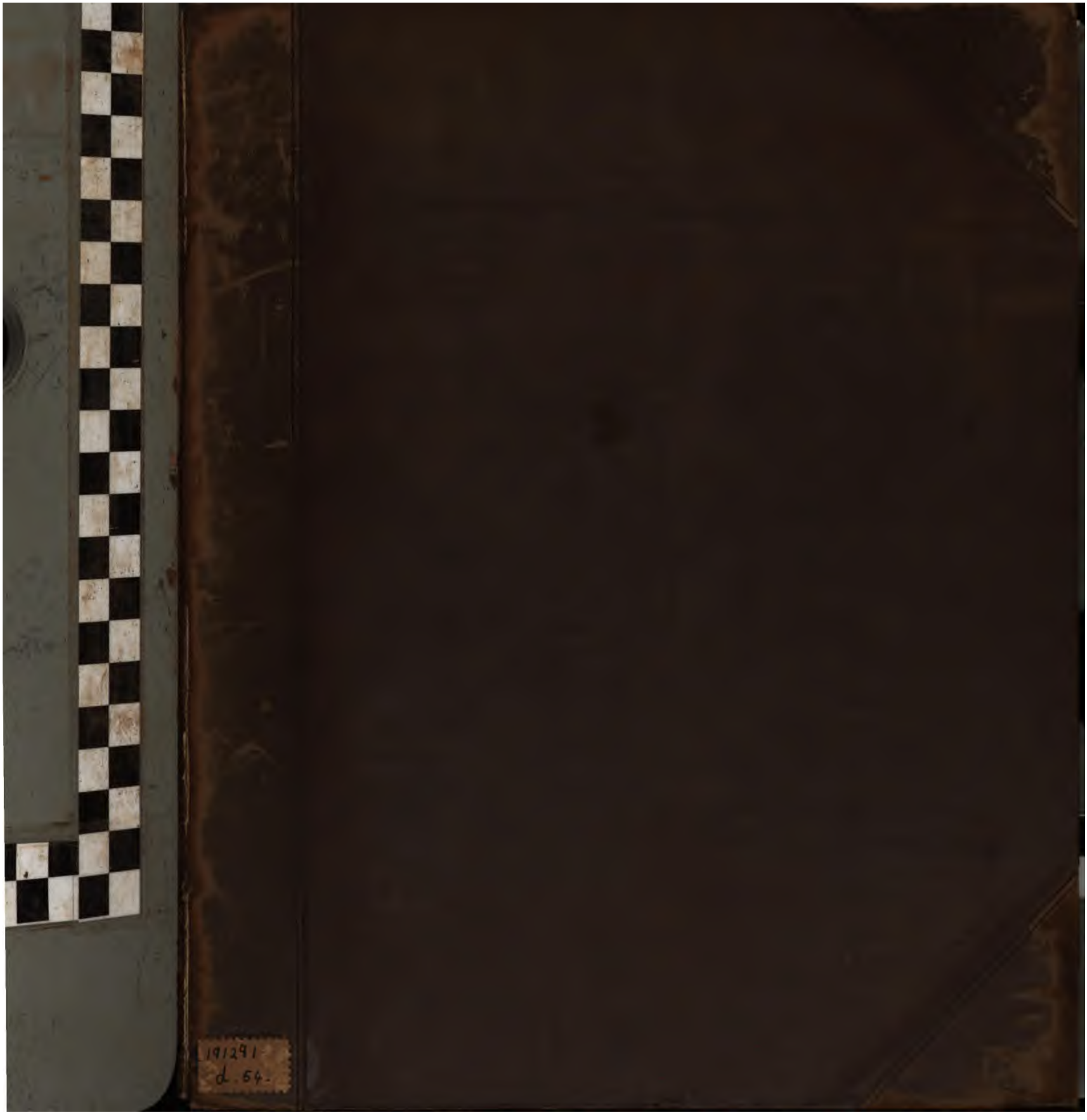

ON THE CULTIVATION

OF

THE PLANTS

BELONGING TO THE NATURAL ORDER

OF

PROTEĒÆ,

WITH

THEIR GENERIC AS WELL AS SPECIFIC CHARACTERS

AND

PLACES WHERE THEY GROW WILD.

BY

JOSEPH KNIGHT,

F. H. S.

1809.

TO

GEORGE HIBBERT,

ESQUIRE,

BY WHOM SO MANY OF

THE PLANTS,

NOW FIRST DESCRIBED,

HAVE BEEN INTRODUCED

INTO THIS KINGDOM,

THE FOLLOWING PAGES ARE DEDICATED,

BY

HIS MOST GRATEFUL SERVANT,

THE AUTHOR.

PREFACE.

A celebrated engineer has told us, that it gave him much more trouble, to write his account of the *Eddystone Lighthouse*, than to execute the building itself; and the author of the present work, though on a very different subject, has found himself in a similar predicament.

To cultivate the plants lately at *Clapham*, belonging to the Natural Order of *Proteēæ*, with some degree of success, of which the following pages afford the best testimony, was rendered easy, not so much by any personal experience, nor by that constant attention to them, which from habit soon became involuntary; as by the encouragement of a master, who, treading closely in the botanical steps of our most gracious King, spared no expense really necessary to their welfare, and left the hands of his servant unshackled. To describe minutely in words all the particulars of this management, he found a much more difficult task; and to have ascertained so many Generic and Specific differences, would have been quite impossible, if fortunately his labours, like those of the late Mr. Aiton respecting the *Hortus Kewensis*, had not been thought worthy the assistance of men more learned than himself.

That the work will be candidly received, he presumes to flatter himself, from the circumstance of a great portion of it, having been unanimously voted to be printed by the *Council* of the *Hor-*

ticultural Society, but the latter part having excited some jealousy in a quarter, which it is now unnecessary to mention, the author's pacific sentiments did not allow him to hesitate one instant, about withdrawing the whole. With no other patronage therefore than its intrinsic merit, if it has merit, this his first literary production ventures forth; though from his master's liberality, which made the collection at *Clapham* resemble a public botanic garden, rather than that of a private individual, he might bring a host of witnesses, to the good effects of the management now recommended.

As geographers give memoirs of any original maps they publish, so the author wishes to state a few particulars, respecting the arrangement here adopted: this, a more intimate knowledge of several plants belonging to the Order not yet in our gardens, has enabled him, he conceives, to improve in the *Synopsis* and *Characteres Generum* prefixed. Firmly believing in the golden axiom of LINNÉ, that Genera are truly natural, now forming vast groups exceedingly inconvenient, but not to be separated; now so circumscribed in their limits, that in some Orders almost every individual constitutes a Genus; their affinities in this, have been suggested to his mind, from a similarity, 1*st* in their Sexes: 2*dly* in their Pericarpiums and Seeds: 3*dly* in the structure of their Petals: 4*thly* in their Nectaries: 5*thly* in their Inflorescence: 6*thly* in their Habit: regarding the characters afforded by these different parts, of importance, precisely in the order above enumerated. In the disposition of the Species also, the various parts of the Fructification have invariably been consulted, in preference to the Foliage; but, *cæteris paribus*, all those with similar leaves have been placed together.

Perhaps few works have greater claims to originality than the present, not a single line being copied from any other. For the

names only of the different Genera, their various authors are quoted, except those of R. A. SALISBURY, Esq. whose manuscripts have been found so useful in every sheet. *Petrophile* is here terminated in *e* instead of *a*, not so much from its being consonant to the Greek idiom, as because that termination takes away all ambiguity between *phila* and *phylla*. A similar liberty has been taken with *Adenanthos*, by altering the *o* into *e*. Barbarous names, it is to be regretted, in defiance of LINNE's canon, are still retained by the highest botanical authority living, JUSSIEU. Thinking them inadmissible, one letter in *Roupala*, *u*, has been left out, chance then allotting to it, not only a classical, but very appropriate *Greek* derivation.

Some new specific names have been proposed, when the old ones were manifestly absurd, or positively false: but these are few, and the Synonym being always added, no offence, it is hoped, will be given to any one, on this head. To avoid swelling the work to an unnecessary bulk, the Synonyms are printed in one paragraph; and for the convenience of those who are not acquainted with the *Latin* language, a literal translation of both the Generic and Specific Characters, has never been omitted.

King's Road, Chelsea, 1 *August*, 1809.

Names of Authors of Genera, abbreviated.

Aubl. Mr. Fusé Aublet.
Berg. Peter Jonas Bergius, M. D.
Burm. John Burman, M. D.
Forst. John Reinhold Forster, LL. D.
Labill. Mr. James Julian Labillardiere.
L. Charles A Linné.
R. Br. Mr. Robert Brown.
Salisb. Richard Anthony Salisbury, Esq.
Sm. James Edward Smith, M. D.

SYNOPSIS GENERUM.

SECT. 1. Flores dioici.

1. *Pericarpium* 1-*spermum, nuciforme, lignosum, deciduum.*

Aulax. *Berg.*
Gissonia. *Salisb.*
Protea. *L.*

2. *Pericarpium* 1-*spermum, samaræforme, membranaceum, deciduum.*

Eurispermum. *Salisb.*
Chasme. *Salisb.*

SECT. 2. Flores hermaphroditi.

1. *Pericarpium* 1-*spermum, evalve, deciduum.*

Isopogon. *R. Br.*
Petrophile. *R. Br.*
Serruria. *Burm.*
Adenanthes. *Labill.*
Conospermum. *Sm.*
Erodendrum. *Salisb.*
Pleuranthe. *Salisb.*
Leucadendrum. *L.*
Diastella. *Salisb.*
Mimetes. *Salisb.*

Paranomus. *Salisb.*
Soranthe. *Salisb.*
Spatalla. *Salisb.*
Brabeium. *L.*

2. *Pericarpium 2-spermum, evalve, deciduum.*

Persoonia. *Sm.*

3. *Pericarpium 2-spermum, 2-valve, persistens.*

Euplassa. *Salisb.*
Ropala. *Aubl.*
Panopsis. *Salisb.*
Xylomelum. *Sm.*
Hakea. *Schrad.*
Lambertia. *Sm.*
Josephia. *R. Br.*
Banksia. *L.*
Stylurus. *Salisb.*
Lysanthe. *Salisb.*
Grevillia. *R. Br.*

4. *Pericarpium 5-20-spermum, 1-loculare, 2-valve, persistens.*

Tricondylus. *Salisb.*
Cybele. *Salisb.*
Rymandra. *Salisb.*
Embothrium. *Forst.*
Hylogyne. *Salisb.*

CHARACTERES GENERUM.

SECT. 1. Flores dioici.

1. *Pericarpium* 1-*spermum, nuciforme, lignosum, deciduum.*

AULAX. *Berg.* Flores in Spicâ corymbosâ terminali, masculâ longissimâ. Bracteæ fæmineorum exteriores multifidæ, Involucrum mentientes. *Frutices: foliis linearibus, spatulatisve.* αυλαξ; *petalis sulco antheriferis.*

GIBBONIA. *Salisb.* Flores in Capitulo terminali. Bractea 1 inter singulos, præter Involucrum majorum imbricatarum; fæmineorum lignosæ. *Frutices: foliis integris, nunc in eodem ramo figurâ diversis, rarissime* 3-*dentatis.* γειγγον; *ob involucrum imbricatum.*

PROTEA. *L.* Flores in Capitulo terminali. Bractea 1 inter singulos, gemmaceis parvis subjectis; fæmineorum lignosæ. *Arbores Fruticesve: foliis sæpius tortis, integerrimis. Nomen poeticum: ob herbæ faciem diversam.*

2. *Pericarpium* 1-*spermum, samaræforme, membranaceum, deciduum.*

EURYSPERMUM. *Salisb.* Flores in Capitulo terminali. Bractea 1 inter singulos, gemmaceis parvis subjectis; fæmineo-

rum lignosæ: foliis ultimis majoribus, in plerisque sub florescentiam ochroleucis. *Frutices: foliis sæpius tortis, integerrimis.* ευρυσ, σπερμα; *seminibus latis.*

CHASME. *Salisb.* Flores in Capitulo terminali. Bractea 1 inter singulos, gemmaceis parvis subjectis; fæmineorum lignosæ, infra apicem concretæ, unde Conus cancellatus. *Frutices: foliis integerrimis, nunc in eodem ramo figurâ diversis.* χασμη; *ob coni hiatus.*

SECT. II. Flores hermaphroditi.

1. *Pericarpium* 1-*spermum, evalve, deciduum.*

ISOPOGON. *R. Br.* Flores in Capitulo sessili, terminali. Bractea 1 inter singulos, squamaceæ; gemmaceis vix ullis. Petala regularia, ultra bracteas in tubum coalita. Pericarpium nuciforme, undique barbatum. Stylus caducus. *Frutices: foliis simplicibus decompositisque.* ισοσ, πωγων; *barbâ pericarpii æquali.*

PETROPHILE. *R. Br.* Flores in Capitulo terminali, minoribusque sæpe ex ultimis axillis. Bractea 1 inter singulos, squamaceæ; gemmaceis nullis. Petala regularia, libera. Pericarpium nuciforme, latere superiore rimâ melliferum? ad oras barbatum. Stylus diu vegetus. *Frutex: foliis decompositis.* πετρος, φιλη; *locis petrosis gaudens.*

SERRURIA. *Burm.* Flores in Capitulo 1-rio, paniculatisve, terminalibus. Bractea 1 inter singulos, membranaceæ; præter gemmaceas, nunc amplas. Petala secunda, basi cohærentia. Pericarpium ventricosum, membranaceum. *Frutices: foliis*

decompositis, vix unquam omnibus simplicibus, sæpe glanduligeris. In honorem JOHANNIS SERRURIER, M. D. *Botanices Professoris* Ultrajecti.

ADENANTHES. *Labill.* Flores 1-rii; in Capitulis axillaribus terminalibusque. Bracteæ 6-12, in Involucrum imbricatæ, squamaceæ; præter 2-3 ad basin pedunculi. Petala ventricosula, superne varie libera; antico angustiore, nunc sterili. *Frutices: foliis integris, decompositisque. αδην, ανθος; nectariis glandulosis. Pericarpium gravidum non vidi.*

CONOSPERMUM. *Sm.* Flores in Spicâ paniculatâ e summis axillis. Bractea 1 ad singulos, squamaceæ. Petala in urceolum coalita; limbo irregulari, fere *Orchidis*. Filamentum dorsale antherigerum, lateralia ½-antherigera, anticum castratum. Pericarpium turbinatum, barbatum. *Fruticuli: foliis simplicibus. χωνος, σπερμα; ob semen turbinatum.*

ERODENDRUM. *Salisb.* Flores in Capitulo terminali. Bractea 1 inter singulos, præter Involucrum amplarum sæpius coloratum, rigidæ. Petala in Labia 2, apice erecta, antico angusto, cohærentia. Pericarpium fusiforme, barbatum. *Arbores Fruticesve: foliis perangustis latissimisve, integerrimis, nunc resupinatis. ερως, δενδρον; genus omnium in deliciis.*

PLEURANTHE. *Salisb.* Flores in Capitulis e vetusto caule lateralibus. Petalorum Labia apice deflexa. Cætera ut in *Erodendro. Frutices humiles: foliis perangustis latissimisve, integerrimis, πλευρα, ανθος; floribus lateralibus.*

LEUCADENDRUM. *L.* Flores in Capitulo 1, pluribusve glomeratis, terminalibus. Bractea 1 inter singulos, gemmaceis subjectis, rigidæ. Petala in Labium 1-2, apice deflexa, antico angusto, cohærentia. Pericarpium utriculare, pergamineum. *Frutices: foliis simplicibus, apice sæpius dentatis. λευκος, δενδρον; herbâ in omnibus detectis pallidâ.*

DIASTELLA. *Salisb.* Flores in Capitulo terminali. Bractea 1 inter singulos, præter Involucrum majorum, rigidæ. Petala vix irregularia, apice erecta, basi cohærentia. Pericarpium ut in *Leucadendro*. *Frutices: foliis simplicibus, rarius apice dentatis.* διαστελλω; *petalis profunde discretis.*

MIMETES. *Salisb.* Flores in Capitulis sessilibus, axillaribus. Bractea 1 inter singulos, præter Involucrum majorum, membranaceæ: folio subjecto nunc basi ampliato. Petala apice deflexa, basi cohærentia. Pericarpium ut in *Leucadendro*. *Frutices uliginosi; foliis simplicibus, nunc apice dentatis.* μιμητης; *herbâ varia genera simulante.*

PARANOMUS. *Salisb.* Flores 4-ni; in Spicâ nunc densissimâ, terminali. Bracteæ 4 singulos fasciculos cingentes, rigidæ; præter 5-tam ad basin. Petala regularia, basi cohærentia. Pericarpium ut in *Leucadendro*. *Frutices monticolæ: foliis simplicibus, decompositisque, nunc in eodem ramo.* παρα, νομος; *herbâ, inflorescentiâ, bracteis, stigmate, mire anomalis.*

SORANTHE. *Salisb.* Flores 4-1 confertim sparsi; in Spicâ compositâ terminali, ramis nunc vix exsertis. Bracteæ tot quot flores, rigidæ, præter 1 supra basin ramorum, gemmaceasque infra spicam. Petala vix irregularia, basi cohærentia. Pericarpium gigartoideum, lapideum. *Frutices: foliis simplicibus, in plerisque angustissimis.* σωρος, ανθος; *floribus cumulatis.*

SPATALLA. *Salisb.* Flores 4-1-ni; in Spicâ compositâ terminali, ramis nunc brevissimis. Bracteæ 4 ad singulos fasciculos, anticâ minore, membranaceæ; præter 5-tam ad basin rami, gemmaceis raro ullis. Petala basi cohærentia, dorsali latiore. Pericarpium utriculare, membranaceum. *Frutices: foliis simplicibus, angustissimis.* σπαταλαω; *stigmate valde unguentato.*

BRABEIUM. *L.* Flores 2-ni; in Spicis longis axillaribus. Bractea 1 ad singula paria, caducæ; gemmaceis aliis nullis. Petala

regularia, libera. Filamenta basi petalorum inserta, libera. Nectarium 4-fidum. Pericarpium drupaceum. *Frutex: foliis* Theophrasteæ, *verticillatis, dentatis.* βραβειω; *ob ramos sceptriformes.*

2. *Pericarpium 2-spermum, evalve, dociduum.*

Persoonia. *Sm.* Flores 1-7; in Spicis ad basin ramorum novorum axillaribus. Bracteæ in 1-floris nullæ; in 2-7-floris ad singulos 1-riæ, squamaceæ. Petala vix regularia inferioribus gibbosioribus: limbo longissimo. Nectaria 4, subconica. Pericarpium drupaceum. Frutices foliis simplicibus. *In honorem summi Botanici,* Christiani Henrici Persoon.

3. *Pericarpium 2-spermum, 2-valve, persistens.*

Euplassa. *Salisb.* Flores 2-ni; in Spicis longis ad basin ramorum novorum axillaribus. Bractea 1 ad singula paria, caducæ; gemmaceis aliis nullis. Petala secunda, libera. Antheræ limbo subsessiles. Nectarium annulare basi 4-lobâ. Pericarpium 1-loculare. *Frutex: foliis abrupte pinnatis!* ευ, πλασσω; *herbâ* Leguminosas *simulante. Fructum gravidum non vidi.*

Ropala. *Aubl.* Flores 2-ni; in Spicis longis axillaribus. Bractea 1 ad singula paria, caducæ; gemmaceis aliis nullis. Petala regularia, libera. Filamenta ad apicem unguium inserta. Nectarium profunde 4-fidum. Pericarpium leguminiforme, 1-loculare. Semina undique alata. *Frutices: foliis simplicibus, im-*

pari-pinnatisque in eodem ramo, nunc dentatis. ϕοναλων; *stigmate clavato.*

PANOPSIS. *Salisb.* Flores 2-ni; in Spicâ verticillatim ramosâ terminali. Bractea 1 ad singula paria, caducæ; gemmaceis aliis nullis. Petala regularia, libera. Filamenta ad medium unguium inserta. Nectarium vaginæforme, eroso-dentatum. Pericarpium 1-loculare. *Frutex: foliis grandibus, verticillatis, integerrimis.* πασ, ωψ; *partibus undique spectantibus.*

XYLOMELUM. *Sm.* Flores 2-ni; in Spicis longissimis, ad basin ramorum novorum axillaribus. Bractea 1 ad singula paria, deciduæ; gemmaceis aliis nullis. Petala regularia, libera. Nectaria 4, condyliformia. Pericarpium pyriforme, 1-loculare, lignosum. Semina apice alata. *Frutex: foliis sæpius oppositis, integerrimis, spinulose dentatisque.* ξυλων, μηλων; *ob fructum pyriformem, lignosum.*

HAKEA. *Schrad.* Flores 2-ni: in Spicis brevissimis axillaribus. Bractea 1 ad singula paria, caducæ; gemmaceis aliis nullis. Petala secunda absque barbâ intus, libera. Nectarium 1, lunatum. Pericarpium et Semina ut in *Xylomelo. Frutices: foliis simplicibus decompositisve, nunc teretibus apiceque spinosis. In honorem Baronis* CHRISTIANI LUDOVICI HAKE, *Botanices fautoris.*

LAMBERTIA. *Sm.* Flores in Capitulo terminali. Bracteæ numerosæ, in Involucrum imbricatæ, deciduæ: nullis floribus interstinctis. Petala vix regularia inferioribus gibbosioribus. Nectarium vaginæforme, erosum. Pericarpium ut in *Xylomelo.* Semina undique alata. *Frutices: foliis sæpius 3-nis, apice spinosis. In honorem* AYLMERI BOURKE LAMBERT, *Armigeri, Botanices acerrimi Promotoris.*

JOSEPHIA. *R. Br.* Flores in Capitulo terminali. Bracteæ numerosæ, in Involucrum imbricatæ, persistentes: nullis flori-

bus interstinctis. Cætera ut in *Banksia*. *Frutices: foliis simplicibus, in plerisque spinulose dentatis. Genus nomine Christiano illustrissimi* Banks *condecoratum.*

Banksia. *L.* Flores 2-ni; in Spicâ densissimâ terminali. Bracteæ 3 ad singula paria, præter gemmaceas parvas, persistentes. Petala irregularia, inferne cohærentia. Pericarpium conchæforme, 2-loculare septo 2-lamellari dissiliente, lignosum. Semina apice alata. *Arbores Fruticesve: foliis varie inciso-dentatis, rarius integerrimis.* Mæcenatis *sui ævi, nomine paterno hoc genus superbit.*

Stylurus. *Salisb.* Flores 2-ni; in Spicâ glomeratâ, terminali. Bractea 1 ad singula paria, caducæ; gemmaceis aliis nullis. Petala secunda, a pericarpio intus barbata, limbo cohærentia. Nectarium 1, lunatum. Pericarpium leguminiforme, 1-loculare, lignosum. Stigma dorso caudatum. Semina apice alata lateribus involutis. *Frutices: foliis simplicibus, latis.* στυλος, ουρα; *stylo caudato.*

Lysanthe. *Salisb.* Flores 2-ni; in Spicâ secundâ, nunc densissimâ, terminali. Petala secunda ad pericarpium intus barbata, inde libera. Pericarpium folliforme, membranaceum. Stigma ecaudatum. Cætera ut in *Styluro*. *Frutices: foliis simplicibus, angustissimis latisve, nunc 3-nervibus.* λυω, ανθος; *petalis ultra pericarpium liberis.*

Grevillia. *R. Br.* Flores 2-ni; in Spicâ longâ, nunc densissimâ terminali. Bractea 1 ad singula paria, caducæ; gemmaceis aliis nullis. Petala secunda absque barbâ intus, superne libera. Nectarium 1, lunatum margine nunc eroso. Pericarpium leguminiforme, 1-loculare, lignosum. Semina undique alata. *Frutices: foliis simplicibus decompositisque, nunc* Filicum *æmulis. In honorem heu defuncti Nobilis* Caroli Greville, *Botanices fautoris.*

4. *Pericarpium* 5-20 *spermum*, 1-*loculare*, 2-*valve*, *persistens*.

TRICONDYLUS. *Salisb.* Flores 2-ni; in Spicâ terminali axillaribusque. Bractea 1 ad singula paria, caducæ; gemmaceis aliis nullis. Petala secunda, libera. Nectaria 3, condyliformia. Pericarpium folliforme, membranaceum. Semina apice alata. *Frutices: foliis sæpius decompositis.* τρεισ, χονδυλοσ; *nectariis 3 condyliformibus.*

CYBELE. *Salisb.* Flores 2-ni; in Umbellis paucifloris axillaribus. Bractea 1 ad singula paria, deciduæ; gemmaceis nullis. Petala secunda, libera. Nectarium 1, lunatum. Pericarpium leguminiforme, membranaceum. Semina apice alata. *Frutex: foliis* Loranthi, *glaucis. Nomen poeticum; limbo ante anthesin coronam muralem referente.*

RYMANDRA. *Salisb.* Flores 2-ni; in spicis ad basin ramorum axillaribus, folio subjecto nunc delapso. Bractea 1 ad singula paria, caducæ; gemmaceis aliis nullis. Petala regularia, libera. Nectaria 4, squamacea. Pericarpium folliforme, lignosum. Semina apice alata. *Arbor excelsa: foliis* Myricæ *dentatis.* ρυμοσ, ανηρ; *antheris temonem referentibus.*

EMBOTHRIUM. *Forst.* Flores 2-ni; in Spicâ densâ terminali. Bractea 1 ad singula paria, deciduæ, gemmaceis aliis nullis. Petala secunda, supra basin spatio brevi cohærentia. Nectarium 1, lunatum. Cætera ut in *Rymandrâ. Frutex: foliis* Rhododendri, *integerrimis: stipulis multis gemmaceis subjectis.* εν, οθριον; *antheris limbo petalorum.*

HYLOGYNE. *Salisb.* Flores 2-ni; in Spicâ densissimâ terminali. Bractea 1 ad singula paria, deciduæ; gemmaceis majoribus subjectis. Petala secunda, usque ad limbum præter fissuram anticam cohærentia. Nectarium 1, lunatum. Pericarpium et Semina ut in *Embothrio. Frutices: ramis paucis erectis: foliis simplicibus integerrimis sinuato-dentatisque.* υλη, γυνη; *pistillo toto in lignum converso.*

ON THE CULTIVATION OF

THE NATURAL ORDER OF PROTEĒÆ.

The genus of *Protea*, as it is left in the work of that indefatigable traveller, Professor Thunberg, contains 60 species, 25 of which he himself discovered, and all which he probably saw growing wild at the *Cape of Good Hope:* these he described after his return to *Europe*, from dried specimens, but it must be confessed very imperfectly; nevertheless his specific differences have been copied, almost word for word, by Professor Willdenow. In the *Chelsea* garden, still containing many venerable relics of Philip Miller's labours, only 3 species had been cultivated previous to the year 1770, about which time several were raised in his Majesty's garden at *Kew*, from seeds collected by the late Mr. Francis Masson; and a still greater number both of known and unknown species, have since been collected by Mr. James Niven, many of which have at length flowered in this country, and no where more luxuriantly, than in the collection of my late master, George Hibbert, Esq. at *Clapham*, by whose liberality most of them are now in my possession.

Besides these treasures, our gardens have been enriched with various plants allied to them from *New Holland*, which being often singular in their foliage, are sought for with avidity by most collectors; and their fructifications being now better understood from an examination of living specimens, it appears

that they constitute many genera, some of which, as Dr. Sims observes, are already accurately defined, by the author of the *Paradisus Londinensis.* His names, with those of other scientific botanists, will therefore be adopted, in the following detail of the method of cultivating this tribe of plants, which succeeded so well at *Clapham;* and I shall feel very proud, if from the hints now given, they are preserved longer, or rendered more plentiful among us.

As in all cases, it is the business of an intelligent gardener, to imitate nature, as far as may be practicable, the soil and particular situation, in which each species grows wild, has never been omitted, when it could be ascertained; many delighting in dry rocky places, while others will not thrive without richer and more loamy earth; some again require schist, and several a great portion of sand.

To avoid repetitions, the general method of treating the whole *Natural Order* is first given, any exceptions to this, or other necessary remarks, being inserted under the respective species to which they apply. In enumerating them moreover, anxious to find out distinctions that might be useful to an unlearned gardener, rather than to the scientific botanist, their generic and specific characters have in no instance been drawn up, on the mere authority of preceding writers, or without examining the plants themselves; neither are they arranged systematically, but according to the natural affinity, which in my humble opinion, they have to each other.

The *Soil* in which I have found at least two thirds of these plants succeed, is a light soapy loam, mixed with a greater or less proportion of sand. Chuse a spot that has never been pared or burnt, especially on higher ground not inundated in wet seasons; and in digging the earth, only take from 5 to 6 inches of the top, includ-

ing the turf. Let this earth be laid in heaps, in some dry airy part of the premises, placing the turf downwards: in 6 months, (or if longer the better,) it will be fit for use. To prepare it for sowing seeds, or potting, it is necessary to pass it through a sieve; that for seeds, and small young plants, should have meshes, or openings, about $\frac{1}{4}$th of an inch diameter; but that for larger plants, may have openings $\frac{1}{2}$ an inch diameter.

The *pots* in which vegetables ought to be cultivated, not even excepting some aquatics, should neither be baked very soft, nor very hard; the former are of short duration, unsafe to carry about, and preserve valuable plants in, being so liable to break; the latter being less porous, often retain moisture, and exclude the air so completely, as to render a plant unhealthy, if not actually kill it. The roots of many species in this *Order*, delight to enter the veins and cracks of rocks, in search of moisture; which may with little trouble be imitated at the time of potting, by placing among the earth, large pieces of broken pots, or sand-stone, free from *Lichens* and *Mosses*. These large broken pieces, besides the usual drainage, will also prove beneficial, in carrying off any superabundant moisture, from injudicious watering, or heavy and continued rains: nor will they be found less useful in very dry summers; for these hard yet porous substances, retain a kindly moisture when covered with earth, a much longer time than the earth alone would; consequently the small fibres which cling to them, receive nourishment in much the same way, that nature affords her liberal assistance, where they grow wild.

Old pots should never on any account be used, unless previously well washed and scrubbed with a brush inside and outside, after which they must remain till thoroughly dry; for by use, their pores become so obstructed with *Confervæ*, and other minute vegetables, as to be very injurious to plants growing in them. It is also a point worth attending to, especially in extensive collections, to keep all

pots not in use under cover; for by being exposed to the open air, they are soon covered with millions of flying seeds of cryptogamous plants, which vegetate the instant, that the pots are moistened.

In the neighbourhood of *London*, garden pots are made of two shapes, and denominations, viz. *upright* and *flats*: they are sold in casts of the following numbers, 60, 48, 32, 24, 16, 12, 8, 4, 2, besides extra sizes: each cast is the same price, and of the cast 60, three sorts are made; thumb 60s, small 60s, large 60s.

When you prepare a pot for use, first place a piece of hollow broken garden pot, with its concave side downwards, over the hole in the bottom; I object to an *Oyster shell*, though ever so hollow, it being hard, and less porous than unglazed earthern ware. Then proceed to drain it more effectually, by filling it about a third part with smaller pieces of broken tiles or pots. In making these drainings, they should be shaken in a sieve, to take out all the smaller pieces, as well as dust; and by using sieves of different meshes, two or three sorts of drainings suitable to different sized pots, will be obtained with little trouble: for they require to be effectually drained, even when planted in the smallest 60s. The coarse riddlings of the earth in which they are potted, may be used as drainings for very large plants; such refuse is also particularly proper for those species, that require more moisture than others, which the flagging of their leaves in hot sunshine always indicates.

For sowing *seeds*, the pots called *flats* are most suitable, of the casts 48 or 32. After draining these, fill them up to about an inch and a half below the top, with moderately fine sifted soil, upon which add about an inch of still finer sifted mould. Then make the surface quite even, with a piece of lath bent, which should be used like a Plasterer's trowel. Observe carefully however to leave the earth as light as possible.

The best season for sowing seeds is from *December* to *March*, as they will then produce strong plants before the following winter; but it is by no means intended to say, that they will not succeed at other periods, and it is a common practice with most gardeners on the receipt of fresh seeds, to make trial with a few, whenever they arrive. If sown in the latter end of summer, or in autumn, the young plants will require a particularly favourable exposure, and dry shelf that receives all the rays of the sun during winter, otherwise they will too frequently become sickly, and damp off.

In this *Natural Order*, we find fruits and seeds, of very different sizes as well as shapes, but fortunately they are so similar in species of the same genus, that a gardener who is not learned in botany, after having seen one of each, may have a tolerable guess, at the genus of any new ones, he receives from abroad. In sowing them, much must be left to the discretion of the gardener; generally they ought not to be buried deeper than half an inch in the earth, nor closer to each other, than from a quarter of an inch to an inch, according to their size; taking special care to place them regularly near the edge of the pot, where the circle is largest; for there if any where they will certainly succeed, not only often vegetating sooner, but thriving better after they do vegetate than in the middle, probably in consequence of air and moisture there percolating more freely. After the seeds are sown, water the earth gently through an exceedingly fine rose, so as not to disturb its equality of surface, and let it be given very sparingly at first, as hasty watering upon fresh sifted mould generally occasions the surface to cake, then place the pots level upon the stage of a green-house exposed to the full sun. At night, and in wet weather, cover them with strong brown paper, to prevent drops of water from the roof making holes in the mould, which however should at all times be kept moderately moist: also, let all those sown between *May*, and *September*, be so shaded as to be quite in darkness from about 6 o'clock *p. m.* to the same hour *a. m.*, for in our

long days of summer, too much light and heat prevents many seeds from sprouting kindly.

Some of those seeds which are covered with hard shells, such as *Protea Argentea* and others, do not always vegetate the first year after sowing; on the contrary, an instance has been known of a bag of seeds furnishing a succession of young plants for many years, and it is hoped that the particulars of this curious circumstance, may be in some degree amusing. Nearly twenty years ago a respectable friend of mine, had the good fortune to obtain about a quart of the seeds of *Protea Argentea,* which had been procured at *Cape Town,* by a trading Captain, to feed the turkies, on board his ship; part of these were sown in two pots, and in order to forward the growth of the seeds, one pot was placed in a hotbed, with cucumbers, where it remained during summer, without the least signs of growth in the seeds; the other pot was placed in a cool situation, where several plants made their appearance, and became tolerably strong by the autumn, when in transplanting the plants, the remaining seeds appeared fresh as when first sown, and on examining those sown in the hotbed, they proved the same, which gave cause to the whole being washed and carefully preserved until the following spring, when they were again sown and placed in a cool situation: more plants made their appearance during summer, but as the seeds did not all vegetate, they were again examined, and being found fresh, they were washed, and preserved as before: thus with a few additional ones, an annual sowing was continued, and a regular supply of young plants obtained, for many succeeding years; and the experiment shews, that those hard shelled seeds may be preserved for many years, and should never be thrown away, without previously examining them with care; but I think the whole family have a great dislike to be sown in artificial heat.

These seedling pots must have air admitted freely, when it is

not frosty, more or less according to the external temperature of the atmosphere. In *May*, *June*, and *July*, after the plants appear, it will be necessary to shade them from the hottest rays of the sun during the middle of the day; in very brilliant days, from 10 o'clock *a. m.* to 4 o'clock, *p. m.*; but as the sun declines in height, and the plants gain strength, expose them fully, both to air and sun, at all times.

I believe the best time to transplant the seedlings, is as soon as their cotyledons are fully grown, and the future stem beginning to elongate; for they have then few or no fibres attached to the tap-root, nor have I ever found them checked by this early removal: it should unquestionably never be delayed later, than when they are from an inch to two inches high, potting them singly into small 60s, and taking great care, not to break any lateral fibres they have then made: this operation should also be performed in a close shed where the wind does not blow, watering small parcels together through a fine rose as you proceed, and when all are finished, place them in such a frame as is used for *Cucumbers* and *Melons*. Keep them rather close, as well as shaded with a thin mat when the sun shines, for a week or ten days, until they have struck fresh root, after which they must be gradually exposed to the open air.

About the end of *September* or beginning of *October*, according to the mildness of the autumn, the plants should be cleaned and moved into their winter quarters, which, both for those transplanted, or any sown later remaining in seed pots, should be the most light and airy part of the greenhouse. Look them over every morning between 9 and 10 o'clock, watering such as stand in need: at this season it should be done, by pouring the water gently upon the earth near the edge of the pot, so as not to wet their stems and leaves more than can be avoided. Whenever dead leaves or branches appear, let them be removed, keeping the surface of the

earth at all times free from *Mosses*, which are the most pernicious of all weeds to many of these plants, especially when they attach to the base of their stems.

Air is indispensably necessary for them at all ages: after they are housed in autumn, if the weather continue temperate, admit it both day and night, by keeping off the glasses entirely, or in large houses all the windows and doors open. When there is any appearance of frost however, shut up the frames and houses, early or late in the afternoon, according to the degree of cold, opening them the following morning, as soon as the temperature rises to 36 degrees of *Fahrenheit's* thermometer. In the depth of winter, when the frost is intense, cover the frames with mat, as well as the houses where it can be done conveniently; and by the help of fireheat, keep the temperature within, as near as may be to 34 degrees of *Fahrenheit*, during the night. It should never be higher than this in frosty weather during the night, for though it is not adviseable to let the temperature sink lower, very few of these plants will be injured, by occasionally experiencing 32 degrees of cold at that season: as these plants in general in their native state are subject to great violence of winds, particularly those that are inhabitants of mountains, which may in general be known by their robust and tree like habit, they should all be placed, so that the wind can circulate freely, not only amongst the branches, but also round the stems and pots, which in my opinion is of the utmost consequence to preserve health in the plants; and by close attention, I have often fancied an improved appearance between morning and evening, after a full exposure to a brisk wind during the daytime.

In one of the largest and most healthy collections of *Cape* and *New Holland* plants in this country, exposed on a bleak hill, the temperature of the principal house, during the months of *December*, *January*, and *February*, was always suffered to sink to 32 de-

grees of *Fahrenheit* during the night, if the external air was so cold; yet none of the plants usually kept in green houses suffered by it, and the plan there pursued, for sixteen winters, was never to permit a plant to grow at all during that season, if it could be prevented; bringing them out in spring, as nearly as possible with the same foliage, which they had when housed in autumn.

In training and pruning these plants, the knife must be used with caution; as they advance in stature, such as are weak or straggling, ought to have the principal stem neatly tied up to a stick, and when they are from two to three feet high, by cutting off the tender branches, they may be formed into narrow or spreading heads, according to the taste or caprice of the owner. At *Clapham*, they were generally left to assume their natural direction and form; only removing any very luxuriant branches, when ill placed, before they became old and woody. Nothing injures these plants more than crowding them close together; and I cannot avoid the hazard of giving offence to some of my best friends, by saying, that in many collections about *London*, both large and small, the wisest thing the owners could do, would be to order a third part of their plants, to be cut into faggots, for lighting the fire, of the greenhouse, in frosty weather.

A large portion of water is necessary for most of these plants in dry seasons; and it should if possible be such, as has been exposed to the sun and air, several days. In the excessively hot weeks of summer, give it them every evening about sunset, so as to soak the whole pot thoroughly, but in such weather, never apply it in the middle of the day, if it can be avoided; for I have seen plants killed by watering them, when the earth and pot were in all probability, at that instant heated by the sun, to more than 100 degrees of *Fahrenheit*. If by accidental neglect of watering the preceding evening, any plant is discovered flagging so much in the

middle of the day, as to risk the loss of its life, or foliage, the best method is to remove it into the shade for a few minutes, and then refresh it with water already warmed by the sun. In extremely hot and dry days, it conduces greatly to the health of most plants, after the general watering is finished, to sprinkle their whole foliage through a very fine rose, imitating the natural dew; especially when the garden is situated in a very dry soil, or upon a hill; for in such situations frequently no dew whatever falls, when there is a very heavy one near lakes, or in valleys: in the winter season, the sun having but little power, the plants will require a much less portion of water, but when necessary they should have sufficient to soak the earth thoroughly, which should be given to them in the early part of the day, and with great care not to wet the leaves and plants at that period of the year, more than can be avoided.

The properest season for shifting these plants, into larger pots is from *March* to *May*. I prefer the end of the former month, as they will have begun to make fresh roots, by the time they are removed into the open air, suffering less from violent winds and heavy rains during summer. The precise time to be preferred indeed, is just when the buds begin to swell, which in nine tenths of the collection, will be, as above mentioned, from *March* to *May*: this operation ought to be performed annually, but not oftener, changing them into pots, only one size larger. Abstain generally from cutting or injuring the roots, only removing any dead parts or fibres; and if a plant has not completely filled the pot with roots, replant it in a clean one of the same size, for nothing is more fatal to such as are not growing vigorously, than a very large pot.

Cuttings of most of these plants, push out roots easily, but some with more difficulty. To succeed with the latter, it is necessary to use pure sand, and to be provided with Bellglasses,

which fit the pots intended to be used, exactly. It requires more skill to know, when and which part of a branch will soonest strike root, than almost any other part of their management, nor is it possible perhaps to lay down any other general rule, than that the branch should be well ripened: after that I believe, the sooner it is taken off the better. When the parent plant is dying at the root, or damping off near the bottom, which many of these plants are subject to, when least expected, the ends of its branches will frequently all succeed, as I have already experienced in *Leucadendrum Hypophyllum*, and others. I can only account for this, from the state of rest and inactivity that the branches had been thrown into; the descending sap imbibed by the leaves, being arrested, and overflowing in those parts of the stem yet living, so as to heal over the wound more rapidly, and form that callosity at the bottom of the cutting, from which the young fibres commonly first issue. The leaves of all cuttings should be taken off with a sharp knife as far as the cutting is meant to be planted in the sand, taking care not to bruise or tear the bark, and to cut the bottom perfectly even, just under the insertion of a leaf. Contrary to the practice in sowing seeds, I think it is of great importance to press the sand in the pot very firmly down upon the drainings. After marking the dimensions of the Bellglass upon the sand, then proceed to plant the cuttings with a small blunt dibble, just so deep, that its base may rest solid without the smallest hollow under it, finishing one at a time, by pressing the sand firmly round it. When all you intend to plant in one pot are finished, give a moderate watering, and as soon as the leaves of the cuttings are dry, place the Bellglass firmly over them.

In general, cuttings of *Proteas* have not succeeded; but, after repeated experiments, I am of opinion, that the failure has been occasioned by stripping off, or shortening, the leaves: and I have

found, that, if the leaves are only taken off from the part which is inserted in the earth, and those left uninjured which are above the surface, the chances are in favour of their striking root; while the contrary is the case, where the whole of the leaves are taken away, or shortened.

If cuttings are judiciously chosen, they will succeed in various situations; such as are taken off in spring, will do well, in general, either in a warm part of the greenhouse, or in cucumber heat; those taken off in summer, may be placed in frames, either with or without artificial heat, especially in close warm aspects, shading them with a thin mat, when the sun is powerful; those cuttings taken off in autumn, or winter, should be placed on elevated shelves, in the hothouse. From time to time, as the Bellglasses become foul, wipe them clean, taking the opportunity to do this always when they are moved for watering, so as not to disturb the cuttings unnecessarily. If any die, or become mouldy, remove them instantly, for their contagion would spread rapidly.

In the time required for sending out roots, different species vary exceedingly: some are furnished with fibres in two or three months, while others, especially the hard-wooded species, require six, nine, or twelve months, nay from this period, even to two years: but, whenever the fibres begin to issue, it will be visible in the cheerfulness, and deep verdure of the leaves, or by their buds swelling; and as soon as a fresh shoot pushes, the Bellglass must be raised by degrees, and at length entirely removed, hardening the cuttings to the full air; after which they ought to be treated like seedlings.

Many species of this tribe of plants, ripened seeds at *Clapham*; but I was careful to promote their impregnation, by repeatedly rubbing Pollen upon the Stigma, and exposing their flowers as

much as possible to the sun, never suffering any wet to fall upon them at this period; nor have I any doubt that most of these plants, if not all, by attention on the gardener's part at the critical time, when the stigma exudes its viscous liquid, may be made to ripen seeds with us. In the hermaphrodite genera of *Paranomus*, *Erodendrum*, and *Serruria*, some species afford them annually without any care at all.

With respect to their diseases, I have only observed one, but that is too often fatal. It commonly appears towards the end of summer, and in the autumn, mostly attacking the largest and healthiest plants. This gangrene, if I may use the term, always begins in that part of the stem near the root, and with close attention may be soon discovered, as the diseased part immediately changes colour. The only remedy I yet know, is to cut away all that is discoloured, not leaving the smallest unsound speck, and paring the wound quite smooth; then close it up with grafting clay, under which lay a sufficient quantity of dry wood or bone ashes to dry up the moisture of the wound, and then press the clay tight to prevent any water flowing towards the stem till a new bark is deposited over the wound. I am unable to assign any cause for this disorder, except it is the effect of hot sunshine immediately succeeding heavy thunder showers, at which time the bark may probably be scalded near the surface of the earth, which is the place the disorder generally first appears in, and which makes rapid progress.

In dividing the Natural Order of *Proteēæ*, into genera, those who are more learned than myself, think that the Inflorescence is of primary consequence. Tournefort, Boerhaave, and most botanists who lived before Linne, had no scruples in employing it: but, though the last named immortal naturalist made a law, always to exclude inflorescence from generic characters, he was

nevertheless often forced to admit it himself; and this he managed with great cunning, by calling the *Umbel*, *Catkin*, *Spathe*, &c. of vegetables, which are only different sorts of Inflorescence, a Calyx. Among modern writers, I believe that Mr. R. A. SALISBURY first dared publicly to dissent from the abovementioned canon of LINNE, asserting not merely the utility but absolute necessity, of employing the Inflorescence in many Natural Orders; and it must be confessed that such generic distinctions are peculiarly useful to working gardeners, being always obvious if a plant flowers at all, as well as intelligible to the poorest capacity: in this point, accordingly, he has at length been followed by other eminent botanists. Next to the Inflorescence, the various modifications of the Fruit, and Seeds, as they are in many species unphilosophically denominated, seem to afford the best generic distinctions, in *Proteeæ*. As for their habit, no certain guess at the genus of an unknown species can be deduced from it; for this sometimes differs amazingly, not only in the same genus, but in individuals of the same species, and several are found with leaves of very different shapes, growing at the same time upon one branch.

Sect. 1. *Flores dioici.*

AULAX. *Berg.*

Flores in Spicis terminalibus, plus minus corymbosis. Bractea 1 inter singulos; fæmineorum exterioribus multifidis, Involucrum mentientibus. Pericarpium nuciforme. Stylus persistens. ***Frutices foliis integris.***

Flowers in terminal Spikes, more or less equal in height. A single Bracte to each; outer ones of females multifid, like a Fence. Pericarpium like a Nut. Styles persistent. ***Shrubs with entire leaves.***

The genus was named by Professor BERGIUS, from the Greek word αυλαξ, on account of the furrow, in which the anthers are placed.

1. A. foliis linearibus. *Pinifolia.*

MAS. Protea pinifolia. *Kenn. in Bot. Rep. n.* 76. *cum Ic.* Protea pinifolia. *Thunb. Diss. n.* 20. Protea linifolia. *Linn. Mant. p.* 187. Leucadendron pinifolium. *Linn. Mant. p.* 36. A. pinifolia. *Berg. Pl. Cap. p.* 33. Pini foliis planta, &c. *Burm. Pl. Afr. p.* 193. *t.* 70. *f.* 3.—FŒM. Protea bracteata. *Thun. Diss. n.* 24. *t.* 1. *f.* 2. Protea bracteata. *Linn. Suppl. p.* 134. Lepidocarpodendron foliis, &c. *Boerh. Hort. Lugdb.* 2. *p.* 193. *cum Ic.*—Pine-leaved Aulax.

Found wild on the *Stellenbosch* mountains and in *Zwellendam*, by Mr. J. NIVEN: on the mountains near *Platte Kloof*, by Sir C. P. THUNBERG, where it flowers from *December* to *February*, but in this country about *August*. It requires a great deal of pure sand mixed with loam, being impatient of much wet, neither do cuttings strike root easily. Leaves linear.

2. A. foliis anguste spatulatis. *Cneorifolia.*

MAS. Protea aulacea. *Thunb. Diss. n.* 33. *t.* 2. *f.* 2.—FŒM. Protea umbellata. *Kenn. in Bot. Rep. n.* 248. *cum Ic.* Protea umbellata. *Thunb. Diss. n.* 24.—Widow Wail-leaved Aulax.

Introduced into our gardens, so long ago as the year 1774, from the mountains near *Platte Kloof*. It flowers here in *August*, being hardier and more easily propagated by cuttings than the other species. Mr. KENNEDY, in the *Botanist's Repository*, justly remarks how improper it is to describe a close head of flowers, an Umbel, and as this shrub is already known in many collections, by the name of *Widow Wail-leaved Aulax*, I have ventured to call it *Cneorifolia*. Leaves narrowly spatulated.

Chasme. *Salisb.*

Flores in Capitulo terminali. Bractea 1 inter singulos, Involucro majorum nullo; fæmineorum demum lignosæ, et infra apicem concretæ, unde Conus cancellatus. Pericarpium samaræforme. Stylus deciduus. *Frutices, foliis integris, nunc in eodem ramo figurâ discrepantibus.*

Flowers in a terminal Head. A single Bracte to each without larger below; those of females becoming woody, and coalescing into a latticed Cone. Pericarpium like that of Elm. Style deciduous. *Shrubs with entire leaves, in some species differently shaped on one branch.*

This genus has been so named from its Cone, the Greek word χασμη signifying a chink. In the figure of each separate Pericarpium, it resembles *Eurysperma*, but differs greatly in the coadunation of its Bractes.

Spiralis. 1. C. foliis omnibus lineari-attenuatis, tenellis barbatis spiraliterque imbricatis; coni squamis incurvis, ad marginem lucidis.

Spiral Chasme.

A small shrub about three feet high, discovered near *Breede Rivier*, by Mr. J. Niven. Cuttings grow freely, but possessing little beauty, it should only be admitted in extensive collections. Leaves all linear-attenuated, bearded and spirally imbricated while young. Scales of the Cone incurved, shining near their margin.

Teretifolia. 2. C. foliis valde arcuatis, omnibus linearibus: coni squamis incurvis, ad marginem rugosulis.

Mas. Protea teretifolia. *Andr. in Bot. Rep. t. 461. fig. ramuli.* —Fœm. *fig. major in eâdem tabulâ*—Round-leaved Chasme.

This was also introduced by Mr. J. Niven, and grows wild on the sandy plains of *Zwellendam*. It ripens fruit here plentifully by dashing Pollen upon female flowers. Leaves channelled on

their upper side, exceedingly bowed, all linear. Scales of the Cone incurved, wrinkled near their margin.

3. C. foliis $1\frac{1}{2}$-$2\frac{1}{2}$ pollices longis, omnibus sublinearibus: coni squamis recurvis: pericarpio nigro, suborbiculari. *Pinifolia.*

Pine-leaved Chasme.

A fine pyramidal shrub, which Mr. J. NIVEN discovered by alpine rivulets, near the river *Zonder End.* It is hardy, but none of the plants in this country have yet flowered. Leaves about two inches long, all nearly linear. Scales of the Cone recurved. Pericarpium black, almost orbicular.

4. C. ramorum cuticulâ mox fissâ; foliis linearibus spatulatisque: coni squamis recurvis: pericarpio maculato, obovato. *Ramentacea.*

MAS. Protea incurva. *Haw. in Bot. Rep. n.* 429. *cum Ic.* exclusis synonymis. Ramentaceous Chasme.

This at first sight resembles the preceding species, but its Leaves are shorter, and more different in shape from each other on the same branch, being quite spatulated near the Cone; it may likewise be distinguished at all times, by the cuticle of one year old branches splitting into narrow stripes. Scales of the Cone recurved. Pericarpium gray with black spots, obovate. It grows wild on the high mountains of *Lange Kloof*, especially that called *Duyvelskop*, often covered with snow in winter, and where the temperature even in summer, occasionally falls down to 40 degrees of *Fahrenheit*: it is accordingly far from being tender. Mr. F. MASSON brought over one specimen many years ago, but the plants in our gardens were raised from seeds, gathered by Mr. J. NIVEN. Cuttings strike root freely.

5. C. foliis linearibus spatulatisque, sub cono retusiusculis: coni squamis ad marginem incrassatis; pericarpio badio, mytiliformi. *Comosa.*

Form. Protea comosa. *Thunb. Diss. n. 25*—Tufted Chasme.

I believe that this species, which was discovered by Andrew Auge, in dry elevated places, near *Groot Hout Hoek*, has never yet been in our gardens. Leaves both linear and spatulated, those near the cone somewhat retuse. Scales of the cone wide and thickened at their margin. Pericarpium bright bay colour, shaped like a Muscle-shell.

Eurysperm*um*. *Salisb.*

Flores in Capitulo terminali. Bractea 1 inter singulos, præter gemmaceas; fæmineorum demum lignosæ: foliis ultimis in plerisque sub florescentiam coloratis, Involucri speciem præ se ferentibus. Cætera ut in *Chasme*. *Frutices, foliis integris.*

Flowers in a terminal Head. A single Bracte to each, besides Scales below; becoming woody in females: uppermost leaves during the Florescence coloured, like an Involucrum. Other parts as in *Chasme*. *Shrubs with entire leaves.*

The name is derived from two Greek words, ευρυς and σπερμα, alluding to the figure of the seeds.

* *Folia glauca, adulta lævia.*

Microcephalum,

1. E. foliis $1\frac{1}{2}$-2 lineas latis, 1-$1\frac{1}{2}$ pollicem longis, spatulato-lanceolatis: masculorum capitulis 2 lineas diametro, globosis: petalis lævibus.

Small-headed Euryspermum.

A slender species, about 2 feet high, discovered by Mr. J. Niven near *Houtbay*. Heads of male flowers very small, seldom more than 2 lines in diameter, their lower Bractes erect. Leaves $1\frac{1}{2}$ to 2 lines broad, 1 to $1\frac{1}{2}$ inch long, spatulated-lanceolate. Petals smooth.

2. E. foliis 1-1½ lineam latis, 1-1½ pollicem longis, angustissime spatulatis: masculorum capitulis grandibus, conicis: petalis apice angustis. *Æthereum,*

Ethereal Euryspermum.

From the very summits of the mountains in *Hottentots Holland*, where it was discovered by Mr. J. NIVEN. Branches clustered. Leaves 1 to 1½ line broad, 1 to 1½ inch long, very narrowly spatulated. Male heads of flowers very large, 6 to 8 lines long, conical. Petals narrow at the top.

3. E. ramis decumbentibus: foliis 1½-2 lineas latis, 1-1½ pollicem longis, spatulato-lanceolatis: bracteis tomentosis: petalis inferne rare sericeis. *Humifusum,*

MAS. Conocarpodendron folio, &c. *Boerh. Hort. Lugdb. 2. p. 203. cum Ic.* Trailing Euryspermum.

A dwarf shrub, common at the foot of *Tafelberg*, flowering here in *April* and *May*. Branches very weak, especially in Males. Leaves 1½ to 2 lines broad, 1 to 1½ inch long, spatulated-lanceolate. Bractes cottony. Petals bearded with a few silky hairs towards the bottom.

4. E. ramis frondosis: foliis 1½-2½ lineas latis, 1½ 2 pollices longis, spatulato-lanceolatis: bracteis sericeis: petalis inferne dense sericeis. *Frondosum,*

MAS. Protea pallens. *Linn. Mant. p.* 193—FŒM. Protea conifera. *Linn. Mant. p.* 193. Conocarpodendron folio, &c. *Boerh. Hort. Lugdb. 2. p.* 200. *cum Ic*—Clustered Euryspermum.

From LINNE's descriptions above quoted, I suspect this, rather than the preceding, to be the species he had before him. It grows plentifully also among the rocks near *Cape Town*, and has an erect stem, with branches more clustered than in many resembling it. Leaves 1½ to 2½ lines broad, 1½ to 2 inches long, spatulated-lanceolate. Bractes silky. Petals very silky below but smooth above the Bractes.

Nidiflorum, 5. E. ramis tortuosis: foliis 2½-3 lineas latis, 1-1½ pollicem longis, spatulato-lanceolatis callo apicis intus convexo, fæmineorum ultimis peramplis: cono globoso.

Nest-flowering Euryspermum.

A stout shrub, found wild by Mr. J. NIVEN, in moist places near *Wynberg*. Stem variously bent. Leaves 2½ to 3 lines broad, 1 to 1½ inch long, spatulated-lanceolate with the inside of the callosity at their point convex, the coloured ones under Female Heads so much dilated and imbricated, as to resemble a nest. Cone globular.

Procerum. 6. E. ramis rectis: foliis 3-3½ lineas latis, 1-1½ pollicem longis, spatulato-lanceolatis callo apicis intus depresso: cono oblongo, squamis nitidissime sericeis.

Tall Euryspermum.

This species was discovered by Mr. J. NIVEN, in the sandy plains near *Jackall Flyberg*, where it grows 10 feet high, and may be easily distinguished by its broad leaves, which are spatulate-lanceolate, with the inside of the callosity at their point depressed. Cone oblong, its scales covered with very shining silky hairs.

** *Folia non glauca. Capitulum globosum, oblongumve.*

Cuspidifolium, 7. E. foliis 1½-2 lineas latis, 1½-2½ pollices longis, lineari-spatulatis, cuspidatis, adultis vix sericeis: fæmineorum petalis parum exsertis: coni squamis lævibus.

MAS. E. Salicifolium. *Salisb. Par. Lond. n.* 75. *cum Ic.* Cuspidate-leaved Euryspermum.

A shrub 5 or 6 feet high, discovered on the banks of the *Stellenbosch* river, by Mr. J. NIVEN. It consequently requires plenty of water. Leaves 1½ to 2 lines broad, 1½ to 2½ inches long, somewhat falcated, linear-spatulated, cuspidated, old ones nearly smooth. Petals of Females protruded very little beyond the Bractes. Scales of the Cone smooth.

8. E. foliis 1½-2 lineas latis, 1½-2½ pollices longis, lineari-lanceolatis callo apicis toto convexo, adultis rare sericeis: fæmineorum petalis longe exsertis, limbo elliptico. *Æmulum,*

Emulous Eurispermum.

Confounded in our collections with the preceding, which it resembles in the yellow tinge of its long leaves, but exceedingly distinct. Mr. J. Roxburgh discovered it in *Hottentots Holland.* Leaves 1½ to 2 lines broad, 1½ to 2½ inches long, somewhat falcated, linear-lanceolate with the callosity at their point all convex, old ones thinly silky. Petals of Females curling a long way beyond the Bractes, their limb elliptic.

9. E. foliis 1½-2 lineas latis, 1½-2 pollices longis, lineari-spatulatis callo apicis basi intus depresso, adultis rare sericeis: fæmineorum capitulis conicis, petalorum limbo obovato. *Uliginosum,*

Marsh Eurispermum.

This is a taller shrub than either of the two last, discovered by Mr. J. Niven, in moist ground near *Roode Zand Cascade*, 10 and 12 feet high. He sent its seeds with the useful name here adopted, and by treating the plants as that suggested, they flowered abundantly at *Clapham.* Leaves 1½ to 2 lines broad, 1½ to 2 inches long, somewhat falcated, linear-spatulated with the inside of the callosity at their point depressed at the base, old ones thinly silky. Heads of Females conical, limb of their Petals obovate.

10. E. caule gracili: foliis 1½-2 lineas latis, 7-12 longis, densis, parum tortis, lineari-lanceolatis, adultis sericeis: masculorum petalis ultra antheras barbatis: pericarpio obcuneato. *Sericeum,*

Mas. Protea saligna. *Andr. in Bot. Rep. n. 572. cum Ic.* Protea saligna. *Thunb. Diss. n.* 47—Fœm. Protea saligna *Andr. in Bot. Rep. n. 572. Ic.* in eadem tabulâ cum mare—Silky Eurispermum.

The Leaves adjoining the Heads of Flowers in this species are of a deep yellow, and in Females tinged with red towards the bottom. It grows wild in wet places behind *Tafelberg*, flowering here in *June*. Stem, and especially the smaller branches, slender. Leaves $1\frac{1}{4}$ to 2 lines broad, 7 to 12 long, close to one another, a little twisted, linear-lanceolate, silky when old. Petals of Males bearded beyond the Anthers. Pericarpium obversely wedge-shaped. Cuttings strike root freely.

Argenteum; 11. E. foliis $1\frac{1}{4}$-2 lineas latis, 7-12 longis, densis, valde tortis, lineari-lanceolatis, adultis minute sericeis: masculorum petalis ultra antheras lævibus: pericarpio ovali.

Silvery Euryspermum.

In the lustre of its leaves, this species is hardly inferior to *Protea Argentea*. It was found wild by Mr. J. NIVEN in the vicinity of *Wynberg*, and male plants flowered many years ago in the collection at *Chapel Allerton*. Leaves similar to those of *E. Sericeum*, but more twisted, and of a still more silvery hue, their silky hairs being closer and shorter. Petals of Males smooth beyond the anthers. Pericarpium oval.

Salignum, 12. E. foliis 2-$2\frac{1}{4}$ lineas latis, 1-$1\frac{1}{4}$ pollicem longis, tortis, parum spatulato-lanceolatis, callo versus basin tenuiter canaliculato mucronatis, adultis raré sericeis.

FŒM. Protea foliis lineari-lanceolatis, &c. *Mill. Gard. Dict. ed.* 7. Protea saligna. *Linn. Mant. p.* 194. Protea foliis lineari-lanceolatis, &c. *Linn. Hort. Cliff. p.* 29. auctoritate ipsorum speciminum, quæ floribus carent—Willow-like Euryspermum.

One of the oldest species in our gardens, having been cultivated by the celebrated PHILIP MILLER, in 1740. It may be propagated very easily by cuttings, and the plant here described was raised in this way, from one sent by him to the late Dr. MILNER of *Leeds*, which in the year 1776 had grown to a large bush 10

feet high, with a stem 4 inches in diameter. Neither that however, nor any of the others in this country, have ever flowered to my knowledge, from which circumstance I suspect them to be Females, referring the plant to this genus from its habit. LINNE's name of *Salignum* is peculiarly applicable to it, in every sense. Leaves 2 to $2\frac{1}{2}$ lines broad, 1 to $1\frac{1}{2}$ inch long, twisted, somewhat spatulated-lanceolate, sharply mucronated with a fine channel towards the bottom of the callosity, old ones thinly silky.

13. E. foliis $1\frac{1}{2}$-2 lineas latis, 1-$1\frac{1}{2}$ pollicem longis, valde tortis, anguste lanceolatis, callo clavato mucronatis, adultis vix lævibus: masculorum petalis glabris. *Volutæfolium*;

Volute-leaved Euryspermum.

A shrub 3 and 4 feet high, discovered by Mr. J. NIVEN in *Hottentots Holland*. Leaves $1\frac{1}{2}$ to 2 lines broad, 1 to $1\frac{1}{2}$ inch long, exceedingly twisted, narrowly lanceolate, mucronated with a club-shaped callosity, old ones scarcely smooth. Petals of Males glossy.

14. E. foliis $2\frac{1}{2}$ $3\frac{1}{2}$ lineas latis, $1\frac{1}{2}$ $2\frac{1}{2}$ pollices longis, densis, parum tortis, lineari-lanceolatis, adultis fimbriatis, coriaceis. *Spissifolium*,

Crowded-leaved Euryspermum.

Introduced by Messrs. LEE and KENNEDY in 1802, from seeds collected by Mr. J. ROXBURGH, but none of the plants have yet flowered. Stem short, quite erect with clustered branches. Leaves $2\frac{1}{2}$ to $3\frac{1}{2}$ lines broad, $1\frac{1}{2}$ to $2\frac{1}{2}$ inches long, close to one another, somewhat twisted, linear-lanceolate, fringed when old, leathery.

15. E. foliis 5-8 lineas latis, 1-$1\frac{1}{2}$ pollicem longis, densis, rectis, spatulato-lanceolatis, adultis fimbriatis, coriaceis: masculorum bracteis dense sericeis. *Densum*;

Close Euryspermum.

A fine hardy species, discovered probably by Mr. F. MASSON,

for I have a specimen gathered at *Kew* in 1796. Leaves 5 to 8 lines broad, 1 to $1\frac{1}{2}$ inch long, close to one another, not twisted, spatulated-lanceolate, still fringed when old, leathery, those of Females much shorter and broader. Bractes of Males very silky.

Decorum: 16. E. foliis 5-7 lineas latis, 2-3 pollices longis, ellipticis, adultis pubescentibus, ultimis viridibus: pericarpio valde alato.

Fœm. Protea strobilina. *Schrad. Sert. Han. fasc.* 1. *p.* 7. *t.* 1.— Comely Euryspermum.

This is the original *Protea Decora* of our collections, so named by Solander, but now rarely seen, and neglected for more gorgeous plants of the Order. It was discovered by Mr. F. Masson, in sandy soil near *Constantia.* Leaves from 5 to 7 lines broad, 2 to 3 inches long, elliptic, old ones pubescent, those near the flowers green. Pericarpium broadly winged.

*** *Folia non glauca. Capitulum hemisphæricum.*

Grandiflorum, 17. E. foliis 5-7 lineas latis, $1\frac{1}{2}$-2 pollices longis, spatulato-lanceolatis callo obtusissimo, adultis pubescentibus: masculorum stigmate angustissimo.

Mas. E. Grandiflorum. *Salisb. Par. Lond. n.* 105. *cum. Ic. optima*— Large-flowered Euryspermum.

The Male Flowers of this species, discovered by Mr. J. Niven near *Wynberg*, exhale a strong disagreeable smell. Leaves 5 to 7 lines broad, $1\frac{1}{2}$ to 2 inches long, spatulated-lanceolate with a very obtuse callosity, pubescent when fully grown. Stigma of Males very narrow.

Concolor. 18. E. foliis 6-9 lineas latis, $1\frac{1}{2}$-2 pollices longis, obovato-lanceolatis callo acuminulato, adultis pubescentibus, ultimis viridibus: coni squamis numerosissimis, oblongis.

Mas. Protea globosa. *Sims in Bot. Mag. n.* 878, *cum Ic.* perperam fucatâ. Protea globosa. *Kenn. in Bot. Rep. n.* 307. *cum Ic.*—One-coloured Euryspermum.

Introduced in 1786, by Messrs. Lee and Kennedy, and grows wild near *Palmit Rivier*. Leaves 6 to 9 lines broad, $1\frac{1}{2}$ to 2 inches long, obovate-lanceolate with the callosity a little pointed, pubescent when old, those near the flowers green like the others, yet often tinged with red towards the bottom. Heads of Flowers not globular either in Males or Females, for which reason I have given it a name expressing one of its specific differences. Scales of the Cone very numerous, oblong.

Protea. *Linn.*

Flores in Capitulo terminali. Bractea 1 inter singulos cum gemmaceis parvis; fæmineorum demum lignosæ. Pericarpium nuciforme, lignosum. Stylus basi vel totus persistens. *Arbores Fruticesve, foliis integris.*	Flowers in a terminal Head. A single Bracte to each, with small scales below; becoming woody in females. Pericarpium like a Nut, woody. Style in part, or all persistent. *Trees or Shrubs, with entire leaves.*

The genus was so named by Linne, as it then stood, from its various shaped leaves and flowers.

* *Pericarpium fere nudum.*

1. P. foliis 6-8 lineas latis, 2-3 pollices longis, ellipticis, subretusis, adultis vix lævibus: fæmineorum corollis spiraliter imbricatis, lævibus: pericarpio late turbinato. *Strobilina;*

Mas. P. strobilina. *Thunb. Diss. n.* 44.—Fœm. P. strobilina? *Linn. Mant. p.* 192.—Strobiled Protea.

The cones of this shrub are often as big as a man's fist. Mr. J. NIVEN found it in the dry sandy plains near *Palmit Rivier*, from 5 to 7 feet high. Leaves very similar to those of *Eurystermum Decorum*, but not so pubescent, and with a still blunter point often bent down, when they appear retuse. Heads of Females very long, their corollas spirally imbricated and smooth. Pericarpium broadly turbinated.

Argentea; 2. P. caule arboreo: foliis 6-10 lineas latis, 3-5 pollices longis, anguste lanceolatis, longe sericeis: stylo toto persistente.

MAS. Conocarpodendron foliis, &c. *Boerh. Hort. Lugdb. 2. p. 195 cum Ic.* Leucadendros Africana, &c. *Plukn. Alm. p. 212. t. 200. f. 1*—FŒM. P. argentea. *Linn. Sp. Pl. ed. 2. p. 137.* P. foliis lanceolatis, &c. *Linn. Hort. Cliff. p. 29.* Argyrodendros Africana, &c. *Comm. Hort. Amst. v. 2. p. 51. t. 26*—Silvery Protea.

A well known tree, from 20 to 30 feet high, found both wild and cultivated near *Cape Town*, where whole woods of it are planted solely for fuel. Leaves 6 to 10 lines broad, 3 to 5 inches long, narrowly lanceolate, silky with long hairs, shining like polished silver. Style all persistent. No plant is more improperly treated in our collections than this, being generally confined at the root, and kept very dry. The soil it will thrive in is pure sandy loam, mixed with decayed leaves and angular pieces of sandstone. Every year in *March* or *April*, it should be shifted without disturbing the roots much, into a larger pot, and supplied with plenty of water during summer, not suffering its leaves to flag at any season. When the plants are 10 or 12 years old, they will flower, and if they have not been crowded or drawn by others, become magnificent objects for large conservatories. Cuttings strike root without much difficulty, and the seeds, as has already been mentioned, retain their vegetative powers many years, a character which will probably be common to the whole genus: on

the contrary, I have never been able to raise seeds of a *Chasme*, or *Eurystermum*, which were more than a year old.

3. P. foliis 3-5 lineas latis, 1½-2 pollices longis, spatulato-ellip- *Glutinosa*,
ticis, obtusis, adultis vix lævibus: bracteis glutinosis dorso barbato: fæmineorum petalis parum exsertis.

Glutinous Protea.

A stout shrub, discovered by Mr. J. NIVEN, in the dry sandy district of the *Twenty Four Riviers*, with seeds ripe on the 27th of *October*. Leaves about 3 lines broad in Males and 5 in Females, spatulated-elliptical, obtuse, not quite smooth when old, especially the lower ones. Bractes glutinous, bearded externally towards their base. Petals of Females reaching very little beyond the Bractes, which are themselves scarcely pushed out during the Florescence.

4. P. foliis 2½-4 lineas latis, 8-12 longis, cæsiis, spatulatis, obtu- *Æmula*,
sis, adultis vix lævibus; masculorum capitulis truncatis, bracteis valde fimbriatis.

Emulous Protea.

This is also a robust shrub, 6 feet high or more, not unlike the former, and discovered by Mr. J. NIVEN, near *Picquetberg*. Leaves 2½ to 4 lines broad, 8 to 12 long, gray, spatulated, obtuse, scarcely smooth when old. Heads of male flowers truncated, their Bractes exceedingly fringed. It grows freely by cuttings, and the Cones are very ornamental, their black scales being bearded below the top with fox-coloured hairs, and forming a strong contrast to the pale hue of the foliage.

5. P. foliis 3-5 lineas latis, 8-14 longis, cæsiis, spatulatis, ob- *Alpina*,
tusis, adultis vix lævibus: masculorum capitulis pedunculatis, petalis bracteis multo longioribus, usque ad apicem tomentosis.

Alpine Protea.

A beautiful species, discovered by Mr. J. NIVEN on the high peak of *Khamiesberg*. The Males are covered with Flowers rendered very showy by their long purple styles. Leaves 3 to 5 lines broad, 8 to 14 long, gray, spatulated, obtuse, scarcely smooth when old. Heads of Males on Peduncles, Petals much longer than the Bractes, cottony up to the very top.

Thesiifolia; 6. P. foliis ½-1 lineam latis, 5-7 longis, glaucis, anguste spatulatis, obtusis, lævibus cum rore: masculorum capitulis sessilibus, petalis usque ad apicem valde tomentosis.

Thesium-leaved Protea.

From the mountains in *Hottentots Holland*, where it was discovered by Mr. F. MASSON. Leaves much narrower than in any species of this section, seldom 1 line broad, 5 to 7 long, glaucous, narrowly spatulated, obtuse, smooth with a fine dew. Heads of males sessile, their Petals very cottony up to the top.

Crassulæfolia. 7. P. foliis 1-1½ pollicem latis, 2-3 longis, glaucis, late spatulatis, tenellis rare fimbriatis, acuminulatis, lævibus cum rore: bracteis infra apicem barbatis; petalis lævibus.

Crassula-leaved Protea.

A low shrub, discovered by Mr. F. MASSON, so like some *Crassulas* that even an experienced botanist who found it without flowers, might refer it to that genus. It was introduced by G. HIBBERT, Esq. in 1805, and a healthy plant of it is now at *Kew*. Leaves 1 to 1½ inch broad, 2 to 3 long, glaucous, broadly spatulated, thinly fringed when young, shortly pointed, smooth with a fine dew. Bractes bearded below the top. Petals smooth.

Loranthifolia: 8. P. caule lævi: foliis 3-5 lineas latis, 1-1½ pollicem longis, spatulatis, obtuse acuminulatis, lævibus: pericarpio reniformi.

FŒM. Conocarpodendron, &c. *Boerh. Hort. Lugdb.* 2. *p.* 201. *cum Ic.*—Loranthus-leaved Protea.

The kidney-shaped Pericarpium distinguishes this from every species known to me. It was found by Mr. J. NIVEN, in sandy elevated ground near *Jackall Flyberg*. Stem about 5 feet high, smooth. Leaves 3 to 5 lines broad, spatulated, ending in a short point which is itself obtuse, smooth.

** *Pericarpium barbatum.*

9. P. ramis purpureis: foliis 1-2 lineas latis, 6-10 longis, spatulato-lanceolatis, obtusis, sericeo-tomentosis: pericarpio rare barbato. *Cinerea,*

MAS. P. alba. *Thunb. Diss. n.* 32.—FŒM. P. cinerea. *Soland. in Ait. Hort. Kew. v.* 1. *p.* 127—Gray Protea.

Introduced at *Kew* in 1774, from seeds collected by Mr. F. MASSON. It is a tall slender species, growing wild in low moist ground, near *Paarl*. Branches after losing their pubescence purple. Leaves 1 to 3 lines broad, 6 to 10 long, spatulated-lanceolate, obtuse, silk-cottony. Pericarpium thinly bearded.

10. P. foliis 1-1½ lineam latis, 1-1½ pollicem longis, densis, tortis, falcatis, anguste spatulatis, obtusis, adultis vix lævibus: masculorum capitulis pedunculatis, globosis. *Falcifolia,*

Scythe-leaved Protea.

A shrub from 3 to 5 feet high, discovered near *Simonsberg*, by Mr. J. NIVEN. Leaves 1 to 1½ line broad, 1 to 1½ inch long, gray, close to one another, twisted, falcated especially in females, narrowly spatulated, obtuse, finely silky when young and hardly smooth when old. Male flowers smelling like *Purple Clover*, their heads on Peduncles often half an inch long. Cone broadly oval, its scales silk-cottony.

11. P. foliis 1 lineam latis, 6-10 longis, parum tortis, anguste spatulatis, retusiusculis, adultis lævibus: masculorum capitulis vix pedunculatis, ovalibus. *Longicaulis,*

Mas. P. torta. *Thunb. Diss. n.* 31—Long-stemmed Protea.

If the above synonym is correct, few names can be more inapplicable than that of Thunberg, for the leaves are not half so much twisted as in many other species. However, it passes for his plant in our gardens, and was raised at *Clapham* from seeds sent by Mr. J. Niven. It is evidently an intermediate species. between *Falcifolia* and *Asterifolia.* Leaves about 1 line broad, 5 to 7 long, slightly twisted, narrowly spatulated, not attenuated at the callosity but somewhat retuse, smooth when old. Cone silky. Cuttings grow readily in any soil, but to flower plentifully this species requires pure sand.

Asterifolia, 12. P. caule gracili: foliis 1½-2 lineas latis, 7-9 longis, rariusculis, spatulatis, obtusis, adultis pubescentibus: masculorum capitalis late hemisphæricis, petalis ultra antheras barbatis.

Aster-leaved Protea.

A tall slender shrub, discovered by Mr. J. Niven in the sandy plains near *Cape Town.* Leaves 1½ to 2 lines broad, 7 to 9 long, more distant from each other than in many species, spatulated, obtuse, still pubescent when old. Heads of male flowers broadly hemisphærical, their Petals bearded beyond the anthers.

Globulariæfolia, 13. P. caule parum decumbente: foliis 1-1½ lineam latis, 8-12 longis, rectis, incurvo-patentibus, anguste spatulatis, obtusis, adultis, glabris, crassis: masculorum petalis lævibus.

Mas. P. linifolia. *Jacq. Hort. Schonbr. v.* 1. *p.* 11. *t.* 26—Fœm. P. fusciflora. *Jacq. Hort. Schonbr. v.* 1. *p.* 11. *t.* 27—Globularia-leaved Protea.

This is a dwarf species, discovered by the person who was sent to collect seeds at the *Cape,* for the garden at *Schonbrun.* It thrives best in very sandy soil, well drained, and may be propagated by cuttings. Stem somewhat decumbent, tinged with red. Leaves deep grass-green, not at all like those of any *Linum,* 1

to 1½ line broad, 8 to 12 long, twisted, incurved-spreading, narrowly spatulated, obtuse, smooth when old, thick. Petals of males smooth.

14. P. foliis 1 lineam latis, 3-4 longis, rectis, late spatulatis, obtusis, adultis vix lævibus: masculorum petalis ultra antheras lævibus. *Spatulæfolia.*

Mas. P. Levisanus. *Thunb. Diss. n.* 43. P. Levisanus. *Linn. Mant. p.* 194. Leucadendron Levisanus. *Berg. Pl. Cap. p.* 20. Brunia foliis, &c. *Burm. Pl. Afr. p.* 267. *t.* 100. *f.* 2. Conocarpodendron foliis, &c. *Boerh. Hort. Lugdb.* 2, *p.* 202. *cum Ic.* Levisanus Capensis Serpylli folio. *Pet. Gaz.* 9. *t.* 5. *f.* 7.—Fœm. Brunia Levisanus. *Linn. Sp. Pl. ed.* 2. *p.* 289. P. fusca. *Linn. Sp. Pl. ed.* 2. *p.* 289. P. fusca. *Linn. Sp. Pl.* 1. *p.* 95.—Spatula-leaved Protea.

One of the commonest shrubs, in moist parts of the sandy plains near *Cape Town*, and readily increased by cuttings as well as seeds, which ripen here abundantly. Stem about 2 feet high. Leaves 1 line broad, 2 to 3 long, not twisted, broadly spatulated, obtuse, hardly smooth when old.

15. P. foliis 1-1½ lineam latis, 2-3 longis, rectis, ovalibus, obtusis, adultis lævibus: masculorum stigmate anguste clavato. *Thymifolia.*

Thyme-leaved Protea.

A rare species, discovered by Mr. J. Niven, and I fear now lost in our gardens, the only plant I ever saw, being in a sickly state, when I came to *Clapham*. Leaves 1 to 1½ line broad, 2 to 3 long, not twisted, oval, obtuse, old ones smooth. Stigma of males narrowly club-shaped.

16. P. foliis ¾-1 lineam latis, 2½-4 longis, rectis, cuneatis, obtusis, adultis, lævibus: masculorum stigmate late clavato: pericarpio acuminato. *Gnidiæfolia,*

Gnidia-leaved Protea.

This is a conical shrub, from 6 to 10 feet high, discovered by Mr. J. Niven, near *Paarl*, in dry sandy soil. Branches clustered at regular distances. Leaves $\frac{1}{4}$ to 1 line broad, $2\frac{1}{2}$ to 4 long, not twisted, wedge-shaped, obtuse, smooth when fully grown. Stigma of males broadly club-shaped. Pericarpium pointed.

Bruniæfolia. 17. P. foliis $\frac{1}{4}$-1 lineam latis, 3-5 longis, rectis, anguste cuneatis, obtusis, adultis lævibus: pericarpio truncato, breviter barbato.

Mas. P. bruniades. *Linn. Suppl. p.* 17. P. corymbosa. *Thunb. Diss. n.* 28. *t.* 2. Leucadendron corymbosum. *Berg. Pl. Cap. p.* 21—Fœm. P. Corymbosa. *Andr. in Bot. Rep. n.* 495. *cum. Ic.* P. corymbosa. *descr. fructus. Thunb. Diss. n.* 28—Brunia-leaved Protea.

The name of *Corymbosa*, hitherto given to this species, originated in a blunder of Professor Bergius, who described it from a dried specimen. Sir C. P. Thunberg found it near *Breede Rivier*, in moist places. Stem 6 to 10 feet high, very tapering, its branches clustered, but never corymbose. Leaves $\frac{1}{4}$ to 1 line broad, 3 to 5 long, not twisted, narrowly wedge-shaped, obtuse; though from being so very narrow they seem acute, old ones smooth. Pericarpium truncated, shortly bearded.

Gissonia. *Salisb.*

Flores in Capitulo terminali. Bractea 1 inter singulos, præter Involucrum majorum imbricatarum: fæmineorum demum lignosæ. Cætera, ut in *Protea*. *Frutices; foliis integris, rarissime ad apicem* 2-3-*dentatis.*	Flowers in a terminal Head. A single Bracte to each, besides an Involucrum of larger imbricated ones; becoming woody in females. Other parts as in *Protea*. Style persistent. *Shrubs; with entire leaves, very rarely* 2-3-*toothed.*

The name of this genus is derived from a Greek word γισσον, its Involucrum being imbricated.

1. G. foliis adultis sericeis: masculorum spatulato-lanceolatis, petalis ultra antheras barbatis. *Sericea,*

Silky Gissonia.

I have only seen a male plant of this species, which flowered at *Clapham*, in *June* 1806, and was then supposed to be *Protea Cinerea* of SOLANDER, but it is totally different. Stem very slender, silky. Leaves $\frac{1}{2}$ a line broad, 2 to 3 long, erect-spreading, spatulated-lanceolate, silky when old, and very like those of *Gnidia Sericea*. Bractes of the Involucrum not so silky as the Leaves. Petals bearded beyond the anthers. Stigma broadly club-shaped.

2. G. foliis adultis lævibus: masculorum anguste spatulatis; fœmineorum linearibus et anguste spatulatis: petalis ultra antheras barbatis. *Riparia,*

Beck-side Gissonia.

A slender shrub, discovered by Mr. F. MASSON on the banks of rivulets, in *Hottentots Holland*. Leaves quite smooth when old; in males $\frac{1}{2}$ a line broad, 2 to 3 long, narrowly spatulated; in females differing in shape on the same branch; lower ones even narrower and a great deal longer than those of the males, quite linear; upper ones much broader, narrowly spatulated. Male Heads on little hairy branches which resemble peduncles, having scarcely any other leaves upon them than gemmaceous scales. Petals bearded beyond the anthers. Cones about $\frac{1}{3}$ of an inch in diameter.

3. G. foliis adultis plus minus sericeis; masculorum spatulato-lanceolatis; fœmineorum ligularibus: petalis ultra antheras lævibus. *Collina.*

MAS. Protea plumosa. *Soland. in Ait. Hort. Kew. v. l. p.* 127. Protea parviflora. *Thunb. Diss. n.* 40. *t.* 4. *f. l.* Protea parviflora. *Linn. Mant. p.* 195.—FŒM. Protea obliqua. *Linn. Suppl. p.* 117. Protea obliqua. *Thunb. Diss. n.* 39. Scolymocephalus Africanus, &c. *Ray. Hist. v.* 3. *lib.* 25. *p.* 10.—Hillock Gissonia.

Common every where in dry places near *Cape Town*, and introduced at *Kew* in 1774: it is nevertheless seldom seen in our collections. I cannot retain any of the names above quoted: for, the flowers of both the other species are much smaller, as well as more feathered, and the term *Obliqua* has been misapplied. Leaves varying exceedingly in pubescence, and seldom quite smooth when old; in males spatulated-lanceolate; in females much longer, and strap-shaped. Petals smooth beyond the anthers. Cones sometimes an inch and a half in diameter.

Sect. 2. *Flores Hermaphroditi.*

Erodendrum. *Salisb.*

Flores in Capitulo terminali, Bractea 1 inter singulos, præter Involucrum majorum coloratarum, rigidæ. Petala in Labia 2, post anthesin apice erecta, antico angusto, cohærentia. Pericarpium 1-spermum, fusiforme, longe barbatum. Stylus persistens. *Frutices; foliis simplicibus, perangustis latissimisve, nunc resupinatis.*

Flowers in a terminal head. A single Bracte to each, besides an Involucrum of larger coloured ones, rigid. Petals cohering into 2 lips, their tops erect after the anthers burst, front one narrow. Pericarpium one seeded, spindle-shaped, with a long beard. Style persistent. *Shrubs; with simple leaves, very narrow or broad, in some resupinated.*

The name is derived from two Greek words ερως and δενδρον, the species of this genus, being preferred to most others in the Order, by collectors.

* *Flores in Capitulo oblongo.*

Mellifluum; 1. E. foliis 2-4 lineas latis, parum glaucis, spatulato-lanceolatis, obtusis, lævibus: bracteis superioribus spatulato-lanceolatis: antheris 1 pollicem longis.

Protea mellifera. *Curt. in Bot. Mag. n.* 346. *cum Ic.* Protea mellifera. *Thunb. Diss. n.* 37. Leucadendron repens α. *Linn. Sp. Pl. ed.* 2. *p.* 135. Lepidocarpodendron, &c. *Boerh. Hort. Lugdb.* 2. *p.* 187. *cum Ic.* Melliferous Erodendron.

This species is very liable to suffer from damp, if crowded among others, when the young Heads of flowers decay: it should therefore stand singly, thriving best in light sandy loam mixed with decayed leaves and pieces of sandstone. It grows wild near *Paarl* on the sides of the mountains so plentifully, that the inhabitants collect the honey of its flowers, for medicinal purposes. Stem 6 to 10 feet high, smooth. Leaves 2 to 4 lines broad, somewhat glaucous, spatulated-lanceolate, obtuse, smooth. Upper Bractes spatulated-lanceolate. Anthers an inch long.

2. E. foliis 5-7 pollices longis, ligularibus, adultis vix glabris, capitulo angusto, conico: bracteis superioribus spatulato-lanceolatis, floribus brevioribus: antheris juxta medium petalorum insertis. *Longipenne,*

Protea longifolia nigra. *Kenn. in Bot. Rep. n.* 132. *cum Ic.* Long-feathered Erodendrum.

Introduced in the year 1798, along with the 2 following species by Messrs. Lee and Kennedy, who received their seeds from the superintendant of the garden, at *Schonbrun.* Leaves dark green, 5 to 7 inches long, strap-shaped, scarcely smooth when old. Head of flowers narrow, conical. Upper Bractes spatulated-lanceolate, shorter than the flowers. Anthers inserted lower than in any species yet discovered, very near the middle of the Petals.

3. E. foliis 5-7 pollices longis, ligularibus, adultis vix glabris: capitulo lato, in umbonem prominente: bracteis superioribus spatulato-lanceolatis, longitudine florum: antheris supra medium petalorum insertis. *Umbonate,*

Protea longifolia. var. cono turbinato. *Kenn. in Bot. Rep. n.* 144. *cum Ic.* bonâ, præter foliorum colorem. Lepidocarpodendron, &c. *Boerh. Hort. Lugdb. 2. p.* 186. *cum Ic.* Embossed Erodendrum.

A very distinct species, growing wild in *Hottentots Holland*, the flowers of which exhale a slight odour, like mellow apples. Stem 6 to 10 feet high. Leaves pale green, their nerves and margin tinged with red, strap-shaped, very pubescent when young, and not quite smooth when old. Heads of Flowers broad, embossed. Upper Bractes spatulated-lanceolate, as long as the Flowers. Anthers inserted above the middle of the Petals.

Ligulæfolium; 4. E. foliis 5-7 pollices longis, ligularibus, adultis glabris: capitulo lato, parum convexo: bracteis superioribus spatulato-lanceolatis, floribus longioribus: antheris longe supra medium petalorum insertis.

Protea longifolia ferruginoso-purpurea. *Kenn. in Bot. Rep. n.* 133. *cum Ic.* Strap-leaved Erodendrum.

The Leaves of this resemble those of the preceding species, except being of a darker green, and not so pubescent, but its flowers are very different. Head broad, only slightly convex. Upper Bractes spatulated-lanceolate, longer than the flowers. Anthers inserted higher than in either of its supposed varieties. They are all difficult to increase, cuttings when they do succeed, being generally a year in sending out roots.

Pulchellum; 5. E. foliis 4-5 lineas latis, 3-5 pollices longis, lineari-lanceolatis, marginatis, adultis vix lævibus, plus minus undulatis: bracteis incarnatis; superioribus spatulato-lanceolatis, rare fimbriatis.

Variat. *α.* Pili vix ulli purpurei in barbâ petalorum.

Protea speciosa. v. fol. glabris. *Kenn. in Bot. Rep. n.* 277. *cum Ic.* bonâ.

β. Pili multi purpurei in barbâ petalorum.

Protea pulchella. *Kenn. in Bot. Rep. n.* 270. *cum Ic* perperam fucatâ.

γ. Pili numerosissimi purpurei in barbâ petalorum.

Protea pulchella. v. speciosa. *Andr. in Bot. Rep. n.* 442. *cum Ic.*

Neat Erodendrum.

The seeds of these different varieties were among the first sent over by Mr. J. NIVEN, and raised at *Clapham* in 1800. He discovered them near *Stellenbosch*, in a dry sandy soil, where they flower in *October*. Stem 2 to 5 feet high. Leaves 4 to 5 lines broad, 3 to 5 inches long, linear-lanceolate, marginated, scarcely smooth when old, more or less waved. Bractes flesh-colour, upper ones spatulated-lanceolate, thinly fringed.

6. E. foliis 1½-2 pollices latis, 5-7 longis, ellipticis, marginatis, adultis pubescentulis, undulatis: bracteis ochroleucis, superioribus spatulato-lanceolatis, fimbriatis. *Magnificum;*

Protea speciosa. *Andr. in Bot. Rep. n.* 438. *cum Ic.* Magnificent Erodendrum.

From the mountains of *Hottentots Holland*, where it was discovered by Mr. J. NIVEN. Leaves 1½ to 2 inches broad, 5 to 7 long, elliptic, marginated, somewhat pubescent when old. Bractes cream-colour; upper ones spatulated-lanceolate, fringed.

7. E. foliis 6-10 lineas latis, 2-3 pollices longis, densis, elliptico-cuneatis, adultis villosulis: bracteis ochroleucis; superioribus lyrato-spatulatis, fimbriatis: petalis longe caudatis. *Incomptum,*

Lepidocarpodendron, &c. *Boerh. Hort. Lugdb.* 2. *p.* 189. *cum Ic.* Slovenly Erodendrum.

A robust shrub from 7 to 12 feet high, growing wild at the foot of the mountains, near *Rondebosch*. Stem villous. Leaves 6 to 10 lines broad, 2 to 3 inches long, close to one another, elliptic-wedge-shaped, somewhat villous when old. Bractes deep cream-

colour, upper ones lyre-spatulated, fringed. Petals extended beyond the anthers into long tails.

Œmulum, 8. E. foliis 8-12 lineas latis, 2-3 pollices longis, obcuneato-ellipticis, adultis fimbriatis: bracteis ochroleucis; superioribus spatulatis, parum fimbriatis: antheris 7 lineas longis.

Emulous Erodendrum.

Confounded with the preceding in our collections, but very distinct, and introduced at *Clapham* from seeds collected by Mr. J. NIVEN, who discovered it near *Attaquas Kloof*, in black moist fertile soil. Stem 10 feet high. Leaves 8 to 12 lines broad, 2 to 3 inches long, obcuneate-elliptic, fringed when old. Bractes cream-colour, upper ones spatulated, slightly fringed. Anthers 7 lines long.

Bombycinum. 9. E. foliis 8-12 lineas latis, 2-3 pollices longis, elliptico-cuneatis, adultis fere lævibus: bracteis ochroleucis; superioribus spatulatis, fimbriatis: stigmate angustissimo, apice clavato.

Protea ochroleuca. *Smith Ex. Bot. v. 2. p. 18. t. 81.* pessimâ. Protea Lacticolor. *Salisb. Par. Lond. n. 27. cum Ic.* minime bonâ. Silk-fringed Erodendrum.

I cannot adopt either of the names, given to this species by the great botanists above quoted, from the colour of its flowers; so many others being similar in this respect. Mr. J. NIVEN discovered it, by mountain rivulets falling in the river *Zonder End.* Leaves 8 to 12 lines broad, 2 to 3 inches long, elliptic-wedgeshaped, almost smooth when old, leathery. Bractes cream-colour; upper ones spatulated, fringed with hairs resembling unspun silk. Petals very little extended beyond the anthers. Stigma very narrow, club-shaped at the top. Cuttings strike root freely.

Obtusum; 10. E. foliis $1\frac{1}{2}$-$2\frac{1}{2}$ pollices latis, 3-4 longis, glaucis, obovatis basi majorum retusiusculâ, parum marginatis, adultis lævibus:

bracteis rubris; superioribus lyrato-spatulatis, fimbriatis, obtusis: petalis obtusis.

Protea speciosa. *Sims in Bot. Mag. n.* 1183, *cum Ic.* excluso syn. Linneano. Protea speciosa latifolia. *Kenn. in Bot. Rep. n.* 110. *cum Ic.* Obtuse Erodendrum.

Mr. J. Niven discovered this fine species on the mountains opposite to *Plettenberg's Bay*, which may be easily distinguished from those it is nearest allied to, by its glaucous foliage, and obtuse petals. Leaves 1½ to 2½ inches broad, 3 to 4 long, obovate, the base of the larger ones retuse, somewhat marginated, smooth when fully grown. Bractes red; upper ones lyre-spatulated, fringed with hairs varying from reddish-purple to white, in different plants.

11. E. foliis 1-1½ pollicem latis, 2½-4 longis, obovato-lanceolatis, parum marginatis, acuminulatis, adultis lævibus: bracteis extus sericeis; superioribus apice incarnatis, spatulatis, densissime fimbriatis, retusis. *Speciosum*;

Protea speciosa. *Linn. Mant. p.* 36. Lepidocarpodendron, &c. *Boerh. Hort. Lugdb.* 2. *p.* 185. *cum Ic.* Showy Erodendrum.

A low shrub, growing wild near *Wynberg*, and hitherto known in our collections by the name of *Obovatum*. Cuttings strike root without much difficulty, but it requires a very sandy loam, and to be particularly well drained. Stem seldom more than 3 feet high, thick and swelled in cross folds at the base. Leaves 1 to 1½ inch broad, 2½ to 4 long, obovate-lanceolate, somewhat marginated, ending in a little point, smooth when old. Bractes externally silky; upper ones flesh-coloured at the top, spatulated, very thickly fringed, retuse.

12. E. foliis 1 pollicem latis, 4-6 longis, lineari-lanceolatis, marginatis, adultis lævibus: bracteis extus sericeis; superioribus incarnatis, spatulatis, densissime fimbriatis, acuminulatis. *Augustum*,

Protea grandiflora v. foliis undulatis. *Kenn. in Bot. Rep. n.* 300. *cum Ic.* August Erodendrum.

Introduced at *Clapham* in 1800, from seeds collected by Mr. J. NIVEN, but no place of growth was mentioned, upon the paper containing them. Stem 3 to 5 feet high. Leaves 1 inch broad, 4 to 6 long, linear-lanceolate, marginated, smooth when old. Bractes externally silky; upper ones flesh-coloured, very thickly fringed, ending in a little point.

Neriifolium; 13. E. foliis 5-8 lineas latis, 4-5 pollices longis, lineari-lanceolatis, vix marginatis, adultis lævibus; bracteis extus sericeis; superioribus spatulatis, fimbriâ atrâ densissimâ: antherâ anticâ sterili.

Protea Lepidocarpon. *Sims in Bot. Mag. n.* 674. *cum Ic.* Protea speciosa nigra. *Kenn. in Bot. Rep. n.* 103. *cum Ic.* Protea Lepidocarpon. *Linn. Mant. p.* 190. Lepidocarpodendron, &c. *Boerh. Hort. Lugdb.* 2. *p.* 118. *cum Ic.* Oleander-leaved Erodendrum.

This species grows wild near *Steenberg* in sandy loam, and may easily be increased by cuttings. Leaves 5 to 8 lines broad, 4 to 5 inches long, linear-lanceolate, scarcely marginated, smooth when old, and so like those of the *Oleander*, that LINNE has noticed it in the *Mantissa.* Bractes externally silky; upper ones spatulated, very thickly fringed with black hairs. Anther of the front petal barren.

Holosericeum. 14. E. caule decumbente: foliis 6-9 lineas latis; 4-6 pollices longis, lineari-lanceolatis, marginatis, adultis pubescentibus, undulatis: bracteis valde holosericeis; superioribus spatulatis fimbriâ atro-purpureâ densissimâ.

Protea speciosa patens. *Andr. in Bot. Rep. n.* 543. *cum Ic.* parum naturali. Velvety Erodendrum.

A low decumbent shrub, discovered by Mr. J. NIVEN, in dry

rocky parts of the mountains near *Wilde Rivier*. It is hardy, and not so difficult to increase by cuttings, as many. Leaves 6 to 9 lines broad, 4 to 6 inches long, linear-lanceolate, marginated, still pubescent when old, waved. Bractes exceedingly velvety; upper ones yellowish, spatulated, very thickly fringed with dark purple hairs.

15. E. foliis 1-1½ pollicem latis, 5-9 longis, ellipticis, marginatis, adultis vix lævibus: bracteis tomentosis, superioribus floribus brevioribus, spatulatis, villis aliquot purpureis fimbriatis. *Lorifolium,*

Thong-leaved Erodendrum.

One of the grander species, discovered by Mr. J. NIVEN near *Attaquas Kloof*, in loamy soil. Stem 5 to 8 feet high. Leaves 1 to 1½ inch broad, 5 to 9 long, elliptic, marginated, scarcely smooth when old. Bractes cottony; upper ones shorter than the flowers, spatulated, fringed with a few dull purple hairs.

16. E. foliis 1½-2 pollices latis, 2-3 longis, ovalibus basi valde retusâ, marginatis, adultis vix lævibus: bracteis sericeis; superioribus spatulatis, minute fimbriatis: petalis barbigeris. *Eximium;*

Fine Erodendrum.

This was discovered by Mr. J. NIVEN, both in low and elevated parts of the *Zwartberg* mountains, and is now flowering in Messrs. LEE and KENNEDY's nursery. Stem 5 to 8 feet high. Leaves 1½ to 2 inches broad, 2 to 3 long, oval with a very retuse base, marginated, scarcely smooth when old. Bractes silky; upper ones spatulated, minutely fringed. Petals bearded with purple hairs.

17. E. foliis 1-1½ pollicem latis, 1½-4 longis, cordatis, marginatis, adultis fere glabris: bracteis tomentosis; superioribus spatulatis, minute fimbriatis: petalis tomentosis. *Coronarium,*

Garland Erodendrum.

Introduced at *Kew* in 1790, from seeds collected by Mr. F. Masson, near *Groot Hout Hoek.* Leaves 1 to $1\frac{1}{2}$ inch broad, $1\frac{1}{2}$ to 4 long, heart-shaped, marginated, almost glossy when old. Bractes cottony; upper ones spatulated, minutely fringed. Petals cottony.

Formosum; 18. E. foliis 1-$1\frac{1}{2}$ pollicem latis, 4-6 longis, ellipticis, marginatis, adultis vix lævibus: bracteis divergentibus; superioribus spatulatis, minute fimbriatis: petalis tomentosis.

Protea coronata. *Andr. in Bot. Rep. n.* 469. *cum Ic.* E. Formosum. *Salisb. Par. Lond. n.* 76. *cum. Ic.* Handsome Erodendrum.

Like *E. Melliſluum* and *E. Pulchellum,* this species produces an uncommon quantity of honey; and from seeing that liquid often drop from the callous part of the filament immediately under the anthers, I concluded that it was secreted there. A careful examination of young flowers however shews, that it only flows from the 4 callous bodies at the base of the Pistillum, though so abundantly as to deluge the whole Head. Leaves 1 to $1\frac{1}{2}$ inch broad, 4 to 6 long, elliptic, marginated, scarcely smooth when old. Bractes diverging; upper ones spatulated, minutely fringed. Petals cottony.

** *Flores in Capitulo subrotundo.*

Grandiflorum, 19. E. foliis 1-$1\frac{1}{2}$ pollicem latis, 3-5 longis, glaucis, obcuneato-lanceolatis basi inferiorum retusiusculâ, lævibus: bracteis spatulatis: petalis tomentosis.

Protea grandiflora. *Thunb. Diss. n.* 61. Lepidocarpodendron, &c. *Boerh. Hort. Lugdb. 2. p.* 183. *cum Ic.* Waagenboom *Batavis.* Large-flowered Erodendrum.

A tree, with a stem sometimes 3 feet in diameter, but including its branches only 20 feet high. It yet grows wild at the foot of the mountains near *Cape Town,* also near *Oliphants Rivier,* and in

Konde Bockeveldt, so that it is very hardy. In cultivating it here however, the pot should be particularly well drained, and the soil light loam mixed with pieces of sandstone. By this treatment and rubbing the flowers together, to promote the action of the Pollen, it will ripen seed with us plentifully. Leaves 1 to 1½ inch broad, 3 to 5 long, glaucous; obcuneate-lanceolate, lower ones generally retuse at the base, hardly marginated, smooth. Upper Bractes spatulated. Petals cottony.

20. E. caule decumbente, valde, tumido: foliorum petiolo longo; laminâ suborbiculari, glabrâ: bracteis superioribus cuneatis. *Cynaræflorum;*

Protea cynaroides. *Sims in Bot. Mag. n.* 770. *cum Ic.* Protea cynaroides. *Kenn. in Bot. Rep. n.* 228. *cum Ic.* Protea cynaroides. *Thunb. Diss. n.* 59. Protea cynaroides. *Linn. Mant. p.* 196. Lepidocarpodendron, &c. *Boerh. Hort. Lugdb.* 2. *p.* 184. *cum Ic.* Artichoke-flowered Erodendrum.

This is a decumbent shrub, singular from its thick branches swelled in cross folds. It grows wild on *Tafelberg*, the mountains near *Platte Kloof*, as well as in *Roode Zand;* is very hardy here, only requiring protection from intense frost, and may be propagated by cuttings. Leaves green; Petiole long; Lamina almost orbicular, smooth. Upper Bractes wedge-shaped.

21. E. foliis confertis; laminâ 1-2 pollices latâ, 7-12 longâ, anguste lanceolatâ, marginatâ, adultâ fere glabra, repandulâ: bracteis cuneatis. *Scolopendriifolium;*

Heart's-tongue-leaved Erodendrum.

From the dry sides of hills at *Winter Hoek*, where it was discovered by Mr. J. Niven. Leaves crowded, and the stem so short that they appear radical, shortly petiolated; Lamina 1 to 2 inches broad, 7 to 12 long, narrowly lanceolate, marginated, almost smooth when old, somewhat repand. Bractes wedge-shaped.

22. E. foliis confertis; laminâ 7-12 lineas latâ, 4-7 pollices lon- *Cæspitosum;*

gâ, anguste lanceolatâ, vix marginatâ, adultâ scabrâ, undulatâ: petalis longissime barbatis.

Protea cæspitosa. *Andr. in Bot. Rep. n.* 526. *cum Ic.* E. Turbiniflorum. *Salisb. Par. Lond. n.* 108. *cum Ic.* Turfy Erodendrum.

The name of *Cæspitosum* was suggested for this species by Mr. J. NIVEN, and is so applicable, that it would have been adopted in the *Paradisus Londinensis*, had the author known that circumstance. It was discovered on the mountains near *Boshiesmans Pat*, in black moist soil. Leaves crowded near the root, shortly petiolated; Lamina 7 to 12 lines broad, 4 to 7 inches long, narrowly lanceolate, scarcely marginated, rough when old, waved. Petals bearded with very long hairs.

Radulæfolium, 23. E. foliis confertis, 3-5 lineas latis, 5-8 pollices longis, anguste spatulatis, obtusissimis, adultis scabris, subtus concaviusculis.

Rasp-leaved Erodendrum.

No place of growth was mentioned by Mr. J. NIVEN, on the paper containing the seeds of this species, nor have any of the nnmerous plants raised from them yet flowered here. Leaves crowded near the root, 3 to 5 lines broad, 5 to 8 inches long, narrowly spatulated, very obtuse, rough when old, their under side somewhat concave.

Scorzoneræfolium, 24. E. foliis confertis, $1\frac{1}{2}$-2 lineas latis, 6-9 pollices longis, cæsiis, ligularibus, acutis, adultis scabris, subtus concavis: bracteis spatulatis: petalis lanuginosis.

Protea repens. *Thunb. Diss. n.* 38. Leucadendron repens. *Linn. Sp. Pl. ed.* 2. *p.* 135. Lepidocarpodendron, &c. *Boerh. Hort. Lugdb.* 2. *p.* 190. *cum Ic.* Scorzonera-leaved Erodendrum.

This species is found wild abundantly in the sandy plains near *Constantia.* Stem very short. Leaves crowded, $1\frac{1}{2}$ to 2 lines broad, 6 to 9 inches long, gray, strap-shaped, acute, rough when old, their under side concave. Bractes spatulated. Petals woolly.

25. E. foliis confertis, $\frac{3}{4}$ lineæ latis, 4-7 pollices longis, viridibus, sublinearibus, acutis, adultis scabriusculis, subtus concavis: bracteis spatulatis: petalis lanuginosis. *Staticifolium,*

Thrift-leaved Erodendrum.

The leaves of this species, discovered by Mr. J. NIVEN in *Hottentots Holland*, are dark green, tinged with red where most exposed to the sun: they are crowded on a very short stem, only $\frac{3}{4}$ths of a line broad, 4 to 7 inches long, almost linear, acute, rough when old, their under side concave. Bractes spatulated. Petals woolly.

26. E. foliis confertis, $\frac{1}{2}$ lineam latis, 5-8 pollices longis, cæsiis, fere cylindraceis, obtusis, adultis lævibus: bracteis cuneatis: petalis tomentosis. *Pinifolium,*

Pine-leaved Erodendrum.

Very common on the mountains near *French Hoek*, where Mr. J. NIVEN discovered it, and easily distinguished from the other dwarf species related to it, by having the sides of its leaves so much recurved, as to be nearly cylindrical: they are crowded, only $\frac{1}{2}$ a line broad, 5 to 8 inches long, gray, obtuse, smooth when old. Bractes wedge-shaped. Petals cottony, not woolly.

27. E. foliis confertis, $\frac{1}{2}$ lineam latis, 5-9 pollices longis, viridibus, linearibus, obtusiusculis, adultis scabris, subtus concavis: bracteis spatulatis: petalis valde hirsutis. *Restionifolium,*

Restio-leaved Erodendrum.

A rare species, discovered by Mr. J. NIVEN, on dry barren mountains at *Brantfly*. Stem short. Leaves crowded, $\frac{1}{2}$ a line broad, 5 to 9 inches long, green, linear, somewhat obtuse, rough when old, their under side concave. Bractes dark red, spatulated. Petals very hairy.

Pæoniflorum; 28. E. caule erecto: foliis 1-1½ lineam latis, 2-3½ pollices longis, spatulato-lanceolatis, acutis, adultis lævibus, subtus concavis: bracteis spatulatis: petalis hirsutis.

Protea canaliculata. *Haworth in Bot. Rep. n.* 437. *cum Ic.* Pæony-flowered Erodendrum.

Nearly allied to the preceding species, but much taller, and its leaves very different: they are 1 to 1½ line broad, 2 to 3½ inches long, spatulated-lanceolate, acute, smooth when old, their under side concave. Bractes spatulated. Petals hairy. Cuttings of it will strike root with care, and it is a beautiful plant when in blossom.

Longifolium 29. E. caule decumbente: foliis 2-3 lineas latis, 5-8 pollices longis, lineari-lanceolatis, acutiusculis, adultis lævibus, supra concavis: bracteis ultimis retusis.

Protea Longifolia. *Salisb. Par. Lond. n.* 37. *cum Ic.* Long-leaved Erodendrum.

From the mountains of *Lange Kloof*, where Mr. F. Masson discovered it in dry stony places, and gave it the name here retained. Stem decumbent. Leaves 2 to 3 lines broad, 5 to 8 inches long, gray, linear-lanceolate, rather acute, smooth when old, their upper side concave. Bractes of the last series retuse.

Fœtidum, 30. E. caule decumbente: foliis 5-8 lineas latis, 5-6 pollices longis, spatulato-lanceolatis, obtusis, adultis lævibus, planis: bracteis ultimis retusis.

E. Tenax. *Salisb. Par. Lond. n.* 70. *cum Ic.* Fœtid Erodendrum.

Another species from *Lange Kloof*, but confined to the foot of the mountains, where Mr. J. Niven discovered it. Stem decumbent. Leaves 5 to 8 lines broad, 5 to 6 inches long, spatulated-lanceolate, obtuse, smooth when old, flat. Flowers exhaling a most unpleasant smell, like that of *Trillium Fœtidum*. Bractes of the last series retuse.

31. E. caule brevissimo: foliis $\frac{1}{2}$-2 pollices latis, 5-9 longis, obcuneato-lanceolatis, parum marginatis, glabris: bracteis ultimis obtusis: pericarpio longissimo. *Limoniifolium,*

Variat. *α.* Folia $\frac{1}{2}$ pollicem lata, 6-9 longa.

β. Folia 1-2 pollices lata, 3-6 longa.

Protea acaulis. *Thunb. Diss. n.* 49. Leucadendron acaule. *Linn. Sp. Pl. ed.* 2. *p.* 135. Lepidocarpodendron, &c. *Boerh. Hort. Lugdb.* 2. *p.* 191. *cum Ic.*

Sea-Lavender-leaved Erodendrum.

The first of these varieties was discovered by Mr. J. Niven, near *Groot Hout Hoek,* upon the mountains, and it may possibly be a real species: the second grows wild abundantly at the foot of *Tafelberg.* Stem short. Leaves of a lively green, $\frac{1}{2}$ to 2 inches broad, 5 to 9 long, obcuneate-lanceolate, somewhat marginated, glossy. Bractes of the last series obtuse. Pericarpium very long.

2. E. caule humifuso: foliis 1-1$\frac{1}{2}$ pollicem latis, 5-14 longis, glaucis, secundis, spatulato-lanceolatis, lævibus, subtus concavis: bracteis ultimis obtusis. *Glaucophyllum:*

Variat. *α.* Folia 4-6 pollices longa.

Protea glaucophylla. *Salisb. Par. Lond. n.* 11. *cum Ic.* exclusis synonymis.

β. Folia 9-14 pollices longa.

Glaucous-leaved Erodendrum.

The leaves of several dwarf *Erodendrums* are resupinated, their nerves being more prominent on the surface exposed to the light, a character particularly conspicuous in this species, which was discovered by Mr. J. Niven, in moist places near *Roode Zand Cascade.* Stem and branches spreading flat upon the ground. Leaves 1 to 1$\frac{1}{2}$ inch broad, 8 to 14 long, glaucous, all inclined upwards, spatulated-lanceolate, smooth, their under side concave. Bractes of the last series obtuse.

Scolymiflorum. 33. E. foliis 1½-2 lineas latis, 1½-2 pollices longis, glaucis, spatulato-lanceolatis, acute mucronatis, lævibus: bracteis reclinatis, cuneato-ellipticis, rare fimbriatis.

Protea Scolymus. *Sims in Bot. Mag. n.* 698. *cum Ic.* Protea Scolymus. *Schrad. Sert. Hann. p.* 4. *t.* 20. Protea Scolymus. *Thunb. Diss. n.* 36. Leucadendron scolymocephalum. *Linn. Sp. Pl. ed.* 2. *p.* 135. Lepidocarpodendron, &c. *Boerh. Hort. Lugdb.* 2. *p.* 192. *cum Ic.* Scolymus-flowered Erodendrum.

Introduced in 1780, from seeds collected by Colonel PATERSON, near *Tigerberg*, which ripen also here. It is hardy in respect to cold, but will not bear damp. Leaves 1½ to 2 lines broad 1½ to 2 inches long, glaucous, spatulated-lanceolate, sharply mucronated, smooth. Bractes elliptic, wedge-shape-reclined, thinly fringed.

Mucronifolium, 34. E. foliis 1-2 lineas latis, 1-2 pollices longis, glaucis, lineari-attenuatis, acute mucronatis, lævibus: bracteis albidis, anguste cuneatis, integerrimis.

Protea Mucronifolia. *Andr. in Bot. Rep. n.* 500. *cum Ic.* Protea Mucronifolia. *Sims in Bot. Mag. n.* 933. *cum Ic.* Protea Mucronifolia. *Salisb. Par. Lond. n.* 24. *cum Ic.*

Dagger-leaved Erodendrum.

From the sandy plains near *Berg Rivier*, where it was discovered by Mr. J. NIVEN. This is a more tender species, requiring a drier air than many others, and when the Heads of Flowers decay, they should be cut off with a sharp knife, otherwise the branch often rots down to the next below: but if the weather is fine, and you see no appearance of decay at the bottom of the Heads, such may be left to stand their chance of ripening seeds. Stem about 3 feet high. Leaves of seedling plants near the bottom of the stem short and broad, like those of *Ruscus* but very glaucous, afterwards gradually narrower and longer, 1 to 2 lines only broad, 1 to 2 inches long, linear-attenuated, sharply mucronated, smooth. Bractes whitish, narrowly wedge-shaped, very entire.

35. E. foliis 2-3 lineas latis, 1-1½ pollicem longis, glaucis, densis, spatulato-lanceolatis, acutiusculis, lævibus: capitulo cernuo: bracteis lævibus. *Halimifolium;*

Halimus-leaved Erodendrum.

One of the rarest species yet known, discovered by Mr. F. Masson. Stem 2 and 3 feet high, much branched. Leaves 2 to 3 lines broad, 1 to 1½ inch long, glaucous, close to one another, spatulated-lanceolate, somewhat acute, smooth. Heads of Flowers cernuous. Bractes smooth.

36. E. foliis ½-⅔ lineæ latis, 6-9 longis, linearibus, ancipitibus, acute mucronatis: capitulo cernuo: bracteis badio-puniceis, ciliatis. *Acuifolium,*

Protea rosacea. *Smith Ex. Bot. v.* 1. *p.* 85. *t.* 44. optima, præter colorem bractearum. Protea Acuifolia. *Salisb. Par. Lond. n.* 2. *cum Ic.* malâ. Protea nana. *Thunb. Diss. n.* 29. Protea rosacea. *Linn. Mant. p.* 189. Leucadendron nanum. *Berg. Pl. Cap. p.* 22. Conophoros capensis, &c. *Pet. Gaz. dec.* 3. *t.* 25. *f.* 7. Needle-leaved Erodendrum.

A native of dry mountains near *Roode Zand Cascade*, flowering here from *April* to *July*, and ripening seeds, if the flowers are exposed to Bees. Stem decumbent. Leaves ½ to ⅓ds of a line broad, 6 to 9 long, linear, so prominent on both surfaces as to be two-edged, sharply mucronated. Heads of flowers cernuous. Bractes chesnut-crimson, ciliated.

Pleuranthe. *Salisb.*

Flores in Capitulis, e vetusto caule lateralibus. Petala in Labia 2, post anthesin apice deflexa,

Flowers in lateral Heads from the old stem. Petals cohering into 2 Lips, their top bent down,

antico angusto, cohærentia. Cæra ut in *Erodendro*. *Frutices, sæpius humifusi; foliis simplicibus, perangustis latissimisve.*

front one narrow. Other parts as in *Erodendrum*. *Shrubs flowering near the ground, with simple leaves, very narrow or broad.*

The name is derived from two Greek words, πλευρα and ανθος, expressing the most essential character of this genus.

Subulæfolia. 1. P. foliis $\frac{1}{4}$ lineæ latis. $1\frac{1}{2}$-2 pollices longis, viridibus, linearibus, teretiusculis, subtus concavis, glabris.

Awl-leaved Pleuranthe.

From the mountains near the River *Zonder End*, where it was discovered by Mr. J. Niven. Stem divided near the root, into many long branches. Leaves $\frac{1}{4}$ a line broad, $1\frac{1}{2}$ to 2 inches long, green, linear, roundish, their under side hollow, glossy.

Ericæfolia; 2. P. foliis $\frac{1}{4}$ lineæ latis, 1-$1\frac{1}{2}$ pollicem longis, parum glaucis, linearibus, teretiusculis, supra canaliculatis, lævibus.

Heath-leaved Pleuranthe.

Confounded with the preceding in some herbariums, but quite distinct, and discovered long ago by Mr. F. Masson, in *Zwellendam*. I believe it has never been in our gardens. Stem exceedingly branched, covered with flowers to 2 feet in height from the bottom. Leaves $\frac{1}{4}$ a line broad, 1 to $1\frac{1}{2}$ inch long, somewhat glaucous, linear, roundish, channelled on the upper side, quite smooth.

Ulmifolia; 3. P. foliis $1\frac{1}{2}$-$2\frac{1}{2}$ lineas latis, 2-3 pollices longis, viridibus, sublinearibus, basi plus minus dilatatâ adnatis, planis.

Protea humifusa. *Andr. in Bot. Rep. n.* 532. *cum. Ic.* bonâ.

Wood leaved Pleuranthe.

This species was discovered in *Hottentots Holland*, by Mr. J. Niven, and is already common in our collections, growing freely

from cuttings, and thriving in almost any soil. Stem flowering not only near the ground, but higher up. Leaves $1\frac{1}{2}$ to $2\frac{1}{2}$ lines broad, 2 to 3 inches long, green, nearly linear, more or less dilated at their insertion so as to be occasionally somewhat hastate, flat.

4. P. foliis 6-9 lineas latis, $1\frac{1}{2}$-$2\frac{1}{2}$ pollices longis, glaucis, incurvo-patentibus, obcuneato-lanceolatis, undulatis. *Bupleurifolia,*

Bupleurum-leaved Pleuranthe.

I have not seen the Flowers of this shrub, raised only last year from seeds sent by Mr. J. NIVEN: from its habit however, it probably belongs to this genus rather than *Erodendrum.* Stem already branching horizontally near the root. Leaves 6 to 9 lines broad, $1\frac{1}{2}$ to $2\frac{1}{2}$ inches long, glaucous, incurved-spreading, obcuneate-lanceolate, waved.

5. P. foliis 1-2 pollices latis, 2-$2\frac{1}{2}$ longis, glaucis, amplexicaulibus, cordatis, acute mucronatis, undulatis. *Amplexicaulis;*

Protea repens. *Andr. in Bot. Rep. n.* 453. *cum Ic.* præter flores bonâ. Erodendrum Amplexicaule. *Salisb. Par. Lond.* 67. *cum Ic.* optimâ. Amplexicaule Pleuranthe.

For this also we are indebted to the labours of Mr. J. NIVEN, who discovered it on the mountains of *Hottentots Holland,* in loamy soil. Branches long, trailing upon the ground, or other shrubs. Leaves 1 to 2 inches broad, 2 to $2\frac{1}{2}$ long, glaucous, embracing the stem, heart-shaped, sharply mucronate, waved.

6. P. foliis 3-1 pollices latis, $3\frac{1}{2}$-2 longis, glaucis, cordatis, obtusis, vix undulatis, ab imo maximo sensim diminutis. *Cordifolia.*

Protea cordata. *Sims in Bot. Mag. n.* 649. *cum Ic.* Protea cordata. *Kenn. in Bot. Rep. n.* 2. 89. *cum Ic.* Protea cordata. *Thunb. Diss. n.* 60. *t.* 5. *f.* 1. Heart-leaved Pleuranthe.

Introduced in 1792, by Messrs. LEE and KENNEDY, from the

mountains of *Hottentots Holland*, where Sir C. P. THUNBERG discovered it. Stem divided near the ground, into short slender branches. Leaves 3 to 1 inch broad, $3\frac{1}{2}$ to 2 long, glaucous, heart-shaped, obtuse, scarcely waved, gradually smaller from the bottom one, which is largest. In our greenhouses, it is liable to suffer from damp more than cold, and therefore should not be crowded among tall plants. Cuttings of it strike root easily, and the seeds also ripen here.

LEUCADENDRUM. *Linn.*

Flores in Capitulo 1, pluribusve glomeratis, terminalibus. Bractea 1 inter singulos præter gemmaceas, rigidæ. Petala in Labium 1 vel 2, post anthesin apice deflexa, antico angusto, varie cohærentia. Pericarpium 1-spermum, ventricosum, pergamineum. Stylus tandem deciduus. *Frutices, plerique cani. Folia simplicia, integerrima, vel apice sæpius* 3-9-*dentata.*

Flowers in 1 or more clustered, terminal Heads. A single Bracte to each, besides gemmaceous ones, rigid. Petals variously cohering into 1 or 2 Lips, their top bent down after the anthers burst, front one narrow. Pericarpium 1-seeded, ventricose, like parchment. Style finally deciduous. *Shrubs, generally hoary. Leaves simple, quite entire, or oftener* 3-9-*dentate at the top.*

The name of *Leucadendrum* has been given to this genus by LINNE, with peculiar propriety, so many species corresponding to the title; and in his *Prælectiones*, he explains clearly how it differs from *Protea.*

* *Labium anticum sub antheras, vel* 1 *latere, reliquis cohærens.*

Fallax, 1. L. foliis 1-2 lineas latis, 2-$3\frac{1}{2}$ pollices longis, ligularibus, integerrimis, adultis lævibus, aliis planis, aliis lateribus involutis.

Protea linearis. *Thunb. Diss. n.* 35. *t.* 4. *f.* 2. Fallacious Leucadendrum.

Few names could have been more absurd, than the one hitherto given to this species, nor is THUNBERG's specific character consistent in this respect, with his description: for, though he has a section "*foliis linearibus,*" he inserts it under another, "*foliis ellipticis,*" there calling them *elliptica.* He discovered it in the dry sandy plains near *Paarl,* where it flowers in *October.* Stem slender, 3 or 4 feet high, generally erect. Leaves 1 to 2 lines broad, 2 to 3½ inches long, strap-shaped like the petals of many sungeneseous plants, quite entire, smooth when old, some flat, others so much rolled in at their sides, as to appear of a different shape, though really not so.

2. L. foliis 3-4 lineas latis, 1-1¼ pollicem longis, elliptico-lanceolatis, plerisque integerrimis, adultis lævibus: petalis post anthesin extensis. *Horizontale,*

Protea totta. *Thunb. Diss. n.* 54. Protea totta. *Linn. Mant. p.* 191. Horizontal Leucadendrum.

A slender shrub with horizontal branches, growing wild near *Roode Zand Cascade,* in moist ground. Leaves 3 to 4 lines broad, 1 to 1¼ inch long, elliptic-lanceolate, generally quite entire, smooth when old. Petals remaining extended below the anthers after these burst, though bent down at their tops, as in the other species of this genus.

3. L. foliis 4-7 lineas latis, 1¼-2 pollices longis, ellipticis basi retusâ, plerisque 3-dentatis, adultis lævibus: bracteis superioribus fere lævibus. *Ellipticum,*

Protea elliptica. *Thunb. Diss. n.* 15. Elliptic Leucadendrum.

This species grows wild plentifully near *Jackall Flyberg,* and is a still paler shrub than the preceding. Leaves 4 to 7 lines broad, 1½ to 2 inches long, elliptic with a retuse base, generally 3-den-

tate, smooth when old in wild specimens. Upper Bractes almost smooth. It flowered at *Clapham* in 1805, and may be increased by cuttings.

Cordifolium, 4. L. foliis ½-1 pollicem latis, 1-2 longis, cordatis, integerrimis 3-dentatisque, adultis glabris, valde coriaceis: bracteis superioribus tomentosis.

Heart-leaved Leucadendrum.

A shrub with a round head, 4 and 5 feet high, discovered by Mr. J. NIVEN, near *Groot Hout Hoek*. Leaves ½ to 1 inch broad 1 to 2 long, heart-shaped, both quite entire and 3-dentate, glossy when old, very leathery. Upper Bractes cottony.

Formosum 5. L. foliis ½-1 pollicem latis, 2-3 longis, lanceolatis, integerrimis paucisque 3-dentatis, pubescentibus: petalis unâ fissurâ tantum discretis.

Protea Formosa. *Kenn. in Bot. Rep. n.* 17. *cum Ic.* optimâ. Protea tomentosa. *Salisb. Prod. p.* 48. Handsome Leucadendron.

Introduced into the collection, formerly at *Chapel Allerton* in 1784, by Mr. J. MULDER, where it afterwards flowered, and ripened seeds. Stem 5 feet high. Leaves ½ to 1 inch broad, 2 to 3 long, lanceolate, quite entire and a few 3-dentate, pubescent. Petals separated only by a single fissure, in which it differs from every other species known to me.

Grandiflorum; 6. L. foliis 5-9 lineas latis, 2-3 pollices longis, anguste lanceolatis, 3-dentatis paucisque integerrimis, adultis pubescentulis: stigmate longe clavato.

L. Grandiflorum. *Salisb. Par. Lond. n.* 116. *cum Ic.* minime bonâ. Great flowered Leucadendrum.

A shrub 5 feet high, discovered by Mr. J. NIVEN on the dry sides of mountains near *Paarl*, where it flowers in *September*, ripening seeds about *Christmas*. It requires plenty of air here, nor

will any species of this genus bear to be crowded by other plants. Leaves 5 to 9 lines broad, 2 to 3 inches long, not so white as in *L. Formosum*, narrowly lanceolate, 3-dentate and a few quite entire, somewhat pubescent when old in wild specimens, and still more so in this country.

7. L. foliis 3½-6 lineas latis, 2½-3½ pollices longis, anguste spatulato-lanceolatis, plerisque 3-dentatis, submarginatis, adultis vix lævibus: stylo valde 4-angulo. *Phyllanthifolium,*

Phyllanthus-leaved Leucadendrum.

From dry elevated places in *Zwellendam*, where Mr. J. NIVEN discovered it. Leaves 3½ to 6 lines broad, 2½ to 3½ inches long, narrowly spatulate-lanceolate, most of them 3-dentate, rarely quite entire or 5-dentate, very slightly marginated, hardly quite smooth when old. Style exceedingly 4-angular.

8. L. foliis ½-1 pollicem latis, 2½-3½ longis, obcuneato-ellipticis, 5-9-dentatis, submarginatis, adultis pubescentibus: stylo crasso. *Cervinum,*

Stag's Horn-leaved Leucadendrum.

This species was also discovered by Mr. J. NIVEN, in the more elevated rocky parts of *Zwellendam*, where it grows 4 and 5 feet high. Leaves ½ to 1 inch broad, 2½ to 3½ long, obcuneate-elliptic, 5-9-dentate, slightly marginated, a little pubescent when old. Style thick.

9. L. foliis 1-1½ pollicem latis, 2½-3½ longis, obcuneato-ovalibus, 5-9-dentatis, pubescentibus, nervosis: stigmate anguste conico. *Crassicaule:*

Protea conocarpa. *Thunb. Diss. n.* 14. L. Conocarpodendron. *Linn. Sp. Pl. ed.* 2. *p.* 136. Conocarpodendron, &c. *Boerh. Hort. Lugdb.* 2. *p.* 196. *cum Ic.* Leucadendros, Africana, &c. *Plukn. Alm. t.* 200. *f.* 2. Thick-stemmed Leucadendrum.

A handsome shrub, 4-5 feet high, with a thick stem very much

branched. It grows wild in rocky places near *Cape Town*, and has been introduced many years, but never flowers here. The only treatment I can recommend is to give it a very large pot, filled with light loam between thin angular pieces of sandstone, and expose it to all the sun and air possible, pruning away a few of the smaller branches when very close to each other. Leaves 1 to $1\frac{1}{2}$ inch broad, $2\frac{1}{2}$ to $3\frac{1}{2}$ long, obcuneate-oval, 5-9-dentate, pubescent, nerved. Stigma narrowly conical. Cuttings of it grow readily.

** *Labium anticum sub antheras discretum, dorsale parum 3-fidum.*

Bellidifolium; 10. L. caule decumbente: foliis $2\frac{1}{2}$-4 lineas latis, 1 pollicem longis, recurvis, late spatulatis, integerrimis paucisque 3-dentatis, adultis fere lævibus: stylo valde arcuato.

Daisy-leaved Leucadendrum.

The seeds of this were sent by Mr. J. NIVEN, without mentioning where he collected them, nor have I met with it in any herbarium, but it has lately flowered at the Marquis of BLANDFORD's. Stem decumbent. Leaves $2\frac{1}{2}$ to 4 lines broad, 1 inch long, recurved, broadly spatulated, quite entire and some few 3-dentate, almost smooth when old. Style exceedingly arched.

Hypophyllum, 11. L. caule decumbente: foliis $2\frac{1}{2}$-4 lineas latis, $2\frac{1}{2}$-4 pollices longis, anguste obcuneatis, 3-5-dentatis, adultis plus minus tomentosis: bracteis latissimis.

Protea Hypophylla. *Thunb. Diss n.* 16. Protea hypophyllocarpodendron. *Linn. Mant. p.* 191. L. Hypophyllocarpodendron. *Linn. Sp. Pl. ed.* 2. *p.* 136. Protea foliis, &c. 3-dentato-callosis. *Linn. Hort. Cliff. p.* 29. Conocarpodendron, &c. *Boerh. Hort. Lugdb.* 2. *p.* 198. *cum Ic.* Hypophyllous Leucadendrum.

From this species, LINNE first established the genus, but he

has applied BOERHAAVE's long name of *Hypophyllocarpodendron* to it, contrary to his own rule, as the latter botanist only distinguished by that title, such species as have axillary flowers, and which in fact constitute a legitimate genus: in strict justice therefore, the name ought to be restored to one of them. It grows wild abundantly in the dry sandy plains behind *Tafelberg*. Stem decumbent. Leaves $2\frac{1}{2}$ to 4 lines broad, $2\frac{1}{2}$ to 4 inches long, narrowly obcuneate, 3-dentate and sometimes 5-dentate, more or less cottony when old. Bractes very broad. It may be propagated by cuttings, as has been already mentioned.

12. L. caule tomentoso: foliis $1\frac{1}{2}$-$2\frac{1}{2}$ lineas latis, $1\frac{1}{2}$-2 pollices longis, admodum parum obcuneatis, 3-dentatis, tomentosis: bracteis angustis. *Tomentosum,*

Protea tomentosa. *Thunb. Diss. n.* 18. auctoritate ejus speciminis. Cottony Leucadendrum.

A common shrub in the sandy plains near *Cape Town*. Stem erect, cottony. Leaves $1\frac{1}{2}$ to $2\frac{1}{2}$ lines broad, $1\frac{1}{2}$ to 2 inches long, a very little obcuneate, 3-dentate, cottony. Bractes narrow.

13. L. caule villoso: foliis $1\frac{1}{2}$-$2\frac{1}{2}$ lineas latis, $1\frac{1}{2}$ pollicem longis, linearibus, brevissime 3-dentatis, tomentosis: bracteis superioribus dorso lævibus. *Parile.*

Matched Leucadendrum.

Nearly allied to the preceding species, but hardly a mere variety; for the leaves are constantly as broad a little above their base, as at their middle; whereas in *L. Tomentosum*, they are gradually attenuated from their middle towards their base, and more deeply 3-dentate. Mr. J. NIVEN discovered it near *Paardeberg* in sandy soil. Stem, besides its short cottony pubescence, villous with fine long hairs. Leaves $1\frac{1}{2}$ to $2\frac{1}{2}$ lines broad, $1\frac{1}{2}$ inch long linear, very shortly 3-dentate, cottony and still whiter than in *L. Tomentosum*. Upper Bractes externally smooth.

Rodolentum; 14. L. caule villoso: foliis 4-6 lineas latis, 1½-2 pollices longis, spatulatis, 3-dentatis paucisque integerrimis, tomentosis; filamentis valde prominentibus.

Protea candicans. *Kenn. in Bot. Rep. n.* 294. *cum Ic.* Rose-scented Leucadendrum.

Introduced by Messrs. LEE and KENNEDY in 1790, but I believe the first time it flowered in this country was at *Clapham*, in 1802. Stem 5 feet high, erect, villous as in *L. Parile*. Leaves 4 to 6 lines broad, 1½ to 2 inches long, spatulated, 3-dentate, some few 5-dentate or quite entire, cottony. Filaments where they run down exceedingly prominent.

Criniflorum; 14. L. foliis 2½-5 lineas latis, 1-1½ pollicem longis, densis, ellipticis, integerrimis 3-dentatis retusisque, adultis nunc lævibus, nervosis: capitulo subsessili.

Protea criniflora. *Linn. Suppl. p.* 17. Protea crinita. *Thunb. Diss. n.* 13. L. oleæfolium. *Berg. Pl. Cap. p.* 15. Hair-flowered Leucadendrum.

A low erect shrub, growing wild on the high mountains near *Gonker Hoek*. Stem much branched. Leaves varying in size indentures and pubescence, sometimes smooth when old, 2½ to 5 lines broad, 1 to 1½ inch long, close to one another, elliptic, quite entire, 3-dentate and retuse, nerved. Head of Flowers almost sessile.

Saxatile, 16. L. caule decumbente: foliis 1-1½ lineam latis, 1-1½ pollicem longis, raris, parum obcuneatis, integerrimis paucisque 3-dentatis, adultis læviusculis: stylo angusto.

Rock Leucadendrum.

A decumbent shrub, growing wild on the dry rocks near *Groot Rivier*, where Mr. J. NIVEN discovered it. Leaves 1 to 1½ line broad, 1 to 1½ inch long, distant from one another, somewhat obcu-

neate, quite entire and a few 3-toothed, nearly smooth when old. Style narrow.

17. L. caule decumbente: foliis 1-1½ lineam latis, 4-7 longis, raris, linearibus, integerrimis, pubescentibus: bracteis brevibus: stylo angusto. *Gracile:*

Slender Leucadendrum.

This is also a decumbent species, but with shorter and more slender branches than the preceding. Mr. J. NIVEN discovered it on the mountains near *Klein Rivier*, in great abundance. Leaves 1 to 1½ line broad, 4 to 7 long, distant from one another, linear, quite entire, pubescent. Bractes short. Style narrow.

**** Labium anticum sub antheras discretum, dorsale profunde 3-fidum.*

18. L. foliis 1½-2 lineas latis, 1-1½ pollicem longis, lineari-lanceolatis, sæpe falcatis, integerrimis, adultis vix lævibus: capitulis longiuscule pedunculatis. *Glomiflorum,*

Ball-flowered Leucadendrum.

Mr. J. NIVEN found this species on the sandy hillocks near *Groot Hout Hock:* it is a low decumbent shrub with slender branches. Leaves 1½ to 2 lines broad, 1 to 1½ inch long, linear-lanceolate, often falcate, quite entire, a little pubescent when old. Heads of Flowers large, upon rather long peduncles.

19. L. foliis 1½-2 lineas latis, 5-7 longis, densiusculis, lanceolatis, integerrimis, acutiusculis, adultis fere lævibus: stigmate late clavato. *Royenæfolium;*

Royena-leaved Erodendrum.

This is also a small decumbent shrub, discovered by Mr. J. NIVEN upon *Duyvelskop*, and consequently hardy. Leaves 1½ to 2 lines broad, 5 to 7 long, rather close to one another, lanceolate,

quite entire, somewhat acute, almost smooth when old. Stigma broadly club-shaped.

Xeranthemifolium, 20. L. foliis 1½-2 lineas latis, 6-8 longis, densiusculis, lanceolato-cuneatis, integerrimis, obtusis, adultis vix lævibus: stigmate late conico.

Xeranthemum-leaved Leucadendrum.

An erect shrub 6 and 7 feet high, discovered by Mr. J. Niven on elevated parts of *Jackall Flyberg*. Stem pubescent. Leaves 1½ to 2 lines broad, 6 to 8 long, rather close to one another, lanceolate-wedge-shaped, quite entire, obtuse, a little pubescent when old. Stigma broadly conical.

Gnaphaliifolium, 21. L. foliis 2-3 lineas latis, 8-10 longis, densis, elliptico-lanceolatis, plerisque integerrimis, anguste callosis, valde pubescentibus, parum nervosis: stigmate late conico.

Gnaphalium-leaved Leucadendrum.

A tall shrub 7 and 8 feet high, only growing in low dry situations. Leaves 2 to 3 lines broad, 8 to 10 long, close to one another, elliptic-lanceolate, generally quite entire, their callus at the point narrow, exceedingly pubescent, slightly nerved. Stigma broadly conical.

Calligerum; 22. L. foliis 2½-3½ lineas latis, 7-9 longis, densis, ovali-lanceolatis, plerisque integerrimis, late callosis, pubescentibus, nervosis: stigmate late elavato.

Callus-bearing Leucadendrum.

This species grows wild in dry parts of the *Twenty Four Rivers* district, where Mr. J. Niven discovered it. Stem only from 3 to 5 feet high. Leaves 2½ to 3½ lines broad, 7 to 9 long, close to one another, oval-lanceolate, generally quite entire, their callus at the point broad, pubescent, nerved. Stigma broadly club-shaped.

23. L. foliis 2½-3 lineas latis, 5-6 longis, densis, ovali-lanceolatis, plerisque integerrimis, obtusis, pubescentibus, enerviis: stigmate late conico. *Puberum,*

Protea pubera. *Linn. Mant.* p. 192. Pubescent Leucadendrum.

A native of the elevated parts of the mountains near *Klein Rivier.* Stem about 5 feet high. Leaves 2½ to 3 lines broad, 5 to 6 long, close to one another, oval-lanceolate, generally quite entire, obtuse, pubescent, not nerved. Stigma broadly conical.

24. L. foliis 3-4 lineas latis, 5-6 longis, densis, rhombeo-ovalibus, plerisque integerrimis, callo lato truncatulis, pubescentibus, enerviis: stigmate late clavato. *Truncatulum;*

Trunculated Leucadendrum.

A beautiful dwarf species, nearly allied to the preceding, discovered by Mr. J. NIVEN near *Klein Hout Hoek.* Stem 2 feet high. Leaves 3 to 4 lines broad, 5 to 6 long, close to one another, rhomboid-oval, generally quite entire, their callus at the point broad, and somewhat truncated, pubescent, not nerved. Stigma broadly club-shaped.

DIASTELLA. *Salisb.*

Flores in Capitulo plus minus truncato terminali. Bractea 1 inter singulos, præter Involucrum gemmacearum, membranaceæ. Petala vix irregularia, post anthesin apice erecta, basi tantum cohærentia. Pericarpium ut in *Leucadendro.* Stylus barbatus, tandem deciduus. *Frutices, sæpius procumbentes. Folia sim-*

Flowers in a terminal Head, often truncated. A single Bracte to each, besides an Involucrum of gemmaceous ones, membranaceous. Petals scarcely irregular, erect at the top after the Anthers burst, cohering at the base. Pericarpium as in *Leucadendrum.* Style bearded, finally deciduous. *Shrubs, gene-*

plicia, in pluribus viridia, rarissime ad apicem 3-dentata.

rally procumbent. Leaves simple, very seldom 3-dentate at the top.

The name is taken from a Greek verb, διαστελλω, the Petals in this genus being deeply separated.

* *Petala ultra antheras barbata.*

Bryiflora; 1. D. foliis $1\frac{1}{2}$-$2\frac{1}{2}$ lineas latis, 4-5 longis, densis, ovalibus: petalis longe barbatis: stylo valde arcuato.

Protea pubera. *Thunb. Diss. n.* 56. auctoritate ejus speciminis. Leucadendron thymelæoides. *Berg. Pl. Cap. p.* 19. Bryum-flowered Diastella.

A small erect shrub, growing wild in *Hottentots Holland*, where Andrew Auge discovered it. Leaves $1\frac{1}{2}$ to $2\frac{1}{2}$ lines broad, 4 to 5 long, close, oval. Petals bearded with long hairs. Style exceedingly bowed.

Serpyllifolia; 2. D. foliis $1\frac{1}{2}$-2 lineas latis, 2-$2\frac{1}{2}$ longis, rariusculis, ovalibus: petalis breviter barbatis: stylo parum arcuato.

Protea divaricata. *Thunb. Diss. n.* 57. Protea divaricata. *Linn. Mant. p.* 194. Leucadendron divaricatum. *Berg. Pl. Cap. p.* 19. Serpyllum-leaved Diastella.

A beautiful procumbent species, the slender branches of which are not particularly divaricated. It grows abundantly on the rocks near *False Bay*, flowering there in *October*. Leaves $1\frac{1}{3}$ to 2 lines broad, 2 to $2\frac{1}{2}$ long, not close, oval. Petals bearded with short hairs. Style not much bowed.

Parilis, 3. D. foliis 1-$1\frac{1}{2}$ lineam latis, 4-5 longis, lineari-lanceolatis, acutiusculis callo angusto: bracteis superioribus longitudine florum: petalorum apice valde attenuato.

Matched Diastella.

Confounded with the following in herbariums, but sent as dif-

ferent by Mr. J. NIVEN, who discovered it near *Winter Hoek*. Stem weak and somewhat decumbent, 2 or 3 feet high. Leaves 1 to 1½ line broad, 4 to 5 long, linear-lanceolate, somewhat acute with a narrow callosity. Upper Bractes as long as the flowers. Petals exceedingly attenuated at the top.

4. D. foliis 1½-2 lineas latis, 5-8 longis, ellipticis, callo lato obtusissimis: bracteis superioribus floribus longioribus: stigmate crassiusculo. *Myrtifolia;*

Protea myrtifolia, *Thunb. Diss. n.* 50. Myrtle-leaved Diastella.

This is the tallest species yet known, being often 7 and 8 feet high. It grows wild near rivulets in *Roode Zand*, flowering there in *October*. Stem erect, very much branched. Leaves 1½ to 2 lines broad, 5 to 8 long, elliptic, the callosity at their point broad and very obtuse. Upper Bractes longer than the Flowers. Stigma rather thick.

5. D. foliis 1½-2 lineas latis, 3-4 longis, anguste obovatis, fere lævibus: bracteis superioribus floribus longioribus, valde acuminatis: stigmate angustissimo. *Vacciniifolia;*

Vaccinium-leaved Diastella.

Introduced at *Clapham* in 1800, from seeds collected by Mr. J. NIVEN near *French Hoek Kloof*. Stem 3 and 4 feet high, very branching. Leaves 1½ to 2 lines broad, 3 to 4 long, narrowly obovate, almost smooth. Upper Bractes longer than the Flowers, exceedingly pointed. Stigma very narrow.

** *Petala ultra antheras nuda.*

6. D. caule prostrato: foliis ½ lineæ latis, 5-7 longis, rariuscu- *Humifusa,*
lis, linearibus, adultis lævibus: capitulo angusto.

Trailing Diastella.

The stem of this species lies quite flat upon the ground, with fewer and longer branches than in the following. Mr. J. Roxburgh discovered it in *Hottentots Holland.* Leaves $\frac{1}{4}$ a line broad, 5 to 6 long, not very close, smooth when fully grown. Head of Flowers narrow.

Ericæfolia. 7. D. caule decumbente: foliis $\frac{1}{4}$ lineæ latis, 4-5 longis, densis, linearibus, adultis pubescentibus: capitulo lato.

Protea purpurea. *Thunb. Diss. n.* 26. Protea purpurea. *Linn. Mant. p.* 195. Leucadendron proteoides. *Berg. Pl. Cap. p.* 24. Heath-leaved Diastella.

One of the commonest shrubs in dry sandy ground near *Cape Town.* It was introduced at *Clapham* in 1800, and may be propagated easily by cuttings, but no plant is more difficult to preserve here through winter, damping off if it has not free air. Stem somewhat decumbent. Leaves $\frac{1}{4}$ of a line broad, 4 to 5 long, close, linear, pubescent when old. Head of Flowers broad.

Mimetes. *Salisb.*

Flores in Capitulis angustis, sessilibus, axillaribus. Bractea 1 inter singulos, præter Involucrum gemmacearum, membranaceæ: foliis subjectis nunc basi ampliatis coloratisque. Petala uno versu apice deflexa, cæterum regularia, basi cohærentia. Pericarpium Stylusque ut in *Leucadendro. Frutices, in uliginosis nascentes, nunc sericei. Folia simplicia, integerrima, aut apice 3-dentata.*

Flowers in narrow, sessile, axillary Heads. A single Bracte to each, besides an Involucrum of gemmaceous ones, membranaceous: leaves under them sometimes wide and coloured. Petals bent down one way at the top, in other respects regular, cohering at the base. Pericarpium and style as in *Leucadendrum. Shrubs, growing in marshes, silky. Leave simple, quite entire, or 3-dentate at the top.*

The name is derived from a Greek substantive, μιμητης, this genus resembling several others in its foliage.

1. M. foliis 2½-3 lineas latis, 1½-2 pollices longis, linearibus, juxta flores lyratis, 3-dentatis, adultis fere lævibus: bracteis basi extus lævibus. *Lyriger.*

Protea cucullata. *Thunb. Diss. n.* 17. Protea cucullata. *Linn. Mant. p.* 189. Leucadendron cucullatum. *Berg. Pl. Cap. p.* 14. Leucadendron cucullatum. *Linn. Sp. Pl. ed.* 2. *p.* 136. Hypophyllocarpodendron, &c. *Boerh. Hort. Lugdb.* 2. *p.* 206. *cum Ic.* Leucadendros, &c. *Plukn. Phyt. t.* 304. *f.* 6. Lyre-bearing Mimetes.

Linne named this species *Cucullata* from a misconception, which probably originated in Boerhaave's incorrect figure of the Bractes, for they are never cowl-shaped. It grows wild in all the moist grounds near *Cape Town*. Stem 4 and 5 feet high. Leaves 2½ to 3 lines broad, 1½ to 2 inches long, linear, towards the flowers lyre-shaped, 3-dentate, nearly smooth when old. Bractes smooth externally at their base.

2. M. foliis 6-8 lineas latis, 2½-3 pollices longis, linearibus, 3-dentatis, valde fimbriatis: bracteis basi extus barbatis. *Fimbriæfolius;*

Hypophyllocarpodendron, &c. *Boerh. Hort. Lugdb.* 2. *p.* 205. *cum Ic.* Fringed-leaved Mimetes.

From the mountains near *Simons Bay*, where it was found by Mr. J. Niven. Stem 7 feet high or more. Leaves 6 to 8 lines broad, 2½ to 3 inches long, linear, 3-dentate, exceedingly fringed. Bractes bearded externally at their base.

3. M. foliis 4-6 lineas latis, 7-8 longis, ellipticis, integerrimis valde pubescentibus: petalis superne nudiusculis. *Floccosus;*

Fleecy Mimetes.

A species discovered in *Höttentots Holland*, by Mr. F. Masson. Stem 4 and 5 feet high, with long branches. Leaves 4 to 6 lines

broad, 7 to 8 long, elliptic, quite entire, very pubescent. Petals thinly bearded towards their top.

Palustris, 4. M. foliis 4-6 lineas latis, 1-1½ pollicem longis, ovali-lanceolatis, pubescentibus: stigmate brevi, basi prominulo.

Lepidocarpodendron, &c. *Boerh. Hort. Lugdb. 2. p. 194. cum Ic.* Marsh Mimetes.

This grows in very wet marshes, and I believe is the only species which has yet been in this country. It was raised at *Clapham*, from seeds sent by Mr. J. NIVEN, before I had the care of that collection, and supposed to be a *Liparia*, till it flowered. Soon after this, I lost the plant, it having been kept undoubtedly too dry; the name now proposed however, it is hoped, may prevent a similar accident in future. Leaves 4 to 6 lines broad, 1 to 1½ inch long, oval-lanceolate, pubescent. Stigma short, prominent at the base.

Hirtus; 5. M. caule hirsutissimo: foliis 4-5 lineas latis, 1-1½ pollicem longis, rhombeo-lanceolatis, vetustis fere lævibus: petalis acutiusculis.

Protea hirta. *Thunb. Diss. n. 55.* Leucadendron hirtum. *Linn. Mant. p.* 188. Leucadendron hirtum. *Linn. Amœn. v. 6. p.* 83. Hairy Mimetes.

Confounded with the preceding by all authors, but I have no doubt a legitimate species, and sent as such by Mr. J. NIVEN, who found it in wet places near *Constantia*. Stem very hairy. Leaves 4 to 5 lines broad, 1 to 1½ long, rhomboid-lanceolate, nearly smooth when old. Petals somewhat acute.

Splendidus, 6. M. foliis 4-6 lineas latis, 1½-2 pollices longis, lanceolatis, arcte 3-dentatis, valde sericeis: bracteis utrinque lævibus.

Splendid Mimetes.

A beautiful shrub with silvery foliage, discovered by Mr. J. NIVEN in moist parts of the mountains near *Barbiers Kraal*. Stem 5 and 6 feet high. Leaves 4 to 6 lines broad, $1\frac{1}{2}$ to 2 inches long, lanceolate, closely 3-dentate, exceedingly silky. Bractes smooth on both surfaces.

7. M. foliis 1-$1\frac{1}{2}$ pollicem latis, $1\frac{1}{2}$-2 longis, ovalibus, integerrimis, valde sericeis: bracteis extus sericeis. *Argenteus.*

Silvery Mimetes.

The hue of the foliage in this species, is still brighter if possible, than that of the preceding. Mr. F. MASSON discovered it, by mountain rivulets near the river *Zonder End*. Stem 3 and 4 feet high. Leaves 1 to $1\frac{1}{2}$ inch broad, $1\frac{1}{2}$ to 2 long, oval, quite entire, exceedingly silky. Bractes silky externally.

PARANOMUS. *Salisb.*

Flores in Spica nunc densissimâ terminali, fasciculatim 4-ni, sessiles. Bracteæ 4 singulos fasciculos cingentes, rigidæ; præter 5-tam ad eorum basin, gemmaceasque infra spicam. Petala regularia, basi cohærentia. Pericarpium et Stylus ut in *Leucadendro. Frutices monticolæ. Folia simplicia decompositave, sæpe in eadem stirpe.*

Flowers in a sometimes very close terminal Spike, 4 bundled together, sessile. Bractes 4 round each bundle, rigid; besides a 5th at its base, and gemmaceous ones below the spike. Petals regular, cohering at the base. Pericarpium and style as in *Leucadendrum. Shrubs wild on mountains. Leaves simple or subdivided, often in the same plant.*

The name is derived from two Greek words, παρα and νομος, this genus being very anomalous in its *Foliage*, *Inflorescence*, *Bractes* not interspersed between the flowers, and *Stigma*.

* *Folia omnia decomposita.*

Cumuliflorus, 1. P. foliis tenuiter 2-pinnatifidis: spicâ brevissimâ glomeratâ: petalis a basi longe barbatis.

Protea Lagopus. *Thunb. Diss. n.* 10. Cluster-flowered Paranomus.

A rare species, of which I have only seen a single specimen belonging to Mr. LEE of *Hammersmith.* Stem erect, much branched. Leaves finely 2-pinnatifid. Spike so short and clustered as to resemble the Head of some *Serrurias.* Petals bearded with long hairs from the bottom.

Argenteus; 2. P. foliis tenuiter 2-pinnatifidis, valde sericeis: spicâ brevi, rariusculâ: petalorum apice longe barbato.

Silvery Paranomus.

This is a beautiful shrub, discovered long ago by Mr. F. MASSON in *Lange Kloof*, but has never yet been in our gardens. Leaves finely 2-pinnatifid, exceedingly silky. Spike short, not close. Petals only bearded with long hairs at the top.

Abrotanifolius; 3. P. caule villoso: foliis tenuissime 2-pinnatifidis: spica longâ, densâ: petalorum apice longe barbato.

Southern Wood-leaved Paranomus.

From elevated parts of the mountains in *Zwellendam,* where Mr. J. NIVEN discovered it. Stem villous. Leaves very finely 2-pinnatifid. Spike long, close. Petals only bearded with long hairs at the top.

Bracteolaris, 4. P. foliis tenuiter 2-pinnatifidis: spicâ longâ, rariusculâ bracteâ exteriore angustissime cuneatâ: stylo parum lanato.

Narrow-bracted Paranomus.

This species was likewise discovered by Mr. J. NIVEN on high mountains in *Zwellendam*. Stem 6 and 7 feet high. Leaves finely 2-pinnatifid. Spike long, not close. Outer Bractes very narrowly wedge-shaped. Style a little woolly.

5. P. foliis 2-pinnatifidis: spicâ brevi rariusculâ: bracteâ exteriore ovato-cuneatâ: stylo valde lanato. *Crithmifolius.*

Protea Lagopus. *Kenn. in Bot. Rep. n.* 243. *cum Ic.* bonâ. Protea spicata. *Thunb. Diss. n.* 11. Protea spicata. *Linn. Mant. p.* 187. Leucadendrum spicatum. *Berg. Pl. Cap. p.* 25. Samphire-leaved Paranomus.

A shrub with more woolly flowers than the rest of this section, growing wild abundantly on the mountains in *Hottentots Holland*. It is easily cultivated here, often ripening seeds, and may be propagated by cuttings. Leaves of old plants resemble those of *Samphire* exceedingly, their divisions being broader than in young vigorous seedlings. Stem 3 feet high, very branching. Spike short, not close, all the lower bundles quite distinct from one another. Outer Bracte ovate-wedge-shaped. Style very woolly.

** *Folia decomposita simpliciaque.*

6. P. foliis inferioribus late 2-pinnatifidis, superioribus spatulatis: spicâ longa, densiusculâ: bracteis minute sericeis. *Sceptriformis.*

Protea spicata. *Kenn. in Bot. Rep. n.* 234. *cum Ic.* ad stirpem, foliis omnibus pinnatifidis primâ vice florentem. Protea Sceptrum *Thunb. Diss. n.* 12. Protea sceptrum Gustavianum. *Linn. Suppl. p.* 116. Protea sceptrum Gustavianum. *Spaarm. in. Act. Stockh. 1777. p.* 53. *t.* 1. Sceptre-like Paranomus.

A low shrub with fragrant flowers, discovered on the mountains near *Hottentots Holland Kloof*, by Dr. SPAARMAN. The figure in the Botanist's Repository was made from a plant at *Clapham*,

when it first flowered without any simple leaves; the following year it produced both 2-pinnatifid and spatulated leaves, and in 1807, the leaves on the same plant, except a few 3-fid ones, were all spatulated. It is hardy, thriving in sandy loam and ripening seeds with us. Stem only about 2 feet high with very few branches. Spike long, somewhat close. Bractes minutely silky.

Flabellifer, 7. P. foliis inferioribus 2-pinnatifidis; superioribus flabelliformibus, valde marginatis: spicâ brevi, densâ: stylo glabro: stigmate clavato.

Fan-leaved Paranomus.

Very similar to the following, but I believe a legitimate species discovered by Mr. J. Roxburgh. Lower leaves 2-pinnatifid; upper ones fan-shaped, exceedingly marginated. Spike short, close. Style glossy. Stigma club-shaped.

Adiantifolius; 8. P. foliis inferioribus 2-pinnatifidis; superioribus flabelliformibus, parum marginatis: spicâ brevi, densâ: stylo lanato: stigmate fibulæformi.

Protea spatulata. *Thunb. Diss. n. 55. t. 5. f. 3.* Maiden hair-leaved Paranomus.

This species grows wild on high mountains near the river *Zonder End.* Lower leaves 2-pinnatifid; upper ones fan-shaped, somewhat marginated. Spike short, close. Style woolly. Stigma very different from that of its congeners, button-shaped with a bearded base.

Longicaulis. 9. P. foliis inferioribus 2-pinnatifidis, superioribus spatulatis: spicâ brevi, densissimâ: bracteis hirsutissimis.

Long-stemmed Paranomus.

From rocky parts of the mountains near *Gaurits Rivier*, where Mr. J. Niven discovered it. Stem 5 and 6 feet high, with long branches. Lower leaves 2-pinnatifid, upper ones spatulated. Spike short, exceedingly close. Bractes very hairy.

SORANTHE. *Salisb.*

Flores in spicâ composita terminali, 4-1 confertim sparsi in singulis ramis, nunc vix exsertis. Bracteæ tot quot flores, rigidiusculæ; præter 1 supra basin ramorum, gemmaceasque infra spicam. Petala vix irregularia, basi cohærentia. Pericarpium 1-spermum, gigartoideum, lapideum. Stylus tandem deciduus. *Frutices, ramis cicatricibus tuberculatis. Folia simplicia, in plerisque angustissima callo longo.*

Flowers in a compound terminal spike, 4-1 closely scattered on each branch, sometimes hardly protruded. Bractes as many as flowers; besides 1 above the base of the branch and gemmaceous ones below the spike. Petals scarcely irregular, cohering at the base. Pericarpium 1-seeded, like a grape stone, flinty. Style deciduous. *Shrubs, with branches tubercled. Leaves simple, in most species very narrow, with a long callosity.*

The name is derived from two Greek words, σωρος and ανθος, the Inflorescence of this genus consisting of an exceedingly close compound spike.

* *Folia supra absque canaliculo.*

1. S. foliis 1-1½ lineam latis, 4-5 longis, anguste lanceolatis: spicâ oblongâ: petalis infra limbum glandulis aspersis. *Glandulĭgera*;

Protea imbricata. *Andr. in Bot. Rep. n.* 517. *cum Ic.* Protea imbricata. *Thunb. Diss. n.* 45. *t.* 5. *f.* 2. Gland-bearing Soranthe.

This curious species is among the great number of plants which we owe to G. HIBBERT, Esq. being raised at *Clapham* in 1802, from seeds collected by Mr. J. NIVEN, near *Roode Zand Cascade*. It is rather tender, and requires to be planted in sandy loam, particularly well drained. Leaves 1 to 1½ line broad, 4 to 5 long,

narrowly lanceolate. Spike oblong. Petals besprinkled with glands below their limb.

Ciliciiflora, 2. S. foliis $\frac{2}{3}$-1 lineam latis, $3\frac{1}{2}$-4 longis, lineari-lanceolatis : spicâ late conicâ : petalis fere usque ad basin hirsutis.

Protea lanata. *Thunb. Diss n.* 30. *t.* 3. *f.* 1. Shaggy Soranthe.

From *Zwellendam*, where Mr. J. NIVEN, found it flowering in *October*. Leaves $\frac{2}{3}$ to one line broad, $3\frac{1}{2}$ to 4 long, linear-lanceolate. Spike broadly conical. Petals hairy, almost to their base, not woolly.

Tenuifolia : 3. S. foliis $\frac{1}{4}$ lineæ latis, 5-6 longis, linearibus: spica nutante subglobosa : filamentis fere longitudine antherarum.

Fine-leaved Soranthe.

A slender shrub, 3 or 4 feet high, discovered by Mr. J. NIVEN, in moist parts of the mountains near *Breed Rivier*, and raised at *Clapham* in 1802. It resembles *Spatalla Prolifera* so much as to be easily mistaken for that plant. Stem branching. Leaves $\frac{1}{4}$ of a line broad, 5 to 6 long, linear. Spike nodding, nearly globular. Filaments almost as long as the anthers.

** *Folia supra canaliculata.*

Rupestris, 4. S. caule decumbente : foliis $\frac{1}{3}$ lineæ latis, 5-6 longis, linearibus : spicâ oblonga : bracteis inferne densissime lanatis.

Rock Soranthe.

A decumbent species, discovered by Mr. J. NIVEN in rocky places near the mouth of *Klein Rivier*. Stem cottony. Leaves $\frac{1}{3}$ of a line broad, 5 to 6 long, linear. Spike oblong. Lower part of the Bractes exceedingly woolly.

Pinifolia, 5. S. foliis $\frac{1}{4}$ lineæ latis, 8-11 longis, linearibus : spicâ late conicâ : petalorum limbo lævi.

Pine-leaved Soranthe.

This species resembles a *Pinaster* in miniature, and was dicovered on the tops of the mountains near *Tiger Hoek*, by Mr. J. NIVEN. Stem erect, very branching. Leaves $\frac{1}{4}$ of a line broad, 8 to 11 long, linear. Spike broadly conical. Limb of the Petals smooth.

6. S. foliis $\frac{1}{4}$ lineæ latis, 6-8 longis, linearibus, scabriusculis: spicâ ovali: bracteis totis villosissimis: stigmate late clavato. *Clavigera*,

Club-bearing Soranthe.

A stiff erect shrub 3 feet high, discovered by Mr. J. NIVEN, near *Franche Hoek Kloof*, and introduced at *Clapham* in 1803. Leaves $\frac{1}{3}$ of a line broad, 6 to 8 long, linear, roughish. Spike oval. Bractes all over villous. Stigma broadly club-shaped.

7. S. foliis $\frac{1}{4}$ lineæ latis, 7-10 longis, linearibus, æquatis: spicâ ovali: bracteis apice nudis: stigmate anguste clavato. *Montana*

Mountain Soranthe.

From the the tops of the *Stellenbosch* mountains, where it was discovered by Mr. F. MASSON many years ago, but only lately introduced, and now flowering, I believe for the first time here, in Messrs. LEE and KENNEDY's nursery. Leaves $\frac{1}{4}$ of a line broad, 7 to 10 long, linear, their surface even. Spike oval. Bractes naked at the top, but very hairy below. Stigma narrowly club-shaped.

SPATALLA. *Salisb.*

Flores in Spicâ decompositâ terminali, 4-1 fasciculati in singulis ramis, nunc brevissimis. Bracteæ 4 fasciculum cingentes, anticâ minore, membranaceæ; præter 5-tam ad basin rami; gem-

Flowers in a compound terminal spike, 4-1 bundled on each branch sometimes very short. Bractes 4 surrounding each bundle, front one least, membranaceous; besides a 5th at the bot-

maceæ paucissimæ vel nullæ. Petala irregularia dorsali latiore, basi cohærentia. Pericarpium 1-spermum, folliculare, membranaceum. Stylus arcuatus, tandem deciduus. *Frutices, sæpius humiles. Folia simplicia, angustissima, in plerisque teretia callo longo.*

tom of the branch: gemmaceous ones few, or none. Petals irregular, dorsal one broader, cohering at the base. Pericarpium 1-seeded, like a bladder, membranaceous, Style bowed, finally deciduous. *Shrubs low. Leaves simple, very narrow, in most species round with a long callosity.*

The name is derived from a Greek verb, σπαταλαω, the stigma of this genus being generally very large.

* *Stigma clavatum: foliis undique convexis.*

Thyrsiflora, 1. S. foliis $\frac{1}{3}$ lineæ latis, 7-10 longis, reclinato-patentissimis, adultis parum sericeis: spicâ conicâ: petalis infra limbum longe sericeis.

Thyrse-flowered Spatalla.

A decumbent species, discovered by Mr. J. NIVEN, in dry places near the top of the *Zwartberg* mountains. Leaves $\frac{1}{3}$ of a line broad, 7 to 10 long, reclined, very spreading, a little silky when old. Spike conical. Petals silky with long hairs below the limb.

Ericæfolia, 2. S. foliis $\frac{1}{3}$ lineæ latis, $1\frac{1}{2}$-$2\frac{1}{2}$ longis, rariusculis, reclinato-erectis, adultis pubescentibus: spicâ cylindricâ: petalis infra limbum breviter sericeis.

Heath-leaved Spatalla.

This species was also discovered by Mr. J. NIVEN, in the sandy plains of *Verhoode Valley*. Branches slender, long, erect. Leaves $\frac{1}{3}$ of a line broad, $1\frac{1}{2}$ to $2\frac{1}{2}$ long, rather distant from one another, reclined-erect, pubescent when old. Spike cylindrical. Petals silky with short hairs below the limb.

3. S. foliis $\frac{1}{7}$ lineæ latis, 4-5 longis, densis, parum reclinato-patentibus, adultis villosis: spicâ cylindricâ: petalis infra limbum longe sericeis. *Caudæflora;*

Protea caudata. *Thunb. Diss. n.* 23 *t.* 2. *f.* 3. Tail-flowered Spatalla.

Sir C. P. THUNBERG discovered this species in marshy parts of the *Zwartberg* mountains. Leaves $\frac{1}{7}$ of a line broad, 4 to 5 long, close, a little reclined-spreading, villous when old. Spike cylindrical. Petals silky with long hairs below the limb.

** *Stigma spatulatum : foliis undique convexis.*

4. S. caule gracili : foliis $\frac{1}{4}$ lineæ latis, 3-4 longis, incurvo-erectis, lineari-attenuatis, adultis pubescentibus: spicâ brevi: petalo dorsali grandi. *Prolifera,*

Protea prolifera. *Thunb. Diss. n.* 27. *cum. Ic.* Proliferous Spatalla.

Introduced at *Clapham* in 1800, being raised from seeds collected on the mountains of *Hottentots Holland.* It is not a handsome shrub, and only worth cultivating here in botanic gardens. Stem slender. Leaves $\frac{1}{7}$ of a line broad, 3 to 4 long, incurved-erect, linear-attenuated, pubescent when old. Spike short. Dorsal petal very large.

5. S. foliis $\frac{1}{7}$ lineæ latis, 5-7 longis, reclinato-patentibus: spicâ longâ: bracteis angustissimis: petalis infra limbum lanatis. *Parilis,*

Matched Spatalla.

Confounded with *Spatalla Caudæflora* in herbariums, but the stigma of this is much broader, and its petals woolly, not silky below the limb. Mr. J. ROXBURGH, discovered it on the *Stellenbosch* mountains, and it is now flowering in Messrs. LEE and KENNEDY's nursery. Leaves $\frac{1}{7}$ of a line broad, 5 to 7 long, reclined-spreading. Spike long. Bractes very narrow.

Barbigera; 6. S. foliis $\frac{1}{3}$ lineæ latis, 4-5 longis, reclinato-patentibus : spicâ longâ : bracteis latiusculis : petalis infra limbum minute tomentosis.

Bearded Spatalla.

This species was discovered by Mr. J. NIVEN, in *Platte Kloof*, and is not so slender as the preceding one. Leaves $\frac{1}{7}$ of a line broad, 4 to 5 long, reclined-spreading. Spike long. Bractes somewhat broad. Petals minutely cottony below the limb.

Bombycina, 7. S. foliis $\frac{1}{4}$ lineæ latis, 8-10 longis, reclinato-horizontalibus, sericeis : spicis longis, nutantibus, 3-5 approximatis : bracteis omnibus angustis.

Unspun Silk Spatalla.

A delicate erect shrub 4 feet high, discovered by Mr. J. NIVEN, in moist rocky parts of the mountains near *Zoete Melk Valley*. Leaves $\frac{1}{4}$ of a line broad, 8 to 10 long, reclined-horizontal, finely silky. Spikes 3 to 5 approximated, long, nodding, all the Bractes narrow.

Nana, 8. S. foliis $\frac{1}{3}$ lineæ latis, 6-8 longis, densis, reclinato-patentissimis, parum sericeis : spica longâ, rariusculâ ; fasciculis 3 floris : bracteâ sub ramis latâ.

Dwarf Spatalla.

Introduced at *Clapham* in 1800, from seeds collected by Mr. J. NIVEN on the mountains near *Roode Zand*, and easily propagated by cuttings, but it requires a sandy soil, and to be effectually drained. Leaves $\frac{1}{7}$ of a line broad, 6 to 8 long, close, reclined, very spreading, a little silky. Spike long, not close. Bundles 3 flowered. Bracte under the branches broad.

Procera, 9. S. foliis $\frac{1}{7}$ lineæ latis, 8-10 longis, reclinato-patentissimis, parum sericeis : spicis longis, erectis, 3-5 approximatis : fasciculis 3-floris : bracteâ sub ramis angustâ.

Protea incurva. *Thunb. Diss. n.* 22. *t.* 3. *f.* 2. Tall Spatalla.

So many species are already discovered with leaves bowed exactly like this, that Professor THUNBERG's name now tends to mislead. It grows wild near *Roode Zand Cascade*, in moist rocky places, flowering there in *October*, and is the tallest species yet known, being often 7 and 8 feet high. Leaves $\frac{1}{7}$ of a line broad, 8 to 10 long, reclined, very spreading, a little silky. Spikes long, erect, 3 to 5 approximated. Bundles 3-flowered. Bracte under the branches narrow.

* * * *Stigma spatulatum : foliis supra canaliculatis.*

10. S. foliis $\frac{1}{7}$ lineæ latis, 10-18 longis, densiusculis, reclinato-horizontalibus, inferne vix attenuatis : fasciculis 1-floris : bracteâ sub ramis lineari. *Longifolia.*

Long-leaved Spatalla.

A shrub from 5 to 7 feet high, discovered near rivulets at *Franche Hoek*, by Mr. J. NIVEN. Leaves $\frac{1}{7}$ of a line broad, 10 to 18 long, somewhat close, reclined-horizontal, scarcely attenuated below the middle. Bundles 1-flowered. Bracte under the branches linear.

11. S. foliis $\frac{1}{7}$ lineæ latis, 9-12 longis, rariusculis, reclinato-patentibus apice valde arcuato, inferne attenuatis : fasciculis 1-floris : bracteâ sub ramis basi dilatatâ. *Curvifolia.*

Curved-leaved Spatalla.

This species is seldom more than 2 feet high, and was discovered by Mr. J. NIVEN on the mountains of *Hottentots Holland*. It is very smilar to the last described but its stem is nearly smooth, and the leaves more bowed towards the top, so as to form a complete semicircle : they are $\frac{1}{7}$ of a line broad, 9 to 12 long, not close, reclined-spreading, attenuated below the middle. Bundles 1-flowered. Bracte under the branches dilated at the base.

12. S. foliis $\frac{1}{7}$ lineæ latis, 7-10 longis, reclinato-erectis, inferne attenuatis : fasciculis 1-floris : bracteâ sub ramis brevissimâ. *Gracilis.*

Protea racemosa. *Thunb. Diss. n.* 21. Leucadendron racemosum. *Linn. Sp. Pl. ed.* 2. *p.* 134. Leucadendron racemosum. *Berg. Pl. Cap. p.* 23. Slender Spatalla.

The Inflorescence in the Natural Order of *Proteeæ* being now better understood, the name of *Racemosum* is no longer applicable to this little delicate species, which grows wild on the mountains near *Klein Hout Hoek*. Leaves $\frac{1}{3}$ of a line broad, 7 to 10 long, reclined-erect, attenuated below the middle. Bundles 1-flowered. Bracte under the branches very short.

SERRURIA. *Burm.*

Flores in Capitulis 1-riis paniculatisve, rarius sessilibus, terminalibus. Bractea 1 inter singulos, membranaceæ; gemmaceis paucis multisve, nunc dilatatis, subjectis. Petala secunda, cæterum regularia, basi cohærentia. Pericarpium ut in *Spatalla*. Stylus rectus arcuatusve, tandem deciduus. *Frutices humiles. Folia in plerisque 2-pinnatifida, vix unquam omnia simplicia, sæpe glandulis aspersa.*

Flowers in solitary or panicled, rarely sessile, terminal Heads. A single Bracte to each, membranaceous: gemmaceous ones few or many, in some dilated. Petals inclined one way, in other respects regular, cohering at the base. Pericarpium as in *Spatalla*. Style straight or bowed, deciduous. *Low Shrubs. Leaves in most species 2-pinnatifid, scarcely ever all simple, often besprinkled with glands.*

The name was given by BURMAN, in honour of JOHN SERRURIER, M. D. Professor of Botany, at *Utrecht*.

* *Bracteæ paucæ: petalorum villis patentibus.*

Vallaris, 1. S. foliis $\frac{2}{3}$-1 pollicem longis, ab infra medium 2-pinnatifidis,

hirsutulis: capitulo sessili, altitudine foliorum: bractearum dorso superne læviusculo: petalo supremo fere nudo.

Intrenched Serruria.

This species grows wild abundantly on the mountains near *Simons Bay*, and was introduced at *Clapham* in 1800. Leaves of a yellow green, $\frac{3}{4}$ to 1 inch long, 2-pinnatifid from below their middle, somewhat hairy. Head sessile, about as high as the surrounding leaves. Back of the Bractes nearly smooth towards the top. Upper Petals scarcely bearded. It may be propagated by cuttings, nor have I found the least difficulty in this respect, with any species of the genus.

2. S. foliis $\frac{3}{4}$-1 pollicem longis, ab infra medium 2-pinnatifidis, hirsutulis: capitulo sessili, foliis altiore: bracteis extus totis hirsutis: filamentorum apice 2-lobo. *Abrotanifolia*.

Protea abrotanifolia hirta. *Andr. in Bot. Rep. n.* 522. *cum Ic.* malâ. Southern Wood-leaved Serruria.

Confounded with the following in our collections, but a legitimate species, and distinguished as such by Mr. J. Niven, who found it near *Paarl*. Leaves $\frac{3}{4}$ to 1 inch long, 2-pinnatifid from below their middle, somewhat hairy. Head sessile, higher than the leaves. Bractes externally all over hairy. Top of the Filament 2-lobed.

3. S. foliis 5-7 lineas longis, a basi 2-pinnatifidis, hirsutulis: pedunculo longitudine capituli vel plus, hirsuto: bracteis ad oras extus hirsutis: stigmate truncato. *Millefolia*.

Protea triternata. *Kenn. in Bot. Rep. n.* 337. *cum Ic.* bonâ. Thousand-leaved Serruria.

The leaves of this species are not triternate, and resemble those of so many others, that I have given it a name alluding to their number rather than mode of decomposition. It grows wild in the dry sandy plains near *Brack Fontein*, *Jackall Flyberg*, and on the mountains near *Windhoek*, where Mr. J. Niven collected

seeds raised at *Clapham* in 1800. Here it suffers more from damp than cold, flowering abundantly if well drained. Leaves 5 to 7 inches long, 2-pinnatifid from their base, somewhat hairy. Peduncle as long as the Head, or longer, hairy. Bractes near their edge externally hairy. Stigma truncated.

Callosa, 4. S. foliis $\frac{2}{3}$-1 pollicem longis, a medio dense 2-pinnatifidis, vix glabris: pedunculo longitudine capituli, hirsuto: bracteis hirsutis apice valde calloso.

Callous Serruria.

A weak shrub, very common in dry stony ground near *Winter Hoek,* and in the sandy plains by *Klein Berg Rivier,* where Mr. J. NIVEN discovered it. Leaves $\frac{2}{3}$ to 1 inch long, closely 2-pinnatifid from their middle, hardly smooth. Peduncle as long as the Head, hairy. Bractes hairy with a very callous point.

Montana, 5. S. foliis 1-1$\frac{1}{2}$ pollicem longis, a basi dense 3-pinnatifidis, pubescentibus: pedunculis 1-3, longis, tomentosis: bracteis supra basin extus repente lævigatis: antheris obtusis.

Mountain Serruria.

From the mountains near *Breede Rivier,* where Mr. J. NIVEN discovered it. Stem 5 or 6 feet high. Leaves 1 to 1$\frac{1}{2}$ inch long, closely 3-pinnatifid from their base, pubescent. Peduncles 1 to 3, cottony. Bractes suddenly smooth above their base externally.

Artemisiæfolia, 6. S. foliis 1$\frac{1}{2}$-2 pollices longis, a basi 3-pinnatifidis, pubescentulis: pedunculis 1-3, longis, læviusculis: bracteis recurvis, rare tomentosis: antheris valde mucronatis.

Protea sphærocephala. *Kenn. in Bot. Rep. n.* 264. *cum Ic.* Artemisia-leaved Serruria.

The seeds of this species were sent by Mr. J. NIVEN, with the name here adopted, for it is neither LINNE's nor THUNBERG's *Protea sphærocephala;* but it had been previously introduced in 1789, by Messrs. LEE and KENNEDY. It grows wild on the

mountains of *Roode Zand* to the height of 5 or 6 feet, and should be cultivated here in sandy loam. Leaves $1\frac{1}{2}$ to 2 inches long, 3-pinnatifid from their base, somewhat pubescent. Peduncles 1 to 3, long, nearly smooth. Bractes recurved, thinly cottony. Anthers exceedingly mucronated.

7. S. foliis 1-2 pollices longis, ab infra medium dense 3-pinnatifidis, pubescentibus: pedunculis 1-3, longis, tomentosis: bracteis apice recurvis, valde tomentosis. *Peduncularis.*

Peduncled Serruria.

This and the two last described species all agree in having longer peduncles than most others, but in this they are the longest: they may easily be distinguished by their anthers, which in *S. Montana* are quite obtuse, in *S. Artemisiæfolia* exceedingly mucronated, and in *S. Peduncularis* only slightly mucronated. Mr. J. NIVEN discovered it on the dry sides of mountains near *Roode Zand Kloof*, where it flowers in *September* and *October*. Stem 3 or 4 feet high. Leaves 1 to 2 inches long, closely 3-pinnatifid from below their middle, pubescent when old. Peduncles 1 to 3, long, cottony. Bractes recurved at the top, very cottony.

8. S. foliis 1-$1\frac{1}{2}$ pollicem longis, ab infra medium 2-pinnatifidis, vix glabris: pedunculis 1-3, longis, tomentosis: petalis protensis: styli apice valde curvo. *Fucifolia;*

Fucus-leaved Serruria.

A tall elegant shrub, discovered by Mr. J. NIVEN near *Picquetberg*. Leaves 1 to $1\frac{1}{2}$ inch long, 2-pinnatifid from below their middle, hardly smooth. Peduncles 1 to 3, long, cottony. Petals more stretched out than in most others. Style exceedingly bowed at the top.

9. S. caule decumbente: foliis $1\frac{1}{2}$-2 pollices longis, a supra medium 3-fidis rareque pinnatifidis; glabris: capitulo ovali, pedunculo parum breviore: bracteis inferioribus glabris. *Gracilis;*

Protea pinnata. *Andr. in Bot. Rep. n.* 512. *cum Ic.* ad exemplar primâ vice florens. Slender Serruria.

The figure quoted was made from a plant flowering at *Clapham* for the first time in 1806, and does not give a just idea of its habit. Mr. J. NIVEN discovered it, near the river at *Roode Zand Cascade*, in shady places. The Stem is very slender, trailing upon the ground, and in wild specimens most of the leaves are 3-fid: I trust therefore that Mr. ANDREWS will see the propriety of my retaining the name sent along with it, by Mr. J. NIVEN. It is rather tender. Leaves $1\frac{1}{2}$ to 2 inches long, glossy. Head oval, a little shorter than the peduncle. Lower Bractes glossy.

Linearis; 10. S. caule decumbente: foliis $1\frac{1}{2}$-2 pollices longis, simplicibus paucissimisque a supra medium 3-fidis, glabris: capitulis 1-3, subrotundis, pedunculo brevioribus: antheris obtuse mucronatis.

Linear-leaved Serruria.

From the sandy plains near *Groene Kloof*, where Mr. J. NIVEN discovered it. Stem decumbent. Leaves $1\frac{1}{2}$ to 2 inches long, simple and a very few 3-fid from above their middle, glossy. Heads of Flowers roundish, 1 to 3, shorter than the peduncle. Anthers obtusely mucronated. It flowered two years ago in the nursery of Messrs. MIDDLEMIST and Co. beyond *Bayswater.*

Delphiniifolia; 11. S. caule decumbente: foliis 1-$1\frac{1}{2}$ pollicem longis, ab infra medium 3-5-fidis, pubescentulis: capitulis 3-7, grandibus, longitudine pedunculorum: stigmatis apice latissimo.

Larkspur-leaved Serruria.

The Heads of Flowers in this species, discovered by Mr. J. NIVEN on the dry ascents of mountains near *Paarl*, are very large. Stem prostrate. Leaves 1 to $1\frac{1}{2}$ inch long, 3 to 5-fid from below their middle, pubescent. Heads 3 to 7, as long as the peduncles. Stigma very broad at the top.

** *Bracteæ paucæ : petalorum villis adpressis.*

12. S. caule decumbente : foliis 1-3 pollices longis, fere a medio 3-pinnatifidis, pubescentibus : pedunculis 1-3, capitulo parum longioribus : stylo a basi arcuato. *Anemonefolia;*

Anemone-leaved Serruria.

A decumbent species, discovered by Mr. J. Niven, both in low and high parts of *Draakenstein*. Leaves 1 to 3 inches long, 3-pinnatifid from very near below their middle, pubescent. Peduncles 1 to 3, a little longer than the Head. Style bowed from the base.

13. S. foliis 3-7 pollices longis, ab infra medium 3-pinnatifidis, glabris, crassis : capitulis paniculatis, pedunculo longissimo : bracteorum oris scariosis. *Crithmifolia,*

Protea glomerata. *Thunb. Diss. n.* 8. Leucadendron elongatum. *Berg. Pl. Cap. p.* 27. Samphire-leaved Serruria.

This species is of a more succulent habit than most others, and was introduced at *Clapham* in 1800. It grows wild in dry stony ground at *Hottentots Holland Kloof*, and on the mountains near the river *Zonder End*. Stem often so short that the leaves appear radical : they are 3 to 7 inches long, 3-pinnatifid from below their middle, obtuse, glossy. Heads panicled upon a peduncle sometimes 4 feet long. Bractes scarious near the edge.

14. S. foliis 1½-3 pollices longis, ab infra medium 3-pinnatifidis, acutis, glabris : capitulis paniculatis : bracteis glabris, oris vix scariosis : stigmate cylindraceo. *Elumbis;*

Slender-limbed Serruria.

Introduced at Clapham in 1800, from the mountains of *Hottentots Holland*, where Mr. J. Niven discovered it, and now flower-

ing in the collection of ISAAC SWAINSON, Esq. Leaves $1\frac{1}{2}$ to 3 inches long, 3-pinnatifid from below their middle, acute, smooth. Head panicled. Bractes glossy, their edge hardly scarious. Stigma cylindrical.

Flagellifolia, 15. S. caule decumbente: foliis $2\frac{1}{2}$-4 pollices longis, simplicibus 3-fidisque, lævibus: capitulis vix paniculatis: bracteis suborbiculatis acumine brevi, lævibus: petalorum limbo lato.

Lash-leaved Serruria.

A decumbent species, discovered by Mr. F. MASSON in rocky parts of the *Hottentots Holland* mountains, and confounded with the following, in herbariums. Leaves $2\frac{1}{2}$ to 4 inches long, both simple and 3-fid, smooth. Heads scarcely panicled. Bractes suborbicular with a sharp point, smooth. Limb of the Petals broad.

Hyemalis; 16. S. caule decumbente: foliis $1\frac{1}{2}$-$2\frac{1}{2}$ pollices longis, simplicibus 3-fidisque, lævibus: capitulis paniculatis: bracteis ovatis acumine longo, rare sericeis: petalorum limbo angustissimo.

Protea procumbens. *Linn. Suppl. p.* 116. Protea decumbens *Thunb. Diss. n.* 1. *t.* 1. *fig. ad calcem.* Winter flowering Serruria.

This is very like *S. Flagellifolia*, but differs materially in its flowers. Sir C. P. THUNBERG discovered it on the mountains of *Hottentots Holland*, where it flowers in the middle of their winter, *June* and *July*. Stem decumbent. Leaves $1\frac{1}{2}$ to $2\frac{1}{2}$ inches long, both simple and 3-fid, smooth. Heads panicled. Bractes ovate with a long point, thinly silky. Limb of the Petals very narrow.

Anethifolia; 17. S. foliis 3-5 pollices longis, simplicibus 3-fidis rarèque 2-pinnatifidis, glabris: paniculâ corymbosâ: bracteis cuneatis, inferne sericeis: stigmate late clavato.

Protea argentiflora. *Andr. in Bot. Rep. n.* 447. *cum Ic.* Protea triternata. *Thunb. Diss. n.* 7. Dill-leaved Serruria.

A common shrub by the river side in *Roode Zand,* the flowers of which in the heat of day, smell like those of *Heliotropium Peruvianum.* Stem 5 and 6 feet high. Leaves 3 to 5 inches long, a few simple and 3-fid, the rest thinly 2-pinnatifid, glossy. Panicle corymbose. Bractes wedge-shaped, silky at the base. Stigma broadly clubshaped.

18. S. foliis 1½-2 pollices longis, ab infra medium 2-pinnatifidis, minute sericeis: paniculâ amplâ ramis elevatis; bracteis patentibus, ovato-cuneatis, sericeis: stylo recto. *Fasciflora,*

Protea Serraria. *Thunb. Diss. n.* 6. Protea Serraria. *Linn. Mant. p.* 188, Leucadendron Serraria. *Berg. Pl. Cap. p.* 28. Leucadendron Serraria. *Linn. Sp. Pl. ed.* 2. *p.* 137. Serraria foliis, &c. *Burm. Pl. Afr. p.* 264. *t.* 99. *f.* 1. Anethifolius frutex, &c. *Seb. Thes. v.* 2. *t.* 68. *f.* 6. Abrotanoides, &c. *Plukn. Mant.* 1. *t.* 329. *f.* 1. Fasciated Serruria.

One of the commonest shrubs in the sandy plains near *Cape Town,* varying with whitish flowers. Leaves 1½ to 2 inches long, 2-pinnatifid from below their middle. Panicle ample, its branches elevated. Bractes spreading, ovate-wedge-shaped. silky. Style straight.

19. S. foliis 1-1½ pollicem longis, ab infra medium 2-pinnatifidis, rare sericeis: capitulo sæpius 1-rio, pedunculato, altitudine foliorum: bracteis recurvis, anguste cuneatis, hirtis: stylo recto. *Frondosa,*

Frondose Serruria.

The seeds of this species raised at *Clapham* in 1800, were sent by Mr. J. Niven without mentioning where he collected them. Stem 1 to 2 feet high. Leaves at the bottom of the branches small and imperfect, so that they appear clustered near the flowers, 1 to 1½ inch long, 2-pinnatifid from below their middle, thinly silky. Head generally solitary, peduncled, as high as the

leaves. Bractes recurved, narrowly wedge-shaped, hairy. Style straight.

Zanthophylla, 20. S. foliis 1½-2 pollices longis, fere a medio 2-pinnatifidis, rare sericeis: capitulis glomeratis, subsessilibus: bracteis latis, incurvulis, rhombeo-cuneatis, læviusculis: stylo reclinato.

Yellow-leaved Serruria.

Several species of *Serruria* are besprinkled with glands in various parts, but in this they are very numerous, and visible with a common microscope upon its leaves: from these glands the foliage has a tawny hue, which I first mistook for disease, and in vain tried to remove by a richer soil. It was raised at *Clapham* in 1803 from seeds sent by Mr. J. NIVEN, who discovered it near *Roode Zand Kloof*. The Flowers vary in colour from nearly white to dull purple, and exhale a slight odour of *Pæonia Officinalis*. Leaves 1½ to 2 inches long, 2-pinnatifid almost from their middle, thinly silky. Heads clustered, nearly sessile. Bractes broad, a little incurved, rhomb-wedge shaped, almost smooth. Style reclined.

Rangiferina, 21. S. foliis 1-1½ pollicem longis, recurvis, ab infra medium rare 2-pinnatifidis, pubescentulis: paniculâ brevi, late pyramidali: bracteis longe cuneatis, basi sericeo-tomentosis: stylo valde curvo.

Reindeer Horn-leaved Serruria.

A low shrub about 2 feet high, from the sandy plains near *Breede Rivier*, where Mr. J. NIVEN discovered it. Leaves 1 to 1½ inch long, recurved, thinly 2-pinnatifid from below their middle, somewhat pubescent. Panicle short, broadly pyramidal. Bractes long, wedge-shaped, silk-cottony at their base. Style exceedingly bowed.

Collina, 22. S. foliis 1½-2 pollices longis, incurvo-erectis, a medio 2-

pinnatifidis, glabris: paniculâ brevi, late conicâ: bracteis longe cuneatis, basi rare tomentosis: stylo parum curvo.

Hill Serruria.

This species is found plentifully on the hills below *Tafelberg* and the adjacent mountains. It is a weak subdecumbent shrub. Leaves $1\frac{1}{2}$ to 2 inches long, incurved-erect, 2-pinnatifid from their middle, glossy. Panicle short, broadly conical. Bractes long, wedge-shaped, thinly cottony at the base. Style a little curved.

23. S. foliis $\frac{1}{2}$-1 pollicem longis, ab infra medium 2-pinnatifidis, pubescentulis: capitulis 1-3, glomeratis, foliis altioribus: bracteis basi sericeo-tomentosis: filamentorum apice emarginato. *Arenaria,*

Protea abrotanifolia minor. *Andr. in Bot. Rep. n.* 536. *cum Ic.* pessimâ.

Sand Serruria.

Introduced at *Clapham* with the two last described species in 1800, from the sandy plains near *Blaauwberg*, where Mr. J. NIVEN discovered it. Stem 2 feet high, erect, very branching. Leaves $\frac{1}{2}$ to 1 inch long, 2-pinnatifid from below their middle, a little pubescent. Heads 1 to 3, clustered, higher than the leaves. Bractes silk-cottony at their base. Top of the filament exceedingly emarginated.

24. S. foliis 6-8 lineas longis, ab infra medium dense 2-pinnatifidis, pubescentulis: capitulis 3-5, glomeratis: bracteis totis densissime tomentosis: stigmate grandi. *Quinquemestris,*

Five months flowering Serruria.

A beautiful shrub discovered by Mr. J. NIVEN, in sandy soil near *Paardeberg*, where it flowers from *August* till *January*, and would be a very desireable species for our collections, but it has not yet been introduced. Stem 3 and 4 feet high, very branching. Leaves 6 to 8 lines long, closely 2-pinnatifid from below their middle, a little pubescent. Heads 3 to 5, clustered. Bractes all over very closely cottony. Stigma large.

Gremiiflora, 25. S. foliis 1-1½ pollicem longis, ab infra medium 2-pinnatifidis, glabris: capitulis 1-3, glomeratis, foliis demissioribus: bracteis tomentosis præcipue superioribus.

Leafy-headed Serruria.

A small bush, common in the sandy plains of *Zwartland*, but in no collection here to my knowledge, except that at *Kew*, where it flowered in 1806. Leaves 1 to 1½ inch long, 2-pinnatifid from below their middle, smooth. Heads 1 to 3, clustered, lower than the leaves. Bractes cottony, especially the upper ones.

Rostellaris, 26. S. caule decumbente: foliis 1-1½ pollicem longis, rare 2-pinnatifidis, rostellatis, fere glabris: capitulo subsessili: bracteis inferioribus lævibus, superioribus tomentosis: stigmate lineari.

Little-beaked Serruria.

Introduced by Messrs. Lee and Kennedy in 1800, from dry stony parts of the *Zwarteberg* mountains, where Mr. J. Niven afterwards found it. Stem slender, dark red, decumbent, nearly smooth. Leaves 1 to 1½ inch long, thinly 2-pinnatifid, their callous point like a little beak, almost glossy. Head nearly sessile. Lower Bractes smooth, upper ones cottony. Stigma linear. It lived through the winters of 1802 and 1803 in the open air at *Mill Hill*, without any other protection than a mat.

Concinna; 27. S. foliis 7-11 lineas longis, ab infra medium 3-fidis pinnatifidis, 2-pinnatifidisque, fere glabris: capitulo subsessili, foliis altiore: bracteis lineari-attenuatis, omnibus rare fimbriatis.

Neat Serruria.

This is a slender shrub with weak branches, discovered by Mr. J. Niven in *Roode Zand*, and now flowering luxuriantly in the collection of Messrs. Lee and Kennedy. Leaves 7 to 11 lines long, 3-fid pinnatifid and 2-pinnatifid from below their middle, almost glossy. Head nearly sessile, higher than the leaves. Bractes linear-attenuated, all thinly fringed.

**** Bracteæ numerosæ: petalorum villis patentibus.*

28. S. foliis 6-9 lineas longis, a medio 3-fidis paucisque rare pinnatifidis, glabris: capitulo subsessili: bracteis longis, lineari-attenuatis, hirsutis: antheris obtusis. *Pulchella,*

Protea cyanoides. *Thunb. Diss. n.* 3. Leucadendron cyanoides. *Berg. Pl. Cap. p.* 27. Cyanus æthiopicus, &c. *Plukn. Mant. p.* 61. *t.* 345. *f.* 6. Pretty Serruria.

This delicate species has not the smallest likeness to any *Cyanus*. It grows wild abundantly near *Vischer Hock*, and is now flowering in Messrs. LEE and KENNEDY's nursery as luxuriantly, as at the *Cape*. Leaves 6 to 9 lines long, 3-fid from their middle, and a few thinly pinnatifid, glossy. Head of Flowers nearly sessile. Bractes long, linear-attenuated, hairy. Anthers obtuse.

29. S. foliis 5-8 lineas longis, paucis simplicibus ab infra medium 3-fidisque, glabris: capitulo subsessili: bracteis longis, lineari-attenuatis, hirsutis: antheris mucronatis. *Æmula;*

Rival Serruria.

Very similar to the preceding, but unquestionably a legitimate species, discovered by Mr. J. NIVEN near *Tigerberg*. Leaves 5 to 8 lines long, a few simple, the rest 5-fid from below their middle, glossy. Head of Flowers nearly sessile. Bractes long, linear-attenuated, hairy. Petals bearded with longer hairs than in the preceding. Anthers mucronated.

30. S. foliis 4-6 lineas longis, densis, ab infra medium 3-fidis, glabris: capitulo subsessili: bracteis dense tomentosis: petalis infra limbum lævibus. *Foliosa,*

Leafy Serruria.

A subdecumbent shrub with rigid branches, seldom more than a foot high, discovered by Mr. J. NIVEN in the sandy plains

near *Blaauwberg* Leaves 4 to 6 lines long, close, 3-fid from below their middle, glossy. Head nearly sessile. Bractes thickly cottony. Petals smooth below the limb.

Trilopha, 31. S. foliis 1-$\frac{1}{2}$ pollicem longis, ad infra medium 3-fidis, glabris: capitulo longitudine pedunculi: bracteis inferioribus fimbriatis: petalis 3 a medio limbi barbatis.

Three-crested Serruria.

This is also a low decumbent species, but with more slender branches than the last described. Mr. J. Niven discovered it in the sandy plains near *Wynberg*. Leaves $\frac{1}{2}$ to 1 inch long, 3-fid from below their middle, glossy. Head as long as the Peduncle. Lower Bractes fringed. Three Petals only bearded from the middle of the limb.

Fallax; 32. S. foliis 5-7 lineas longis, ab infra medium dense 2-pinnatifidis, glabris: capitulo subsessili: bracteis fimbriatis: petalis infra limbum barbatis, dense glanduligeris.

Fallacious Serruria.

The foliage of this species resembles that of *S. Quinquestris* so nearly, that it is almost impossible to distinguish them when not in flower. It was discovered by Mr. J. Niven near *Paarl*. Stem 2 feet high. Leaves 5 to 7 lines long, closely 2-pinnatifid from below their middle, glossy. Head nearly sessile. Bractes fringed. Petals bearded below the limb, besprinkled with a great many glands.

Barbigera, 33. S. caule vix pubescentulo: foliis 1$\frac{1}{2}$-2 pollices longis, a mox infra medium plerisque 2-pinnatifidis: capitulis 1-3, longitudine pedunculi: bracteis vix reflexis ciliatisve: petalis longissime barbatis.

Protea abrotanifolia. *Andr. in Bot. Rep. n.* 507. *cum Ic. f.* 4.

pessimâ. Leucadendron phylicoides. *Berg. Pl. Cap. p.* 29. Bearded Serruria.

A shrub 2 feet high, growing wild plentifully on the high mountains near *Hottentots Holland Kloof.* Stem almost quite smooth. Leaves $1\frac{1}{2}$ to 2 inches long, 2-pinnatifid from very near below their middle, a few only pinnatifid. Heads 1 to 3, as long as the peduncle. Bractes scarcely either reflexed or ciliated. Petals bearded with very long hairs.

34. S. caule pubescentulo: foliis $1\frac{1}{2}$-2 pollices longis, ab infra medium omnibus 2-pinnatifidis: capitulis 1-3, pedunculo breviori-bus: bracteis reflexis, ciliatis: stigmate angusto. *Parilis,*

Protea abrotanifolia. *Andr. in Bot. Rep. n.* 509. *cum Ic.* haud bonâ. Matched Serruria.

I cannot regard this as a variety of the preceding species, though nearly allied to it: for, the leaves differ in wild specimens, as well as in the plants cultivated here. Mr. J. Niven discovered it, on the mountains, near *Klein Hout Hoek.* Stem finely-pubes-cent. Leaves $1\frac{1}{2}$ to 2 inches long, all 2-pinnatifid from below their middle. Heads 1 to 3, shorter than the peduncle. Bractes reflexed, ciliated. Stigma narrow.

35. S. caule minute tomentoso: foliis 2-$2\frac{1}{2}$ pollices longis, ab infra medium 3-pinnatifidis: capitulis 1-3, pedunculo vix breviori-bus: bracteis extus pubescentibus. *Chlamydiflora,*

Vest-flowering Serruria.

From the high mountains near *Franche Hoek,* where Mr. J. Niven discovered it, and sent its seeds for the following species. Only a single plant was raised at *Clapham,* but it is hardy, and easily propagated by cuttings. Stem 3 and 4 feet high, finely cottony. Leaves 2 to $2\frac{1}{2}$ inches long, 2-pinnatifid from below their middle. Heads 1 to 3, scarcely shorter than the peduncle. Bractes externally pubescent.

Florida, 36. S. foliis 2½-3 pollices longis, longe ab infra medium 2-pinnatifidis: capitulis 3-5, pedunculo brevioribus: bracteis grandibus, lævibus cum rore; superioribus petalis longioribus, ciliatis.

Protea florida. *Thunb. Diss. n.* 2. *t.* 1. *f.* 1. Florid Serruria.

This grand species has never been in our collections, nor I believe ever found again at the *Cape*, since Professor THUNBERG discovered it near *Franche Hoek*. Leaves 2½ to 3 inches long, 2-pinnatifid from a great way below their middle. Heads 3 to 5, shorter than the peduncle. Bractes large, smooth with a fine dew; those between the flowers longer than the petals, ciliated.

PETROPHILE. *R. Br.*

Flores in Capitulo oblongo terminali, minoribus nunc ex ultimis axillis. Bractea 1 inter singulos, arctissime imbricatæ, squamaceæ: gemmaceis nullis. Petala regularia, libera. Pericarpium 1-spermum, nuciforme, latere superiore rimâ melliferum? ad oras barbatum. Stylus diu vegetus. *Frutex humilis: foliis plus minus decompositis.*	Flowers in a terminal Head, smaller ones often from the last axils. A single Bracte to each, very closely imbricated, scaly: no gemmaceous ones. Petals regular, separate. Pericarpium 1-seeded, like a Nut, melliferous on the upper side? edges bearded. Style a long time green. *A low shrub: leaves more or less subdivided.*

The name is derived from two Greek words, πετρος and φιλη, this genus being found in rocky places.

Fucifolia. 1. P. foliis 2-3-pinnatifidis, laciniis ultimis sæpe brevissimis.

Protea pulchella. *Cav. Ic. v.* 6. *p.* 33. *t.* 550. Protea pulchella. *Sims in Bot. Mag. n.* 796. *cum Ic.* Protea pulchella. *Schrad. in Sert. Hann.* 1. *p.* 15. *t.* 7. Protea Fucifolia. *Salisb. Prodr. p.* 48. Fucus-leaved Petrophile.

This shrub grows wild near *Port Jackson*, ripening seeds here annually, and may be increased by cuttings; but it has few claims to a place in our collections, and none at all to the title of *Pulchella*. In the decomposition of its leaves, it approaches closely to many *Fuci*; I have therefore retained the specific name given to it from that resemblance, which has likewise the right of priority.

Isopogon. *R. Br.*

Flores in Capitulo sessili, terminali. Bractea 1 inter singulos, arctissime imbricatæ, squamaceæ; præter gemmaceas paucas. Petala regularia, ultra bracteas in tubum coalita. Pericarpium 1-spermum, nuciforme, pilis longitudine subæqualibus undique barbatum. Stylus ultra bracteas mox deciduus. *Frutices: foliis simplicibus decompositisque.*

Flowers in a sessile terminal Head. A single Bracte to each, very closely imbricated, scaly; besides a few gemmaceous ones. Petals regular, cohering into a tube beyond the bractes. Pericarpium 1-seeded, like a Nut, bearded all over with hairs nearly equal in length. Style soon falling off beyond the bractes. *Shrubs: leaves simple and subdivided.*

The name is derived from two Greek words ισος and πωγων, the hairs of the Pericarpium being nearly all of the same length.

1. I. foliis $1\frac{1}{2}$-$2\frac{1}{2}$ pollices longis, late 2-pinnatifidis, scabris: petalis infra limbum lævibus. *Anemonefolius,*

Protea tridactylides. *Cav. Ic. v.* 6. *p.* 33. *t.* 548. Protea anemonefolia. *Kenn. in Bot. Rep. n.* 332. *cum Ic.* Protea anemonefolia. *Sims in Bot. Mag. n.* 697. *cum Ic.* Protea Anemonefolia. *Salisb. Prodr. p.* 48. Anemone-leaved Isopogon.

A shrub 5 or 6 feet high, found wild near *Port Jackson*, the

foliage of which here is generally very brown. Leaves $1\frac{1}{2}$ to $2\frac{1}{2}$ inches long, broadly 2-pinnatifid, rough. Petals smooth below the limb.

Anethifolius. 2. I. foliis 4-6 pollices longis, anguste 2-pinnatifidis, lævibus: petalis infra limbum sericeis.

Protea divaricata. *Andr. in Bot. Rep. n.* 465. Protea acufera. *Cav. Ic. v.* 6. *p.* 33. *t.* 549. Protea Anethifolia. *Salisb. Prodr. p.* 48. Dill-leaved Isopogon.

A lower shrub in our collections than the preceding, growing wild near *Port Jackson.* Leaves 4 to 6 inches long, narrowly 2-pinnatifid, smooth. Petals silky below the limb. Both species ripen seeds here annually, and may be propagated by cuttings.

Conospermum. *Sm.*

Flores in Spicâ paniculatâ e summis axillis. Bractea 1 ad singulos. Petala in tubum fauce angustum coalita: limbo irregulari fere *Orchidis.* Filamentorum dorsale antheriferum, lateralia $\frac{1}{2}$-antherifera, anticum prorsus castratum. Pericarpium 1-spermum, late turbinatum, pilis longis fimbriatum. *Fruticuli: foliis simplicibus.*

Flowers in a panicled Spike from the uppermost axils. One Bracte to each. Petals cohering into a narrow-mouthed tube: limb irregular, almost as in *Orchis.* Dorsal Filament bearing an anther, lateral ones $\frac{1}{2}$ an anther, front one none. Pericarpium 1-seeded, top-shaped, fringed with long hairs. *Low shrubs: leaves simple.*

This genus is so named in the 4th volume of the *Linnean Transactions*, from two Greek words κωνος and σπερμα, its seed being top-shaped.

1. C. foliis $\frac{1}{2}$ lineæ latis, 4-5 longis, linearibus, teretiusculis. *Ericæfolium,*
Erica-leaved Conospermum.
A shrub, not unlike some of the narrow-leaved *Gnaphaliums* and *Xeranthemums*, before it flowers. Leaves $\frac{1}{2}$ a line broad, 4 to 5 long, linear, roundish.

2. C. foliis 1-1$\frac{1}{2}$ lineam latis, 7-12 longis, spatulato-lanceolatis, *Falcifolium,*
plus minus falcatis, vix marginatis.
Scythe-leaved Conospermum.
Leaves 1-1$\frac{1}{2}$ line broad, 7 to 12 long, spatulated-lanceolate, more or less falcated, scarcely marginated.

3. C. foliis 2-3 lineas latis, 5-8 longis, spatulato-lanceolatis, su- *Rigidum,*
perne marginatis.
Rigid Conospermum.
Leaves 2 to 3 lines broad, 5 to 8 long, spatulated-lanceolate; marginated towards their top.

4. C. foliis 2-7 lineas latis, 3-8 pollices longis, spatulato-lanceo- *Longifolium.*
latis marginatis, nervosis.
C. longifolium. *Smith Ex. Bot. v. 2. p. 45. t. 42.* Long-leaved Conospermum.
Leaves 2 to 7 lines broad, 3 to 8 inches long, spatulated-lanceolate, marginated, nerved. All these species grow wild near *Port Jackson*, where they were discovered by Mr. DAVID BURTON, and I have repeatedly sown seeds of the first, but not one has ever succeeded.

ADENANTHES. *Labill.*

Flores 1-rii; in Capitulis pedunculatis, axillaribus terminalibusque. Bractea 6-12, in Involucrum imbricatæ, persistentes; præter 2 ad basin pedunculi. Petala inferne ventricosula, inde varie libera; antico angustiore, nunc sterili. Nectaria 4, oblonga. Pericarpium 1-spermum. *Frutices: foliis integris decompositisque.*

Flowers 1-ry; in axillary and terminal peduncled Heads. Bractes 6-12, imbricated into an Involucrum, persistent; besides 2 at the base of the peduncule. Petals ventricose below, then separated; front one narrow, in some barren. Nectaries 4, oblong. Pericarpium 1-seeded. *Shrubs: leaves entire and subdivided.*

The name is derived from two Greek words αδην ανθος; on account of the glandular nectaries.

Flabellifolia, 1. A. foliis simplicibus, late obcuneatis, plerisque 3-5-dentato-præmorsis, sericeis: involucro 4-6-phyllo.

A. cuneata. *Labill. Nov. Holl. v.* 1. *p.* 29. *t.* 37. Fan-leaved Adenanthes.

From the *West* coast of *New Holland*, where *Labillardiere* discovered it. Leaves simple, broadly obcuneate, very few quite entire, the rest bitten off in 3 to 5 teeth, silky. Involucrum of 4 or 6 Bractes.

Obovata, 2. A. foliis simplicibus, obovatis, integerrimis, obsolete 3-nervibus, glabris: involucro 6-8-phyllo.

A. obovata. *Labill. Nov. Holl. v.* 1. *p.* 29. *t.* 87. Obovate Adenanthes.

Mr. A. MENZIES discovered this species, at *King George's Sound*, before LABILLARDIERE was upon the coast. Leaves simple, obovate, quite entire: nerves 3 with a few lateral ones, but none of them so strong as they appear in the figure above quoted. Involucrum of 6 or 8 Bractes. Petals besprinkled with resinous glands as in many *Serrurias*.

3. A. foliis 2-pinnatifidis, laciniis angustissimis, sericeis: involucro 10-12-phyllo. *Sericea*,

A. sericea. *Labill. Nov. Holl. v.* 1. *p.* 29. *f.* 38. Silky Adenanthes.

This species was also discovered by Mr. A. MENZIES, at *King George's Sound*, and is not unlike *Paranomus Argenteus*, its silky leaves being 2-pinnatifid with very narrow divisions. Involucrum of 10 or 12 Bractes. I believe none of these curious shrubs are in this country.

BRABEIUM. *L.*

Flores 2-ni; in spicis longis, axillaribus. Bractea 1 ad singula paria, caducæ; gemmaceis infra nullis. Petala regularia, recurva. Filamenta basi petalorum inserta, tota libera. Nectarium 4-dentatum. Pericarpium 1-spermum, drupaceum. *Frutex: foliis* Theophrastæ, *verticillatis, plerumque 6-nis, lanceolatis, dentatis.*

Flowers 2 together; in long axillary Spikes. A Bracte to each pair, caducous; no gemmaceous ones below. Petals regular, recurved. Filaments inserted at the base of the petals, not adhering. Nectarium 4-dentated. Pericarpium 1-seeded, drupaceous. *A shrub: leaves of* Theophrasta, *lanceolate, dentated.*

The name is derived from a Greek word βραβειον; its branches

being like a sceptre. Some Flowers have 5 Petals and 5 Stamina.

Stellare, 1. B. pericarpio tomentoso.

B. stellulifolium. *Willd. Sp. Pl. v.* 4. *p.* 972. B. stellatum. *Thunb. Trav. v.* 1. *p.* 129. *et* 215. Brabyla capensis. *Linn. Mant. p.* 137. B. stellatifolium. *Linn. Sp. Pl. ed.* 2. *p.* 177. B. foliis, &c. *Linn. Hort. Cliff. p.* 36. Amygdalus æthiopica, &c. *Breyn. Cent.* 1. *f.* 1. Arbor hexaphylla, &c. *Plukn. Alm. p.* 47. *t.* 265. *f.* 3. Starry Brabeium.

A handsome evergreen shrub, the kernels of which are so eagerly devoured by the *Hottentots* as well as *Pigs*, that it is now become scarce in the vicinity of *Cape Town*, and has never been introduced into our collections. Professor THUNBERG found it by rivulets not far from *Paarl*, and informs us, that the country people there, after taking off the rind, and steeping the fruit in water, to deprive it of its bitterness, roast it as a substitute for coffee.

PERSOONIA. *Sm.*

Flores 1-7; in Spicis ad basin ramorum novorum axillaribus. Bracteæ in 1-floris nullæ; in 1-7-floris ad basin singulorum solitariæ, gemmaceæ. Petala vix regularia inferioribus gibbosioribus: limbo longissimo. Nectaria 4, subconica. Pericarpium 2-spermum altero sæpe casso, drupaceum, deciduum. *Frutices: foliis simplicibus.*

Flowers 1-7; in Spikes from the lower axils. Bractes in 1-florous species none: in 1-7-flowered solitary at the base of each, gemmaceous. Petals hardly regular the lower ones more protuberant: limb very long. Nectaries 4, somewhat conical. Pericarpium 2-seeded, 1 often abortive, drupaceous, deciduous. *Shrubs: leaves simple.*

The genus is named after an excellent botanist, CHRISTIAN HENRY PERSOON, and in my humble opinion has no affinity whatever to *Loranthus*.

* *Spica* 1-*flora*.

1. P. foliis $\frac{1}{4}$ lineæ latis, 5-7 longis, lineari-lanceolatis, obtusis, hirsutis, lateribus valde revolutis. *Hirsuta*,

Hairy Persoonia.

A rusty coloured species, growing wild near *Port Jackson*, which flowered at *Clapham* in 1803. Leaves $\frac{1}{2}$ a line broad, 5 to 7 long, linear-lanceolate, obtuse, hairy, roundish from their sides being exceedingly rolled back.

2. P. foliis $\frac{1}{4}$ lineæ latis, 5-8 longis, lineari-lanceolatis, spinulose mucronatis, pubescentibus, concavis. *Juniperina*,

P. juniperina. *Labill. Nov. Stell. v.* 1. *p.* 33. *t.* 45. Juniper like Persoonia.

This is a native of *Van Diemens Island*, and was discovered by LABILLARDIERE. The fruit when mature is 2-locular, and the seeds have 4 cotyledons; but I suspect that in a young state before the stone is formed, it may be 1-locular like that of the others. Leaves $\frac{1}{4}$ a line broad, 5 to 8 long, linear-lanceolate, spinulous at the point, pubescent, concave.

3. P. foliis 1 lineam latis, 1-2 pollices longis, lineari-lanceolatis, obtuse mucronatis, pubescentibus, concavis. *Angustifolia.*

P. linearis. *Vent. Hort. Mulm. n.* 32. *cum Ic.* P. linearis. *Sims in Bot. Mag. n.* 760. *cum Ic.* P. linearis. *Kenn. in Bot. Rep. n.* 77. *cum Ic.* Narrow-leaved Persoonia.

Introduced in 1794, by the late J. ROBERTSON, Esq. of *Stockwell*, from *Port Jackson*. Cuttings will strike root, if judiciously

chosen, and it sometimes ripens seeds in this country. Leaves 1 line broad, 1 to 2 inches long, linear-lanceolate, obtusely mucronate, pubescent, concave.

Ligustrina, 4. P. foliis 3-5 lineas latis, $1\frac{1}{2}$-2 pollices longis, spatulato-lanceolatis, obtuse acuminatis, adultis lævibus: pedunculo petalis multo breviore.

P. lanceolata. *Kenn. in Bot. Rep. n.* 74. *cum Ic.* Privet-like Persoonia.

Introduced in 1791 from *Port Jackson*, by J. Wilson, Esq. of *Islington*, in whose collection, as well as at *Clapham*, it ripened fruit. Leaves 2 to 3 lines broad, $1\frac{1}{2}$ to 2 inches long, spatulated-lanceolate, obtusely acuminated, smooth when old. Peduncle much shorter than the Petals. The names hitherto given to this and the preceding species, are so contrary to truth, that I cannot adopt them.

Latifolia; 5. P. foliis 5-9 lineas latis, $2\frac{1}{2}$-4 pollices longis, spatulato-lanceolatis, obtuse acuminatis, adultis lævibus: pedunculo fere longitudine petalorum.

Linkia lævis. *Cav. Ic. v.* 4. *p.* 61. *t.* 389. P. latifolia. *Kenn. in Bot. Rep. n.* 280. *cum Ic.* Broad-leaved Persoonia.

This species was first raised here by Messrs. Lee and Kennedy, who received the seeds from *Port Jackson*, in 1795. Like all the others, it thrives best in sandy loam, and may be increased by cuttings. Leaves 5 to 9 lines broad, $2\frac{1}{2}$ to 4 inches long, spatulated-lanceolate, obtusely acuminated, smooth when old. Peduncle almost as long as the Petals.

** *Spica 3-7-flora.*

Ferruginea. 6. P. foliis 1-$1\frac{1}{2}$ pollicem latis, 2-3 longis, suboppositis, ovali-lanceolatis, obtuse acuminulatis, adultis lævibus.

P. ferruginea. *Smith Ex. Bot. v.* 2. *p.* 47. *t.* 83. Rusty Persoonia.

A native of *Port Jackson*, where it flowers in *November*, but has not yet to my knowledge been introduced here. Leaves 1 to 1½ inch broad, 2 to 3 long, oval-lanceolate, obtusely acuminated, smooth when old.

EUPLASSA. *Salisb.*

Flores 2-ni; in Spicis longis, ad basin ramorum novorum axillaribus. Bractea 1 ad singula paria, caducæ: gemmaceis infra nullis. Petala secunda, tota libera. Antheræ limbo subsessiles. Nectarium annulare basi 4-lobo. Pericarpium 2-spermum, 1-loculare. Stigma spatulatum, laterale. *Frutex: foliis abrupte pinnatis, foliolis 3-4-jugis.*

Flowers 2 together; in long axillary Spikes at the base of the new branches. A Bracte to each pair, caducous: no gemmaceous ones below. Petals 1-ranked, quite separate. Anthers almost sessile. Nectarium annular with a 4-lobed base. Pericarpium 2-seeded, 1-locular. Stigma lateral. *A shrub: leaves abruptly pinnated, leaflets 3-4-ed.*

The name is derived from two Greek words ευ, πλασσω; the leaves resembling those of many *Leguminosæ.*

E. pericarpii stipite barbato. *Meridionalis.*

Ropala pinnata. *Rudge Pl. Guian. p.* 25. *t.* 37. Roupala pinnata. *Poiret in Encycl. Bot. v.* 6. *p.* 317. Meridional Euplassa.

This genus differs from every other of the Order yet discovered in its Nectarium, which resembles that of many *Ericas*, and still more in habit. In such as we hitherto know with compound leaves, a leaflet or segment always terminates the petiole; but in this they are regularly placed in opposite pairs, the petiole ending in a small process, precisely as in many *Leguminosæ.* It grows wild in *Guiane*, where it was discovered by RICHARD, and I am indebted to EDWARD RUDGE, Esq. for the specimen here described.

ROPALA. *Aubl.*

Flores 2-ni; in Spicis longis axillaribus. Bractea 1 ad singula paria, caducæ; gemmaceis infra nullis. Petala regularia, libera. Filamenta ad apicem unguium inserta. Nectarium profunde 4-fidum. Pericarpium leguminiforme, 1-loculare, 2-valve, lignosum. Stigma clavatum. Semina 2, undique alata. *Frutices: foliis simplicibus impari-pinnatisque, nunc dentatis.*

Flowers 2 together; in long axillary Spikes. A Bracte to each pair, caducous; no gemmaceous ones below. Petals regular, separated. Filaments inserted at the top of the claws. Nectarium deeply 4-fid. Pericarpium like a Pod, 1-locular, 2-valved, woody. Stigma club-shaped. Seeds 2, winged all round. *Shrubs: leaves simple or pinnated, in some dentated.*

The name is derived from ῥοπαλον; on account of its club-shaped stigma:

Laurifolia, 1. R. foliis simplicibus; laminâ breviter petiolatâ, late lanceolatâ, integerrimâ: antheris filamento 2-plo longioribus.

R. nitida. *Rudge Pl. Guian. p.* 26. *t.* 39. Laurus-leaved Ropala.

This species was discovered in *Guiane*, by Mr. JOSEPH MARTIN, who is just now cultivating *Clove*, *Cinnamon*, and *Nutmeg* trees there, with the greatest success. Leaves simple; lamina shortly petiolated, broadly lanceolate, quite entire. Anthers twice as long as the filament. The glaze upon the leaves in the specimen before me, appears artificial rather than natural; they are however undoubtedly glossy on their upper surface.

Pyrifolia. 2. R. foliis simplicibus; laminâ longe petiolatâ, ovali-lanceolatâ, integerrimâ: antheris filamento 6-plo longioribus.

Pear-leaved Ropala.

I am indebted to EDWARD RUDGE, Esq. for a specimen of this, as well as the preceding species, which was also discovered in *Guiane*, by Mr. JOSEPH MARTIN. Leaves simple; lamina with a long petiole, oval-lanceolate, quite entire. Anthers 6 times longer than the filament.

3. R. foliis simplicibus; laminâ longe petiolatâ, ovali-lanceolatâ, dentatâ: antheris filamento 5-plo longioribus. *Dentigera;*

Toothed Ropala.

From the Island of *Trinidad*, where its seeds were collected by Mr. JAMES HOPE, which vegetated freely at *Clapham*. Leaves simple; lamina with a long petiole, oval-lanceolate, dentated. Anthers 5 times longer than the filament. This species may be easily propagated by cuttings: it forms a very spreading bush, and the flowers have so little beauty, that few people will give it the room and great heat it requires, to make it thrive.

4. R. foliis simplicibus impari-pinnatisque: laminâ ovali-lanceolatâ, integerrimâ: antheris filamento 3-plo longioribus. *Montana.*

Rupala montana. *Vahl. Symb.* 3. *p.* 20. Roupala montana. *Aubl. Pl. Guian. v.* 1. *p.* 83. *t.* 32. Mountain Ropala.

This species was discovered by AUBLET on the summit of the *Serpent* Mountain in *Guiane*, who informs us that the bark and wood if wounded emit a fœtid smell, like that of the snakes of the country. Leaves simple and pinnated with an odd leaflet: lamina oval-lanceolate, quite entire. Anthers 3 times longer than the filaments.

PANOPSIS. *Salisb.*

Flores 2-ni, in Spica longa verticillatim ramosa terminali. Bractea 1 ad singula paria, caduca; gemmaceae infra nullae. Petala regularia, libera. Filamenta ad medium unguium inserta. Nectarium vaginaeforme, eroso-dentatum. Pericarpium 2-spermum, 1-loculare. *Frutex: foliis [illegible] verticillatis, 4-nis, integerrimis.*

Flowers 2 together; in a long terminal Spike with whorled branches. A Bracte to each pair, caducous; no gemmaceous ones below. Petals regular, separated. Filaments inserted at the middle of the claws. Nectarium sheathing, gnawed-toothed. Pericarpium 2-seeded, 1-locular. *A shrub: leaves whorled, 4 together, quite entire.*

The name is derived from two Greek words *πᾶν ὤψ*; its petals being recurved every way.

Hameliaefolia. 1. P. foliis brevissime petiolatis, obovato-lanceolatis.

Ropala Hameliaefolia. *Rudge Pl. Guian. p.* 22. *t.* 31. Ropala sessiliflora. *Richard in Act. Soc. Nat. Par.* 1. *p.* 106. Hamelia-leaved Panopsis.

From a leaf gathered at *Kew* in *November* 1803, which I have compared with the specimen in Mr. RUDGE's herbarium, this was among the living *Guiana* plants taken by two of our Privateers, and afterwards purchased by his Majesty. I have not seen ripe fruit, but in young ones there are 2 seeds evidently winged, and the insertion of the filaments, structure of nectarium, as well as habit, leave no doubt that it constitutes a legitimate genus. Leaves 3 or 4 inches long, shortly petiolated, obovate-lanceolate.

Xylomelum. *Sm.*

Flores 2-ni; in Spicis longissimis ad basin ramorum novorum axillaribus. Bractea 1 ad singula paria, deciduæ. Petala regularia, libera. Nectaria 4, condyliformia. Pericarpium conchæforme, lignosum, 1-loculare, 2-valve, persistens. Semina 2, apice alata. *Frutex: foliis plerisque oppositis, integerrimis spinuloseque dentatis.*

Flowers 2 together; in very long axillary Spikes at the base of new branches: A Bracte to each pair, deciduous. Petals regular, separated. Nectaries 4, knuckle-shaped. Pericarpium shell-like, woody, 1-locular, 2-valved, persistent. Seeds 2, winged at the top. *A shrub: leaves generally opposite, quite entire and spinulously dentated.*

The name is derived from two Greek words, ξυλον, μηλον: the woody fruit resembling a Pear inverted.

1. X. pericarpio tomentoso. *Pyriforme.*

Hakea piriformis. *Cav. Ic. v. 6. p. 25. t. 536.* Banksia pyriformis. *Gærtn. Tract. v. 1. p. 220. t. 47. f. 1.* Banksia pyriformis. *White Voy. p. 224. cum Ic.* Wooden Pear.

This shrub grows wild near *Port Jackson*, to the height of 10 feet or more; but has never been plentiful, or flowered that I could hear of, in this country. It apparently thrives in sandy loam, yet makes little progress. The Fruit is cottony.

Hakea. *Schrad.*

Flores 2-ni: in Spicis axillaribus, fasciculum simulantibus. Bractea 1 ad singula paria, gem-

Flowers 2 together: in axillary Spikes resembling a bundle. A Bracte at the base of each

maceæ, caducæ. Petala secunda barbâ nullâ, libera, superne revoluta. Nectarium lunatum. Pericarpium et Semina ut in *Xylomelo. Frutices: foliis simplicibus decompositisve, teretibus planisve, nunc in eodem ramo.*

pair, gemmaceous, caducous. Petals distinct, rolled back to one side, without any beard. Nectarium crescent-shaped. Pericarpium and Seeds as in *Xylomelum. Shrubs: leaves simple or compound, round or flat.*

The genus is named by Professor SCHRADER, after Baron CHRISTIAN LEWIS HAKE, a great encourager of Botany.

* *Folia simplicia, plus minus teretia, apice spinulosa.*

Glauca, 1. H. foliis $1\frac{1}{2}$-4 pollices longis lævibus cum rore, ecanaliculatis: petalis sericeis: pericarpio muricato, longe rostrato.

Conchium longifolium. *Smith in Linn. Trans. v. 9. p.* 121. Conchium pugioniforme. *Smith in Linn. Trans. v. 9. p.* 121. H. pugioniformis. *Cav. Ic. v. 6. p. 24. t. 533.* H. glabra. *Schrad. in Sert. Hann.* 111. *p. 27. t. 7.* Banksia teretifolia. *Salisb. Prodr. p. 51.* Glaucous Hakea.

The Leaves of this species vary exceedingly in length, being $1\frac{1}{2}$ to 4 inches long on the same branch: they are glaucous, smooth with a fine dew, quite round without any channel underneath. Petals silky. Pericarpium muricated, its beak long. It grows wild near *Port Jackson*, and may be increased by cuttings, as well as seeds, which ripen freely here.

Parilis, 2. H. foliis 1-2 pollices longis, lævibus cum rore, ecanaliculatis: petalis lanatis.

Matched Hakea.

This species was communicated by Sir THOMAS GAGE, Bart. and grows wild near *Port Dalrymple*, where it was discovered by Colonel PATERSON. I have not seen the fruit, but can hardly

regard it as a variety of the preceding. Leaves 1 to 2 inches long, smooth with a fine dew, not channelled underneath. Petals woolly.

3. H. foliis 1-2 pollices longis, adultis glabris, subtus parum canaliculatis: petalis lævibus: pericarpio subrotundo, rugoso. *Acicularis*

Conchium aciculare. *Smith in Linn. Tr. v.* 9. 121. Conchium aciculare. *Vent. Jard. Malm. p.* 111. *cum Ic.* H. sericea. *Schrad. in Sert. Hann.* 111. *p.* 27. Banksia tenuifolia. *Salisb. Prod. p.* 50. Needle-leaved Hakea.

A very common shrub formerly in our collections, but so prickly that few people will keep it long. Leaves 1 to 2 inches long, glossy when old, sericeous when young, slightly channelled underneath. Petals smooth. Pericarpium nearly round, wrinkled. It grows wild near *Port Jackson.*

4. H. foliis 2-3 pollices longis, adultis glabris, subtus parum canaliculatis: petalis rare villosis: pericarpio subtrotundo, rugoso, brevissime mucronato. *Pinifolia:*

Conchium gibbosum. *Smith in Linn. Tr. v.* 9. *p.* 119. H. gibbosa. *Cav. Ic. v.* 6. *p.* 24. *t.* 534. H. pubescens. *Schrad. in Sert. Hann.* 111. *p.* 27. Banksia gibbosa. *White Voy. p.* 224. *t.* 22. *f.* 2. Banksia pinifolia. *Salisb. Prodr. p.* 51. Pine-leaved Hakea.

I fear that this species, which grows wild near *Port Jackson*, will be banished from our collections for the same reason as the preceding: they both ripen seeds with us, and may be increased by cuttings. Leaves 2 to 3 inches long, glossy when old, slightly channelled underneath. Petals thinly villous. Pericarpium nearly round; a little protuberant on one side, but so like its congeners in that respect, that a worse name than *gibbosum* could hardly have been selected for it; wrinkled, very shortly mucronated.

** *Folia simplicia, plana.*

Saligna, 5. H. foliis 4-5 lineas latis, 3-4 pollices longis, lanceolatis, obtuse acuminulatis, adultis, parum nervosis: pedunculis lævibus: pericarpio valde tuberculato apice recurvo.

Conchium salignum. *Smith in Linn. Trans. v.* 9. *p.* 124. Embothrium salignum. *Kenn. in Bot. Rep. n.* 215. *cum Ic.* bonâ. Willow-like Hakea.

A fine plant of this handsome species, formerly at *Clapham*, is now in the collection of JOHN WALKER, Esq. at *Southgate*, with fruit upon it. It grows wild near *Port Jackson*, and may be increased by cuttings. Leaves 4 to 5 lines broad, 3 to 4 inches long, lanceolate, obtusely acuminulated, smooth when old, somewhat nerved. Peduncle smooth. Pericarpium exceedingly tubercled with a recurved point.

Nervosa, 6. H. foliis 3-6 lineas latis, 2-4 pollices longis, spatulato-lanceolatis, adultis glabris: acuminulatis, valde nervosis: pedunculis rare sericeis: pericarpio rugosissimo.

Conchium dactyloides. *Smith. in Linn. Tr. v.* 9. *p.* 123. Banksia dactyloides. *Cav. Ic. v.* 6. *p.* 25. *t.* 535. Banksia dactyloides. *Gærtn. Tract. v.* 1. *p.* 221. *t.* 47. *f.* 2. Banksia oleæfolia. *Salisb. Prodr. p.* 54. Nervous-leaved Hakea.

This also grows wild near *Port Jackson*, and was among the first plants introduced from thence into our collections, where it flowers freely, but seldom ripens fruit. Leaves 3 to 6 lines broad, 2 to 4 inches long, spatulated-lanceolate, glossy when old, acuminulated, exceedingly nerved. Peduncles thinly silky. Pericarpium very wrinkled.

Ligustrina. 7. H. foliis 4-6 lineas latis, 2-3 pollices longis, anguste lanceo-

latis, paucis rare serratis, reliquis integerrimis, apice spinulosis, adultis vix glabris.

G Privet-like Hakea.

A shrub introduced about 10 years ago by Messrs. LEE and KENNEDY from *Port Jackson*, and exceedingly like *Conchium Oleæfolium* of Dr. SMITH: but I have never seen this in flower, and as the other from KING GEORGE'S SOUND is more pubescent, I dare not yet join them. Leaves 4 to 7 lines broad, 2 to 3 inches long, narrowly lanceolate, a few thinly serrated, the rest quite entire, spinulous at the point, scarcely smooth when old.

LAMBERTIA. *Sm.*

Flores in Capitulo terminali. Bractea numerosæ, in Involucrum imbricatæ, ultimæ longitudine florum vel plus nullis interstinctis, deciduæ. Petala vix regularia, superne revoluta. Nectarium vaginæforme, erosum. Pericarpium ut in *Hakea*. Semina 2, undique alata. *Frutices: foliis sæpius 3-nis, simplicibus, apice spinulosis.*

Flowers in a terminal Head. Bractes imbricated into an Involucrum, the last as long or longer than the flowers, none between them, deciduous. Petals hardly regular, revolute towards the top. Nectarium sheathing, gnawed. Pericarpium as in *Hakea*. Seeds 2, winged all round. *Shrubs: leaves generally in three, simple, spinulous.*

The genus is named in honour of AYLMER BOURKE LAMBERT, Esq.

1. L. foliis $1\frac{1}{2}$-2 lineas latis, 2-3 pollices longis, anguste obcuneatis, subtus tomentosis: pericarpio muricato, dorso apiceque rostratis. *Formosa.*

[illegible] 547. L. formosa. *Smith in* [illegible] formosa. *Kern. in Bot. Rep. n.* [illegible] *Wendl. in Sert. Hann.* IV. *p.* 5. *t.* Ɗ [illegible]

[illegible] be much cultivated here, [illegible] plants from *Port Jackson* [illegible] without constant [illegible] may to the Flowers, the [illegible] It may be propagated by [illegible] inches long, nar- [illegible] Pericarpium muricated [illegible]

JOSEPHIA. R. Br.

[illegible] terminali. Bracteæ numerosæ, in Involu-[illegible] persisten-[illegible] [illegible]

Flowers in a terminal Head. Bractes numerous, imbricated into an Involucrum shorter than the flowers, none between them persistent. Other parts as in *Banksia?* *Shrubs: leaves simple, in most species dentated.*

A genus most happily selected by Mr. ROBERT BROWN, to bear the Christian name of his great Patron.

Sessilis [illegible] pollicem longis, obcuneatis, rare serratis, sub[illegible] bracteis floribus $\frac{1}{2}$ brevioribus: stigmate clavato.

Sessile Josephia.

This species, discovered by Mr. A. MENZIES on the *West*

coast of *New Holland*, is not unlike some varieties of *Ilex Aquifolium*, and now in his Majesty's collection at *Kew*. Leaves 1-1½ inch long, obcuneate, distantly serrated, almost smooth underneath. Bractes ⅓ shorter than the flowers. Stigma club-shaped.

2. J. foliis 5-9 pollices longis, sublinearibus, dense alteque serratis, subtus valde tomentosis: bracteis floribus ½ brevioribus: stigmate conico. *Rachidifolia,*

Banksia nivea. *Labill. Voy.* 1. *p.* 413. *t.* 24. Vertebral Josephia.

A low shrub, discovered by LABILLARDIERE on the *West* coast of *New Holland*, in calcareous soil mixed with sand. Leaves 5 to 9 inches long, nearly linear, deeply serrated, very cottony underneath. Bractes ½ shorter than the flowers. Stigma shortly conical. They delight in a dry airy part of the Greenhouse.

BANKSIA. *L.*

Flores 2ni; in Spica densissimâ terminali. Bracteæ 3 ad singula paria, præter gemmaceas parvas, persistentes. Petala irregularia, varie coalita. Pericarpium conchæforme, 2-loculare septo dissiliente, 2-valve, lignosum. Semina 2, apice alata. *Arbores Fruticesve: foliis varie inciso-dentatis, rarius integerrimis.*

Flowers 2 together; in a terminal Spike. Bractes 3 to each pair, besides gemmaceous ones, persistent. Petals irregular, cohering variously. Pericarpium like a shell, 2-locular with an elastic septum, 2-valved. Seeds 2, winged at the top. *Trees or Shrubs: leaves variously dentated, seldom quite entire.*

This genus receives honour itself, rather than confers any, by

perpetuating the *Family* name of the Rt. Hon. Sir JOSEPH BANKS, Bart. K. B.

Serræfolia, 1. B. caule villoso: foliis 5-9 pollices longis, linear-lanceolatis, profunde spinuloseque serratis, subtus rare tomentosis, nervo utrinque prominente: stigmate parum angulato.

B. serrata. *Andr. in Bot. Rep. n.* 82. *cum Ic.* B. serratifolia. *Salisb. Prodr. p.* 51. Saw-leaved Banksia.

This species grows wild near *Port Jackson,* and is common in our collections, but very difficult to increase by cuttings, nor does it flower with us so plentifully as some others. Stem villous. Leaves 6 to 9 inches long, linear-lanceolate, deeply and spinulously serrated, hardly cottony underneath. Nerve prominent both above and below. Stigma not much angulated.

Mitis, 2. B. caule tomentoso: foliis 5-7 pollices longis, spatulato-lanceolatis, obtuse dentatis, subtus rare tomentosis, nervo utrinque prominente: stigmate valde angulato.

B. serrata. *Cav. Ic. v.* 6. *p.* 27. *t.* 540. B. serrata. *White Voy. p.* 223. *cum Ic.* 3. B. conchifera. *Gærtn. Fruct. v.* 1. *p.* 221. *t.* 48. B. serrata. *Linn. Suppl. p.* 126. Blunt-toothed Banksia.

Confounded with the preceding by most authors, but the Secretary of the Horticultural Society in his *Prodromus* observes that they differ, nor has this to my knowledge, been yet introduced. Stem cottony. Leaves 5 to 7 inches long, spatulated-lanceolate, obtusely dentated, hardly cottony underneath. Nerve prominent both above and below. Stigma exceedingly angulated.

Uncigera, 3. B. caule tomentoso: foliis 5-8 pollices longis, spatulato-lanceolatis, serraturis valde uncinatis, subtus tomentosis; nervo supra depresso: stigmate anguste clavato.

B. oblongifolia. *Cav. Ic. v.* 6. *p.* 28. *t.* 542. Hook-leaved Banksia.

I have not seen this in any collection, except the Duke of NORTHUMBERLAND's at *Sion House*. Stem cottony. Leaves 5 to 8 inches long, spatulated-lanceolate, their serratures exceedingly hooked, cottony underneath. Nerve depressed on the upper side. Stigma narrowly club-shaped.

4. B. caule tomentoso: foliis 5-7 pollices longis, spatulato-lanceolatis, spinulose serratis, subtus valde tomentosis; nervo supra depresso: stigmate late clavato. *Aspleniifolia,*

B. præmorsa. *Kenn. in Bot. Rep. n.* 258. *cum Ic.* B. Aspleniifolia. *Salisb. Prodr. p.* 51. Asplenium-leaved Banksia.

This species is seldom healthy here, and difficult to increase by cuttings. Probably, it requires room to spread its roots, for encouraged at *Clapham* in this way, it throve exceedingly and perfected seeds. Stem cottony. Leaves 5 to 7 inches long, spatulated-lanceolate, spinulously serrated, very cottony underneath. Nerve depressed on the upper side. Stigma broadly club-shaped. As the leaves are not more bitten off at the end than in many others, I have retained its original name.

5. B. caule tomentoso: foliis 5-9 pollices longis, obovatis, spinulose serratis, subtus tomentosis nervis valde prominentibus: stigmate angustissimo. *Dilleniæfolia;*

B. robur. *Cav. Ic. v. 6. p.* 29. *t.* 543. Dillenia-leaved Banksia.

A tree 30 feet high or more, growing wild at some distance from *Port Jackson*, of which seeds have lately arrived. Leaves 3 to 9 inches long, obovate, spinulously serrated, cottony underneath with very prominent nerves. Stigma very narrow.

6. B. caule decumbente: foliis 9-15 pollices longis, sinuato-pinnatifidis, teneris valde tomentosis: stigmate angustissimo. *Polypodiifolia;*

B. repens. *Labill. Voy.* 1. *p.* 412. *t.* 23. Polypody-leaved Banksia.

A decumbent species, discovered on the *West* coast of *New Holland* by LABILLARDIERE. Leaves 9 to 15 inches long, sinuated-pinnatifid, while young cottony. Stigma very narrow.

Oleæfolia; 7. B. caule rare tomentoso: foliis 2-3½ pollices longis, sæpe 3-nis, lanceolatis obcuneatisque, plerisque integerrimis, subtus tomentosis: stigmate fere cylindraceo.

B. oleæfolia. *Cav. Ic. v. 6. p. 30. t. 545.* B. integrifolia. *Cav. Ic. v. 6. p. 30. t. 546.* B. spicata. *Gærtn. Fruct. v. 1. p. 221. t. 48.* B. integrifolia. *Linn. Suppl. p. 127.* Olive-leaved Banksia.

This grows wild near *Port Jackson,* and has leaves of different shapes and sometimes serrated, but in general quite entire, and resembling those of the *Olive* so much, as to deceive even botanists: they are only about 2 or 3 inches long, cottony underneath. Stigma almost cylindrical.

Ericæfolia 8. B. caule tomentoso: foliis vix 1 lineam latis, 5-8 longis, linearibus, margine revolutis, integerrimis apice sæpius 2-furco: stigmate globoso.

B. ericæfolia. *Cav. Ic. v. 6. p. 57. t. 538.* B. ericæfolia. *Kenn. in Bot. Rep. n. 156. cum Ic. optimâ.* B. ericæfolia. *Linn. Suppl. p. 127.* Erica-leaved Banksia.

One of the first species introduced here from *Port Jackson,* often ripening seeds with us, and growing freely by cuttings. If these are taken from such branches, as have arrived at puberty, they will flower when only a foot and a half high. Stem cottony. Leaves scarcely 1 line broad, 5 to 8 long, linear, rolled back at the margin, quite entire, almost constantly 2-pronged at the top. Stigma globular.

Spinulosa, 9. B. caule pubescente: foliis 1 lineam latis, 1½-2 pollices longis, linearibus, margine revolutis, supra medium spinulose serratis apice 3-furco: stigmate clavato.

B. spinulosa. *Andr. in Bot. Rep. n.* 458. *cum Ic.* optimâ. B. spinulosa. *Cav. Ic. v.* 6. *p.* 26. *t.* 537. B. spinulosa. *Smith. New Holl. p.* 13. *t.* 4. Spinulous Banksia.

This species is not less common than the former in our collections, and as easily propagated. They all succeed best with us in sandy loam well drained, but will not bear confining in small pots. Stem pubescent. Leaves 1 line broad, 1½ to 2 inches long, linear, rolled back at the margin, beyond the middle spinulously serrated, 3-pronged at the top. Stigma club-shaped.

Stylurus. *Salisb.*

Flores 2-ni; in Spicâ fasciculum simulante, terminali. Bractea 1 ad singula paria, caducæ; gemmaceis infranullis. Petala secunda, a pericarpio intus barbata, limbo cohærentia. Nectarium 1, lunatum. Pericarpium leguminiforme, 1-loculare, 2-valve, persistens. Stigma peltatum dorso caudato. Semina 2, apice alata lateribus involutis. *Frutices: foliis simplicibus, latis.*

Flowers 2 together; in a terminal Spike like a bundle. A Bracte to each pair, caducous; no gemmaceous ones. Petals 1-ranked, bearded within from the pericarpium, cohering at the limb. Nectarium crescent-shaped. Pericarpium like a Pod, 1-locular, 2-valved, persistent. Stigma peltated, its back tailed. Seeds 2, winged at the top, sides rolled in. *Shrubs: leaves simple, broad.*

The name is derived from στυλος ερος; the style terminating in a tail behind the stigma.

1. S. foliis 3-5 lineas longis, ovali-lanceolatis, margine valde revolutis: floribus foliis multo altioribus. *Buxifolia,*

Embothrium buxifolium. *Kenn. in Bot. Rep. n.* 218. *cum Ic.* Embothrium genianthum. *Cav. Ic. v.* 4. *p.* 60. *t.* 387. Embothrium buxifolium. *Smith New. Holl. p.* 29. *t.* 10. Box-leaved Stylurus.

A very ornamental shrub, growing wild near *Port Jackson* to the height of 6 or 7 feet. If a little care is taken to impregnate the stigma, and expose the plant to the full sun, it will ripen plenty of fruit here, and it may be increased from cuttings. The flowers exhale a slight aromatic odour. Leaves 3 to 5 lines long, oval-lanceolate, exceedingly rolled back at the margin. Flowers much higher than the leaves.

Collina, 2. S. foliis 6-8 lineas longis, elliptico-lanceolatis, margine parum revolutis: floribus foliis parum altioribus.

Hill Stylurus.

This species, which grows wild on the hills near *Port Jackson*, flowered at *Clapham* in 1805, but though the foliage is bolder and handsomer than that of the preceding, the flowers are less and not so conspicuous. It grows readily from cuttings. Leaves 6 to 8 lines long, elliptic-lanceolate, not much rolled back at the margin. Flowers not projecting much beyond the leaves.

LYSANTHE. *Salisb.*

Flores 2-ni; in Spicâ brevi, nunc densissimâ, secundâ, terminali. Bractea 1 ad singula paria, caducæ; gemmaceis infra nullis. Petala secunda ad pericarpium intus barbata, inde libera. Nectarium 1, lunatum. Pericarpium folliforme, 1-loculare, 2-valve, persistens. Stigma peltatum. Semina ut in *Styluro. Frutices: foliis simplicibus angustissimis lative, nunc 3-nervibus.*

Flowers 2 together; in a short 1-ranked, terminal spike. A Bracte to each pair, caducous; no gemmaceous ones. Petals 1-ranked, bearded about the pericarpium, from thence separate. Nectarium crescent-shaped. Pericarpium like a bag, 1-locular, 2-valved, persistent. Stigma peltated. Seeds as in *Stylurus. Shrubs: leaves simple, very narrow or broad, in some 3-nerved.*

The name is derived from two Greek words, λυω ανθος; the petals being deeply separated.

* *Folia* 1-*nervia. Spica* 3-7-*flora. Pericarpium sessile.*

1. L. foliis 4-6 lineas latis, 6-9 longis, suborbiculatis, subtus tomentosis: stylo petalis parum longiore, dorso tomentoso. *Podalyriæfolia.*

Podalyria-leaved Lysanthe.

A rare species yet in this country, for seeds of which I am indebted to Sir THOMAS GAGE, Bart. It grows wild at *Port Jackson*. Leaves 4 to 6 lines broad, 6 to 9 long, nearly orbicular, cottony underneath. Style not much longer than the petals, its back cottony.

2. L. foliis 1½-2 lineas latis, 7-11 longis, lanceolatis, subtus hirsutis; stylo longissimo, valde compresso, dorso hirsuto. *Stylosa.*

Long-styled Lysanthe.

This species also grows wild near *Port Jackson*, from whence I have lately received seeds, and it is now flowering at *Kew*. Leaves 1½ to 2 lines broad, 7 to 11 long, lanceolate, hairy underneath. Style very long and comprest, hairy behind.

3. L. foliis 2-2¼ lineas latis, 9-12 longis, lanceolatis, utrinque pubescentibus: stylo longissimo, tereti, undique pubescente. *Cana.*

Gray Lysanthe.

Introduced at *Clapham* before I went there, and supposed to be a *Sophora*, till it flowered in 1804. It grows wild near *Port Jackson*. Leaves 2 to 2¼ lines broad, 9 to 12 long, lanceolate, both surfaces, pubescent. Style very long, round, pubescent on every side.

** *Folia 3-nervia, Spica 10-50-flora. Pericarpium stipitatum.*

Speciosa. 4. L. foliis 3-4½ lineas latis, 9-12 longis, ovali-lanceolatis: barbâ petalorum ultra pericarpium densissimâ.

Showy Lysanthe.

One of the most ornamental species with crimson flowers, discovered near *Port Jackson* by Colonel PATERSON, but the specimen here described was communicated by EDWARD RUDGE, Esq. Leaves 3 to 4½ lines broad, 9 to 12 long, oval-lanceolate. Beard of the petals very thick beyond the pericarpium.

Sericea. 5. L. foliis 2½-4 lineas latis, 7-10 longis, parum obovato-lanceolatis; barbâ petalorum ad pericarpium desinente.

Embothrium sericeum, *Smith New Holl. p.* 25. *t.* 9. Silky Lysanthe.

The leaves of this shrub, which I have never yet seen in our collections, are not really 3-nate, as described by Dr. J. E. SMITH, though they often appear so; two of them being inserted within the other upon a rudiment of a distinct branch. It grows wild near *Port Jackson.* Leaves 2½ to 4 lines broad, 7 to 10 long, somewhat obovate-lanceolate. Beard of the petals ending at the pericarpium.

Riparia; 6. L. foliis ½-1 lineam latis, 2½-4 pollices longis, lineari-lanceolatis, subtus sericeis: barbâ petalorum ultra pericarpium rarâ.

River-side Lysanthe.

Confounded with the following, but very distinct, and more liable to damp off in winter, so that it is now scarce, though many plants were raised by Messrs. LEE and KENNEDY, in 1791. It grows wild near *Port Jackson,* and may be propagated by cuttings as well as seeds, which ripened abundantly at *Clapham* in 1807. Leaves ½ to one line broad, 2½ to 4 inches long: from being so narrow, their lateral nerves running along the reduplica-

ture may be easily overlooked, but are very evident in living specimens. Beard of the petals exceedingly thin beyond the pericarpium.

**** Folia 1-nervia. Spica 10-50-flora. Pericarpium stipitatum.*

7. L. foliis 1½-2 lineas latis, 1½-3 pollices longis, lineari-lanceolatis: barbâ petalorum ultra pericarpium rarâ. *Linariæfolia,*

Embothrium linearefolium. *Cav. Ic. v. 4. p. 59. t. 386. f. 1.* Embothrium lineare. *Kenn. in Bot. Rep. n. 272. cum Ic.* Linaria-leaved Lysanthe.

Variat α: Petala pallidissime purpurea.

β: Petala purpurea.

The leaves of this species are never linear, but not unlike those of many *Linarias*, a genus very judiciously restored by Des Fontaines: they are 1½ to 2 lines broad, 1½ to 3 inches long, linear-lanceolate. Beard of the petals thin beyond the pericarpium. Both varieties grow wild near *Port Jackson*, and ripen seeds here.

8. L. foliis 2-3 lineas latis, 9-12 longis, anguste lanceolatis: barbâ petalorum ad pericarpium desinente: tori margine valde prominente. *Cytisifolia.*

Embothrium sericeum. *Sims in Bot. Mag. n. 862. Cum Ic.* foliorum margine nimis revoluto. Embothrium sericeum. *Kenn. in Bot. Rep. n. 100. Cum Ic.* Embothrium cytisoides. *Cav. Ic. v. 4. p. 60. t. 386. f. 2.* Cytisus-leaved Lysanthe.

I should not have ventured to quote the figure in the *Botanical Magazine*, if I had not seen the very plant at *Hackney*, from which the drawing was made: for the leaves are never so much rolled back as there represented. Mr. Andrews' figure is quite correct in this respect, though not in others. Leaves 2 to 3 lines broad, 9 to 12 long, narrowly lanceolate. Beard of the petals ending at the pericarpium. Margin of the receptacle very promi-

nent. All the species of this genus are very desirable plants for our collections, being almost constantly in flower. In winter however, they require a very favourable exposure, and to stand singly. Sandy loam mixed with very decayed leaves and plenty of broken potsherds, is the properest compost for them.

GREVILLIA. *R. Br.*

Flores 2-ni; in Spicâ longâ, nunc densissimâ terminali. Bractea 1 ad singula paria, caducæ; gemmaceis infra nullis. Petala secunda absque barbâ intus, superne libera. Nectarium 1, lunatum, nunc erosum. Pericarpium leguminiforme, 1-loculare, 2-valve, persistens. Stigma varium. Semina 2, undique alata. *Frutices: foliis simplicibus decompositisque longis.*

Flowers 2 together; in a long, sometimes very close terminal spike. A Bracte to each pair, caducous; no gemmaceous ones below. Petals 1-ranked, not bearded within, separate above the pericarpium. Nectarium crescent-shaped. Pericarpium like a pod, 1-locular, 2-valved, persistent. Seeds 2, winged all round. *Shrubs: leaves simple or compound, long.*

A noble genus, named in honour of the late Rt. Hon. CHARLES GREVILLE.

Aspleniifolia; 1. G. folii 9-15 pollices longis, lineari-lanceolatis, integerrimis rareque dentatis: spicis simplicibus: stigmate peltato.

Asplenium-leaved Grevillia.

Many plants of this species were raised 3 years ago by Mr. COLVILLE, who received the seeds from *Port Jackson*, but they were all lost in winter by too hardy treatment. Leaves 9 to 15 inches long, linear-lanceolate, quite entire or thinly dentated. Spikes simple. Stigma peltated.

2. G. foliis 1-1½ pedem longis, pinnatifidis; laciniis linearibus, longissimis: stigmate latissime conico. *Pteridifolia;*

Pteris-leaved Grevillia.

This species was discovered by Sir JOSEPH BANKS, near *Endeavour River*, and has never been in our gardens. Leaves 1 to 1½ foot long, pinnatifid with linear segments. Spikes very long. Stigma very broadly conical.

3. G. foliis 5-8 pollices longis, sublinearibus, nervis parallelis: spicis densissimis, ramosis: stigmate subpeltato. *Parallela;*

Parallel-nerved Grevillia.

From *Endeavour River*, where it was discovered by Sir JOSEPH BANKS. Leaves 5 to 8 inches long, almost linear with parallel nerves. Spikes very close, branching. Stigma somewhat peltated.

4. G. foliis 3-5 pollices longis, lanceolatis nervis divergentibus: stigmate conico. *Glauca.*

Glaucous Grevillia.

The leaves of this species are very different from any of the former, resembling more those of the entire-leaved *Banksias:* they are 3 to 5 inches long, lanceolate with diverging nerves. Stigma conical. It was likewise discovered near *Endeavour River*, by Sir JOSEPH BANKS.

TRICONDYLUS. *Salisb.*

Flores 2-ni; Spicâ terminali axillaribusve. Bractea 1 ad singula paria, caducæ; gemmaceis

Flowers 2 together; in terminal or axillary spikes. A Bracte to each pair, caducous; no

infra nullis. Petala secunda, libera. Nectaria 3, condyliformia. Pericarpium 1-loculare, folliforme, 2-valve, persistens. Stigma peltatum. Semina numerosa, apice alata. *Frutices: foliis sæpius decompositis.*

gemmaceous ones below. Petals 1-ranked, separate. Nectaries 3, knuckle-shaped. Pericarpium 1-locular, like a bag, 2-valved, persistent. Stigma peltated. Seeds numerous, winged at top. *Shrubs: leaves generally subdivided.*

The name is derived from two Greek words τρεις χονδυλος; the nectaries resembling 3 knuckles.

Myricæfolius; 1. T. foliis omnibus integris, lineari-lanceolatis, denticulatis: spicis axillaribus: pericarpio tumido.

Gale-leaved Tricondylus.

This species grows wild near *Port Jackson*, from whence I have repeatedly received seeds, but they have never succeeded: they are covered with a powder which has a metallic appearance. Leaves all entire, linear-lanceolate, denticulated. Spikes axillary. Pericarpium tumid.

Tinctorius, 2. T. foliis integris, pinnatifidis, 2-pinnatifidisque: spicâ terminali axillaribusque: pericarpio compresso.

Embothrium tinctorium. *Labill. Nov. Holl. v.* 1. *p.* 32. *t.* 42, 43. Dyers' Tricondylus.

From *Van Diemens* Island, where our countryman Mr. David Nelson long ago discovered it. The seeds are covered with a powder as in the preceding species, which dyes a rose colour. Leaves entire, pinnatifid, and 2-pinnatifid. Spikes terminal and axillary, from Labillardiere's figure sometimes only axillary. Pericarpium comprest.

Silaifolius; 3. T. foliis plerisque 3-pinnatifidis: spicâ terminali rariusque axillaribus: pericarpio compresso.

Embothrium herbaceum. *Cav. Ic. v. 4. p. 58. t. 384.* Embothrium silaifolium. *Smith New Holl. p. 23. t. 8.* Silaus-leaved Tricondylus.

Introduced here among the first plants, which came from *Port Jackson.* It does not flower very often with us, but sometimes ripens fruit, and may be increased by dividing the roots, as well as cuttings. Leaves mostly 3-pinnatifid. Spike terminal, and sometimes in luxuriant plants, a few axillary ones below. Pericarpium comprest.

4. T. foliis 2-pinnatifidis, laciniis amplis tomentosis: spicis brevibus, terminalibus: pericarpio tumido. *Ferrugineus.*

Embothrium ferrugineum. *Cav. Ic. v. 4. p. 59. t. 385.* Rusty Tricondylus.

A shrub 10 or 12 feet high, growing wild in *San Carlos de Chiloe,* in places often washed by the tide, and flowers there in *February.* Leaves 2-pinnatifid, divisions broad and cottony. Spikes short, terminal. Pericarpium tumid.

Cybele. *Salisb.*

Flores 2-ni; 6-8 in Umbellis axillaribus. Bractea 1 ad singula paria, deciduæ; gemmaceis præterea nullis. Petala secunda, libera. Nectarium 1, lunatum. Pericarpium leguminiforme, 1-loculare, 2-valve, persistens. Semina 5-6, apice alata. *Frutex glaucus: foliis* Loranthi, *simplicibus, obtusis.*

Flowers 2 together; 6-8 in axillary Umbels. A Bracte to each pair, deciduous; no gemmaceous ones. Petals 1-ranked, separate. Nectarium 1, crescent shaped. Pericarpium like a pod, 1-locular, 2-valved, persistent. Seeds 5-6, winged at the top. *A glaucous shrub: leaves of* Loranthus, *obtuse.*

The poetic name of *Cybele* is given to this genus, from the top of each flower, before it expands, resembling a *Corona muralis.*

Umbellifera. 1. C. foliis spatulatis, lævibus cum rore.

Embothrium umbellatum. *Forst. Prodr. n.* 60. Embothrium umbellatum. *Forst. Gen. p.* 16. *t.* 8. *f. a.*

This shrub grows wild in *New Caledonia,* where it was discovered by FORSTER; so there is but little probability of our seeing it living in this country. Leaves spatulated, smooth with a fine dew.

RYMANDRA. *Salisb.*

Flores 2-ni; in spicis ad basin ramorum axillaribus, foliis ibi sæpe delapsis. Bractea 1 ad singula paria, caducæ; gemmaceis nullis. Petala regularia, revoluta, libera. Nectaria 4, obtuse cuneata. Pericarpium 1-loculare, folliforme, 2-valve, persistens, Stigma clavatum rimâ terminali. Semina 4-5, apice alata. *Arbor excelsa: foliis lanceolatis, obtuse dentatis.*

Flowers 2 together; in axillary Spikes at the base of the branches, the leaf under often fallen off. A Bracte to each pair, caducous. Petals regular, revolute, separate. Nectaries 4, obtusely wedge-shaped. Pericarpium 1-locular, like a Bag, 2-valved, persistent. Stigma club-shapedwith a terminal nick. Seeds 4-5, winged at the top. *A tall Tree: leaves lanceolate, dentated.*

The name is derived from ῥυμος and ανηρ; the anthers resembling a long beak.

Excelsa. 1. R. caule 80-pedali.

Tall Rymandra.

This noble tree was discovered in *New Zealand,* by Sir JOSEPH

BANKS, and a parcel of its seeds arrived in the vessel, which brought the Chief of that Island's son to this country, some of which sprouted freely, but soon died, and upon examining them, the radicle was mouldy. In future therefore, it would be adviseable to pack some in wax, and others in jars closely filled with powder sugar; by this last method I have preserved *Ash-Keys*, which the seeds of this tree resemble, quite fresh for 2 years.

EMBOTHRIUM. *Forst.*

Flores 2-ni; in Spicâ densâ terminali. Bractea 1 ad singula paria, deciduæ; gemmaceis nullis. Petala secunda, supra basin breviter cohærentia. Nectarium 1, lunatum. Cætera ut in *Rymandrâ*, seminibus tantum pluribus, 7-9. *Frutex: foliis* Rhododendri, *simplicibus, frondosis: stipulis multis gemmaceis subjectis.*

Flowers 2 together; in a close terminal Spike. A Bracte to each pair, deciduous; no gemmaceous ones. Petals 1-ranked, cohering a little way above the base. Nectarium 1, crescent-shaped. Other parts as in *Rymandrâ*, but more seeds, 7-9. *A shrub: leaves of* Rhododendrum, *frondose: stipules many, gemmaceous.*

The name is derived from ἐν and βοθριον; the anthers being inserted in the hollow limb of the petals.

1. E. foliis ellipticis, integerrimis. *Coccineum.*

E. coccineum. *Cav. Ic. v.* 1. *p.* 47. *t.* 65. E. coccineum. *Linn. Suppl. p.* 128. E. coccineum. *Fort. Gen. p.* 16. *t.* 8. *f.* 9. Scarlet Embothrium.

This beautiful shrub grows wild in *Terra del Fuego*, and if ever it is introduced here, may no doubt soon be naturalized. CAVANILLES' figure, above quoted, is very inaccurate. Leaves elliptic, quite entire.

Hylogyne. *Salisb.*

Flores 2 ni; in Spicâ densissimâ terminali. Bractea 1 ad singula paria, deciduæ; gemmaceis majoribus subjectis. Petala secunda, usque ad limbum præter fissuram anticam cohærentia. Nectarium 1, lunatum. Pericarpium et Semina ut in *Embothrio.* Stigma clavatum rimâ laterali. ***Frutices: ramis paucis erectis: foliis simplicibus integerrimis dentatisque.***

Flowers 2 together, in a close terminal Spike. A Bracte to each pair, deciduous; larger gemmaceous ones below. Petals 1-ranked, cohering up to the limb, except a front fissure. Nectarium 1, crescent-shaped. Pericarpium and Seeds as in *Embothrium.* Stigma club-shaped, nick lateral. ***Shrubs: branches erect: leaves simple, quite entire and dentated.***

The name is derived from υλη and γυνη; the whole pistillum becoming woody.

Speciosa. 1. H. foliis omnibus sinuato-dentatis: seminum alâ rotundatâ.

Embothrium speciosissimum. *Sims in Bot. Mag. n.* 1128. *cum Ic.* Embothrium Speciosum. *Salisb. Par. Lond. n.* 111. *cum Ic.* Embothrium spatulatum. *Cav. Ic. v.* 4. *p.* 58. *t.* 384. Embothrium speciosissimum. *Smith Nov. Hill. p.* 19. *t.* 7. Showy Hylogyne.

A handsome shrub, growing wild in the vicinity of *Port Jackson,* to the height of 9 or 10 feet, which flowered and ripened seeds for the first time in *Europe*, at *Springwell*, the late villa of E. J. A. Woodford, Esq. It is not easily propagated except by seeds, which should be sown soon after they are ripe, for it seldom sends out any branches till it flowers, and then only 2 or 3 immediately under the spike. If these are taken off however before the wood is too hard, they will probably strike roots. The name now given to this genus is particularly appropriate, for not only the pericarpium and style but even the stigma is converted into such hard

wood, that it requires a sharp knife to cut it. Leaves all sinuate-dentated. Wing of the seed rounded.

2. H. foliis integerrimis sinuato-dentatisque: seminum alâ truncatâ. *Australis.*

Embothrium truncatum. *Labill. Nov. Hill. v.* 1. *p.* 32. *t.* 44. Southern Hylogyne.

This species was discovered by LABILLARDIERE at the most southern part of *Van Diemens Island*, and may therefore probably live here in the open air, whenever it is introduced. Leaves quite entire and sinuate-dentated. Wing of the seed truncated.

ADDENDA.

P. 29. sub *Proteâ*, post ** *Pericarpium barbatum* insere.

P. caule rigido: foliis 2-2½ lineas latis; 8-14 longis, spatulato-lanceolatis, obtusis, scabris, crassis: petalis apice nudis. *Squarrosa.*

MAS. P. stellaris. *Sims in Bot. Mag. n.* 881. *cum Ic.* Squarrose Protea.

This species has been introduced several years, but I had never seen it in flower, till very lately in the collection of ISAAC SWAINSON, Esq. at *Twickenham*, who has great numbers both of male and female plants. How it came by the very inappropriate name of *Stellaris*, which Dr. SIMS has continued, I have not a guess. Stem rigid. Leaves gray, thicker and rougher than in any species known to me, those near the flowers not much larger as in all true *Proteas*, 2 to 2½ lines broad, 8 to 14 long, spatulate-lanceolate, obtuse, petals naked at the top. It grows as easily as a *Willow* by cuttings, thriving in almost any soil.

INDEX GENERUM.