guinea, Waria [River] District - A. Kempf.

The first relative of T. amplexicaule Rchb. f. from New Guinea. I observed a species of the same relationship in 1908 near Ngoye at the foot of the Finisterre Range, in a flowerless condition.

628. Microtatorchis laxa Schltr., sp. nov.

Epiphytica, erecta, gracilis, usque ad 13 cm alta; radicibus filiformibus, elongatis, flexuosis, gracilibus, glabris; caule subnullo; foliis c. 4—5 oblique oblongo-ligulatis, apicem versus sensim paululo dilatatis, apiculatis, exsiccatione tenuissimis, diaphanis, 2—2,5 cm longis, supra medium 2—3 mm latis; racemis erecto-patentibus vel suberectis, flexuosis, per laxo multifloris; bracteis foliaceis, oblique ligulatis, apiculatis, flores plures (4—5-plo) superantibus, ima basi margine utrinque in appendicem subulatam stipuliformem productis; floribus in genere mediocribus, ut videtur viridibus, glabris; sepalis e basi ovato-lanceolata caudato-acuminatissimis, c. 4 mm longis, basi cum petalis breviter connatis, lateralibus obliquis; petalis e basi oblique ovata caudato-acuminatissimis, quam sepalis subaequilongis, basi cum sepalis breviter connatis; labello late obovato, concavo, apice in caudam subulatam lamina aequilongam producto, petalis aequilongo, lamina supra medium excavationibus 2 levibus semiorbicularibus ornato, calcare subrecto cylindraceo-clavato, obtuso, c. 2,5 mm longo; columna perbrevi, generis, stigmate alte bilobato, auriculis vel lobis erectis antheram subaequantibus; ovario cylindraceo, glabro, c. 3 mm longo.

Kaiser-Wilhelms-Land : In the hinterland of Angriffshafen [Vanimo Harbour] - A. Kempter.

In this species we have, up until now, the closest known relative of M. papuana Schltr. but it is already distinguished by its habit and the many looser and larger inflorescences.

629. Taeniophyllum pleistorhizum Schltr., sp. nov.

Epiphyticum, subacaule; radicibus numerosis, appianatis, e basi angustiore dilatatis, usque ad 30 cm longis, 2,5—3,5 mm latis; inflorescentiis erectis; pedunculo gracili, usque ad 3—6,5 cm longo, dense muriculato-hispido, racemo ipso sensim evoluto, dense pluriflori, rhachi usque ad 5 mm longa; bracteis lanceolatis, acuminatis, ovario pedicellato subdupo brevioribus; floribus succedaneis, in affinitate inter minores: sepalis oblongo-ligulatis, obtusis, 3 mm longis, lateralibus obliquis; petalis late et oblique ovatis, obtusis, quam sepalis manifeste latioribus et brevioribus; labello circuitu obovato, concavulo, 4-ta parte anteriore 3-lobato, 2,5 mm longo, lobis lateralibus obtusatis, abbreviatis, in medio antico semioblongo, praesertim apice carnososo, obtuso, parvulo, calcare dependente, cylindraceo, apice clavato-incrassato, glabro, 5 mm longo; columna brevi, clinandrio paulo contracto, rostello decurvulo, satis magno, apice infracto; ovario pedicellato muriculato-pilosso, pedicello inclusu c. 4 mm longo.

Kaiser-Wilhelms-Land : In the hinterland of Angriffshafen [Vanimo Harbour] - A. Kempter.

This species is a close relative of T. clavatum Schltr. from which it differs specifically through its smaller flowers and in the shape of the labellum.

630. Taeniophyllum setipes Schltr., sp. nov.

Epiphyticum, pusillum; radicibus numerosis, filiformibus, flexuosis, applanatis, 8—15 cm longis, c. 1—1.5 mm latis; caule subnullo; inflorescentiis pluribus, erectis, gracillimis, pedunculo basi paucivaginulato, 1.3—2 cm longo, setiformi, glabro; racemo sensim evoluto, subdensifloro, rhachi flexuosa, usque ad 1 cm longa; bracteis deltaeoides, acutis, distichis, ovario pedicellato multo brevioribus; floribus succedaneis, glabris, in sectione inter minores, ut videtur flavidis, textura tenuibus; sepalis ligulatis, obtusiusculis, glabris, c. 3 mm longis, lateralibus obliquis; petalis quam sepa valde similibus, obliquis, sed paulo brevioribus; labello concavo, integro, explanato ovali, antice in acumen carnosum obtusum angustato, 2.75 mm longo, medio fere c. 1.5 mm lato, calcare lateraliter paulo compresso subretrorso, subcylindraceo, apice subadscendente paulo attenuato, obtuso, 2 mm longo; columna brevi, clinandrio paulo constricto, rostello decurvo, subulato, apice perbroviter exciso, in sectione mediocri; ovario pedicellato gracilis cylindraceo, minute furfuraceo, c. 2.5 mm longo.

Kaiser-Wilhelms-Land : On the boundary between German and English New Guinea, Waria [River] District — A. Kempf.

By its appearance, this species with its small flowers resembles many others of the section Rhynchandra. Only by closer examination is it apparent that the flowers are distinguished by the shape of the spur.

This makes it a relative of T. conoceras Schltr. from which it differs specifically by the shape of the labellum and the length of the spur.

## ORCHIDACEAE NOVAE ET CRITICAE

## DECAS LXIV

## ADDITIONA AD ORCHIDEOLGIAM PAPUANAM III

In the following Decade I will describe the new orchids which the missionary Chr. Keysser of the Sattleberg Station has collected on his important expedition [in 1912 - 13] through which we have for the first time received a more exact knowledge of the high range in the south-west of the Sattlebergs, the Saruwaged.

The small collection of which more than half of the species proved to be new is therefore of particularly great importance to the orchid-science of Kaiser-Wilhelms-Land, because for the first time we have access to orchid material from this part of New Guinea which was collected at altitudes of from 2500 - 4000m. All species collected within this high zone were new.

We can gain the impression from this small collection that certain types, for instance species of the section Oxyglossum of Dendrobium and the genus Giulianettia which begin with the rain forest zone (approximately 1000m) and extend as high as 3700 to 4000m where they are exposed to temperatures which at certain times of the year fall considerably below 1 degree C.

Hopefully missionary Keysser Will be able to acquaint us with the vegetation of these high ranges by further expeditions in these interesting areas.

631. Ceratostylis Keysseri Schltr., sp. nov.

Epiphytica, erecta, gracilis, 20-22 cm alta; rhizomate valde abbreviato; radicibus filiformibus, flexuosis, tenuibus, pilosulis; caulis gracilis, filiformibus, basi vaginis paucis amplectentibus pallidis circumdatis; 10-14 cm longis, vix 1 mm diametentibus, unifoliatis; folio erecto-patente vel suberecto, filiformi-subulato, 6-7,5 cm longo, vix 1 mm diametente; capitulis sessilibus, plurifloris, i. e. inflorescentiis pluribus fasciculatis, unifloris, vaginis paucis ellipticis acuminatis circumdatis; pedunculo valde abbreviato; bractea elliptica, breviter acuminata, ovario pedicellato bene breviore; flore in genere inter minores, suberecto; sepalis oblongis, obtusiusculis, 3-nerviis, glabris, c. 3 mm longis, lateralibus obliquis, basi margine anteriore dilatata mentum per breve obtusum formantibus; petalis oblique et obtuse oblongo-lanceolatis, obtusiusculis, uninerviis, quam sepalae subaequilongis; labello circuitu anguste ovato, tertia parte apicali cernoso-incrassato, obtuso, petalis aequilongo, carinis 2 parallelis minute papilloso-puberulis e basi usque ad medium fere decurrentibus ornato, caecorum glabro, infra medium 1,25 mm lato; columna brevi, brachiis brevibus concavis, oblique et breviter semioblongis, pede per breve; ovario, pedicellato subclavato, albido-pilosulo, c. 2,75 mm longo.

Kaiser-Wilhelms-Land : Saruwaged Ranges, alt. c. 2400-3000m

- C. Keysser Oct. 1912.

The species is closely related to C. flavescens Schltr. though it differs through the conspicuously strong reduction in the formation of the mentum and in the shape of the labellum.

632. Mediocalcar brevisaccatum Schltr., sp. nov.

Epiphyticum, erectum vel suberectum, 13-15 cm altum; radicibus filiformibus, flexuosis, gracilibus, dense pilosulis; pseudobulbis cylindraceis, superpositis, bifoliatis, cum rhizomate connatis, 1,5-1,8 cm longis, c. 3 mm diametentibus; foliis erecto-patentibus, oblongo-ligulatis, obtusis, basin versus angustatis, exsiccatione nigricantibus, 4-5 cm longis, medio fere 6-8 mm latis; inflorescentiis apicalibus, unifloris, singulis, pedunculo 1,3-1,5 cm longo, gracili; bractea squamiformi, deltoidea, ovario multoties breviore; flore illo M. diphylli Schltr. simili et fere aequimacho, glabro; sepalis usque ad tertiam partem apicalem in tubum oblique urceolarem antice ventricoso-inflatum connatis, c. 1,2 cm longis, apicibus liberis oblongo-lanceolatis, obtusiusculis, lateralibus obliquis; petalis angusto ligulatis, obtusiusculis, supra medium paululo dilatatis, quam sepala subaequivalentis, labelli ungue e basi dilatata medio angustato, lamina ovali, obtuse et breviter acuminata, sacco brevi obtuse conico, labello toto 8 mm longo, lamina medio fere 3,5 mm lata; columna recta, apicem versus paululo dilatata, vix 6 mm longa, pede brevi; ovario pedicellato gracili, glabro, c. 1,4 cm longo.

Kaiser-Wilhelms-Land : Saruwaged Ranges, alt. c. 2400 - 3000m - C. Keysser, Oct. 1912.

This species also from the section Epicalcar is distinguished from the two related species M. luteo-coccineum and M. monticola Schltr. by the lip.

633. Epiblastus angustiflorus Schltr., sp. nov.

Epiphyticus, patulus, c. 35-40 cm longus, radicibus filiformibus, flexuosis, gracilibus, villosulis; pseudobulbis cylindraceis, unifoliatis, superpositis, vulgo c. 5 cm longis, 3-3,5 mm diametentibus; folio lineariligulato, obtusiusculo, sub lente breviter et inaequaliter bilobulato, 18-24 cm longo, medio fere 9-12 mm lato; inflorescentiis apicalibus, fasciculatis, unifloris; pedunculis filiformibus 2-3 cm longis, glabris; bractea deltoidea, acuminata, ovario pedicellato multo breviore; flore in genere inter minores, glabro; sepalis ovato-lanceolatis, subacutis, 6,5 mm longis, lateralibus obliquis; basin versus margine anteriore dilatatis cum pede columnae mentum breve, triangulum, obtusum, 2,5 mm longum formantibus; petalis oblique ligulatis, obtusiusculis, quam sepala subaequivalentis, labello curvato, e ungue oblongo-cuneato basi breviter et obtuse marginie utrinque rotundato in laminam quadrato-oblongam apiculatam, marginie leviter undulatam, infra medium incrassationibus 2 obscuris juxtapositis semiorbicularibus ornata expando, toto vi explanato c. 6,5 mm longo, medio et infra apicem 3 mm lato; columna brevi, juxta stigma dilatata, 8,5 mm alta, pede decurve, c. 2,5 mm longo, medio unguis labelli adnato; ovario pedicellato graciliter cylindraceo, glabro, c. 1,2 cm longo.

Kaiser-Wilhelms-Land : Saruwaged Ranges, alt. c. 2400 - 3000m - C. Keysser, Oct. 1912.

Among the species known so far this one is distinguished by

narrower leaves which remind one of E. torricellensis Schltr. However, it is well distinguished through the labellum.

634. Giulianettia Keysseri Schltr., sp. nov.

Epiphytica, erecta vel patula, gracilis, usque ad 40 cm alta; rhizomate valde abbreviato; radicibus filiformibus, flexuosis, tenuibus, glabris; caulis ramosis, gracillimus, teretibus ramisque bene foliatis, vaginis foliorum arcte amplectentibus, verruculosis, apice setis pluribus subulatis ciliatis, 1—1,5 mm diametentibus; foliis erecto-patentibus, linearibus, sub-acutis, glabris, 1,3—2 cm longis, medio fere 1,5—2 mm latis; inflorescentiis apicalibus, unifloris, sessilibus; bractea oblonga, apiculata, ovarii dimidium paulo superante, spatha aequimagna minute et sparsim furfuracea circumdata; flore in genere mediocri, glabro, ut videtur brunneo; sepalis patent-recurvulis, lanceolato-linearibus, apiculatis, 1,3 cm longis, lateralibus obliquis, basi paulo ampliata calcaris basin leviter amplectentibus; petalis patent-recurvulis, sepalis bene similibus, sed paulo minoribus et angustioribus, obliquis: labello parvulo concavo, marginibus usque infra medium columnae adnato, vi explanato late rhomboe, obtuse apiculato, 3 mm longo, medio 3 mm lato, calcare filiformi, ovario paululo longiori appreso, obtuso, 1,2 cm longo; columna brevi, clinandrio latero utrinque unidentato, dorso humili, obtusissimo, quam rostellum bene breviore; ovario gracilis cylindraceo, glabro, 1,5 cm longo.

Kaiser-Wilhelms-Land : Saruwaged Ranges, alt. c. 3200 — 3700m — C. Keysser, Oct. 1912.

A very slim species, which through the slack growth differs from all others so far known among the genus.

635. Cadetia Foersteriana Schltr., sp. nov.

Epiphytica, parvula, 3—4 cm alta; rhizomate valde abbreviato; radicibus filiformibus, elongatis, gracilibus, glabris; pseudobulbis (vel caulis) cylindraceis, unifoliatis, 8—16 mm longis, c. 1 mm diametentibus; folio erecto, lineari-ligulato, subacuto vel apiculato, carnosulo, basi breviter contracto, 1—2,5 cm longo, medio fere 2,5—3 mm lato; inflorescentia vulgo singula, apicali, uniflora, pedunculo brevissimo, vix 2 mm longo; bractea ovata, apiculata, ovario pedicellato multo breviore; flore in genere inter minores, suberecto, glabro, ut videtur lacteo; sepalis late oblongis, breviter acuminatis vel apiculatis, 5 mm longis, intermedio reflexo, lateralibus obliquis, basi margine anterioro producta cum pede columna mentum anguste cylindraceum calcariforme, obtusum, rectum, c. 3,5 mm longum formantibus; petalis oblique triangulo-lanceolatis, obtusiusculis, basi breviter decurrentibus, 4 mm longis; labello e ungue linearis marginibus mento sepalorum adnate, in laminam cuneato-ligulatam, supra medium trilobatam producto, 8 mm longo, lobis lateralibus abbreviatis, triangulis, antice truncatis, intermedio antico, oblongo, apiculato, medio callosocrassato; columna brevi generis, auriculis lateralibus clinandrii lobo dorsali distincte longioribus, oblique truncatis, pede linearis, subrecto, concavulo; ovario pedicellato clavato, triquetro, c. 1 cm longo.

Kaiser-Wilhelms-Land : Hinterland of the Fattelburg [Ranges], alt. c. 1200m — C. Keysser, April 1913.

This dainty small species is related most closely to C. chionantha Schltr., but is distinguished by the shape of the labellum. I have dedicated the species to the recently deceased Professor F. Förster

who left the Keysser Orchids to me for further research.

636. Dendrobium Keysseri Schltr., sp. nov.

Epiphyticum, humile, c. 8 cm altum; rhizomate valde abbreviato; radicibus filiformibus, flexuosis, gracilibus, glabris; pseudobulbis oblongoideo-fusiformibus, apice vulgo bifoliatis, 8—12 mm altis, medio fere ad 5 mm diametentibus; foliis erecto-patentibus, elliptico-ligulatis, subacutis, basi subpetiolato-angustatis, glabris, usque ad 8 cm longis, medio fere 1—1,3 cm latis; inflorescentis apicalibus, sessilibus, ut videtur bifloris; bracteis suborbiculatis, apiculatis, ovario pedicellato plures breviribus; floribus in sectione inter medieores, glabris, speciosis, ut videtur laete purpureis. labello sanguineo; sepalo intermedio ovato-lanceolato, acuminato, 1,4 cm longo, lateralibus oblique ovato-triangulis, acuminatis, basi margine anteriore valde producta cum pede columnae mentum conicum, calcariforme, obtusiusculum, c. 1,5 cm longum subrectum formantibus; petalis oblique oblongis, acuminatis, basin versus sensim paulo angustatis, quam sepala paululo brevioribus; labello e basi angustiore sensim paululo dilatato, ligulato, subtrilobato, angulato-acuminato, marginibus apicem versus minutissime papilloso-ciliolato, 2,1 cm longo; columna brevi, auriculi lateralibus oblique semioblongis, dorso subdentulatis, pede linearis, 1,5 cm longo; ovario pedicellato, subclavato, acute 5-costato, 2,2 cm longo.

Kaiser-Wilhelms-Land : Two days journey west of the Sattelburg [Ranges], alt. c. 1400 — 1500m — C. Keysser, April 1913.

The species of the section Oxyglossum always remind me of the Primulas of the Asian Highlands. The glowing colours of their flowers which appear, mostly in pairs, at the tips of the pseudobulbs ensure that these small plants are not easily missed. The species in question is related to D. pentapterum Schltr. but has an obviously different colouring of the flowers.

637. Dendrobium saruwagedicum Schltr., sp. nov.

Epiphyticum, humile, c. 10 cm altum; radicibus filiformibus, flexuosis, gracilibus, glabris; pseudobulbis fusiformibus, superpositis, bifoliatis, vaginis nigris basi obtectis, 1—1,5 cm longis, usque ad 2 mm diametentibus; foliis linearibus, apiculatis, basi in petiolum articulatum contractis, 5—7 cm longis, medio fere usque ad 4 mm latis; inflorescentia apicali, sessili, biflora; bracteis ovatis, acuminatis, ovario pedicellato plures brevioribus; floribus erectis, in sectione inter majores, glabris; sepalo intermedio elliptico, acuminato, 1,2 cm longo, lateralibus oblique triangulis, acuminatis, basi margine anteriore valde producta cum pede columnae mentum e basi conica calcariforme, brevissime bilobulatum, 2,1 cm longum, rectum, ovario accumbens formantibus; petalis oblique ligulatis, apiculatis, margine minute papilloso-ciliolatis, quam sepala paululo brevioribus; labelli dimidio inferiore linearis, marginibus columnae pedis adnato, superiore obovato-ligulato, apice abruptius acuminato, marginibus minutissime papilloso-ciliolato, toto 2,8 cm longo, infra apicem 4,5 mm lato; columna brevi, auriculis oblique quadratis minute serrulatis, pede angusto, apice brevissime bilobulata, 2,1 cm longo; ovario clavato, pedicellato, apicem versus leviter 5-costato, glabro, c. 3 cm longo.

Kaiser-Wilhelms-Land : Upon Mount Bolan, the highest part of the Saruwaged Ranges, alt. c. 4000m — C. Keysser, Oct. 1912.

This species distinguishes itself from all others in the

section Oxyglossum through the pseudobulbs, which are situated above one another.

638. Eria hapalostachys Schltr., sp. nov.

Epiphytica, valida, verosimiliter patula; caulis simplicibus, teretibus, bene foliatis, vaginis foliorum dense puberulis, arcte amplexentibus omnino obtectis, 30—50 cm longis, 5—6,5 mm diametro; foliis erecto-patentibus, lanceolato-ligulatis, acutis, marginibus recurvulis, superne mox glabratris, subitus brevissime et dense puberulis, 12—14 cm longis, infra medium 1,5—1,9 cm latis, carnosae-coriaceis; racemis erecto-patentibus, brevissime pedunculatis, subdenso 10—18-floris, usque ad 8 cm longis, dense rufo-hirtis; bracteis subrecurvis, suborbicularibus, apiculatis, ovario vulgo paululo longioribus; floribus in sectione inter mediocres, recurvo-patentibus, extus dense rufo-hirtis; sepalis oblongo-ligulatis, obtusiusculae acuminatis, 1 cm longis, lateralibus obliquis, basi margine anteriore valde protracta cum pede columnae mentum breviter cylindraceum apicem versus paululo dilatatum, obtusissimum, 5 mm longum formantibus; petalis oblique ligulatis, obtusiusculis, supra medium paululo dilatis, sparsim pilosis, quam sepala paululo brevioribus; labello e basi angustiore sensim obovato-dilatato, 4-ta parte apicali in laminam perlate reniformem antice excisam cum apiculo minuto abrupte expanso, carinis 3 parallelis basin versus mox evanidis (intermedia paulo longiore) in medio ornato, c. 1,2 cm longo, supra medium 4 mm lato, lamina apicali 6 mm lata; columnae mediocri suberecta, pilosa, pede angusto, incurvula; ovario sessili, cylindraceo-obconico, depsisimmo hirto, 5 mm longo.

Kaiser-Wilhelms-Land : Three days journey west of the Sattelburg [Ranges] [no. alt. cited] — C. Keysser, April 1913.

A middle sized species of the [section] Trichotosia which is well distinguished by the inflorescences and the lip.

639. Bulbophyllum bolaninum Schltr., sp. nov.

Epiphyticum, patulum, 35—45 cm longum; rhizome caulinum, rigido, taxe pseudobulbis obpresso, vaginis pallidis subimbricantibus acutis, arcte amplexentibus omnino obteco, c. 3 mm diametente; radicibus filiformibus, flexuosis, villosulis; pseudobulbis adscendentibus, cylindraceis, apicem versus sensim paululo attenuatis, unifoliatis, 2,3—2,7 cm longis, c. 2—2,5 mm diametentibus; folio linear-lanceolato, acuto, basin versus paulo contracto, tenuiter coriaceo, 5—8 cm longo, medio fere 4—8 mm lato; racemis 1—3-nis juxta basin pseudobulborum natis, arcuato-decurvis, laxe 5—9-floris, pedunculo brevi paucivaginato inclusa usque ad 4 cm longis; bracteis late ovalibus, breviter acuminatis, ovarium sessile paulo excedentibus; floribus in sectione vix inter mediocres, glabris; sepalis falcato-patentibus, e basi elliptica mucronato-acuminatis, intermedio 3 mm longo, lateralibus obliquis, 4 mm longis; petalis oblique obovato-oblongis, valde obtusis, basin versus sensim paululo angustatis, quam sepala intermedium plus duplo brevioribus; labello carnoso, e basi perlate et perbreviter cuneata, excavata quadrato, apice obtusissimo incurvula, c. 1 mm longo et lato, glabro; columnae brevi, crassiuscula, vix 0,75 mm longa, brachiis abbreviatissima, oblique truncata, pede suberecto, crasso, oblongoideo, quam columnae ipsa duplo breviore; ovario sessili, cylindraceo, glabro, 1,25 mm longo.

Kaiser-Wilhelms-Land : Saruwaged Ranges, on the [Mount] Bolan, alt. c. 2400 — 3000m — C. Keysser, Oct. 1912.

A slender species of the section Pelma which fits best near B. gorumense Schltr.

640. Phreatia Keysseri Schltr., sp. nov.

Epiphytica, suberecta, usque ad 30 cm longa; radicibus filiformibus, flexuosis, gracilibus, glabris; caule simplici, teretiusculo, dense foliato, 10—15 cm longo, vaginis foliorum striato-nervosis omnino obtecto, c. 4 mm diametente; foliis erecto-patentibus linear-ligulatis, obtusis, 10—12 cm longis, medio fere 6—8,5 mm latis; inflorescentiis ex axillis foliorum erecto-patentibus, folia dimidio fere superantibus; pedunculo plurivaginato 7,5—9 cm longo, racemo ipso dense multifloro, elongato, usque ad 8 cm longo, c. 8—9 mm diametente, subflexuoso, apicem versus laxiusculo; bracteis patentibus, ellipticis, acuminatis, inferioribus flores fere aequantibus, superioribus sensim paulo minoribus; floribus in sectione inter majores, illis *P. elongatae* Schltr. similibus, sed paululo majoribus; sepalis ovatis, obtusis, glabris, c. 2,25 mm longis, lateralibus obliquis, basi margine anteriore paulo ampliata cum pede columnae mentum obtusum, breve formantibus; petalis oblique ovalibus, obtusis, quam sepala paululo brevioribus; labello e ungue brevi, oblongo, concavo in laminam quadratam, basi truncatam apice obtusissimam vix apiculatam, superne praesertim basin versus papilloso-puberulam abrupte dilatato, 2,25 mm longo, lamina 1,5 mm longa, basi 2,25 mm lata; columna brevi, rostello clinandrium paululo excedente; ovario pedicellato, clavato, glabro, c. 2,5 mm longa.

Kaiser-Wilhelms-Land : Saruwaged Ranges, alt. c. 2400 — 3000m — C. Keysser, Oct. 1912.

This very characteristic species of my section Caulo-Phreatia is related most closely to *P. elongata* Schltr., but is shorter in growth with dense narrower leaves and has quite a different labellum.

## ORCHIDACEAE NOVAE ET CRITICAE

DECAS LXXI - LXXIII

## ADDITIONA AD ORCHIDEOLOGIAI PAPUANAE IV

701. Aphyllorchis exilis Schltr., sp. nov.

Terrestris, erecta, c. 35--40 cm alta; caule subflexuoso, tereti, glabro, vaginis pluribus (8—9) brevibus, apiculatis, dissitis, arcte amplexentibus obpresso, supra basin vix 2 mm diametente; racemo laxe 6—10-floro, usque ad 8 cm longo, erecto; bracteis patulis, lanceolato-oblongis, subacute vel apiculatis, ovario 5—6-plo brevioribus; floribus erecto-patentibus, glabris, illis A. torricellensis Schltr. similibus sed paulo majoribus; sepalis anguste oblongis, obtusis, intermedio concavo, c. 5 mm longo, lateralibus subfalcato-obliquis, extus nervo medio carinato-incrassatis, 4 mm longis; petalis subfalcato-oblongis, obtusis, basin versus paululo dilatatis, marginibus levissime undulatis, 4,5 mm longis, quam sepala paulo latioribus; labelli hypoehilio obtriangulo-rhombeo, i. e. margine utrinque in lobum triangulum, obtusiuseulum dilatato, epichilio quadrato, antice in lobulum semiorbicularem, apice obtuso incrassatum producto, toto 3,5 mm longo, medio fere 2,5 mm lato, supra basin 1,5 mm lato, hypoehilio 1,25 mm longo; columna leviter curvata, 2,75 mm longa, clinandrio cucullato, dorso alte inciso; ovario pedicellato gracili, cylindraceo, glabro, c. 8 mm longo.

Kaiser-Wilhelms-Land : On the boundary between German and English New Guinea, Maria [River] District - A. Kempf.

This species is most like A. gracilis Schltr. from Celebes.

However, it is taller and differs from it and A. torricellensis Schltr. through the almost triangular-rhomboid hypochile. The species of the related group [section] A. pallida Bl., A. Beccarii Rchb. f.

A. torricellensis Schltr. and A. gracilis Schltr. are all rather alike, only the lip, especially the shape of the hypochile is specifically well differentiated.

702. Coodyera porphyrophylla Schltr., sp. nov.

Terrestris, erecta, 15—21 cm alta; rhizome cauliforme, radicante; radicibus flexuosis, villosis, crassiuseculis; caule erecto, c. 4—5-foliato, tereti, glabro, 6—7 cm alto, c. 2,5 mm diametente; foliis erecto-patentibus vel patentibus, petiolatis, purpureo-brunneis, lamina oblongo-lanceolata, acuminata, basi rotundata, 3,5—4,2 cm longa, medio vel infra medium 1,2—1,6 cm lata, petiolo basi dilatata vaginante, usque ad 1 cm longo; scapo subflexuoso, vaginalis paucis, dissitis, acuminatis obpresso, praesertim apicem versus glanduloso-puberulo, racemo excluso c. 10 cm longo; racemo subdense multifloro, subsecundo, usque ad 4 cm longo; bracteis lanceolatis, acuminatis, ovarium excedentibus; floribus in genere inter minores: ut videtur extus purpurascensibus: sepalis ovatis, obtusis, glabris, intermedio concavo, vix 3 mm longo, lateralibus subfalcatis, intermedio paulo longioribus; petalis ligulatis, obtusis, subfalcatis, glabris, sepalо intermedio margine interiore agglutinatis, subaequilongis; labello circuitu oblongo, basi subsaccato-cucullato, antice attenuato et in lobulum apicalem semioblongum, obtusum, parvulum, producto, intus dimidio inferiore appendicibus subulatis satis numerosis obtecto, apice minute papilloso, 3,5 mm longo, medio fere 2 mm lato; columna mediocri supra medium dilatata, 2 mm alta; ovario cylindraceo, glanduloso-puberulo, leviter curvato, 5 mm longo.

Neu-Mecklenburg : On the mountains of eastern Namatanai-  
Dr. Schlaginhaufen, 1908.

In habit this species reminds one of G. venusta Schltr. However, it differs in the shape of the labellum and the petals and is also distinguished by the leaves which are red-brown and red on the under-side.

703. Goodyera Wernerii Schltr., sp. nov.

Terrestris, adseendens, 12—14 cm alta; rhizomate caulinormi, repente; radicibus crassiusculis, flexuosis, villosulis; caule e basi adscendente erecto, tereti, glabro, usque ad 12 cm longo, 3 mm diametiente; foliis 5—6 erecto-patentibus, petiolatis, glabris, lamina oblonga vel oblongo-lanceolata, acuminata, basi rotundata, obliqua, 3,5—5,5 cm longa, infra medium 1,7—2 cm lata, petiolo basi dilatata vaginante, 1,7—2,2 cm longo; inflorescentia erecta, pedunculo brevi, paucivaginato sparsim et breviter glandulos-puberulo, usque ad 1,5 cm longo, racemo dense multifloro, ovoideo vel oblongoideo, rhachi glandulos-puberula, 1,5—2,5 cm longa; bracteis erecto-patentibus, flores paulo superantibus; floribus in genere inter minores, fide collectoris albis, glabris; sepalis ovatis, obtusis, 3-nerviis, intermedio 3 mm longo, lateralibus obliquis, 3,5 mm longis; petalis e basi unguiculato-ligulata oblique rhomboeo ovatis, obtusis, margine suberenu-latis, sepalo intermedio aquilongo margine interiore agglutinatis; labello circuitu ovato, cucullato-concavo, obtuse apiculato, intus dimidiq inferiori dense appendicibus subulatis obtecto, 2 mm longo; columna mediocri, glabra, rostello satis alto, usque ad medium exciso; ovario fusiformi cylindraceo, torto, c. 5 mm longo.

Kaiser-Wilhelms-Land : Finisterre Ranges, on [Mount] Gelu,  
alt. c. 1600m — E. Werner, no. 79, Aug. 1907.

Indications are that the leaves of this delightful species are brown with a lighter centre nerve. It is related most closely to G. lamprotaenia Schltr.

704. Moerenhoutia geluana Schltr., sp. nov.

Terrestris, erecta, 40—55 cm alta; rhizomate caulinormi, tereti, 3—4 mm diametiente; radicibus flexuosis, crassiusculis, villosulis; caule tereti, glabro, erecto, 5—6-foliato, 13—22 cm alto, c. 5 mm diametiente; foliis erecto-patentibus, petiolatis, glabris, lamina elliptico-lanceolata, obliqua, acuminata, basi rotundato-cuneata, 5,5—9 cm longa, infra medium 2,4—3,6 cm lata, petiolo basi dilatata vaginante, 2,8—4 cm longo; scapo erecto, stricto, glabro, pedunculo vaginis pluribus acuminatis, amplectentibus obsesso, racemo dense multifloro, usque ad 13 cm longo; bracteis erecto-patentibus, elliptico-lanceolatis, acuminatis, ovarium fero aequantibus; floribus in genere mediocribus, illis M. zeuxinoides Schltr. similibus et fero aequimagnis, glabris; sepalis oblongis, obtusis, 8 mm longis, lateralibus obliquis; petalis e basi angustata ligulata oblique rhombatis, obtusis, sepalo intermedio margine interiore agglutinatis; labello e basi cucullato-concava contracto, mox sursum dilatato, elliptico-concavo, antice in lobulum semioblongum, obtusum producto, supra basin intus corpusculis 2 rotundatis, dense verruculoso-rugosis ornato, nervo medio-incrassato, toto 7 mm longo; columna mediocri, facie sulcata, rostello alte bifido; ovario cylindraceo, glabro, c. 9 mm longo.

Kaiser-Wilhelms-Land : On the peak of [Mount] Gelu, in the Finisterre Ranges, alt. c. 1700m — E. Werner, no. 69, Aug. 1907.

This species is related closely to M. zeuxinoides Schltr. but has

however more lanceolate leaves, entire petals and a slightly different labellum.

705. Eurycentrum amblyoceras Schltr., sp. nov.

Terrestre, erectum, 17—24 cm altum; rhizomate cauliformi, decumbente; radicibus filiformibus, flexuosis, dense pilosulis; caule adscendente vel suberecto, c. 5-foliato, tereti, glabro, c. 4 cm longo, 2,5—3 mm diametente; foliis erecto-patentibus vel subpatentibus, petiolatis, lamina oblique ovata vel anguste ovata, acuminata, basi subrotundata, 2,5—4,3 cm longa, infra medium 1,2—2,2 cm lata, petiolo basi dilatato vaginante, c. 1 cm longo; seapo erecto, stricto, glanduloso-pilosulo, pedunculo paucivaginato, 9—13 cm longo, racemo secundo, dense multifloro, 4,5—6 cm longo; bracteis erecto-patentibus, acuminatis, inferioribus lanceolatis, florem fere aequantibus, superioribus ovatis, mox conspicue brevioribus; floribus illis *E. obscuri* (Bl.) Schltr. similibus et fere aequimagnis; sepalis ovatis, minute glanduloso-pilosulis, obtusis, 3,75 mm longis, intermedio cucullato-concavo, lateralibus obliquis, basi paulo dilatatis; petalis oblique oblongis, obtusis, apicem versus minute papillosis, sepallo intermedio aequilongo margine interiore arte agglutinatis; labello late rhombica concavo, deinde valde contracto ibique praescritum margine dense papilloso, antice (tertia parte apicali) in laminam reniformem apiculatam glabram abrupte dilatato, 3,5 mm longo, calcare oblique oblongoideo, obtuso, intus dorso infra apicem appendicibus 2 parvulis globosis oblique stipitatis ornato, 4,5 mm longo; columna brevi, generis; ovario pedicellato, glandulosopilosulo, 5 mm longo.

Britisch Papua : Cloudy mountains — J. Chalmers.

In this species we have a close relative of *E. obscurum* (Bl.) Schltr. and *E. Smithianum* Schltr. although it differs from both in the construction of the lip and the thicker blunter spur.

706. Vrydagzenia densa Schltr., sp. nov.

Terrestris, erecta, 15—22 cm alta; rhizomate cauliformi, decumbente; radicibus crassiusculis, flexuosis, pilosulis; caule stricto vel substricto, densius 7—11-foliato, tereti, glabro, c. 4 mm diametente; foliis erecto-patentibus, petiolatis, glabris, lamina oblique lanceolata, acuta, basi cuneato-rotundata, 3,5—5,5 cm longa, infra medium 1,2—1,7 cm lata, petiolo basi dilatata vaginante, 1—1,5 cm longo; racemo erecto, perdense multifloro, anguste ovoideo vel cylindraceo, usque ad 3 cm longo, c. 1,1 cm diametente, pedunculo 1,5—2 cm longo, sparsim glanduloso-pilosulo, rhachi dense glanduloso-pilosa; bracteis erecto-patentibus, ovato-lanceolatis, acuminatis, vulgo flores paululo excedentibus; floribus in genere inter minores, glabris; sepalis e basi elliptica apice paulo angustato carnosoincrassatis, extus rugoso-subverruculosis, c. 3 mm longis, lateralibus valde obliquis, basi margine anteriore paulo dilatatis; petalis oblique et late ellipticis, obtusis, sepallo intermedio fere aequilongo margine interiore agglutinatis; labello circuitu quadrato, dimidio inferiore margine utrinque in lobulum breviter et obliquie semiorbicularem dilatato, dimidio superiore semiquadrato, antice truncato cum apiculo obtuso, lobuliformi, marginibus incurvo, labello toto c. 2,5 mm longo, calcare crasso, oblongoideo, obtuso, c. 3 mm longo, dorso supra medium appendicibus 2 obliquis, globosis, stipitatis instructo; columna brevi, crassiuscula, rostello brevi, emarginato; ovario cylindraceo, glabro, c. 5 mm longo.

Kaiser-Wilhelms-Land : On the boundary between German and English New Guinea, Waria [River] District — A. Kempf.

This compact species stands closest to *V. pachyceras* Schltr., but differs well through the square tri-lobed lip plate.

707. Zeuxine macrorhyncha Schltr., sp. nov.

Terrestris, erecta, c. 20 cm alta; rhizomate decumbente, cauliniforme; radicibus flexuosis, crassiusculis, villosulis; caule erecto, stricto, tereti, glabro, c. 6-foliato; foliis subpatentibus, petiolatis, glabris, lamina oblique lanceolata, acuta, basi rotundata, 4—5 cm longa, infra medium 1,4—1,9 cm lata, petiolo basi dilatata vaginante 1,2—1,6 cm longo; scapo erecto, stricto, vaginis paucis, arcte amplectentibus, acuminatis obsesso, glandulosopilosulo, racemo ipso sublaxe vel subdense 12—18-floro, usque ad 8 cm longo; bracteis lanceolatis, acuminatissimis, ovario fere aequilongis; floribus in genere vix inter mediocre, illis Z. Erimae Schltr. similibus et subaequimagnis; sepalis lanceolatis, obtusiusculis, glandulosopilosulis, 4 mm longis, lateralibus obliquis; petalis e basi oblique ovata oblique ligulatis, apice obliquis, obtusis, minute papilloso, sepallo intermedio fere aequilongo margine interiore agglutinatis; labelli hypochilio ovato-cucullato, intus supra basin bisquamato, epichilio e isthmo brevi in laminam late rhombream, obtusiusculo acuminatam, superne dense papillosam dilatato, labello toto 4 mm longo, hyochilio c. 2,5 mm longo 2 mm lato, epichili lamina 1,5 mm vix lata; columna brevi, rostellum brachium pro genere magnis, oblique oblanceolatis; ovario cylindraceo-fusiforme, glandulosopilosum, c. 5 mm longo.

Kaiser-Wilhelms-Land : On the boundary between German and English New Guinea, Waria [River] District - A. Kempf.

This species stands closest to Z. Erimae Schltr. but differs however through the papillose petals, the papillose front lobes of the labellum and the conspicuously large arms of the rostellum.

708. Hetaeria goodyeroides Schltr., sp. nov.

Terrestris, erecta, c. 40 cm alta; rhizomate decumbente, cauliniforme; radicibus crassiusculis, flexuosis, villosulis; caule erecto, tereti, glabro, sublaxe 6—7-foliato, c. 10 cm alto, 4—5 mm diametente; foliis petiolatis, erecto-patentibus, oblique oblongis, acuminatis, basi subrotundatis glabris, 6—7,5 cm longis, medio fere 1,8—2,2 cm latis, petiolo basi dilatata vaginante 2—2,5 cm longo; scapo stricto vel substricto, tereti, glandulosopilosulo, racemo inclusum 25—30 cm longo, vaginis pluribus lanceolatis, acuminatis obsesso; racemo dense multifloro ad 10 cm longo, c. 1,2 cm diametente; bracteis erecto-patentibus, lanceolatis, acuminatis, ovario paulo brevioribus; floribus inversis, extus dense et breviter glandulosopuberulis, illis H. obliqua Bl. similibus et fere aequivimagnis; sepalis oblongis, obtusiusculis, 5 mm longis, lateralibus obliquis; petalis oblique lanceolatis, obtusiusculis, basin versus angustatis, margine interiore sepallo intermedio arete agglutinatis, quam sepala paululo brevioribus; labello supero, circuitu ovato-cucullato, obtuse acuminato, 3 mm longo, infra medium c. 1,75 mm lato, intus supra basin verrucis c. 6 subulatis, obtusis, brevibus instructo, nervo mediano incrassato, marginibus apicem versus incurvis, apice obtuso inflexo; columna brevi generis, antice obtuse et crassiuscula bicostata, rostello satis alto, bifido; ovario cylindraceo, breviter et dense glandulosopuberulo, c. 9—10 mm longo.

Kaiser-Wilhelms-Land : On the boundary between German and English New Guinea, Waria [River] District - A. Kempf.

The species has a certain similarity to H. obliqua Bl. although it differs quite specifically through the labellum.

709. Oberonia Kempfii Schltr., sp. nov.

Epiphytica, acaulis, pasilla, c. 5 cm alta; rhizomate valde abbreviato; radicibus filiformibus, flexuosis, gracillimis, glabris; caule brevi, flexuoso, vulgo 3-foliato, usque ad 1,5 cm longo; foliis erecto-patentibus, equitantibus ligulato-ensiformibus, acutis, 2—3,5 cm longis, medio fere (i. e. verticatiter) usque ad 5 mm latis; racemo subsessili, erecto, gracili, dense multifloro, cum floribus subverticellatis, usque ad 3 cm longo, c. 3 mm diametente; bracteis anguste lanceolatis, acuminatis, margine irregularibus, flores subaequantibus, subpatentibus; floribus in genere minutis, inversis, glabris, vix 1,5 mm diametro excedentibus; sepalis late ovalibus, vix 0,75 mm longitudinis attingentibus, lateralibus valde obliquis; petalis oblique oblongo-ligulatis, obtusis, quam sepala subaequilongis, integris; labello circuitu ovali, e medio trilobato, basi leviter retuso-subcordato, lobis lateralibus oblique triangulis oblique et obtuse subacuminatis, antice truncatissimis, intermedio antico perlate rhomboeo, antice obtusissime apiculato; columna brevi, crassiuscula, glabra; ovario gracilis cylindraceo, glabro, vix 0,75 mm longo.

Kaiser-Wilhelms-Land : On the boundary between German and English New Guinea, Waria [River] District - A. Kempf.

For the time being I would like to classify the species in the [section] Otoglossum. It is easily distinguished among all other Papuan species through the shape of the labellum.

710. Oberonia microtatana Schltr., sp. nov.

Epiphytica, pusilla, usque ad 12 cm alta; rhizomate valde abbreviato; radicibus filiformibus, flexuosis, gracilibus, glabris; caulis flexuosis, 3—4-foliatis, c. 3,5 cm longis; foliis erecto-patentibus, equitantibus, linearifalcatis, acutis, 3—5,5 cm longis, medio fere 2,5—3,25 mm latis; racemo subsessili, elongato, angusto, usque ad 12 cm longo, c. 3 mm diametente, permultifloro; bracteis ovatis, acuminatis, subpatentibus, margine irregularibus; floribus subverticellatis minutissimis, glabris, inversis, diametro vix 1 mm excedentibus; sepalis patentibus, latiovatis, obtusis, lateralibus obliquis; petalis oblongo-ellipticis, obtusis, margine subirregularibus, quam sepala paululo minoribus; labello eretto, sepala paululo excedente, alte trilobo, basi leviter cordato, lobis lateralibus oblique quadratis, valde obtusis, intermedio antico lateralibus duplo fere majore, e basi angustata suborbiculari, antice exciso, dimidio superiore marginibus irregulari; columna perbrevi, crassiuscula; ovario cylindraceo, glabro, c. 0,75 mm longo.

Kaiser-Wilhelms-Land : On the boundary between German and English New Guinea - A. Kempf.

A conspicuously small flowered species of the section Otoglossum. It fits in best with the group related to O. sarcophylla Schltr.

711. Oberonia Wernerii Schltr., sp. nov.

Epiphytica, erecta, 10—13 cm alta; rhizomate brevi, radicibus filiformibus, flexuosis, tenuibus, glabris; caulis 3—5 mm inter se distans, flexuosis 8—9-foliatis, 5—8 cm altis; foliis erecto-patentibus, equitantibus, ensiformibus, linearibus, acutis, 4—7,5 cm longis, 2—3 mm latis; racemis erectis, dense multifloris, 3—8 cm longis, 5 mm diametentibus; bracteis lanceolatis; acuminatis erecto-patentibus ovarium subexcedentibus; floribus subverticellatis, minutis, inversis, glabris; sepalis oblongis, obtusis, vix 0,75 mm longitudine attingentibus, lateralibus obliquis; petalis oblique ligulato-oblongis, obtusis, margine pectinato-dentatis; quam sepala subaequilongis; labello eretto, e basi dilatata auriculato-

subcordata oblongo, obtuso, apice breviter et obtuse bilobulato, lobulis breviter triangulis, sepala paulo superante; columna brevi, crassiuscula; ovario graciliter cylindraceo, glabro, c. 1,5 mm longo.

Kaiser-Wilhelms-Land : Finisterre Ranges, at the Gelu Station - E. Werner, no. 50, July 1907.

According to the information supplied by Werner the flowers are red-brown. The species belongs to the slender narrow-leaved forms of the section Otoglossum and are among those of importance here, distinguished through the comb-like incised petals.

712. Microstylis cyanobrachia Schltr., sp. nov.

Terrestris, erecta, c. 18 cm alta; radicibus flexuosis; dense pilosus; rhizomate valde abbreviato; caule abbreviato, c. 4-foliato, cylindraceo, c. 3 cm longo, medio fere c. 4 mm diametente; foliis suberectis, petiolatis, glabris, lamina oblique lineari-ligulata, acuta, 5—8,5 cm longa, medio fere 8—10 mm lata, petiolo 2,5—3 cm longo; scapo gracili, erecto, pedunculo substricto, angulato, 12—13 cm longo, racemo denso 15—20-floro, erecto, usque ad 4 cm longo; bracteis patulis, lanceolatis, acuminatis, ovarium vulgo plus duplo excedentibus; floribus inversis, glabris, illis M. Zippelii J. J. Sm. similibus; sepalis ellipticis, obtusiusculis, 3-nerviis, c. 4 mm longis, lateralibus obliquis, subovalibus; petalis oblique ovatis, acutiusculis, uninerviis, quam sepala paulo brevioribus; labello erecto, circuitus ovato-lyrato, basi alto sagittato, auriculis basilaribus exclusis c. 2,25 mm longo, basi 2 mm lato, e basi dilatata dimidio anteriore manifeste angustato, quadrato, antice apiculato, infra apicem superne carinulis 2 leviter divergentibus, brevibus ornato, auriculis basilaribus satis magnis, e basi oblique triangula arenatō-acuminatis, margine interiore c. 1 mm longis; columna recta, pro genere gracili, illae M. Zippelii Schltr. simili, brachiis atrocoeruleis, oblongo-ligulatis, obtusis, columna ipsa fere aequi-longis; ovario pedicellato glabro, c. 1,5 mm longo.

Kaiser-Wilhelms-Land : On the boundary between German and English New Guinea, Waria [River] District - A. Kempf.

At first I thought the plant to be a very narrow-leaved form of M. Zippelii J.J. Sm. but an examination revealed that it also differs quite strongly in the structure of the lip and certainly constitutes a separate species.

713. Microstylis pubicallosa Schltr., sp. nov.

Terrestris, erecta, c. 45 cm alta; rhizomate valde abbreviato; radicibus filiformibus, flexuosis, puberulis; caule abbreviato, cylindraceo, 5—6-foliato, usque ad 5 cm longo, c. 6 mm diametente; foliis erecto-patentibus, petiolatis, oblique ellipticis, acuminatis, lamina 14—20 cm longa, medio fere 5,5—6 cm lata, petiolo lato, sulcato, basi dilatata vaginante, 8—10 cm longo; scapo stricto, angulato, glabro, racemo subdense multifloro, cylindrico, usque ad 17 cm longo, vix 2 cm diametente; bracteis lanceolatis, acuminatis, patulis, ovario pedicellato subdupo brevioribus; floribus in sectione mediocribus, inversis, ut videtur atropurpureis, patentibus: sepalis oblongis, obtusis, c. 4,5 mm longis, lateralibus obliquis, intermedio paulo latioribus; petalis oblique lineari-ligulatis, obtusis, uninerviis, sepalorum fere longitudine, labello erecto, circuitu semilunato, antice trilobato, auriculis basilaribus exclusis 3,25 mm longo, basi 4,75 mm lato, fovea oblonga in base incrassatione vel callo hippocrepiformi minute papillosa circumdata, lobis lateralibus angulo exteriore triangulo obtuso excepto in dente 4 falcatus, subulatos, interioribus

quam extiores duplo longiores fissis; intermedio semioblango, peralte in dentes 2 falcatos, quam dentes interiores laborum lateralium aequilongos sed paulo latiores fissi, auriculis basilaribus oblique triangulo-lanceolatis, acutis, margine interiore 2 mm longis; columna semitereti, brevi, glabra, vix 1,5 mm longa; ovario 6-costato pedicellato, glabro; c. 7 mm longo.

Kaiser-Wilhelms-Land : On the boundary between German and English New Guinea, Waria [River] District - A. Kempf.

A stately species which is best classified with M. macrophylla Schltr. but differs specifically through the lip.

714. Microstylis Wernerii Schltr., sp. nov.

Terrestris, erecta, c. 40 cm alta; rhizomate valde abbreviato; radicibus filiformibus, elongatis, flexuosis, villosulis; caule crassiuseculo, cylindraceo, usque ad 10 cm longo, 3-5-foliato, c. 7 mm diametente; foliis erecto-patentibus, anguste et oblique ellipticis, acuminatis, basi sensim in petiolum latum angustatis, petiolo inclusio 13-18 cm longis, medio fere 2,7-4 cm latis; scapo stricto vel substrieto, angulato, vaginulis paucis lanceolatis, acuminatis obsesso, racemo exeluso c. 10 cm longo; racemo dense multifloro, elongato, usque ad 20 cm longo; bracteis patulis, linearibus, acuminatis, inferioribus quam flores paulo langioribus, superioribus sensim paulo brevioribus; floribus in sectione inter mediocres, glabris, inversis; sepalis oblongis, obtusis, 3,75 mm longis, lateralibus obliquis, intermedio paulo latioribus; petalis oblique ligulatis, obtusis, uninerviis, quam sepala subaequilongis; labello erecto, circuitu ovali, basi alte sagittato, lamina 3,75 mm longa, medio 3,5 mm lata, dimidio anteriore 3-lobata, lobis lateralibus cum angulo exteriore triangulo obtusiuseculo, caeterum indentes 3 lineari-falcatus, interioribus lobo intermedio aequilongis fissis, lobo intermedio late oblongo, breviter exciso, incrassatiore hippocrepiformi medio foveata retrorsa in medio labelli, auriculis basilaribus lanceolato-triangulis, obtusiuseculis, subfalcatis, c. 2 mm longis; columna brevi, sectionis; ovario pedicellato, glabro, 6-costato, 6 mm longo.

Kaiser-Wilhelms-Land : In forest near Damum [Village] alt. c. 150m - W. Werner, Aug. 1907. [Ed. - Damum was a village in the Astrolobe Bay Area.]

This species belongs in the group related to M. grandifolia Schltr., also at the same time in the section Pleiodon.

715. Dendrobium Adolphi Schltr., sp. nov.

✓ Epiphyticum, humile, c. 5-5,5 cm altum; rhizomate valde abbreviato; radicibus filiformibus, flexuosis, gracilibus, glabris; pseudobulbis breviter lageniformibus, bifoliatis, erectis, valde approximatis, 1-1,3 cm longis, infra medium c. 3 mm diametentibus; foliis erectis vel suberectis, lineariligulatis, obtusiuseculis, 3-4 cm longis, medio fere 3,5-5 mm latis; inflorescentia apicali more sectionis abbreviata, biflora, subsessili; pedunculo vaginis 2-3 erecto-patentibus, ovatis, acuminatis donata; bracteis vaginis pedunculi persimilibus, subpatentibus, ovario pedicellato fere 3-plo brevioribus; floribus erectis, illis D. punicei Ridl. similibus, sed paululo majoribus, glabris; sepalis oblongo-ovatis, acutis cum apiculo, c. 9 mm longis, lateralibus valde obliquis, margine anteriore basi valde ampliata cum pede columnae mentum calcariforme obtusum, 9 mm longum, ovario parallelum formantibus; petalis oblique ligulatis, acutis, supra medium paulo dilatatis, sepalo intermedio paululo brevioribus; labello ligulato, tertia parte basili marginibus columnae pedi adnato, infra medium subinconspicue angustato, supra medium paululo dilatato, apice abrupte lanceolato-triangulo, acuminato, medio fere incrassatione retrorsa A-formi ornato, toto 2,5 cm longo, supra medium 2 mm lato; columna brevi, clinandrii lobis lateralibus semioblango, subintegris, dorsali subulato vix longiore, pede gracili, decurvo, 9 mm longo; ovario pedicellato 5-costato, apicem versus dorso 3-alato, glabro, pedicello inclusio 1,2 cm longo.

Kaiser-Wilhelms-Land : In the hinterland of Angriffshafen  
 [Vanimo Harbour] - A. Kempter.

Unfortunately, no information on the colour of the flowers is available. The species belongs to the section Oxyglossum and is related to D. puniceum Ridl.

716. Dendrobium geluanum Schltr., sp. nov.

Epiphyticum, parvulum, c. 15 cm altum; rhizomate valde abbreviato; radicibus filiformibus, flexuosis, gracillimis, glabris; pseudobulbis fusiformibus, bifoliatis, 4—6 cm altis, infra medium usque ad 5 mm diametertibus; foliis suberectis, anguste linearibus, obtusiusculis, basin versus sensim angustatis, usque 12 cm longis, 2 mm latis; inflorescentia apicali, sessili, biflora; bracteis ellipticis, breviter acuminatis, ovario pedicellato fere 4-plo brevioribus, floribus erectis, in sectione medio-cribus, glabris, fide collectoris roseis, labello antice miniatto; sepalo intermedio anguste oblongo, acuminato, 1,2 cm longo, lateralibus valde obliquis, triangulis, basi margine anteriore valde dilatata, cum pede columnae mentum calcariforme, ovario appressum rectum 1,6 cm longum formantibus; petalis oblique oblongo-spathulatis, breviter acuminatis, quam sepala paulo brevioribus; labello e basi lineari apicem versus manifeste dilatato, antice argute acuminato, marginibus paululo incurvolo, toto 2 cm longo, antice 5 mm lato, eciliolato, dimidio inferiore marginibus columnae adnato; columna brevi, pede subrecto, 1,2 cm longo; ovario apicem versus 3-pto, costis 5 interjectis ornato, 1,7 cm longo.

Kaiser-Wilhelms-Land : On the peak of [Mount] Gelu,  
 Finisterre Ranges, alt. c. 1700m - E. Werner, no. 76.  
 [Ed. - no date cited but probably July or Aug. 1907.]

The narrow leaves and the short and sharply pointed labellum indicate that this new species of the section Oxyglossum is easily recognisable.

717. Dendrobium Kennedyi Schltr., sp. nov.

Planta verosimiliter habitu D. validi Schltr.; foliis ovato-oblongis, obtusis, carnosos-corinaceis, c. 12 cm longis, infra medium c. 4 cm latis; racemis subdense multifloris, c. 10 cm diametertibus, verosimiliter supra 25 cm longis, certe longius pedunculatis; bracteis lanceolatis, acuminatis, ovario graciliter pedicellato 5—6-plo brevioribus; floribus erecto-patentibus, illis E. veratrifolii Ldl. fere aequimagnis, ut videtur pallide olivaceis (?), glabris; sepalis oblongis, obtusis, leviter undulatis, recurvulis, 2,4 cm longis, lateralibus obliquis, basi margine anteriore producta cum pede columnae mentum late et oblique conicum, obtusum, c. 8 mm longum formantibus; petalis erectis, e basi lineari-ligulata oblanceolato-spathulatis, obtusis, obliquis, semel tortis, 3,2 em longis, glabris; labello circuitu anguste oblongo, basi brevissime subunguiculato, supra medium trilobato, 2,4 cm longo, medio fere 8,5 mm lato, carinis 2 parallelis e basi labelli usque supra medium lobi intermedii antice leviter undulatis ornato, carina intermedia e tertia parte basilari laterales paulo superante dimidio anteriore leviter undulata interjecta, lobis lateralibus parvulis oblique triangulis, obtusis, intermedio multo majore oblongo, obtusiusculo, sessili, 1 em longo, 5,5 mm lato; columna brevi sectionis, 4 mm longo, pede ligulato, apicem versus ex cavato, c. 8 mm longo; ovario pedicellato, gracili, glabro, c. 3,2 cm longo.

Britisch Papua : Stirling Ranges – C.E. Kennedy anno 1894.

A species of the section Ceratobium which is related most closely to D. validum Schltr. Unfortunately, only one leaf and part of the inflorescence are available.

718. Dendrobium unifoliatum Schltr., sp. nov.

Epiphyticum, erectum, c. 18—22 cm altum; rhizomate valde abbreviato; radicibus filiformibus flexuosis, tenuibus, glabris; pseudobulbis anguste oblongoideis, unifoliatis, 1,5—2 cm longis, medio fere 5—6 mm diametentibus; folio erecto, petiolato, lamina articulata, oblongo-ligulata, obtusiuscula, basi cuneato-contracta, 13—16 cm longa, medio fere 1,8 ad 2,4 cm lata, petiolo (i. e. vagina) compresso, gracili usque ad 3,5 cm longo; inflorescentia apicali, dense multiflora, oblongoidea, pedunculo brevi, vaginis paucis late ovalibus breviter acuminatis obsesso, c. 5—8 mm longo; bracteis erecto-patentibus, ovatis, acuminatis, ovario pedicellato duplo fere brevioribus; floribus illis D. petiolatum Schltr. similibus, et fere aequimagnis, suberectis; sepalis ligulato-lanceolatis, acuminatissimis, glabris, extus nervo medio carinatis, 1,3 cm longis, lateralibus obliquis, basi margine anteriore valde producta cum pede columnae mentum calcariforme anguste oblongum, obtusum, 6,5 mm longum formantibus; petalis anguste lanceolato-ligulatis, acuminatissimis, obliquis, 9 mm longis, margine minutissime papilloso-ciliolatis; labello circuitu ligulato, erecto, apice reflexo, medio leviter angustato, antice acutissimo, infra medium incrassatione retrorsa A-formi donato, toto 1,5 mm longo, in tertia parte basilari et apicali 2 mm lato, glabro; columna brevi sectionis, auriculis lateralibus clinandrii oblique semioblongis, denticulatis, pede ligulato, concavulo 6,5 mm longo, ovario apicem versus 3-alatō, ala dorsali apice in acumen falcatum producta, utroque latere costa acuta aucta, ovario toto pedicello inclusō 1,5 cm longo, glabro.

Kaiser-Wilhelms-Land : In the hinterland of Angriffshaffen [Vanimo Harbour] – A. Kempter.

In this species we find the first close relative of D. petiolatum Schltr. It is well distinguished through the papillose fringed [ciliate] petals, a distinctly shorter mentum and the ovaries. [section Oxyglossum.]

719. Glomera calocephala Schltr., sp. nov.

Epiphytica, erecta, gracilis, c. 55 cm alta; rhizomate abbreviato; radicibus filiformibus, flexuosis, brevissime et dense hirtus; caulis simplicibus, teretibus bene foliatis, vaginis foliorum arete amplectentibus striato-nervosis, sparsim et minute verruculoso-punctatis omnino obtectis, c. 50 cm longis, 3,5—4 mm diametentibus; foliis erecto-patentibus, anguste lanceolatis, acutis, textura pro genere tenuioribus, 12—14 cm longis, infra medium 9—12 mm latis; inflorescentia sessili, capitata, semiglobosa, c. 3,5 cm diametente, vaginis paucis breviter acuminatis vel apiculatis circumdata; bracteis tenuibus ovalibus, ovario brevioribus; floribus in genere inter majores, glabris, tenuibus; sepalis oblongis, c. 1 cm longis, lateralibus obliquis, basi paulo dilatata et breviter connata labelli saccum amplectentibus, obtusiusculis; petalis oblique ligulato-oblongis, obtusis, medio paulo dilatatis, quam sepala subaequilongis; labello parvulo, lamina oblonga, obtusiuscula, carnosula, basin versus vix angustata, ut videtur laete coccinea, 3,5 mm longa, c. 1,5 mm lata, saeco oblongoideo, obtuso, dorso applanato, antice infra laminam leviter ventricoso-ampliato, c. 3,25 mm longo; columna brevi, leviter incurvula, vix 1,5 mm longa; ovario subsessili, glabro, cylindraceo, c. 8 mm longo.

Neu-Mecklenburg : On the mountains of eastern Namatanai -  
Dr. Schalaginhaufen, 1908.

Surely one of the most magnificent species with a large beautiful flower-head. The colouring of the flowers is unfortunately not yet known. Obviously they are white or yellow with a glowing red lip-plate. The species is recognised through the narrow, lanceolate long leaves of moderately thin texture.

720. Appendicula Wernerii Schltr., sp. nov.

*Epiphytica gracilis* c. 20 cm alta; rhizomate valde abbreviato; radicibus filiformibus, flexuosis, dense pilosis; caulis erectis vel adscendentibus, simplicibus, bene foliatis, vaginis foliorum omnino obtectis, c. 1,5 mm diametro; foliis erecto-patentibus, ligulatis, obtusiusculis cum apiculo, 1,5—1,7 cm longis, medio fere 2,5—3 mm latis; racemo terminali sublaxe 10—12-floro, pedunculo brevi inclusu vix 3 cm longo, suberecto; bracteis erecto-patentibus, domum deflexis, oblongis, acutis, ovario fere aequilongis vel paulo longioribus; floribus in genere vix inter mediocres, subpatentibus, glabris; sepalis ovatis, obtusiusculis, 3,5 mm longis, laterilibus obliquis, nervo medio extus carinatis, basi margine anteriore valde dilatata cum pede columnae mentum oblique semioblongum, valde obtusum c. 2,5 mm longum formantibus; petalis falcato-ligulatis, acutis, sublinearibus, sepalo intermedio paululo brevioribus; labello e basi oblonga dimidio anteriore valde dilatato, late ovato, apiculato; supra basin callo transverso, hippocrepiformi, apice minute exciso, incurvulo ornato, toto vix 4 mm longo, dimidio inferiore 1,75 mm lato, supra medium 2,25 mm lato; columna crassiuscula, brevi, pede excavato ligulato, 2,5 mm longo, apice incurvulo, rostellum brevi, erecto, triangulo, exciso; ovario pedicellato, clavato, glabro, c. 5 mm longo.

Kaiser-Wilhelms-Land : Finisterre Range, near the Gelu Camp — E. Werner, no. 53, July 1907.

Unfortunately I possess only a small specimen with a few flowers of this interesting species. It is possible that the species which is related to A. anomala Schltr. in the section Chaunodesme, grows taller than indicated above.

721. Spathoglottis erectiflora Schltr., sp. nov.

Terrestris, erecta, usque supra 80 cm alta; rhizomate pseudobulbisque mihi nondum notis; foliis erectis, anguste lanceolatis, acuminatis, basi sensim in petiolum angustatis, usque ad 80 cm longis, medio fere 2,2—2,4 cm latis; scapo erecto, stricto vel substricto, gracili, glabro, certe supra 60—70 cm alto; vaginis paucis, dissitis, arte amplectentibus, apiculatis obsesso, supra basin c. 3 mm diametente, racemo sublaxe 6—12-floro, brevi, usque ad 10 cm longo; bracteis patulis, oblongo-lanceolatis, acutis, ovario graciliter pedicellato 3—4-plo brevioribus; floribus erectis, illis *S. stenophyllae* Ridl. similibus sed paulo minoribus; sepalis ellipticis, obtusiusculis, glabris, c. 8 mm longis, lateralibus obliquis, intermedio paululo latioribus; petalis late ovalibus, obtusis, glabris, quam petala fere aequilongis, sed latioribus; labello alte tripartito, c. 6,5 mm longo, vi explanato inter apices loborum lateralium 8,5 mm lato, lobis lateralibus divergentibus e basi oblonga dimidio superiore oblique obovali-dilatatis, intermedio e basi late ligulata perlate obovato, minute et obtuse apiculato, lateralibus paulo longiore, basi callo didymo carnoso, glabro ornato, juxta basin calli basalis sparsim piloso, caeterum glabro; columna leviter curvata, semitereti, 7 mm longa, glabra; ovario graciliter pedicellato, gracilis cylindraceo, glabro, c. 2,3 cm longo.

Kaiser-Wilhelms-Land : On the boundary between German and English New Guinea, Waria [River] District - A. Kempf.

This species is related to S. stenophylla Ridl. but has however wider leaves, smaller flowers with significantly wider petals, a more forward callus on the lip and a comparatively shorter central lobe of the labellum. In S. stenophylla Ridl. the callus on the lip is on the still undivided part of the labellum.

722. Bulbophyllum Adolphi Schltr., sp. nov.

Epiphyticum, pergracile, usque ad 35 cm altum; rhizomate decumbente, flexuoso; radicibus filiformibus, flexuosis, gracilibus, glabris; pseudobulbis 1,5—2 cm inter se distantibus, cylindraceis, erectis, unifoliatis, c. 2 cm altis, infra medium 3 mm diametentibus, apicem versus sensim paululo angustioribus; folio erecto, oblique et anguste ligulato, acuto, basi sensim in petiolum 1,5—2 cm longum angustato, lamina c. 12 cm longa, medio fere 1 cm lata; scapis gracillimis, more sectionis rigidulis, vaginulis paucis dissitis donatis, usque ad 35 cm altis; racemo disticho, plurifloro, sensim evoluto, rhachi leviter flexuosa ad 2,5 cm longa; bracteis complicatis, falcato-erectis, ovatis, acuminatis, dorso alte carinatis, ovario pedicellato fere duplo brevioribus; floribus succedaneis, in sectione medio-cribus, glabris; sepalis reflexis, anguste lanceolatis, elongato-acuminatis, 3 cm longis, lateralibus obliquis; petalis parvulis, oblique ovatis, obtusis, apice irregulariter crenulatis, apice ipso in setam subulatam 1,5 mm longam productis, seta exclusa 3 mm longis; labello anguste linguiformi, acuto, margine leviter undulato, supra basin margine utrinque lobulo laterali brevi semioblongo obtuso aucto, tertia parte basilari bicarinato, carinis 2 crenulatis e margine ante lobos laterales ortis, versus apices carinarum lobi intermedii decurrentibus et cum illis mox conjunctis aucto, toto 1,6 cm longo, explanato inter apices lobi lateralium 4 mm lato, medio fere 3,5 mm lato; columna recta, 4 mm alta, brachiis perbrevibus apiculiformibus, pede mediocri, apice incurvulo; ovario gracili, pedicellato, glabro, c. 1 cm longo.

Kaiser-Wilhelms-Land : In the hinterland of Angriffshaffen [Vanimo Harbour] - Kempter.

This species belongs to the section Dialeipanthe and may be classified next to B. acuminatum Schltr. from which it is distinguished through the petals and the labellum.

723. Bulbophyllum arcuatum Schltr., sp. nov.

Epiphyticum, habitu B. chlorantho Schltr. simile; rhizomate elongato, flexuoso, vaginis arctissime amplectentibus omnino obtecto, 3 mm diametente; pseudobulbis 7—8 cm inter se distantibus, subglobosis, depresso-conicis, unifoliatis, 7—8 mm altis, supra basin c. 1 cm diametentibus; folio suberecto, lanceolato-ligulato, basi in petiolum canaliculatum, 1,7—2 cm longum angustato, coriaceo, petiolo incluso 12—17 cm longo, infra medium 2—2,8 cm lato; inflorescentia juxta basin pseudobulborum nata, pergracili, arcuata, pedunculo gracili c. 25 cm longo, racemo laxe 6—9-floro arcuato-pendulo usque ad 15 cm longo; bracteis deltoideis, acuminatis, ovario pedicellato multo brevioribus; floribus in sectione mediocribus, subpatentibus; sepalo intermedio lanceolato subacuminato, concavo, dimidio inferiore latere utrinque extus bullato-convexo, c. 1,8 cm longo; lateralibus usque ad apicem in laminam ellipticam, acuminatam, concavam, 2,4 cm longam omnino connatis, glabris; petalis oblique latiovallis, obtuse apiculatis vel obtusis, glabris, 4 mm longis; labello curvato, carnosus, 3,5 mm longo, e basi quadrata dimidio anteriore oblongo-angustato, obtuso, medio excavatione oblonga antice incrassato-marginata donato,

dimidio inferiore marginibus minutissime papilloso, cæterum glabro; columna per brevi, brachiis adscendentibus brevibus, oblique apiculatis, pede satis longo, medio more sectionis gibbo falcato-dentiformi ornato; ovario pedicellato, glabro, c. 7 mm longo.

Kaiser-Wilhelms-Land : On the boundary between German and English New Guinea, Waria [River] District - A. Kempf.

One of the beautiful species of the section Hedyothrysus where it is related closely to B. chloranthum Schltr., but has larger flowers, wider petals and a different lip.

724. Bulbophyllum galactanthum Schltr., sp. nov.

Epiphyticum, erectum, usque ad 20—25 cm altum; rhizomate valde abbreviato; radicebus filiformibus, flexuosis, gracilibus, minute papillosis; pseudobulbis valde approximatis, anguste ovoideis vel cylindraceo-ovoideis, unifoliatis, 2—2,5 cm longis, infra medium 5—7 mm diametentibus; folio erecto, oblique oblongo-ligulato, acuto, basin versus sensim in petiolum canaliculatum, 3—4,5 cm longum angustatis, lamina 14—19 cm longa, medio fere 2,3—2,7 cm lata; inflorescentiis juxta basin pseudobulborum natis, vulgo pluribus, brevibus, unifloris, erectis, pedunculo vaginis c. 3 amplectentibus magna pro parte obtecto, 1—1,3 cm longo; bractea elliptico-cucullata, apiculata, ovario pedicellato multo brevior; flore in sectione inter minores, lacteo, erecto, more sectionis textura crassiusculo; sepalis lanceolatis, obtusiusculis, glabris, 1 cm longis, lateralibus obliquis; petalis oblique oblongo-ligulatis, breviter acuminatis vel apiculatis, glabris, vix 4 mm longis; labello carnosu, curvato, circuitu oblongo, obtuso, per medium longitudinaliter foveato, glabro, c. 5 mm longo; columna mediocri, glabra, stelidiis linearibus, acuminatis, satis magnis, pede incurvulo, ovario pedicellato gracili, glabro, c. 2,2 cm longo.

Kaiser-Wilhelms-Land : On the boundary between German and English New Guinea, Waria [River] District - A. Kempf.

This species belongs to the section Brachypus and is best classified near B. iboense Schltr.

725. Bulbophyllum Kempfii Schltr., sp. nov.

Epiphyticum, usque ad 55 cm altum; radicebus filiformibus, flexuosis, gracilibus, glabris; pseudobulbis more sectionis superpositis, cylindraccis, unifoliatis, inferioribus c. 5 cm longis, 3 mm diametentibus, superioribus duplo fere brevioribus; folio ligulato, subacuto, basin versus paululo angustato, tenuiter coriaceo, 4—5 cm longo, medio fere 6—9 mm lato; inflorescentiis singulis, abbreviatis, unifloris, pedunculo paucivaginulato, c. 5 mm longo; bractea ovata, apiculata, ovario pedicellato fere 3-plo brevior; flore tenui illo B. rhodoglossi Schltr. simili et subaequimagni; sepalis lanceolatis, longius et obtusiuscula acuminatis, glabris, intermedio 1 cm longo, lateralibus obliquis 1,3 cm longis; petalis oblique ligulato-oblongis, obtusis, uninervis, basi margine anteriore paulo dilatatis, apice extus incrassato papilloso-verruculosis, 2,25 mm longis; labello elliptico-lanceolato, obtusiusculo, basi breviter biauriculato, supra basin callo parvulo papilloso ornato, marginibus dimidio inferiore dense et breviter papilloso-ciliolato, 5,5 mm longo, infra medium 2,25 mm lato; columna sectionis brevi, pede brevi; ovario graciliter pedicellata, glabro, c. 8 mm longo.

Kaiser-Wilhelms-Land : On the boundary between German and English New Guinea, Waria [River] District - A. Kempf.

We have here a rather characteristic species of the section Epibulbon, which is best placed near B. rhodoglossum Schltr. It is very well distinguished through the petals as well as the labellum.

726. Bulbophyllum nasilabium Schltr., sp. nov.

Epiphyticum, longe repens, c. 8—9 cm altum; rhizomate elongato, flexuoso, tereti, vix 2 mm diametente; radicibus filiformibus, flexuosis, gracilibus, glabris; pseudobulbis c. 6—7 cm inter se distantibus, erectis, unifoliatis, cylindraceis, apicem versus paululo angustatis, 2—2,5 cm altis, medio fere 3—3,5 mm diametentibus; folio erecto, oblongo-ligulato, obtuso, basin versus sensim cuneato-angustato, coriaceo, 5—6,5 cm longo, medio fere 1,2—1,6 cm lato; inflorescentia singulis, juxta basin pseudo-bulborum vel ex axillis vaginarum rhizomatis natis, gracilibus, erectis, unifloris, pedunculo paucivaginulato, pergracili, 4—4,5 cm longo, erecto; bractea cucullato-elliptica, acuminata, ovario graciliter pedicellato multo breviore; flore in sectione inter minores erecto, ut videtur purpureo; sepalis oblongis, breviter acuminatis, 9-nerviis, intus margines versus papilloso-puberulis, c. 1 cm longis, lateralibus obliquis; petalis oblique oblongis, valde obliquis, apice subretusis, vix 3 mm longis, uninerviis; labello carnoso, e basi curvata, incrassata, cordata, ligulato-angustato, obtuso, glabro, basi obtuse et breviter auriculato, 4,5 mm longo; columna brevi, parvula, stelidii satis longis subulatis, acutissimis, pede incurvula; ovario cum pedicello setiformi c. 2 cm longo, glabro.

Kaiser-Wilhelms-Land : On the boundary between German and English New Guinea, Waria [River] District - A. Kempf.

A delightful little species from the section Ephippium where it appears to be closest related to B. adenambon Schltr. and B. trichambon Schltr. differing specifically however through the smaller flowers, the shape of the petals and the lip.

727. Bulbophyllum stenorhopalos Schltr., sp. nov.

Epiphyticum, pensile, c. 20 cm longum; rhizomate elongato, cauliniformi, tereti, vaginis pallidis striato-nervosis omnino obtecto, c. 2 mm diametente; pseudobulbis c. 1 cm inter se distantibus, ovali-cylindraceis, unifoliatis, 5—7 mm longis, medio fere 3—4 mm diametentibus; folio sessili, ovato vel ovali, subacute, carnoso-coriaceo, 4—5 cm longo, infra medium 3—3,3 cm lato; inflorescentia singulis, abbreviatis, pedunculo perbrevi, vaginis paucis obtecto, unifloro; bractea deltoideo-ovata, ovario breviter pedicellato multo breviore; flore in sectione inter mediocres, ut videtur atrorubescente; sepali ovalibus, apiculatis, c. 7 mm longis, glabris, lateralibus obliquis; petalis transversis, labellato-digitatis, apice appendicibus 3 tenuissime et breviter stipitatis, subulatis, minutissime papillosis, medio appendicibus 3 angustioribus subsessilibus, basi et supra basin parie singulo appendiculum subulatum minute papillosarum, tenuissime stipitarum apicalibus persimilium ornatis, basi c. 2 mm latis, appendicibus 3 mm longis inclusis c. 4 mm longis; labello carnoso, ovato subacute, basi altius rotundato-aureolato, supra basin contracto, superne verruculoso, 2,25 mm longo; columna brevis, c. 1,75 cm longa, crassiuscula, brachiis abbreviatis, apicalibus pede satis longo, incurvula; ovario breviter pedicellato, subclavato, glabro, c. 9 mm longo.

Kaiser-Wilhelms-Land : On the boundary between German and English New Guinea - A. Kempf.

This is one of the highly interesting species of the sub genus Epicirantes. The material is unfortunately not very complete as only the upper part of the plant was sent and only one flower was available for examination. The flowers appear to be dark red with dark grey-green appendices to the petals. The lip is also very characteristic.

728. Bulbophyllum uroglossum Schltr., sp. nov.

Epiphyticum, pusillum, 3,5—4 cm altum; rhizomate brevi, dense pseudobulbis obpresso; radicibus filiformibus, flexuosis, tenuibus, glabris; pseudobulbis ovoideis, unifoliatis, 3—4 mm altis, infra medium vix 2 mm diametro excedentibus; folio erecto, oblongo, subapiculata, basin versus sensim subpetioliformi-angustato, 2,5—3 cm longo, medio fere 5—6,5 mm lato; inflorescentiis juxta basin pseudobulborum natis, abbreviatis, unifloris, cum flore pseudobulbum paulo excedentibus, erectis; pedunculo paucivaginulato, 3—3,5 mm longo; bractea ovata, breviter acuminata, ovarium fere aequante; flore parvulo, ut videtur purpuraseento; sepalum intermedio oblongo-subspathulato, 3-nervio, subapiculato, 3,5 mm longo, lateralibus oblique oblongis, apiculatis, usque infra apicem cohaerentibus, intermedio fere aequilongis; petalis parvulis, ut videtur oblongis, apiculatis, glabris; labello e basi angustiore elliptico, deinde infra medium caydiformi attenuato, curvato, apice ipso antenniformi-dilatato, minute papilloso, marginibus ut videtur minutissime papilloso-ciliolato, supra basin callo parvulo ornato, quam sepala fere tertia parte breviore; ovario cylindraceo, glabro, vix 0,75 mm longo.

Kaiser-Wilhelms-Land : On the boundary between German and English New Guinea, Waria [River] District - A. Kempf.

Unfortunately the material available of this species was very sparing and the single tiny flower did not enable me with any certainty to establish the characteristics of the petals and column. Through the peculiar labellum, this species is so characteristic I believe that I could describe it. It appears to belong to the section Hybochilus.

729. Phreatia spathilabia Schltr., sp. nov.

Epiphytica, pusilla, c. 8 cm alta; rhizomate repente, flexuoso, gracili, polyrhizo; radicibus filiformibus, flexuosis, gracilibus, glabris, pseudobulbis c. 2 cm inter se distantibus, depresso-subglobosis, unifoliatis, vix 3 mm altis, c. 4 mm diametentibus; folio erecto vel suberecto, ligulato, obtuso, basin versus sensim subpetiolato-angustato, c. 4,5 cm longo, medio fere 8 mm lato; inflorescentia erecta, juxta basin pseudobulborum nata, gracillima, glabra, pedunculo paucivaginulato, foliis fere aequilongo, racemo ipso dense secundifloro, c. 3 cm longo; bracteis subpatentibus, lanceolatis, acuminatis, ovarium fere aequantibus; floribus in sectione interminores, inversis, glabris, verosimiliter niveis; sepalis ovalibus, obtusis, vix 1,75 mm longitudine excedentibus, lateribus valde obliquis, basi margine anteriore valde dilatata cum pede columnae mentum perlongum oblongum, obtusum, 2 mm longum formantibus; petalis oblique ovatis, obtusis, quam sepala paulo brevioribus; labello e ungue anguste ligulato in laminam suborbiculari-ovovatam, obtuse apiculatum, margine irreg-

gularem dilatato, quam sepala lateralia paululo breviore; columna brevi, rostello bifido quam clinandrium dorso paululo ampliatum paulo longiore, pede decurvo, gracili, elongato; ovario pedicellato clavato, glabro, 2,25 mm longo.

Kaiser-Wilhelms-Land : On the boundary between German and English New Guinea - A. Kempf.

Through the conspicuously long mentum of the flowers this species is distinguished among the small flowered species of the section Bulbophreatia. In the structure of the flowers it reminds one of P. mentosa Schltr. However, the shape of the labellum is quite different.

730. Luisia macrocarpa Schltr., sp. nov.

Epiphytica, erecta, c. 30 cm alta; radicibus filiformibus, elongatis, flexuosis, minute papillosis; caule simplici, subflexuoso, tereti, bene foliato, vaginis foliorum striato-nervosis, arctissime amplectentibus omnino obtectis, 3 mm diametentibus; foliis erecto-patentibus, subulatis, obtusiusculis, 8—12 cm longis, c. 2,5 mm diametentibus; inflorescentiis foliis suboppositis, abbreviatis, dense plurifloris, sensim evolutis; bracteis deltoidesis, obtusis, ovario multo brevioribus; floribus in genere medio-eribus, carnosis, glabris, incurvalis; sepalis ovatis, obtusis, 6 mm longis, extus carinatis, lateralibus obliquis, extus acute carinatis, intermedio paululo latioribus; petalis oblique ligulatis, obtusis, basin versus paululo angustatis, 8 mm longis, i. e. quam sepala distincte longioribus; labello carnoso, 6 mm longo, hypochilio late obtrapezoideo, leviter concavulo, basidilatata 5 mm lato, antice 3 mm lato, epichilio late reniformi, obtuse apiculato, 3 mm longo, supra basin 4,5 mm lato; columna brevi, crassiuscula, c. 3 mm alta, glabra, rostello abbreviato, emarginato; ovario torto curvato, cylindracco, c. 1,2 cm longo; capsula cylindracco-fusiformi, subsessili, 6-costata, perigonio emarcido coronata, pedicello excluso c. 4,7 cm longa, c. 7 mm diametente.

Kaiser-Wilhelms-Land : In the hinterland of Angriffshaffen [Vanimo Harbour] - A. Kempter.

This species differs from L. Beccarii Rchb.f. the only species described from Papuasia, through the longer petals and the shape of the labellum. It obviously belongs near L. teretifolia Gaud. Although the fruit of the Luisia species are generally rather large, L. macrocarpa Schltr. distinguishes itself in this respect by its exceptional size.

