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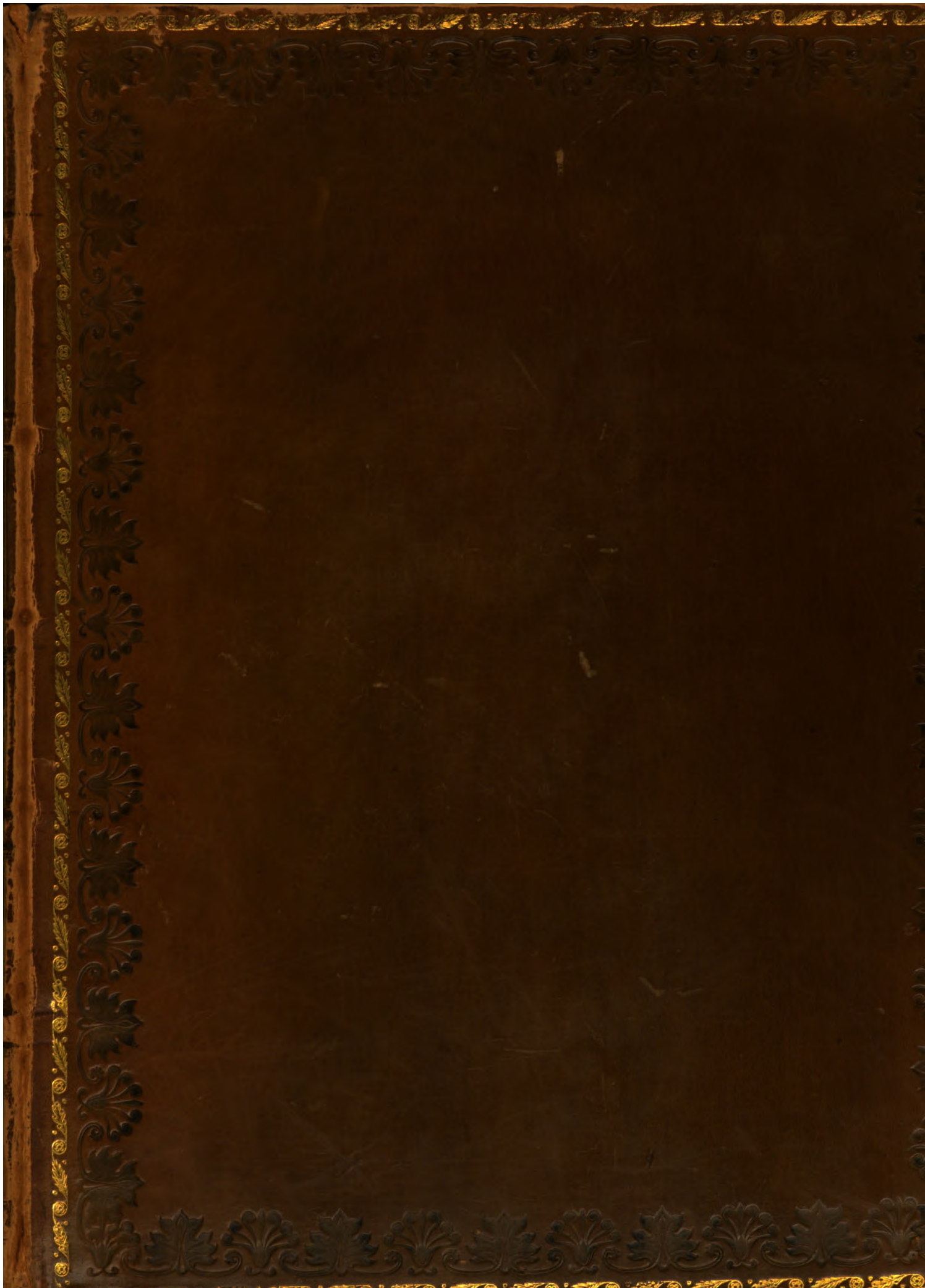
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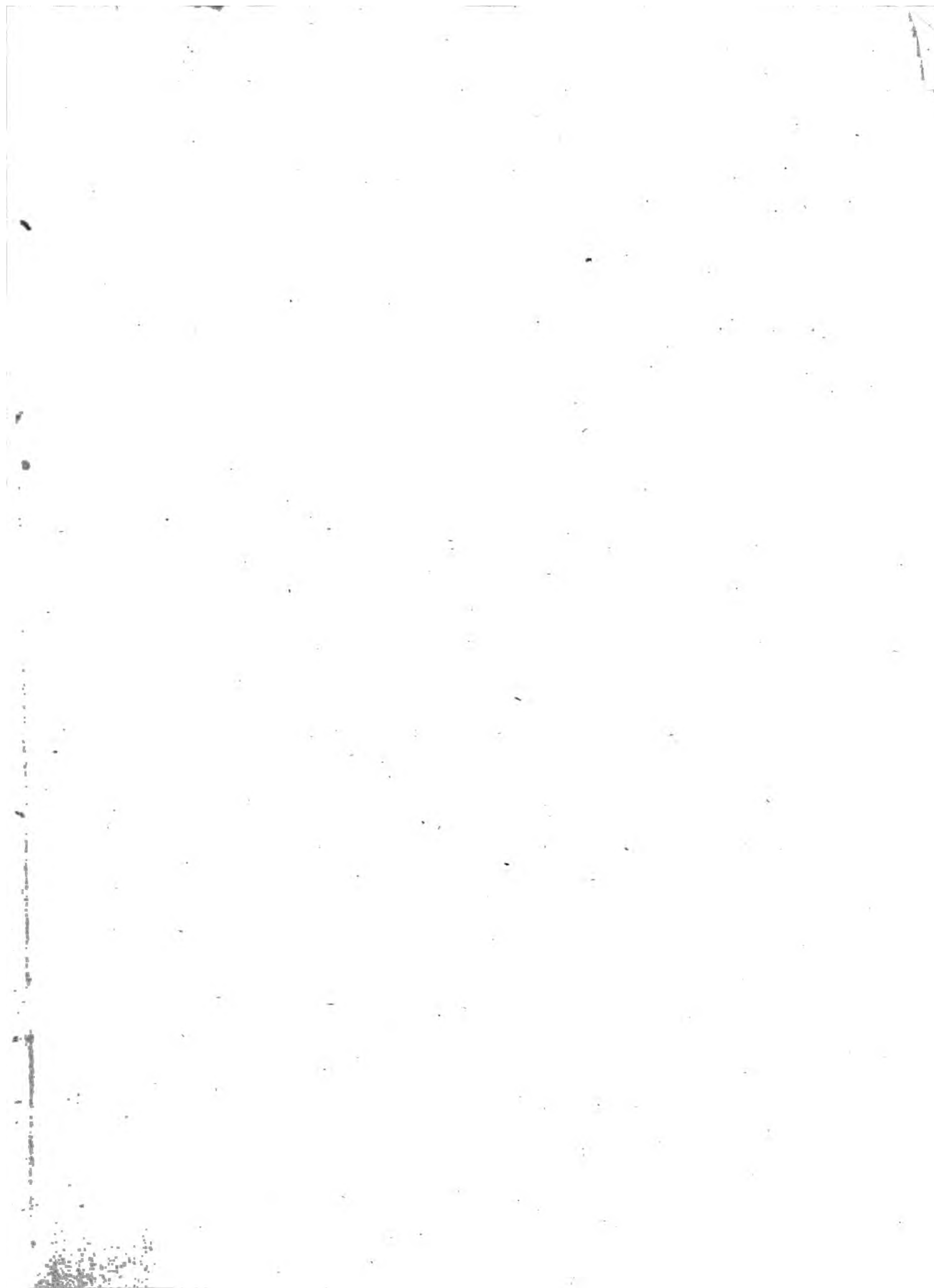
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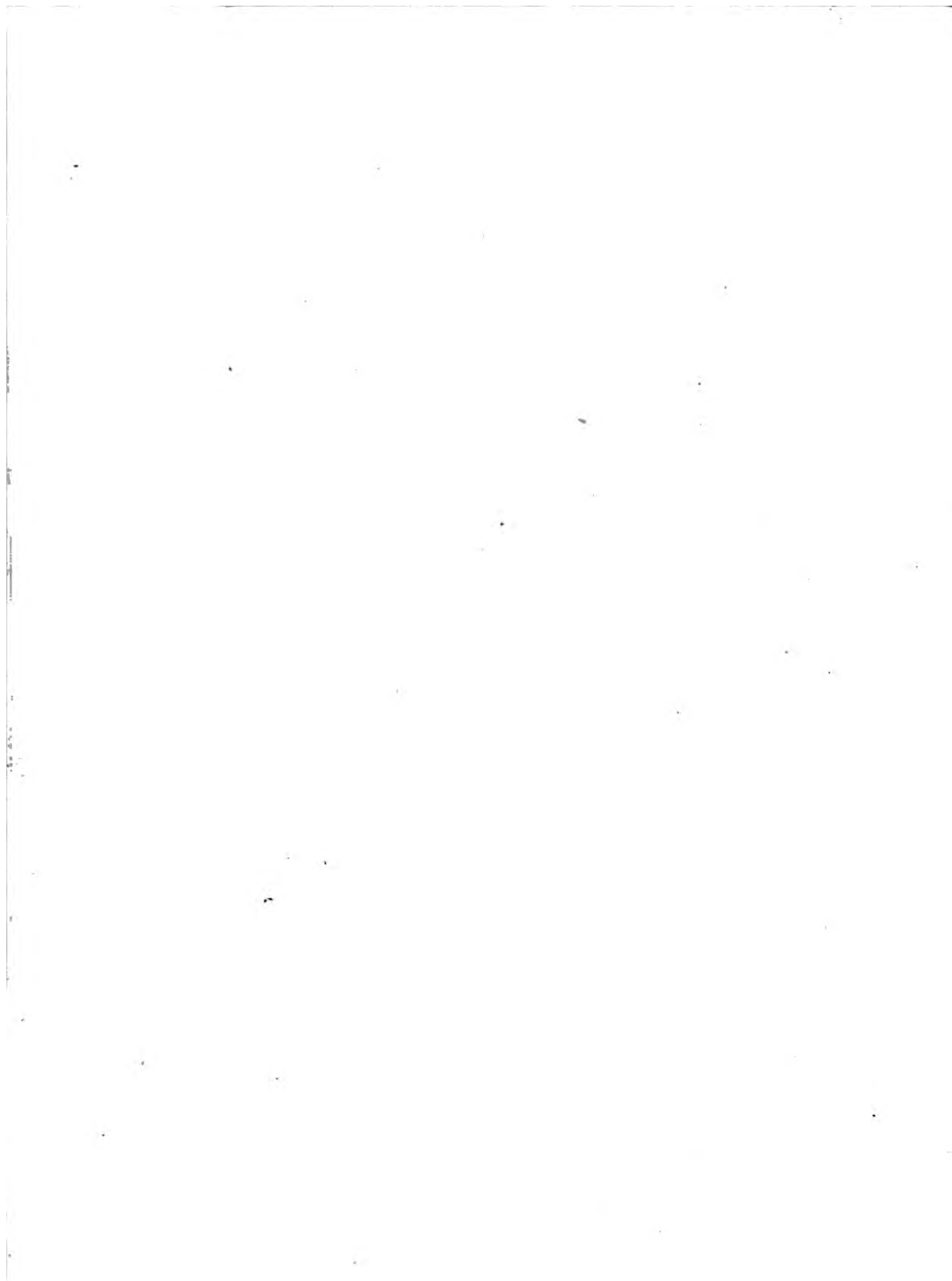
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Vol. VII

Of the
Botanists Repository

Comprising,

Colour'd Engravings

of

New and Rare Plants

ONLY

With Botanical Descriptions,

in

Latin and English,

after the

Linnaean System,

by

H. Andrews

Botanical Painter & Engraver



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I N D E X

TO THE PLANTS CONTAINED IN VOL. VII.

Plate 433	Agave Americana	Great American Aloe	G. H.	Shrub.	September.
434	Pultenæa nana	Dwarf Pultenæa	G. H.	Shrub.	All Summer.
435	Verbena mutabilis	Changeable-flowered Vervain	H. H.	Shrub.	All the Year.
436	Corræa viridiflora	Green-flowered Corræa	G. H.	Shrub.	March.
437	Protea canaliculata	Channelled-leaved Protea	G. H.	Shrub.	December.
438	Protea speciosa	Showy Protea	G. H.	Shrub.	December.
439	Stapelia orbicularis	Orbicular Stapelia	G. H.	Shrub.	December.
440	Sophora sericea	Silky-leaved Sophora	G. H.	Shrub.	December.
441	Epidendrum fuscatum	Brown-flowered Epidendrum	H. H.	Shrub.	June.
442	Protea pulchella, <i>Var. speciosa</i>	Waved-leaved Protea, <i>Specious Variety</i>	G. H.	Shrub.	April.
443	Erythrina speciosa	Showy Erythrina	H. H.	Shrub.	April.
444	Lobelia hirsuta	Hairy Lobelia	G. H.	Shrub.	March.
445	Epidendrum lineare	Linear-leaved Epidendrum	H. H.	Shrub.	July.
446	Dolichos hirsutus	Hairy-stemmed Dolichos	H. H.	Shrub.	August.
447	Protea argentiflora	Silvery-flowered Protea	G. H.	Shrub.	August.
448	Pæonia suffruticosa, <i>Var. flore purpureo</i>	Shrubby Pæonia, <i>Purple-flowered Variety</i>	G. H.	Shrub.	April.
449	Linum trigynum	Three-styled Golden Flax	G. H.	Shrub.	April.
450	Albuca fastigiata	Level-topped Albuca	G. H.	Bulb.	July.
451	Diosma ericæfolia	Heath-leaved Diosma	G. H.	Shrub.	All the Year.
452	Achania mollis	Soft-haired-leaved Achania	H. H.	Shrub.	July.
453	Protea repens	Creeping Protea	G. H.	Shrub.	June.
454	Urtica baccifera	Berry-bearing Nettle	H. H.	Shrub.	June.
455	Polygala mixta	Mixt Polygala	G. H.	Shrub.	All the Year.
456	Lachenalia flava	Yellow-flowered Lachenalia	G. H.	Bulb.	June.
457	Banksia spinulosa	Thorny-leaved Banksia	G. H.	Shrub.	All Summer.
458	Eugenia malaccensis	Malay Apple-tree	H. H.	Tree.	July.
459	Lasiopetalum ferrugineum	Oak-leaved Lasiopetalum	G. H.	Shrub.	June.
460	Lachenalia sessiliflora	Sessile-flowered Lachenalia	G. H.	Bulb.	July.
461	Protea teretifolia	Cylindric-leaved Protea	G. H.	Shrub.	June.
462	Malus Japonica	Scarlet-flowering Japan Apple	Har.	Shrub.	June.
463	Pæonia papavaracea	Poppy-like Pæony	G. H.	Shrub.	July.
464	Diosma ovata	Oval-leaved Diosma	G. H.	Shrub.	May.
465	Protea divaricata	Straddling-leaved Protea	G. H.	Shrub.	July.
466	Goodenia tenella	Slender Goodenia	G. H.	Shrub.	June.
467	Lythrum fruticosum	Shrubby Lythrum	G. H.	Shrub.	All Summer
468	Aloe arborescens	Tree Aloe	H. H.	Shrub.	June.
469	Protea coronata	Crown-flowered Protea	G. H.	Shrub.	July.
470	Ophrys arachnoides	Spider-like Ophrys	G. H.	Shrub.	July.
471	Ophrys myodes	Fly-like Ophrys	G. H.	Shrub.	July.
472	Hibbertia crenata	Scalloped-leaved Hibbertia	G. H.	Shrub.	July.
473	Yucca gloriosa	Superb Yucca	Har.	Shrub.	July.
474	Psoralea pinnata	Winged-leaved Psoralea	G. H.	Shrub.	July.
475	Serapias cordigera	Heart-bearing Serapias	H. H.	Shrub.	June.
476	Melaleuca diosmæfolia	Diosma-leaved Melaleuca	G. H.	Shrub.	July.
477	Linum venustum	Graceful Linum	Har.	Shrub.	July.
478	Crinum latifolium	Broad-leaved Crinum	H. H.	Bulb.	August.
479	Fragaria indica	Indian Strawberry	Har.	Herb.	July.
480	Vaccinium nitidum	Shining-leaved Whortle-berry	Har.	Shrub.	June.
481	Cinchona caribæa	West India Bark-tree	H. H.	Shrub.	August.
482	Dianthus alpinus	Alpine Pink	G. H.	Shrub.	July.
483	Dahlia pinnata nana	Dwarf winged-leaved Dahlia	G. H.	Herb.	September.
484	Nicotiana glutinosa	Clammy Tobacco	G. H.	Herb.	August.
485	Melaleuca salicifolia	Willow-leaved Melaleuca	G. H.	Shrub.	July.
486	Pæonia Daurica	Dauric Pæony	Har.	Herb.	June.
487	Xeranthemum herbaceum	Herbaceous Eternal Flower	G. H.	Herb.	All Summer
488	Broussonetia papyrifera	Paper Mulberry	Har.	Shrub.	June.
489	Gauphalium graadiflorum	Large-flowered Gnaphalium	G. H.	Shrub.	August.
490	Pontederia dilatata	Dilated Pontederia	H. H.	Aquatic.	September.
491	Gardenia radicans	Rooting Gardenia	H. H.	Shrub.	August.
492	Oxylobium cordifolium	Heart-leaved Oxylobium	G. H.	Shrub.	July.

E R R A T A.

Plate 438 read 433.

467 instead of Lythrum of Linnæus, read Lythrum *fruticosum* of Linnæus.

468 line 4 from the bottom, instead of *hegit* read *sizæ*.



I N D E X

TO THE PLANTS CONTAINED IN VOL. VIII.

Plate 493	<i>Bignonia grandiflora</i>	Large-flowered Bignonia	G. H.	Shrub.	September.
494	<i>Scutellaria serrata</i>	Sawed-leaved Scutellaria	Har.	Herb.	May.
495	<i>Protea corymbosa</i>	Corymbose-flowering Protea	G. H.	Shrub.	July.
496	<i>Jasminum multiflorum</i>	Many-flowered Jasmine	H. H.	Shrub.	All Summer.
497	<i>Jasminum sambac, Var. flore pleno</i>	Indian Jasmine, Full-flowered Variety	H. H.	Shrub.	All Summer
498	<i>Hibiscus pruriens</i>	Stinging Hibiscus	H. H.	Shrub.	July.
499	<i>Ipomæa coccinea</i>	Scarlet Ipomæa	H. H.	Shrub.	July.
500	<i>Protea mucronifolia</i>	Mucronate-leaved Protea	G. H.	Shrub.	August.
501	<i>Hellenia Allugas</i>	Ceylon Hellenia	H. H.	Shrub.	July.
502	<i>Lobelia surinamensis, Var. flore rubro</i>	Surinam Lobelia, Red-flowered Variety	H. H.	Shrub.	September.
503	<i>Nymphæa rubra</i>	Red-flowered Nymphæa	H. H.	Aquatic.	August.
504	<i>Solanum Seaforthianum</i>	Seaforth's Solanum	G. H.	Shrub.	August.
505	<i>Ornithogalum flavissimum</i>	Yellow-flowered Star of Bethlehem	G. H.	Bulb.	July.
506	<i>Ruellia cristata</i>	Crested Ruellia	H. H.	Shrub.	August.
507	<i>Protea abrotanifolia</i>	Southernwood-leaved Protea	G. H.	Shrub.	August.
508	<i>Cactus grandiflorus.</i>	Large-flowered Cereus	H. H.	Shrub.	August.
509	<i>Gentiana fimbriata</i>	Fringed-flowered Gentian	G. H.	Shrub.	July.
510	<i>Aspalathus globosus</i>	Round-flowering Aspalathus	G. H.	Shrub.	July.
511	<i>Solanum betaceum</i>	Beet-like Solanum	G. H.	Shrub.	August.
512	<i>Protea pinnata</i>	Winged-leaved Protea	G. H.	Shrub.	July.
513	<i>Cactus hexagonus</i>	Great Torch Thistle	H. H.	Shrub.	August.
514	<i>Pæonia anomala</i>	Anomalous-leaved Pæony	Har.	Shrub.	July.
515	<i>Cynanchum mucronatum</i>	Mucronate-leaved Cynanchum	H. H.	Shrub.	August.
516	<i>Astragalus villosus</i>	Hairy Astragalus	Har.	Herb.	July.
517	<i>Protea imbricata</i>	Imbricated-leaved Protea	G. H.	Shrub.	September.
518	<i>Magnolia grandiflora</i>	Large-flowered Magnolia	Har.	Tree.	All Summer.
519	<i>Commersonia echinata</i>	Bristly-fruited Commersonia	H. H.	Tree.	All Summer.
520	<i>Euosma albiflora</i>	White-flowered Euosma	Har.	Shrub.	June.
521	<i>Eriospermum folioliferum</i>	Leaflet-bearing Eriospermum	G. H.	Shrub.	August.
522	<i>Protea abrotanifolia hirta</i>	Hairy Southernwood Protea	G. H.	Shrub.	August.
523	<i>Gorteria pavonia</i>	Peacock Gorteria	G. H.	Herb.	July.
524	<i>Lachnæa Buxifolia</i>	Box-leaved Lachnæa	G. H.	Shrub.	August.
525	<i>Podalyria hirsuta</i>	Hairy Podalyria	G. H.	Shrub.	August.
526	<i>Protea cespitosa</i>	Turfy Protea	G. H.	Shrub.	September.
527	<i>Ruellia fulgida</i>	Bright-flowered Ruellia	H. H.	Shrub.	All Summer.
528	<i>Ornithogalum elatum</i>	Lofty Ornithogalum	H. H.	Bulb.	August.
529	<i>Nitraria Schoberi</i>	Schober's Nitraria	Har.	Shrub.	August.
530	<i>Bignonia uncata</i>	Hooked Bignonia	H. H.	Shrub.	August.
531	<i>Veronica Derwentia</i>	New Holland Veronica	G. H.	Shrub.	September.
532	<i>Protea humiflora</i>	Low-flowering Protea	G. H.	Shrub.	August.
533	<i>Cactus coccinellifer</i>	Cochineal Torch Thistle	H. H.	Shrub.	September.
534	<i>Juniperus Daurica</i>	Daurian Juniper	Har.	Shrub.	August.
535	<i>Tropæolum pinnatum</i>	Winged Nasturtium	G. H.	Shrub.	September.
536	<i>Protea abrotanifolia, minor</i>	Small Southernwood-leaved Protea	G. H.	Shrub.	August.
537	<i>Origanum Tournefortii</i>	Tournefort's Origanum	G. H.	Shrub.	September.
538	<i>Vanilla planifolia</i>	Flat-leaved Vanilla	H. H.	Shrub.	September.
539	<i>Calycanthus fertilis</i>	Fruitful Allspice	G. H.	Shrub.	September.
540	<i>Mesembryanthemum heterophyllum</i>	Various-leaved Mesembryanthemum	G. H.	Shrub.	September.
541	<i>Protea-conifera</i>	Cone-bearing Protea	G. H.	Shrub.	August.
542	<i>Ruellia infundibuliformis</i>	Funnel-flowered Ruellia	H. H.	Shrub.	Sum. & autumn
543	<i>Protea speciosa patens</i>	Spreading Showy Protea	G. H.	Shrub.	August.
544	<i>Mimosa pudica</i>	Bashful Mimosa	H. H.	Shrub.	All Summer.
545	<i>Protea abrotanifolia odorata</i>	Sweet-scented Southernwood-leaved P.	G. H.	Shrub.	August.
546	<i>Monarda punctata</i>	Dotted-flowered Monarda	Har.	Herb.	Autumn.
547	<i>Passiflora perfoliata</i>	Perfoliate-leaved Passion-flower	H. H.	Shrub.	September.
548	<i>Cucumis Dudaim</i>	Sweet-scented Melon	H. H.	Shrub.	September.
549	<i>Pascalia glauca</i>	Glaucous-leaved Pascalia	Har.	Shrub.	August.
550	<i>Hermannia flammea</i>	Flame-coloured Hermannia	G. H.	Shrub.	Sum. & autumn.
551	<i>Lopezia coronata</i>	Coronet-flowered Lopezia	G. H.	Shrub.	All Summer.
552	<i>Hypericum Virginicum</i>	Virginia Hypericum	Har.	Herb.	August.

E R R A T A.

Plate 494 In generic character, for *os* the mouth, read *oris* the border.

Nitraria Schoberi for 530, read 529.

531 for Veronica Derwentia, read Veronica Derwentiana.

PLATE CCCCXXXVIII.
AGAVE AMERICANA.

Great American Aloe.

CLASS VI. ORDER I.

HEXANDRIA MONOGYNIA. Six Chives. One Pointal.

ESSENTIAL GENERIC CHARACTER.

CAEYX nullus. Corolla monopétala, sex-partita. Stamina sena, corolla longiora. Germe inferum. Stylus longior staminibus. Capsula trilocularis, trivalvis. Semina numerosa.

EMPALEMENT none. Blossom one-petalled, six-parted. Chives six, longer than the blossom. Seed-bud beneath. Shaft longer than the chives. Capsule three-celled, three-valved. Seeds many.

SPECIFIC CHARACTER.

AGAVE, acaulis, foliis dentatis, spinosis: scapo e medio ramoso: floribus terminalibus in umbellis densissime capitatis: tubo corollæ læte viridi, e medio angustato: staminibus corolla longioribus: stylo staminibus longiore.

AGAVE, without a stem; leaves toothed and thorny: flower-stem in the centre branched: the flowers terminate the branches in close-headed umbels: the tube of the blossom is greenish, and narrowed in the centre: the chives are longer than the flowers, and the style longer than the chives.

REFERENCE TO THE PLATE.

1. A plant in miniature.
2. A flower natural size.
3. The same spread open.
4. Seed-bud cut transversely.
5. The end of a leaf, the upper part scraped to show its thready fibres.

THIS tall and stately plant has ever been regarded, in this country, as an object of sufficient interest and curiosity to merit an exposure in the form of an exhibition; whilst in the southern parts of Spain and Portugal they are so abundant as to form hedges, by way of barriers to repress the inroads of cattle. There are several very slight varieties; one of whose leaves are edged with yellow, but the same in every other respect. Miller enumerates one whose paniculated flowers bear a very different aspect. Cortusus is said to be the first European that possessed this great Aloe, about the year 1561: in 1714 two flowered at Hampton Court, and one at the duke of Buckingham's. At Friedericksberg, in Denmark, one flowered with 19 branches and 4000 flowers; and one in the king of Prussia's garden, said to be 40 feet high. They are now more frequently found in bloom, as rarely a year passes without one or more of them being advertised for public inspection. In addition to their grand exterior, they possess many useful properties: Cavanilles, in his Natural History of Valentia, mentions their abundance, and the numbers of people employed in manufacturing them; for, when bruised, separated, and steeped in water, they yield a strong thread, of which all the bags are made in which dollars are imported. The juice of the leaves is said to be used as a succedaneum for soap, and the spongy substance of the stem for tinder. The points of the leaves are by the Indians made use of to head their arrows, whose hard consistence is a good substitute for iron; and the thready character of their fibres furnishes all that is necessary to fasten them. Linnæus has separated this genus from Aloe, from the extension of the stamens and style beyond the corolla, and the resting of the corolla on the germ: they also differ in growth, as all Agaves have their central leaves closely enfolding and embracing the flower-stem, which, forming in the centre, never appears till they are expanded; it then proceeds with a rapidity that in a few weeks reaches maturity, and when the flowers are past the plant dies. On the contrary, the flower-stem of the Aloe comes out from the side annually from the same plant. Our figure was made from two plants at Kensington Gore, each bearing 2000 flowers, and about 70 years old, belonging to J. Vcre, Esq. who perfectly recollects them for above half a century: but in those warmer climes, where they are so abundant, 25 or 30 years are sufficient to bring them to perfection.

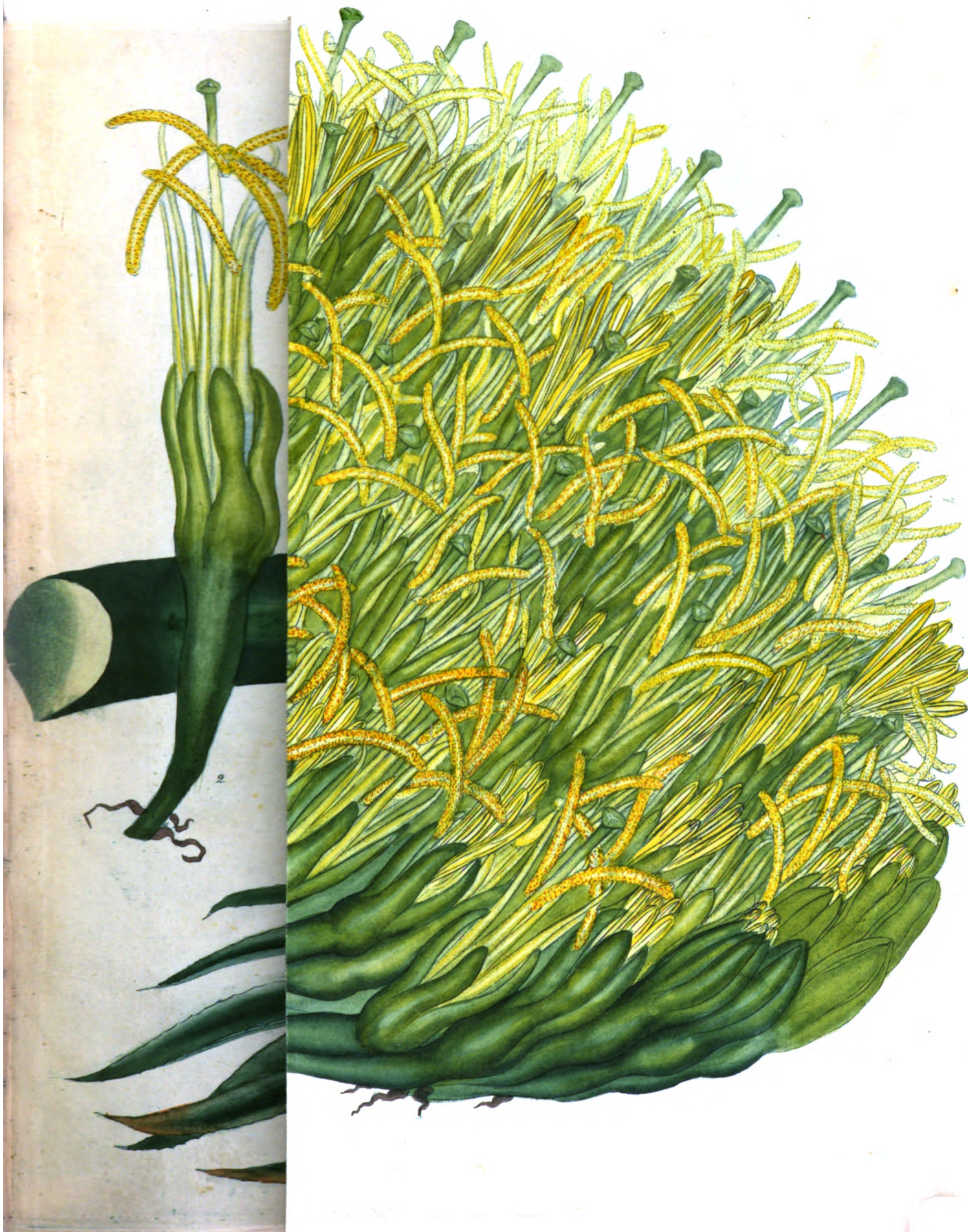


PLATE CCCCXXXIV.
PULTENÆA NANA.

Dwarf Pultenæa.

CLASS X. ORDER I.

DECANDRIA MONOGYNIA. Ten Chives. One Pointal.

ESSENTIAL GENERIC CHARACTER.

CALYX quinque-dentatus, utrinque appendiculatus. Corolla papilionacea, alis vexillo brevioribus. Legumen uniloculare, disper-mum.

CUP five-toothed, with a hanging pro-p on each side. Blossom butterfly-shaped, the wings shorter than the standard. A one-celled pod, two-seeded.

SPECIFIC CHARACTER.

PULTENÆA, foliis iliciformibus, undulatis, con-tortis, rigidis, acutis: floribus minii colore, axillaribus, racemosis. Caulis humilis.

PULTENÆA, with holly-shaped leaves, waved, twisted, harsh, and sharp-pointed. Flowers minium-coloured, growing from the inser-tion of the leaves in longish bunches. Stem low.

REFERENCE TO THE PLATE.

1. The cup, with its appendages.
2. The standard of the blossom.
3. One of the wings of the same.
4. The two leaves which form the keel.
5. The chives magnified.
6. The pointal, natural size.
7. The same magnified.
8. A ripe seed-pod.
9. The same spread open.
10. A ripe seed.

THIS lively little Dwarf Pultenæa we have not as yet seen any where but in the conservatory of G. Hib- bert, Esq. where, contrasted with many large magnificent plants, its minute and diminutive form made a perfectly unique appearance. When we first observed it, its height did not exceed an inch and a half. Our figure represents the whole plant, which for six months was in progressive constant bloom, and after flowering ripened its seeds freely; an evident proof of the plant being in a state of perfection. It is now three months since the plant perfected its seeds, during which period we have not perceived the least increase in its size. But, notwithstanding this apparent torpidity, it is now exhibiting the buds of its future blossoms. It has been imagined by some to be the Chorizema of Billardiere, a new plant found by that gentleman in New South Wales whilst in search of the unfortunate La Prouse; but, upon comparing it with the figure in that work, we do not find a sufficient resemblance to induce us to re-gard it as the same plant.



Pultenaea, nana

1860

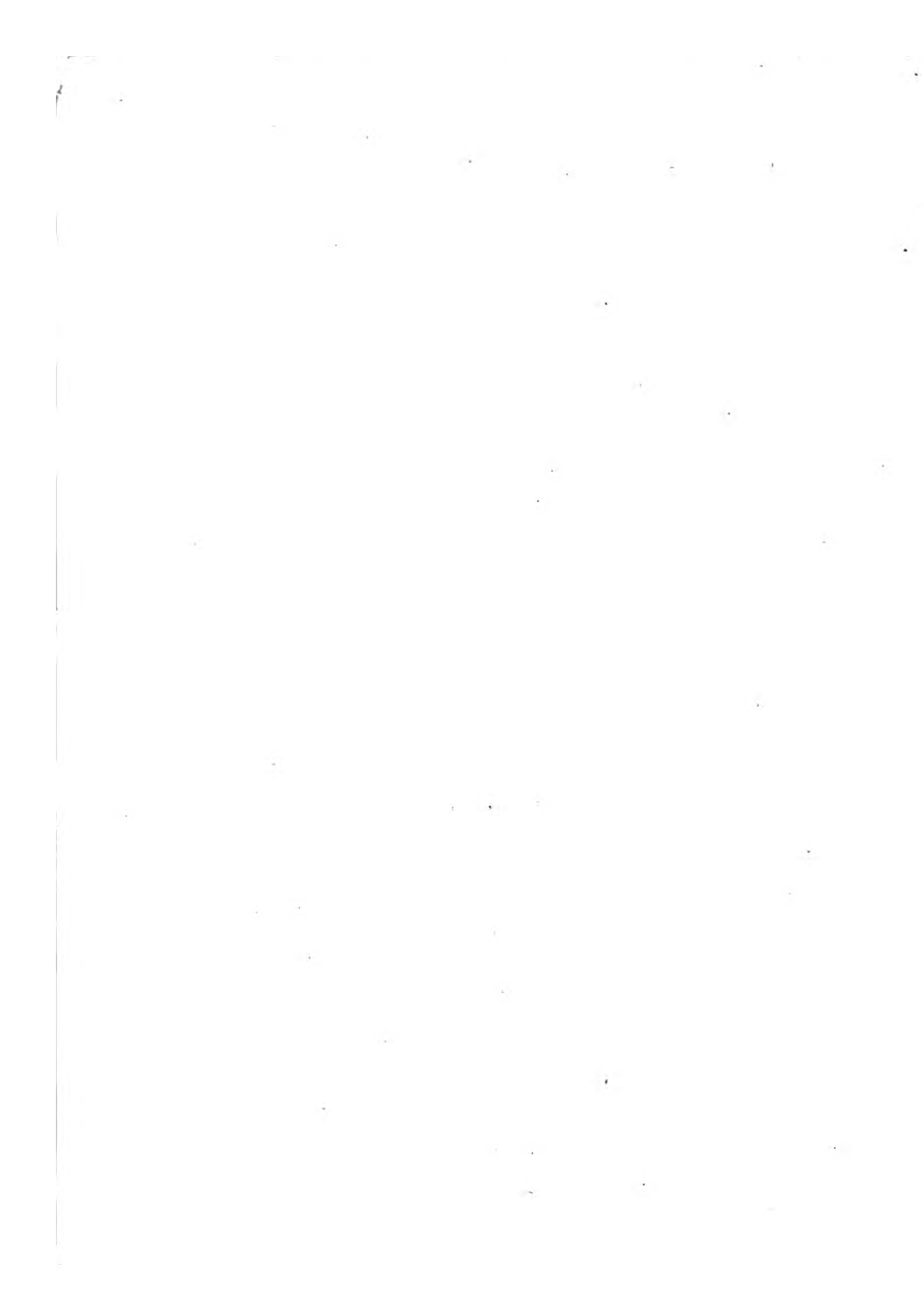


PLATE CCCCXXXV.
VERBENA MUTABILIS.

Changeable-flowered Vervain.

CLASS II. ORDER I.

DIANDRIA MONOGYNIA. Two Chives. One Pointal.

ESSENTIAL GENERIC CHARACTER.

COROLLA infundibuliformis, sub-æqualis, curva.
Calyx unifolius, dentatus, truncatus.
Sem. 2, s. 4. nuda. Stam. 2, s. 4.

BLOSSOM funnel-shaped, nearly equal, and curved. Empalement one-leafed, toothed, and cut off. Seeds 2, sometimes 4, naked. Chives 2, sometimes 4.

SPECIFIC CHARACTER.

VERBENA diandra, filamenta quatuor: spica longissima, carnosâ, nuda: foliis ovatis, basi productis, dentatis, scabris, villosis: floribus imprimis coccineis, denique incarnatis: caule fruticoso.

VERBENA, with two chives and four filaments. Flower-spike very long, fleshy, and naked. Leaves ovate, lengthened at the base, toothed, rough, and hairy. Flowers at first scarlet, then going off in a flesh colour. Stem shrubby.

REFERENCE TO THE PLATE.

1. The empalement.
2. A flower cut open.
3. Seed-bud and pointal, summit magnified.

THE native place of the *Verbena mutabilis* seems rather enveloped in obscurity: by some it is supposed to be indigenous to Peru. It is a beautiful plant, and the most desirable *Verbena* we are acquainted with, as it is at least six months in successive bloom. It is one of those *Verbenas* that, differing a little from the general character of that genus, has received various titles from different botanists: by Professor Vahl, in his *Enumeratio Plantarum*, it is called *Stachytarpheta*. The present species has been recently figured in the *Paradisus Londinensis* under the title of *Cymburus mutabilis*, and probably at some future period it may again receive another title: but until we can find some better path to lead us into the open plain of Information, we shall keep jogging on in the old beaten track, in preference to every crooked turning that may bewilder us into the mazy labyrinth of affected Science. Our figure was made from a fine plant in the nursery of Messrs. Colville.



Verbena mutabilis

PLATE CCCCXXXVI.
CORRÆA VIRIDIFLORA.

Green-flowered Corræa.

CLASS VIII. ORDER I.

OCTANDRIA MONOGYNIA. Eight Chives. One Pointal.

ESSENTIAL GENERIC CHARACTER.

CALYX monophyllus, quadri-dentatus. Corolla petala quatuor. Stamina octo. Germen superum. Capsula quadrilocularis. Semina quatuor.

EMPALEMENT one-leafed, four-toothed. Blossom four-petalled. Eight chives. Seed-bud above. Capsule four cells, and four seeds.

SPECIFIC CHARACTER.

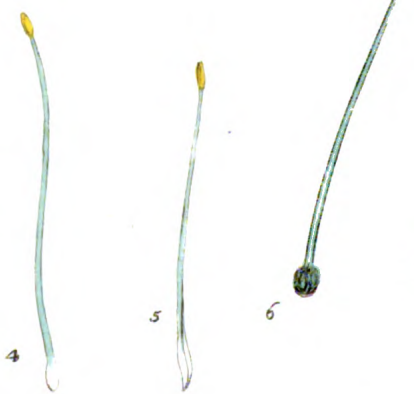
CORRÆA, foliis oblongis, oppositis, undulatis, stellatim hirsutis, supra viridibus, subtus ferrugineis : foliis junioribus conniventibus, flores dum parvos obscurantibus, qui postea emergunt ex axillis foliorum, et dependent. Corolla viridis, leviter punctata, petalis adhærentibus in forma cylindrica. Rami oppositi, ferruginei.

CORRÆA, with oblong opposite leaves, waved, and beset with divers starlike specks ; green on the upper surface and rusty beneath : the younger leaves connive together, and obscure the flowers when young, which afterwards emerge from the axillæ of the leaves, and hang down. Blossom green, and lightly dotted, the petals adhering in the form of a tube. The branches are opposite, and rusty.

REFERENCE TO THE PLATE.

1. The empalement.
2. A blossom detached from the cup.
3. A flower spread open.
4. One of the longest chives.
5. One of the shorter ones.
6. Seed-bud and pointal.
7. Seed-bud magnified.

THIS green-flowered *Corræa* is by no means so desirable a plant as the *alba*, but is the only addition to this genus as yet in cultivation with us, and as such deserving notice. It has been already figured in the *Exotic Botany* of Dr. Smith, but very imperfectly, as it is there represented with only two divisions in the corolla instead of four, and six antheræ instead of eight—a deficiency we have not met with : and although we have examined a number of living and dried specimens, yet we have always found it perfect in those characters essential to the genus. The only variation we have ever observed has been sometimes a super-abundance of petals in the corolla ; (instead of a deficiency) five instead of four, a frequent occurrence in many genera when the plant is in a state of luxuriant growth : and certainly little illustration, but much confusion, might probably arise from giving a figure from any specimen so very defective. We find this genus published by Billardiere under the title *Mazeutoxeron*—our present figure under the specific of *rufum*—an excellent specific, were it not a striking feature in every species of this genus, living or dried, that we have as yet seen. Our figure was made from a plant in the collection of G. Hibbert, Esq.



Lorrea, viridiflora

3. 1822. 1823. 1824. 1825. 1826. 1827. 1828. 1829. 1830. 1831. 1832. 1833. 1834. 1835. 1836. 1837. 1838. 1839. 1840. 1841. 1842. 1843. 1844. 1845. 1846. 1847. 1848. 1849. 1850. 1851. 1852. 1853. 1854. 1855. 1856. 1857. 1858. 1859. 1860. 1861. 1862. 1863. 1864. 1865. 1866. 1867. 1868. 1869. 1870. 1871. 1872. 1873. 1874. 1875. 1876. 1877. 1878. 1879. 1880. 1881. 1882. 1883. 1884. 1885. 1886. 1887. 1888. 1889. 1890. 1891. 1892. 1893. 1894. 1895. 1896. 1897. 1898. 1899. 1900.

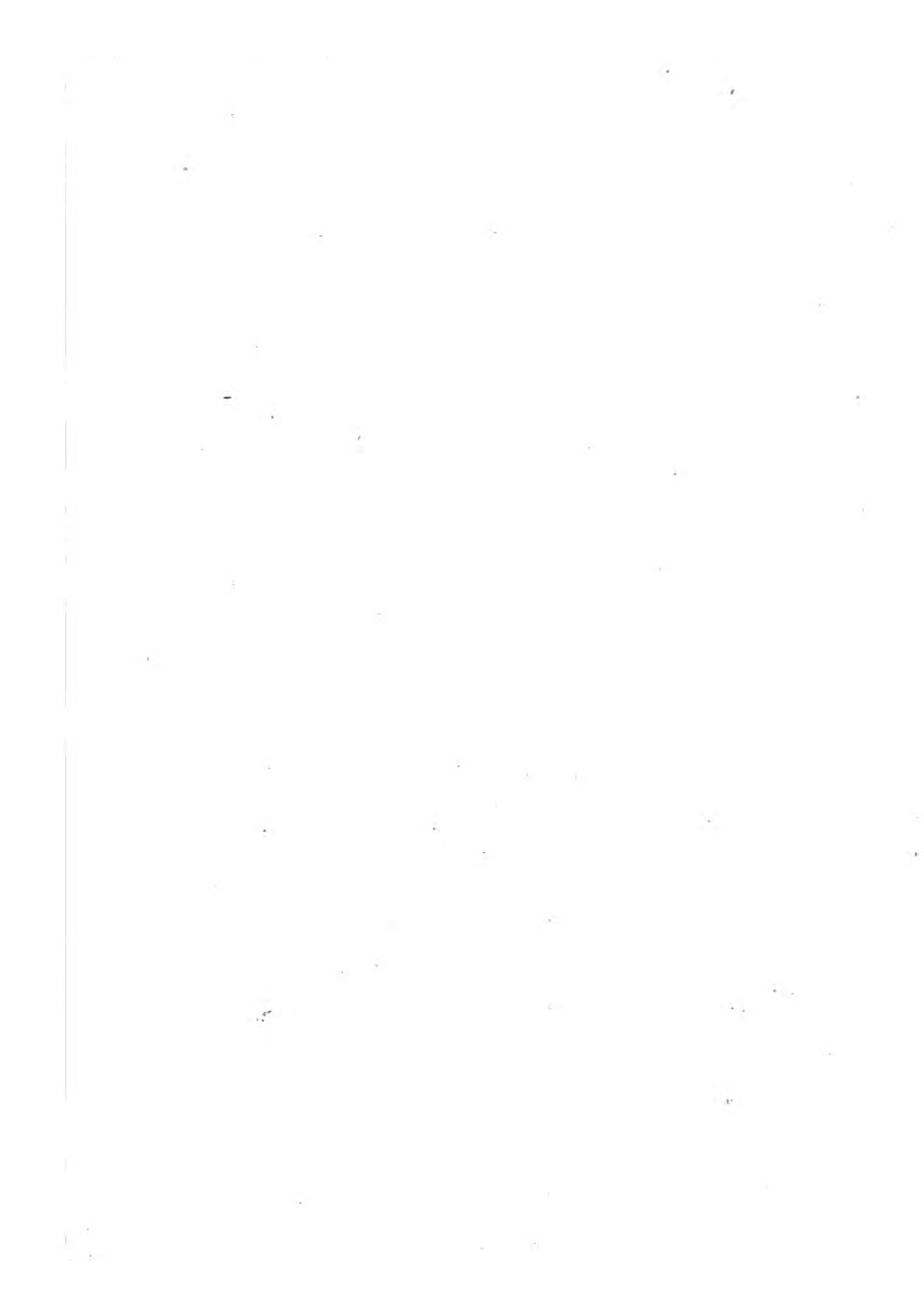


PLATE CCCCXXXVII.
PROTEA CANALICULATA.
Channelled-leaved Protea.

CLASS IV. ORDER I.

TETRANDRIA MONOGYNIA. Four Chives. One Pointal.

ESSENTIAL GENERIC CHARACTER.

| | | |
|---|--|---|
| COROLLA 4-fida, seu 4 petala. Antheræ lineares, petalis infra apicem insertæ. Calyx proprius, nullus. Semina solitaria. | | BLOSSOM four-cleft, or four petals. Tips linear, inserted into the petals below the ends. Cup proper, none. Seeds solitary. |
|---|--|---|

SPECIFIC CHARACTER.

| | | |
|---|--|---|
| PROTEA, foliis canaliculatis, incurvatis, rigidis, linearibus, acutis : floribus purpureis, terminalibus : caule rubro. | | PROTEA, with channelled leaves, incurved, harsh, linear, and sharp-pointed : flowers purple, and terminating the branches : stem red. |
|---|--|---|

REFERENCE TO THE PLATE.

1. One of the scales of the empalement.
2. The chives magnified.
3. Seed-bud and pointal, summit magnified.

THIS fine *Protea* is of recent introduction, within the last four or five years, from the Cape of Good Hope to the gardens of G. Hibbert, Esq. From the particular strong channel on the back of its leaves we have adopted its specific title, and have no doubt that a feature so visible in every stage of the plant will always discriminate it. The leaves are enlivened by such brilliant red stalks, as, in addition to its flower, render it an attractive object : nor is it so difficult to preserve as many of them are ; for the greatest of care is requisite to preserve numbers of this fine tribe from the damps of this island, an enemy they are so little accustomed to in their native clime.



Protea, canaliculata



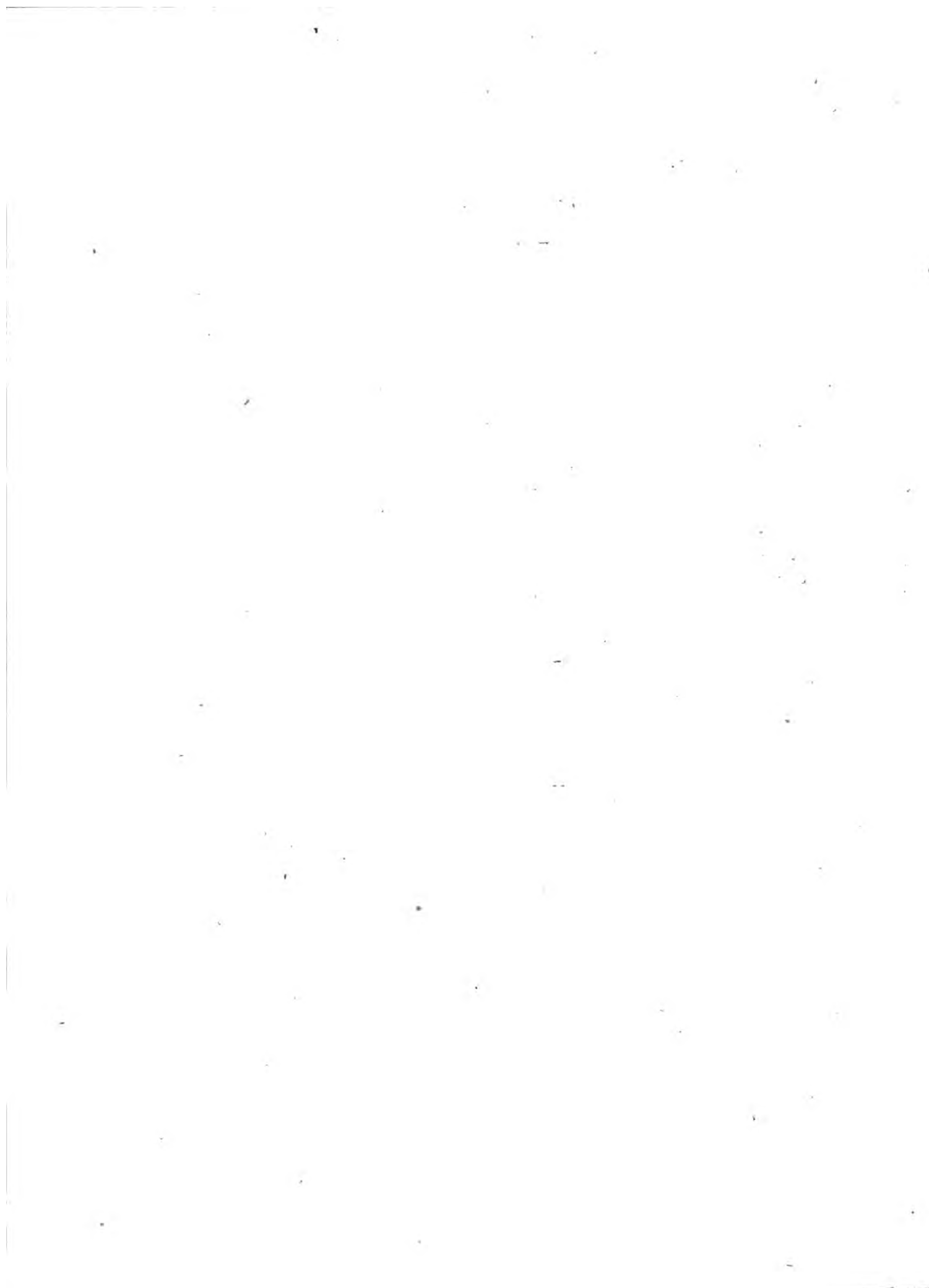


PLATE CCCCXXXVIII.
PROTEA SPECIOSA.

Showy Protea.

CLASS IV. ORDER I.

TETRANDRIA MONOGYNIA. Four Chives. One Pointal.

ESSENTIAL GENERIC CHARACTER.

COROLLA 4-fida, seu 4 petala. Antheræ lineares, petalis infra apices insertæ. Calyx proprius, nullus. Sem. solitaria.

BLOSSOM four-cleft, or of four petals. Tips linear, inserted into the petals below the points. Cup proper, none. Seeds solitary.

SPECIFIC CHARACTER.

PROTEA, foliis lanceolatis, obliquis, pilosis, undulatis: squamis calycinis superioribus, lanceolatis, barbatis, luteo-albis; squamis infra lato-ovatis, tomentosis, barbatis, apice discoloratis: caulis erectus, tripedalis.

PROTEA, with leaves lance-shaped, oblique, hairy, and waved: the upper scales of the empalement are lance-shaped, bearded, and of a yellowish white: the scales beneath are broadly ovate, downy, bearded, and discoloured towards the ends. Stem erect, and three feet high.

REFERENCE TO THE PLATE.

1. A blossom, the petals spread to show the situation of the chives.
2. The seed-bud and pointal.

THIS fine large Protea we believe is not at present in any other collection in Europe, but that of G. Hibbert, esq. It is enumerated in the Hortus Kewensis under the name of Protea speciosa, but the plant itself has been long lost to those gardens. Thunberg, in his dissertation on Protea, describes our plant exactly, under the appellation of speciosa: and, that no doubt might remain with respect to the specific adopted, our figure has been compared with a remarkable fine specimen in the herbarium of A. B. Lambert, esq., sent by Dr. Roxburgh from the Cape of Good Hope under the title of "Protea speciosa of Hottentot Island." It is undoubtedly one of the grandest of this fine section of Protea; for as a section of this numerous family it will always be better understood than it can possibly be as a discriminative specific. This extended tribe will, we think, admit of at least four or five partitions, but not Generic divisions, for we can by no means agree with those who think every slight variation of sufficient consequence to form new genera; and in this genus think it more objectionable than in any other. The title of Protea being derived from the God Proteus of ever-varying form, the more removed this tribe of plants are in their externa facie from each other, so much the better do they support their mythologic title.

Hydrangea



PLATE CCCXXXIX.
STAPELIA ORBICULARIS.

Orbicular Stapelia.

CLASS V. ORDER II.

PENTANDRIA DIGYNIA. Five Chives. Two Pointals.

GENERIC CHARACTER.

| | |
|---|---|
| <p>CALYX. Perianthium quinquefidum, acutum, parvum, persistens.</p> <p>COROLLA. Monopetala, crassa, quinquefida, acuta, contorta.
<i>Nectaria</i> duplicia, stelliformia; superiore genitalia tegente.</p> <p>STAMINA sub-sessilia, ad nectarium adhærentia. Antheræ bifidæ.</p> <p>PISTILLA. Germina duo, oblonga, acuminata. Styli duo, subulati. Stigma utroque commune, magnum, crassum, pentagonum.</p> <p>PERICARPIMUM. Folliculi duo, uniloculares, univalves.</p> <p>SEMINA numerosa, pappo coronata.</p> | <p>EMPALEMENT. Cup five-cleft, sharp, small, and remaining.</p> <p>BLOSSOM one-petalled, thick, five-parted, pointed, and twisted.
<i>Honey-cups</i> double and starlike; the upper nectary hiding the parts of fructification.</p> <p>CHIVES nearly sessile, and attached to the nectary. Tips two-cleft.</p> <p>POINTAL. Seed-buds two, oblong, and tapered. Shafts two, awl-shaped. Summit common to both, large, thick, and five-cornered.</p> <p>SEED-VESSEL. Two pods, one-celled, one-valved.</p> <p>SEEDS numerous, and crowned with a feather.</p> |
|---|---|

SPECIFIC CHARACTER.

| | |
|---|---|
| <p>STAPELIA orbicularis; ramis pluribus, erecto-patentibus, tetragonis, dentatis; corollis quinquefidis, in medio orbiculatis, densissime punctatis; laciniis cordatis, rugosis, striatis, fuscatis.</p> | <p>STAPELIA with orbicular flowers; branches numerous, erect and spreading, four-sided, and toothed; blossom five-cleft, rounded in the centre, and closely dotted; segments of the border are heart-shaped, wrinkled, and striped with brown.</p> |
|---|---|

REFERENCE TO THE PLATE.

1. The empalement, nectaries, chives and pointals.
2. The nectaries, chives, and pointals, magnified.
3. A section of the above, magnified.
4. The same shown in a side direction, to expose the situation of the chives.
5. The seed-buds, shafts, and summit.

THIS perfectly new *Stapelia* we have not met with in any other collection but that of Messrs. Lodge, from whom we received it under the title of *orbicularis*, a specific derived from the circular centre of the flower a very discriminative appellation; and, although not exclusively the character of this species, is much more distinctly marked in this plant than in any other we have as yet seen. Upon comparing our figure with forty-one species described and figured by Mr. F. Masson, not any affinity could be discerned powerful enough to render a reference by any means requisite: there is a sombre appearance annexed to almost all the flowers of this most curious tribe, and they more resemble pieces of mechanism than the vegetable productions of nature. They require but little water in summer, and still less in winter; should be carefully sheltered from rain and frost, and they will succeed very well, and are easily propagated by slips from the joints, but very rarely seed in this country. Natives of the Cape of Good Hope, and are called *Stapelias* after a Dutch botanist of the name of *Stapel*.



Stapelia, orbicularis



PLATE CCCCXL.
SOPHORA SERICEA.

Silky-leaved Sophora.

CLASS X. ORDER I.

DECANDRIA MONOGYNIA. Ten Chives. One Pointal.

ESSENTIAL GENERIC CHARACTER.

CALYX quinquedentatus, superne gibbus. Corolla papilionacea, alis longitudine vexilli. Pericarpium, legumen.

EMPALEMENT five-toothed, the upper ones gibbose, or gouty. Blossom butterfly-shaped, with the wings the length of the standard. Seed-vessel, a pod.

SPECIFIC CHARACTER.

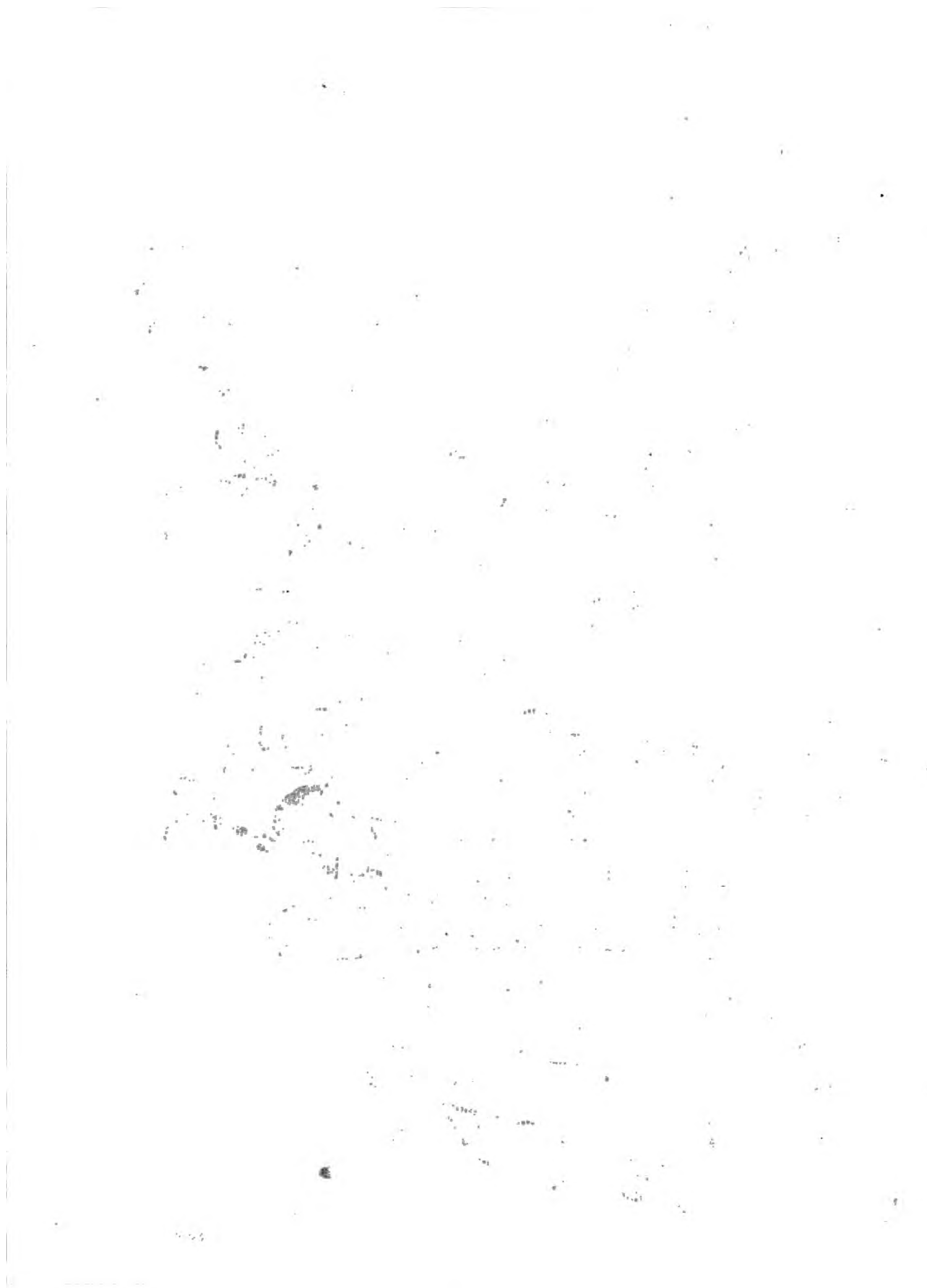
SOPHORA, foliis sericeis, oblongis, alternatis, pilo mollissimo lucido omnino tectis, apice acutis, revolutis, ad basin stipulis parvis; floribus simplicibus, axillaribus, pallide purpureis; caulis argenteus.

SOPHORA with silky leaves, oblong, alternate, and entirely covered by a very soft shining hair, sharp-pointed, and rolled back, with small stipulæ at their base; flowers grow singly from the axillæ of the leaves, and of a pale purple; stem silvery.

REFERENCE TO THE PLATE.

1. The empalement.
2. The standard.
3. One of the wings.
4. The keel.
5. The chives and pointal.
6. The same magnified.
7. Seed-bud and pointal, summit magnified.

THIS delicate Sophora may literally be said to be an old plant with a new face, as we have been long familiar with the foliage, but entirely unacquainted with its flowers, till very lately we found it in luxuriant bloom (and we believe for the first time in this country) in the conservatory of G. Hibbert, esq. this month (December), probably not the regular period of its inflorescence, but the effect of casualty assisted by the uncommon mildness of the season. It would be a vain endeavour to attempt to do justice to the beautiful shining silky appearance of the leaves; and when aided by its delicate purple flowers, its attraction is equal, if not superior, to any of the genus. The want of freedom in its flowering is a defect not entirely confined to this species only, but is in some degree attached to most Sophoras. It is a native of the Cape of Good Hope, and requires as much air as can with safety be administered to it in this country.



THE POINT

The first thing I noticed when I stepped out to the porch was how cold it felt. The wind was a length of the storm.

It felt like the air was being pulled away from me, leaving a soft, hollow space behind. The leaves were being blown away, and if I didn't hold on, I would be gone.

THE POINT

- 1. The first thing I noticed when I stepped out to the porch was how cold it felt.
- 2. The wind was a length of the storm.
- 3. It felt like the air was being pulled away from me, leaving a soft, hollow space behind.
- 4. The leaves were being blown away, and if I didn't hold on, I would be gone.

The first thing I noticed when I stepped out to the porch was how cold it felt. The wind was a length of the storm. It felt like the air was being pulled away from me, leaving a soft, hollow space behind. The leaves were being blown away, and if I didn't hold on, I would be gone.



Antennaria serotina

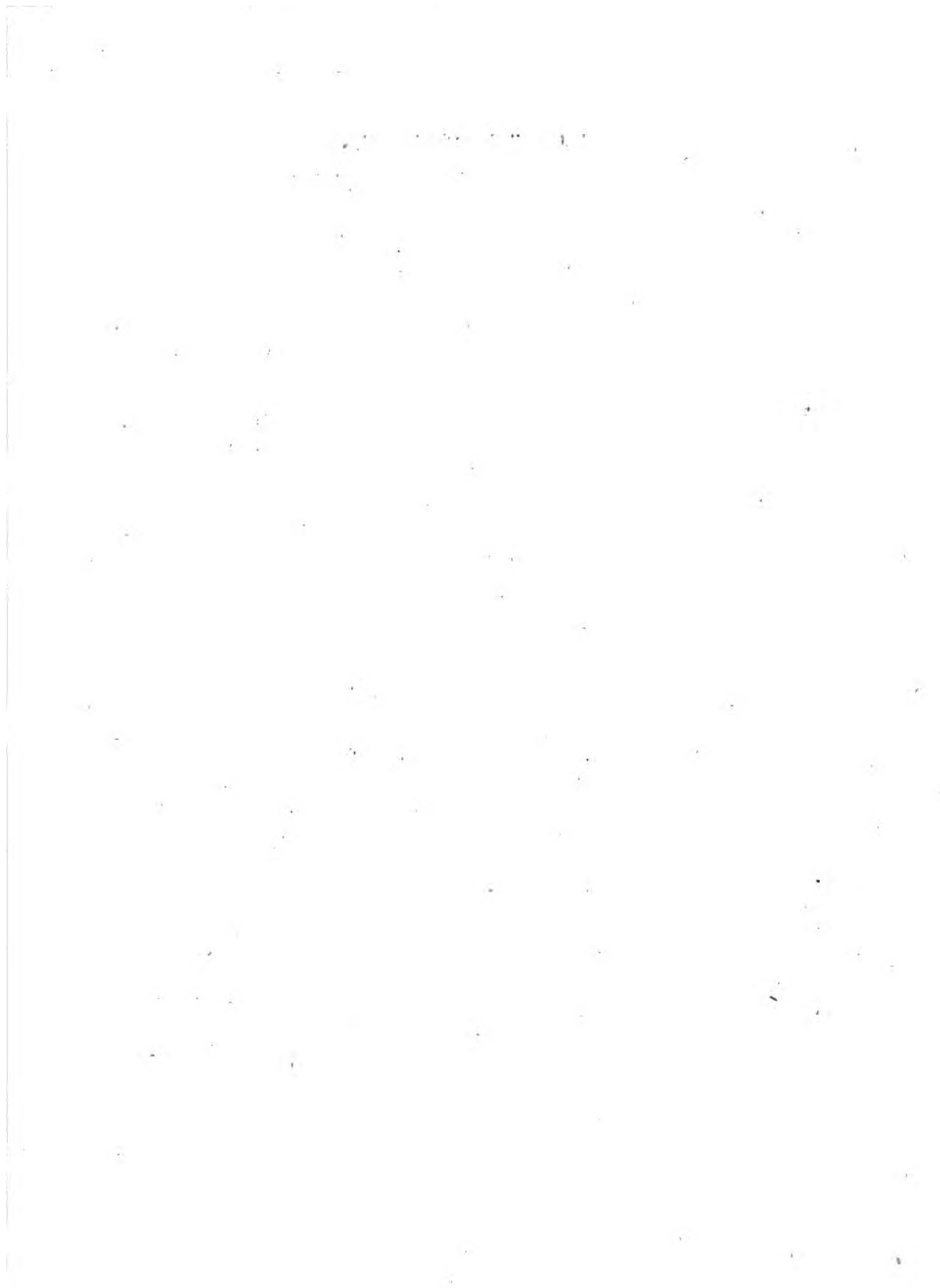


PLATE CCCCXLI.
EPIDENDRUM FUSCATUM.
Brown-flowered Epidendrum.

CLASS XX. ORDER I.

GYNANDRIA DIANDRIA. Chives on the Pointals. Two Chives.

ESSENTIAL GENERIC CHARACTER.

NECTARIUM turbinatum, obliquum, reflexum.

HONEY-CUP top-shaped, oblique, and reflexed.
See Pl. XIII. Vol. I. Epidendrum cochleatum.

SPECIFIC CHARACTER.

EPIDENDRUM, foliis lanceolatis, caulem vagina alterne tegentibus, contortis, atro-purpureo discoloratis; floribus umbellatis terminalibus fuscatis, leviter punctatis, vel striatis.

EPIDENDRUM, with lance-shaped leaves, alternately sheathing the stem, twisted, and discoloured with a deep purple: flowers terminate the branches in umbels, of a brownish colour, dotted or striped.

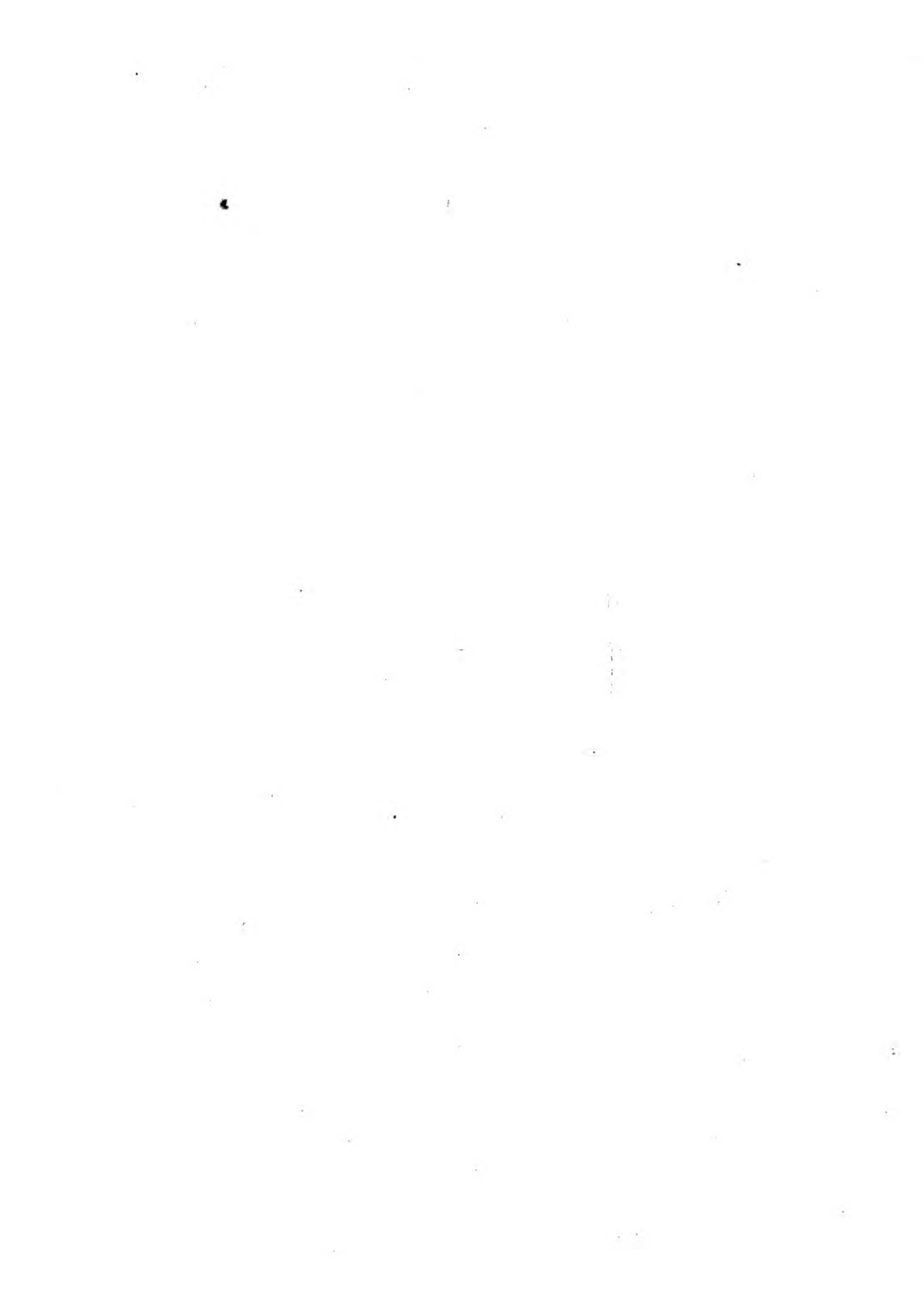
REFERENCE TO THE PLATE.

1. The nectary, or honey-cup.
2. The blossom detached.
3. The seed-bud, chives, and pointal, the hood lifted up that covers the chives.
4. The same magnified.

AMONGST this numerous parasitic tribe there are many whose claim to beauty is by no means powerful, and certainly the present figure has little to boast of in that particular: but the singular and curious structure of their flowers will always render every new species and even distinct varieties desirable, particularly as they are an essential connecting link in the interesting family of the Orchidiæ. We were at first inclined to regard it as the *E. fuscatum* of Dr. Smith on rare plants; but on comparison with that figure we found it in foliage nearly the same, but so different both in the size and colour of its flowers, that, if it might be regarded as a variety, it must certainly be a very distinct one. It is a native of Jamaica, and as such requires the protection of the stove. From a plant plunged in the tan-bed our drawing was made at the gardens of G. Hibbert, esq.



Epidendrum fuscatum



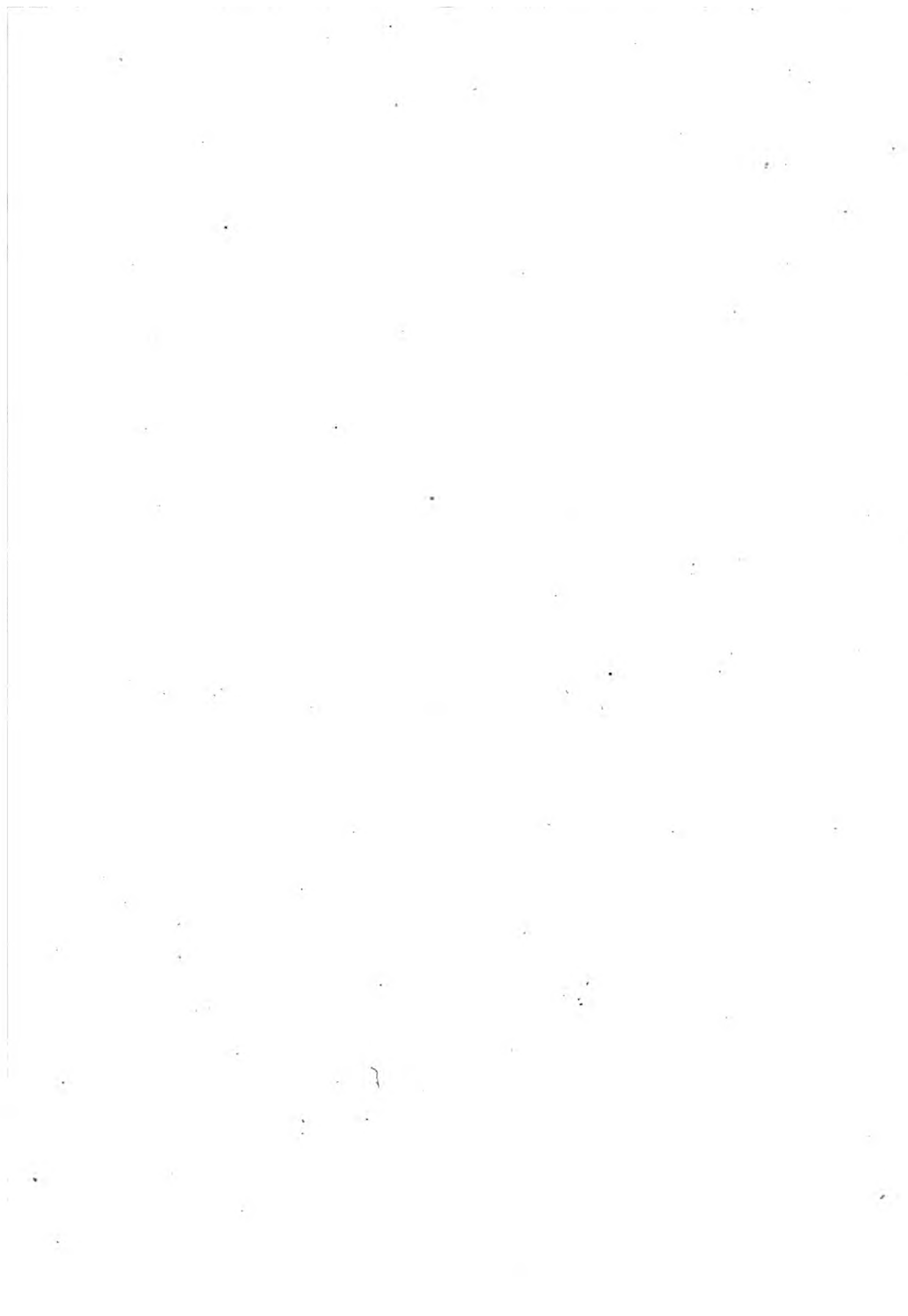


PLATE CCCCXLII.
PROTEA PULCHELLA, *Var. speciosa.*
Waved-leaved Protea, Speciosa Variety.

CLASS IV. ORDER I.

TETRANDRIA MONOGYNIA. Four Chives. One Pointal.

ESSENTIAL GENERIC CHARACTER.

COROLLA 4-fida, seu 4 petala. Antheræ lineares, petalis infra apices insertæ. Calyx proprius, nullus. Sem. solitaria.

BLOSSOM four-cleft, or four petals. Tips linear, inserted into the petals below the points. Cup proper, none. Seeds solitary.

SPECIFIC CHARACTER.

PROTEA, foliis lanceolatis, undulatis, rubro marginatis, pilosis; squamis calycis tricoloratis; capitulo-erecto, terminali: caule ramoso, bipedali.

PROTEA, with lance-shaped leaves, waved, margined with red, and hairy; scales of the cup three-coloured: flower-head upright, and terminal: stem branching, and two feet high.

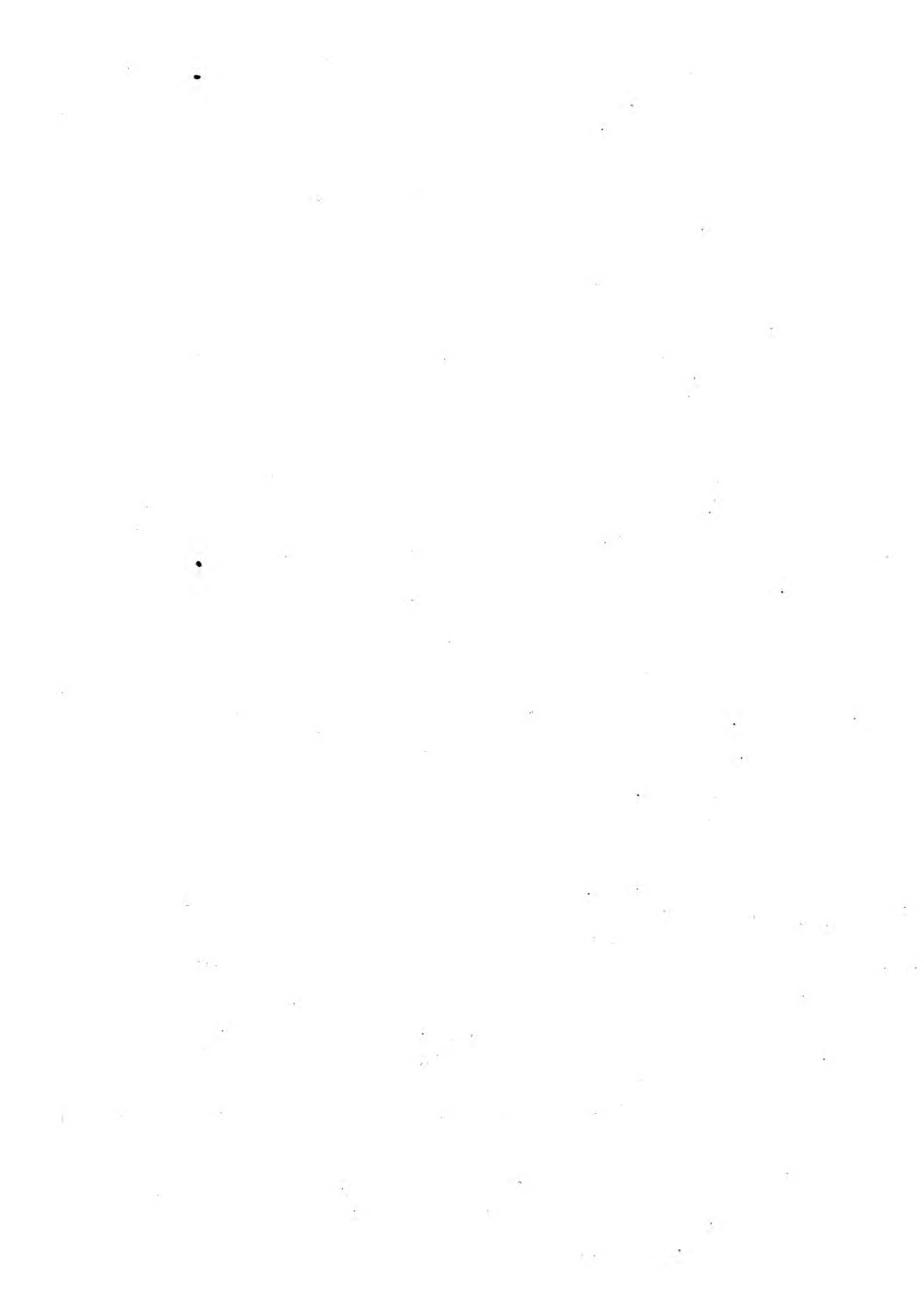
REFERENCE TO THE PLATE.

1. The empalement and chives.
2. Seed-bud and pointal.

Our figure represents so evident a variation of the *Protea pulchella*, that it probably should be only regarded as a fine large flowering variety; but as it exhibits a strong affinity in the flowers to that fine section of *Protea* called *Speciosa*, it is certainly better to denominate it a variety of that species, than to adhere too closely to the appellation of its original, whose specific is of too indiscriminate a character to be adopted any further than the acceptance of it already may have rendered necessary. The only method to avoid confusion in this extended varying tribe in future, will be to make as few species as possible in addition to those already made, unless they can be founded upon some apparent leading feature in the plant. Our drawing was made from the Hibbertian collection.



Protea pulchella. Var. *sparsa*



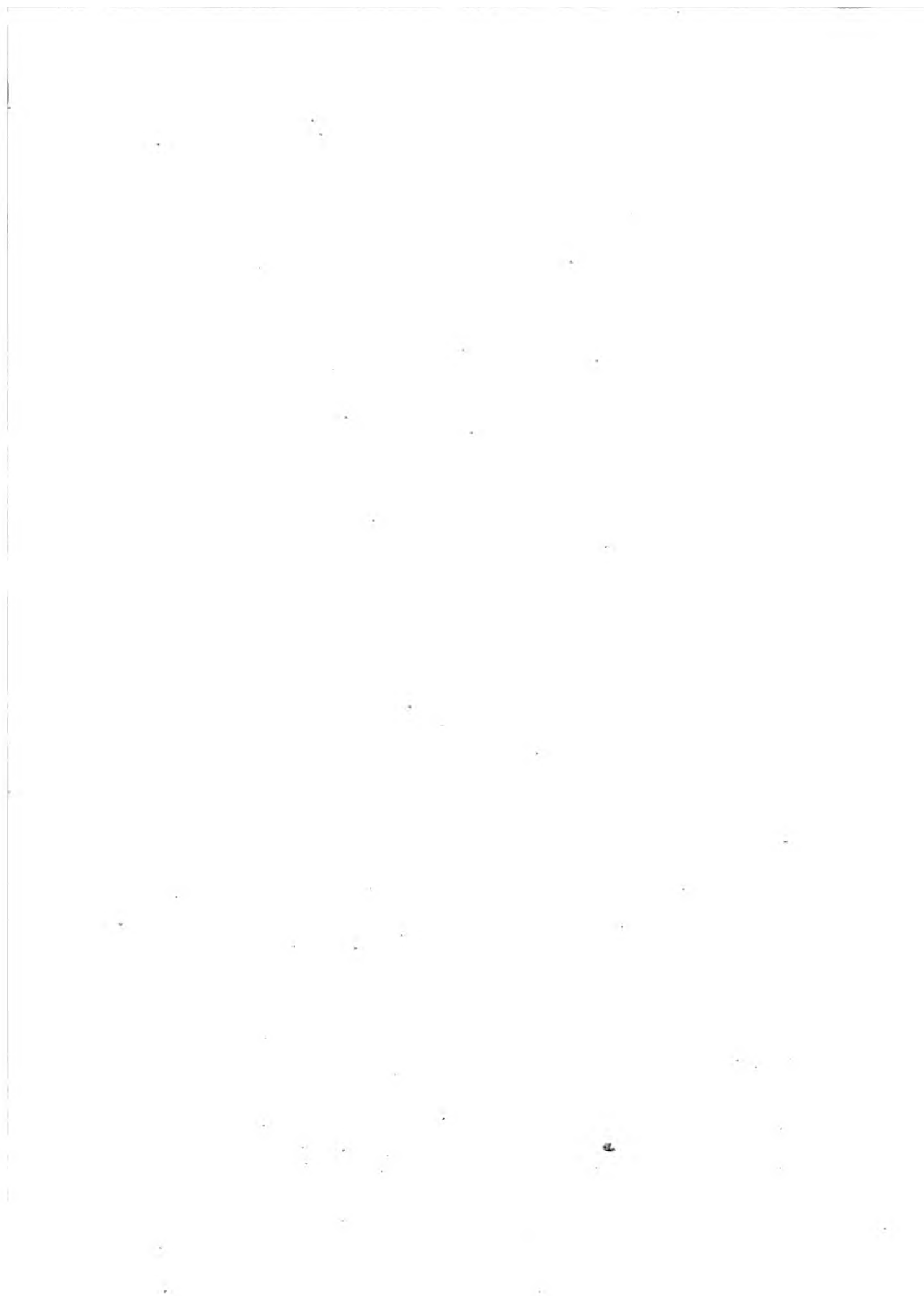


PLATE CCCCXLIII.
ERYTHRINA SPECIOSA.
Showy Erythrina.

CLASS XVII. ORDER IV.

DIADELPHIA DECANDRIA. Chives in two Sets. Ten Chives.

GENERIC CHARACTER.

| | |
|--|---|
| <p>CALYX. Perianthium monophyllum, integrum, tubulosum, ore superne emarginatum, inferne poris melliferis instructum.</p> <p>COROLLA papilionacea, pentapetala.</p> <p><i>Vexillum</i> lanceolatum, lateribus deflexum, adscendens, longissimum.</p> <p><i>Alæ</i> sub-ovatae, calyce vix longiores, extra tubum vexilli vix eminentes, minimæ.</p> <p><i>Carina</i> recta, longitudine alarum, dipetala, emarginata.</p> <p>STAMINA. Filamenta diadelpa, filamenta decem inferne connata, parum incurva, longitudine dimidii vexilli, inequalia, sagittata.</p> <p>PISTILLUM. Germen p dicellatum, subulatum, attenuatum in stylum subulatum, longitudine staminum. Stigma terminale, simplex.</p> <p>PERICARPIUM. Legumen longissimum, ac seminibus nondum tumidis acuminatè terminatum, uniloculare.</p> <p>SEMINA reniformia.</p> <p>Obs. E. Herbacea staminibus decem distinctis.</p> | <p>EMPALEMENT. Cup one-leafed, entire and tubular, emarginated on the upper part, the part beneath with little pores containing honey.</p> <p>BLOSSOM butterfly-shaped, five-petalled.</p> <p><i>Standard</i> lance-shaped, bowing sideways, ascending, and very long.</p> <p><i>Wings</i> nearly egg-shaped, and scarcely longer than the tube of the empalement, outside the standard, and very small.</p> <p><i>Keel</i> straight out, the length of the wings, two-petalled and emarginated.</p> <p>CHIVES. Threads in two sets, ten threads joined together beneath, slightly turned inwards, half the length of the standard, unequal, and arrow-headed.</p> <p>POINTAL. Seed-bud with a footstalk, awl-shaped, and tapering into the shaft, which is awl-shaped, and of the length of the stamens. Summit terminating, simple.</p> <p>SEED-VESSEL. A very long pod, and before the seeds are swelled out terminated with a sharp point, of one cell.</p> <p>SEEDS kidney-shaped.</p> <p>Obs. E. Herbacea has ten distinct stamens.</p> |
|--|---|

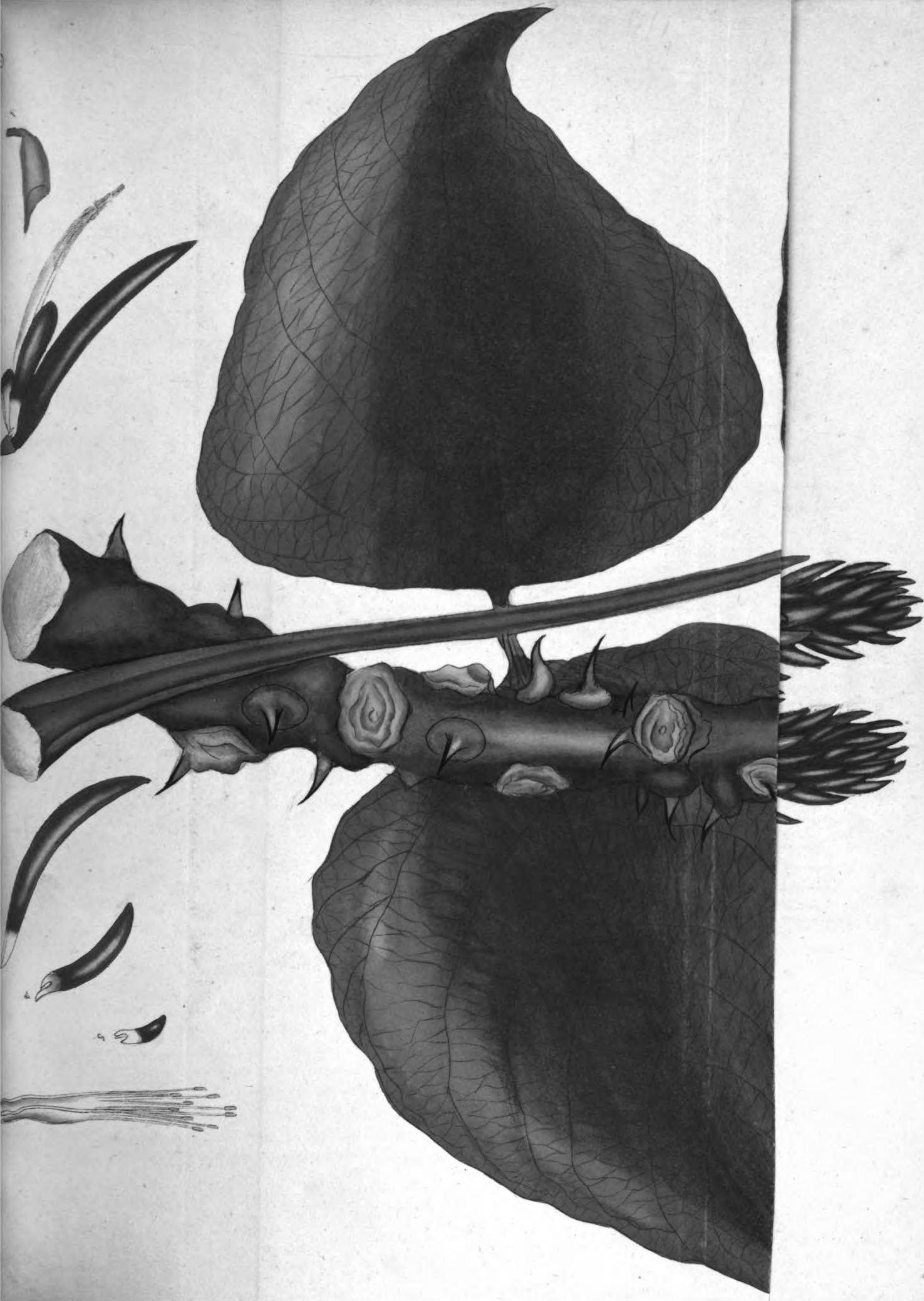
SPECIFIC CHARACTER.

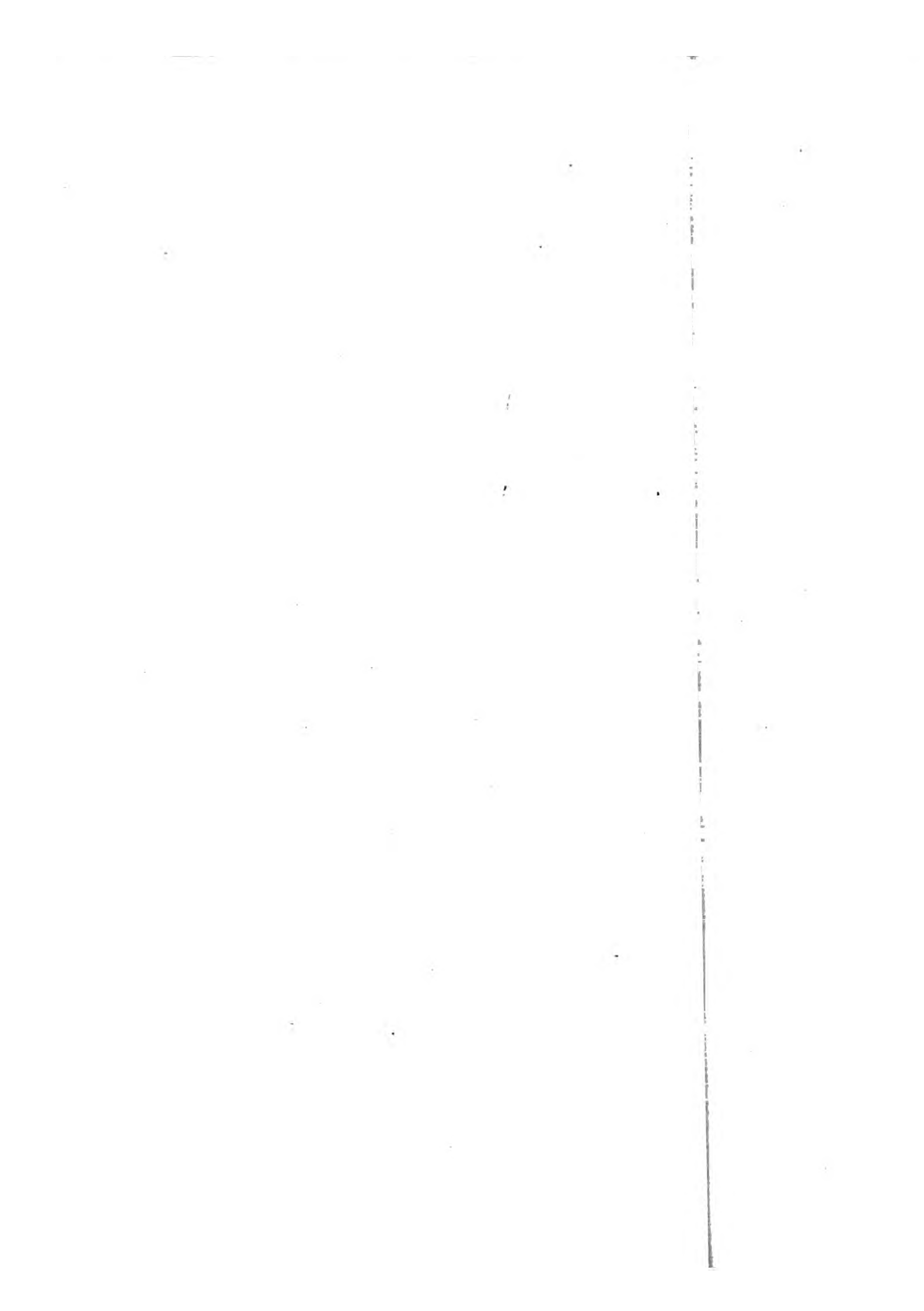
| | |
|---|---|
| <p><i>ERYTHRINA speciosa</i>, foliis magnis, ternatis; foliolis cordatis, subtus nervis aculeatis. Caulis tripedalis, erectus, spinosus, viridis.</p> | <p><i>ERYTHRINA</i> with showy flowers; leaves large and three-divided; leaflets heart-shaped, with prickly nerves on the under side. Stem three feet high, upright, thorny, and green.</p> |
|---|---|

REFERENCE TO THE PLATE.

- | | |
|---------------------------|----------------------------|
| 1. The empalement. | 5. The keel. |
| 2. A blossom spread open. | 6. The chives spread open. |
| 3. The standard. | 7. Seed-bud and pointal. |
| 4. One of the wings. | |

THIS superb *Erythrina* was communicated to the author by A. B. Lambert, esq., with whom it flowered in the month of November, for the first time in this kingdom. It is a nondescript and very rare plant, but so easily propagated by cuttings that it will doubtless not long remain so. There are but five species of this genus yet known; the present subject will therefore be a valuable addition to the number. The falling off of the leaves was a defect occasioned by the red spider, a powerful enemy to plants, and hot-house ones in particular. But Mr. Lambert informs us, that independent of that casualty it may be regarded as of a hardier character, and less deciduous in its foliage, than the rest of the genus. Of what country indigenous, is not at present perfectly known; but it is supposed to be a native of South America.





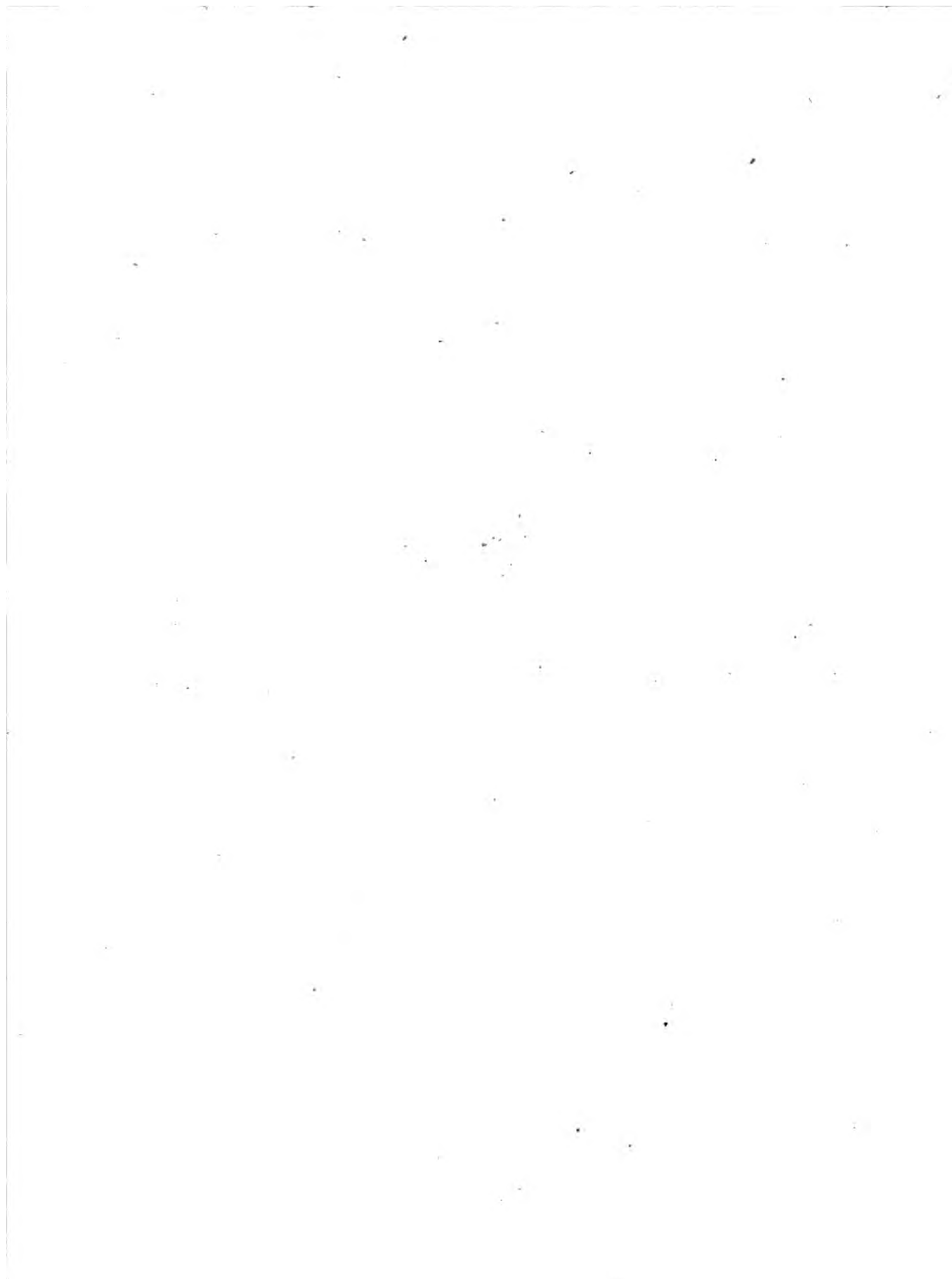


PLATE CCCCXLIV.
LOBELIA HIRSUTA.
Hairy Lobelia.

CLASS XIX. ORDER VI.

SYNGENESIA MONOGAMIA. Tips united. Flowers simple.

ESSENTIAL GENERIC CHARACTER.

CALYX 5-fidus. Corolla 1-petala, irregularis.
Capsula infera 2- seu 3-locularis.

CUP 5-cleft. Blossom, 1-petalled, irregular. Cap-
sule beneath, 2 or 3 celled.

See Pl. CCLXXIII. Vol. IV. *Lobelia pinifolia.*

SPECIFIC CHARACTER.

LOBELIA foliis hirsutis, inferioribus oblongis,
dentatis, hirsutis; floribus albis, solitariis ax-
illaribus; pedunculis elongatis; stigmatibus
obtusis, pilosis; caule fruticosa, pilosa,
petente.

LOBELIA with hairy leaves; the lower ones are
oblong, toothed and hirsute: flowers white,
and grow singly from the base of the leaves:
foot-stalks lengthened: summits blunt, and
hairy: Stem shrubby, hairy, and spreading.

REFERENCE TO THE PLATE.

1. The flower and chives spread open and magnified.
2. Seed-bud and pointal, summit magnified.

THE Lobelias are an extensive family, but in a very confused state at present; not many of them having been described, and almost all that have been figured are blue flowers, a scarce colour in most genera, although so prevalent in this, and most probably to the attraction of this colour is chiefly owing the notice already taken of them: for, as beautiful little annuals, they have an irresistible claim to our attention. Our present subject does not possess the charm of colour, but from its lively white flowers and constant succession of bloom it is well deserving a place in the green-house. Our figure represents an entire plant, taken from the Cape Nursery of Messrs. Middlemist and Wood, near Shepherd's Bush, on the Edgware Road.

Pl.



Pobelia hirsuta

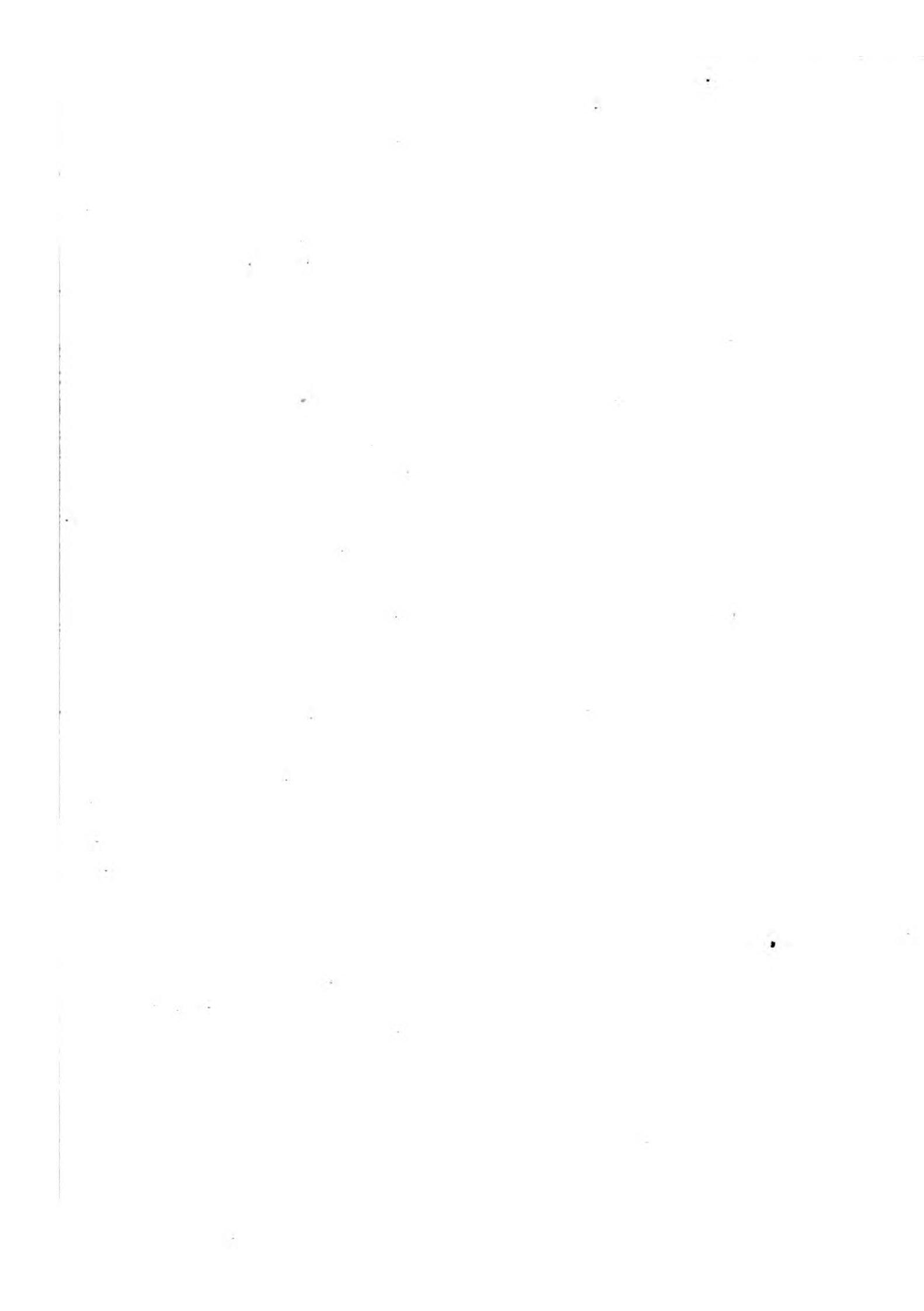


PLATE CCCCXLV.
EPIDENDRUM LINEARE.
Linear-leaved Epidendrum.

CLASS XX. ORDER I.

GYNANDRIA DIANDRIA. Chives on the Pointal. Two Chives.

ESSENTIAL GENERIC CHARACTER.

| | | |
|---|-----------|---|
| <p>NECTARIUM turbinatum, obliquum, reflexum.</p> | <p> </p> | <p>HONEY-CUP top-shaped, oblique, and reflexed.
 See Pl. XIII. Vol. I. <i>Epidendrum cochleatum.</i></p> |
|---|-----------|---|

SPECIFIC CHARACTER.

| | | |
|---|-----------|--|
| <p>EPIDENDRUM, foliis linearibus, caulem vagina alterne tegantibus, apice crenatis: floribus terminalibus, spicatis, alternatis, purpureis; caulis juncinus, longus, gracilis.</p> | <p> </p> | <p>EPIDENDRUM, with linear leaves, alternately sheathing the stem, and notched at the end: flowers terminate the branches in a spike, alternate, and purple: stem rush-like, long, and slender.</p> |
|---|-----------|--|

REFERENCE TO THE PLATE.

1. The blossom without the honey-cup; spread open to show the chives.
2. The same magnified.
3. The honey-cup magnified.
4. The pointal magnified.

In the Icones of Plumier 182, fig. 1. we find the figure of this *Epidendrum*, and in Jacquin we also find another under the appellation we have adopted, but evidently taken from a dried specimen; yet the foliage is more accurate than that of Plumier's, who has terminated the leaves without the little incisure at the end; a specific character in the plant, but easily overlooked in the freedom of drawing: the flowers however make up for this omission, by being taken from the living plant; and there can be no doubt but our figure represents the same individual plant of both those authors. From the long slender stalk of the *Epidendrum*, it acquires a graceful bend when in flower; from the appearance of its flowers we are strongly inclined to think it *Neottia* instead of an *Epidendrum*; but having such good authorities to follow, we think no alteration necessary, particularly as both those Genera are such very near relations. As a native of Jamaica, it requires the tan-bed of the hot-house for its protection.



Epidendrum, lineare

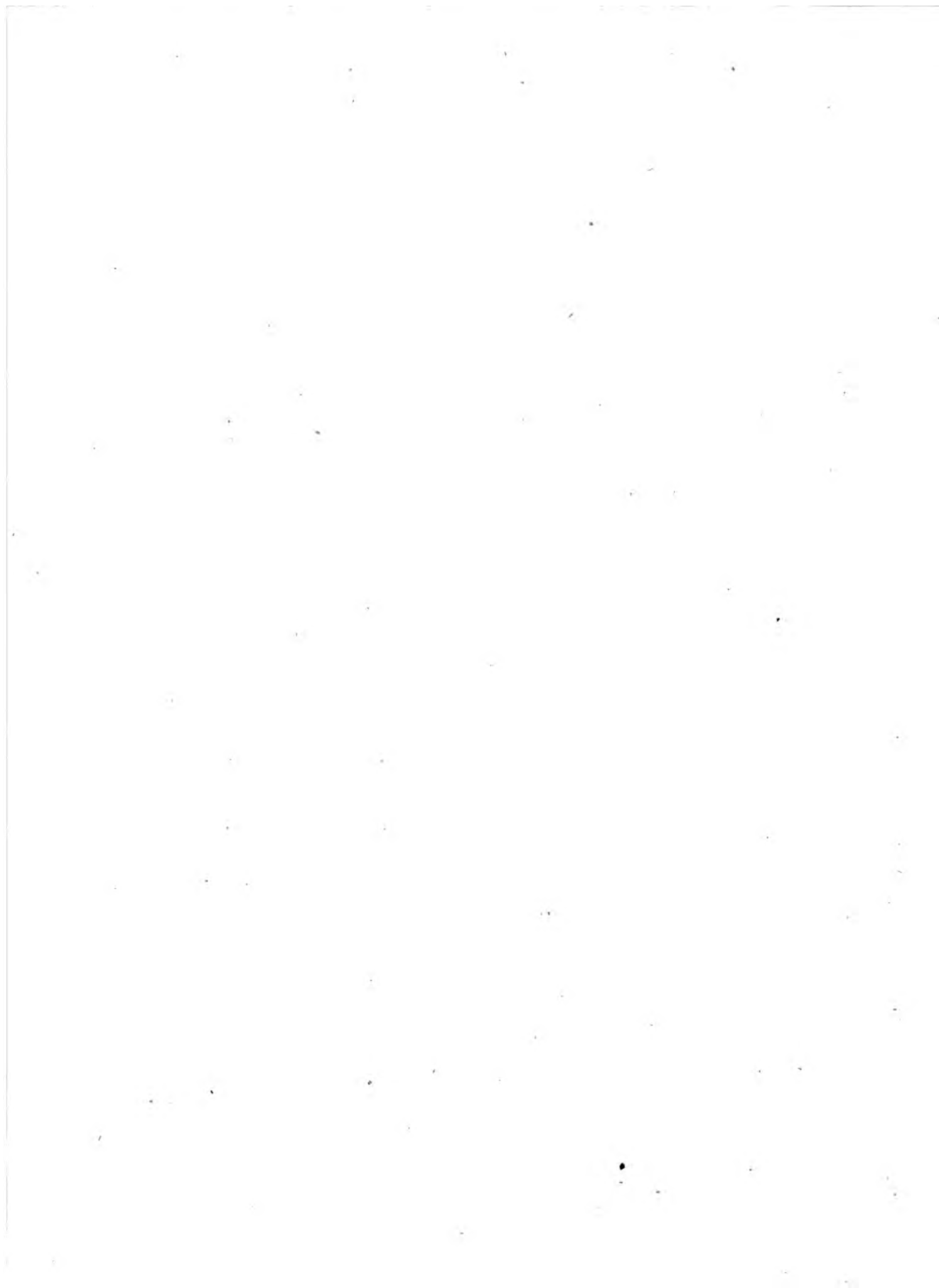


PLATE CCCCXLVI.
DOLICHOS HIRTUS.

Hairy-stemmed Dolichos.

CLASS XVII. ORDER IV.

DIADELPHIA DECANDRIA. Chives in two sets. Ten Chives.

ESSENTIAL GENERIC CHARACTER.

| | | |
|--|--|---|
| VEXILLUM callis duobus ad basin, parallelis, oblongis, alis subtus comprimentibus. | | STANDARD with two callosities at the base; parallel, and of an oblong form; the wings beneath binding together. |
|--|--|---|

SPECIFIC CHARACTER.

| | | |
|---|--|---|
| DOLICHOS hirtus; caule volubili, tecto ferrugineis pilosis; floribus luteis striatis rubris; foliis ternatis; foliolis sub-cordatis, subtus pilosis; stipulis duabus ad basin; radice tuberosa. | | DOLICHOS with a hairy stem: the stalk is twining, and covered with rusty hairs: flowers are yellow, and striped with red: leaves ternate; leaflets nearly heart-shaped, and hairy beneath, with two stipulæ at their base: root tuberous. |
|---|--|---|

REFERENCE TO THE PLATE.

1. The cup.
2. The standard.
3. One of the wings shown from the inside
4. The keel.
5. The chives and pointal.
6. The chives spread open.
7. The seed-bud and pointal.

THIS handsome twining plant was introduced from the Cape of Good Hope to the gardens of G. Hibbert, esq. about the year 1802, and flowered very luxuriantly, but did not perfect any of its seeds nor make any approach towards it, as the flowers with their empalements all fell off together immediately after flowering; and for the last three or four years the plant (although apparently in a healthy state) has not indicated the least appearance of bloom; and we are inclined to think it might possibly succeed better with the careful treatment of the dry stove than with its present situation in the hot-house; and if upon experiment it should prove successful, it would then doubtless become a plant in request by many cultivators who whilst it remains a hot-house plant cannot give it a place in their collection.

This genus approaches so near to that of Phaseolus, that we cannot help thinking one generic title would have been sufficient for them both.



Clitoria hirtellus.

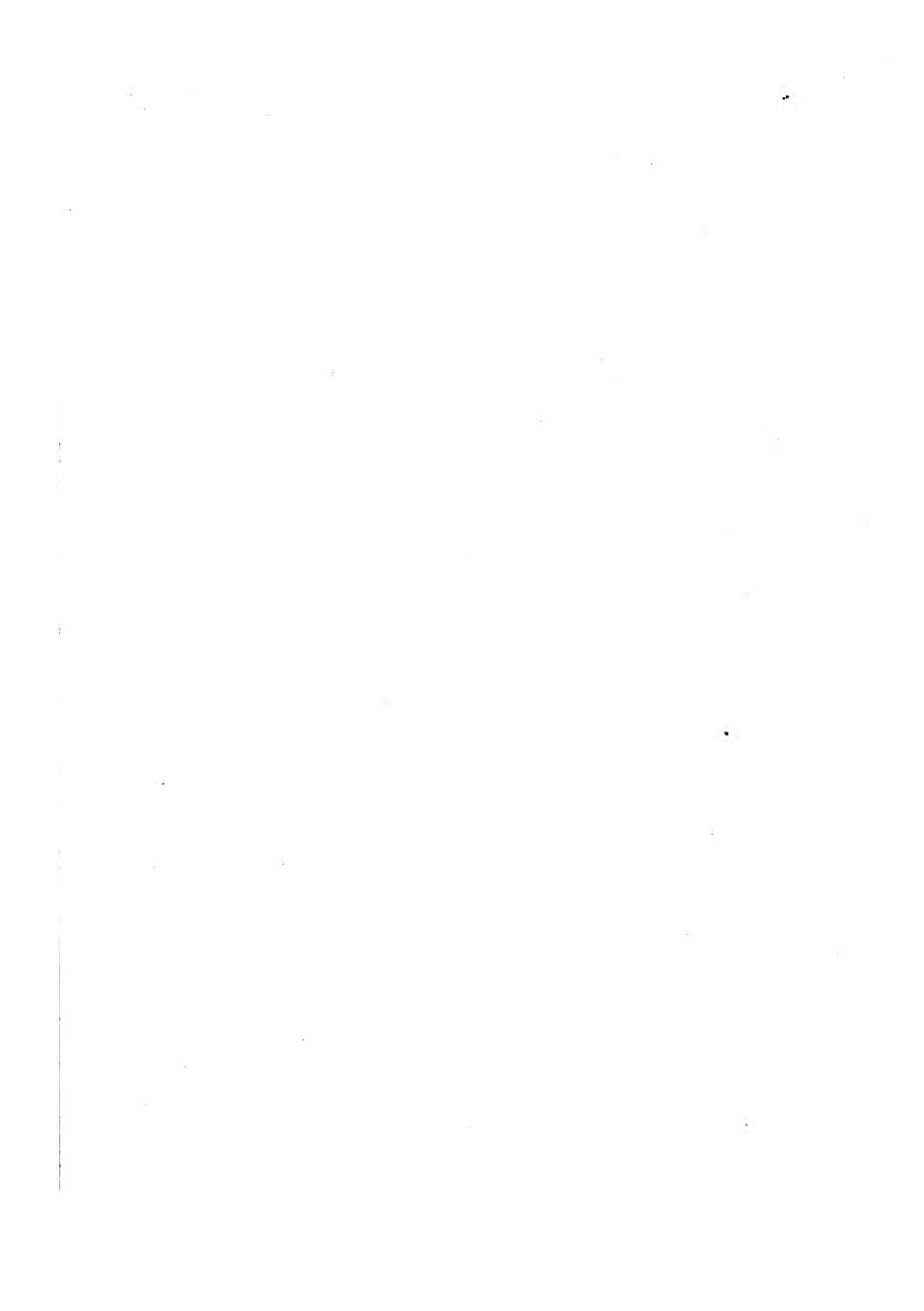


PLATE CCCCXLVII.
PROTEA ARGENTIFLORA.
Silvery-flowered Protea.

CLASS IV. ORDER I.

TETRANDRIA MONOGYNIA. Four Chives. One Pointal.

ESSENTIAL GENERIC CHARACTER.

| | | |
|---|--|--|
| COROLLA 4-fida, seu 4 petala. Antheræ lineares, petalis infra apices insertæ. Calyx proprius, nullus. Sem. solitaria. | | BLOSSOM four-cleft, or of four petals. Tips linear, inserted into the petals below the points. Cup proper, none. Seeds solitary. |
|---|--|--|

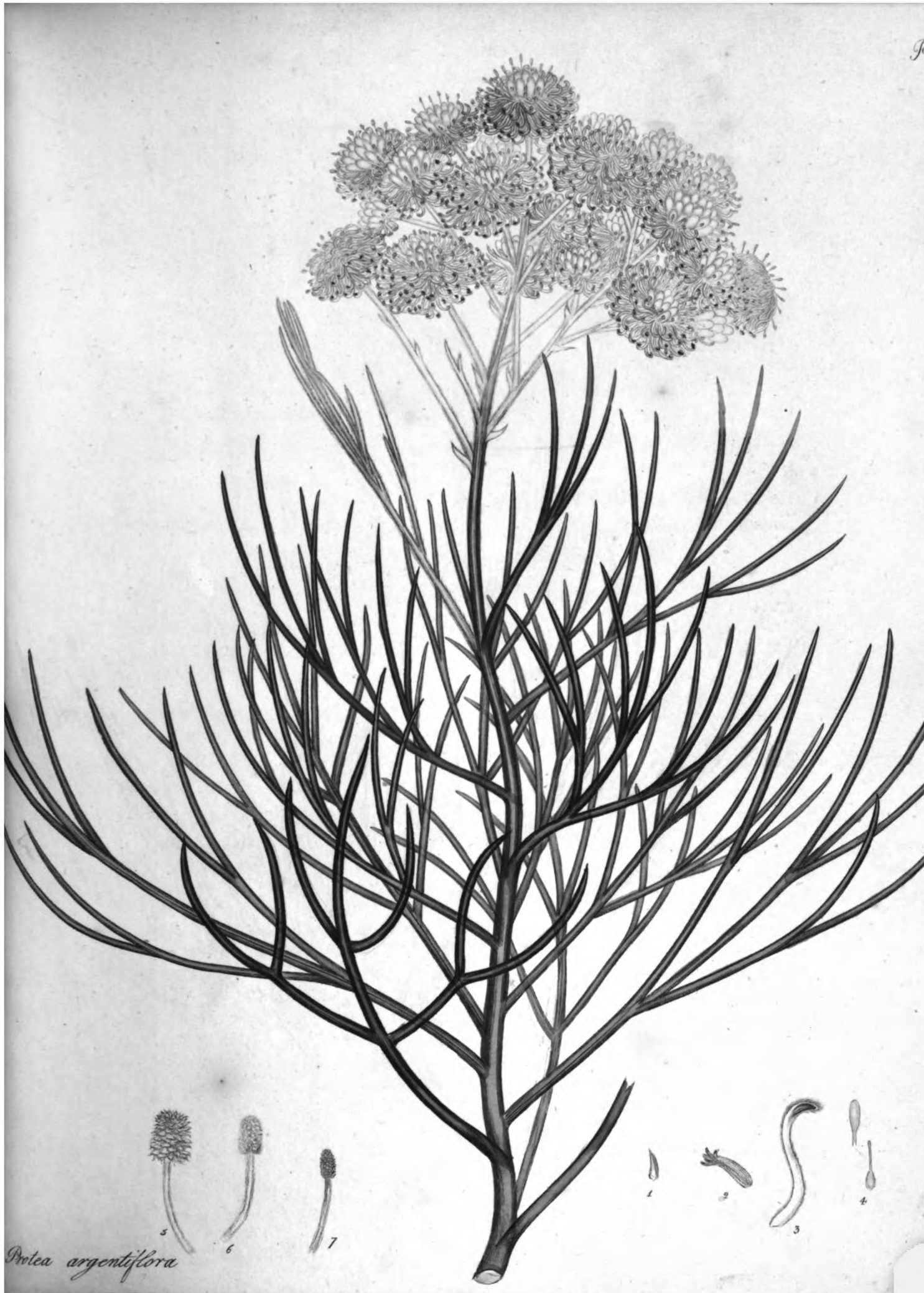
SPECIFIC CHARACTER.

| | | |
|--|--|---|
| PROTEA argentiflora; floribus paniculatis, densissime confertissimis, parvis rotundatis capitatis, fragrantibus, nitidissimis; foliis bipinnatis, linearibus, apice acutis, erecto-patentibus. | | PROTEA with silvery flowers: the flowers grow in panicles, closely crowded together, in little round heads, sweet-scented and very shining: leaves twice divided, linear, sharp-pointed, and between erect and spreading. |
|--|--|---|

REFERENCE TO THE PLATE.

1. One of the scales.
2. A blossom detached from the umbel.
3. A section of it magnified.
4. Seed-bud and pointal, summit magnified.
5. The cone with the scales attached.
6. The same without the scales.
7. The naked cone.

FROM the shining silvery appearance of this Protea we have drawn its specific title, although aware of the insurmountable difficulty of doing justice to it: but in so extended a genus it will be frequently impossible to give a discriminating or unoccupied specific from its foliage:—our title may always be ascertained when the plant is in bloom, whether in perfection or not, as the flowers living or dead always retain a shining silvery aspect. It also possesses a most exquisite sweet scent; but its superior fragrance only exists whilst the flowers are in perfection; as after that period it grows fainter, and is at last scentless. Our figure was made from the collection of G. Hibbert, esq.



Protea argentiflora

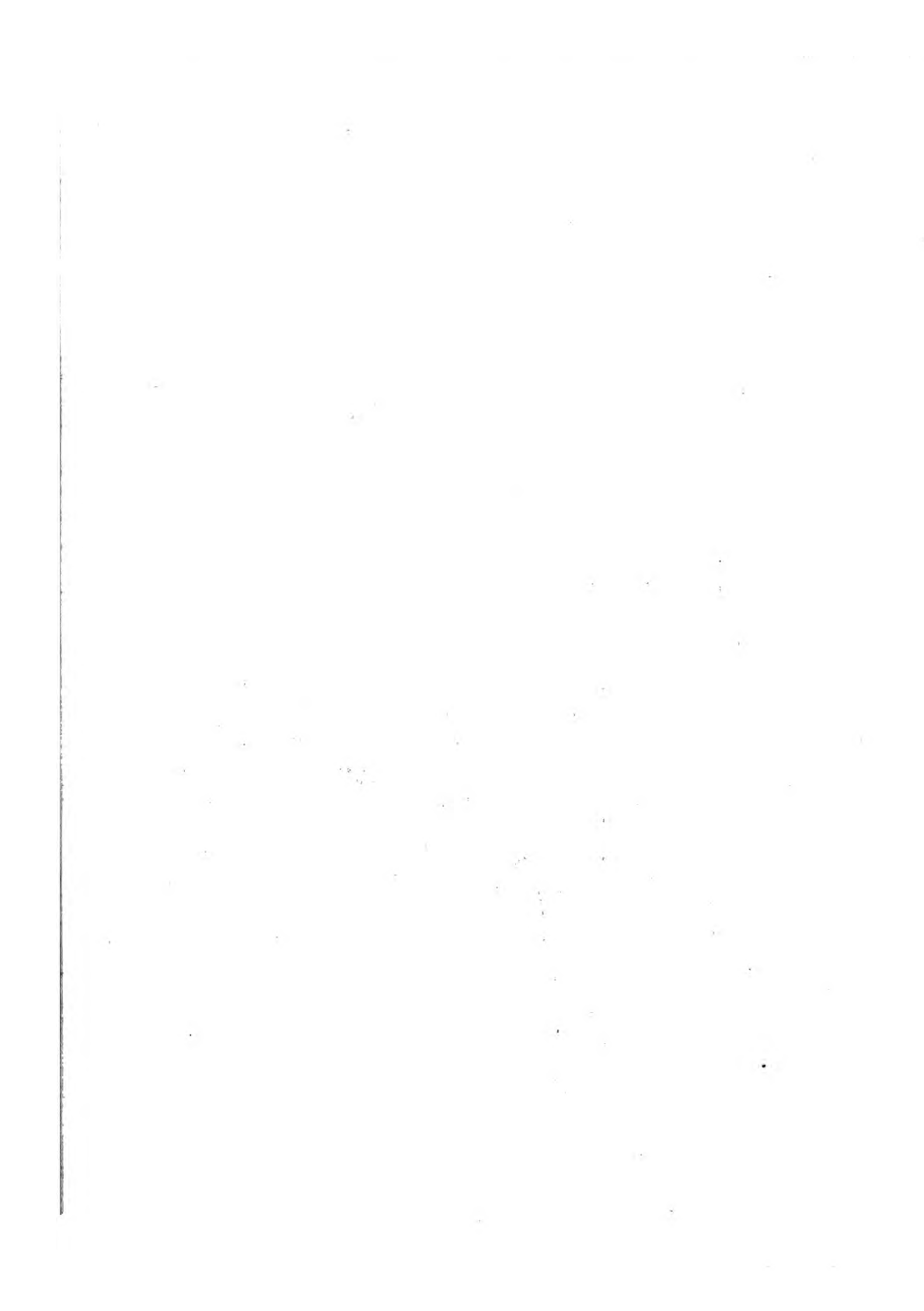


PLATE CCCCXLVIII.

PÆONIA SUFFRUTICOSA; *Var. flore purpureo.*

Shrubby Pæony; Purple-flowered Variety.

CLASS XIII. ORDER V.

POLYANDRIA PENTAGYNIA. Many Chives. Five Pointals.

ESSENTIAL GENERIC CHARACTER.

CALYX 5-phyllus. Petala 5. Styli 0. Capsulæ polyspermæ.

CUP 5-leaved. Petals 5. Pointal none. Capsules many-seeded.

SPECIFIC CHARACTER.

PÆONIA caule suffruticoso, tripedali, ramoso: folia alternatim bipinnata, pedalia et ultra, bifida et trifida, subtus glauca: petiolis longis, canaliculatis, amplexicaulibus: floribus semi-duplicibus, purpureis, splendidibus.

PÆONY with a shrubby stem, three feet high, and branching: leaves alternately two-winged, a foot or more in length, two- and three-cleft, glaucous beneath; the petioles are long, channelled, and embracing the stem: flowers semi-double, purple, and very splendid.

THIS elegant plant is the purple variety mentioned in our last Vol. Pl. 373. and flowered at the same time, with completely double flowers, and so equal in point of beauty, that we hesitated some time before we could determine to which we should give the preference. But had we seen the purple one in its present semi-double state, it would undoubtedly have claimed precedence, as well from its preserved botanic character, as its superior beauty. The singular versatility of these plants we were entirely unacquainted with when we figured the rose-coloured one; as, since that period, we have seen them in bloom with single flowers, the following year with double ones; and again the year after we found this purple one in the semi-double state which our figure represents, the plant then bearing five-and-twenty flowers in full perfection, forming a coup-d'œil superior to any shrub we have ever seen.



Paeonia, suffruticosa Var. *flore purpurea*

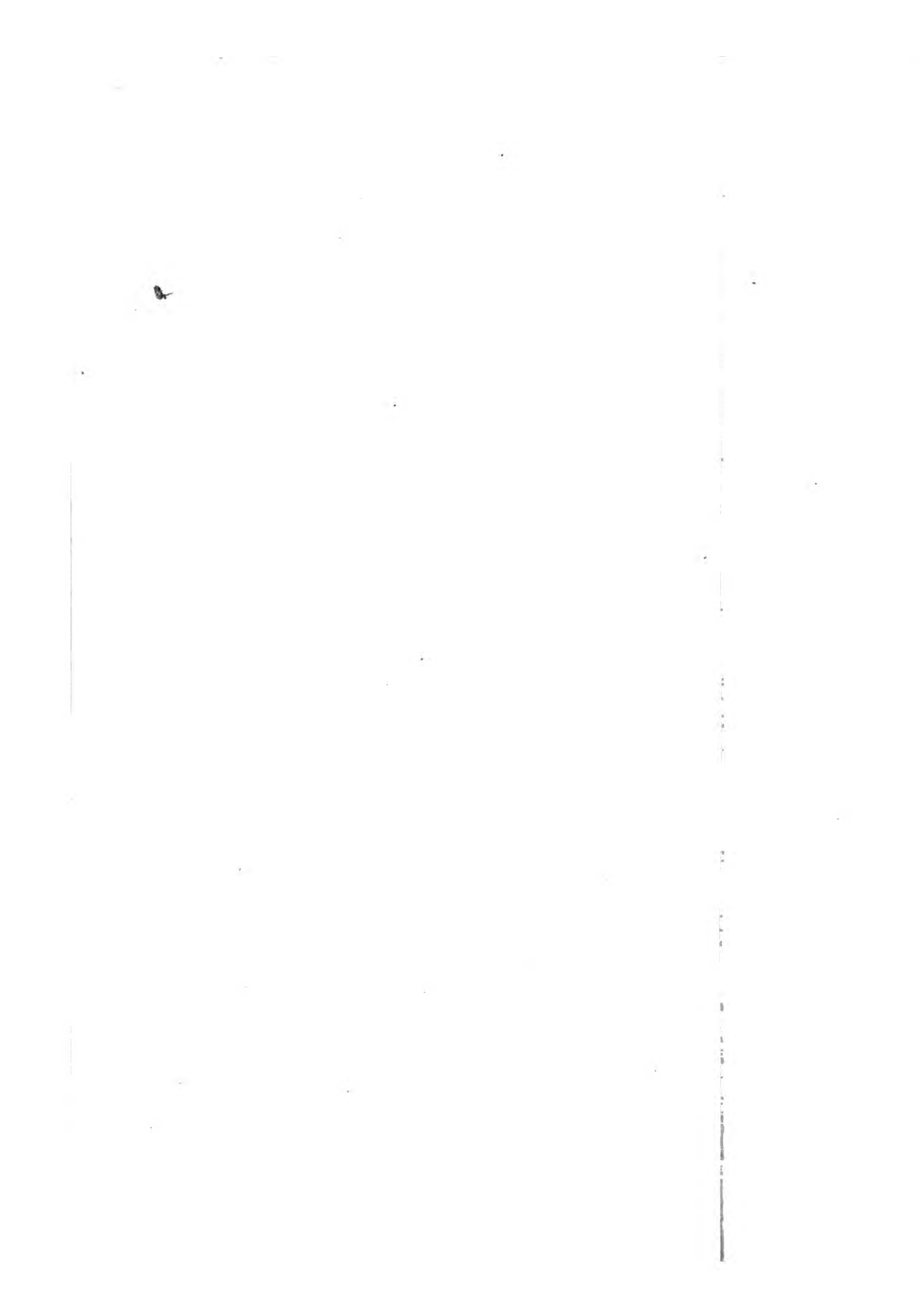


PLATE CCCCXLIX.
LINUM TRIGYNUM.

Three-styled Golden Flax.

CLASS V. ORDER V.

PENTANDRIA PENTAGYNIA. Five Chives. Five Pointals.

GENERIC CHARACTER.

CALYX. Perianthium pentaphyllum, lanceolatum, erectum, persistens.
COROLLA. Petala infundibuliformia quinque, oblonga, superne sensim latiora, obtusa, patentia.
STAMINA. Filamenta quinque subulata, erecta, longitudine calycis (rudimenta florum insuper 5, alternantia). Antheræ simplices, sagittatæ.
PISTILLUM. Germen ovatum. Styli 5, filiformes, erecti, longitudine staminum. Stigmata simplicia, reflexa.
PERICARPIUM. Capsula globosa, pentagona, decemlocularis, quinquevalvis.
SEMINA solitaria, ovato-planiuscula, acuminata, glabra.

EMPALMENT. Cup five-leaved, lance-shaped, upright, and remaining.
BLOSSOM. Funnel-shaped petals five, oblong, widening upwards by degrees, obtuse, and spreading.
CHIVES. Five filaments, awl-shaped, upright, the length of the calyx (there are five alternate slight rudiments of threads). Anthers simple, and arrow-shaped.
POINTAL. Seed-bud ovate. Shafts 5, thread-shaped, and upright, the length of the stamens. Summits simple, and reflexed.
SEED-VESSEL. Capsule globular, five-sided, ten-celled, five-valved.
SEEDS solitary, of a flattish oval form, sharp-pointed, and smooth.

SPECIFIC CHARACTER.

Linum trigynum, foliis alternis, ovatis, glabris, apice acuminatis: floribus in ramis simpliciter terminalibus: corolla aurea, magna: ramulis alternis, numerosis, viridibus.

FLAX with three pointals; leaves alternate, ovate, and smooth, pointed at the end: flowers terminate the branches singly: blossoms gold colour, and large: the smaller branches alternate, numerous, and green.

REFERENCE TO THE PLATE.

1. The empalment.
2. One of the petals.
3. Chives and pointals.
4. A chive magnified.
5. Seed-bud and pointals, a summit magnified.
6. The seed-bud cut transversely, magnified.

THIS perfectly new *Linum* is by far the most showy of the genus, and illumines all the gloomy months of winter with its fine large flowers, whose brilliance is not often surpassed even in the height of summer, when *Flora* reigns with undiminished lustre. It has been hitherto regarded as a hot-house plant, but is now found to succeed much better with the careful treatment of the green-house. It is published by Capt. Hardwicke in his enumeration of the plants of Sireenagur in the *Asiatic Annual Register* of 1800, and was found by that gentleman on the sides of the mountains in fine bloom in the month of December, and from whom it received the specific title of *trigynum*. Its provincial name is said to be *Gul Ashorfee*; from *Gul* a flower and *Ashorfee* gold, a coin current in India of the value of 2*l.* sterling. There is a figure of this *Linum* in the *Exotic Botany* of Dr. Smith, copied from a drawing, and represented with deeply serrated leaves; a character very different from any of the living plants we have as yet seen in bloom, not one of them exhibiting the slightest vestige of a serrature on their foliage. Our figure was made from a plant in luxuriant bloom at the nursery of Messrs. Whitley and Brames.



Linum trigynum

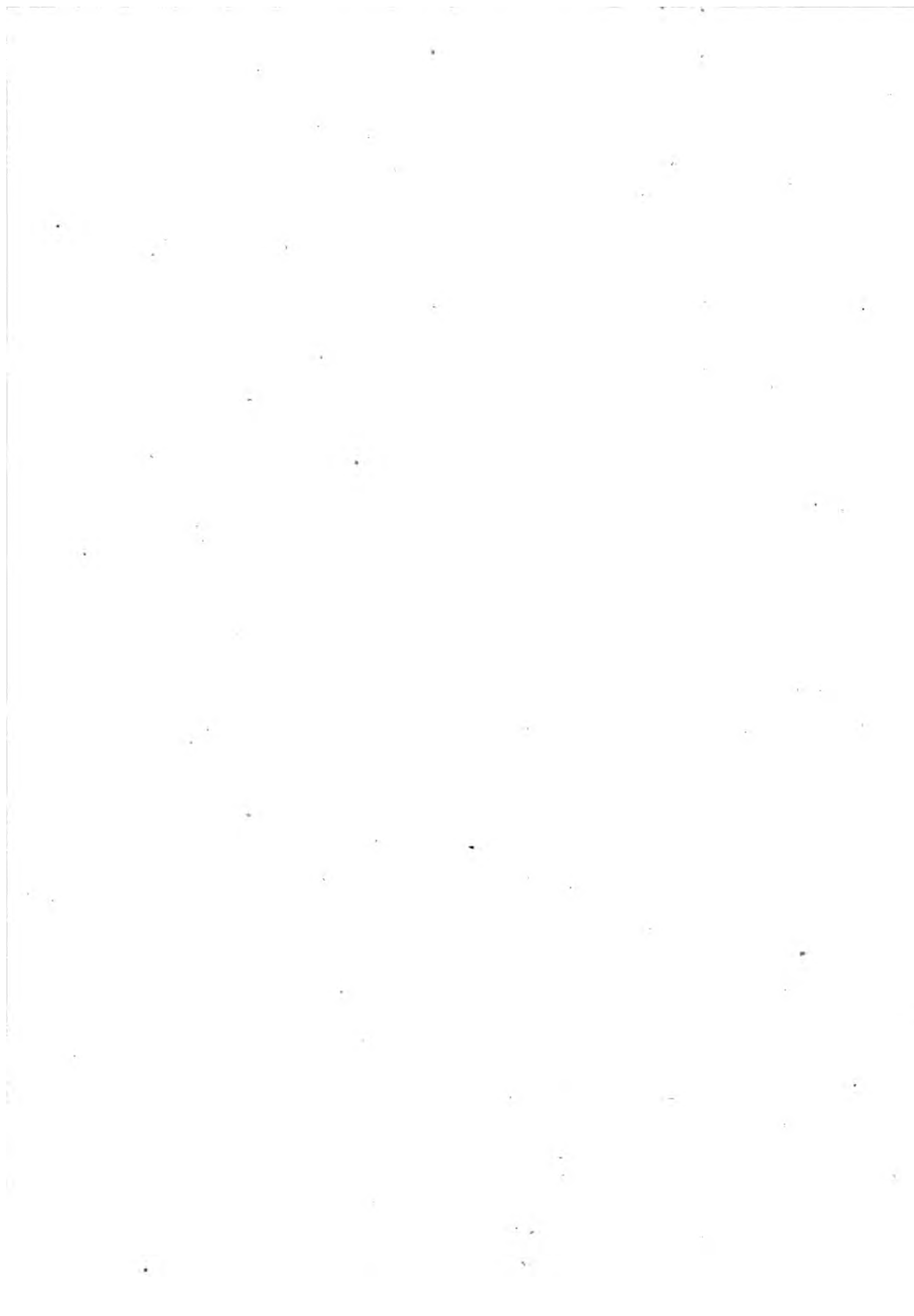


PLATE CCCCL.
ALBUCA FASTIGIATA.
Level-topped Albuca.

CLASS VI. ORDER I.

HEXANDRIA MONOGYNIA. Six Chives. One Pointal.

GENERIC CHARACTER.

CALYX nullus.

COROLLA hexapetala; tribus interioribus conniventibus, exterioribus patulis.

STAMINA. Filamenta sex, apice inflexa, basi dilatata. Antheræ oblongæ, in medio affixæ. Stylus triqueter. Stigma triquetrum.

PERICARPIUM. Capsula oblonga, angulata, 3-locularis, 3-valvis.

SEMINA numerosa, plana.

OBS. In quibusdam speciebus tria stamina sterilia sunt.

EMPALEMENT none.

BLOSSOM. Six petals; the three inner ones conniving together, the outer ones spreading.

CHIVES. Six threads turned inwards at the points, and widened at the base. Tips oblong, and fastened in the centre. Shaft three-sided. Summit three-cornered.

SEED-VESSEL. Capsule oblong, angular, 3-celled, 3-valved.

SEEDS many, flat.

OBS. In some species three of the stamens are steril.

SPECIFIC CHARACTER.

ALBUCA foliis lanceolato-ensiformibus: floribus erectis, paniculatis, fastigiatis, pedunculis longissimis: corollis albis, in medio lineâ viridi: petalis interioribus apice fornicatis, stamina includentibus, quæ sunt omnia fertilia.

ALBUCA with leaves between lance- and sword-shaped: flowers upright, and grow paniculated and level: footstalks very long: blossoms white, with a stripe of green in the centre; the inner petals forming an arch at the end, and enclosing the stamens, which are all fertile.

REFERENCE TO THE PLATE.

1. One of the flower-props.
2. The chives and pointal.
3. One of the outer chives.
4. One of the inner ones.
5. Seed-bud and pointal.

THIS genus approaches so near to *Ornithogalum*, that they may easily be mistaken for each other; the only visible distinction resting in the unexpanding character of the three inner petals, or calyx; for opinions vary with respect to their denomination—Jussieu, an able botanist (through all the divisions of this family), regarding that as the empalement which we, following Linnæus, describe as petals. In the *Species Plantarum* of Willdenow we find our plant enumerated under the specific title of *fastigiata*, with a technical description annexed to it. From a plant in the garden of G. Hibbert, esq. about three years ago, we made a drawing of this *Albuca*, but are inclined to think it rather scarce, not having seen it since that period.



Albuca, fastigiata

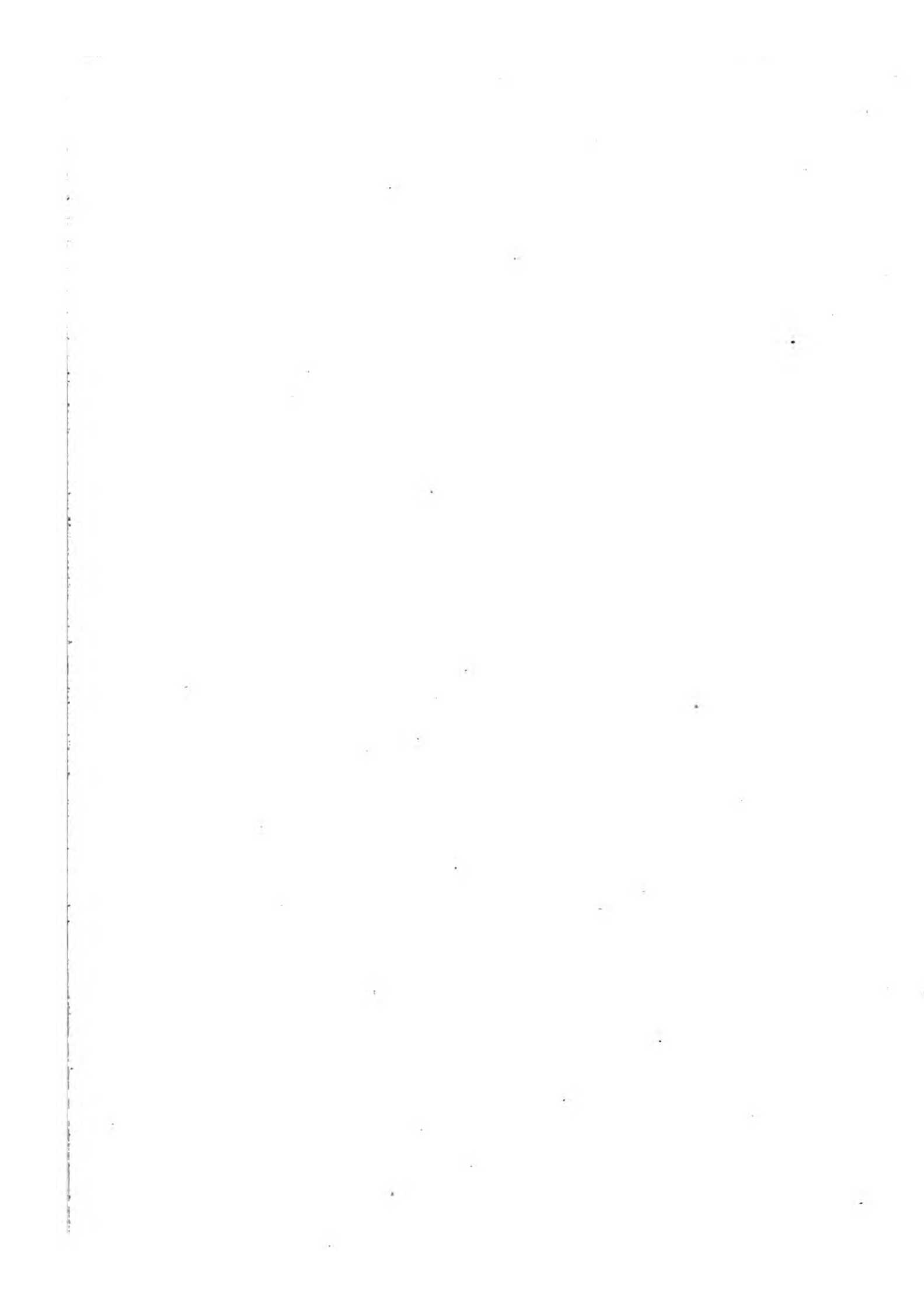


PLATE CCCCLI.
DIOSMA ERICÆFOLIA.
Heath-leaved Diosma.

CLASS V. ORDER I.

PENTANDRIA MONOGYNIA. Five Chives. One Pointal.

ESSENTIAL GENERIC CHARACTER.

COROLLA 5-petala. Nectaria 5 supra germen. Caps. 3. s. 5, coalitæ. Semina tecta.

BLOSSOM. Five petals. Five nectaries above the seed-bud. Seed-vessels 3 or 5, joined together. Seeds covered.

SPECIFIC CHARACTER.

DIOSMA foliis alternis, linearibus, acutis, notatis: floribus in umbellis paniculatis, parvis, albis.

DIOSMA with alternate leaves, linear, sharp-pointed, and marked. Flowers grow in paniculated umbels, small, and white.

REFERENCE TO THE PLATE.

1. A leaf magnified.
2. The empalement magnified.
3. Seed-buds, honey-cups, chives, and pointal.
4. A chive magnified.
5. The honey-cups magnified.
6. Seed-buds and pointal, magnified.

THIS new species of *Diosma* so nearly resembles the genus *Erica* in its foliage, that, regarding it as an unequivocally good specific reference, we have adopted it. The only place in which we have as yet seen it was at the Cape nursery last December, where we observed several plants in fine bloom; and although not showy, they are certainly estimable from their neat and delicate appearance, particularly at a season when so many of the beauties of vegetation are in a state of quiescence. Upon comparing our figure with a fine dried specimen of the *D. hirsuta* in the herbarium of A. B. Lambert, esq., we find so powerful a resemblance as induces us to regard our plant as only a variation of culture, more especially as in the magnifier slight vestiges of the hairs on the edges of the leaves are still discernible. But no fear need be entertained of any mode of culture rendering our present specific term impervious to the naked eye. There is a dotted or punctured character which pervades the under surface of the foliage of most *Diosmas*, many of which, when rubbed, emit a powerful odour. The present subject, although deficient in both those respects, still possesses a peculiarity that we have thought deserving a magnified place in the dissections. It is a hardy green-house plant, and native of the Cape of Good Hope.



Diosma, eximifolia

PLATE CCCCLII.
ACHANIA MOLLIS.

Soft-haired-leaved Achania.

CLASS XVI. ORDER VI.

MONADELPHIA POLYANDRIA. Threads united. Many Chives.

GENERIC CHARACTER.

CALYX duplex. Interior monophyllus, semi-striatus, sub-cylindræus, quinquefidus, persistens. Exterior octophyllus, basi leviter coalitus.

COROLLA sub-clavata, convoluta. Petala quinque, basi uno latere alternatim auriculata, lobis columnam staminum convolventibus.

STAMINA. Filamenta plurima, ad basin in tubum corolla longiorem torta, in partem superiorem tubi coalita, cujus apex liberatus est.

PISTILLUM. Germen sub-globosum. Stylus filiformis. Stigma decemfidum.

PERICARPIUM. Bacca sub-globosa, quinquelocularis.

SEMINA solitaria.

EMPALEMENT double. The inner one-leafed, half-striped, nearly cylindrical, five-cleft, and remaining. The outer eight-leaved, and slightly attached at the base.

BLOSSOM nearly club-shaped, and folded together. Petals five, alternately eared on one side of the base, the lobes of which are rolled round the columnar shaft of the stamens.

CHIVES. Threads numerous, united at the base into a tube longer than the blossom, twisted, and united near the upper part of the tube, the point of which is liberated.

POINTAL. Seed-bud nearly round. Shaft thread-shaped. Summit ten-cleft.

SEED-VESSEL. A berry nearly round, with five cells.

SEEDS solitary.

SPECIFIC CHARACTER.

ACHANIA foliis tomentosis, cordatis, trilobatis, dentatis. Calyx exterior revolutus, pubescens. Flores solitarii, axillares. Corolla sub-clavata. Petala convoluta, sub-inclusa, læte coccinea, nervosa, tomentosa. Caulis fruticosus, villosus, sub-tripedalis.

ACHANIA with downy leaves, heart-shaped, three-lobed, and toothed. The outer cup is revolute, and hairy. Flowers grow solitary from the axillæ of the leaves. Blossom nearly club-shaped. The petals are folded together and nearly closed, of a bright scarlet colour, nerved, and downy. Stem shrubby, hairy, and near three feet high.

REFERENCE TO THE PLATE.

1. The empalement.
2. A blossom spread open.
3. A petal detached, shown from the outside.
4. The chives spread open.
5. Seed-bud and pointal, summit magnified.

THIS handsome hot-house plant is certainly an old one, having been a sojourner with us near thirty years, but has not as yet been figured in any publication that we know of:—a neglect most probably resulting from the singularity of its unclosing flowers; so uncommon a character naturally conveying an idea that the plant was in an imperfect state. Under this prejudice it has lost the charm of novelty, and many a less attractive object has been preferred before it. This genus approaches so close to the genera of Hibiscus, Althea, Malva, &c. that it must certainly be considered as a very near relation to that family. Its foliage is frequently deciduous on the lower part of the stem; a defect to which stove plants in general are but too subject. It is a native of South America and the West India Islands, was found by Dr. Houston in Jamaica in 1731, and introduced by B. Bewick, esq. in 1780. It flowers from July till the end of the year.



Hibiscus mollis

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3

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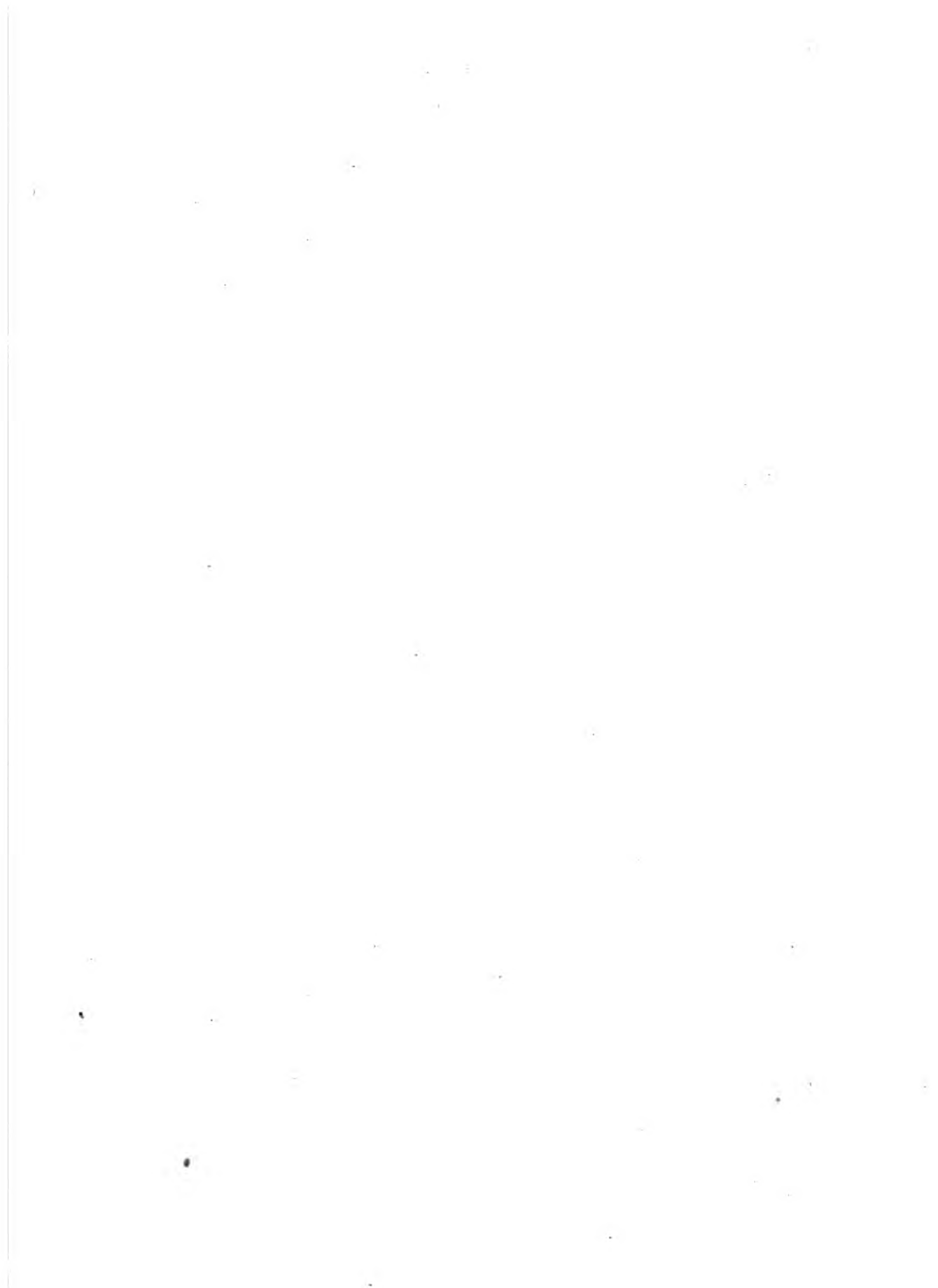


PLATE CCCCLIII.
PROTEA REPENS.
Creeping Protea.

CLASS IV. ORDER I.

TETRANDRIA MONOGYNIA. Four Chives. One Pointal.

ESSENTIAL GENERIC CHARACTER.

COROLLA 4-fida, seu 4-petala. Antheræ lineares, petalis infra apices insertæ. Calyx proprius, nullus. Sem. solitaria.

BLOSSOM four-cleft, or of four petals. Tips linear, inserted into the petals below the points. Cup proper, none. Seeds solitary.

SPECIFIC CHARACTER.

PROTEA repens, foliis sub-amplexicaulibus, cordatis, undulatis, apice reflexis, acutis, marginibus rubris: floribus sub basin: interius squamarum calycis læte carneum, exterius fusco-purpureum, villosum.

PROTEA with a creeping stem, and leaves nearly surrounding it, which are heart-shaped, waved, bent back at the end, sharp-pointed, and red at the edges: flowers grow towards the base of the plant: the inside of the scales of the empalement are of a bright flesh colour, and the outside of a purply brown, and hairy.

REFERENCE TO THE PLATE.

1. The blossom complete, and one of the chives magnified.
2. Seed-bud and pointal, summit magnified.

THE appearance of this Protea, as cultivated in the gardens, is diametrically opposite to its natural character, which, as its specific indicates, is repent or creeping; instead of which, the branches of the plant are bent from their natural habit, forced as upright as possible, and fastened to a stick; in which situation the flowers only would compare with our figure. But so averse is it to this confined mode of treatment, that, as soon as the branches are liberated, they instantly take the direction most natural to them, and which is certainly the most graceful. Although repens is the more general title of this Protea, yet we have heard it sometimes called amplexicaulis, a name given by some cultivators to a plant whose foliage is so nearly resembling the one now figured, that, when it arrives at a flowering state, it will most probably prove to be no more than a variation of culture. It is a difficult matter to say in what stage the flower is most beautiful, whether in the bud state, before the pointals are released, or afterwards. From their long confinement, the pollen adheres so strongly to them, that when relieved they appear like the antheræ. Our drawing was made at the Hibbertian collection from a plant in fine bloom in the month of February.



Pl. 453. The red ...

PLATE CCCCLIV.
 URTICA BACCIFERA.
Berry-bearing Nettle.

CLASS XXI. ORDER IV.

MONŒCIA TETRANDRIA. Chives and Pointals separate. Four Chives.

GENERIC CHARACTER.

* *Masculi flores.*

CALYX. Perianthium tetraphyllum.
 COROLLA nulla. *Nectarium* in centro floris
 cyathiforme.
 STAMINA. Filamenta quatuor, subulata, longi-
 tudine calycis.

* *Feminei flores vel in eadem vel distincta planta.*

CALYX. Perianthium bivalve, persistens.
 COROLLA nulla.
 PISTILLUM. Germen ovatum. Stylus nullus.
 Stigma villosum.
 PERICARPIUM nullum.
 SEMEN unicum.

* *Male flowers.*

EMPALEMENT four-leaved.
 BLOSSOM none. *Honey-cup* is formed in the
 centre of the flower, like a small cup.
 CHIVES. Filaments four, awl-shaped, and the
 length of the cup.

* *Female flowers in the same, or in separate plants.*

EMPALEMENT. Cup two-valved, and remaining.
 BLOSSOM none.
 POINTAL. Seed-bud ovate. Shaft none. Sum-
 mit hairy.
 SEED-VESSEL none.
 SEED one.

SPECIFIC CHARACTER.

URTICA baccifera, foliis alternis, cordatis, den-
 tatis, aculeis tectis: calyces fœminei, bac-
 cati, alternatim in ramos longos divarica-
 tos positi, dependentes, læte rubri, et acu-
 leis tecti: caulis aculeis magnis tectus,

BERRY-BEARING NETTLE with leaves alternate,
 heart-shaped, toothed, and covered with
 prickles: empalement female, having ber-
 ries, and alternately situated upon long
 straggling branches, hanging down, of a
 bright red colour, and covered with prickles:
 stem covered with large prickles.

REFERENCE TO THE PLATE.

1. A flower magnified.
2. The same with the summit detached, magnified.

THIS plant is most completely armed in all directions, and known by the appellation of the Horrid Nettle. The fierceness of its exterior evinces grandeur, and the bright red flower-stems combine some share of beauty: and notwithstanding its ferocious aspect, the Common Wild Hedge Nettle suffers a light approach with less impunity than this terrific plant; thus proving the old axiom of an open enemy, however powerful, being less injurious than a pretended friend, whose insidious character, like the Hedge Nettle, unheeded stings. In the Hortus Schœnbrunnensis of Jacquin it is described and figured, and also in the Icones of Plumier, p. 259, tab. 260, who gives it the additional specific of *arborescens*: and there is but little doubt of its forming a tree-like appearance in the Antilles and Blue Mountain Valley of Jamaica, where it is indigenous. The figure represents the upper part of a large specimen, communicated by A. B. Lambert, esq. with whom it flowered in the summer of 1804.



Urtica baccifera

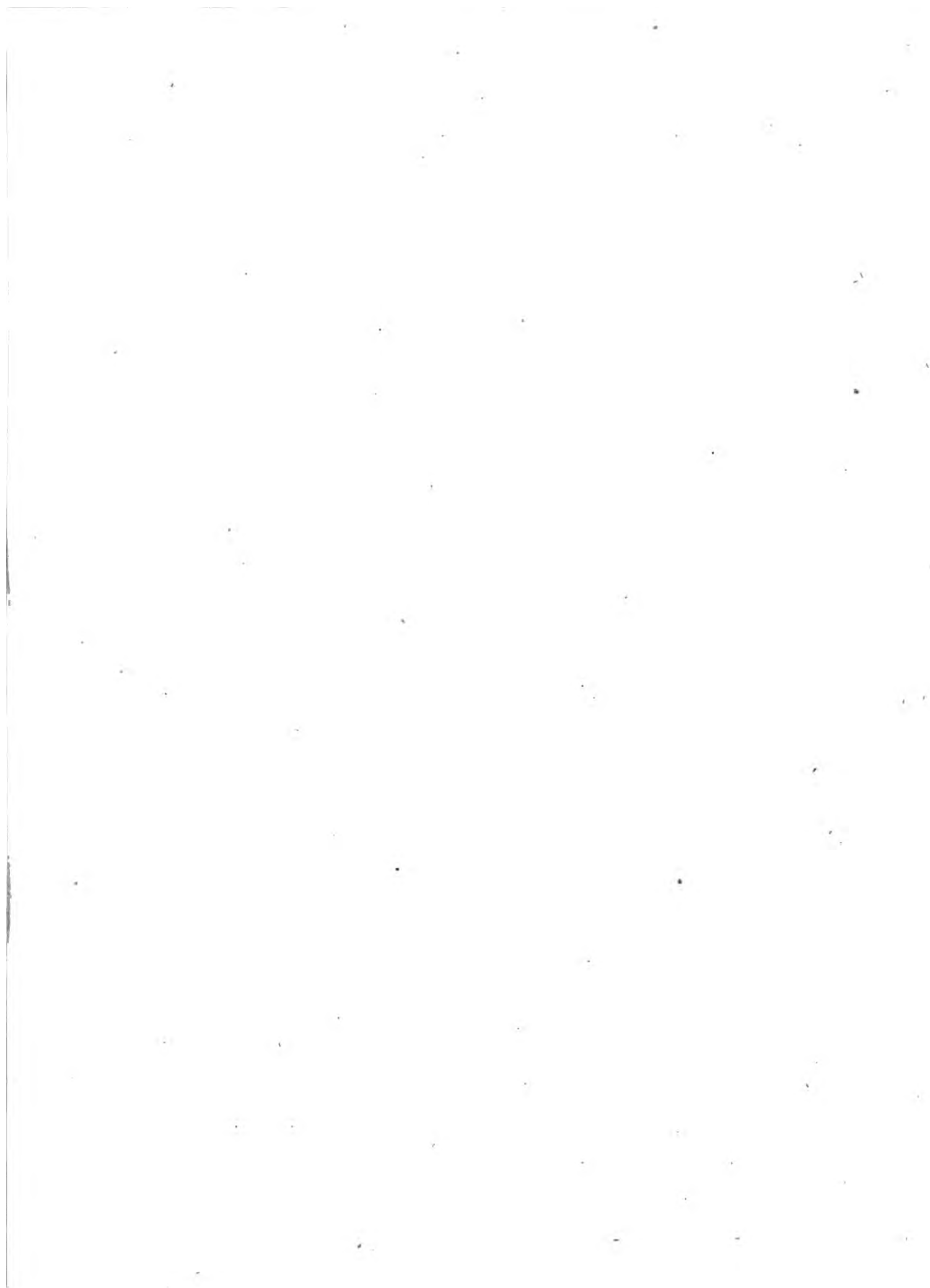


PLATE CCCCLV.
POLYGALA MIXTA.

Mixt Polygala.

CLASS XVII. ORDER III.

DIADELPHIA OCTANDRIA. Two Brotherhoods. Eight Chives.

ESSENTIAL GENERIC CHARACTER.

CALYX 5-phyllus: foliolis duobus alæformibus,
coloratis: legumen obcordatum, biloculare.

Cup 5-leaved, with two of the leaves like wings,
coloured: pod inverse heart-shaped, two-
celled.

SPECIFIC CHARACTER.

POLYGALA floribus imberbibus, axillaribus, pur-
pureis: foliis fasciculatis, 5—6 in singulo
fasciculo, linearibus, acutis, valde confertis
inter flores: caule suffruticoso: ramulis
filiformibus, patentibus.

POLYGALA with beardless flowers, growing from
the axillæ of the leaves, and of a purple
colour: the leaves grow in fascicles, 5 and
6 in each fascicle, linear, sharp-pointed,
and very much crowded amongst the
flowers: stem shrubbyish: branches thread-
shaped, and spreading.

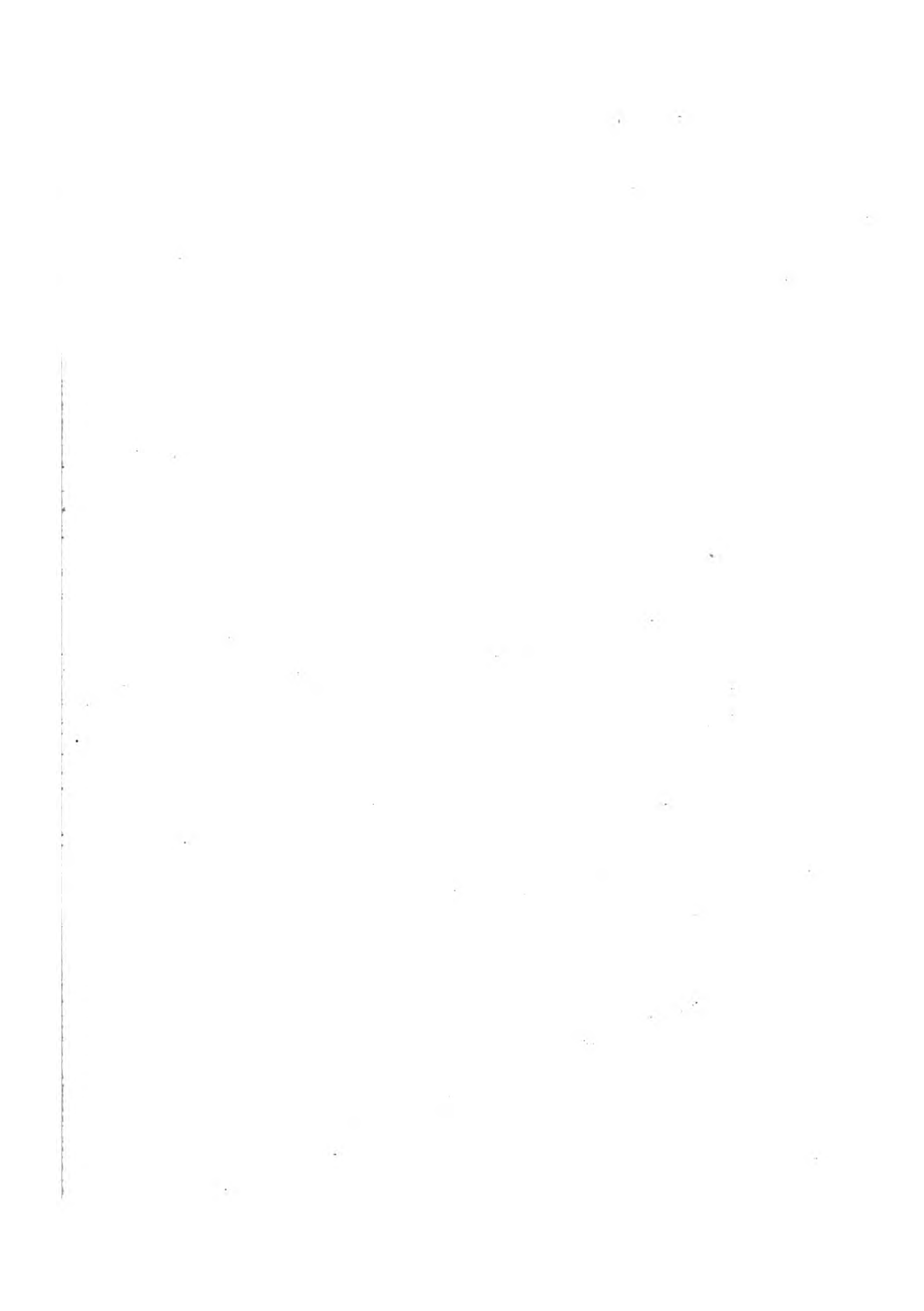
REFERENCE TO THE PLATE.

1. The empalement magnified.
2. The keel magnified.
3. One of the wings magnified.
4. The chives magnified.
5. The pointal magnified.
6. Flower of a white variety.

AMONGST the numerous introductions of novelty to the gardens of G. Hibbert, esq. the *Hesteria* section of the genus *Polygala* (although not splendid) are all of them particularly desirable, from their lively, long, and (of this species) we may say continual bloom; it having been seen in flower throughout the whole year. There is a variety of it with white flowers of equal durability, and so perfect a fac simile in every other particular, that a separate figure will by no means be requisite, especially as in the winter season the purple flowers are sometimes almost bleached by the cold, and the distinction in consequence less apparent. It is well known by the cultivators under the appellation of *mixta*; a specific given to it from the promiscuous manner in which the flowers and leaves are profusely mixt together.



Polypogon monstrosus



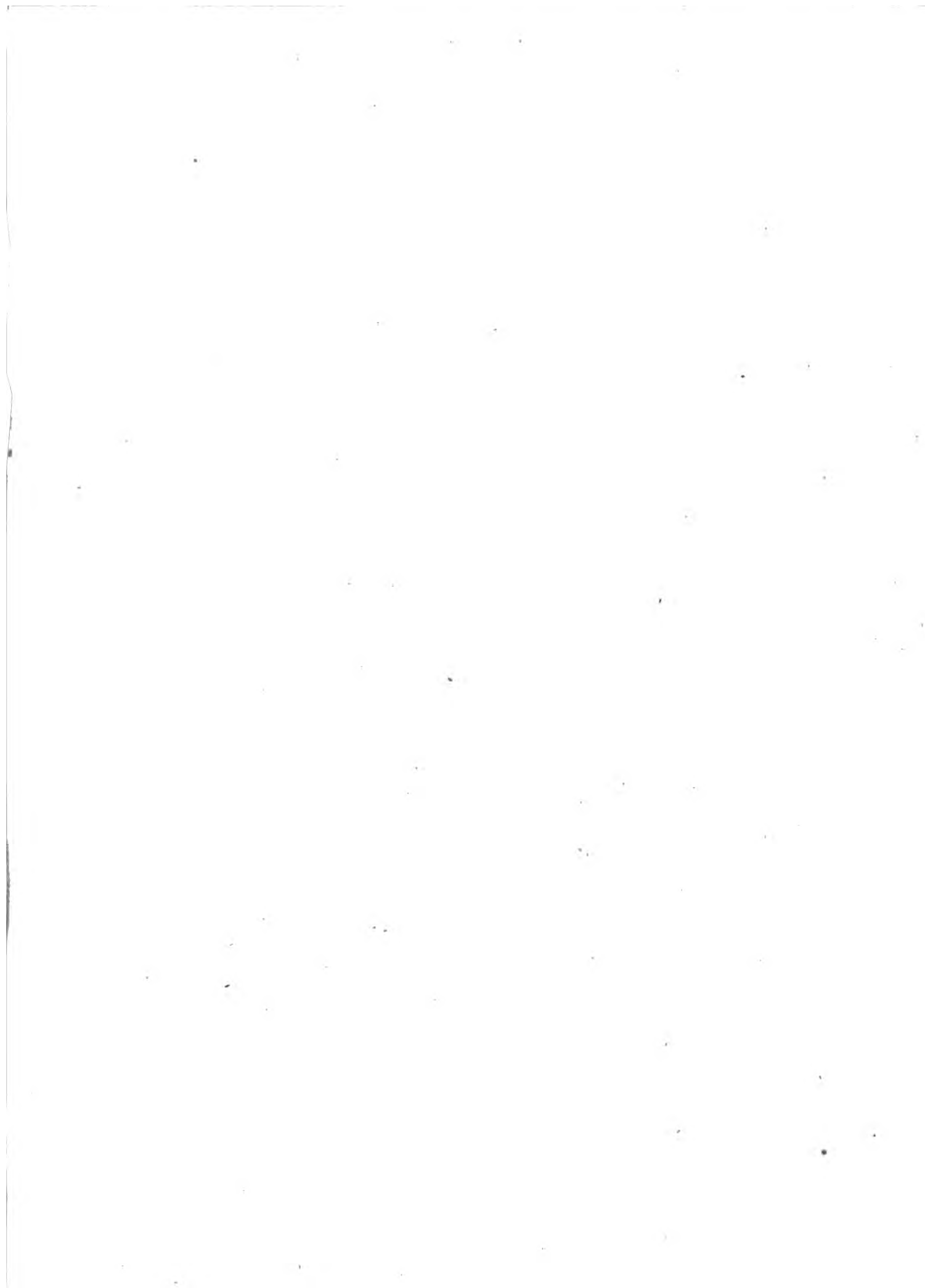


PLATE CCCCLVI.
LACHENALIA FLAVA.

Yellow-flowered Lachenalia.

CLASS VI. ORDER I.

HEXANDRIA MONOGYNIA. Six Chives. One Pointal.

GENERIC CHARACTER.

COROLLA 6-petala, infera; petalis 3 interioribus longioribus: stamina erecta: capsula sub-ovata, trialata: semina globosa.

BLOSSOM 6-petalled beneath; the three inner petals the longest: chives erect: capsule nearly egg-shaped, three-winged: seeds globular.

SPECIFIC CHARACTER.

LACHENALIA foliis geminis, lanceolatis: scapo erecto, colore cinereo-cæruleo in modum marmoris variato: corollis flavis, sub-pendulis, sub-cylindraceis, cum limbo petalorum interiorum permagno et expanso: tria petala exteriora angusta, et apice virescentia.

LACHENALIA with leaves in pairs, and lance-shaped: flower-stem upright, and of a slaty-colour obscurely marbled: blossoms yellow, nearly hanging down, somewhat cylindrical, with the border of the inner petals very large and spreading: the three outer petals are narrow, and greenish at the point.

REFERENCE TO THE PLATE.

1. A flower spread open.
2. Seed-bud and pointal, summit magnified.
3. The seed-bud cut transversely, magnified.

THIS *Lachenalia* may be regarded as a perfectly new species, there not being a figure of it extant, nor is it enumerated in the *Species Plantarum* of Willdenow. We were at first inclined to have called it *ringens*, from the wide-gaping character of the mouth of the flower: but as so many of this genus have received a specific title in reference to their colour, the appellation of *flava* in the present instance will doubtless be generally as well accepted. The figure was made, from the only plant that has as yet flowered in this country, at the nursery of Mr. Williams of Turnham Green, who informs me that he has had the plant three or four years, but has found it difficult to flower, and slow of increase.



Lachonalia, flava

PLATE CCCCLVII.
BANKSIA SPINULOSA.
Thorny-leaved Banksia.

CLASS IV. ORDER I.

TETRANDRIA MONOGYNIA. Four Chives. One Pointal.

ESSENTIAL GENERIC CHARACTER.

RECEPTACULUM commune elongatum, squamosum : corolla tetrapetala : stamina limbo inserta : capsula bivalvis, disperma, dissepimento mobili interjecto : semina alata.

COMMON receptacle elongated, scaly : blossom of four petals : chives inserted into the limb of the blossom : capsule with two valves, two seeds, and a moveable partition between them : seeds winged.

See *Banksia serrata*, Pl. LXXXII. Vol. II.

SPECIFIC CHARACTER.

BANKSIA foliis linearibus, longis, margine revolutis, sub-apices spinulosis : ramis patentibus, ad basin foliis sparsis, superne fasciculatis.

BANKSIA with long linear leaves, rolled back at the edges, and towards the ends furnished with little thorns : branches spreading, thin of leaves at the base, which are bundled together on the upper part of the branches.

REFERENCE TO THE PLATE.

1. A flower.
2. A blossom spread open, one chive magnified.
3. The pointal, summit magnified.

THE flowers of this *Banksia* bear a considerable degree of affinity to the *B. ericæfolia* already figured in Pl. 156, but very distinct in the foliage. From the small thorns on the upper part of the leaves it has acquired the specific title of *spinulosa*. It is not very often seen in bloom, although an old plant ; which is accounted for in the slowness of its growth, and the size it generally attains to before it becomes a flowering plant : and as this character is prevalent through the whole genus, it no doubt prevents them from being so generally cultivated as they would otherwise be ; since, when in flower, they are certainly both curious and beautiful. Our figure was taken from a plant in the collection of His Grace the Duke of Northumberland, at Sion-House near Brentford ; where, under the care of Mr. Hoy, several fine species of this genus are in very great perfection.



Pl.

Banksia spinulosa

Tab. 10. de Banksia spinulosa. Banksia spinulosa.

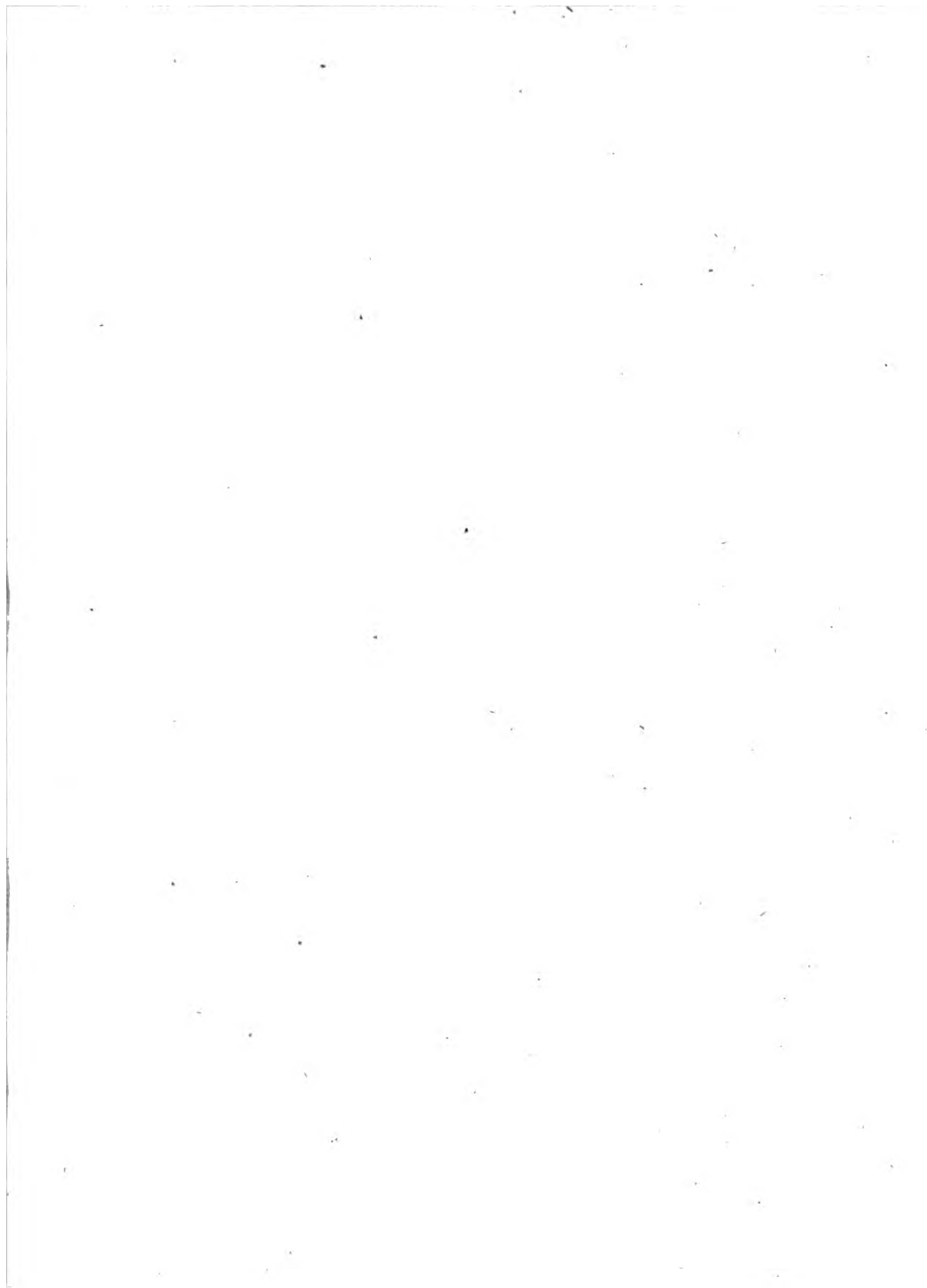


PLATE CCCCLVIII.
EUGENIA MALACCENSIS.

Malay Apple Tree.

CLASS XII. ORDER I.

ICOSANDRIA MONOGYNIA. Twenty Chives. One Pointal.

GENERIC CHARACTER.

CALYX. Perianthium monophyllum, superum ;
in medio orbiculus, supra quem quadripar-
titum est: laciniis concavis, persistentibus.

COROLLA. Petala quatuor, calyce duplo ma-
jora, obtusa, concava.

STAMINA. Filamenta plurima in orbiculo calyci
inserta, longitudine corollæ: antheræ parvæ.

PISTILLUM. Germen turbinatum, inferum.
Stylus simplex, longitudine staminum.
Stigma simplex.

PERICARPIUM. Drupa quadrangularis, coro-
nata, unilocularis.

SEMINA. Nux subrotunda, glabra.

EMPALEMENT. Cup of one leaf, above: in the
middle is a little circle, above which it is
four-divided: the segments are hollow,
and remaining.

BLOSSOM. Petals four, twice the size of the
calyx, obtuse, and hollow.

CHIVES. Threads many in a little circle inserted
into the calyx: tips small.

POINTAL. Seed-bud top-shaped, beneath. Shaft
simple, the length of the stamens. Sum-
mit simple.

SEED-VESSEL. A berry four-angled, coronet-
shaped, and one-celled.

SEED. A nut nearly round, and smooth.

SPECIFIC CHARACTER.

EUGENIA foliis oppositis, alternis, latis, ovalibus,
apice acuto, leviter torto, glabris, lucidis.
Caulis erectus. Ramuli superiores dumosi,
cortice rugoso, colore pulliginoso: ramis
floriferis oppositis, alternis, rectis: corollis
alternatim oppositis, purpureis.

EUGENIA with opposite alternate leaves, broad,
and of an oval form, with an acute point,
slightly twisted, smooth, and shining. Stem
upright. The branches above are bushy.
The bark is wrinkled, and of a light brown
colour. The flower-branches are opposite,
alternate, and straight out. The blossoms
are alternately opposite, and purple.

REFERENCE TO THE PLATE.

1. A petal.
2. A chive, one tip magnified.
3. The empalement and pointal.
4. A half-ripe fruit.

THE figure of this *Eugenia* was made from the finest plant in this country in the hot-house of G. Hibbert, esq. where we were in hopes it would have perfected its fruit; but were disappointed, as in a very forward state towards ripening it fell off. But, as far as it was advanced, we have represented it, as in this climate it might probably never arrive at greater maturity, unless a larger house were constructed for it: otherwise the degree of heat necessary to preserve the smaller tropical plants would always be subject to injure those of a large size, from the natural extension of their roots approaching too near the flues. But although so much care is required for it in this clime, in the warmer regions of Macassar, Amboyna, and the Moluccas, where it is indigenous, not the least attention is necessary; for, such is the extreme indolence of the natives, that it is imagined, if any care had been requisite for its preservation, it would soon have been lost for want of it. In the Hortus Malabaricus of Rheede there is an uncoloured figure of it, with descriptions, in which it is said to be a fruit-tree of great general utility to the country from its extreme abundance, grateful taste, and salubrious quality, flowering twice in the year. The fruit in an unripe state is of a bitterish and rather astringent character; but, when ripe, of a fine flavour, exceedingly wholesome, and beneficial as an allayer of inflammation in feverish habits. The flowers are by the Dutch at Amboyna preserved, and frequently eaten by way of salad. It is said to form a tall umbrageous tree, and when in fine bloom must certainly be an object of great beauty.



Cogonius malaccensis

5

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P. 458

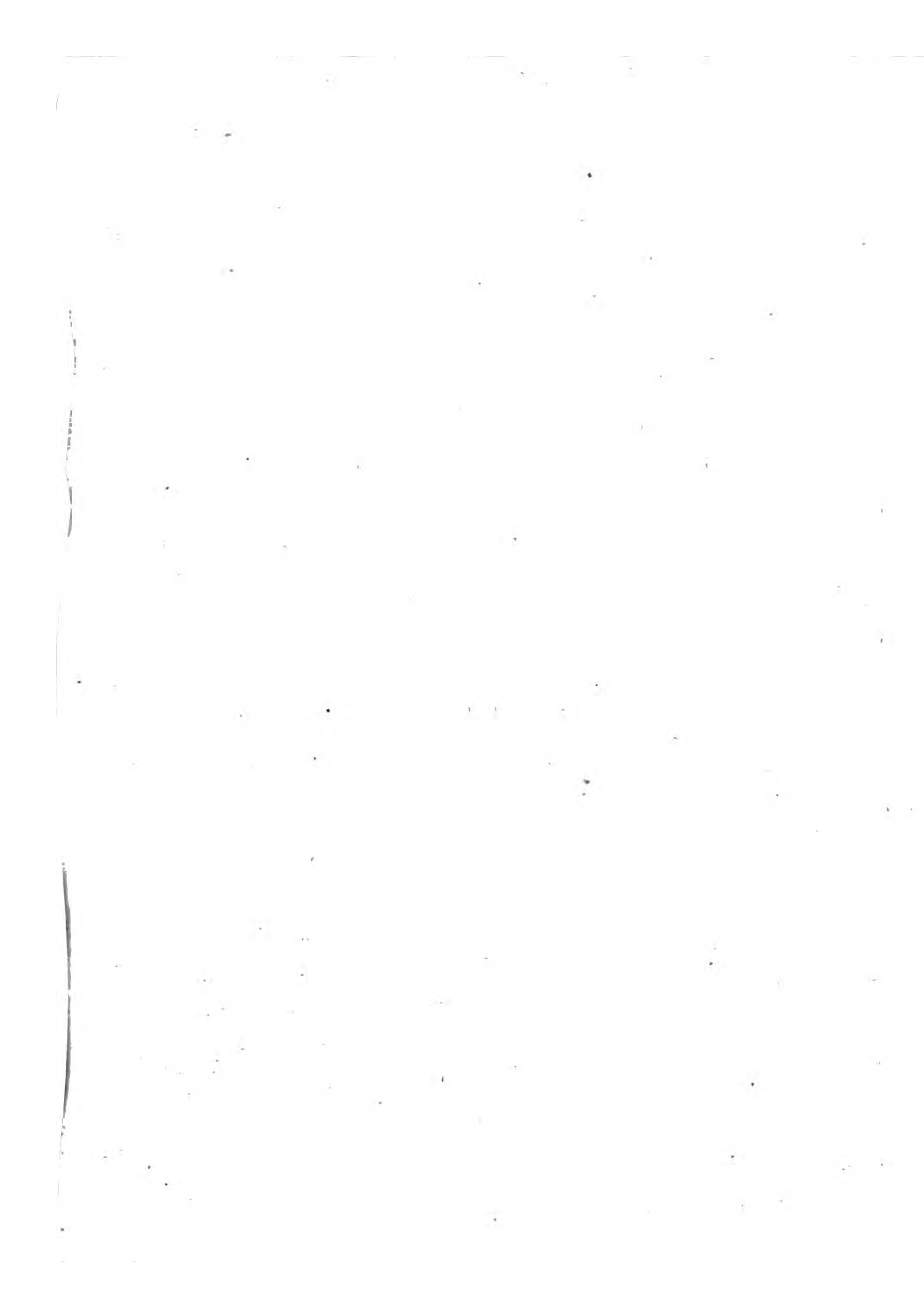


PLATE CCCCLIX.
LASIOPETALUM QUERCIFOLIUM.
Oak-leaved Lasiopetalum.

CLASS V. ORDER I.

PENTANDRIA MONOGYNIA. Five Chives. One Pointal.

ESSENTIAL GENERIC CHARACTER.

CALYX triphyllum, tomentosum, persistens. Corolla monopetala, lanuginosa, 5-fida. Filamenta 5, germinis basi affixa. Germen superum. Capsula 3-ocularis, 3-valvis.

EMPALEMENT 3-leaved, downy, and remaining. Blossom one-leaved, woolly, and five-cleft. Threads 5, fixed to the base of the seed-bud. Seed-bud above. Capsule 3-celled, 3-valved.

SPECIFIC CHARACTER.

LASIOPETALUM quercifolium, ternatum: foliis duobus ad basin minoribus; supra viridibus, subtus nervosis, ferrugineis, stellatim setis tectis: racemis floriferis longis, foliis oppositis: corollis purpureis. Rami et ramuli, pedunculi, &c. setis stellatim tecti, ferruginei. Caulis humilis.

WOOLLY flower with oak-shaped leaves, by threes; two at the base are smallest; green on their upper surface, veined beneath, of a rusty iron colour, and beset with hairy star-like specks. Flower-branches long, and opposite to the leaves. Blossoms purple. The small and larger branches, footstalks, &c. are beset with star-like specks, and of a rusty colour. Stem low.

REFERENCE TO THE PLATE.

1. The empalement.
2. Seed-bud, chives, and pointal.
3. A chive magnified.
4. The same shown from the outer side.
5. Seed-bud and pointal.

THROUGHOUT almost all the plants as yet introduced from New South Wales, there is a strong marked leading feature that proclaims them of Botany Bay extraction, either in the upright strictness of their habit, a hard harsh character in the foliage, or a rough and rusty exterior. Of the last description is our present figure; but it is nevertheless a very handsome plant, and the only addition (to this otherwise solitary genus) as yet in cultivation with us. Labillardiere, in his Description of New South Wales, has given a figure of a plant under the title of *Lasiopetalum triphyllum*, very much resembling our *quercifolium*—probably a variety of it—or, if intended to represent the same plant, there must be a considerable inaccuracy in the delineation. Our figure was taken from a plant at the nursery of Messrs. Colville.



Lasiopetalum, quercifolium

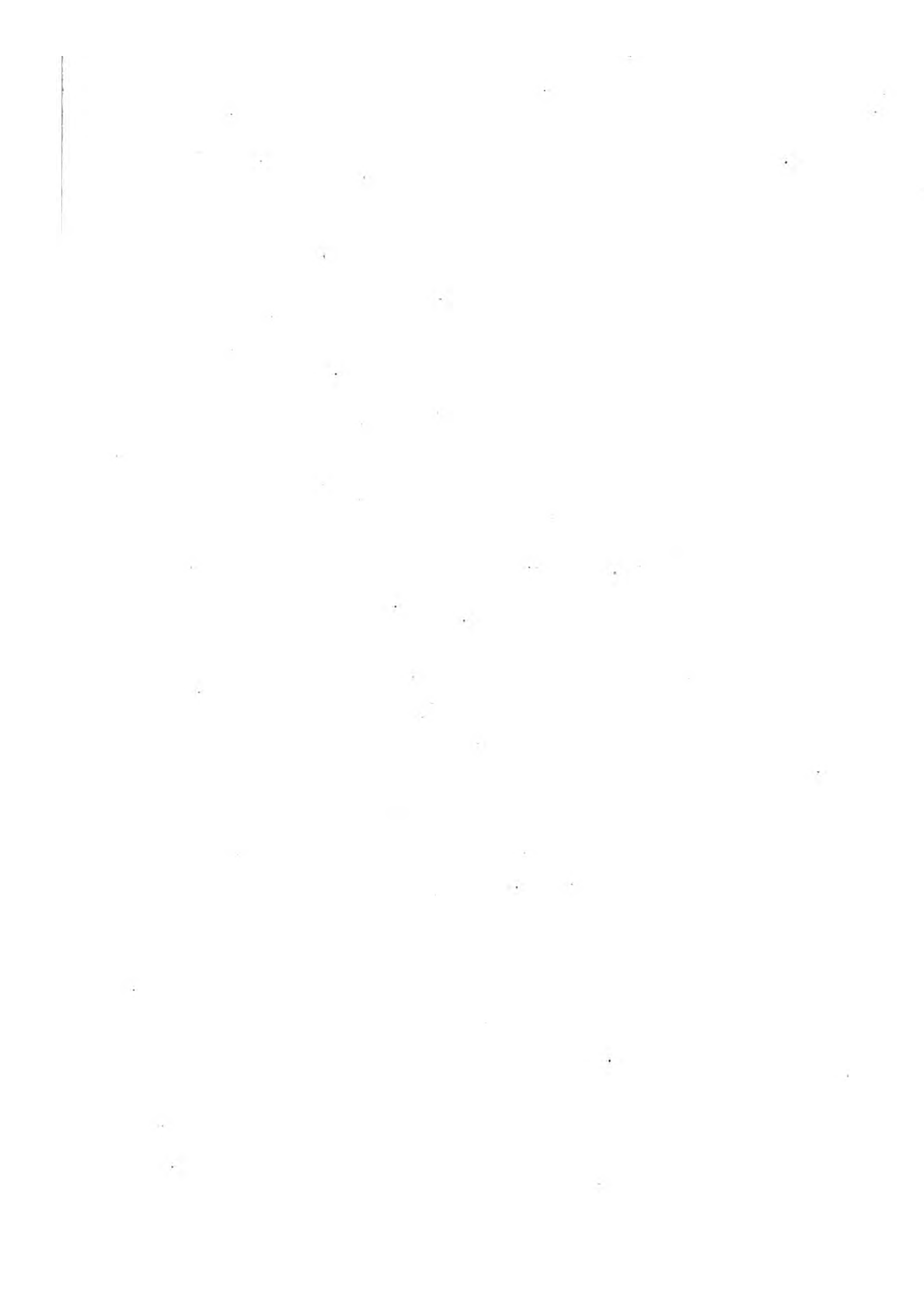


PLATE CCCCLX.
LACHENALIA SESSILIFLORA.
Sessile-flowered Lachenalia.

CLASS VI. ORDER I.

HEXANDRIA MONOGYNIA. Six Chives. One Pointal.

ESSENTIAL GENERIC CHARACTER.

COROLLA 6-petala, infera; petalis 3 interioribus longioribus: stamina erecta: capsula subovata, trialata: semina globosa.

BLOSSOM 6-petaled beneath; the three inner petals the longest: chives erect: capsule nearly egg-shaped, three-winged: seeds globular.

SPECIFIC CHARACTER.

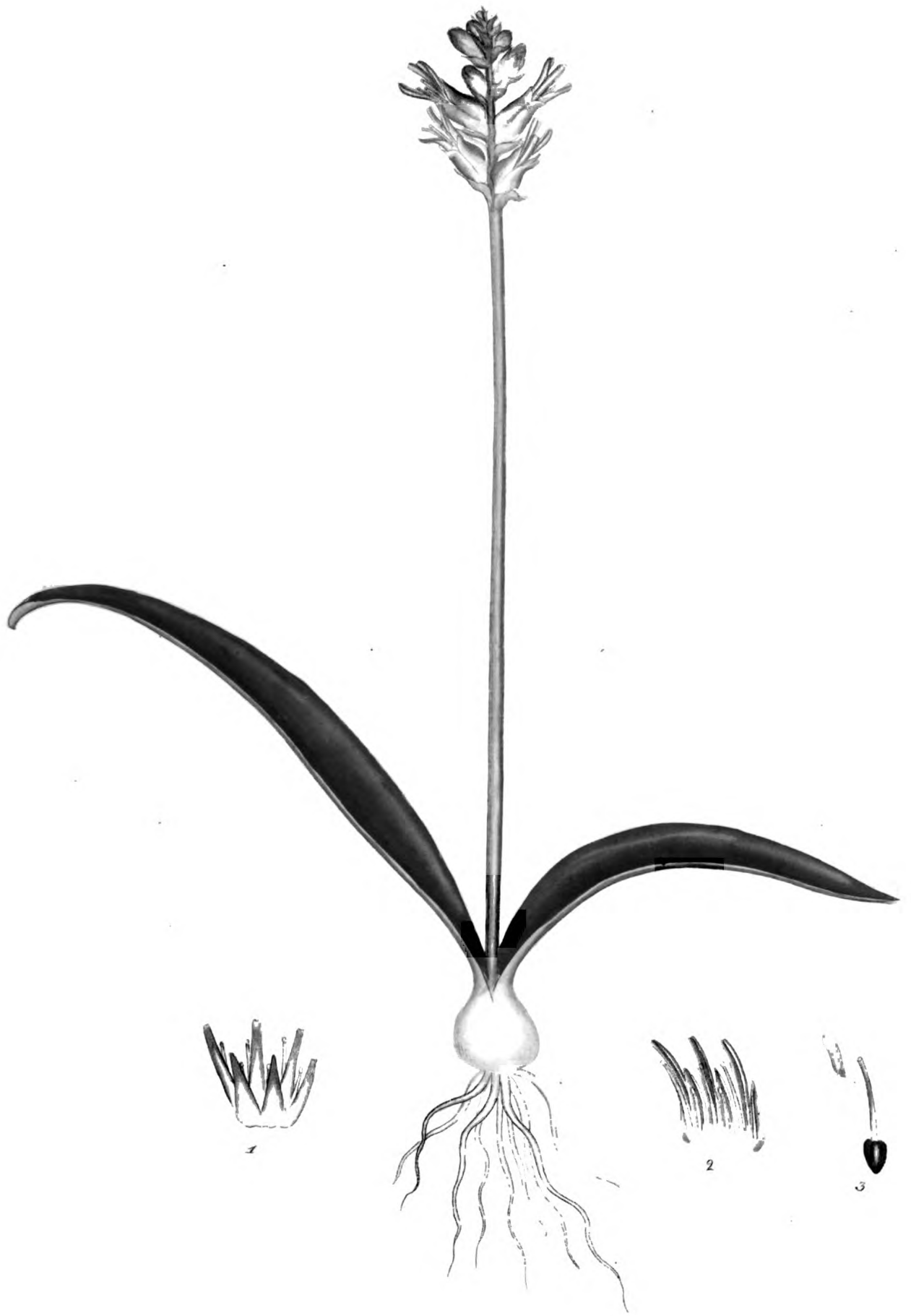
LACHENALIA sessiliflora: foliis geminis, lanceolatis: scapo erecto, semi-pedali: floribus prope apices confertis, purpureis: petalis exterioribus cuneatis: interioribus duplo longioribus, angustis, truncatis.

LACHENALIA with sessile flowers: leaves by pairs: stem upright, half a foot high: flowers grow crowded together near the top, and are of a purple colour: the outer petals are wedge-shaped: the inner ones twice the length, narrow, and appearing cut off at the end.

REFERENCE TO THE PLATE.

1. A flower spread open.
2. The inside of the same.
3. Seed-bud and pointal, summit magnified.

THIS *Lachenalia* is perfectly new, an attraction that may counterbalance its want of speciosity. From the total absence of footstalks to the flowers we have derived its unoccupied specific title. Professor Jacquin has figured many handsome species of this genus not yet introduced to this country, and amongst the number two equally sessile with our plant, but in no other particular resembling it. From a drawing made for the collection of G. Hibbert, esq. in 1803 our figure was taken; since which period we have not seen any vestige of the plant, and therefore imagine that, like many other Cape bulbs, it is lost to us for the present: but it probably may soon reappear amongst the frequent importations we are in the constant habit of receiving from that inexhaustible botanic mine.



Lachenalia sepiiflora

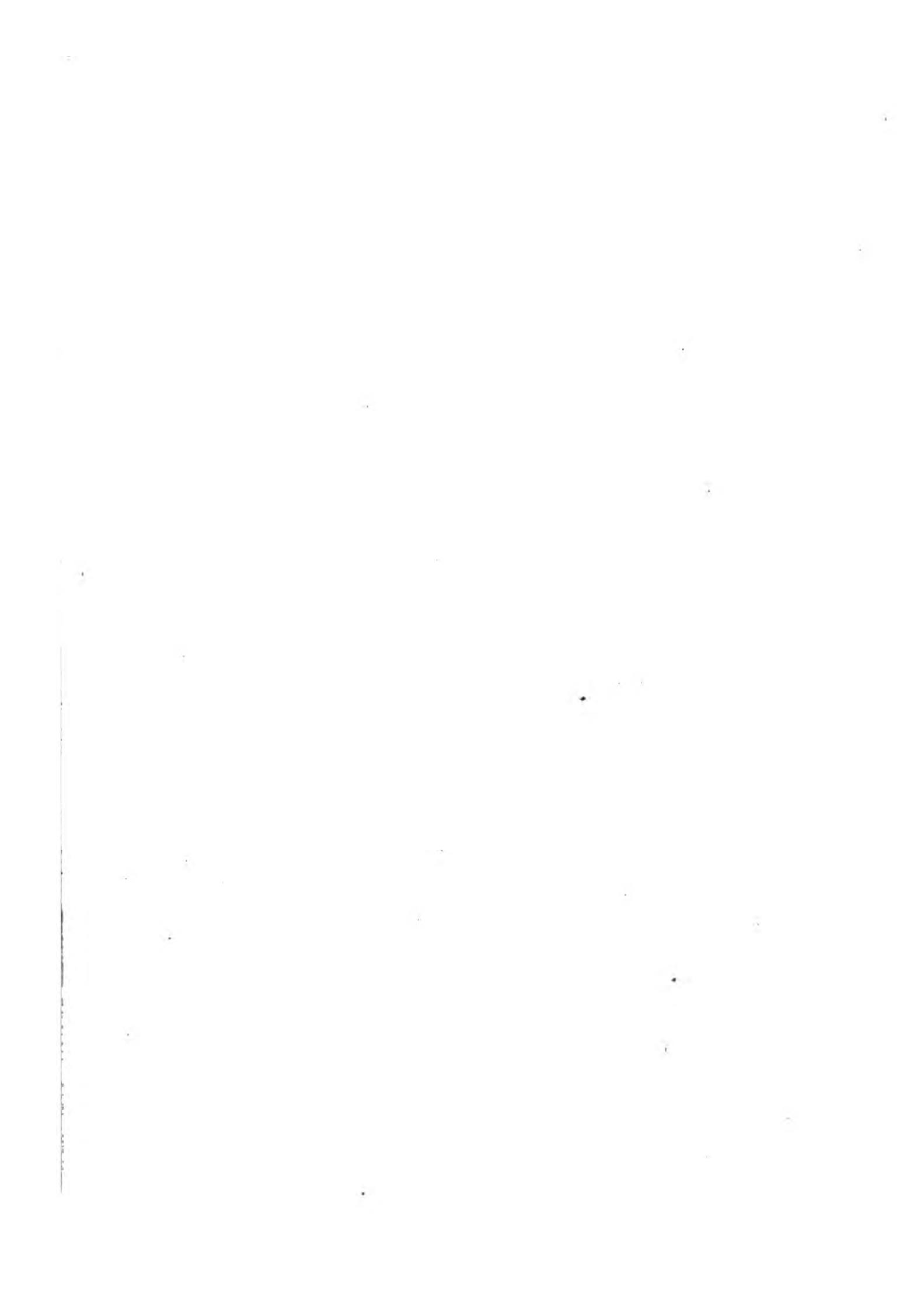


PLATE CCCCLXI.
PROTEA TERETIFOLIA.
Cylindric-leaved Protea.

CLASS IV. ORDER I.

TETRANDRIA MONOGYNIA. Four Chives. One Pointal.

ESSENTIAL GENERIC CHARACTER.

| | | |
|---|--|--|
| COROLLA 4-fida, seu 4-petala. Antheræ lineares, petalis infra apices insertæ. Calyx proprius, nullus. Sem. solitaria. | | BLOSSOM four-cleft, or of four petals. Tips linear, inserted into the petals below the points. Cup proper, none. Seeds solitary. |
|---|--|--|

SPECIFIC CHARACTER.

| | | |
|---|--|--|
| PROTEA teretifolia, foliis obtusis: junioribus adscendentibus, senioribus patentibus: floribus luteis, capitatis, terminalibus, foliis circumsessis: post florescentiam conus formatur. | | PROTEA with cylindrical leaves blunt-ended: the younger ascending, and the older ones spreading: flowers yellow, headed, terminal, and surrounded by the leaves: and after flowering a cone is formed. |
|---|--|--|

REFERENCE TO THE PLATE.

1. A flower.
2. A chive magnified.
3. Seed-bud and pointal.
4. Flower-branch of a small variety.

THIS little Protea is more desirable, by way of contrast to those splendid imbricated species, than for any beauty it possesses, and exhibits powerfully the great diversity of character annexed to this numerous genus. Attached to the dissections is part of the branch of a minor variety, and which is by some considered as specifically distinct: and were extension our object, it certainly might be made a separate species, from the difference of its character after flowering, the larger one forming a cone the size of an egg; which the lesser one does not. It also differs in the manner of its growth; but only in the dried specimens which we have seen that have been collected from old plants at the Cape; and in them the small variety forms its branches after the manner of a corymbus, and the plant has thence received the appellation of corymbosa. But had we given a separate figure of it, we could not (without making an awkward apology) have adopted a specific title whose characteristic appearance it might never acquire in this climate, and which our figure would not have possessed. By placing it amongst the variations these objections are obviated, and the appearance of repetition avoided: a desirable object in a genus so extended as Protea; and we shall take every opportunity of abbreviating as much as possible the number of slight varieties, particularly when their attractions are not considerable. Our drawing was made from plants in the Hibbertian collection.



Protea teretifolia

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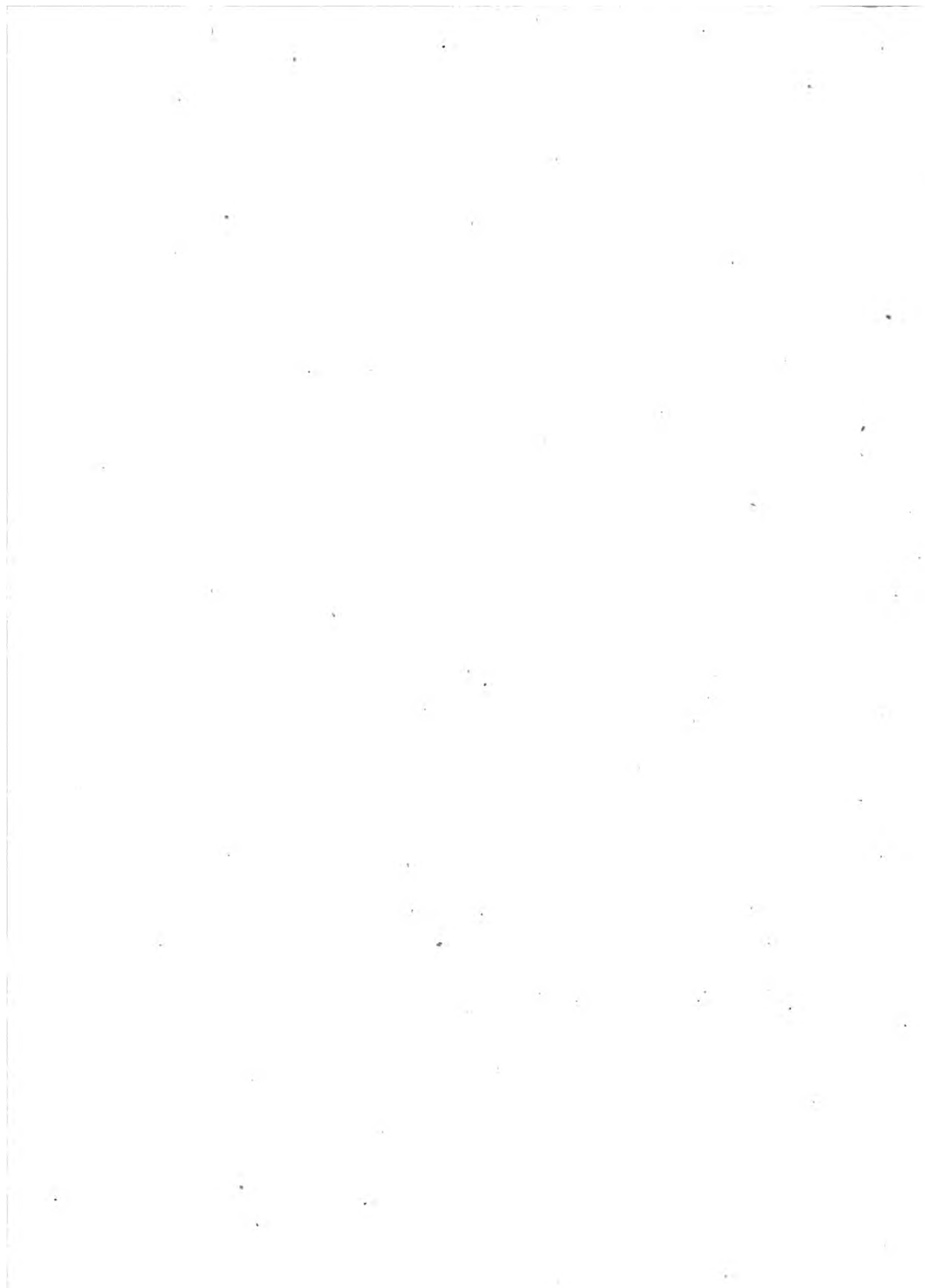


PLATE CCCCLXII.
MALUS JAPONICA.
Scarlet-flowering Japan Apple.

CLASS XII. ORDER V.

ICOSANDRIA PENTAGYNIA. Twenty Chives. Five Pointals.

GENERIC CHARACTER.

CALYX. Perianthium monophyllum, concavum, quinquefidum, persistens.
COROLLA. Petala quinque, subrotunda, concava.
STAMINA. Filamenta viginti, subulata, corollæ breviora, calyci inserta. Antheræ simplices.
PISTILLUM. Germen inferum. Styli 5. Filum longitudine staminum. Stigmata simplicia.
PERICARPIUM. Pomum subrotundum, umbilicatum, carnosum, membranaceum: loculis quinquelocularibus.
SEMINA. Nonnulla oblonga, obtusa, basi acuminata, hinc convexa, inde plana.

EMPALEMENT. Cup one leaf, hollow, five-parted, and remaining.
BLOSSOM. Five petals, nearly round, and hollow.
CHIVES. Twenty, awl-shaped, and shorter than the blossom, and inserted into the cup. Tips simple.
POINTALS. Seed-bud beneath. Shafts 5. Thread the length of the stamens. Summit simple.
SEED-VESSEL. An apple nearly round, navelled, fleshy, skinny: partitions five loculements.
SEEDS. Some oblong, obtuse, pointed at the base, convex on the side, and then flat.

SPECIFIC CHARACTER.

MALUS japonica, foliis alternis, lanceolatis et spathulatis, glabris, et lucidis: marginibus serrulatis, suffruticibus, et interdum arborescentibus. Rami et ramuli alterni, recti, ad basin nodosi, colore schisti: floribus fasciculatis, plerumque quaternis, læte coccineis: petalis concavis, quinque vel decem. Floret in Martio et Aprili.

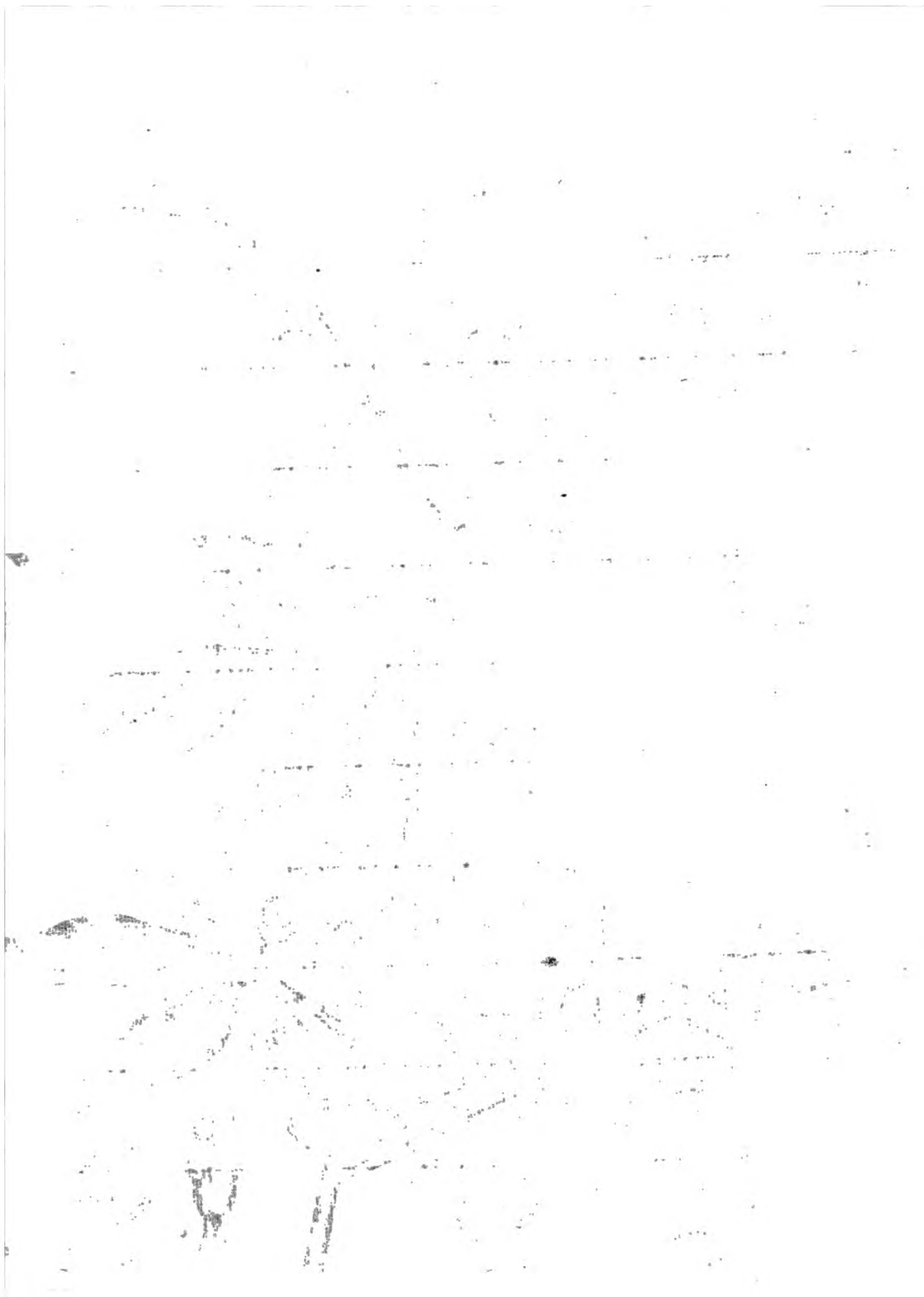
JAPAN Apple, with alternate leaves lance- and spathula-shaped, smooth, and shining: with finely sawed margins, shrubbyish, and sometimes growing to a tree. The small and large branches are alternate and straight out, knotty at the base, and of a slaty colour. Flowers grow in bunches mostly of four together, of a bright scarlet colour. The petals are concave, and from five to ten in number. Flowers in March and April.

REFERENCE TO THE PLATE.

1. A petal.
2. The empalement, chives, and pointals.
3. The same spread open, one tip magnified.
4. Seed-bud and pointals, summit magnified.

THIS handsome fruit-tree will doubtless soon become an object of general cultivation in this country, from the brilliance and duration of its fine scarlet blossoms. It is perfectly hardy, but flowers with most freedom in the shelter of the green-house. The fruit is about the size and shape of a walnut. Why or wherefore *Pyrus* is the generic title adopted for Apple we were at first at a loss to conjecture, but upon investigation find it built on the egotism too inseparable from human nature, and must confess ourselves very sorry to be under the necessity of placing the defect to its original source; the celebrated Linnæus, who it appears altered it from *Malus* (the genus of Tournefort) to *Pyrus*, for no other reason but that his own system (unquestionably the best in almost every other particular) might not bear any resemblance to that of Tournefort. Jussieu in the Introduction to his *Genera Plantarum*, commenting on this very subject, concludes with this most excellent remark: "Such is the love of undivided praise!" We have therefore returned the genus back to its old standard, not through any desire to alter, but absolute necessity; regarding the absurdity of its nomination under the generic title of *Pyrus* as already too long retained; for whilst the tree is known by its fruit, that fruit should certainly be called by its name.

For the introduction of this fine plant we are indebted to the Hon. C. Greville, in whose conservatory at Paddington it first flowered, and from whence our figure was taken.



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Camellia japonica



PLATE CCCCLXIII.
PÆONIA PAPAVERACEA.
Poppy-like Pæony.

CLASS XIII. ORDER VI.

POLYANDRIA HEXAGYNIA. Many Chives. Six Pointals.

ESSENTIAL GENERIC CHARACTER.

| | | |
|---|--|---|
| <p>CALYX 5-phyllus. Petala 5. Styli 0. Capsulæ polyspermæ.</p> | | <p>CUP 5-leaved. Petals 5. Pointal none. Capsules many-seeded.</p> |
|---|--|---|

SPECIFIC CHARACTER.

PÆONIA caule suffruticoso ramoso : folia alternatim bipinnata, subtus glauca : petiolis longis, canaliculatis, amplexicaulibus : floribus semi-duplicibus, albis, ad basin elegantè purpureo radiatis : capsula orbiculata, continens sex loculamenta, in quibus singulis sunt duo semina.

PÆONY with a shrubby stem branching beneath : leaves alternately two-winged, and glaucous beneath, with long footstalks, channelled, and embracing the stem. Flowers semi-double, white, but elegantly radiated at the base with a purple colour : capsule orbicular, containing six cells, with two seeds in each.

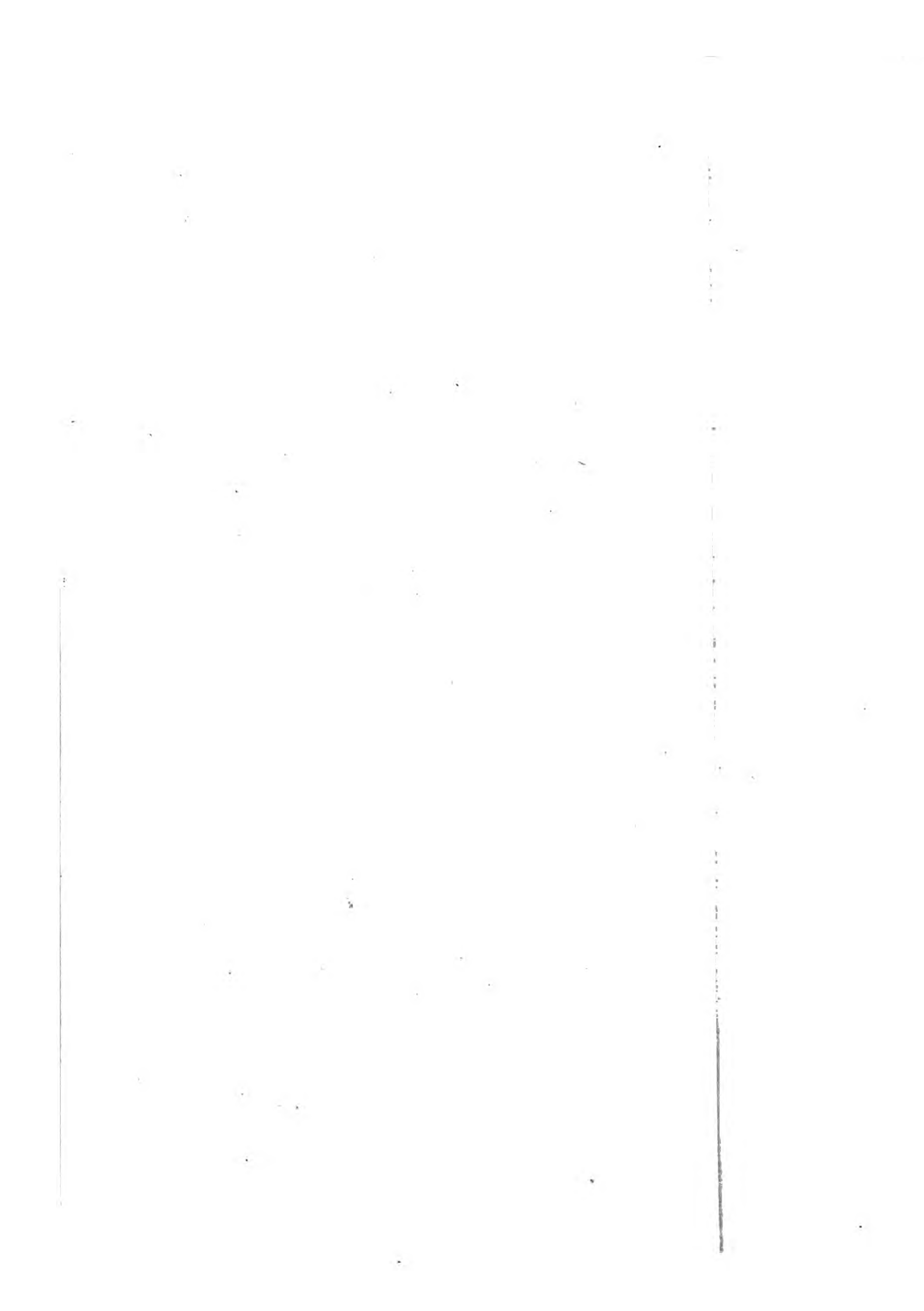
REFERENCE TO THE PLATE.

1. The seed-vessel.
2. The same cut transversely.

For this beautiful species of *Pæonia* we are indebted to Lady Hume, in whose select collection at Wormley-bury, Herts, it flowered for the first time in this country. When we figured the fine purple variety, we little thought of having so soon to compare it with a rival of such magnitude, and of equal beauty. The bright radiated purple at the base is a great relief to the surrounding whiteness of the petals, that would otherwise stand in much greater need of the assistance of art for a strength of shadow, that would unavoidably injure their delicacy. The more we become acquainted with this attractive genus, the greater latitude of growth we find attached to it, which appears to defy all systematic rule, varying in some species from Digynia, or two pointals, up to six or more. The present one differs more than all the rest, having six pointals and seed-buds attached together, and enshrined within a globular exterior, resembling a Poppy, and from whence we have drawn its specific title ; for, as a distinct species it may certainly be considered with great propriety ; and most likely the distinction will by some be thought of sufficient consequence to license a generic division : but in a genus so mutable, were the alteration still greater, whilst it could be recognised as a *Pæony*, we should regret to meet it under any other title.



Paeonia papaver



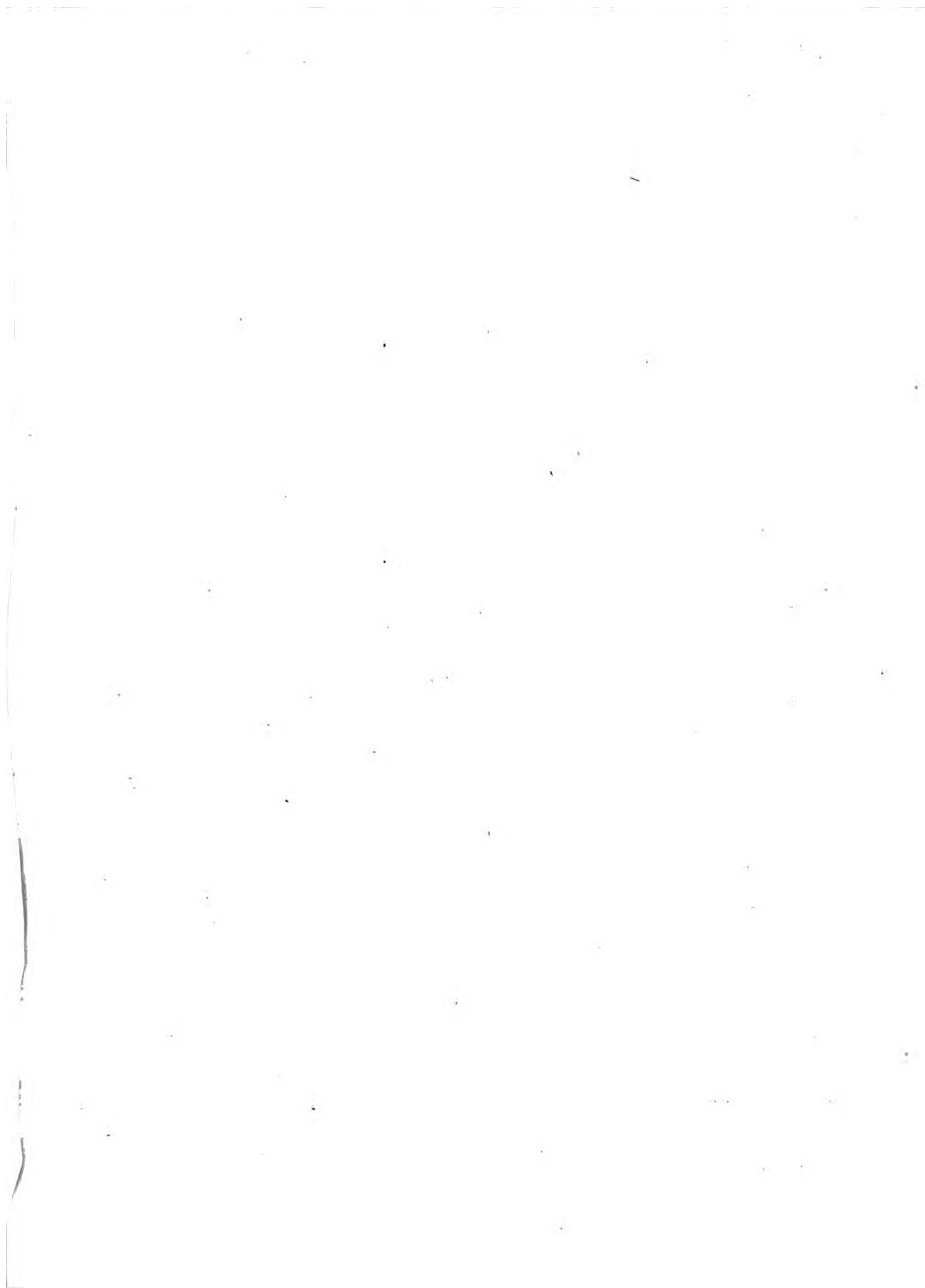


PLATE CCCCLXIV.
DIOSMA OVATA.
Oval-leaved Diosma.

CLASS V. ORDER I.

PENTANDRIA MONOGYNIA. Five Chives. One Pointal.

ESSENTIAL GENERIC CHARACTER.

COROLLA 5-petala. Nectaria 5 supra ger-
men. Caps. 3. s. 5, coalitæ. Semina tecta.

BLOSSOM. Five petals. Five nectaries above the
seed-bud. Seed-vessels 3 or 5, joined to-
gether. Seeds covered.

SPECIFIC CHARACTER.

DIOSMA ovata, foliis alternis, oppositis, odo-
ris, supra glabris, infra punctatis, patenti-
bus: floribus plerumque duobus, axillari-
bus, in medio ramulorum, albis. Caulis
erectus: ramis simplicibus.

DIOSMA with oval leaves, alternate; opposite,
and full of scent, smooth above, dotted be-
neath, and spreading. Flowers grow mostly
two together from the axillæ of the leaves,
about the middle of the branches, and are
white. Stem upright. Branches simple.

REFERENCE TO THE PLATE.

1. The empalement.
2. Seed-buds, honey-cups, chives, and pointal.
3. A petal.
4. A chive magnified.
5. Seed-bud and pointal.

AMONG the scented foliage characteristic of so many of the Diosmas the present species is by far the most powerful, and is the plant called Buku, so much used by the Hottentots, at the Cape of Good Hope, by way of perfume. They mix it with grease, and anoint themselves with it so profusely that a stranger can scarcely endure the effluvia of it. The *D. serrata* also possesses a similar scent, and is most likely used occasionally for the same purpose by the natives. Its scent, when rubbed, remains a long time, and by some is thought very pleasant, by others as disagreeable: a difference of opinion in general attending all very strong perfumes. The foliage has a very neat appearance, and the clear white flowers give it a lively aspect. Like several others of the genus, it blooms in winter and spring. Our figure was made from the Clapham collection.



Diosma crata

PLATE CCCCLXV.
PROTEA DIVARICATA.
Straddling-leaved Protea.

CLASS IV. ORDER I.

TETRANDRIA MONOGYNIA. Four Chives. One Pointal.

ESSENTIAL GENERIC CHARACTER.

| | | |
|--|--|---|
| COROLLA 4-fida, seu 4-petala. Antheræ lineares, petalis infra apices insertæ. Calyx proprius, nullus. Sem. solitaria. | | BLOSSOM four-cleft, or of four petals. Tips linear, inserted into the petals below the points. Cup proper, none. Seeds solitary. |
|--|--|---|

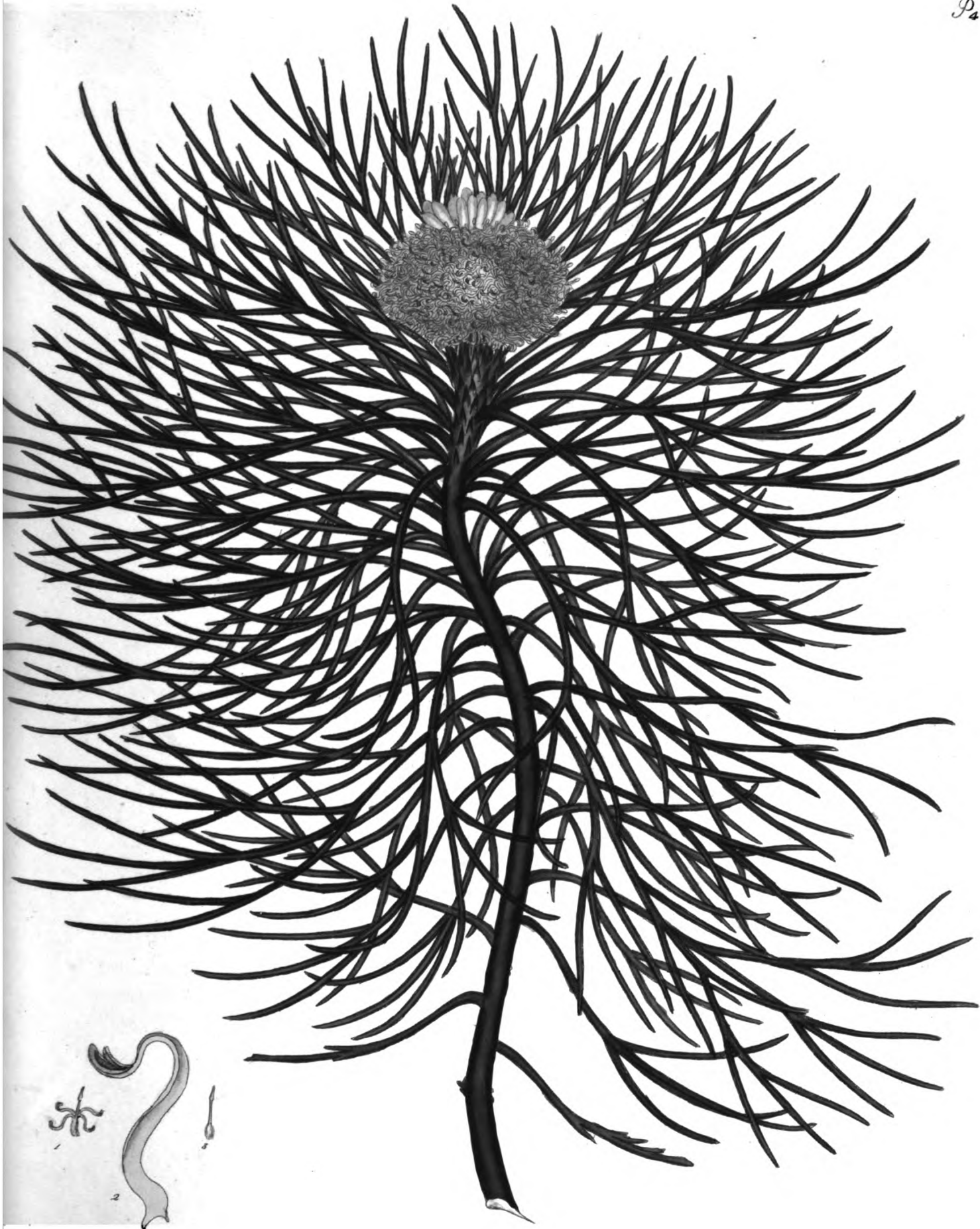
SPECIFIC CHARACTER.

| | | |
|--|--|---|
| PROTEA divaricata, foliis multifidis, longis, linearibus, teretibus, patentibus: floribus glomeratis, luteis. | | PROTEA with straddling leaves, many-cleft, long, linear, round, and spreading. Flowers grow in close round heads of a yellow colour. |
|--|--|---|

REFERENCE TO THE PLATE.

1. A flower.
 2. A chive magnified.
 3. Seed-bud and pointal.
-

THIS very distinct species of Protea we have not seen in any other collection than that of G. Hibbert, esq. nor is it as yet amongst the numerous fine dried specimens in the herbarium of A. B. Lambert, esq. and certainly may be considered at present as a rare plant. From the firm luxuriance of the foliage, and woody character of its stem, we should be inclined to regard it as a plant not difficult to preserve; and considering the abundance of its leaves, the flowers are comparatively few: and very likely this circumstance may best account for its present scarcity; for, amongst the various beauties of this extensive tribe, numerous flowers, or speciosity of appearance, are the best recommendations to particular attention.



Protea, divaricata

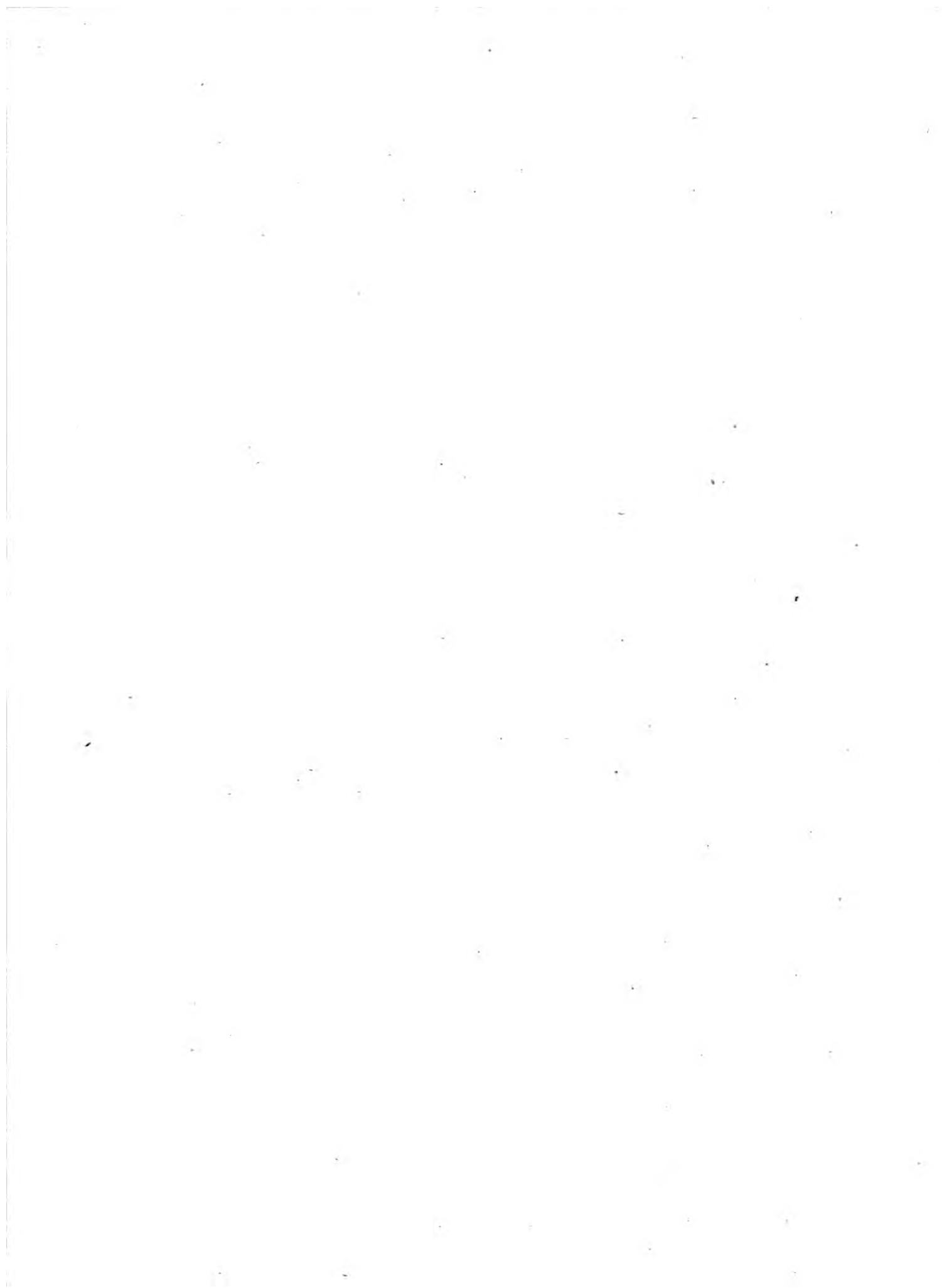


PLATE CCCCLXVI.
GOODENIA TENELLA.
Slender Goodenia.

CLASS V. ORDER I.

PENTANDRIA MONOGYNIA. Five Chives. One Pointal.

ESSENTIAL GENERIC CHARACTER.

COROLLA 5-fida, supra longitudinaliter fissa, genitalia exserens. Stigma urceolatum, ciliatum.

BLOSSOM five-cleft, longitudinally cloven on the upper side, exposing the organs of generation. Summit cup-shaped, and fringed.

SPECIFIC CHARACTER.

GOODENIA tenella, foliis prostratis, spathulatis, margine leviter pilosis. Flores plures, germinantes a duabus bracteis oppositis: corollis luteis: petalis duobus superioribus maculatis. Rami graciles, longi, emergentes a radice, terram comprimunt, et postea adscendunt.

GOODENIA with slender stems, prostrate leaves which are spathula-shaped, with lightly haired margins. Flowers numerous, branching out from two opposite floral leaves. Blossoms yellow: the two upper petals are spotted. Branches slender, long, and emerging from the root, press the earth, and afterward ascend.

REFERENCE TO THE PLATE.

1. The empalement.
2. A blossom spread open.
3. Seed-bud, chives, and pointal, magnified.

THIS delicate new *Goodenia* represents the entire plant, as communicated to the author by the Comtesse de Vandes, in whose choice collection near Bayswater it flowered for the first time. It is certainly one of the most graceful plants hitherto introduced from New South Wales. Its general exterior approaches very near a generic division of *Goodenia* called *Velleia*, and is by Labillardiere figured under the title of *Velleia trinervis*. The abundance and succession of its bright yellow blossom, joined to its light and airy appearance, will no doubt insure it a place in most collections.



Goodenia, tenella

PLATE CCCCLXVII.
LYTHRUM FRUTICOSUM.

Shrubby Lythrum.

CLASS XII. ORDER I.

DODECANDRIA MONOGYNIA. Twelve Chives. One Pointal.

GENERIC CHARACTER.

CALYX. Perianthium monophyllum, cylindraceum: denticulis duodecim, alternis minoribus.

COROLLA. Petala sex, oblonga, obtusiuscula, patentia: unguibus in incisuras calycis insertis.

STAMINA. Filamenta 12, longitudine calycis, supra: infra breviora. Antheræ simplices, incumbentes.

PISTILLUM. Germen oblongum. Stylus subulatus, longitudine staminum, declinatus. Stigma orbiculatum.

PERICARPIUM. Capsula oblonga, acuminata, loculamentis duobus tecta.

SEMINA numerosa, parva.

EMPALEMENT. Cup one-leaved, cylindrical, twelve-toothed: the alternate ones the smallest.

BLOSSOM. Petals six, oblong, bluntish, and spreading: the unguis or claws are inserted into the divisions of the calyx.

CHIVES 12 filaments the length of the calyx, above, shorter beneath. Tips simple, and lying on them.

POINTAL. Seed-bud oblong. Shaft awl-shaped, the length of the stamens, bent downward. Summit orbicular.

SEED-VESSEL. Capsule oblong, sharp-pointed, covered with two loculaments.

SEEDS numerous, and small.

SPECIFIC CHARACTER.

LYTHRUM fruticosum: foliis oppositis, alternis, lanceolatis. Flores in racemis axillaribus in numeris irregularibus: corollis tubæformibus, coccineis. Sponte nascens in provinciis borealibus Hindostani.

LYTHRUM with a shrubby stem. Leaves opposite, alternate, and lance-shaped. Flowers grow in clusters from the axillæ of the leaves in irregular numbers. Blossoms trumpet-shaped, of a scarlet colour. It grows wild in the northern provinces of Hindostan.

REFERENCE TO THE PLATE.

1. A blossom spread open, one tip magnified.
2. The same shown from the outer side.
3. The seed-bud and pointal.
4. A capsule.
5. The same cut transverse.

THIS plant seems to have been hitherto but imperfectly known, having been figured among Dr. Roxburgh's Coromandel Plants, vol. i. p. 20, under the title of *Grislea tomentosa*. It has recently received another new generic title; but upon examination we find it to be the *Lythrum* of Linnæus; in which opinion the author is sanctioned by the concurrence of some of the ablest botanists of the present day. This handsome shrub is described in the 4th vol. of the Asiatic Researches, under the native title of *D.hawry*, and is said to grow wild on the hills and banks of rivulets in the northern part of Hindostan, where it is as much esteemed for its utility as its beautiful red flowers, which are gathered both for the use of dyers and apothecaries; the latter giving an infusion of them as a cooling medicine. When used in dyeing, they lose their colour, and only yield a slight brownish tincture to the water; so that the benefit derived from them when used with * *Aal* seems to depend solely on their action as an astringent, and which appears to be confirmed by the substituting of † *Purwas*, a strong astringent, as an equivalent for the flowers of the *D.hawry*. It is at present treated as a hot-house plant, but would in all probability succeed very well in the careful treatment of the green-house. The figure was taken from a fine plant in the nursery of Messrs. Colville.

* *Aal*, the native name of the *Morinda* plant, a tree of a middling size cultivated to a great extent for the purpose of dyeing cloth red, and is more esteemed for its duration than its beauty, and forms an important branch in the commerce of the province of *Mâlava*.

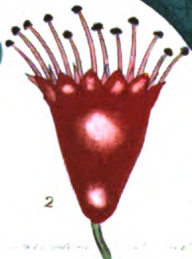
† *Purwas*, a kind of gall nut containing the exuvie of a small insect found on a species of *Mimosa*.



thrum, fruticosum



3



2

4



5

PLATE CCCCLXVIII.
ALOE ARBORESCENS.

Tree Aloe.

CLASS VI. ORDER I.

HEXANDRIA MONOGYNIA. Six Chives. One Pointal.

GENERIC CHARACTER.

CALYX nullus.

COROLLA. Monopetala, erecta, sexfida, oblonga. Tubus gibbus. Limbi patuli, parvi, fundo nectarifero.

STAMINA. Filamenta sex, subulata, longitudine corollæ, fere ultra, receptaculo inserta. Antheræ oblongæ, incumbentes.

PISTILLUM. Germen ovatum. Stylus simplex, longitudine staminum. Stigma obtusum, trifidum.

PERICARPIUM. Capsula oblonga, trisulca, trilocularis, trivalvis.

SEMINA plura, angulata.

Obs. *A. variegata* sola habet stigma et stamina declinata.

EMPALEMENT none.

BLOSSOM. One petal, upright, six-cleft, oblong. Tube gouty. Limbs spreading and small, with honey at their base.

CHIVES. Threads six, awl-shaped, the length of the blossom, and scarcely above it, inserted into the receptacle. Anthers oblong, and incumbent.

POINTAL. Seed-bud ovate. Shaft simple, the length of the stamens. Summit obtuse, and three-sided.

SEED-VESSEL. Capsule oblong, 3-furrowed, 3-celled, 3-valved.

SEEDS many and angular.

Obs. *A. variegata* simply has the pointal and stamens bent downwards.

SPECIFIC CHARACTER.

ALOE arborescens: floribus spicatis rubescentibus, apice viridibus: foliis porrectis, lanceolatis, carneis, apice recurvatis, marginibus serratis: caule ad basin nudo, superne foliis circumsessato.

ALOE with a tree-like stem. Flowers grow in spikes of a soft red colour, green at the ends. Leaves straight out, lance-shaped, fleshy, and recurved, with sawed margins. Stem naked at the base, surrounded by the leaves on the upper part.

REFERENCE TO THE PLATE.

1. A leaf.
2. A flower spread open.
3. Seed-bud and pointal.
4. Miniature representation of the plant.

THIS fine tall plant has been but rarely seen in bloom near town. The specimen from which our figure was made, was sent to London by the Rev. George Reading Leathes, from his collection at Bury St. Edmund's, to his friend sir T. G. Cullum, bart. and obligingly communicated to us by that gentleman. It grows twelve feet high, and is considered as one of the loftiest of the Aloe tribe (the *dichotoma* and *ferox* excepted), the former of which is said to arrive sometimes to the enormous height of twelve feet in circumference round the stem, twenty feet high, and four hundred round the extremity of the branches. Colonel Paterson, in his Travels in Africa, mentions, that after crossing the Cousie or Sand River he visited a European and his family, who with their cattle had no other tenement but what nature had furnished them with in the Aloe *dichotoma*.

Mac. arborescens



Pl. Ind.

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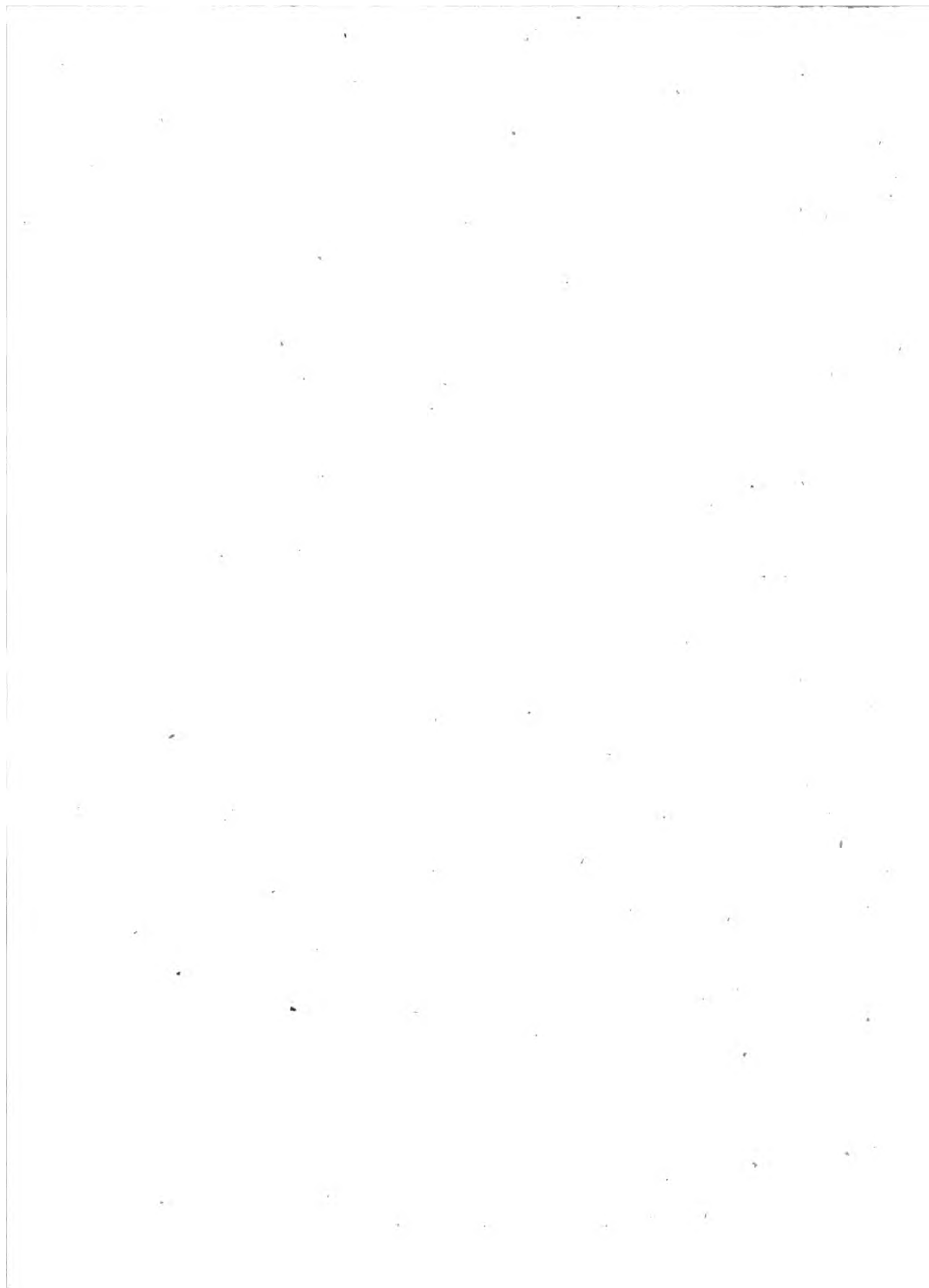


PLATE CCCCLXIX.
PROTEA CORONATA.
Crown-flowered Protea.

CLASS IV. ORDER I.

TETRANDRIA MONOGYNIA. Four Chives. One Pointal.

ESSENTIAL GENERIC CHARACTER.

COROLLA 4-fida, seu 4-petala. Antheræ lineares, petalis infra apices insertæ. Calyx proprius, nullus. Sem. solitaria.

BLOSSOM four-cleft, or of four petals. Tips linear, inserted into the petals below the points. Cup proper, none. Seeds solitary.

SPECIFIC CHARACTER.

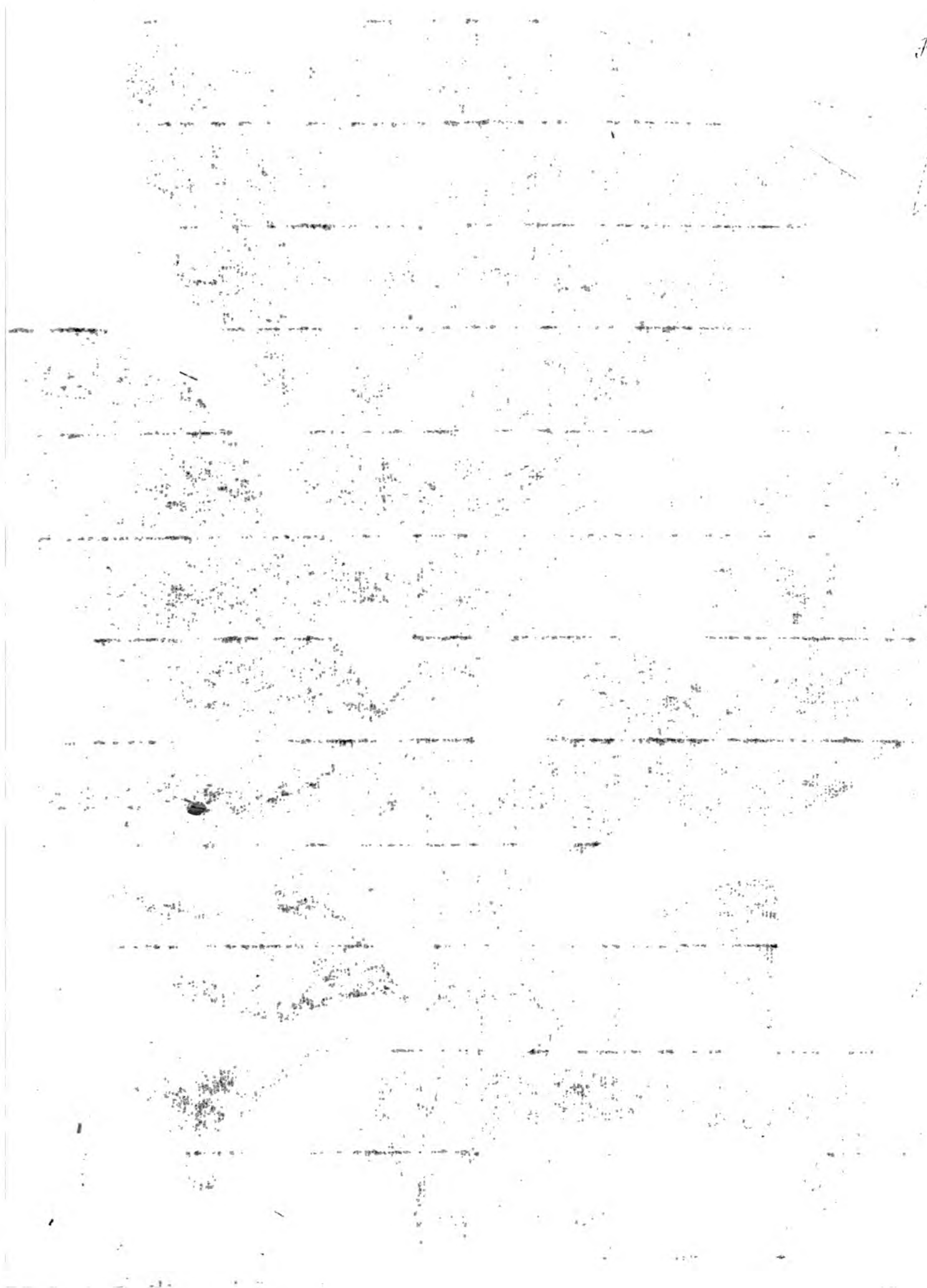
PROTEA foliis lanceolatis, obliquis, transverse et horizontaliter sitis, marginibus tomentosis: squamis calycinis superioribus spathulatis, angustis, tomentosis, margine piloso, incarnatis: squamis infra lato-ovatis, tomentosis, intus melliferis: caulis erectus, sesquipetalis.

PROTEA with lance-shaped oblique leaves standing sideways in a horizontal direction, with downy edges. The upper scales of the empalement are spathula-shaped, narrow, downy, with hairy edges, and flesh-coloured. The scales beneath are broadly ovate, downy, and furnished with honey on the inner side. Stem upright, a foot and a half high.

REFERENCE TO THE PLATE.

1. A flower complete.
2. Seed-bud and pointal.

THIS *Protea* may be regarded as an intermediate character between the *P. mellifera* and that fine section of *Protea* called *speciosa*; and certainly, in point of beauty, deserves to be ranked among that showy division: but as the principal leading feature in the *Speciosas* exists in the powerful feathery fringe upon the edges of the imbrication, and the present one possessing so very slight a characteristic of that description, we could not with propriety rank it amongst them. Its affinity to the *P. mellifera* is only in the honey-bearing character of its flowers, which, like that species, contain a quantity of nectariferous juice. The unoccupied term of *coronata* is adopted, from the resemblance its imbrication bears to the form of a crown, and which is more apparent in this species than in any other as yet in cultivation with us. Our figure was made from the Clapham collection.



THE UNIVERSITY OF CHICAGO
DEPARTMENT OF CHEMISTRY

RESEARCH REPORT

NO. 1000

By [Name] and [Name]

1950

The following is a summary of the results of the experiments conducted during the course of this investigation. The first part of the work was devoted to the study of the reaction of [Name] with [Name] in the presence of [Name]. It was found that the reaction was first order with respect to [Name] and zero order with respect to [Name]. The rate of reaction was found to be independent of the concentration of [Name]. The activation energy of the reaction was found to be [Value] kcal/mole. The second part of the work was devoted to the study of the reaction of [Name] with [Name] in the presence of [Name]. It was found that the reaction was first order with respect to [Name] and first order with respect to [Name]. The rate of reaction was found to be independent of the concentration of [Name]. The activation energy of the reaction was found to be [Value] kcal/mole.



P.

Protea coronata

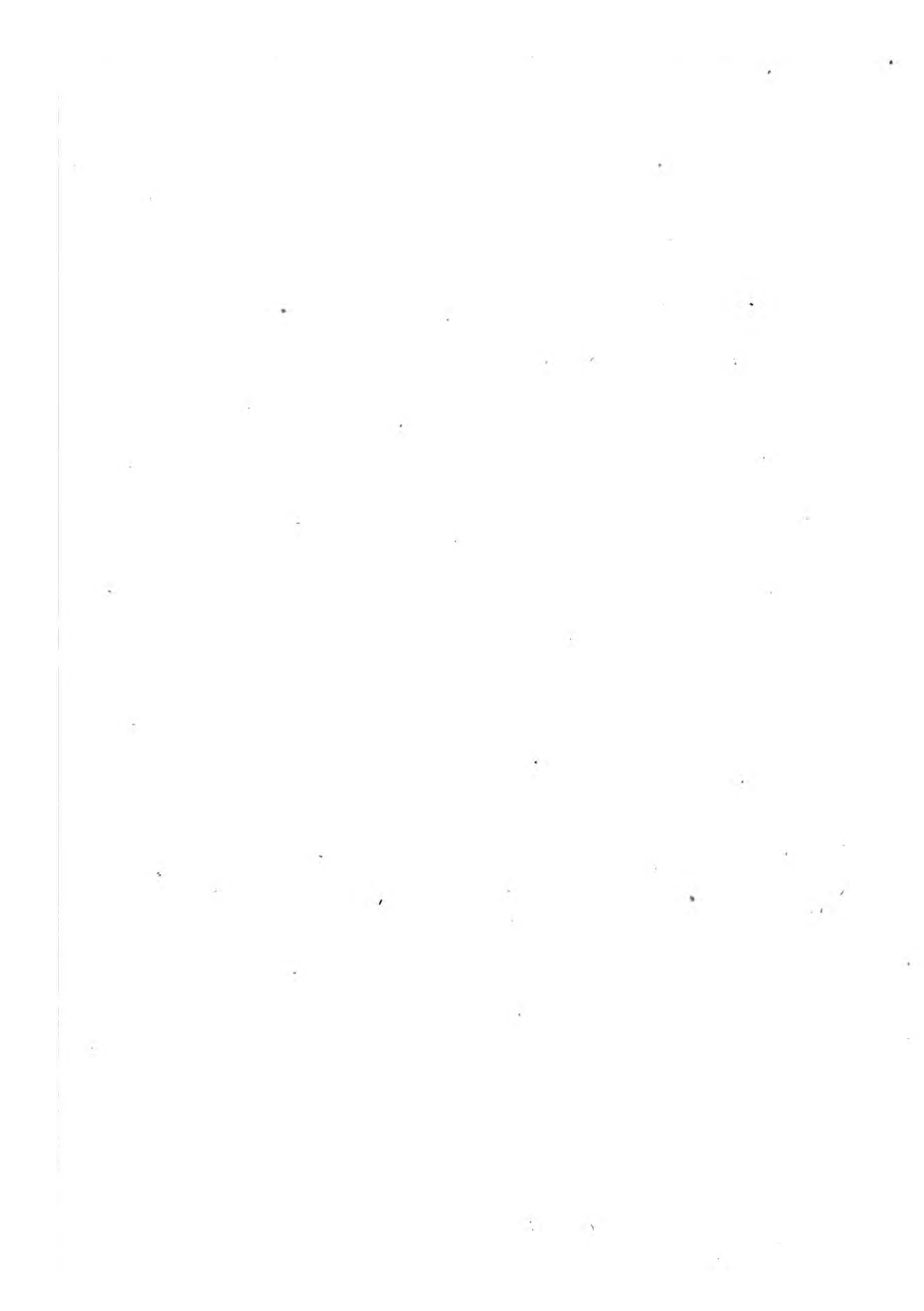


PLATE CCCCLXX.
OPHRYS ARACHNOIDES.
Spider-like Ophrys.

CLASS XX. ORDER I.

GYNANDRIA DIANDRIA. Chives on the Pointal. Two Chives.

ESSENTIAL GENERIC CHARACTER.

COROLLA 5 petala, sub-ringens : petalis patentibus : labellum nectarii e basi styli, patens. Antheræ duæ, terminales, adnatæ.

BLOSSOM 5 petals, nearly gaping : petals spreading : the lip of the honey-cup comes from the base of the shaft, spreading. Chives two, terminal, and close together.

SPECIFIC CHARACTER.

OPHRYS arachnoides, caule folioso : foliis lanceolatis, glauco-viridibus, striatis : corollis patentibus, sub-albis ; tribus exterioribus obtusis ; duabus interioribus acutis, brevissimis : labello nectarii magno, subrotundo, fusco, convexo, villosa : prope basin labelli duæ sunt appendiculæ oppositæ, flavæ : centrum nectarii interlineatum est, maculisque flavis notatum : et in medio marginis tuberculum carnosum.

OPHRYS with spider-like flowers : leaves enfoliating the stem, lance-shaped, of a glaucous green and striped. Blossom spreading, and nearly white : the three outer ones are obtuse, the two inner ones pointed, and very small : the lip of the honey-cup is large, nearly round, brown, convex, and hairy : near the base of the nectary there are two opposite appendices of a yellow colour : the centre of the honey-cup is interlined, and spotted with yellow ; and in the centre of the margin there is a fleshy substance.

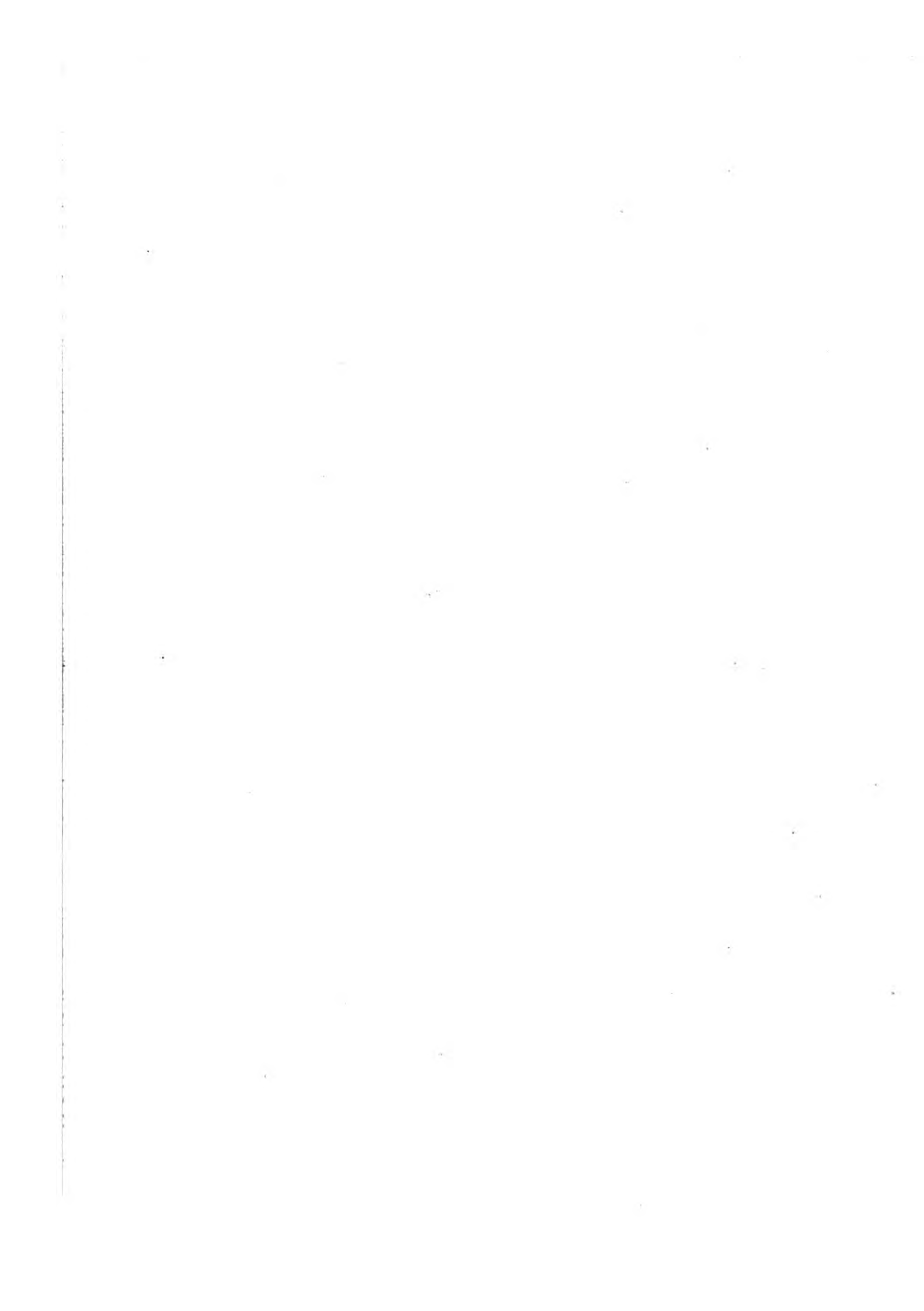
REFERENCE TO THE PLATE.

1. The blossom.
2. The same shown from the outside.
3. The honey-cup.
4. Chives and pointal, magnified.

THIS interesting species of the Orchidæ family was sent from Switzerland, by Dr. Messer, to the gardens of Isaac Swainson, esq. at Twickenham, where it flowers annually. It is said to be a native of Britain, France, Portugal, &c. and is known by the appellation of *Ophrys arachnoides*, or spider-like, but is generally thought to bear a stronger analogy to the humble bee. In the *Flora Londinensis* of Curtis, there is a figure under the title of *Ophrys fuciflora* very much resembling our plant in most particulars, except in the colour of the flower, which is very different. The same plant is again figured in Dr. Smith's *English Botany*, under the specific of *aranifera* ; and thus the plant is known both as a spider and a drone. The *arachnoides* may therefore be considered, if not a distinct species, as a very strong marked variety, and is at present a scarce plant. It remains so long in bloom, that the author observed it at the nursery of Messrs. Whitley and Brames, three weeks after he had made the drawing, nearly as perfect as the figure represents.



Cypripedium arachnoideum



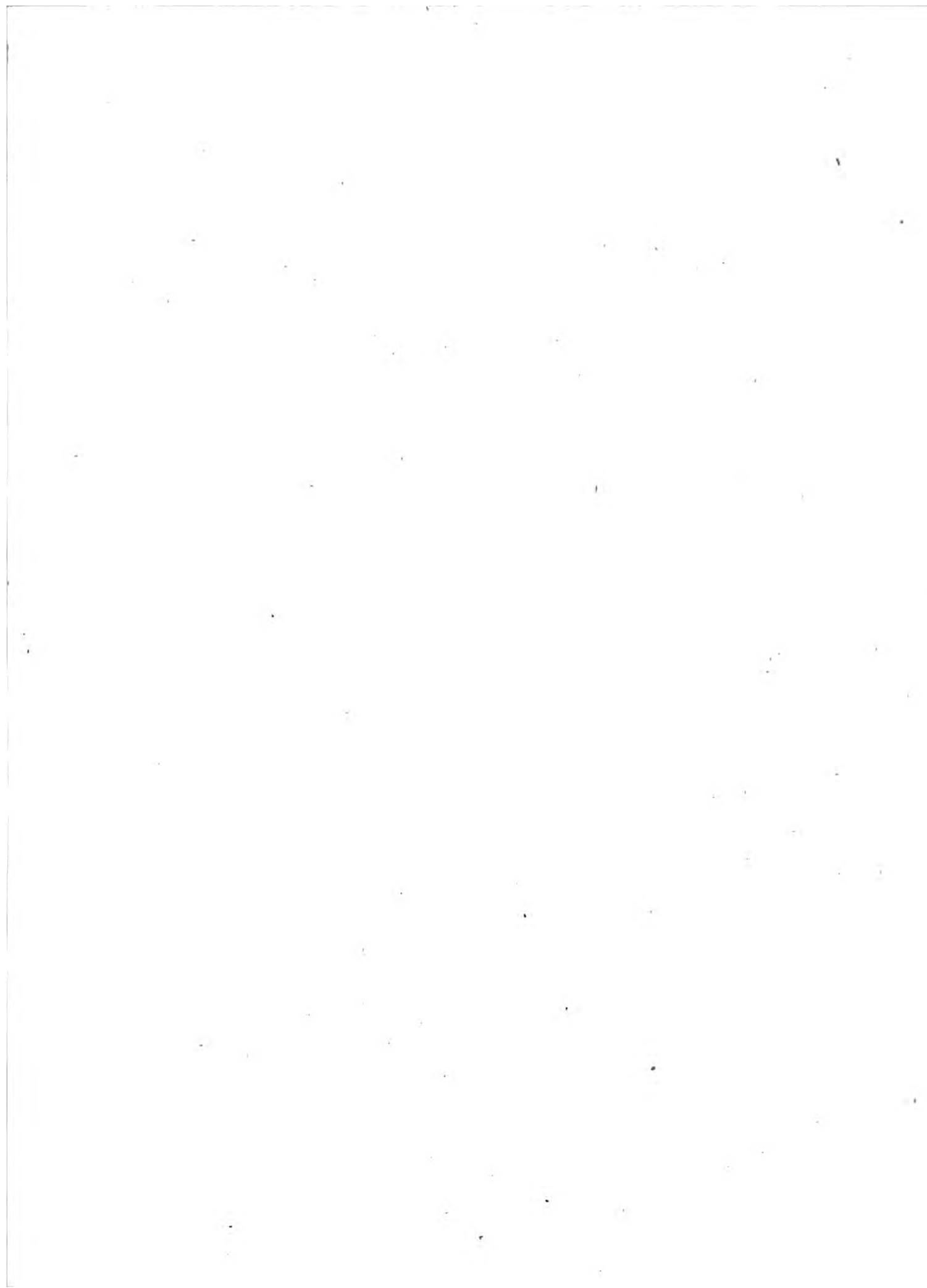


PLATE CCCCLXXI.
OPHRYS MYODES.
Fly-like Ophrys.

CLASS XX. ORDER I.

GYNANDRIA DIANDRIA. Chives on the Pointal. Two Chives.

ESSENTIAL GENERIC CHARACTER.

COROLLA 5 petala, sub-ringens : petalis patentibus : labellum nectarii e basi styli, patens. Antheræ duæ, terminales, adnatæ.

BLOSSOM 5 petals, nearly gaping : petals spreading : the lip of the honey-cup comes from the base of the shaft, spreading. Chives two, terminal, and close together.

SPECIFIC CHARACTER.

OPHRYS myodes, floribus alternis, lateralibus : nectarii labio tripartito : laciniis lateralibus : lineari-lanceolatis, media oblonga, biloba, longior lateralibus : petalis patentibus : tribus exterioribus lanceolatis, viridibus, obtusis : duobus interioribus linearibus, brevissimis, purpureis : caule folioso : bulbo subrotundo.

OPHRYS with fly-like flowers, alternate, and lateral : the lip of the honey-cup is three-cleft : the side segments are linear, and lance-shaped : the middle one is oblong, two-lobed, and longer than the side ones : the petals are spreading : the three outer ones are lance-shaped, green, and obtuse, the two inner ones are linear, very short, and purple : leaves enfoliating the stem : bulb roundish.

REFERENCE TO THE PLATE.

1. The blossom.
2. The same shown from the outer side.
3. The honey-cup.
4. The same shown from the under side.
5. Chives and pointal, magnified.

AMONGST the Alpine plants of G. Hibbert, esq. we met with this curious little insectiferous plant, and which, like the preceding figure, is said to be indigenous to almost all Europe. It is figured in the English Botany of Dr. Smith, but apparently from a taller plant, and differs in the colour of the body. It is also represented in the Botanical Magazine, of a higher stature, but nearly the same in colour. Variations probably the mere effect of climate, and a different mode of culture. As they all bear an unequivocal resemblance to the fly, so exact a representation of ever so humble a species of animated nature will no doubt be always thought deserving a place in every collection.



Ophrys, myodes



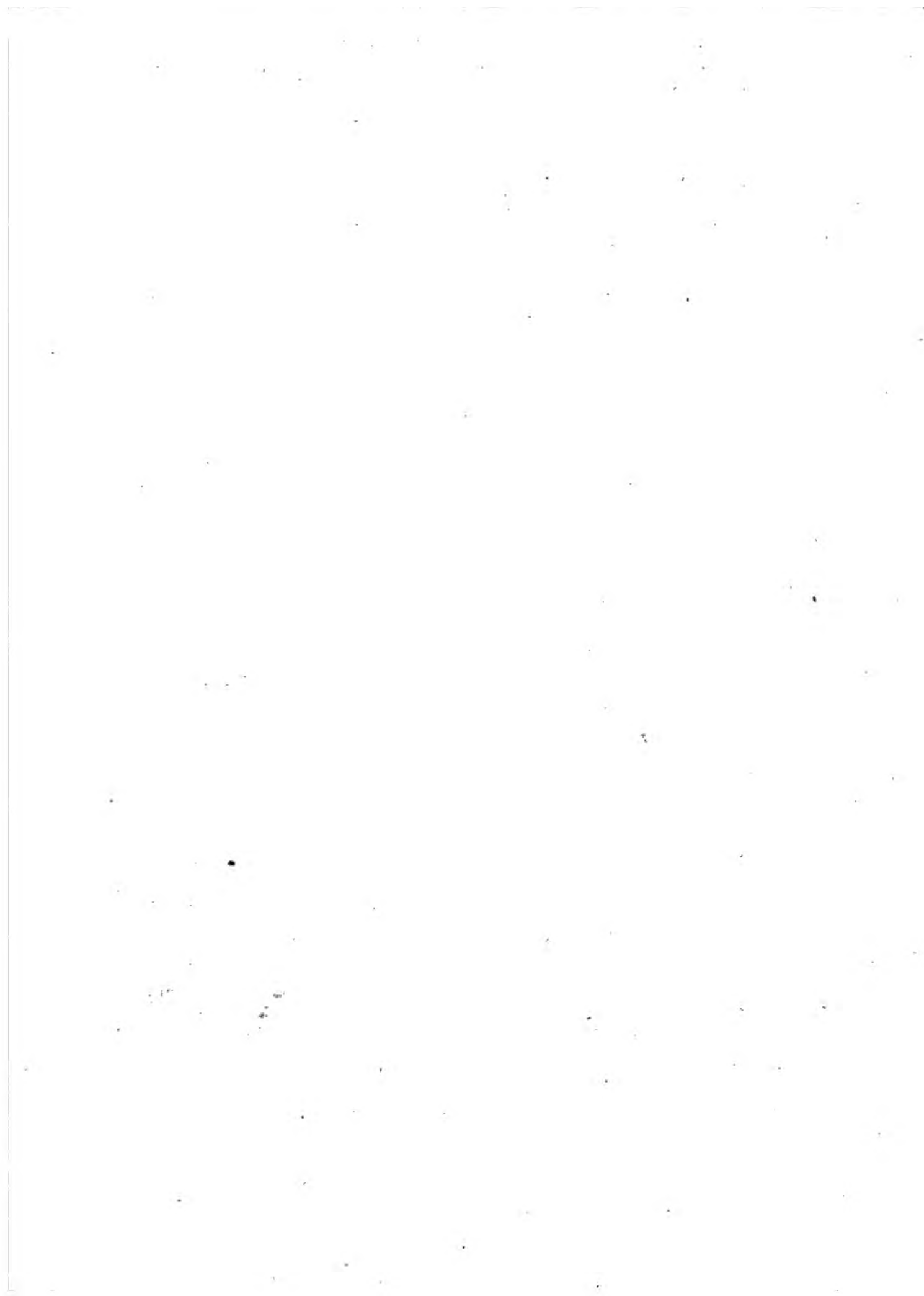


PLATE CCCCLXXII.
HIBBERTIA CRENATA.
Scolloped-leaved Hibbertia.

CLASS XIII. ORDER X.

POLYANDRIA DECAGYNIA. Many Chives. Ten Pointals.

ESSENTIAL GENERIC CHARACTER.

CALYX 5-phyllus. Petala 5. Stamina numerosa, receptaculo inserta. Germina quinque vel decem, desinentia in stylis, oligosperma.

EMPALEMENT 5-leaved. Five petals. Chives numerous, inserted into the receptacle. Seed-buds 5 or 10, terminating in shafts, few-seeded.

SPECIFIC CHARACTER.

HIBBERTIA foliis crenatis, sub-cordatis: floribus solitariis, axillaribus, luteis, patentibus. Caulis fruticosus: ramis patentibus, numerosis, purpureis.

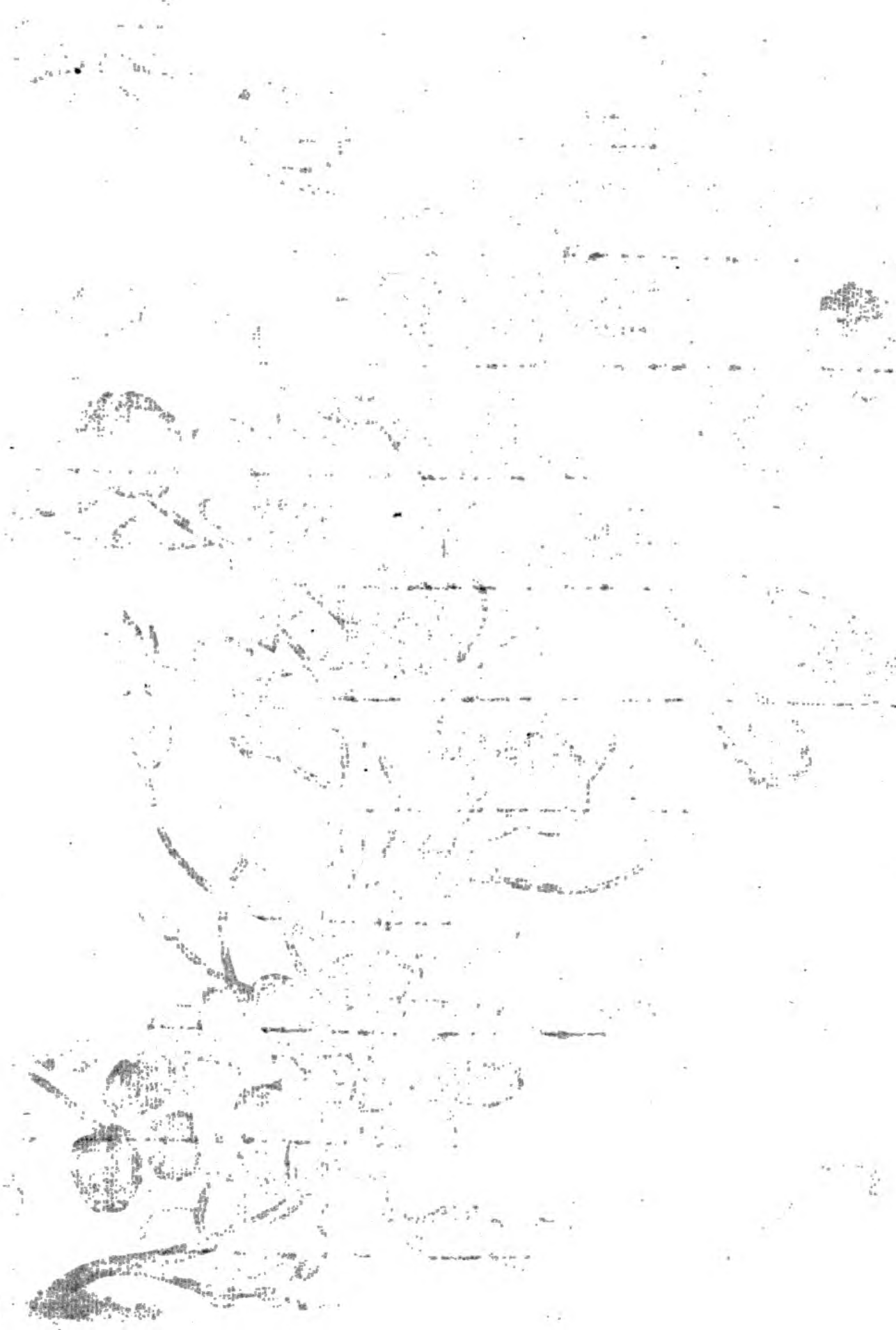
HIBBERTIA with scolloped leaves nearly heart-shaped. Flowers grow singly from the insertion of the leaves, are of a yellow colour, and spreading. Stem shrubby. Branches spreading, numerous, and purple.

REFERENCE TO THE PLATE.

1. The empalement.
2. A petal.
3. Chives and pointals.
4. Seed-buds and pointals.
5. A seed-bud and pointal, magnified.

THIS is an addition to the genus *Hibbertia*, but differs from the *H. volubilis* in having ten pointals instead of five; and will most likely, when more of the genus are in cultivation with us, form a section under the title of *decagynia*, and the original of the genus as *pentagynia*: a mode frequently adopted, to prevent that confusion too often attending the formation of new genera. Under this arrangement the genus of *Hibbertia* will be considerably enlarged, and certainly no genus more deserves it than that which bears the name of such a liberal promoter of botanic science.

Our figure represents the entire plant, from the nursery of Messrs. Colville, where it was first raised from seeds received from New South Wales.



PLANTAE
SERRAENIA
1892

1892

1892

1892

PLANTAE

1892

PLANTAE
SERRAENIA
1892



Hibbertia, crenata



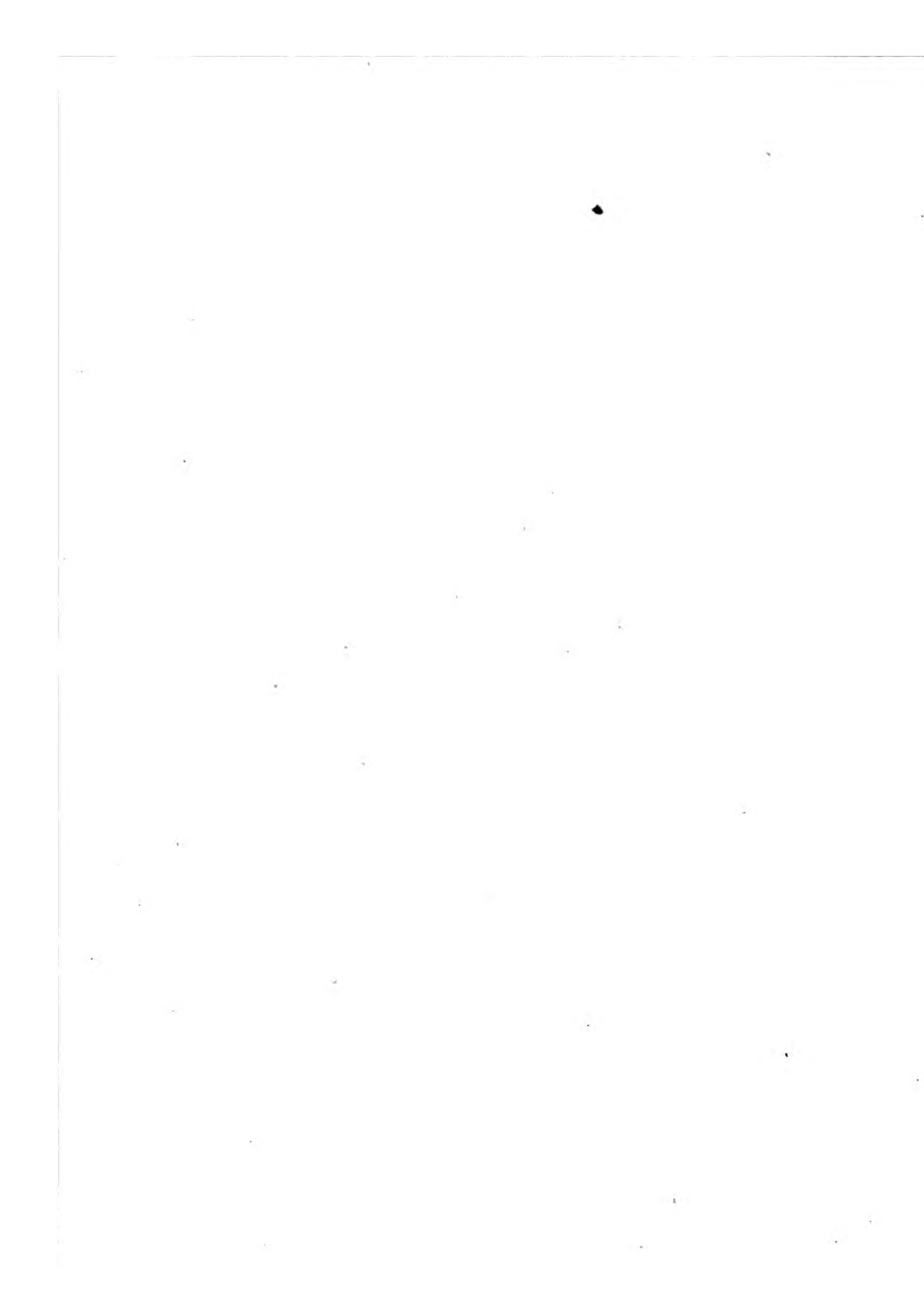


PLATE CCCCLXXIII.
YUCCA GLORIOSA.

Superb Yucca.

CLASS VI. ORDER I.

HEXANDRIA MONOGYNIA. Six Chives. One Pointal.

GENERIC CHARACTER.

CALYX nullus.

COROLLA campanulata, sex-partita, unguibus
cohærens: laciniis ovatis, maximis, paten-
tibus.

STAMINA. Filamenta sex, brevissima, superne
crassiora, reflexa. Antheræ minimæ.

PISTILLUM. Germen oblongum, obtusum, tri-
quetrum, staminibus longius. Stylus nul-
lus. Stigma trisulcum, obtusum: laciniis
bifidis, perviis.

PERICARPIUM. Capsula oblonga, obtusa, tri-
angularis, trilocularis, trivalvis.

SEMINA plurima, gemino ordine incumbentia.

EMPALEMENT none.

BLOSSOM bell-shaped, six-divided, fastened to-
gether by the claws. The segments ovate,
large, and spreading.

CHIVES. Six threads, very short, thick above,
and reflexed. Tips small.

POINTAL. Seed-bud oblong, blunt, three-sided,
longer than the chives. Shaft none. Sum-
mit three-furrowed, obtuse. The segments
are bifid, and may be passed through.

SEED-VESSEL. Capsule oblong, obtuse, three-
angled, three-celled, three-valved.

SEEDS many, two-ranked, lying on each other.

SPECIFIC CHARACTER.

YUCCA floribunda, ramosa, patens: corollis
campanulatis, pendulis: foliis ensiformi-
bus, plicatis, apice mucronato.

ADAM'S NEEDLE, with numerous flowers,
branching and spreading: blossoms bell-
shaped, and hanging down. Leaves sword-
shaped and plaited, with a mucronated
point.

Habitat in America boreali.

Native of North America.

REFERENCE TO THE PLATE.

1. The end of a leaf.
2. The plant in miniature.
3. The chives and pointal.
4. Seed-bud and pointal.
5. The seed-bud cut transversely.

OF this genus of plants there are as yet known but four species. The present one, from its specific title, might naturally be supposed to possess a magnificent exterior of unrivalled beauty; which is by no means the case: for although it is a grand plant when in fine bloom, the term of gloriosa must certainly be regarded as a metaphysical hyperbole, very inapplicable to any plant ever so beautiful. It is indigenous to North America, and of great utility to the natives, who make cords from the stringy texture of the leaves, and use it in the fabrication of their houses, to fasten the ends of them together. Their swinging beds, called Hamacks, are also said to be made of the same materials; and most probably the sailor's bed, so well known by the appellation of Hammock, derives its title from the Hamack of the Indians. It is easily increased from the young shoots, which become flowering plants in about five years in the open ground: but if kept in the green-house, it might remain for twenty years without blooming, for want of sufficient air and sun to bring it to maturity.

Our figure was made from a plant ten feet high, in luxuriant bloom, at Hedsor Lodge, the seat of Lord Boston.

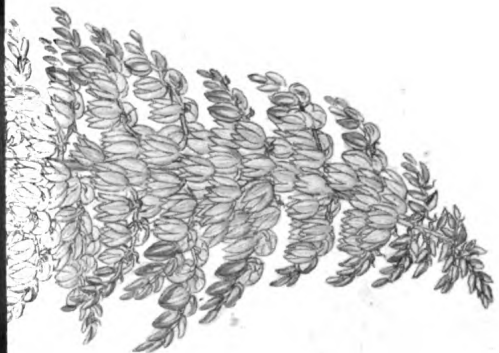


PLATE CCCCLXXIV.
PSORALEA PINNATA.
Winged-leaved Psoralea.

CLASS XVII. ORDER IV.
DIADELPHIA DECANDRIA. Two Brotherhoods. Ten Chives.

ESSENTIAL GENERIC CHARACTER.

| | | |
|--|--|--|
| CALYX longitudine leguminis. Stamina diadelp ^h a. Legumen monospermum, sub-rostratum, evalue. | | EMPALEMENT the length of the pod. Chives diadelphous. Pod one-seeded, beaked, and valveless. |
|--|--|--|

SPECIFIC CHARACTER.

| | | |
|---|--|---|
| PSORALEA pinnata, foliis patentibus apice acutis, recurvatis : floribus axillaribus, pedunculis longis. | | PSORALEA with winged leaves, spreading, sharp-pointed, and recurved. The flowers grow from the axillæ of the leaves upon long footstalks. |
|---|--|---|

REFERENCE TO THE PLATE.

1. The empalement.
2. The standard of the blossom.
3. One of the wings.
4. One of the same shown from the inside.
5. The chives.
6. The seed-bud and pointal.

THE *Psoralea pinnata* is a very ornamental plant for the conservatory, and certainly deserves a coloured representation. At present there are only two uncoloured engravings of it extant : one in the *Flora tetrapetala* of Rivinus, No. 5.; the other in Hermann's *Hortus Lugdunensis*, tab. 273. The *Psoraleas* are a well marked natural genus, and appear much more characteristic of each other than many of the *Papilionaceous* genera.

Our drawing was made from a fine specimen received from the collection of the Hon. W. Irby.



Lupulea pennata

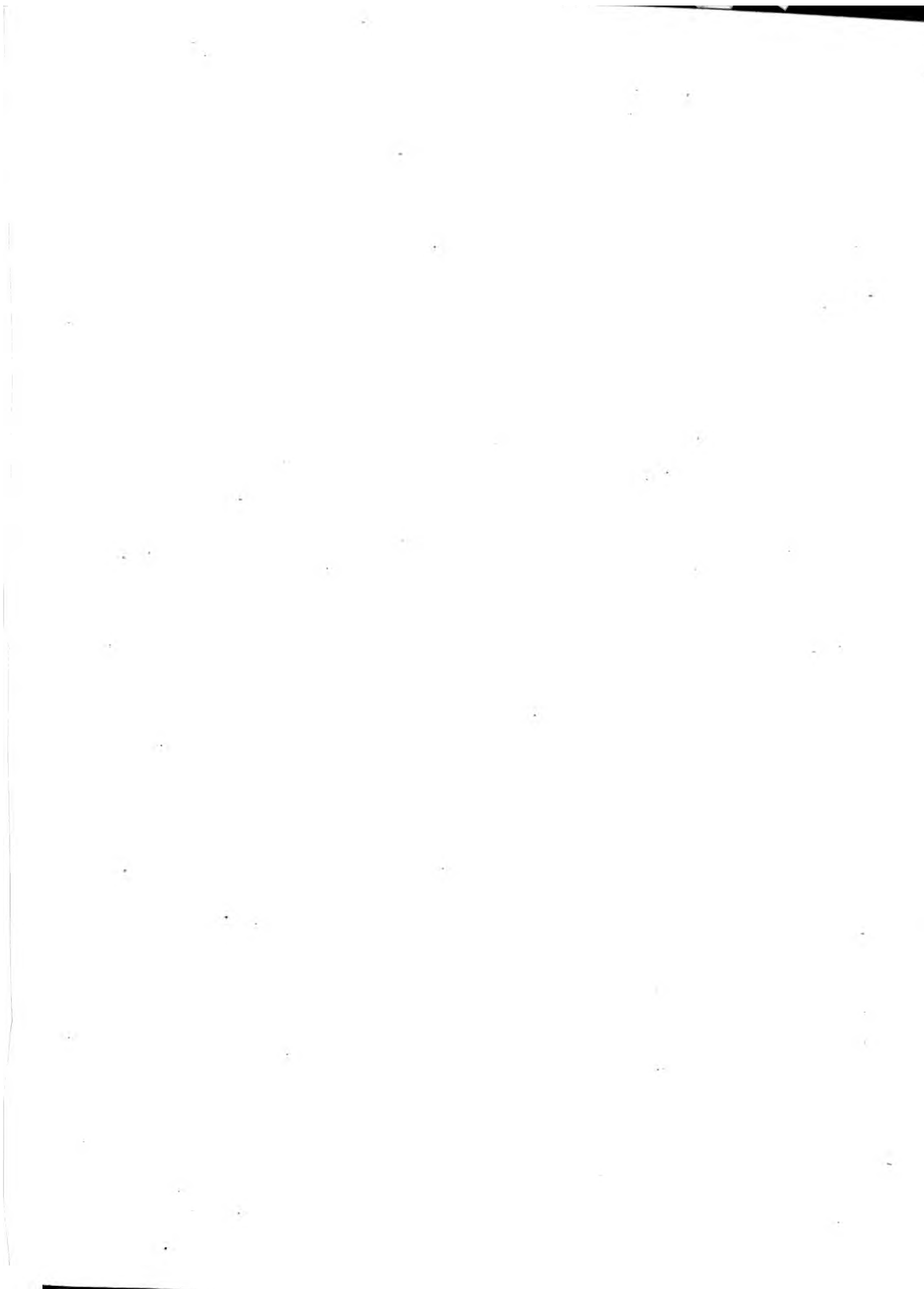


PLATE CCCCLXXV.
SERAPIAS CORDIGERA.
Heart-bearing Serapias.

CLASS XX. ORDER I.

GYNANDRIA DIANDRIA. Chives on the Pointal. Two Chives.

ESSENTIAL GENERIC CHARACTER.

COROLLA 5 petala, ringens : petalis conniventibus : labello nectarii ecalcarato : lamina deflexa : antheræ styli longitudine, adnatæ.

BLOSSOM 5 petals, gaping : petals approaching together. The lip of the honey-cup growing from the spur : the lip bending downwards. The chives the length of the style, and attached to it.

SPECIFIC CHARACTER.

SERAPIAS foliis lanceolatis glaucis, ad basin maculatis. Nectarium tripartitum, ferrugineum : laciniis lateralibus obtusis, erectis, conniventibus : divisio media ovata, acuminata, pilosa, dependens : corollis implicatis, apice involutis, extus pallentibus, intus fusco purpurascensibus.

SERAPIAS with lance-shaped glaucous leaves spotted at the base. Honey-cup three-divided, and of a rusty colour : the side segments obtuse, upright, and approaching : the middle division is ovate, sharp-pointed, hairy, and hanging down. Blossom folded together, and turned inwards at the point, pale-coloured on the outside, and of a purply brown on the inside.

REFERENCE TO THE PLATE.

1. The flower spread open.
2. The lip of the honey-cup.
3. The chives and pointal, with the spur of the honey-cup, magnified.

FOR this luxuriant specimen of the *Serapias cordigera* we are indebted to the Right Hon. the Marquis of Blandford. It is a rare plant, of a curious structure but very sombre aspect. It is one of those numerous divisions of the class *Gynandria* approaching the genus *Ophrys* on the one side, and *Neottia* on the other. From the *Ophrys* it is not easily distinguished ; but from *Neottia* it is separated by the difference of its habit. This plant is well known by the title of *cordigera*, a specific derived from the resemblance the lip of the nectarium is supposed to bear to the shape of a heart : but the analogy is certainly not very powerful. The flowers remain a considerable time in perfection. It is indigenous to Spain, Barbary, Italy, &c.



Sorapias cordigera

PLATE CCCCLXXVI.
MELALEUCA DIOSMÆFOLIA.
Diosma-leaved Melaleuca.

CLASS XVIII. ORDER IV.

POLYADELPHIA POLYANDRIA. Threads in many Sets. Many Chives.

ESSENTIAL GENERIC CHARACTER.

CALYX quinquefidus, semisuperus. Petala quinque. Filamenta multa, longissima, in quinque corpora connata. Pistillum unum. Capsula 3-locularis.

CUP five-cleft, half above. Petals five. Threads numerous, very long, united into five bodies. Pointal one. Capsule 3-celled. See *Melaleuca Ericæfolia*, Pl. 175. Vol. III.

SPECIFIC CHARACTER.

MELALEUCA foliis alternatis, ovatis, reflexis, subtus punctatis, odoratis: floribus sessilibus in medio ramorum, viridibus, confertis: ramis verticillatis, patentibus.

MELALEUCA with alternate leaves, ovate, and reflexed, punctured beneath, and sweet-scented. Flowers sessile about the middle of the branches, are of a green colour, and crowded together. The branches are whorled, and spreading.

REFERENCE TO THE PLATE.

1. A flower complete.
2. A flower spread open, without the empalement.
3. One of the five bundles of chives.
4. Empalement, seed-bud, and pointal, summit magnified.
5. A ripe seed-vessel.

THIS perfectly new species of *Melaleuca* was sent to us by Mr. J. Milne, botanic gardener at Fonthill, who is very successful in the cultivation of new plants. The punctured or dotted character on the under side of the leaves gives it an affinity to the *Diosma* tribe, as does also its scented foliage, which when rubbed emits a grateful aromatic odour; and which the leaves retain in some degree when dried. The flowers, although not splendid, are perhaps equally estimable from the rarity of their colour, which is a bright green when in perfection; but in retiring they acquire a yellower tint. It is a native of New Holland, and requires the careful treatment of the green-house.

10. 79



Melaleuca diosmifolia

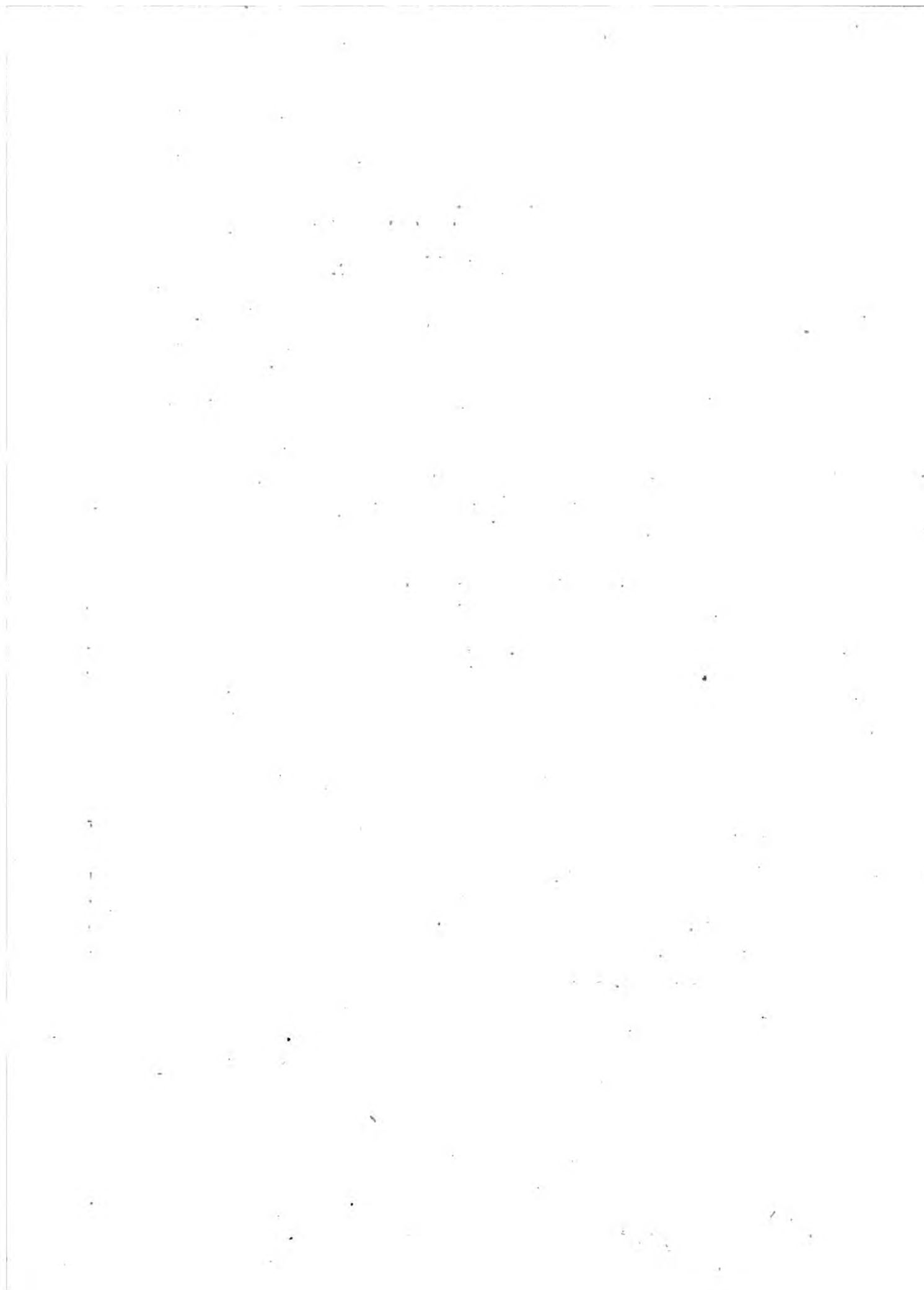


PLATE CCCCLXXVII.
LINUM VENUSTUM.
Graceful Linum.

CLASS V. ORDER V.

PENTANDRIA PENTAGYNIA. Five Chives. Five Pointals.

ESSENTIAL GENERIC CHARACTER.

CALYX 5-phyllus. Petala 5-phylla. Capsula 5-valvis, 10-locularis. Semina solitaria. || EMPALEMENT 5-leaved. Petals 5-leaved. Capsule 5-valved. 10 Loculaments. Seeds solitary.

SPECIFIC CHARACTER.

LINUM foliis ovatis, acutis, 5—7-nervosis, margine pilosa: floribus in umbellis paniculatis: ramis alternis: corollis magnis, patentibus, incarnatis. Caulis erectus, pedalis.

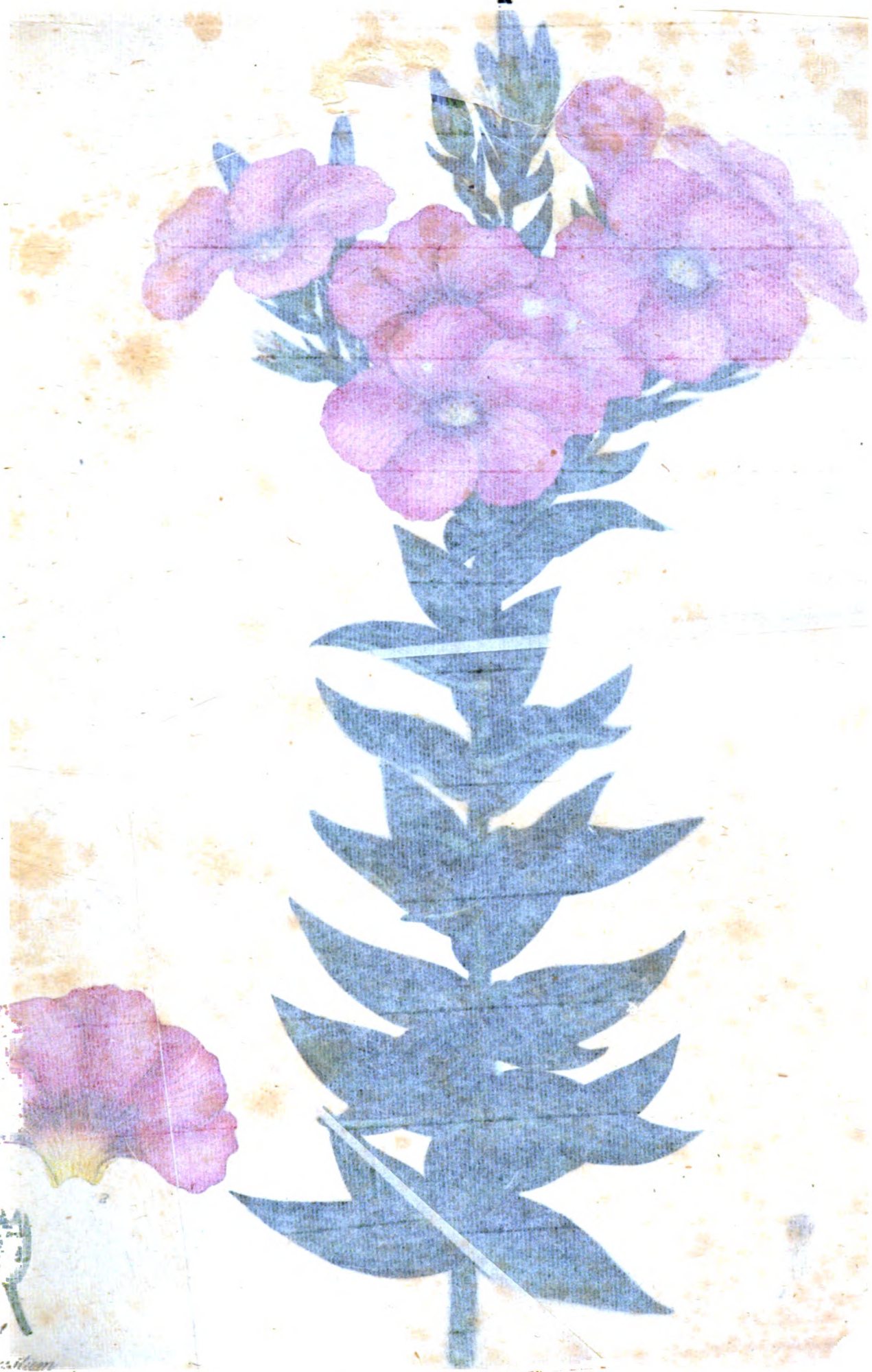
Nascens in Monte Caucaso.

LINUM with ovate sharp-pointed leaves. Nerves from 5 to 7, and hairy at the edges. Flowers grow in paniculated umbels. Branches alternate. Blossom large, spreading, and flesh-coloured. Branches upright, a foot high.

Native of Mount Caucasus.

THIS fine new Linum was raised from seed by Mr. J. Bell, in whose garden near Brentford it has flowered for the first time in England. It is nearest in affinity to the *L. hirsutum* of Jacquin, under which specific title the seed was received by Mr. Bell. The flowers when dead or dried lose their fine pinky tint, and acquire a blueish colour, the same as it first appears with in the bud state. It might then compare with Jacquin's figure in point of colour, but would be too far removed in its appearance for us to have adopted the specific of *hirsutum* with any propriety. We may therefore with justice regard it as a beautiful nondescript species. It is a native of Mount Caucasus, flowers in June and July, and seeds so freely that it will no doubt be soon abundantly cultivated.

P. 6



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THE HISTORY OF THE

PLANT KINGDOM

BY

JOHN HENRY DEANE

OF THE UNIVERSITY OF CAMBRIDGE

AND

OF THE ROYAL BOTANICAL GARDENS, Kew

LONDON

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| <p>Printed by RICHARD CLAY AND COMPANY, BUNGAY, SUFFOLK.</p> | <p>Illustrated by
 JOHN HENRY DEANE
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 ELLIOTT & CLAY, LTD., BUNGAY, SUFFOLK.</p> |
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The history of the plant kingdom is a subject of great interest and importance. It is a subject which has attracted the attention of many of the greatest minds of the world. The study of the plant kingdom is not only a study of the history of life on earth, but also a study of the present and future of our planet. The plant kingdom is the foundation of all life on earth, and it is the study of the plant kingdom which has led to the discovery of many of the most important principles of biology. The study of the plant kingdom is also a study of the beauty and diversity of the natural world. The plant kingdom is a world of endless variety and beauty, and it is the study of the plant kingdom which has led to the discovery of many of the most beautiful and interesting plants of the world. The study of the plant kingdom is a study of the history of life on earth, and it is a study which is of great importance to all of us.



PLATE CCCCLXXVIII.
 CRINUM LATIFOLIUM.
Broad-leaved Crinum.

CLASS VI. ORDER I.

HEXANDRIA MONOGYNIA. Six Chives. One Pointal.

ESSENTIAL GENERIC CHARACTER.

COROLLA supra, infundibuliformis, sexpartita,
 æqualis: filamenta fauci tubi inserta: se-
 mina ad basin corollarum, vivipara.

BLOSSOM above, funnel-shaped, six-parted, equal:
 threads inserted into the mouth of the tube:
 seeds at the base of the blossoms, viviparous.

SPECIFIC CHARACTER.

CRINUM latifolium, undulatum, glabrum, luci-
 dum: spatha multiflora: tubo corollæ la-
 ciniis longiore, quæ mucronatæ sunt: post
 florescentiam capsulâ crescit in bulbum
 magnum, et plantam format futuram.

CRINUM with broad; waved, smooth, shining
 leaves: sheath many-flowered: the tube of
 the blossom longer than the segments, which
 are pointed: and after flowering, the
 capsule swells into a large bulb, and forms
 the future plant.

Habitat in Indiæ orientalis arenosis.

Native of the sandy parts of the East Indies.

REFERENCE TO THE PLATE.

1. A leaf.
2. The plant in miniature.
3. The chives, as attached to the tube of the flower.
4. Seed-bud and pointal.
5. The seed-bud, or bulb, inflated, as it appears after flowering.
6. The same stripped of its outer covering.

THE *Crinum latifolium* is certainly one of the most attractive of the genus, as, in addition to the fine red colour of its flowers, it possesses an aromatic odour of agreeable fragrance. It is a bulb-bearer, as are all of this genus, although several of them have been placed erroneously amongst the genus *Amaryllis*, which does not bear bulbs. The genus *Crinum*, at present a short one, will therefore, with a good grace, admit a few additions; whilst that of *Amaryllis*, already very extended, will receive no injury by a slight curtailment. It is a native of the dry sandy parts of the East Indies, and was introduced by Mr. Lambert in the year 1803, but has not flowered till this summer—a period of four years. But there is little doubt of its now blooming annually, as it is not uncommon for bulbs imported from a great distance to enjoy a state of quiescence after their arrival. Our figure was made from a fine plant in luxuriant bloom in the hot-stove of J. Vere, esq.



Orchis latifolia

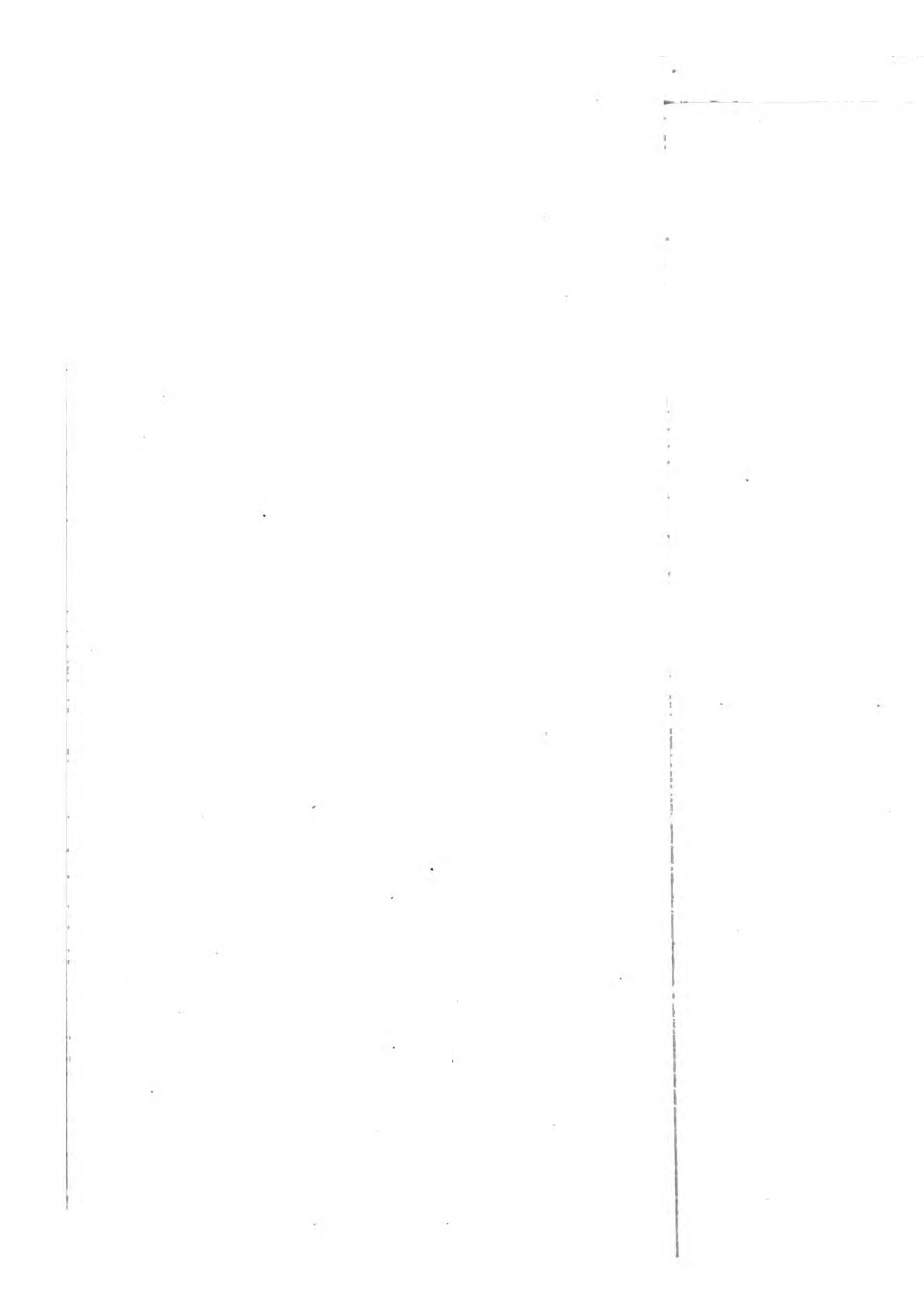


PLATE CCCCLXXIX.
FRAGARIA INDICA.

Indian Strawberry.

CLASS XXII. ORDER V.

ICOSANDRIA POLYGYNIA. Twenty Chives. Many Pointals.

GENERIC CHARACTER.

CALYX. Perianthium monophyllum, planum, decemfidum : laciniis alternatim exterioribus, angustioribus.

COROLLA. Petala quinque, subrotunda, patentia, calyci inserta.

STAMINA. Filamenta viginti, subulata, corolla breviora, calyci inserta. Antheræ lunulares.

PISTILLUM. Germina numerosa, minima, in capitulum collecta. Styli simplices, latere germinis inserti. Stigmata simplicia.

PERICARPIUM nullum. Bacca fit receptaculum commune seminum, rotundo-ovata, pulposa, mollis, magna, colorata, basi truncata, decidua.

SEMINA numerosa, minima, per superficiem receptaculi sparsa.

EMPALEMENT. Cup one-leafed, flat, ten-cleft: the segments are alternately exterior, and narrowed.

BLOSSOM five-petalled, nearly round, spreading, and inserted into the calyx.

CHIVES. Threads twenty, awl-shaped, shorter than the blossom, inserted into the calyx. Tips like a half-moon.

POINTAL. Seed-buds numerous and small, collected into a head. Shaft simple, inserted into the side of the germ. Summit simple.

SEED-VESSEL none. The berry becomes the common receptacle for the seeds, is of a round ovate form, pulpy, soft, large, and coloured, cut off at the base, and deciduous.

SEEDS numerous, small, on the outside of the receptacle, scattered.

SPECIFIC CHARACTER.

FRAGARIA foliis tripartitis : foliolis ovatis, acutis, crenatis : petiolis longis : calyce decemfido, inferne piloso : quinque exterioribus rotundatis, crenatis : interioribus ovatis, acutis : pedunculis longis : floribus luteis : fructu rubro, insipido. Rami pilosi, repentes.

STRAWBERRY with three-divided leaves : leaflets ovate, pointed, and scolloped : footstalks long : empalement ten-cleft, and hairy beneath : the five outer ones are rounded and notched : the inner ones are ovate, and pointed : peduncles long : flowers yellow : fruit red and insipid. Branches hairy, and creeping.

REFERENCE TO THE PLATE.

1. The empalement, seed-buds, chives, and pointals.
2. The same shown from the under side.
3. A petal.
4. Seed-buds, chives, and pointals.
5. A seed-bud and pointal.
6. The same magnified.
7. A seed-bud from the ripe fruit.
8. The same magnified.

THIS new species of *Fragaria*, from the lively yellow flowers and brilliance of its fine red fruit, is desirable as an ornamental plant, but is in no other respect estimable, from the insipidity of its fruit, which is entirely destitute of flavour. It is a native of the north-east parts of Bengal. Our figure was made from the only plant that has as yet flowered in England, in the gardens of the Honourable C. Greville.



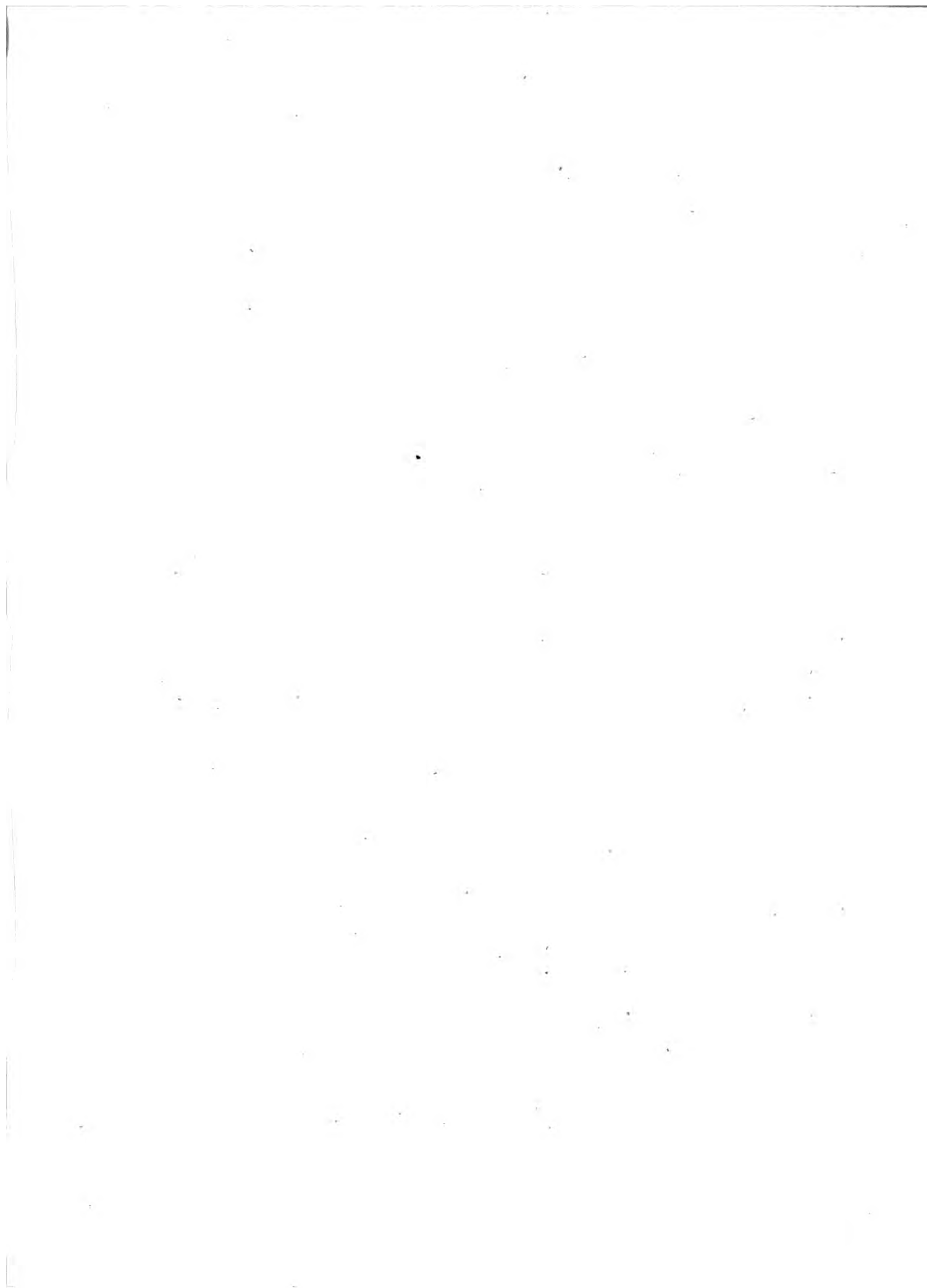


PLATE CCCCLXXX.
VACCINIUM NITIDUM.

Shining-leaved Whortle-berry.

CLASS VIII. ORDER I.

OCTANDRIA MONOGYNIA. Eight Chives. One Pointal.

ESSENTIAL GENERIC CHARACTER.

CALYX superus. Corolla monopetala. Filamenta receptaculo inserta. Bacca quadri-ocularis, polysperma.

CUP superior. Blossom of one petal. Threads fixed to the receptacle. A berry with four cells, and many seeds.

See Vol. I. Pl. XXX. VACCINIUM ARCTOSTAPHYLLUS.

SPECIFIC CHARACTER.

VACCINIUM foliis nitidis, ovatis, acutis, obsolete serratis: floribus umbellatis, terminalibus, pendulis: corollis sub-cylindraccis. Stamina decem: ramis oppositis, alternatis. Caulis pedalis, erectus.

WHORTLE-BERRY with shining leaves, egg-shaped, sharp-pointed, and obscurely sawed. Flowers grow in umbels, terminal and pendulous: blossom nearly cylindrical: chives ten: branches opposite, and alternate. Stem a foot high, and upright.

REFERENCE TO THE PLATE.

1. The blossom spread open.
2. The chives spread.
3. A chive magnified.
4. Empalement, seed-bud, and pointal.

THE *Vaccinium nitidum* is one of the handsomest species, but not so often to be met with as many of the genus. It is nearly allied in its foliage to the *V. crassifolium*; for, if leaves of both were detached, and mixt together, they might be easily mistaken. The habits of the plants are, however, very distinct, as is also the shape of the flowers. During the month of May and beginning of June this plant is in the greatest perfection. After that period the flowers lose much of their fine red colour. Our figure was made from a beautiful little shrub, above a foot high, in the nursery of Messrs. Whitley and Brames.



MEMORANDUM

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PLATE CCCCLXXXI.
CINCHONA CARIBÆA.
West India Bark-tree.

CLASS V. ORDER II.

PENTANDRIA MONOGYNIA. Five Chives. One Pointal.

GENERIC CHARACTER.

CALYX. Perianthium monophyllum, superum, campanulatum, 5-dentatum, persistens.
COROLLA monopetala, infundibuliformis, 5-partita.
STAMINA. Filamenta 5, minima: antheræ oblongæ, intra faucem corollæ.
PISTILLUM. Germen subrotundum, inferum. Stylus longitudine corollæ. Stigma crassiusculum, oblongum, simplex.
PERICARPIUM. Capsula oblonga, bipartita, calyce coronata, in duas partes dehiscens: partes interiores dehiscentes, dissepimento parallelo.
SEMINA plura, oblonga, compressa, marginata.

EMPALEMENT. Cup one-leafed, above, bell-shaped, five-toothed, and remaining.
BLOSSOM one petal, funnel-shaped, and five-parted.
CHIVES. Threads 5, small: tips oblong, within the mouth of the blossom.
POINTAL. Seed-bud nearly round, beneath. Shaft the length of the corolla. Summit thickish, oblong, and simple.
SEED-VESSEL. Capsule oblong, in two parts, crowned by the cup, the two parts cleaving together; the inner parts gaping, with equal dissepiment.
SEEDS many, oblong, compressed, and emarginated.

SPECIFIC CHARACTER.

CINCHONA foliis alternatis, ovatis, acuminatis, integerrimis, glabris, venosis: inter folia stipula parva, cauli adpressa: floribus axillaribus, simplicibus, albicantibus, glabris, odoratissimis. Rami alternati, oppositi.
Habitat in Caribæis: succedaneum cortici Peruviano.

CINCHONA with alternate leaves, sharp-pointed, entire, smooth, and veined: between the leaves there is a small stipula pressed to the stem: flowers axillary, and single, of a whitish colour, smooth, and very sweet-scented: branches alternate, and opposite. Native of the Caribæan Islands: as bark, substituted for the Peruvian species.

REFERENCE TO THE PLATE.

1. A flower spread open.
2. The empalement, seed-bud, and pointal.
3. A capsule.

THIS specimen of the *Cinchona Caribæa*, or Jesuits Bark of Jamaica, was communicated to the author by A. B. Lambert, esq. who raised it from seed, and with whom it has flowered for the first time in this kingdom. Opinions are various as to the time and means by which the medicinal virtues of the Peruvian bark were first discovered; but as the discovery of most very useful things is generally the effect of chance, Geoffroy's account of it (as given in the Medical Botany of Dr. Woodville) is certainly the most natural, who states it to have been occasioned by some *Cinchona* trees having been blown into a pool of water, and lying there till the water became so bitter that nobody would drink it, till one of the neighbouring inhabitants being seized with a violent paroxysm of fever, and having no other water, drank of this, and was perfectly cured. He prevailed on some of his friends, who were ill, to make use of the same remedy, and it proved successful. But the use of it was little known till the year 1638, when a signal cure being performed on the Countess del Cinchon, the lady of a Spanish viceroy at Lima, (from whom it derives its generic title) it came into general use, and a large quantity of the bark was by that lady distributed amongst the Jesuits, in whose hands it increased in reputation, and was by them first introduced into Europe. The Caribæan species is said to be an excellent substitute for the Peruvian bark, and therefore a most valuable acquisition to us, as Mr. Lambert, in his description of the genus *Cinchona*, informs us that well grounded fears are entertained of the Peruvian species being some day lost to us, as, from the extreme decortication they have experienced, they are nearly extinct in those parts where they were formerly most abundant.



Coffea arabica



PLATE CCCCLXXXII.
DIANTHUS ALPINUS,
Alpine Pink.

CLASS VI. ORDER II,
DECANDRIA DIGYNIA. Ten Chives. Two Pointals.

GENERIC CHARACTER.

CALYX. Perianthium cylindricum, tubulosum, striatum, persistens: os 5-dentatum, basi squamulis quatuor cinctum, quarum inter-dum duæ oppositæ, inferiores.

COROLLA. Petala 5. Ungues longitudine calycis, angusti, receptaculo inserti: limbus extus planus, laminis late obtusis, crenatis.

STAMINA. Filamenta decem, subulata, longitudine calycis: antheræ ovales, oblongæ, compressæ, incumbentes.

PISTILLUM. Germen ovale. Styli duo, subulati, staminibus longiores. Stigmata recurvata, acuminata.

PERICARPIUM. Capsula cylindrica, recta, unilocularis, quadrilateralis, apice dehiscens.

SEMINA plurima, compressa, subrotunda, a receptaculo liberata.

EMPALEMENT cylindrical, tubular, lined, remaining: the mouth is 5-toothed, surrounded by four squamæ at the base, or sometimes two opposite ones beneath.

BLOSSOM 5 petals: the claws the length of the calyx, narrow, and inserted into the receptacle: border flat without, broadly obtuse, and notched.

CHIVES. Ten threads, awl-shaped, the length of the calyx: tips oval, oblong, compressed, and incumbent.

POINTAL. Seed-bud oval. Shafts two, awl-shaped, and longer than the chives. Summit recurved, and pointed.

SEED-VESSEL. Capsule cylindrical, straight, one loculament, four-sided, and splitting at the end.

SEEDS many, compressed, nearly round, and freed from the receptacle.

SPECIFIC CHARACTER.

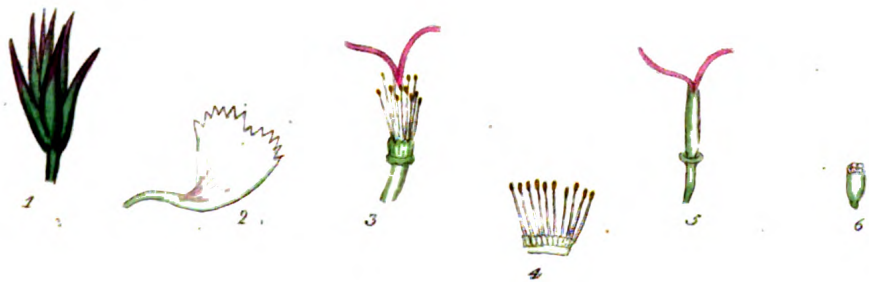
DIANTHUS alpinus. Frutex pygmæus, elegans, foliis oppositis, alternis, linearibus, curvatis, brevibus: floribus terminalibus, rubris, in medio circulo albo.

ALPINE pink. An elegant dwarf shrub, with opposite alternate leaves, linear, curved, and short. Flowers terminal and red, with a small circle of white in the centre.

REFERENCE TO THE PLATE.

1. The empalement.
2. A petal shown from the under side.
3. Seed-bud, chives, and pointals.
4. The chives spread open.
5. Seed-bud and pointals.
6. The seed-bud cut transversely.

THE *Dianthus alpinus* is a very scarce plant, little known, and rarely to be met with in any collection, although its beauty renders it deserving a place in every one, and its size would never exclude it from any. Our figure represents the entire plant, from the collection of Isaac Swainson, esq. who raised it from seed which he received from Germany. The only coloured representation of it extant is in the *Flora Austriaca* of Jacquin, from a native specimen, and of no greater magnitude than our figure represents—a diminutive stature, particularly characteristic of the true Alpine pink.



Dianthus alpinus



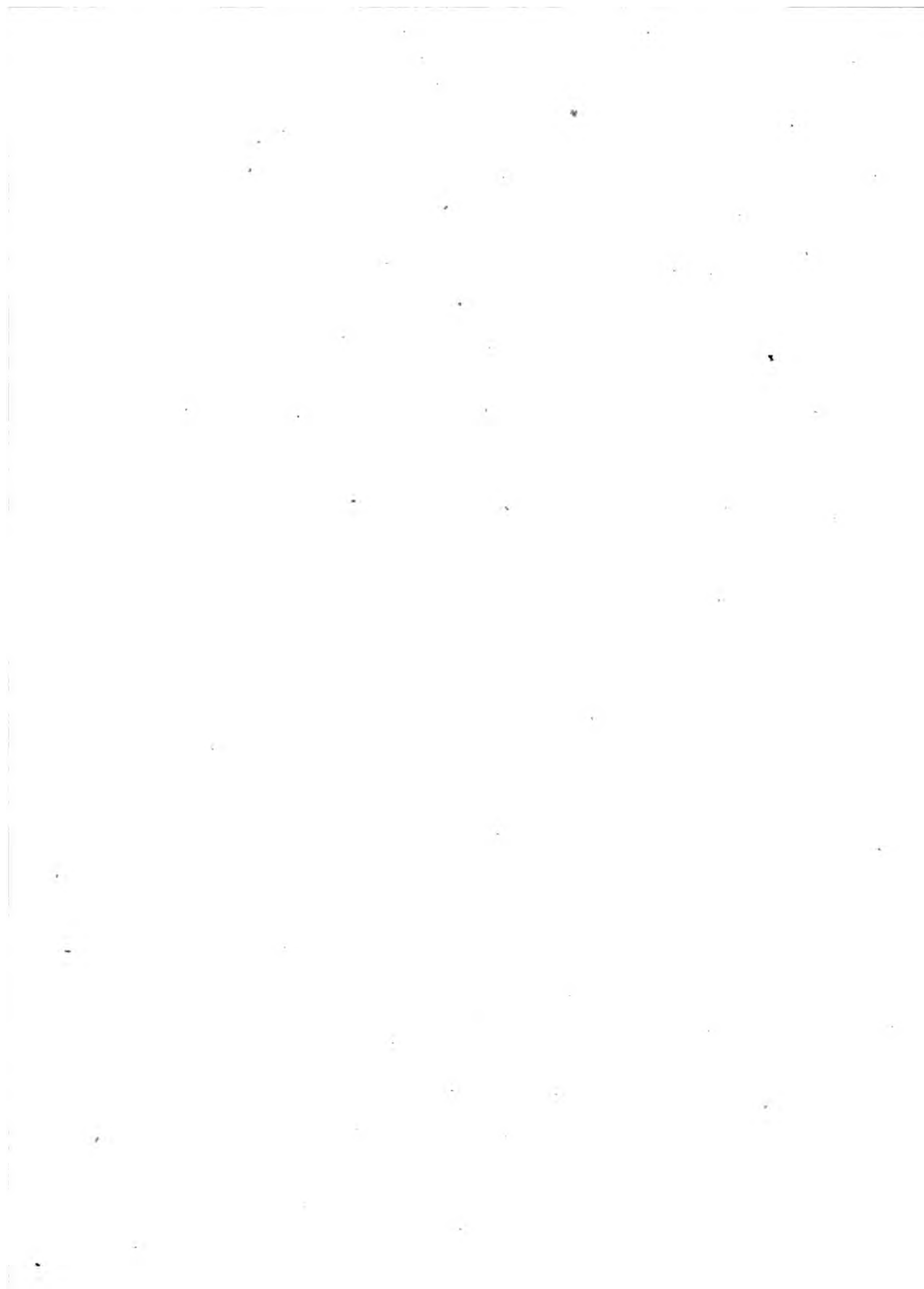


PLATE CCCCLXXXIII.
DAHLIA PINNATA NANA.
Dwarf Winged-leaved Dahlia.

CLASS XIX. ORDER II.

SYNGENESIA POLYGAMIA SUPERFLUA. Tips united. Superfluous Pointals.

ESSENTIAL GENERIC CHARACTER.

CALYX duplex. Corolla radiata, radiis laciniis calycis numero æquantibus: corollulæ pedicellatæ. Receptaculum paleaceum. Stigmata plumosa.

EMPALEMENT double. Blossom radiated, with the rays equalling in number the segments of the empalement: the florets pedicelled. Receptacle chaffy. Summit plumose.

SPECIFIC CHARACTER.

DAHLIA foliis pinnatis: pinnulis quinque, ovatis, acutis, dentatis: floribus duplicibus: caulis humilis.

DAHLIA with pinnated leaves: the pinnules five, ovate, pointed, and toothed: flowers double: stem low.

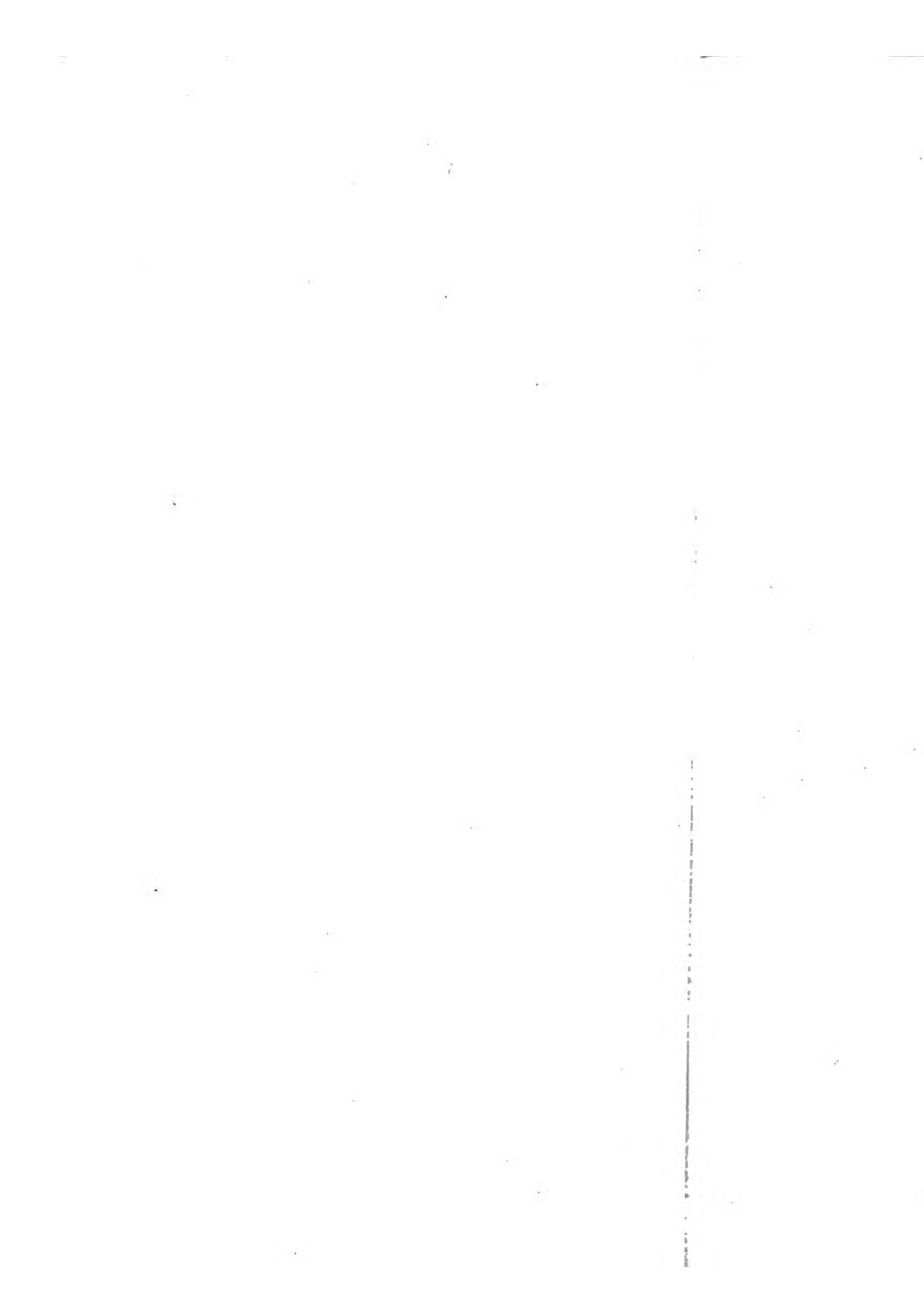
REFERENCE TO THE PLATE.

1. One of the radiating florets.
2. A floret of the disk with its scale.
3. A flower spread open.
4. Seed-bud and pointal, summit magnified.

THIS double-flowered dwarf Dahlia is certainly the most attractive of the genus. It is supposed to be only a variety of the *D. pinnata*, but the variation is almost powerful enough to constitute a species; as, besides the difference in its flowers, we have never found it arrive to more than half the height of the *pinnata*, although we have seen it every autumn for four years in luxuriant bloom. At present it is a scarce plant, and appears to be not quite so hardy as the taller species, nor so easily increased. Our figure was made from a plant in the collection of the Right Hon. Lady Holland, at Holland House, Kensington.



Abies, pinnata



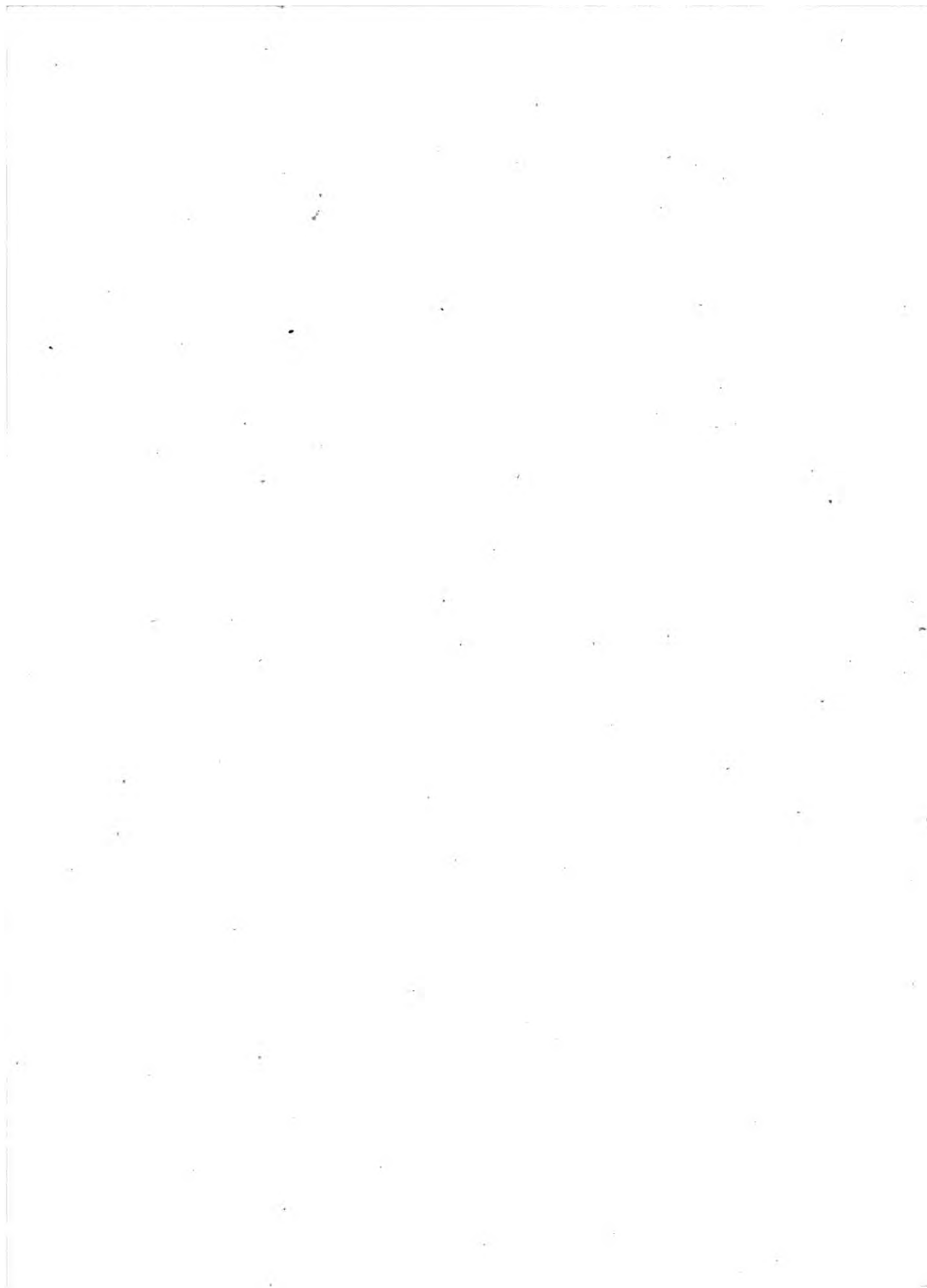


PLATE CCCCLXXXIV.
NICOTIANA GLUTINOSA.
Clammy Tobacco.

CLASS V. ORDER I.

PENTANDRIA MONOGYNIA. Five Chives. One Pointal.

GENERIC CHARACTER.

CALYX. Perianthium monophyllum, ovatum, 5-fidum, persistens.
COROLLA monopetala, infundibuliformis : tubus calyce longior : limbus patulus, 5-fidus, 5-plicatus.
STAMINA. Filamenta quinque, subulata, vix longitudine corollæ, adscendentia : antheræ oblongæ.
PISTILLUM. Germen ovatum. Stylus filiformis, longitudine corollæ. Stigma capitatum, emarginatum.
PERICARPIUM. Capsula sub-ovata, lineâ utrinque insculptâ : bilocularis : bivalvis, apice dehiscens : receptaculum dimidiatum, ovatum, punctatum : dissepimentis affixis.
SEMINA numerosa, reniformia, rugosa.

EMPALEMENT. Cup one-leafed, ovate, 5-cleft, and remaining.
BLOSSOM one petal, funnel-shaped : tube longer than the calyx : segments spreading, 5-cleft, 5-plaited.
CHIVES. Threads five, awl-shaped, scarcely the length of the blossom, and ascending : tips oblong.
POINTAL. Seed-bud ovate. Shaft thread-shaped, the length of the blossom. Summit headed, and emarginated.
SEED-VESSEL. Capsule nearly egg-shaped, with a line imprinted on both sides : two locuments : two valves, splitting at the point : receptacle half-way divided, ovate, and dotted : dissepiments cleaving together.
SEEDS numerous, kidney-shaped, and rough.

SPECIFIC CHARACTER.

NICOTIANA foliis petiolatis, sub-cordatis, glandulis minutis viscosis circumsessis : floribus alternis, solitariis, ad partem superam ramorum : corolla campanulata, pallide purpurea, viscosa : ramis glandulis minutis tectis, viscosis.
Habitat in Peru.

TOBACCO with petiolated and nearly heart-shaped leaves, beset with minute viscous glands : flowers grow solitary and alternate on the upper part of the branches : blossom bell-shaped, of a pale purple, and viscous : the branches covered with glands very small, and clammy.
Native of Peru.

REFERENCE TO THE PLATE.

1. The empalement.
2. The blossom spread.
3. Seed-bud and pointal.

THIS species of *Nicotiana* is called the Spanish Tobacco ; and although we cannot exactly ascertain whether it is cultivated for the purpose of manufacturing into tobacco or snuff, yet there is little doubt of that being the case. The general appearance of this species very much resembles the common Tobacco plant, so well known. The most ostensible difference appears to exist in the glutinous character of the present species, whose stalks, leaves, and flowers are beset by numerous little glands, that emit a viscid juice. There is not much beauty attached to it ; but, as a scarce and unfigured species, it well deserves a representation, as would any species of a genus that forms so considerable a branch in the commerce of a mercantile country. Our figure was made from a fine specimen received from A. B. Lambert, esq.

Fl.



PLATE CCLXXXIV
 MEXICAN FLUTING
Chromolaena

CLASS V. DIBYLL

ORDER 1. OF THE SUBCLASS OF THE ORDER 1.

GENERIC CHARACTER.

| | |
|--|--|
| <p>1. Flowers in dense, branched, terminal panicles.</p> <p>2. Corolla tubular, 5-lobed, lobes spreading, lobes of the corolla tube spreading, lobes of the corolla tube spreading.</p> <p>3. Stamens 5, inserted in the throat of the corolla tube.</p> <p>4. Style 1, slender, 5-lobed, lobes spreading, lobes of the style spreading.</p> <p>5. Ovary 3-lobed, lobes spreading, lobes of the ovary spreading.</p> <p>6. Fruit 3-lobed, lobes spreading, lobes of the fruit spreading.</p> <p>7. Seed 3-lobed, lobes spreading, lobes of the seed spreading.</p> | <p>1. Flowers in dense, branched, terminal panicles.</p> <p>2. Corolla tubular, 5-lobed, lobes spreading, lobes of the corolla tube spreading, lobes of the corolla tube spreading.</p> <p>3. Stamens 5, inserted in the throat of the corolla tube.</p> <p>4. Style 1, slender, 5-lobed, lobes spreading, lobes of the style spreading.</p> <p>5. Ovary 3-lobed, lobes spreading, lobes of the ovary spreading.</p> <p>6. Fruit 3-lobed, lobes spreading, lobes of the fruit spreading.</p> <p>7. Seed 3-lobed, lobes spreading, lobes of the seed spreading.</p> |
|--|--|

SPECIFIC CHARACTER.

| | |
|--|--|
| <p>1. Flowers in dense, branched, terminal panicles.</p> <p>2. Corolla tubular, 5-lobed, lobes spreading, lobes of the corolla tube spreading, lobes of the corolla tube spreading.</p> <p>3. Stamens 5, inserted in the throat of the corolla tube.</p> <p>4. Style 1, slender, 5-lobed, lobes spreading, lobes of the style spreading.</p> <p>5. Ovary 3-lobed, lobes spreading, lobes of the ovary spreading.</p> <p>6. Fruit 3-lobed, lobes spreading, lobes of the fruit spreading.</p> <p>7. Seed 3-lobed, lobes spreading, lobes of the seed spreading.</p> | <p>1. Flowers in dense, branched, terminal panicles.</p> <p>2. Corolla tubular, 5-lobed, lobes spreading, lobes of the corolla tube spreading, lobes of the corolla tube spreading.</p> <p>3. Stamens 5, inserted in the throat of the corolla tube.</p> <p>4. Style 1, slender, 5-lobed, lobes spreading, lobes of the style spreading.</p> <p>5. Ovary 3-lobed, lobes spreading, lobes of the ovary spreading.</p> <p>6. Fruit 3-lobed, lobes spreading, lobes of the fruit spreading.</p> <p>7. Seed 3-lobed, lobes spreading, lobes of the seed spreading.</p> |
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ORDER 2. OF THE SUBCLASS OF THE ORDER 1.

1. Flowers in dense, branched, terminal panicles.

1. Flowers in dense, branched, terminal panicles.

2. Corolla tubular, 5-lobed, lobes spreading, lobes of the corolla tube spreading, lobes of the corolla tube spreading.

3. Stamens 5, inserted in the throat of the corolla tube.

4. Style 1, slender, 5-lobed, lobes spreading, lobes of the style spreading.

5. Ovary 3-lobed, lobes spreading, lobes of the ovary spreading.

6. Fruit 3-lobed, lobes spreading, lobes of the fruit spreading.

7. Seed 3-lobed, lobes spreading, lobes of the seed spreading.

Pl.



Scotiana, glutinosa

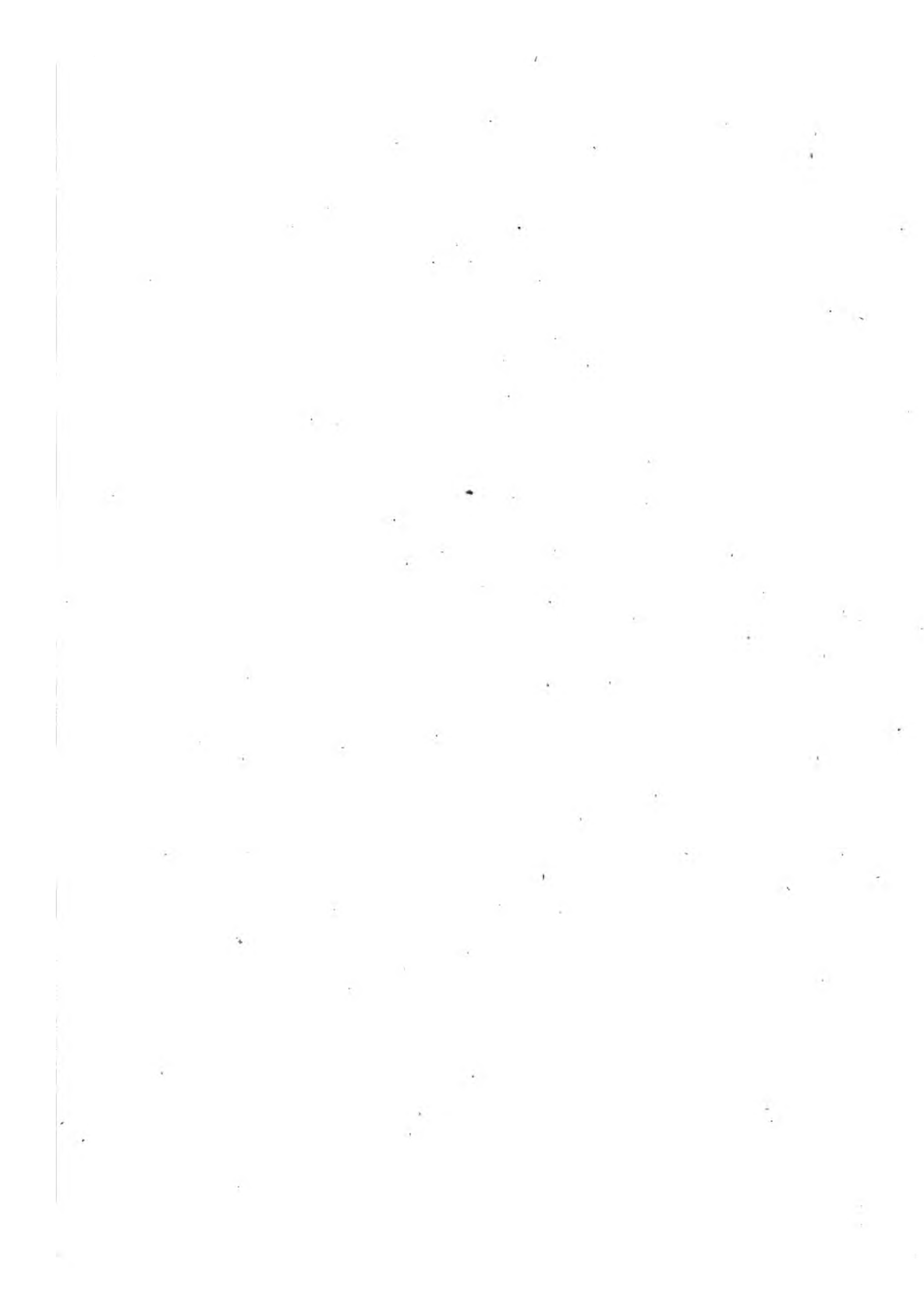


PLATE CCCCLXXXV.
MELALEUCA SALICIFOLIA.
Willow-leaved Melaleuca.

CLASS XVIII. ORDER IV.

POLYADELPHIA POLYANDRIA. Threads in many Sets. Many Chives.

ESSENTIAL GENERIC CHARACTER.

CALYX quinquefidus, semisuperus. Petala quinque. Filamenta multa, longissima, in quinque corpora connata. Pistillum unum. Capsula 3-locularis.

CUP five-cleft, half above. Petals five. Threads numerous, very long, united into five bodies. Pointal one. Capsule 3-celled. See *Melaleuca Ericæfolia*, Pl. 175. Vol. III.

SPECIFIC CHARACTER.

MELALEUCA foliis oppositis, lanceolatis, punctatis: floribus paniculatis: corollis luteis, magnis, et patentibus: ramis oppositis, alternatis: caulis erectus.

MELALEUCA with opposite lance-shaped leaves, dotted: flowers grow in panicles: blossoms yellow, large, and spreading: branches opposite, and alternate: stem upright.

REFERENCE TO THE PLATE.

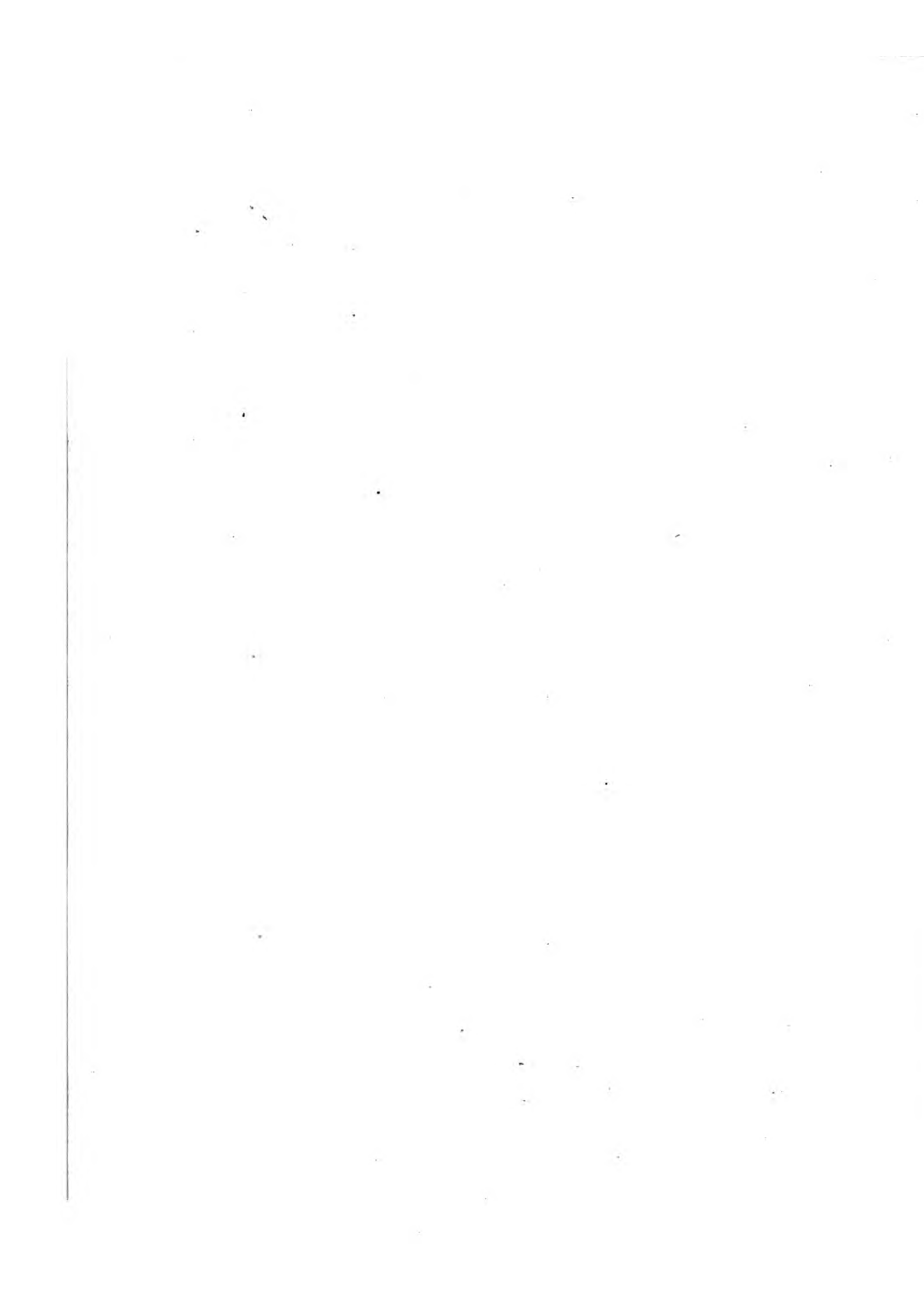
1. A flower complete, spread open.
2. The same shown from the outside.
3. One of the bundles of chives.
4. Empalement, seed-bud, and pointal.

VERY few species of plants revolt so much in appearance from their original genus as the present one, whose exterior bears very little resemblance to *Melaleuca*, although, upon examination, it perfectly accords in every particular. It is a native of New Holland, and, we are informed, was first raised from seed by Mr. Barr, nurseryman at Ball's Pond, Islington.

Our figure was made from a plant in fine bloom at the nursery of Messrs Whitley and Brames.



Melaleuca salicifolia



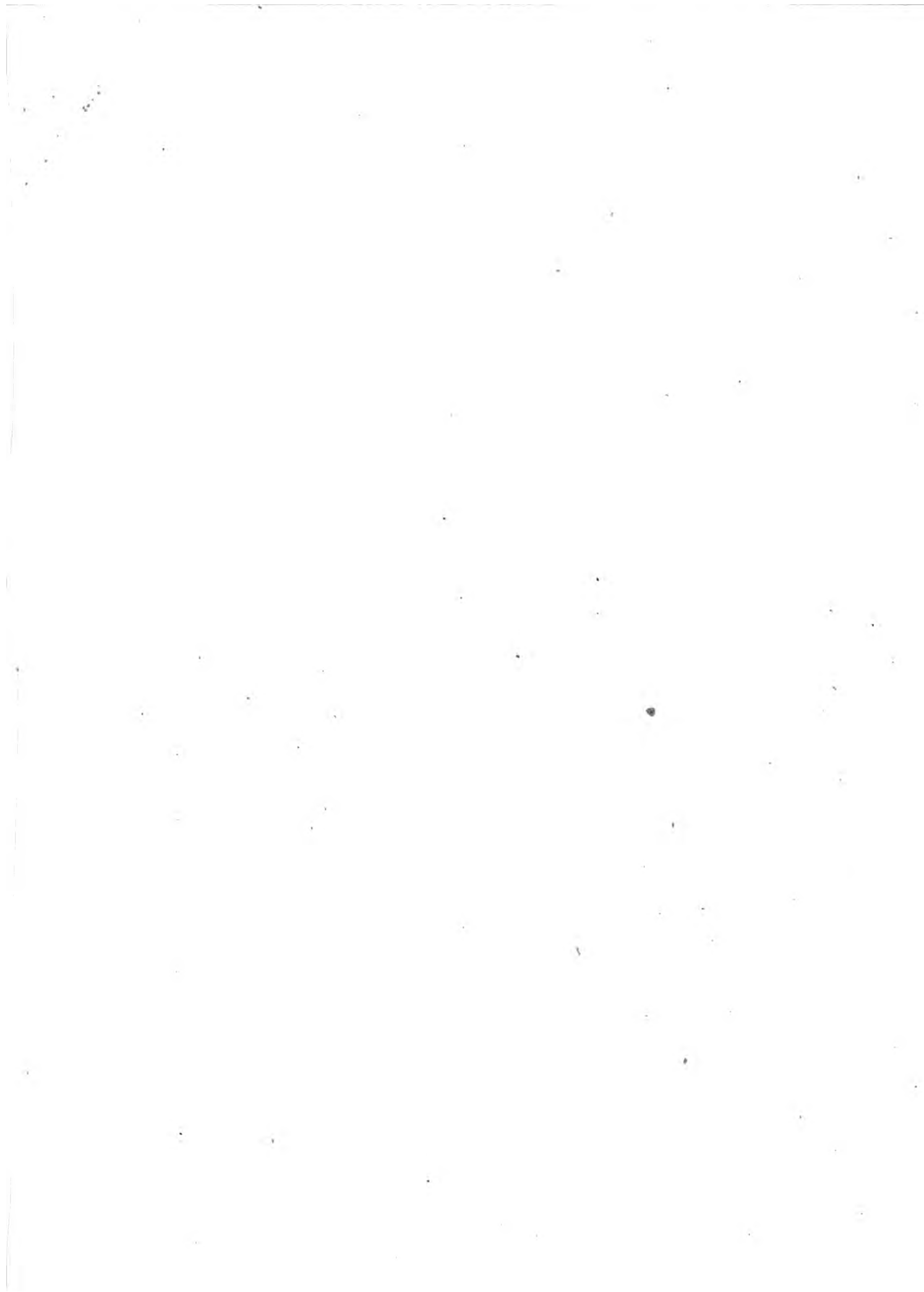


PLATE CCCCLXXXVI.
PÆONIA DAURICA.

Dauric Pæony.

CLASS XIII. ORDER II.

POLYANDRIA DIGYNIA. Many Chives. Two Pointals.

ESSENTIAL GENERIC CHARACTER.

CALYX 5-phyllus. Petala 5. Stylus 0. Cap- || CUP 5-leaved. Petals 5. Pointal none. Cap-
sulæ polyspermæ. || sules many-seeded.

SPECIFIC CHARACTER.

PÆONIA foliis pinnatis: foliolis sub-ovatis, glau- || PÆONY with winged leaves: the leaflets are
cis: floribus rubro-purpureis: caulis her- || nearly egg-shaped, and glaucous: flowers
baceus, bipedalis. || of a red purple: stem herbaceous, and
|| about two feet high.

REFERENCE TO THE PLATE.

1. The empalement and seed-buds.
2. A chive.
3. The seed-buds as they appear when the seeds are nearly perfect.

THIS fine Pæony is at present a scarce plant; nor is there any figure of it extant, if not in the Flora Russica of Dr. Pallas. The specimen our figure represents was received from Mr. J. Bell, who raised it from seed, and with whom it has flowered for the first time in this country. It may with propriety be ranked among the most attractive of the herbaceous species. The flowers expand in the early part of summer; and from the cold climate whence it is indigenous, little doubt need be entertained of its resisting our winter, if it can but endure the sudden changes of weather to which this island is subject; a transition that frequently proves more fatal to plants the natives of a cold northern clime, than to those of southern origin.



Peonia, Daurica



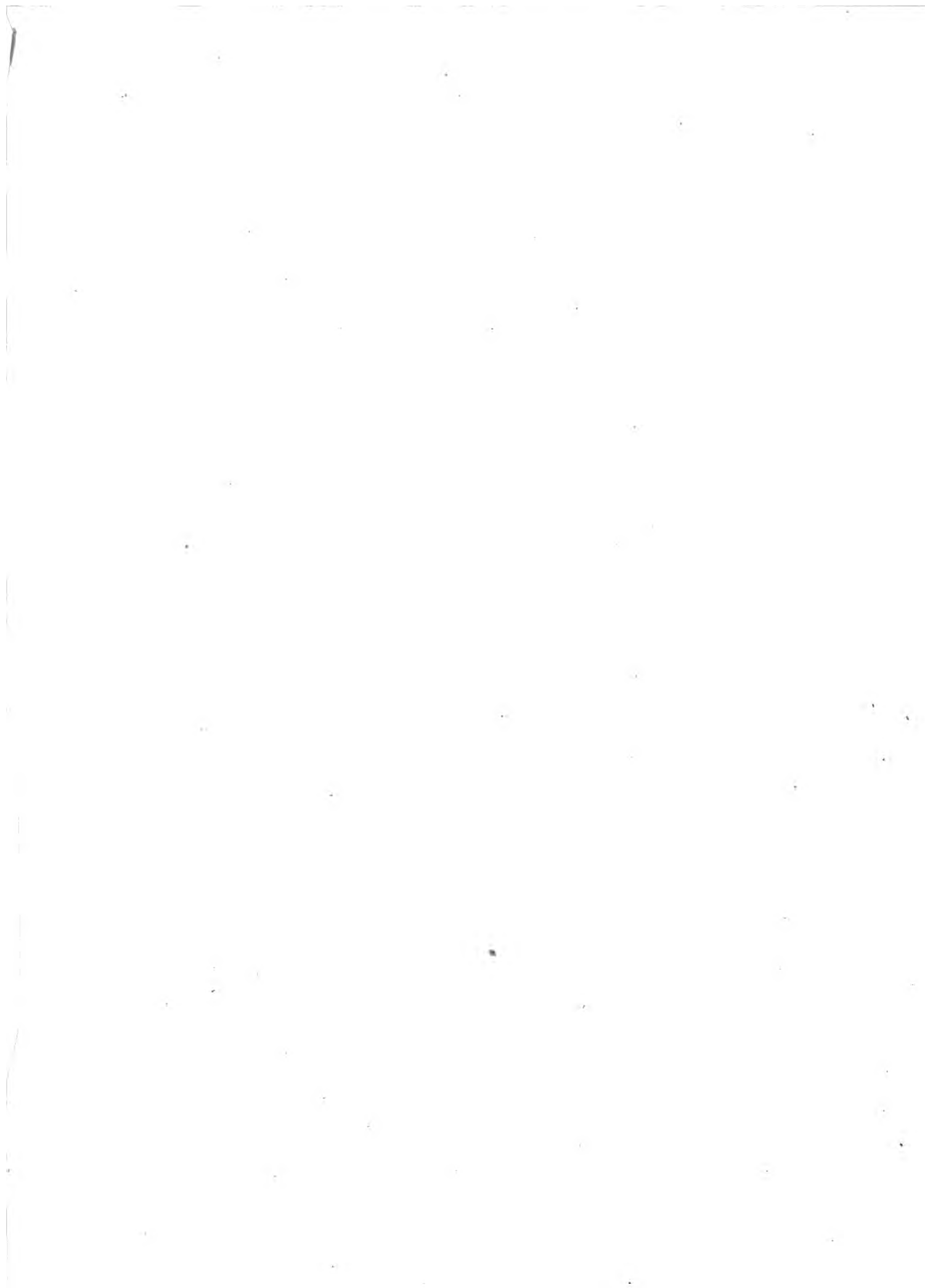


PLATE CCCCLXXXVII.
XERANTHEMUM HERBACEUM.
Herbaceous Eternal Flower.

CLASS XIX. ORDER II.

SYNGENESIA POLYGAMIA SUPERFLUA. Tips united. Superfluous Pointals.

ESSENTIAL GENERIC CHARACTER.

RECEPTACULUM paleaceum, aut nudum. Pappus setaceus. Calyx imbricatus, radiatus, radio colorato.

RECEPTACLE chaffy, or naked. Feather bristly. Empalement tiled, rayed, the ray coloured.

SPECIFIC CHARACTER.

XERANTHEMUM herbaceum : foliis amplexicaulis, oblongis, margine revolutis, lanâ albâ tectis : floribus terminalibus, solitariis, pallide aurantiis, nitidissimis : squamæ inferæ fulvescentes.

XERANTHEMUM with an herbaceous stem : leaves embracing the stem, oblong, rolled back at the edges, and covered with a white wool : flowers terminate the branches singly, are of a pale gold colour, and very shining : the lower scales are of a foxy tint.

REFERENCE TO THE PLATE.

1. One of the radiating scales.
2. A floret of the disk.
3. The chives and pointal.
4. Leaf of a variety.

THIS handsome species of Xeranthemum may be regarded as truly herbaceous, as the plant not only dies down annually, but even whilst living keeps constantly sending up fresh shoots from the root. The white appearance of the leaves is owing to their being enveloped by a kind of wool : but there are two varieties ; the one whose foliage is almost without this woolly coat, and the other entirely divested of it, and of a rich green colour ; but in every other particular the plants are all exactly alike.

Our figure was made from a small plant in fine flower in the conservatory of G. Hibbert, esq.



Ceratostemum herbaceum

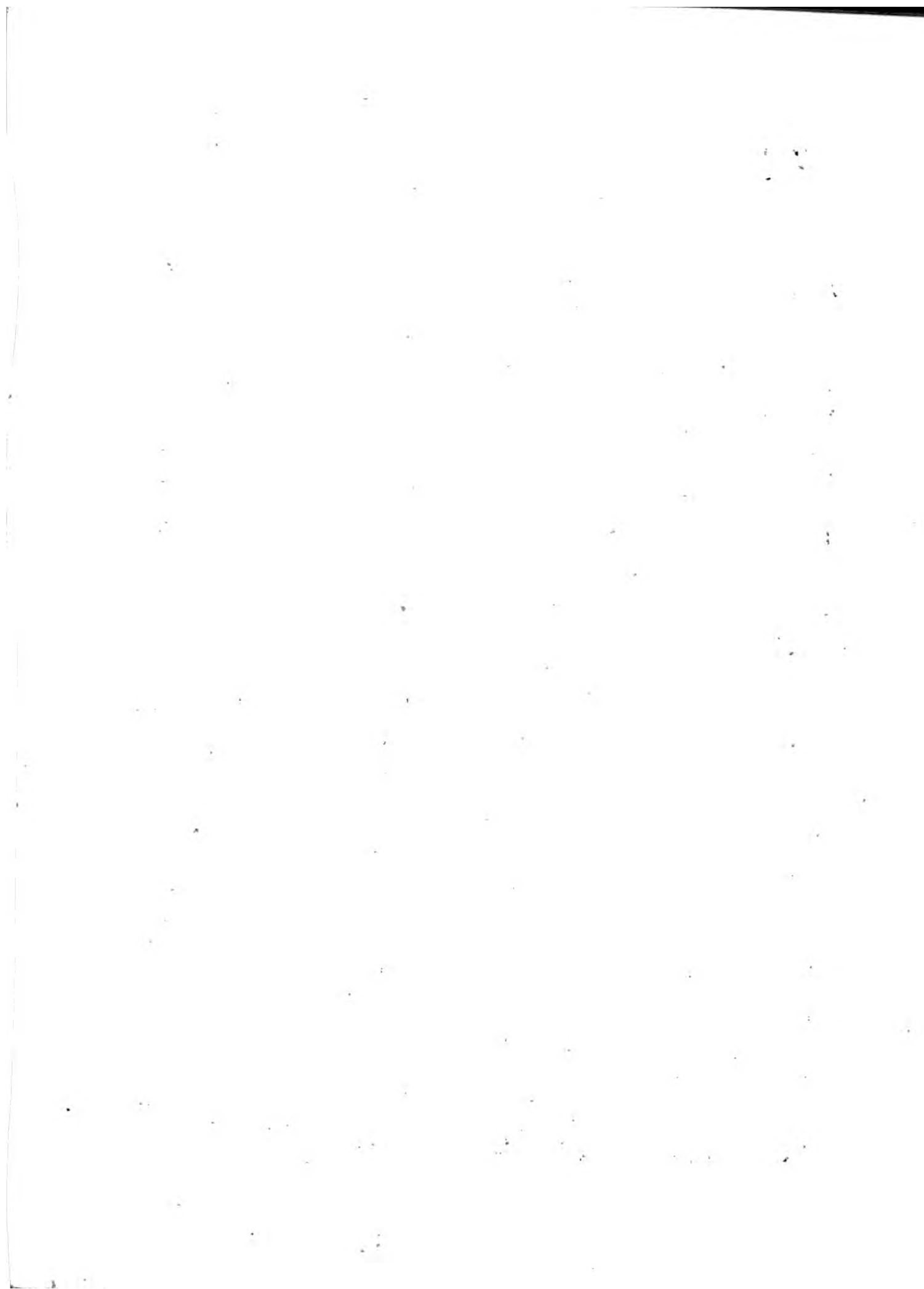


PLATE CCCCLXXXVIII.
BROUSSONETIA PAPYRIFERA.
Paper Mulberry.

CLASS XXII. ORDER IV.

DIOECIA TETRANDRIA. Chives and Pointals on different Plants. Four Chives.

GENERIC CHARACTER.

* *Masculi flores.*
AMENTUM cylindraceum.
CALYX 4-partitus. Corolla nulla.

* *Feminei flores.*
AMENTUM globosum, floribus undique tectum.
CALYX inferus, persistens, 3- seu 4-dentatus.
 Corolla nulla. Stylus filiformis. Fructus
 cylindraceo-clavatus, apice bilabiatus.

SEMEN nudum ad apicem fructus.

* *Male flowers.*
CATKIN cylindrical.
EMPALEMENT 4-divided. Blossom none.

* *Female flowers.*
CATKIN globular, covered all over by flowers.
EMPALEMENT beneath and remaining, 3- some-
 times 4-toothed. Blossom none. Shaft
 thread-shaped. Fruit cylindrically club-
 shaped, and two-lipped at the point.
SEED naked at the point of the fruit.

*Broussonetia papyrifera. Vent. Tab. Veg. et
 Willd. Sp. Pl.*

SPECIFIC CHARACTER.

BROUSSONETIA foliis tri- vel quinque-lobis, acu-
 tis, serratis, supra scabris, subtus pubes-
 centibus.

BROUSSONETIA with leaves from 3- to 5-lobed,
 pointed, sawed, rough on the upper sur-
 face, and softly haired beneath.

REFERENCE TO THE PLATE.

Male Plant.

1. An empalement and chives, in an infant state.
2. The same magnified.
3. An empalement and chives in perfection.
4. The same magnified.

Female Plant.

1. The catkin with a pointal detached.
2. A section of the same when in fruit.
3. One of the florets with the seed detached.
4. A seed cut in two, and magnified.

THIS useful plant is the *Morus papyrifera* of Linnæus, but certainly would not have been so called by him, had both the male and female plant come under his inspection, as it does not belong either to the class or order of the Mulberry. Neither of the plants, when in bloom, possesses much beauty, but they have rather a sombre aspect: yet the female plant, when in fruit, is certainly very handsome. In Japan and the South Sea Islands, where it is indigenous, the bark of it serves to make a clothing for the natives. In Japan, it not only makes cloth for them, but all the Japanese paper is made from the bark of it. There are four sorts. The first is a royal size, of a square form, very smooth, and painted on one side. The second is a fine letter paper, in sheets often three feet long. The third is used for covering their best varnished articles, and so fine as sometimes to look like a spider's web. The fourth is a common writing-paper, varying in size and form. The process of its manufacture is by cutting off the shoots after the leaves fall, and boiling them till the bark separates. It is then peeled off, and steeped 3 or 4 hours in water, to purify, and the black outer cuticle, and green matter within, are scraped off and separated, according to their qualities. It is again boiled with a little ashes, and stirred with a bamboo-stick; and the boiling is complete when its downy fibres can be separated with a touch of the finger. It is then agitated in water till it appears like a lump of tow, and again beat with camphor wood battens, and strained, for the coarser paper. An infusion of the roots of the *Hibiscus manihot*, or the leaves of *Rivaria Japonica*, with the flour of Japan rice, is then mixed with it, and poured on their moulds; which are not, like ours, formed of wire, but of fine rushes, and the sheets laid on a matted table with a fine shred of bamboo between each, and covered by a board with a stone upon it, to squeeze out the water, dried the next day singly on flat boards, and then packed up for sale.

Our figure was made from fine plants in the garden of J. Vere, esq.



Broussonetia papyrifera

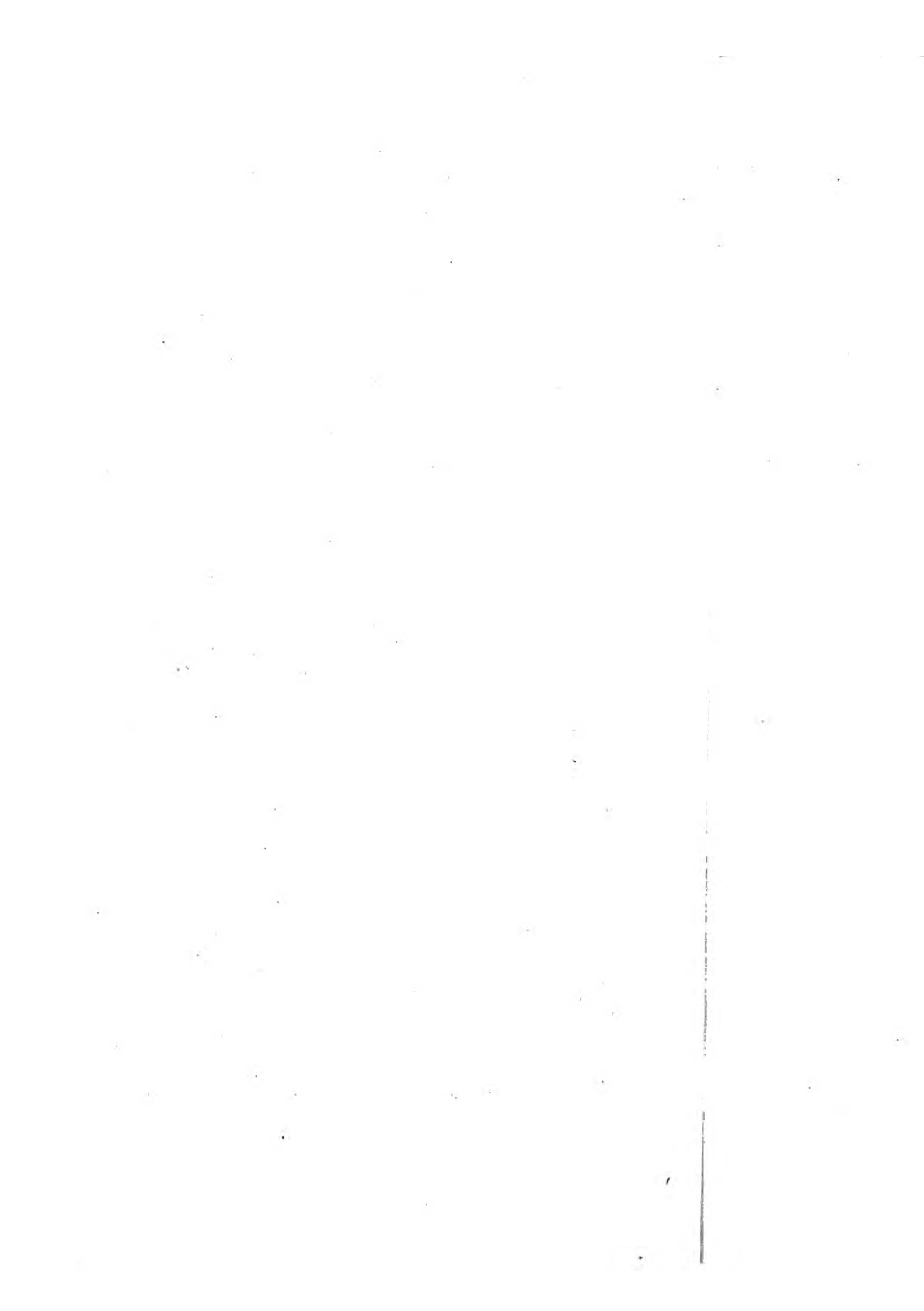


PLATE CCCCLXXXIX.
 GNAPHALIUM GRANDIFLORUM.
Large-flowered Gnaphalium.

CLASS XIX. ORDER II.

SYNGENESIA POLYGAMIA SUPERFLUA. Tips united. Superfluous
 Polygamy.

ESSENTIAL GENERIC CHARACTER.

RECEPTACULUM nudum. Pappus pilosus, vel plumosus. Calyx imbricatus, radiatus, radio colorato.

RECEPTACLE naked. Down hairy, or feathery. Empalement imbricated, rayed, with the ray coloured.

SPECIFIC CHARACTER.

GNAPHALIUM grandiflorum: floribus paniculatis, albis, lucidis: pedunculis albis, lanatis: foliis ovato-acutis, albâ lanâ tectis.

GNAPHALIUM with large flowers: flowers grow in panicles, white, and shining: footstalks white, and woolly: leaves are ovate-pointed, and covered with a white wool.

REFERENCE TO THE PLATE.

1. A scale of the empalement..
2. The same shown from the under side.
3. A flower complete.
4. The same magnified.
5. The seed-bud, chives, and pointal magnified.
6. Seed-bud and pointal.
7. The same magnified.

THIS Gnaphalium is at present the largest flowering species (the *G. eximium* excepted). Its flowers are equally durable with those of any *Xeranthemum*, nor does it vary essentially in any particular from that genus (as a section of which it would have been much better understood). The genus *Elychrisum* we find, upon examination, to be built upon the same equivocal ground, and there is little doubt but at some future period those two superfluous genera will fall into the old Linnæan genus of *Xeranthemum*. Our figure was made from a fine plant in the Clapham collection, about a foot and a half high. We have seen it grow much taller, but it is not then so handsome. It is certainly not a new plant, but has not been as yet figured in any modern publication. The whiteness so prevalent in its flowers and leaves (by way of contrast to the green foliage of most other plants) would render it deserving a place in every collection, even if its long-lived shining flowers were not a sufficient recommendation.

Pl. 48



Anaphalium grandiflorum

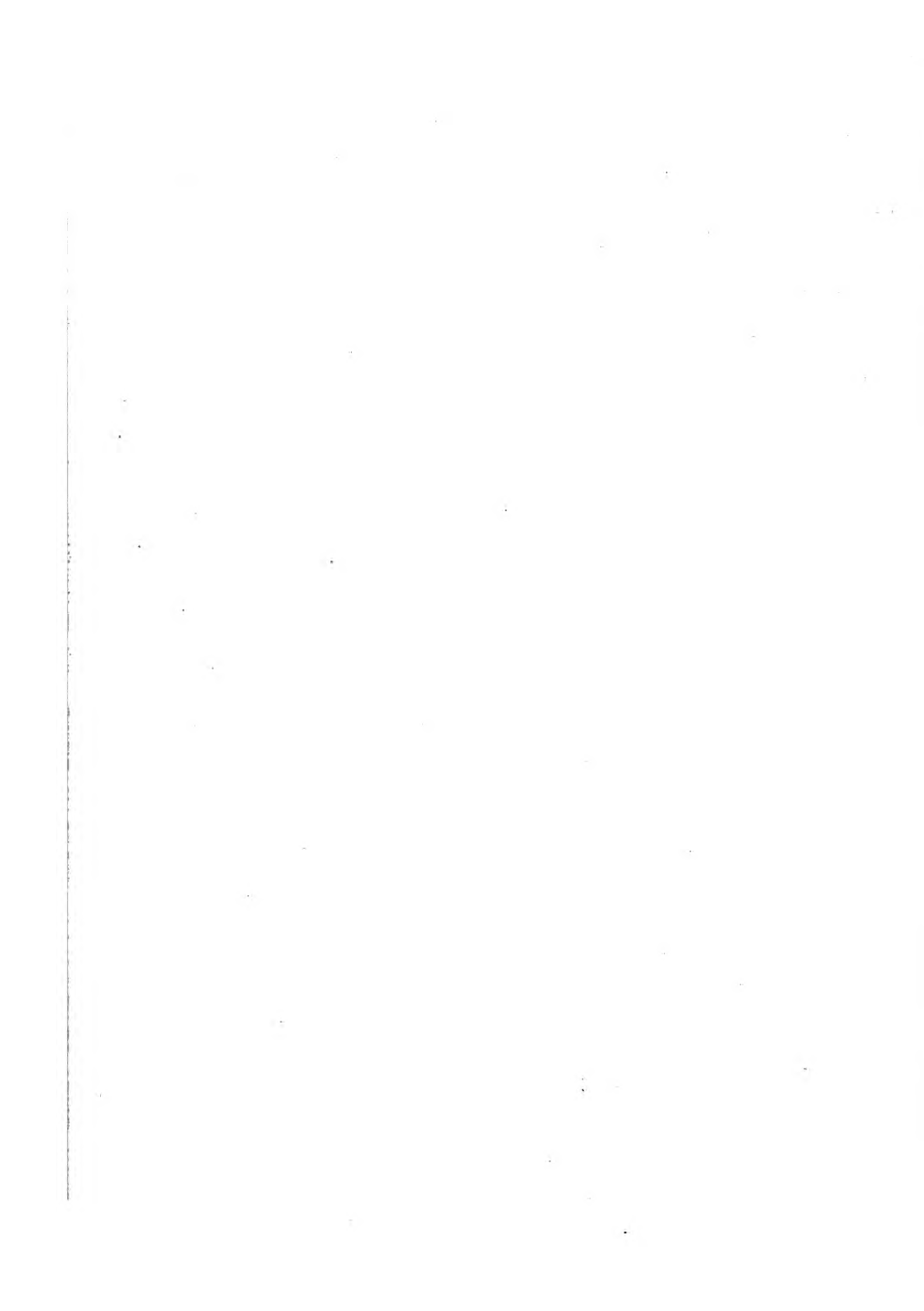


PLATE CCCCXC.
PONTEDERIA DILATATA.
Dilated Pontederia.

CLASS VI. ORDER I.

HEXANDRIA MONOGYNIA. Six Chives. One Pointal.

GENERIC CHARACTER.

| | | |
|--|--|--|
| <p>CALYX. Spatha communis, oblonga, latere dehiscens.</p> <p>COROLLA monopetala, 6-fida.</p> <p>STAMINA. Filamenta sex, corollæ inserta. Antheræ oblongæ.</p> <p>PISTILLUM. Germen oblongum, inferum. Stylus simplex.</p> <p>PERICARPIUM. Capsula trilocularis, triangularis.</p> <p>SEMINA plurima.</p> <p>Obs. In quibusdam speciebus germen est superum: in aliis inferum.</p> | | <p>EMPALEMENT. Spathe common, oblong, opening sideways.</p> <p>BLOSSOM one-petalled, 6-cleft.</p> <p>CHIVES. Threads six, inserted into the blossom. Tips oblong.</p> <p>POINTAL. Seed-bud oblong, beneath. Shaft simple.</p> <p>SEED-VESSEL. Capsule three-locular, three-angled.</p> <p>SEEDS many.</p> <p>Obs. In some species the seed-bud is above, in others beneath.</p> |
|--|--|--|

SPECIFIC CHARACTER.

| | | |
|---|--|--|
| <p>PONTEDERIA germine supero: foliis sagittatis, obtusis, vel acutis: floribus umbellatis, confertis, cæruleis.</p> <p>Habitat in India Orientali.</p> | | <p>PONTEDERIA with the seed-buds above: leaves arrow-shaped, obtuse, or pointed: flowers in crowded umbels, of a blue colour.</p> <p>Native of the East Indies.</p> |
|---|--|--|

REFERENCE TO THE PLATE.

1. A blossom spread open.
2. Seed-bud and pointal, summit magnified.
3. The plant in miniature.

THIS handsome aquatic is a native of the East Indies, and figured in Col. Syms's Embassy to the Kingdom of Ava, under the title of *Pontederia dilatata*. On examining some plants in the hot-house of J. Vere, esq. (whence our figure was taken) we observed so much variation in them, that we are inclined to think the *P. hastata* of Dr. Roxburgh's Coromandel Plants represents (from a weak plant) the same species our figure delineates.



Stederia, sagittata

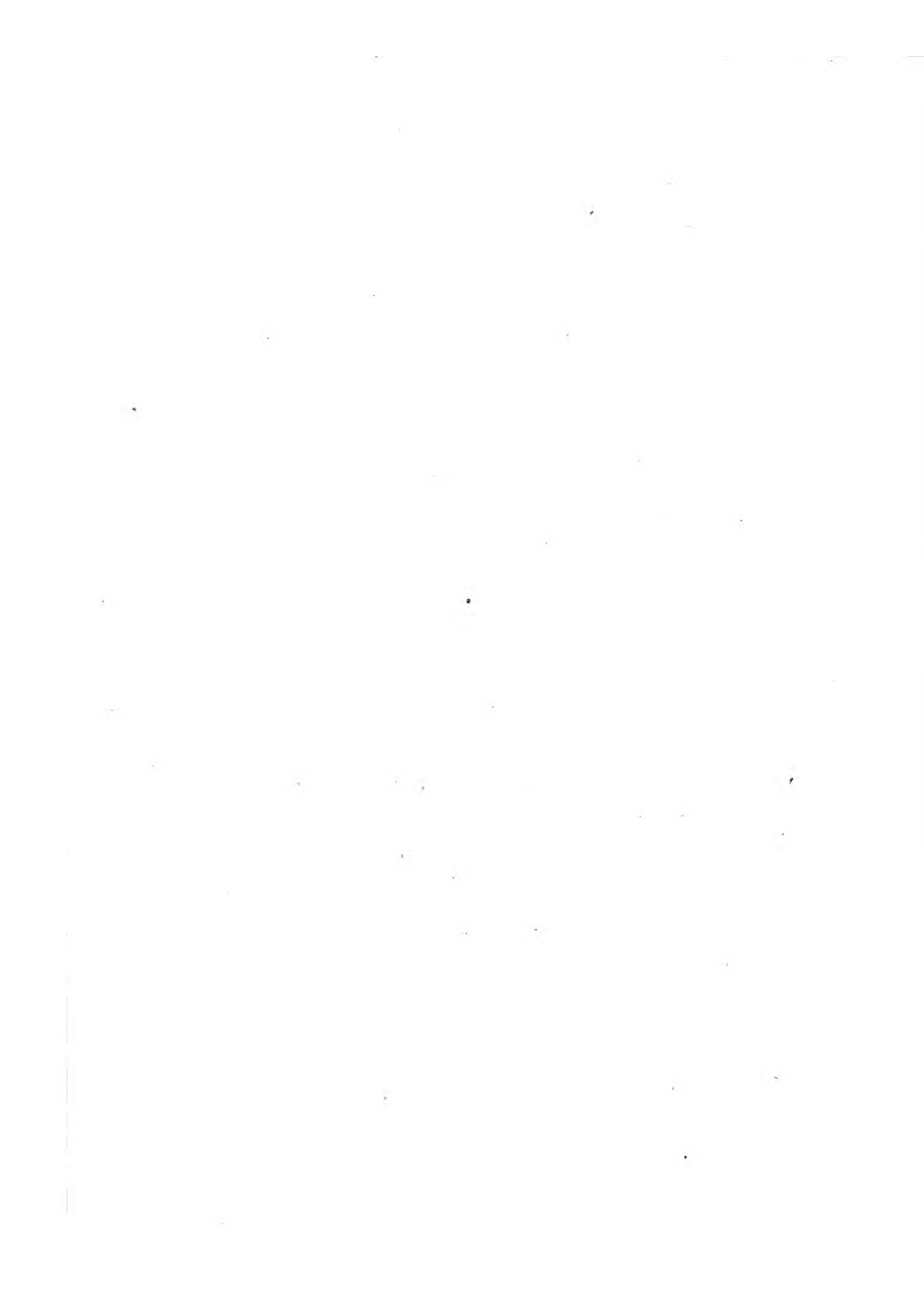


PLATE CCCCXCI.
GARDENIA RADICANS.
Rooting Gardenia.

CLASS V. ORDER I.
PENTANDRIA MONOGYNIA. Five Chives. One Pointal.

ESSENTIAL GENERIC CHARACTER.

| | | |
|--|--|---|
| CALYX 1-phyllus, 5-fidus, persistens. | | EMPALEMENT 1-leafed, 5-parted, and remaining. |
| COROLLA contorta, monopetala, 5-partita. | | BLOSSOM twisted, one-leafed, 5-parted. |
| STAMINA. Filamenta nulla. Antheræ quinque. Bacca infera, 2-locularis, polysperma. Stylus elevatus, bilobus. | | CHIVES. Threads none. Tips 5. Berry beneath, 2 loculaments, many-seeded. Shaft above, 2-lobed. |

SPECIFIC CHARACTER.

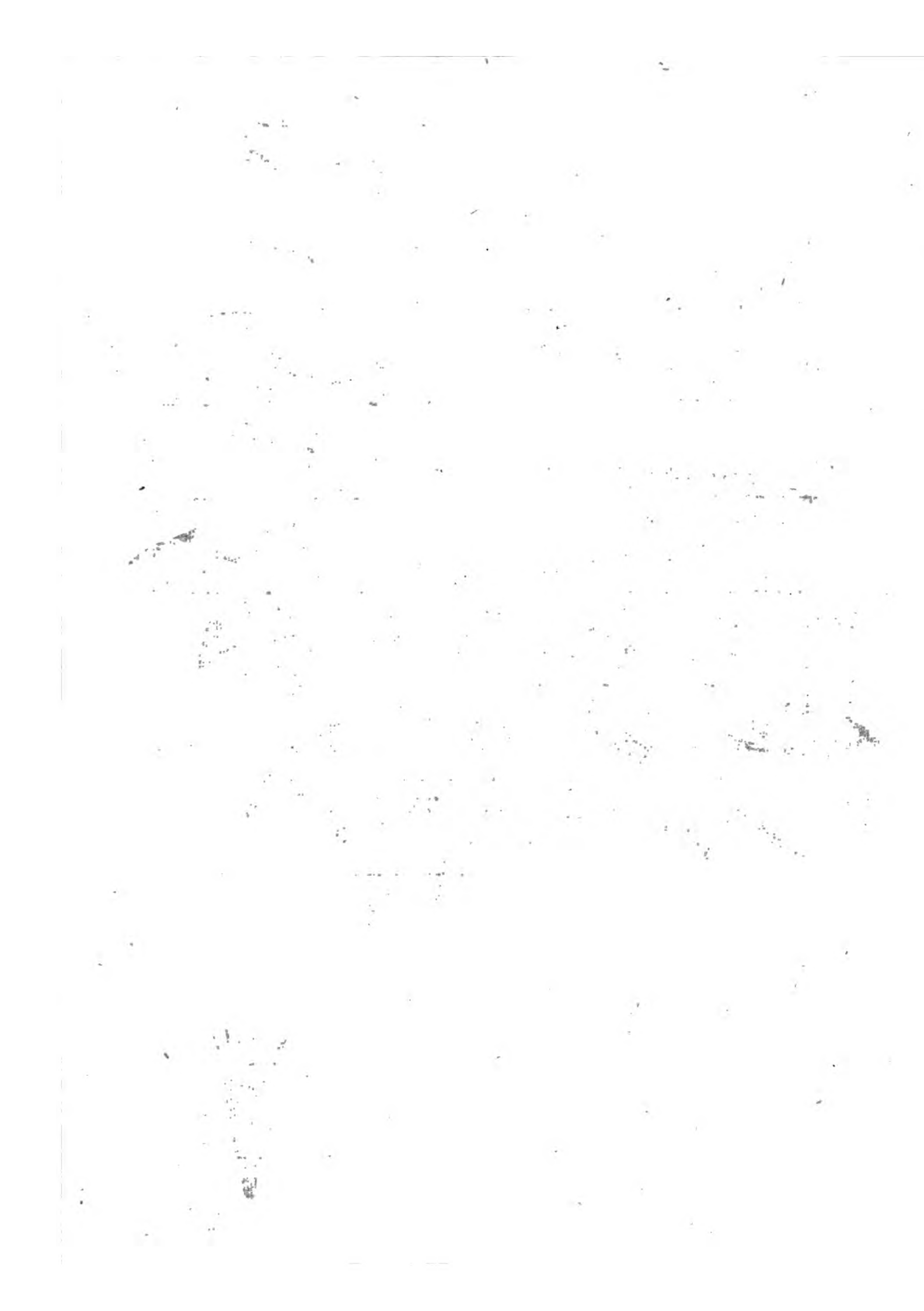
| | | |
|--|--|--|
| GARDENIA foliis lanceolatis : corollis hypocrateriformibus, albis, odoratissimis : calyce angulato : caule radicante. | | GARDENIA with lance-shaped leaves : blossom pitcher-shaped, white, and very sweet-scented : cup angular : stem rooting. |
|--|--|--|

REFERENCE TO THE PLATE.

1. The empalement.
2. The blossom spread open.
3. Seed-bud and pointal.

THE *Gardenia radicans* is a native of Japan, and is figured by Thunberg in his *Botanical Dissertation*. The figure is small and coarse, but yet characteristic. We have represented a fine young plant, as its fragrant flowers are then much better relieved by the surrounding leaves. It is at present cultivated in the hot-house ; but we are inclined to think it might succeed in the protection of the green-house. The luxuriance of its petals frequently absorbs nearly all the parts of fructification. But our specimen fortunately afforded three antheræ out of the five, and the pointal entire.

Our figure was made from a plant in the nursery of Messrs. Whitley and Brames.



THE
STATE OF
NEW YORK

IN SENATE,
January 15, 1908.

REPORT
OF THE
COMMISSIONERS OF THE LAND OFFICE

IN RESPONSE TO A RESOLUTION
PASSED BY THE SENATE
MAY 15, 1907.

ALBANY:
J. B. LIPPINCOTT COMPANY,
PRINTERS,
1908.

Platan




Gardenia, radicans

PLATE CCCCXCII.
 OXYLOBIUM CORDIFOLIUM.
Heart-leaved Oxylodium.

CLASS X. ORDER I.

DECANDRIA MONOGYNIA. Ten Chives. One Pointal.

GENERIC CHARACTER.

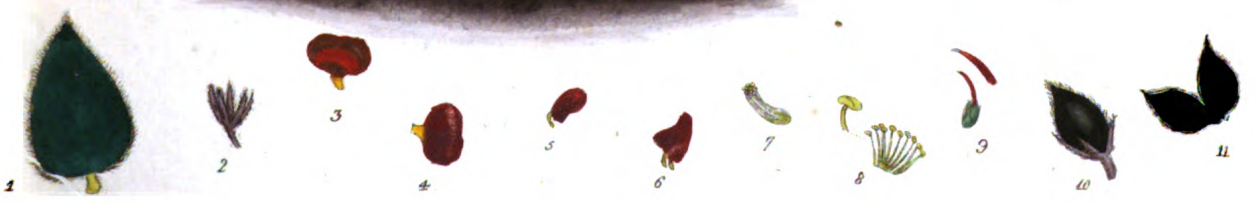
| | | |
|--|---|---|
| <p>CALYX simplex, quinquepartitus.
 COROLLA papilionacea.
 STYLUS subulatus. Stigma obtusum.
 LEGUMEN ovato-acuminatum, apice compressum, polyspermum.</p> |  | <p>EMPALEMENT simple, five-parted.
 BLOSSOM butterfly-shaped.
 SHAFT awl-shaped. Summit blunt.
 POD pointedly egg-shaped, compressed at the end, and many-seeded.</p> |
|--|---|---|

REFERENCE TO THE PLATE.

1. A leaf magnified.
2. The empalement.
3. The standard.
4. A back view of the same.
5. One of the wings.
6. The keel.
7. The chives.
8. The same spread open, one tip magnified.
9. Seed-bud and pointal, summit magnified.
10. A ripe seed-vessel.
11. The same spread open.

PLANTS of a Papilionaceous character furnish the most frequent opportunity for generic divisions. Nine Genera have already been made by Dr. Smith and others to contain the Butterfly flowers of New Holland. Our little novelty agrees with neither. From *Pultenæa*, *Aotus*, *Mirbelia*, and *Dillwynia*, it differs in the pod not being two-seeded. The two last genera have also the cups two-lipped, and the first with appendages attached to it. *Gompholobium* has a globular pod, and *Chorizema* an oblong one and a bilabiate calyx. *Daviesia*, *Viminaria*, and *Sphærolobium* have pods one-seeded. Thus situated, we are under the necessity of adding one more to the number of genera, perhaps already too much extended. We have never seen it exceed a foot in height. The foliage is mostly in whorls: and the stem, leaves, cups, and fruits are hairy.

Our figure represents one of the plants from the nursery of Messrs. Loddige, who first raised it from seed, and where we observed its brilliant little flowers in successive bloom for at least six months.



lobium cordifolium

Vol. VIII

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PLATE CCCCXCIII.
BIGNONIA GRANDIFLORA.
Large-flowered Bignonia.

CLASS XIV. ORDER II.

DIDYNAMIA ANGIOSPERMIA. Two Chives longer. Seeds covered.

ESSENTIAL GENERIC CHARACTER.

CALYX 5-fidus, cyathiformis.

COROLLA fauce campanulata, 5-fida, subtus
ventricosa. Siliqua bilocularis.

SEMINA membranacea, alata.

EMPALEMENT 5-cleft, cup-shaped.

BLOSSOM bell-shaped at the mouth, 5-cleft, and
bellied beneath: A pod of two cells.

SEEDS winged, with a skinny membrane.

See *Bignonia Leucoxydon*, Pl. XLIII. Vol. I.

SPECIFIC CHARACTER.

BIGNONIA foliis pinnatis: foliolis oblongo-lanceolatis, serratis: floribus in paniculo terminali, vel potius in racemo e pedunculis trifloris, oppositis, alternatis: corollis magnis, coccineis, campanulatis: caule erecto, radicante, et scandente.

BIGNONIA with winged leaves: leaflets of an oblong lance-shape, and sawed: flowers grow in a terminating panicle, or rather in a raceme upon footstalks with three flowers, opposite and alternate: blossom large, of a scarlet colour, and bell-shaped: stem upright, rooting, and climbing.

REFERENCE TO THE PLATE.

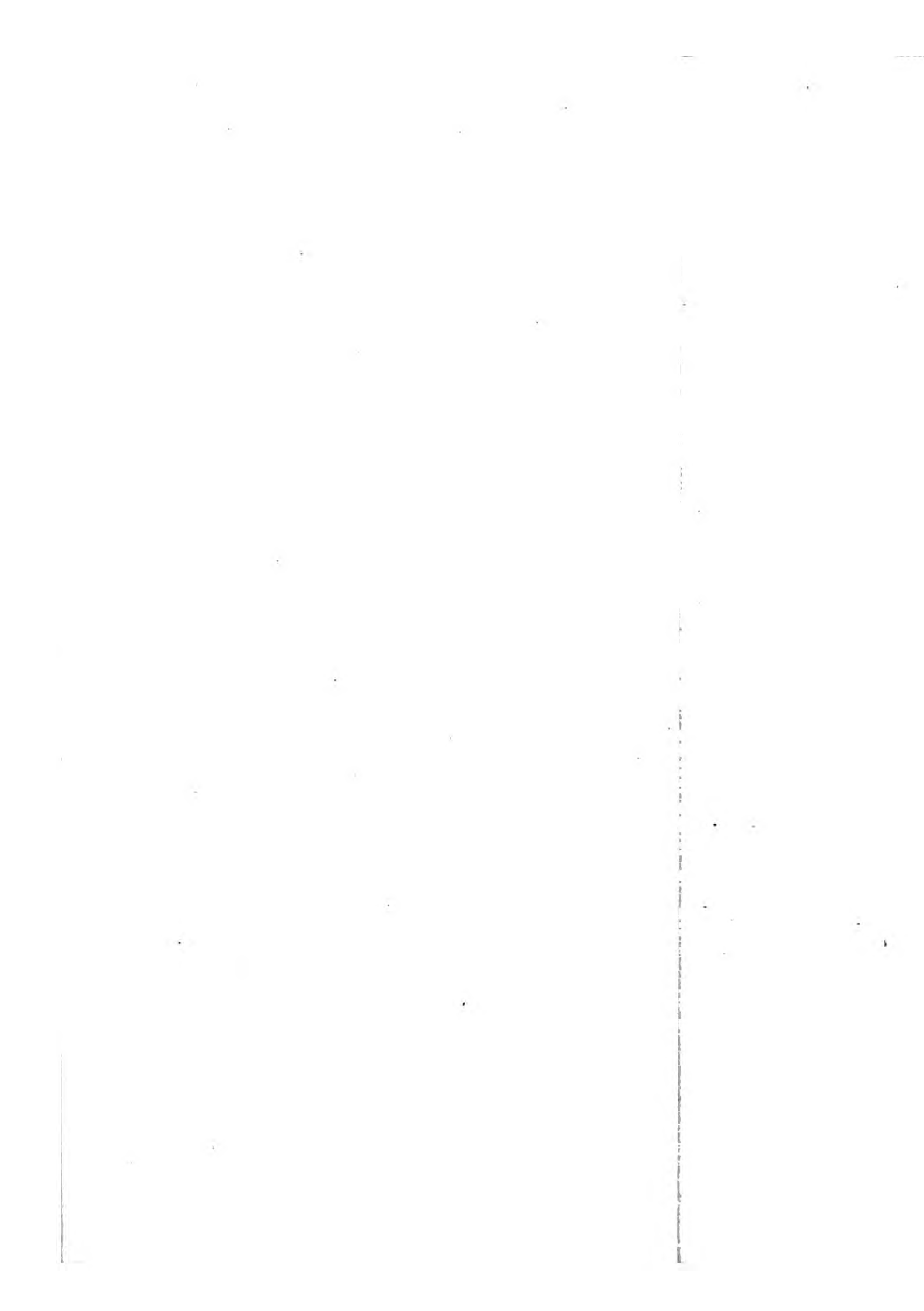
1. The empalement.
2. A blossom spread open.
3. Seed-bud and pointal.

THIS superb *Bignonia* is well characterized by the specific appellation of *grandiflora*; and although, in several genera, this title has been rendered nugatory by the introduction afterwards of still larger flowering species, yet we think it is not likely to be the case in the present instance. In *Kämpfer's Icones* there is a tolerably good figure of this fine plant. It flowers in the autumn, and great hopes are entertained that it will ultimately prove to be of a hardy character, when a fair trial of it is made, which its scarcity has hitherto prevented.

Our figure was made from a plant seven feet high, in the conservatory of G. Hibbert, esq. where, under the care of Mr. Knight, his botanic gardener, that valuable collection is in the most luxuriant state of cultivation.



Bignonia grandiflora



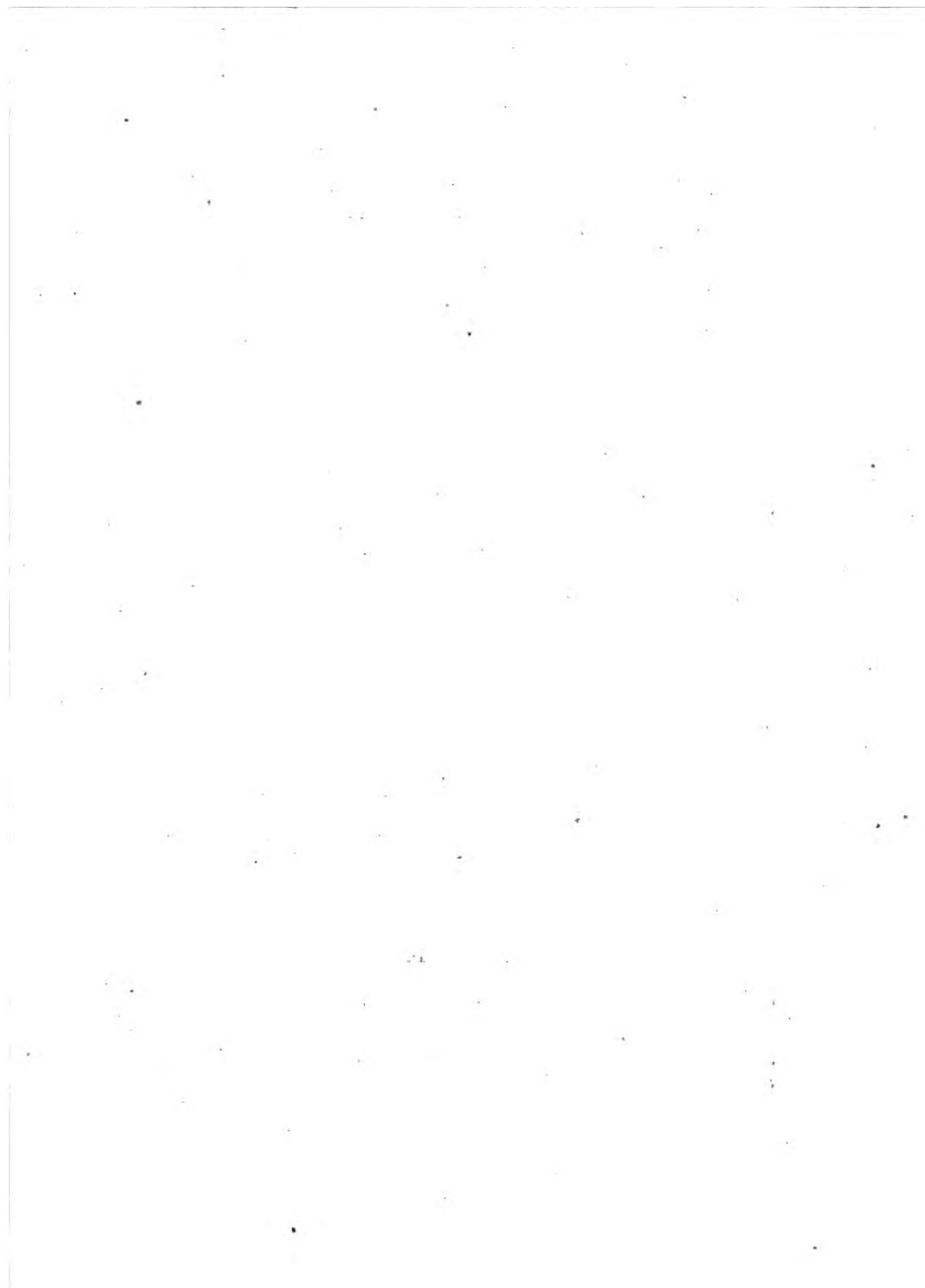


PLATE CCCCXCIV.
SCUTELLARIA SERRATA.
Sawed-leaved Scutellaria.

CLASS XIV. ORDER I.

DIDYNAMIA GYMNOSPERMIA. Two Chives longer. Seeds naked.

ESSENTIAL GENERIC CHARACTER.

CALYX. Os calycis, ad perfectionem seminum post florescentiam, claudit, quasi cum operculo tectum.

EMPALEMENT. The mouth of the cup, to perfect the seed after flowering, shuts as if covered by a lid.

SPECIFIC CHARACTER.

SCUTELLARIA foliis oppositis, ovato-acuminatis, serratis: floribus ramos terminantibus in spicâ laxâ cæruleo-purpureâ: caule erecto, quadrato.

Habitat in Carolina et Florida.

SCUTELLARIA with opposite leaves ovately-pointed, and sawed: flowers terminate the branches in a loose spike of a blue purple colour: stem upright, and four-sided.

Native of Carolina and Florida.

REFERENCE TO THE PLATE.

1. The empalement.
2. The same as it appears after flowering.
3. The flower spread open, one of the tips magnified.
4. Seed-bud and pointal.

THIS *Scutellaria* is one amongst the number of those new plants brought from America by Mr. Lyons, very few of which have (we think) proved more attractive than the present subject. The fine purplish blue of its flowers is of all colours the most difficult for any effort of art to do justice to. There are seventeen species of this genus enumerated by Willdenow; and fifteen of them are serrate, one hastate, and the other (which is called *integrifolia*) we are inclined to think is intended to characterize our plant; as, notwithstanding it is called entire-leaved, it is described as obsolete serrate, and agrees very well in other particulars with our species. We have adopted the unoccupied specific title of *serrata*, although it is a character common to almost all the genus, in preference to one that could not, if strictly attended to, ever lead us to the object. The genera that approach nearest to *Scutellaria* are *Trichostema* on one side, and *Prunella* on the other; from which, and many others that surround it, the most essential distinction is in the singular construction and character of the calyx, which forms its short but well-marked essential generic character. Our figure was made from a plant in the open border of the garden of J. Vere, esq.



Salvia serrata

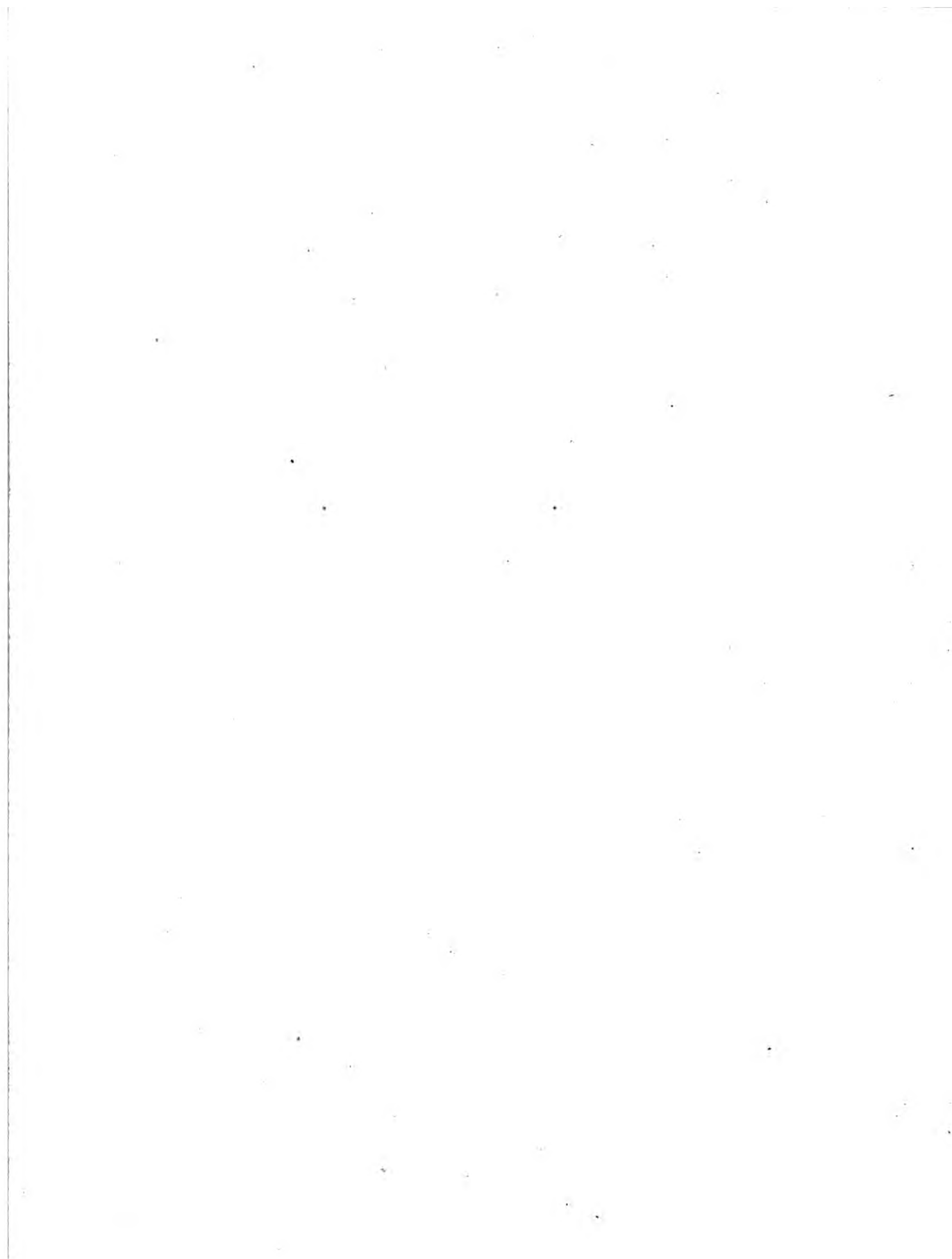


PLATE CCCCXCV.
PROTEA CORYMBOSA.
Corymbose-flowering Protea.

CLASS IV. ORDER I.

TETRANDRIA MONOGYNIA. Four Chives. One Pointal.

ESSENTIAL GENERIC CHARACTER.

COROLLA 4-fida, seu 4-petala. Antheræ lineares, petalis infra apices insertæ. Calyx proprius, nullus. Semina solitaria.

BLOSSOM 4-cleft, or of 4 petals: tips linear, inserted into the petals below the points. Cup proper, none. Seeds solitary.

SPECIFIC CHARACTER.

PROTEA foliis teretibus, brevibus, obtusis, ascendentibus, glaucis: floribus capitatis, luteis, corymbosis.

PROTEA with round short leaves, blunt ended, ascending, and glaucous: flowers headed, yellow, and growing in the manner of a corymbus.

Frutex pygmæus, dumosus: ramis sub-verticillatis.

A dwarf shrub, bushy, with branches nearly whorled.

REFERENCE TO THE PLATE.

1. The involucre of the flowers.
2. A flower with its bractea.
3. A chive magnified.
4. Seed-bud and pointal, summit magnified.

THIS plant has been long known in the gardens by the title of *Protea purpurea*, but never flowered in this country till last summer, at the nursery of Mr. Williams of Turnham Green; when, instead of purple flowers, (as was expected from its specific title,) they proved to be yellow. It bears so great a resemblance to the *P. teretifolia*, that when we figured that species (by comparing it with a dried native specimen,) we were almost inclined to think a small variety of that plant was the *P. corymbosa* altered in its manner of growth in this climate by a different mode of culture. But comparison with the living plants has now determined them to be distinct species, and left no doubt remaining of this being the *P. corymbosa* figured by Thunberg in his Dissertation on the genus *Protea*.



Protea corymbosa.

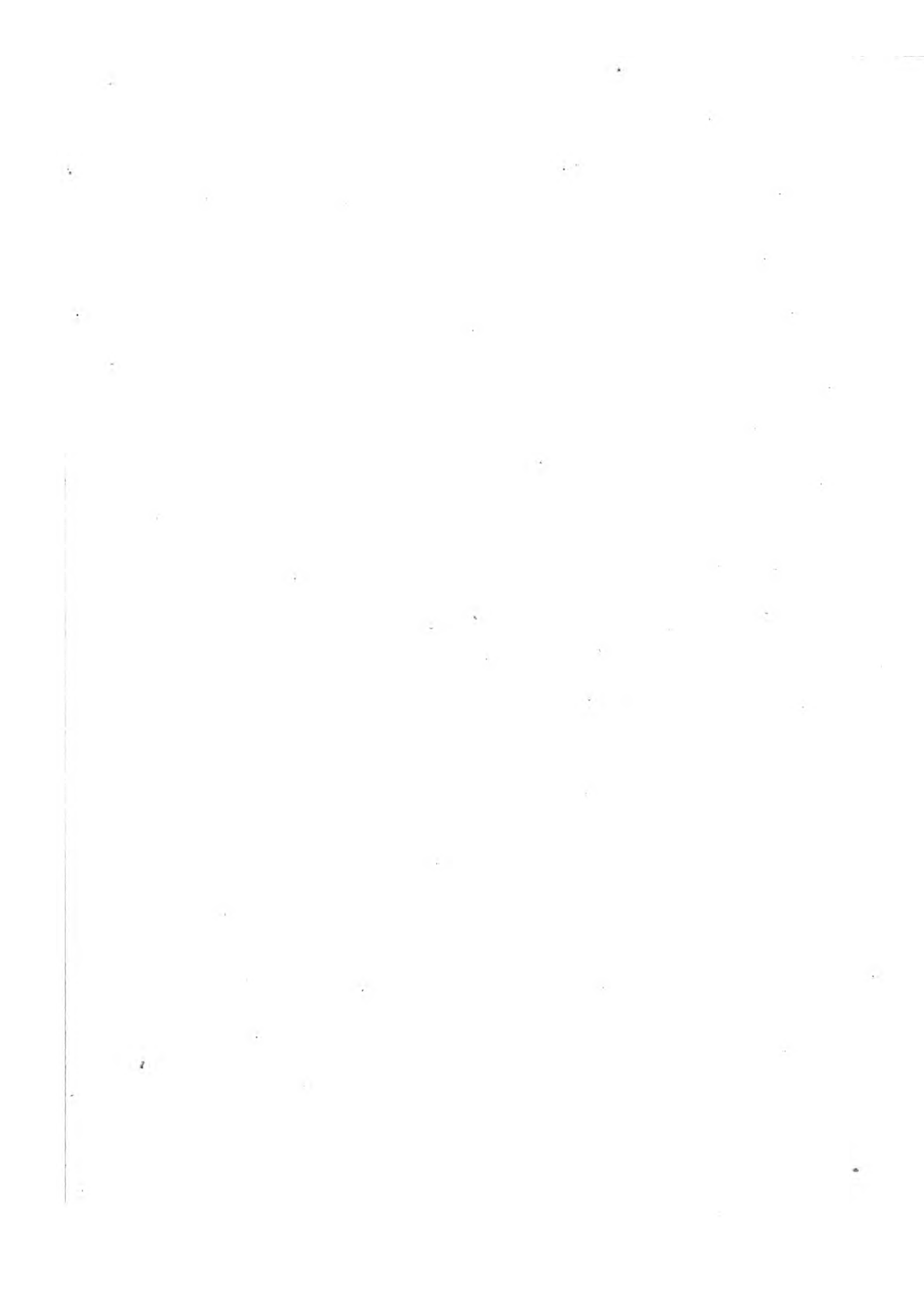


PLATE CCCCXCVI.
JASMINUM MULTIFLORUM.
Many-flowered Jasmine.

CLASS II. ORDER I.

DIANDRIA MONOGYNIA. Two Chives. One Pointal.

ESSENTIAL GENERIC CHARACTER.

CALYX 5—8-partita.

COROLLA hypocrateriformis, 5—8-fida, bacca
bilocularis.

SEMINA solitaria, arillata.

EMPALEMENT 5—8-parted.

BLOSSOM funnel-shaped, 5—8-cleft, berry two-
locular.

SEEDS solitary, arillated.

SPECIFIC CHARACTER.

JASMINUM foliis oppositis, cordatis, glabris,
pubescentibus: floribus terminalibus, um-
bellatis, quaternis vel octonis, in singula
umbella: corollis albis, magnis, octofidis,
odoratissimis.

Habitat in Calcutta.

JASMINE with opposite heart-shaped leaves,
smooth, and hairy: flowers terminate the
branches in umbels of 4 to 8 in each um-
bel: blossoms are white, large, eight-cleft,
and very sweet-scented.

Native of Calcutta.

REFERENCE TO THE PLATE.

1. The empalement.
2. A blossom spread open.
3. The empalement spread open with the seed-bud and pointal, summit magnified.

THIS fine new Jasmine was introduced by Lady Hume from the East Indies, and is the largest-flowering species of the genus as yet known. It is highly scented, and of the odour of the Gardenia, or Cape Jasmine. It is a handsome hot-house plant, but from its recent introduction is at present scarce. We find a small rude figure of it in Burman, under the title of *Nyctanthes multiflora*: but it is now better accepted under the softer-sounding appellation of *Jasminum*, an old fragrant and ever favourite genus.

The drawing was made from a luxuriant specimen communicated to the author by A. B. Lambert, esq.



Mimosa multiflorum

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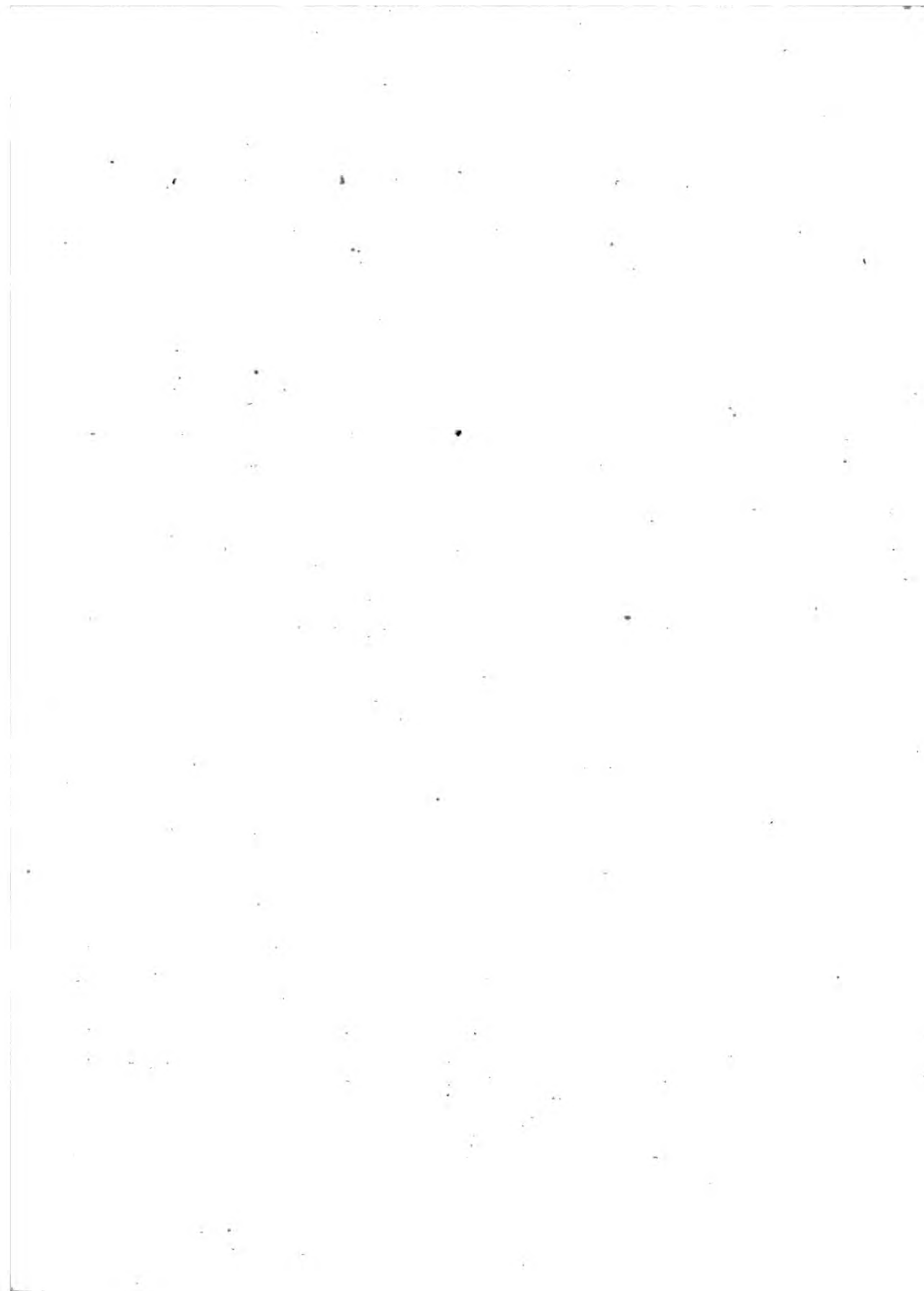


PLATE CCCCXCVII.
JASMINUM SAMBAC; *Var. flore pleno.*
Indian Jasmine; Full-flowered Variety.

CLASS II. ORDER I.

DIANDRIA MONOGYNIA. Two Chives. One Pointal.

ESSENTIAL GENERIC CHARACTER.

| | | |
|---|-----------|---|
| <p>CALYX 5—8-partita.
 COROLLA hypocrateriformis, 5—8-fida, bacca bilocularis.
 SEMINA solitaria, arillata.</p> | <p> </p> | <p>EMPALEMENT 5—8-parted.
 BLOSSOM funnel-shaped, 5—8-cleft, berry two-locular.
 SEEDS solitary, arillated.</p> |
|---|-----------|---|

SPECIFIC CHARACTER.

| | | |
|--|-----------|---|
| <p>JASMINUM foliis oppositis, ovatis, sæpe apice acutis: floribus in ramis terminalibus, plerumque ternis: corollis aggregatis, vel tribus in una, involutis, fragrantissimis: ramis oppositis, hirsutis, ferrugineis: caule patente, scandente.</p> | <p> </p> | <p>JASMINE with leaves opposite, egg-shaped, and often pointed at the end: flowers terminate the branches mostly by threes: blossoms are aggregate, or three in one folded together, and very sweet-scented: branches are opposite, hairy, and of a rusty colour: stem spreading, and climbing.</p> |
|--|-----------|---|

REFERENCE TO THE PLATE.

1. A blossom separated, the inner tube spread open.
2. The empalement spread open, seed-bud and pointal, summit magnified.

THIS Jasmine possesses a fragrance of such unequivocal sweetness as renders it, although an old hot-house plant, one of its best acquisitions. We have preferred the variety before the species, for its superior beauty, and the opportunity of displaying the singular construction of its flowers, which separate into three distinct parts; the inner one bearing the stamens perfect in appearance, but upon examination they will be found steril. This, as well as its original, the single-flowering one, is highly esteemed all over India, cultivated, and sold in their markets for the purpose of distilling from them a perfumed water, like that extracted from the rose. The Indian women macerate the flowers with those of *Michelia champacca*; the *Uvaria odoratissima*, and the common Jasmine, in oil of aloes or oil of benzoin, and then expose it to the sun for three days, adding fresh flowers every day. It is then used by the youth of both sexes to anoint their hair with, which they consider as their greatest ornament. In the spring, garlands and crowns are made of the plants, and used by the Hindoos in their sacrifices or religious rites. Both the single and this variety are figured in Van Rheedé's *Hortus Malabaricus*, and also by Rumphius in his *Herbarium Amboynense*, who describes the flowers as opening in India at sun-set, continuing all night, and the following, when they fall off: that the succession is abundant, thriving well on a trellis, like common Jasmine, and having a charming appearance when imperaled with the dew of the morning.

Our figure was made from a plant in the hot-house of J. Vere, esq.

Pl. 297



Jasminum, Sambac *Flora Japonica*

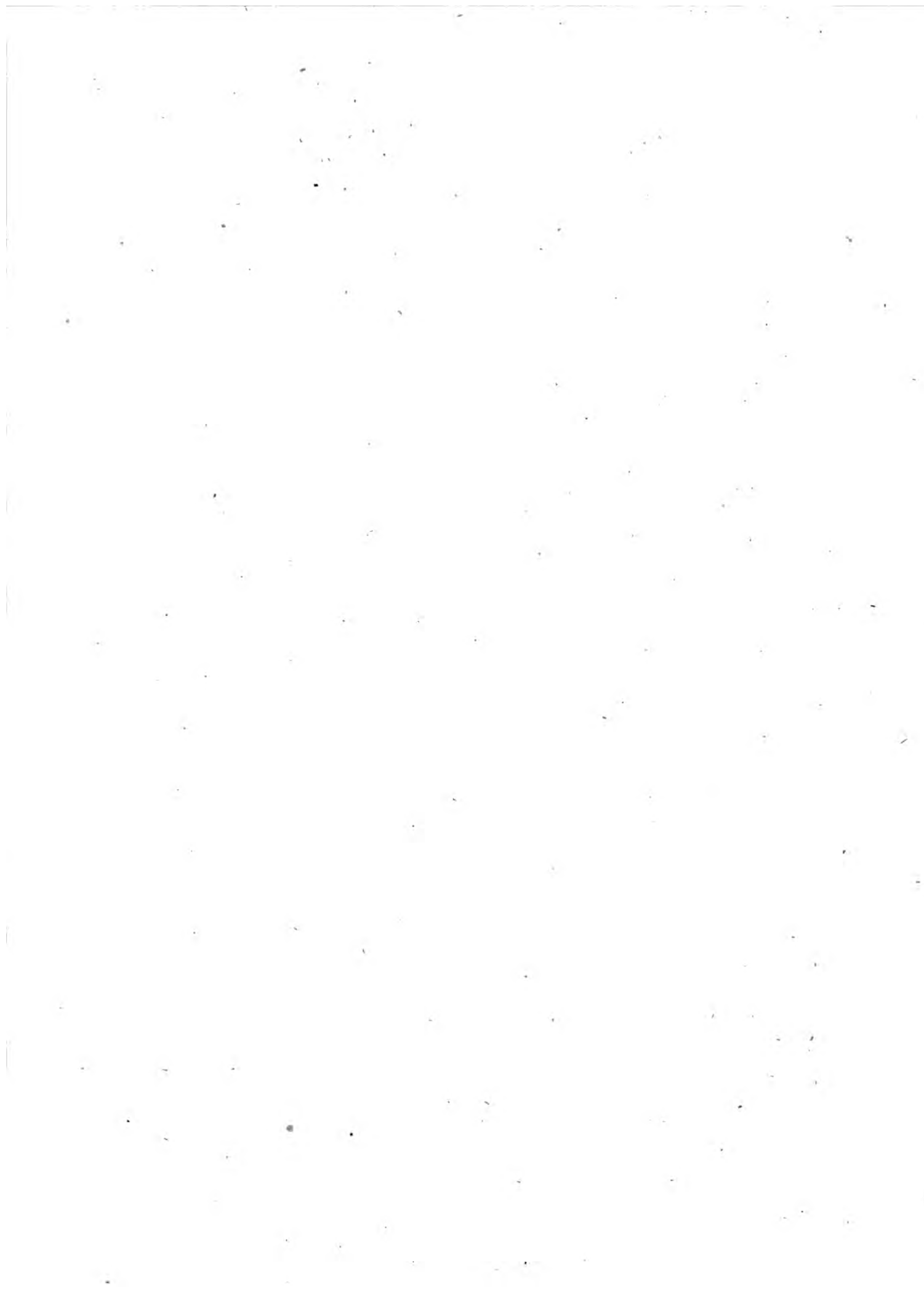


PLATE CCCCXCVIII.
HIBISCUS PRURIENS.

Stinging Hibiscus.

CLASS XVI. ORDER VI.

MONADELPHIA POLYANDRIA. Threads united. Many Chives.

ESSENTIAL GENERIC CHARACTER.

CALYX duplex, exterior polyphyllus. Stigmata || EMPALEMENT double; outer one many-leaved.
5. Capsula 5-locularis, polysperma. || 5 summits. Capsule 5-celled, many-seeded.

SPECIFIC CHARACTER.

HIBISCUS foliis sub-cordatis, lobatis, dentatis :
floribus terminalibus, magnis, colore sulphureo, ad basin petalorum maculâ atropurpureâ notatis. Caulis et petioli setis parvis laxis obsiti sunt, quæ manibus adhærentes irritant et pungunt.

HIBISCUS with nearly heart-shaped leaves, lobed and toothed: flowers terminal, large, and of a sulphur colour, with a dark purple spot at the base of the petals. The stem and petioles are beset with small loose bristles, which sticking to the hand irritate and sting.

REFERENCE TO THE PLATE.

1. The empalement.
2. The chives cut open, one tip magnified.
3. Seed-bud and pointal, summits magnified.

THIS non-descript species of Hibiscus is a native of the East Indies. It approaches in general appearance nearest to the *H. cannabinus*. The stems and footstalks of our plant are beset with short bristly hairs, so loosely attached that they easily come off, and, sticking about the hands, create an unpleasant sensation somewhat resembling the stinging of a nettle. The fine dark eye of the flower is a great relief to the surrounding sulphur colour, to the light delicacy of whose appearance it is so very difficult to do justice; for, in this showy family, elegant inflorescence is their principal recommendation.

Our figure represents a fine plant raised in the hot-stove of A. B. Lambert, esq.



C. H. W. 1870



PLATE CCCCXCIX.
IPOMÆA COCCINEA.

Scarlet Ipomæa.

CLASS V. ORDER I.

PENTANDRIA MONOGYNIA. Five Chives. One Pointal.

ESSENTIAL GENERIC CHARACTER.

COROLLA infundibuliformis. Stigma capitato- || Blossom funnel-shaped. Summit headed, of a
globosum. Capsula 3-locularis. || globular form. Capsule of 3 loculaments.

SPECIFIC CHARACTER.

IPOMÆA foliis hederinis: pedunculis multi- || IPOMÆA with ivy-shaped leaves: footstalks with
floris: corollis saturate coccineis: caule || many flowers: blossoms of a deep scarlet:
purpureo, torto et involuto. || stem purple, twisted, and twining.

REFERENCE TO THE PLATE.

1. The empalement.
2. A blossom spread open.
3. Seed-bud and pointal, summit magnified.

Of this species of *Ipomæa* there are two good uncoloured figures: one in Commelin's *Rariorum*, tab. 21, under the title of *Quamoclit Americana*; the other in the *Americana* of Plumier, 89, tab. 103, under the appellation of *Convolvulus coccineus*; but not to be confounded with the *Ipomæa coccinea* (erroneously so called) of the *Botanical Magazine*, which is the *I. luteola* of Jacquin's *Icones*, and a very different plant: although Willdenow in his *Species Plantarum* has made a mere variety of it; observing that it differs in no other particular except in colour. But comparison, either with the living plants or the figures above alluded to, will prove them to be distinct in their foliage as well as the colour of their flowers. Neither of them is well discriminated by its specific title; as the *I. luteola* is more of a scarlet than of a yellow colour, and the *coccinea* is of too deep a red to be with accuracy denominated scarlet. But references to colour are mostly too equivocal to be very characteristic.

From Mr. J. Milne, botanic gardener at Fonthill, we received this specimen, whose luxuriant growth in the hot-stove may probably have occasioned the abbreviation in the filaments, which are generally extended a little beyond the mouth of the flower, instead of being confined to the base of the tube, as our figure represents; but in which we follow nature: and although it is not an unprecedented circumstance to find the threads shortened or lengthened by culture, yet when that difference is so very powerful as in the present instance, it is well deserving notice.



Ipomoea, coccinea

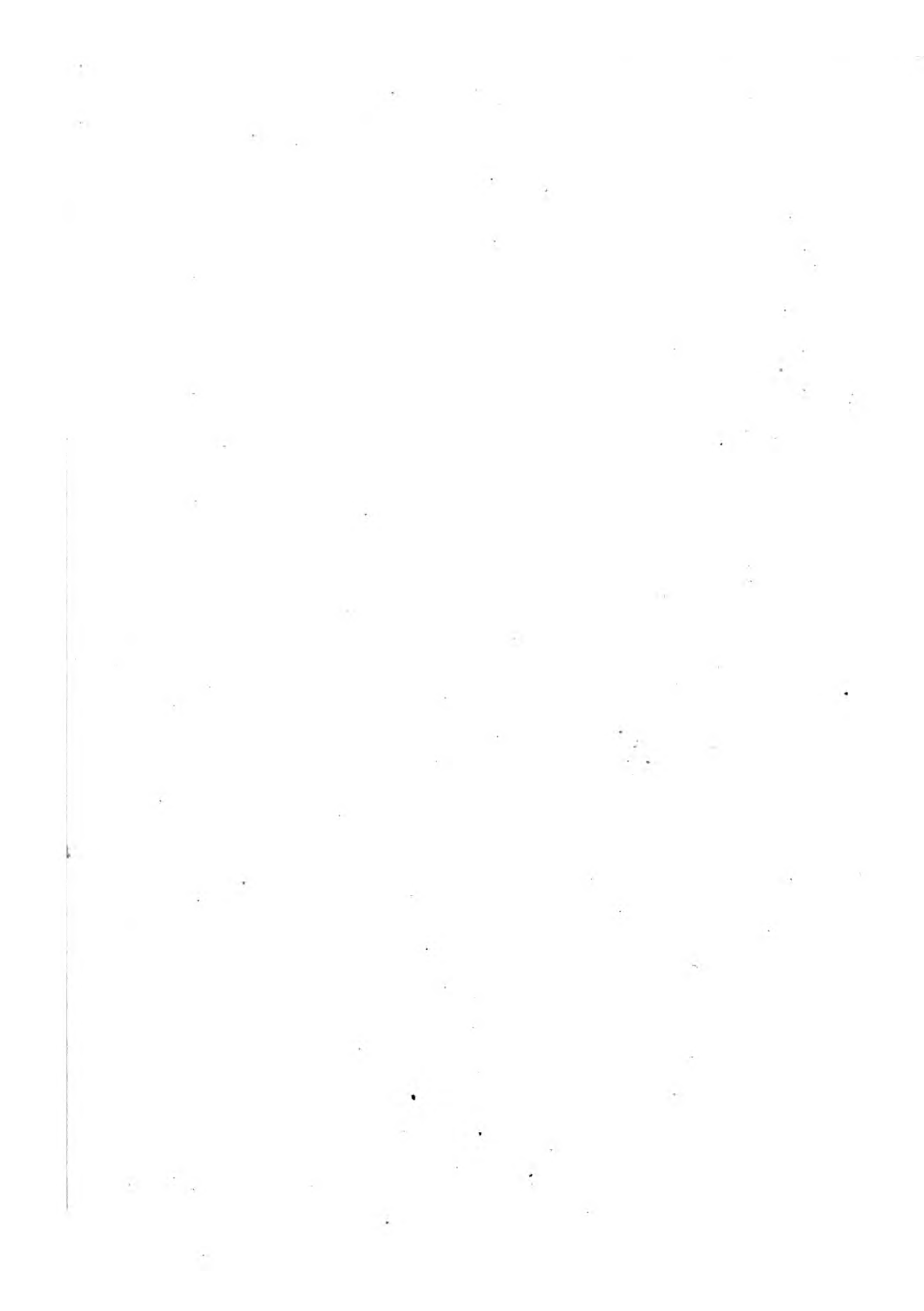


PLATE D.
PROTEA MUCRONIFOLIA.

Mucronate-leaved Protea.

CLASS IV. ORDER I.

TETRANDRIA MONOGYNIA. Four Chives. One Pointal.

ESSENTIAL GENERIC CHARACTER.

COROLLA 4-fida, seu 4-petala. Antheræ lineares, petalis infra apices insertæ. Calyx proprius, nullus. Semina solitaria.

BLOSSOM four-cleft, or of four petals. Tips linear, inserted into the petals below the points. Cup proper, none. Seeds solitary.

SPECIFIC CHARACTER.

PROTEA foliis lanceolatis, mucronatis, glaucis: involucrio imbricato, ad basin parvo, cuneato, virescente; superis lanceolatis, patentibus, acutis, albis: floribus terminalibus, capitatis, carneis, petalis cohærentibus.

PROTEA with lance-shaped, mucronate leaves of a glaucous green: the involucrium tiled, small at the base, wedge-shaped, and greenish: those on the upper part are lance-shaped, spreading, pointed, and white: flowers are terminal and headed, flesh-coloured, with the petals adhering together.

REFERENCE TO THE PLATE.

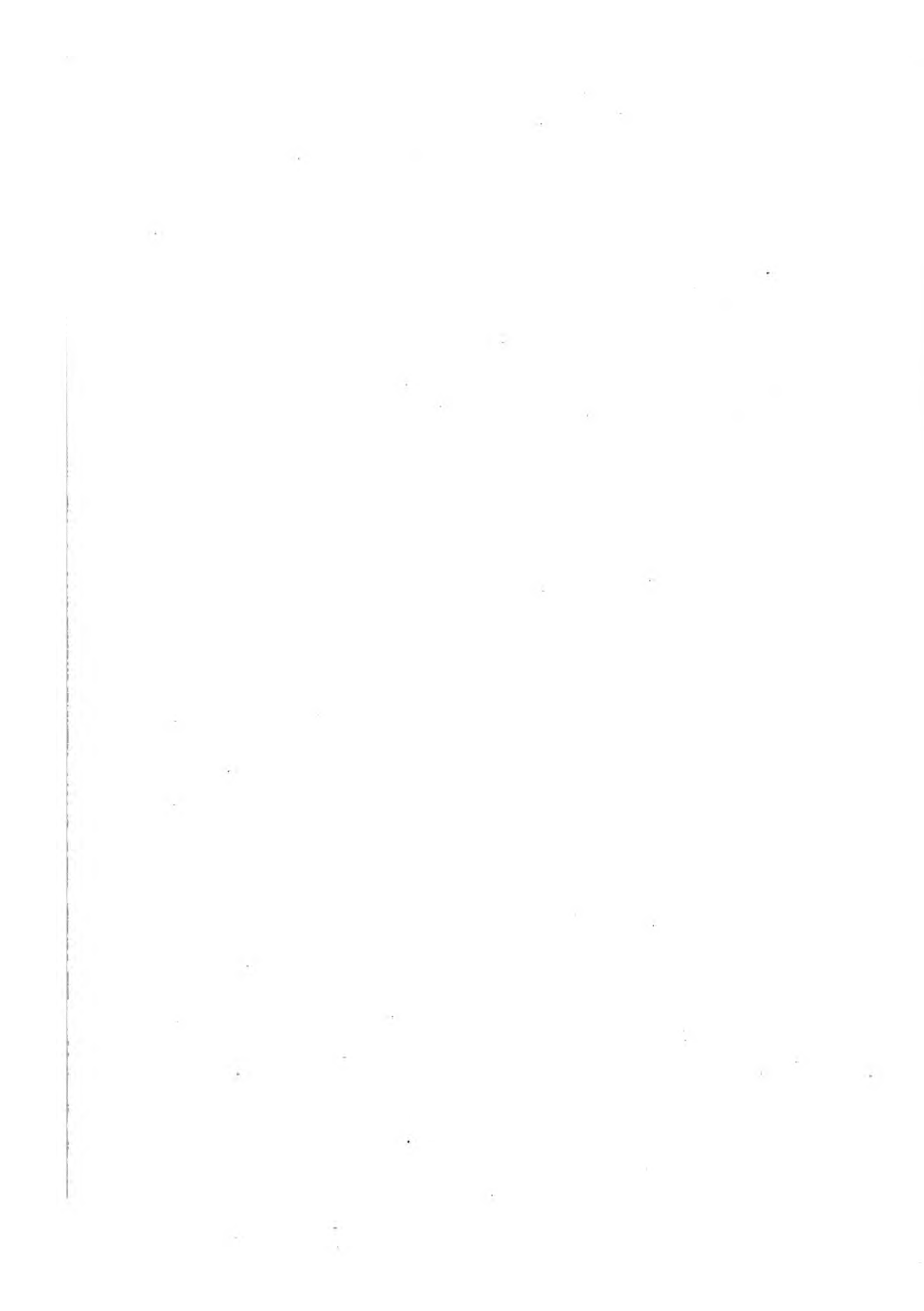
1. A flower spread open, one tip magnified.
2. Seed-bud and pointal, summit magnified.

AMONGST the smaller species of this extensive genus the *Protea mucronifolia* may be placed, but by no means ranked among the least in beauty. It has been figured in the *Paradisus Londinensis*, and also in the *Botanical Magazine*, and therefore in the botanical world may be no longer considered as new or rare: but having already figured so many of the most beautiful, we cannot think of excluding any attractive or distinct species of this fine tribe of plants.

Our figure was taken from a plant in the garden of G. Hibbert, esq.



Banksia, mucronata



THE UNIVERSITY OF CHICAGO
DEPARTMENT OF CHEMISTRY

1950

RESEARCH REPORT NO. 100
BY J. H. GOLDSTEIN AND R. F. SCHNEIDER

NUCLEAR MAGNETIC RESONANCE OF
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PLATE DI.
HELLENIA ALLUGHAS.
Ceylon Hellenia.

CLASS I. ORDER I.
MONANDRIA MONOGYNIA. One Chive. One Pointal.

ESSENTIAL GENERIC CHARACTER.

CALYX tubulosus, bifidus. Corolla tripartita, laciniarum apicibus cucullatis. Nectarium quadrifidum. Capsula globosa, et trivalvis, septo duplici inclusa, polysperma. Semina arillata.

EMPALEMENT tubular, two-cleft. Blossom three-divided; the points of the segments are hooded. Nectarium four-cleft. Seed-vessel round, and three-valved, enclosed in a double loculament, many-seeded. Seeds arillated.

SPECIFIC CHARACTER.

HELLENIA foliis lanceolatis, vaginantibus: floribus in racemis terminalibus odoratissimis.
 Habitat in paludibus Zeylanicis.

HELLENIA with lance-shaped sheathing leaves, with terminal racemes of flowers, which are very sweet-scented.
 Native of the marshes about Columbo.

REFERENCE TO THE PLATE.

1. The spathe.
2. The sheath which crowns the seed-bud, cut open.
3. A flower divested of the chives and nectary.
4. The honey-cup.
5. Seed-bud, chives, and pointal.
6. The seed-bud and pointal, summit magnified.
7. The capsule.
8. The same divested of its outer coat.
9. A central branched cord that connects the lobes.
10. One of the lobes of the seed-vessel.
11. The same shown inside, with the seeds exposed and one lifted from its cell.
12. A seed without its arillus, or skinny coat.

THIS fine Monandrous plant was named *Hellenia* by Willdenow, after his friend Professor Hellenius: the title of *Allughas* was given it by the Cingalese, from the fruit when young appearing as if sprinkled with ashes. Burmann in his *Thesaurus Zeylanicus*, p. 54, informs us that the *Allughas* grows abundantly in the marshes about Columbo; that the flowers are very odoriferous, and are made into conserves and used as cordials to strengthen the head and stomach; from the fruit and seed an oil is extracted that is much used in medicine. Mr. Roscoe, in the 8th vol. of the *Linnæan Transactions*, has ranked it under the genus *Alpinia*; but the filamentary system of that gentleman we think infinitely too slender to support the great difference existing between the fruit of our plant and that of *Alpinia*.

Our figure was made from a fine living specimen, and the only one that has ever flowered in this country, raised from seed by A. B. Lambert, esq.



Hellenia, Allughas

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PLATE DII.
LOBELIA SURINAMENSIS; *Var. flore rubro.*
Surinam Lobelia; Red-flowered Variety.

CLASS V. ORDER I.

PENTANDRIA MONOGYNIA. Five Chives. One Pointal.

ESSENTIAL GENERIC CHARACTER.

CALYX 5-fidus. Corolla 1-petala, 5-fida, irregularis. Antheræ cohærentes. Capsula infera, 2- seu 3-ocularis.

EMPALEMENT 5-cleft. Blossom 1 petal, irregular, 5-cleft. Chives adhering together. Capsule beneath, 2, sometimes 3 loculements.

SPECIFIC CHARACTER.

LOBELIA caule suffruticoso: foliis oblongis, glabriſ, serratis: floribus axillaribus, pedunculatis: corollis læte rubris, pentagonis, curvatis, tubulosis, supra basin impressis.

Habitat in Surinamo.

LOBELIA with a shrubby stem: leaves oblong, smooth, and sawed: flowers axillary, pedunculated: blossoms of a bright red colour, five-sided, curved, and tubular, indented just above the base.

Native of Surinam.

REFERENCE TO THE PLATE.

1. The empalement.
2. A blossom spread open.
3. The chives spread open.
4. The seed-bud and pointal.
5. Seed-bud cut transversely.

A fine living specimen of this elegant variety of the *Lobelia Surinamensis* was communicated to the author by A. B. Lambert, esq. who received it amongst a large collection of hot-house plants presented to him by Lord Seaforth, and collected by that nobleman in the West Indies whilst Governor of the Island of Barbadoes. The plant from which this figure was delineated was near four feet high, with numerous branches terminated by buds and flowers, whose brilliance enlivening the gloomy month of November, may justly rank it as one of the greatest ornaments of the hot-stove.



Obelia, Surinamensis Var. flore rubro

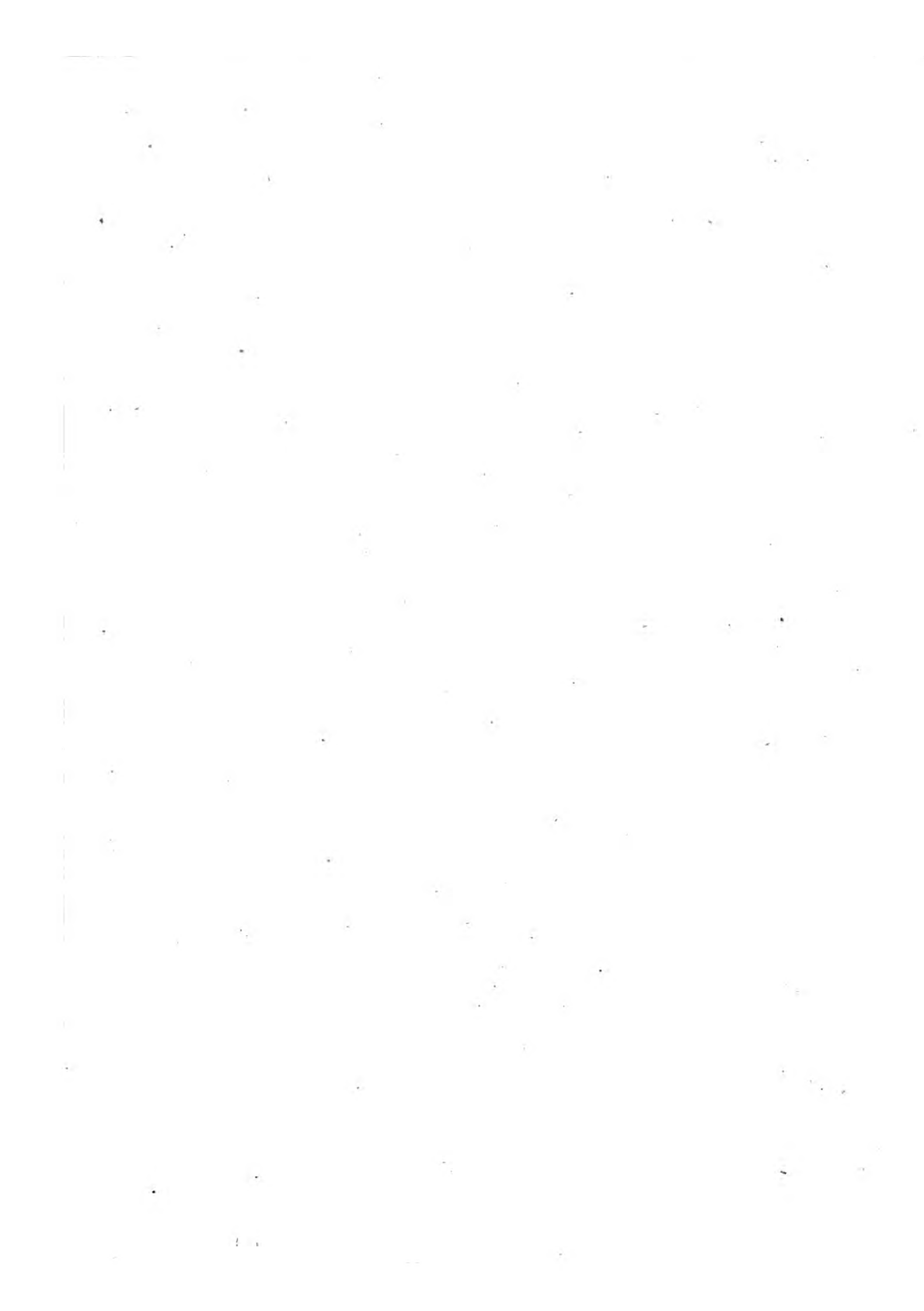


PLATE DIII.
N Y M P H Æ A R U B R A.
Red-flowered Nymphæa.

CLASS XIII. ORDER I.
POLYANDRIA MONOGYNIA. Many Chives. One Pointal.

ESSENTIAL GENERIC CHARACTER.

COROLLA polypetala. Calyx 4- seu 5-phyllus.
Bacca multilocularis, loculis polyspermis.

BLOSSOM many-petalled. Empalement 4- or 5-
leaved. Berry many-celled, with many seeds
in each cell.

SPECIFIC CHARACTER.

N Y M P H Æ A foliis sub-orbiculatis, irregulariter
dentatis, glaberrimis : lobis approximatis :
corollis rubris : radice battatis assimilata,
et multiplicante in modum istius vege-
tabilis.

Nymphæa rubra. Roxb. MSS.

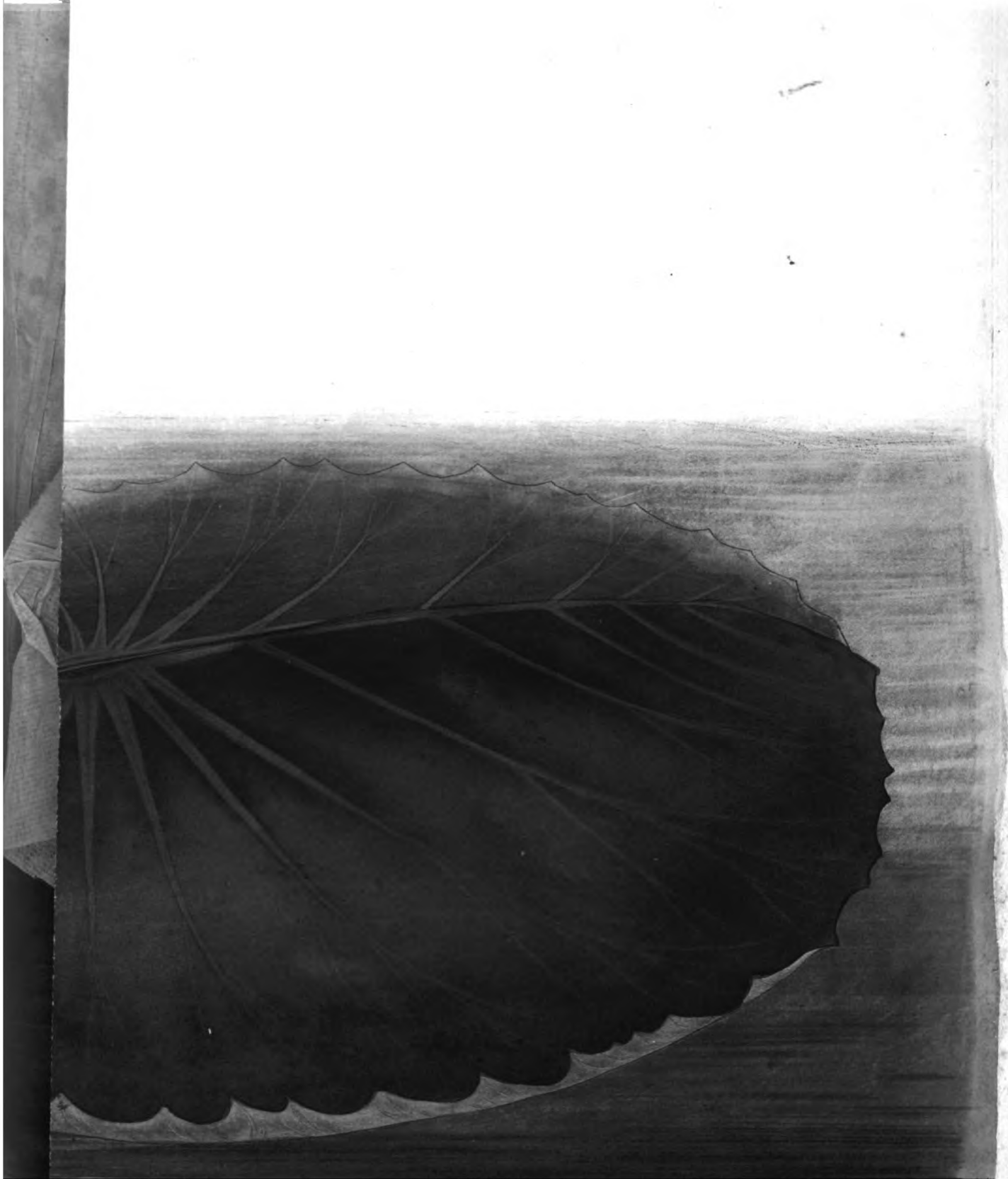
N Y M P H Æ A with nearly round leaves irregularly
toothed, and very smooth, with the lobes
approximating : blossom red : root resem-
bling that of a potatoe, and increasing like
that vegetable.

REFERENCE TO THE PLATE.

1. A chive.
2. Seed-bud and pointal.

THIS fine red aquatic is so nearly allied to the *Nymphæa Lotus*, that many consider it as only a variety ; but it certainly is specifically distinct in the colour of the flowers, as the term variety can only be applicable to those lighter or darker shades of colour that may occasionally vary by culture or climate. This *Nymphæa* is no doubt, like the *N. Lotus*, considered as a sacred plant ; but probably that species may be more highly estimated, from the emblematical purity of its fine white petals. As four or five more figures will include every species of this fine section of aquatics at present known, we shall not omit any of them, and intend, in the course of the ensuing summer, to give a figure of that most magnificent of all the species the *N. Nelumbo*.

Our figure was made from a plant in the collection of J. Vere, esq. raised in a tub of water placed in a common hot-bed ; where, notwithstanding its circumscribed situation, it flowered for the first time in this kingdom, under the care of Mr. Anderson the botanic gardener, who informs me that this species is capable of great increase from the root, whilst the *N. Lotus* affords only one solitary plant.



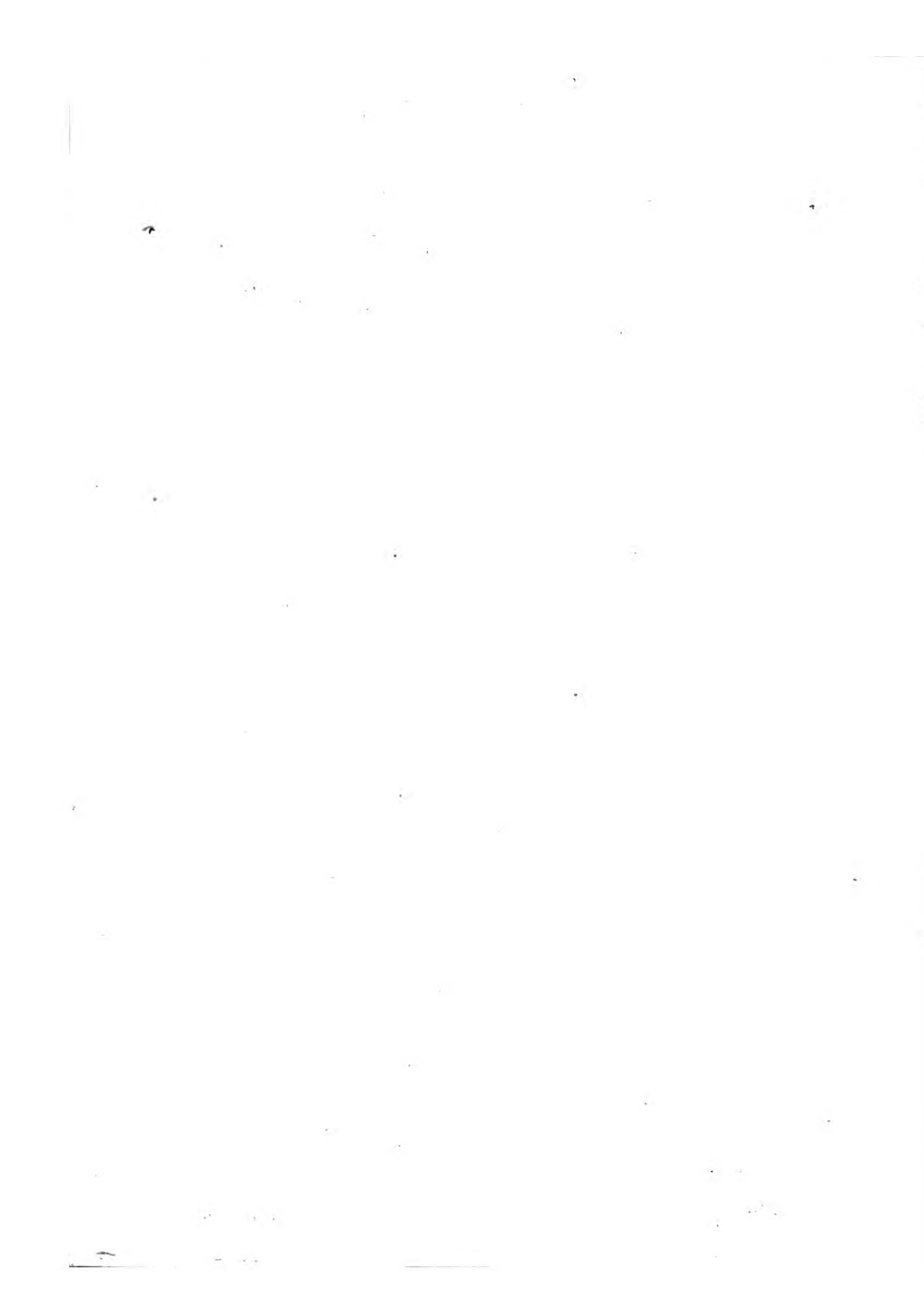


PLATE DIV.
SOLANUM SEAFORTHIANUM.
Seaforth's Solanum.

CLASS V. ORDER I.

PENTANDRIA MONOGYNIA. Five Chives. One Pointal.

ESSENTIAL GENERIC CHARACTER.

CALYX 5-fidus. Corolla rotata, limbo 5-fido, patente: tubo brevi. Antheræ oblongæ, conniventes, apice poris geminis, dehiscentes. Stigma obtusum. Bacca sub-rotunda.

EMPALEMENT 5-cleft. Blossom wheel-shaped. Border 5-cleft, spreading. Tube short. Chives oblong, leaning together, with holes in pairs at the point, and splitting. Stigma obtuse. Berry nearly round.

SPECIFIC CHARACTER.

SOLANUM caule inermi, scandente, herbaceo: foliis pinnatis, undulatis: junioribus lanceolatis: floribus in racemo, aut ramo cymoso, ab axillis foliorum: corollis carneis.

NIGHTSHADE with an unarmed stem, climbing and herbaceous. Leaves pinnated, and waved: the younger ones lance-shaped. Flowers grow in a raceme, or cymose branch, from the axillæ of the leaves. Blossom flesh-colour.

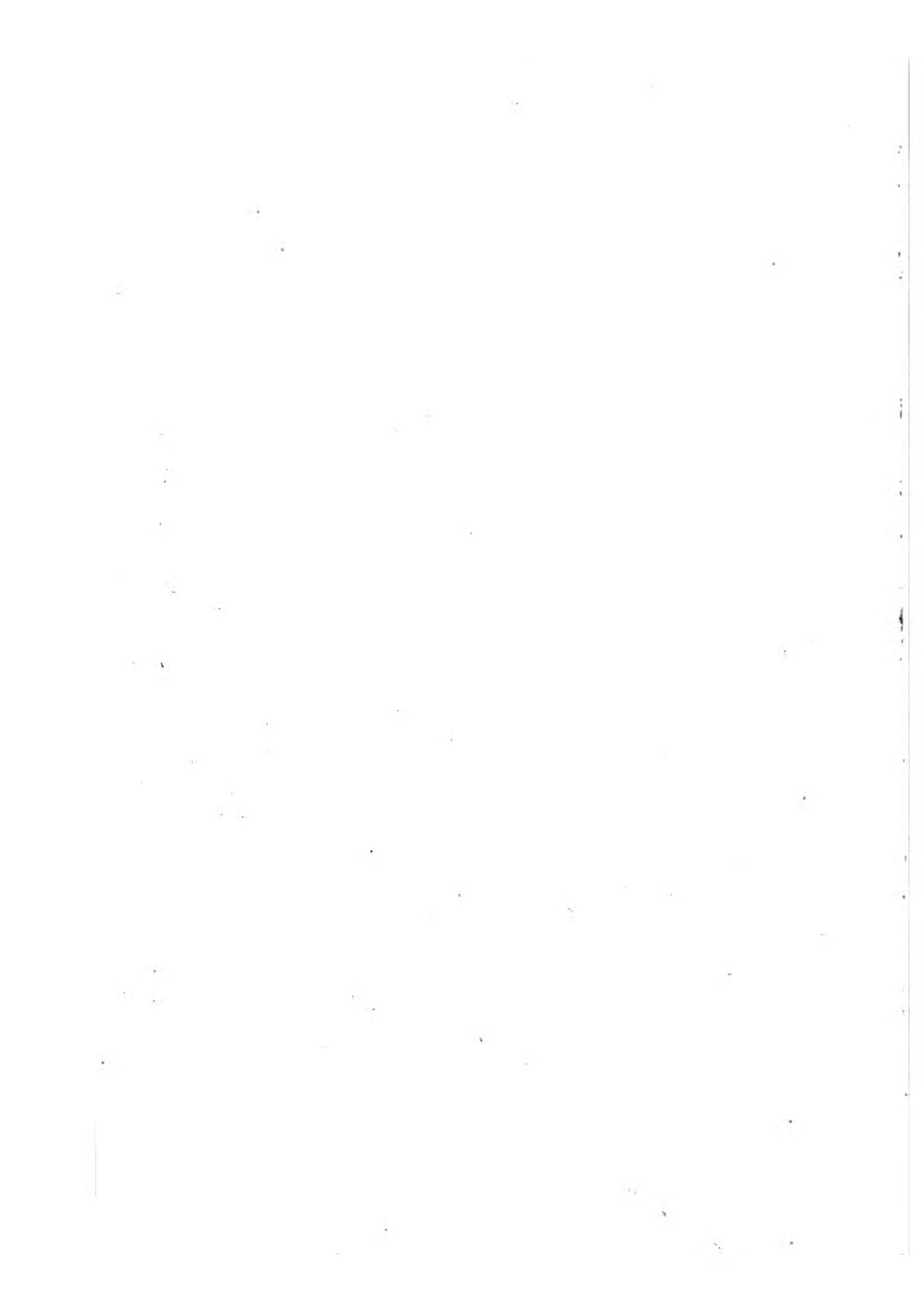
REFERENCE TO THE PLATE.

1. Empalement and pointal, summit magnified.
2. A blossom spread open.

THROUGHOUT this extended genus there are but few which possess attractions equal to this new and undescribed species of Solanum. It was introduced by Lord Seaforth from the West Indies; and although brought from so warm a climate, it succeeds best in the conservatory. It approaches nearest in its general appearance to the *S. radicans* of Linnæus; but Mr. Lambert informs me that it is not at all inclined to root, like that species. The specimen which our figure represents was sent to us in fine bloom by Mr. J. Milne, botanic gardener.



Solanum scaberrimum



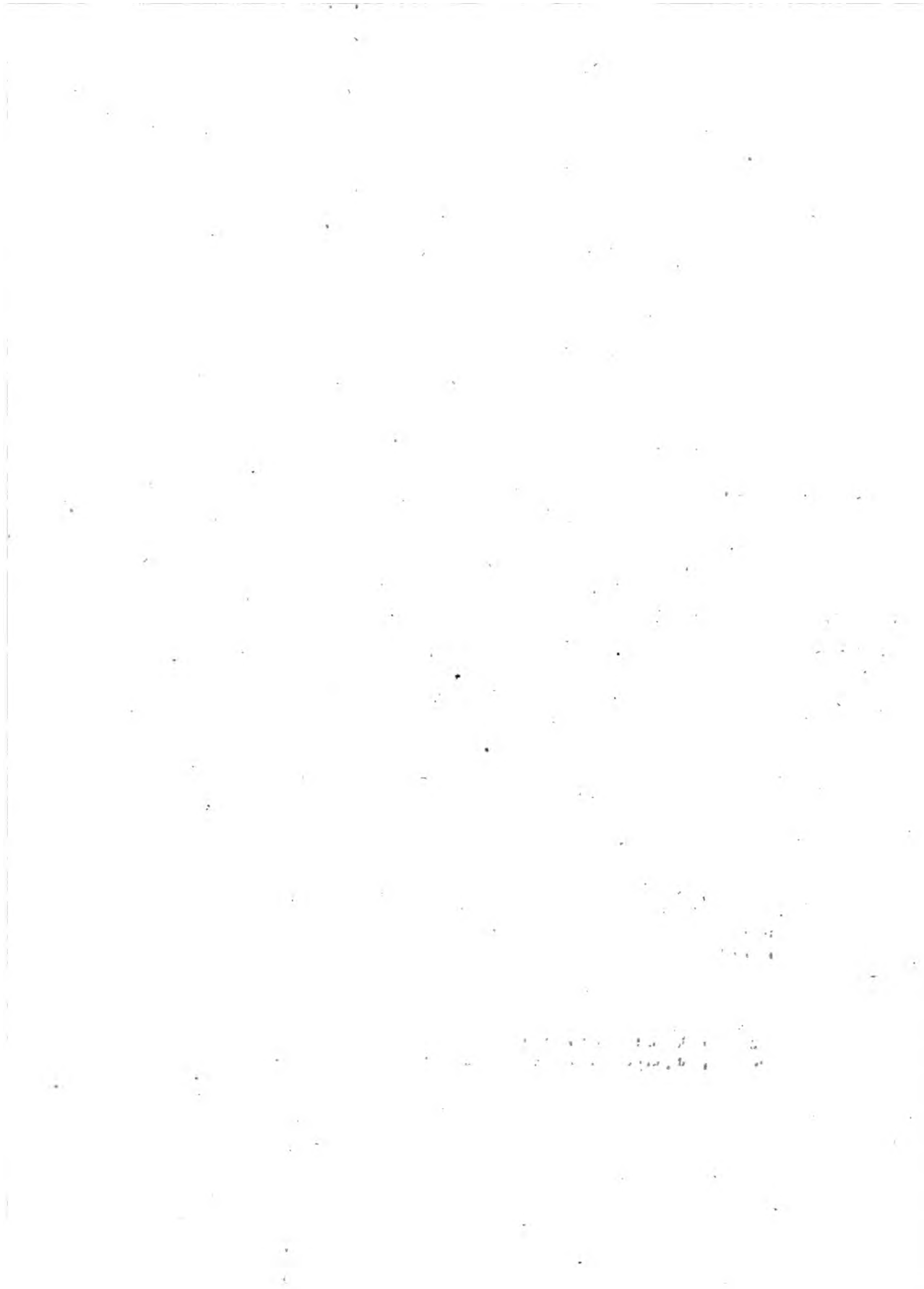


PLATE DV.
ORNITHOGALUM FLAVISSIMUM.
Yellow-flowered Star of Bethlehem.

CLASS VI. ORDER I.

HEXANDRIA MONOGYNIA. Six Chives. One Pointal.

ESSENTIAL GENERIC CHARACTER.

COROLLA 6-petala, persistens. Filamenta basi dilatata. Capsula 3-locularis. Semina subrotunda, nuda.

BLOSSOM 6-petalled, remaining. Threads widened at the base. Capsule 3-celled. Seeds roundish, naked.

SPECIFIC CHARACTER.

ORNITHOGALUM racemo longo: floribus magnis, flavissimis: bracteis membranaceis, ovato-acutis: foliis lanceolatis, reflexis.
Ornithogalum flavissimum. *Jacq. Icones*, 2. tab. 436.

STAR OF BETHLEHEM with a long spike: the flowers are large, and very yellow: the flower-prop is skinny, and pointedly egg-shaped: leaves lance-shaped, and reflexed.

REFERENCE TO THE PLATE.

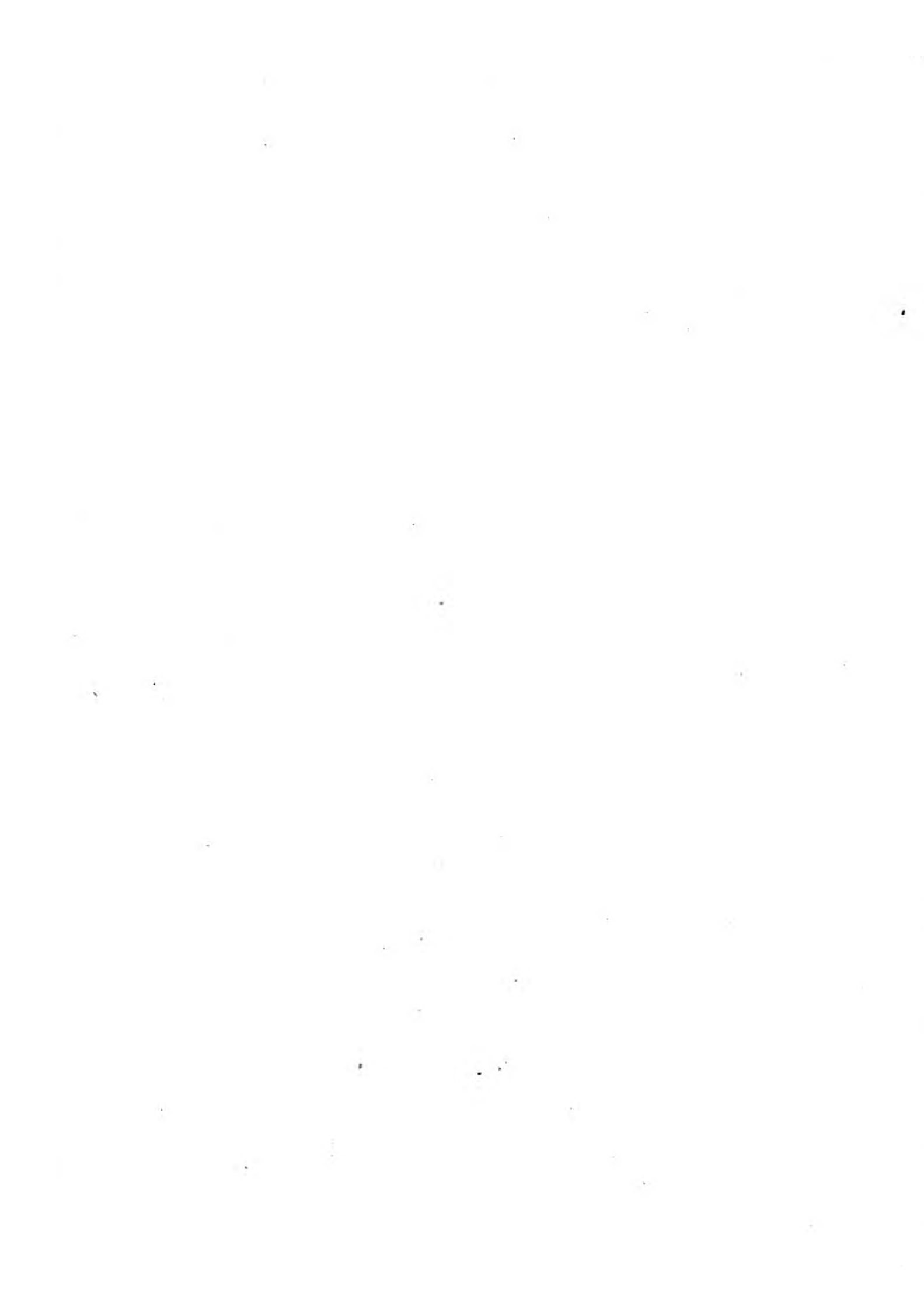
1. A bract or flower-prop.
2. Seed-bud, chives, and pointal.
3. Seed-bud and pointal, summit magnified.
4. A transverse section of the seed-bud magnified.

THIS yellow *Ornithogalum* was communicated to the author by the Hon. W. Irby, last summer, from his collection at Farnham Royal, where it was raised, we understand, from the seed of the *O. aureum*. The only figure of it extant is in the *Icones* of Jacquin. The continuance and abundance of its fine bloom may justly rank it amongst the most attractive of the genus.

ERRATUM.—In our last Number, Pl. DI, in the generic character of *Hellenia* describing the capsule, instead of *trivalvis, septo duplici inclusa*, read *e-valvis, trilocularis—valveless, three-celled*.



nithogalum. flaviflorum.



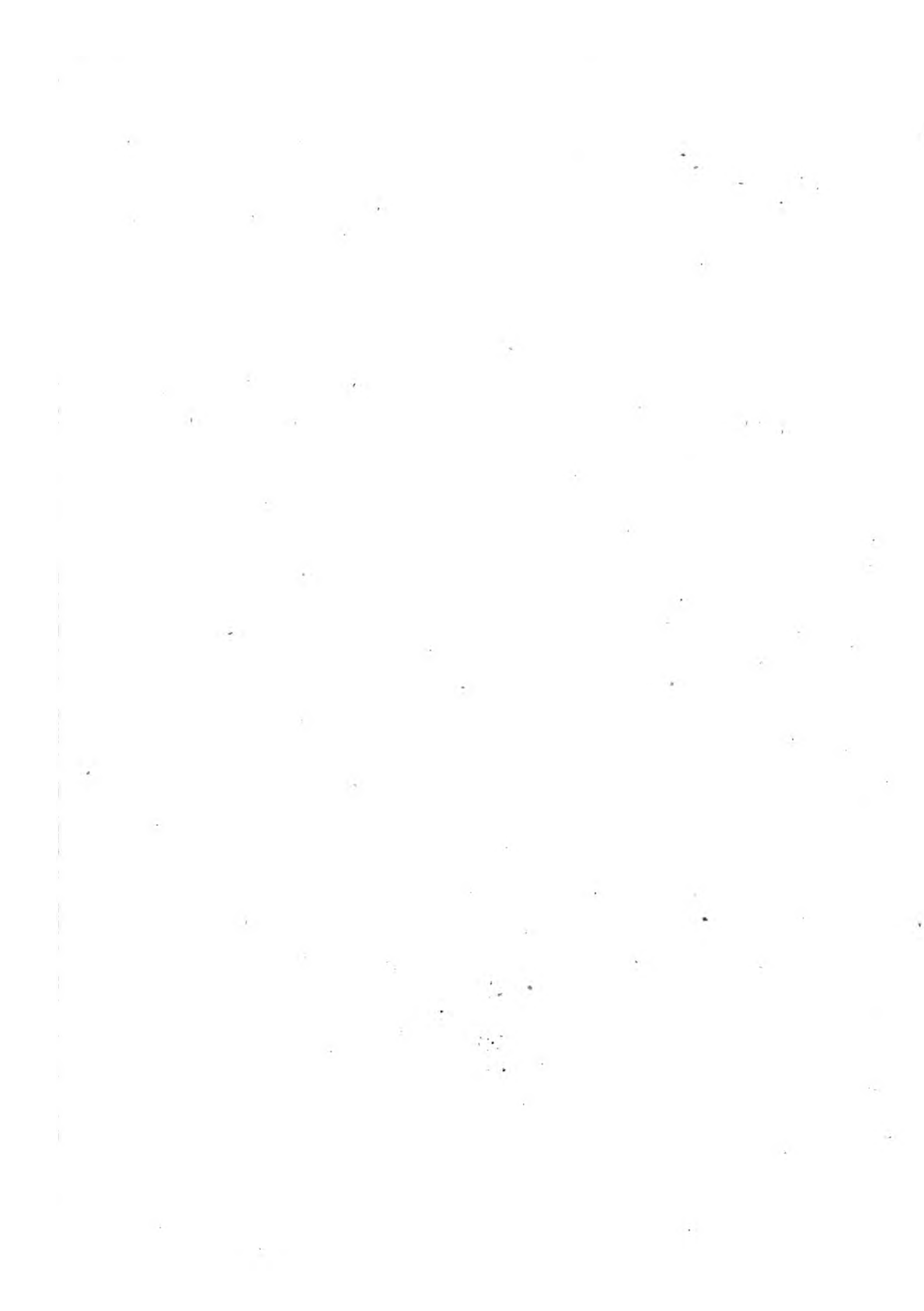


PLATE DVI.
RUELLIA CRISTATA.
Crested Ruellia.

CLASS IV. ORDER I.

TETRANDRIA MONOGYNIA. Four Chives. One Pointal.

ESSENTIAL GENERIC CHARACTER.

CALYX 5-partitus. Corolla monopetala, limbo 5-lobo, inæquali. Stamina biconjugata. Stylus filiformis. Stigma bifidum. Capsula dissepimentis dentatis, elasticis, dehiscentibus. Semina pauca.

EMPALEMENT 5-parted. Blossom one petal: border 5-lobed, unequal. Chives by pairs. Shaft thread-shaped. Summit two-cleft. Capsule with the partitions toothed, elastic, and splitting. Seeds few.

SPECIFIC CHARACTER.

RUELLIA cristata, spicis terminalibus, tetragonis: corollis coccineis: oris laciniis inæqualibus, acutis: laciniâ inferiore revolutâ: foliis sub-lanceolatis, acuminatis, undulatisque.

Justicia cristata. Jacq. Hort. Schœn. vol. iii. tab. 320.

RUELLIA with crested flowers growing in a terminal four-sided spike. Blossoms scarlet: the segments of the border are unequal and pointed: the lower segment is rolled back: the leaves are nearly lance-shaped, pointed, and undulated.

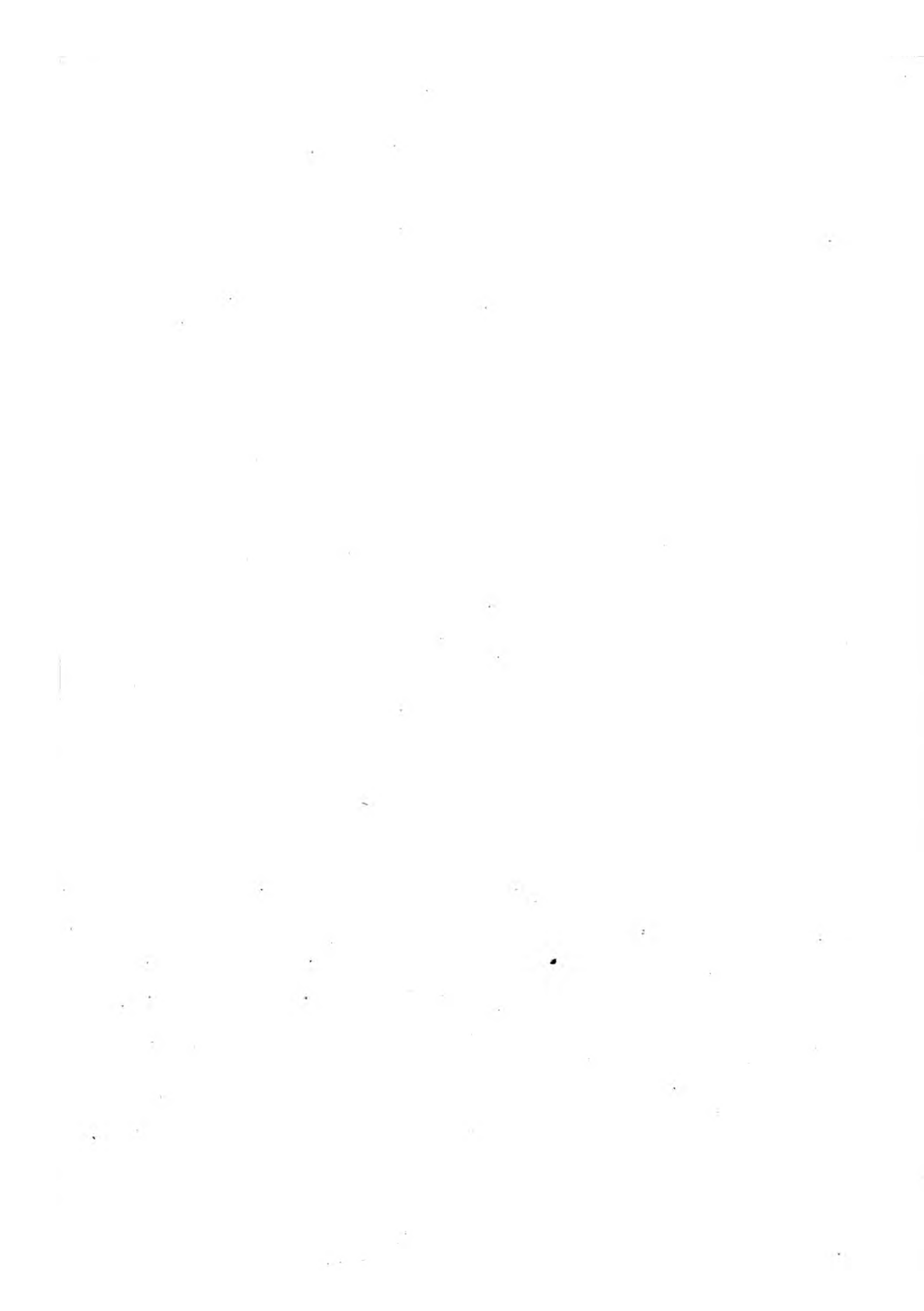
REFERENCE TO THE PLATE.

1. The empalement.
2. A blossom spread open.
3. Seed-bud and pointal, summit magnified.

OF this fine stove plant there is a very good figure in the Hortus Schœnbrunnensis of Jacquin, under the appellation of *Justicia cristata*. But finding the generic character accord much better with the genus *Ruellia*, we have, in conformity to the sexual system of Linnæus, given it under that title. Our figure represents only a side branch of the plant, whose size was congenial to the dimensions of the work; and although the centre branch would have been, like Jacquin's figure, more splendid, it would by no means have been so picturesque. It flowered for the first time in this country with A. B. Lambert, esq., and was introduced by Lord Seaforth from the West Indies.



Heliconia, cristata



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PLATE DVII.
PROTEA ABROTANIFOLIA.
Southernwood-leaved Protea.

CLASS IV. ORDER I.

TETRANDRIA MONOGYNIA. Four Chives. One Pointal.

ESSENTIAL GENERIC CHARACTER.

| | | |
|--|--|---|
| <p>COROLLA 4-fida, seu 4-petala. Antheræ lineares, petalis infra apices insertæ. Calyx proprius, nullus. Semina solitaria.</p> | | <p>BLOSSOM four-cleft, or of four petals. Tips linear, inserted into the petals below the points. Cup proper, none. Seeds solitary.</p> |
|--|--|---|

SPECIFIC CHARACTER.

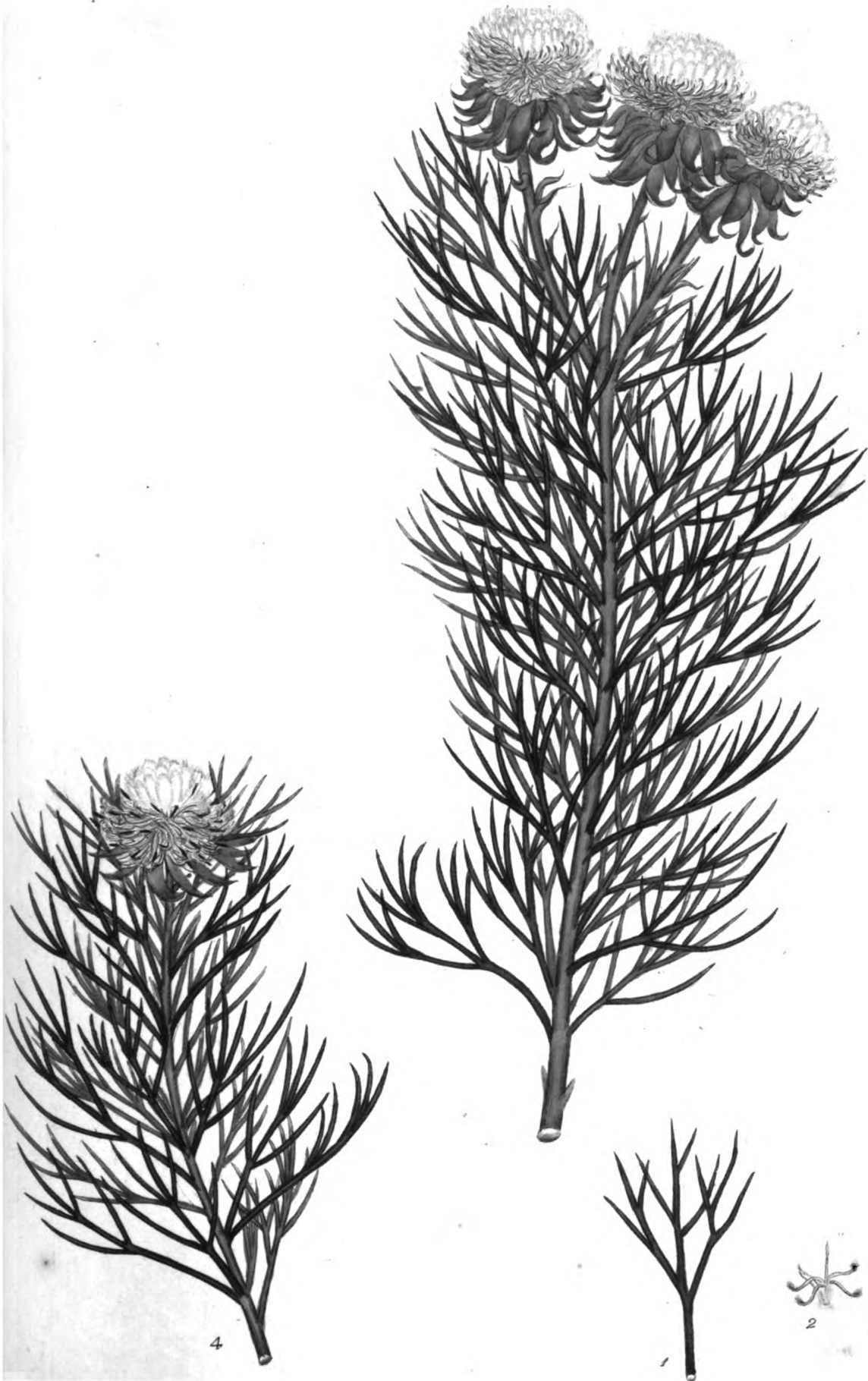
| | | |
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| <p>PROTEA foliis bipinnatis, filiformibus, glabris : floribus terminalibus, umbellatis : pedunculis longis, bracteis magnis, reflexis : corollis carneis, externe villosis.</p> <p>Habitat ad Caput Bonæ Spei.</p> | | <p>PROTEA with doubly-winged leaves, thread-shaped, and smooth : flowers terminate the branches in umbels : footstalks are long, with large reflexed floral leaves : blossom flesh-coloured, and hairy on the outer side.</p> <p>Native of the Cape of Good Hope.</p> |
|--|--|---|

REFERENCE TO THE PLATE.

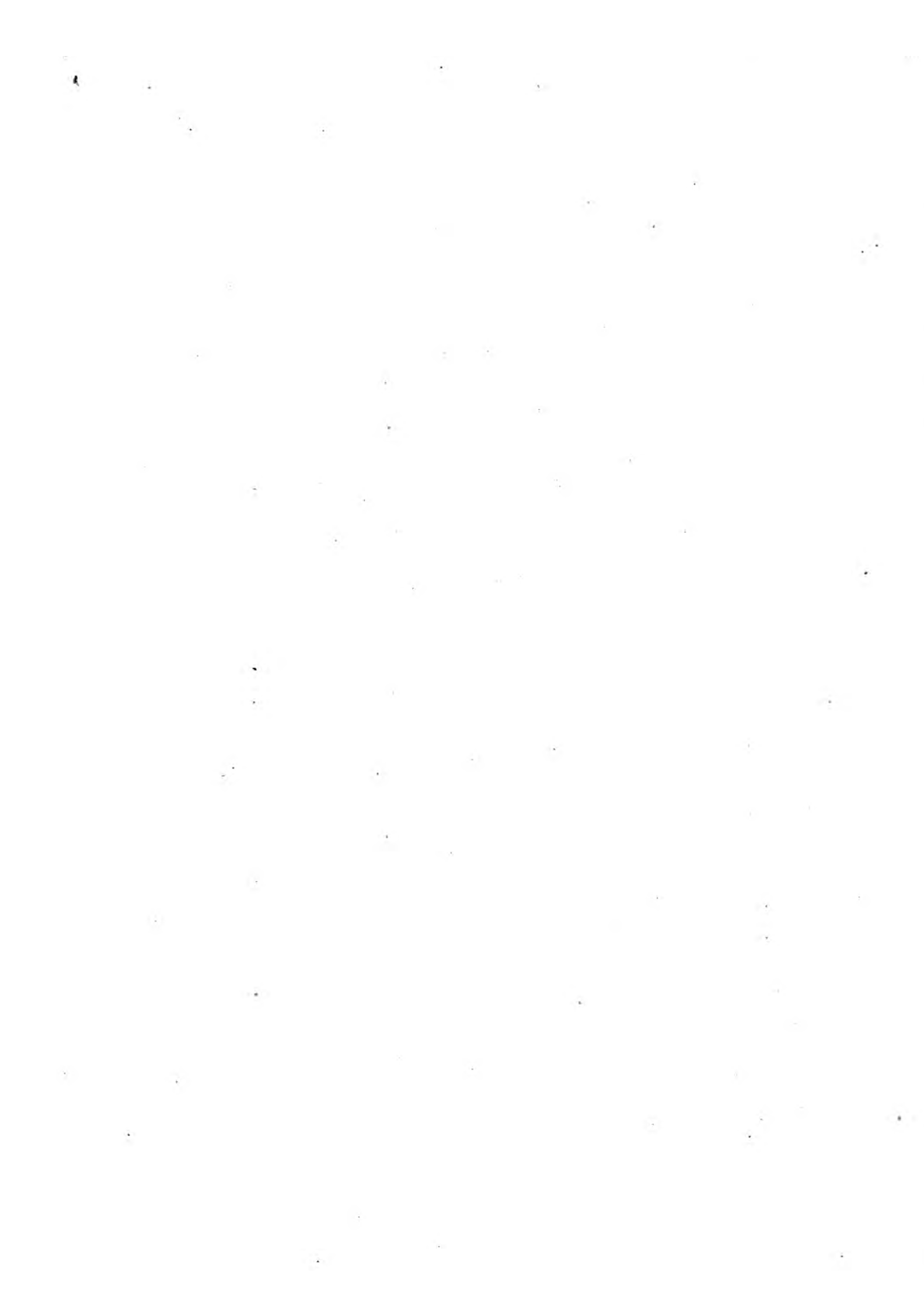
1. A leaf.
2. A flower with its bract, one tip magnified.
3. Seed-bud and pointal, summit magnified.
4. A branch of a slight variety.

THIS *Protea* is one of a fine section with small divided leaves, that very much resemble the southernwood (whence our specific title). We have already four drawings of distinct species, besides varieties, whose foliage is likewise characteristic of that shrub. On the same plate we have given part of the branch of a variety that we think bears too much resemblance to require a separate figure.

Our drawing was made last July from plants in the Hibbertian collection.



Protea abrotanifolia



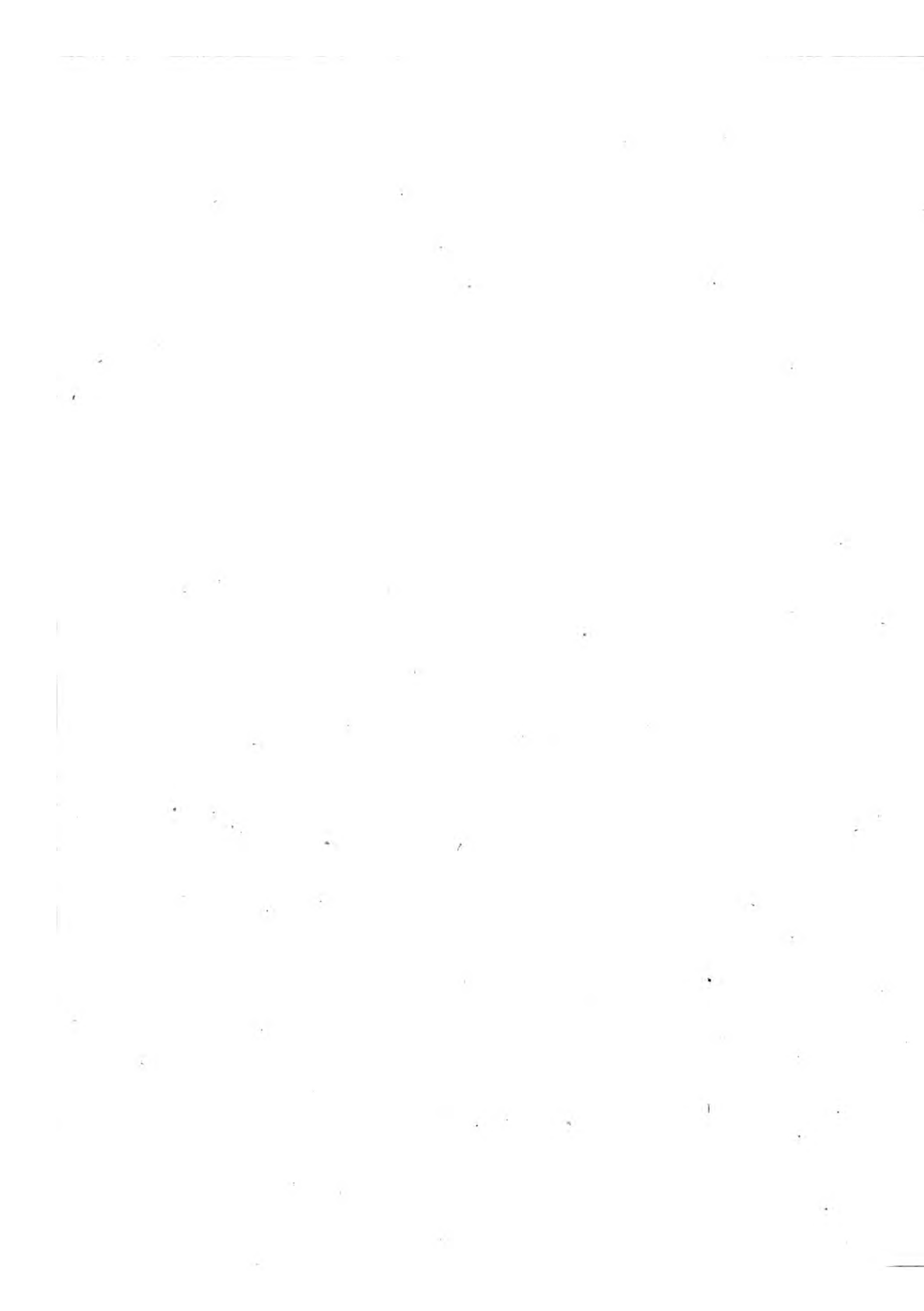


PLATE DVIII.
CACTUS GRANDIFLORUS.
Large-flowered Cereus.

CLASS XII. ORDER I.

ICOSANDRIA MONOGYNIA. About 20 Chives. One Pointal.

ESSENTIAL GENERIC CHARACTER.

CALYX monophyllus, superus, imbricatus. Corolla multiplex. Bacca monocularis, polysperma.

EMPALEMENT one-leafed, above, tiled. Blossom of many folds. Berry of one locument, many-seeded.

SPECIFIC CHARACTER.

CACTUS scandens vel repens, ramosus, articulatus, cum radiculis lateralibus: ramis sex-vel octagonis, aculeos stellatos ferentibus. Calyx radiatus, flavus: corollis albis. Flores magni, vespere expansi, odorem fragrantissimum exhalantes.

Miller's Icones, tab. 90.

CEREUS with a climbing or creeping stem, branching, jointed, with small side-roots: branches six- or eight-angled, bearing starry prickles. Empalement rayed and yellow. Blossom white. Flowers large, expanding in the evening, and breathing a most fragrant odour.

REFERENCE TO THE PLATE.

1. A flower divested of the petals, and spread open.

THIS elegant hot-house plant has been figured by several authors, and is well known by the appellation of the Night-blowing Cereus, and yet but few of Flora's lovely train, warmed by the mid-day sun's refulgent beams, in splendour can compare with this nocturnal beauty, whose brilliant flowers expand about sun-set. But, alas! too soon condemned to fade, they close up early on the following morn. Sometimes they have been found unclosed almost within an hour of noon: a circumstance that very rarely happens, as it generally displays its graceful blossoms to Cynthia's silver beams, perfuming the still cool air of midnight with its aromatic fragrance.

Our figure was taken from a plant in the collection of the Dowager Lady de Clifford at Dudley Grove, Paddington.



Cactus grandiflorus

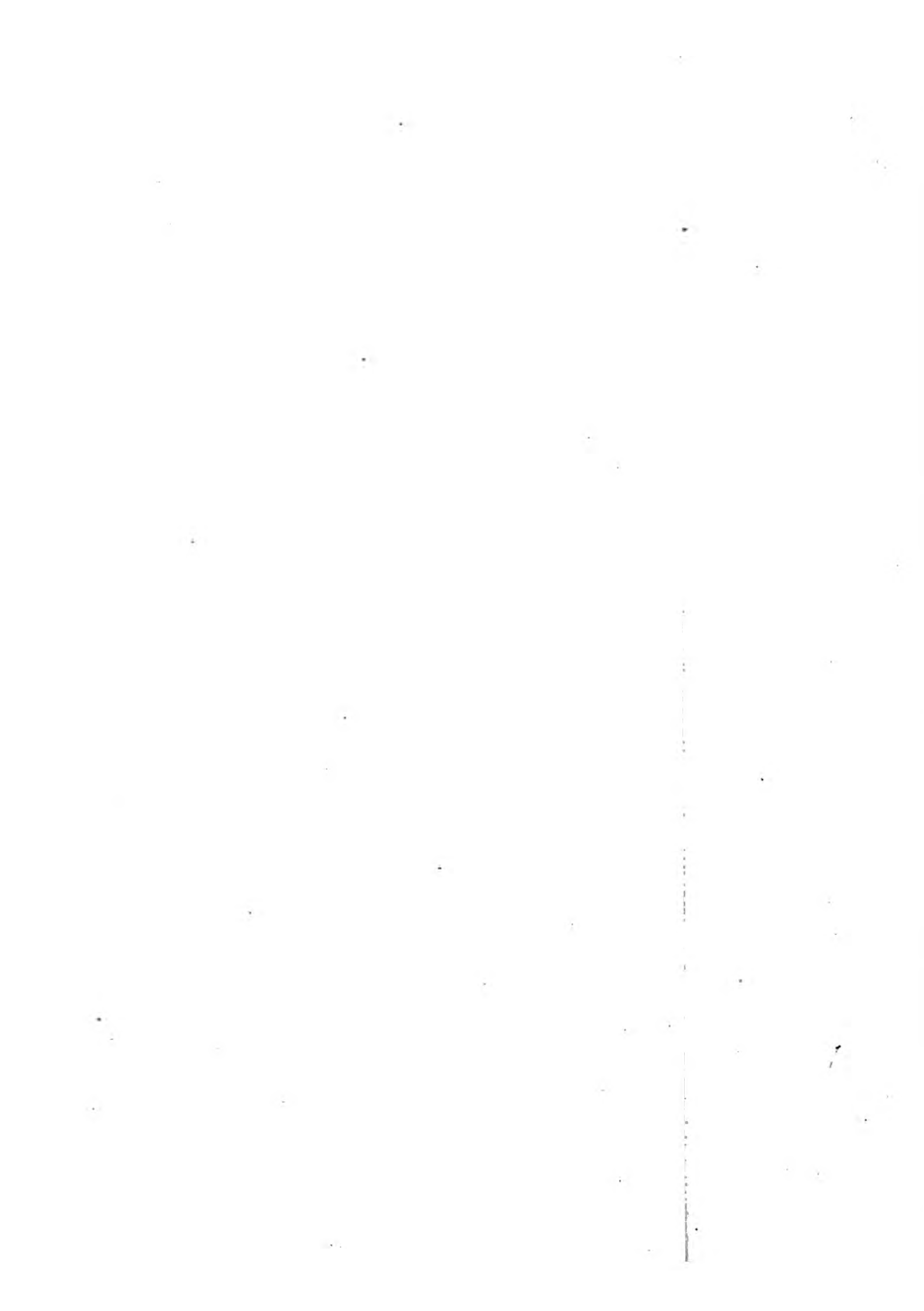


PLATE DIX.
GENTIANA FIMBRIATA.
Fringed-flowered Gentian.

CLASS V. ORDER II.

PENTANDRIA DIGYNIA. Five Chives. Two Pointals.

ESSENTIAL GENERIC CHARACTER.

CALYX monophyllus. Corolla monopetala. Capsula bivalvis, unilocularis, receptaculis duobus longitudinalibus.

EMPALEMENT one-leafed. Blossom one petal. Capsule two-valved, one-celled, with two longitudinal receptacles.

SPECIFIC CHARACTER.

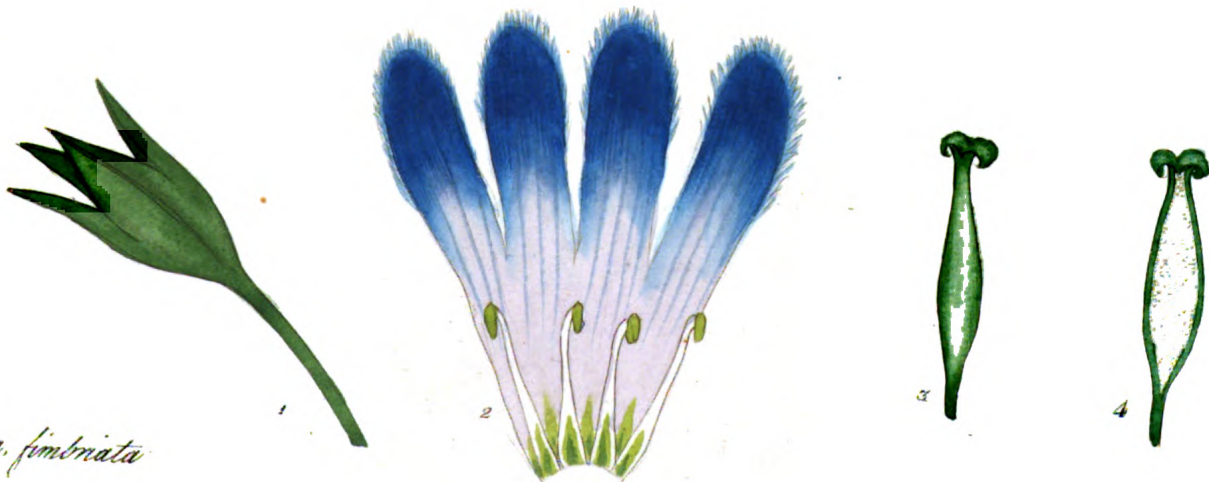
GENTIANA corollis quadrifidis, marginibus fimbriatis, colore cæruleo, in sole tantum expandentibus, spithamæis : foliis ovato-acuminatis, oppositis, alternatis.
Habitat in America boreali.

GENTIAN with blossoms four-cleft, and fringed margins, of a blue colour, expanding only in the sun, a span high, with ovate-pointed leaves opposite and alternate.
Native of North America.

REFERENCE TO THE PLATE.

1. The empalement.
2. A blossom spread open.
3. Seed-bud and pointals.
4. The same spread open.

THIS new and undescribed species of Gentian possesses many attractions. Its flowers are of a fine shining purply blue colour, and remain a long time in perfection, but only expand with the assistance of the solar ray. Our figure represents a group of seedling plants, just as we found them growing in a small pot in the nursery of Messrs. Whitley and Brames, who inform me they raised them from seed, and they flowered the second year, but think they will only prove biennial.



montana, fimbriata

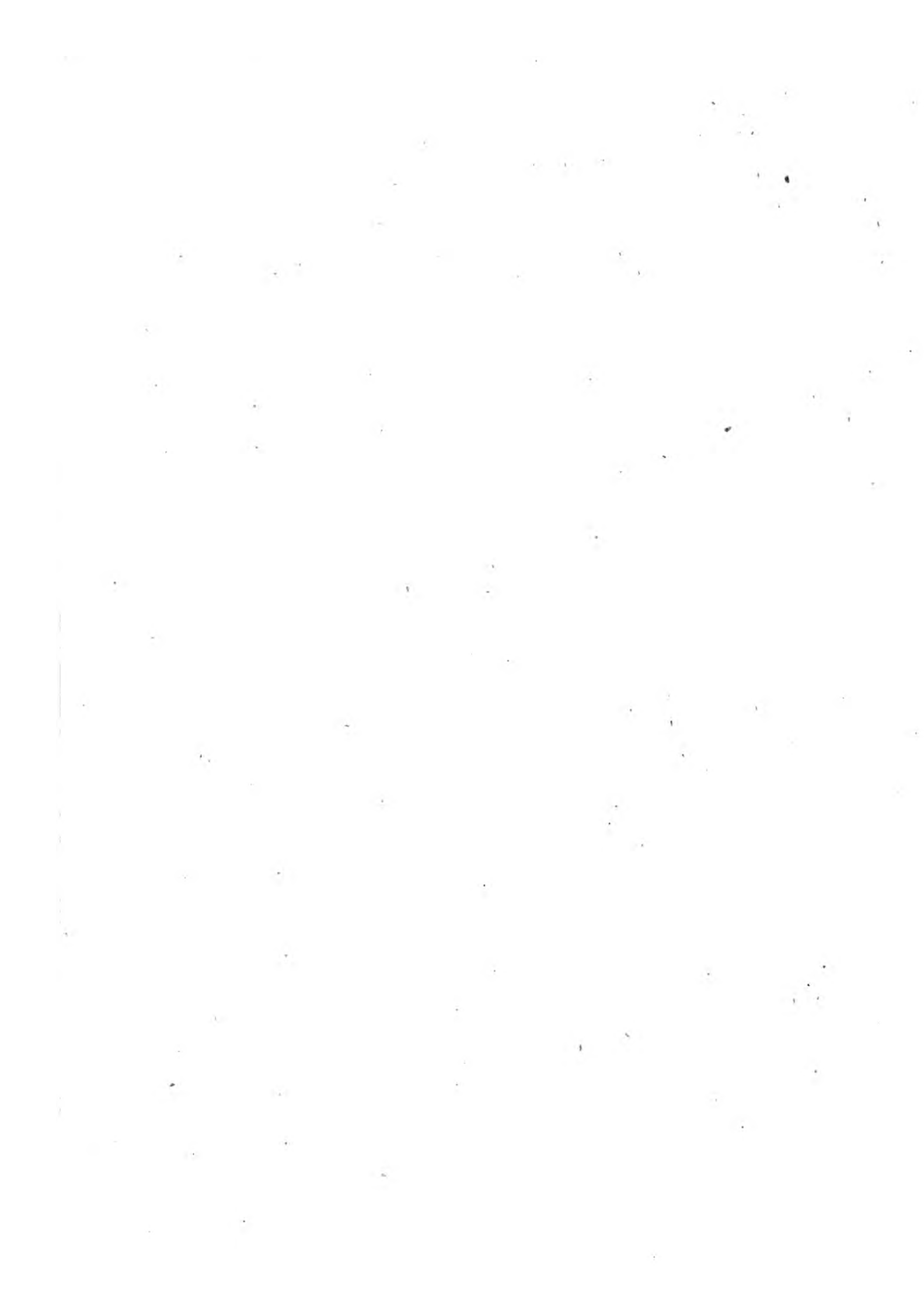


PLATE DX.
ASPALATHUS GLOBOSUS.
Round-flowering Aspalathus.

CLASS XVII. ORDER IV.

DIADELPHIA DECANDRIA. Threads in two Sets. Ten Chives.

ESSENTIAL GENERIC CHARACTER.

| | | |
|---|--|--|
| CALYX quinquefidus. Corolla papilionacea. Legumen ovatum, inaristatum, sub-dispermum. | | EMPALEMENT five-cleft. Blossom butterfly-shaped. Pod egg-shaped, beardless, nearly two-seeded. |
|---|--|--|

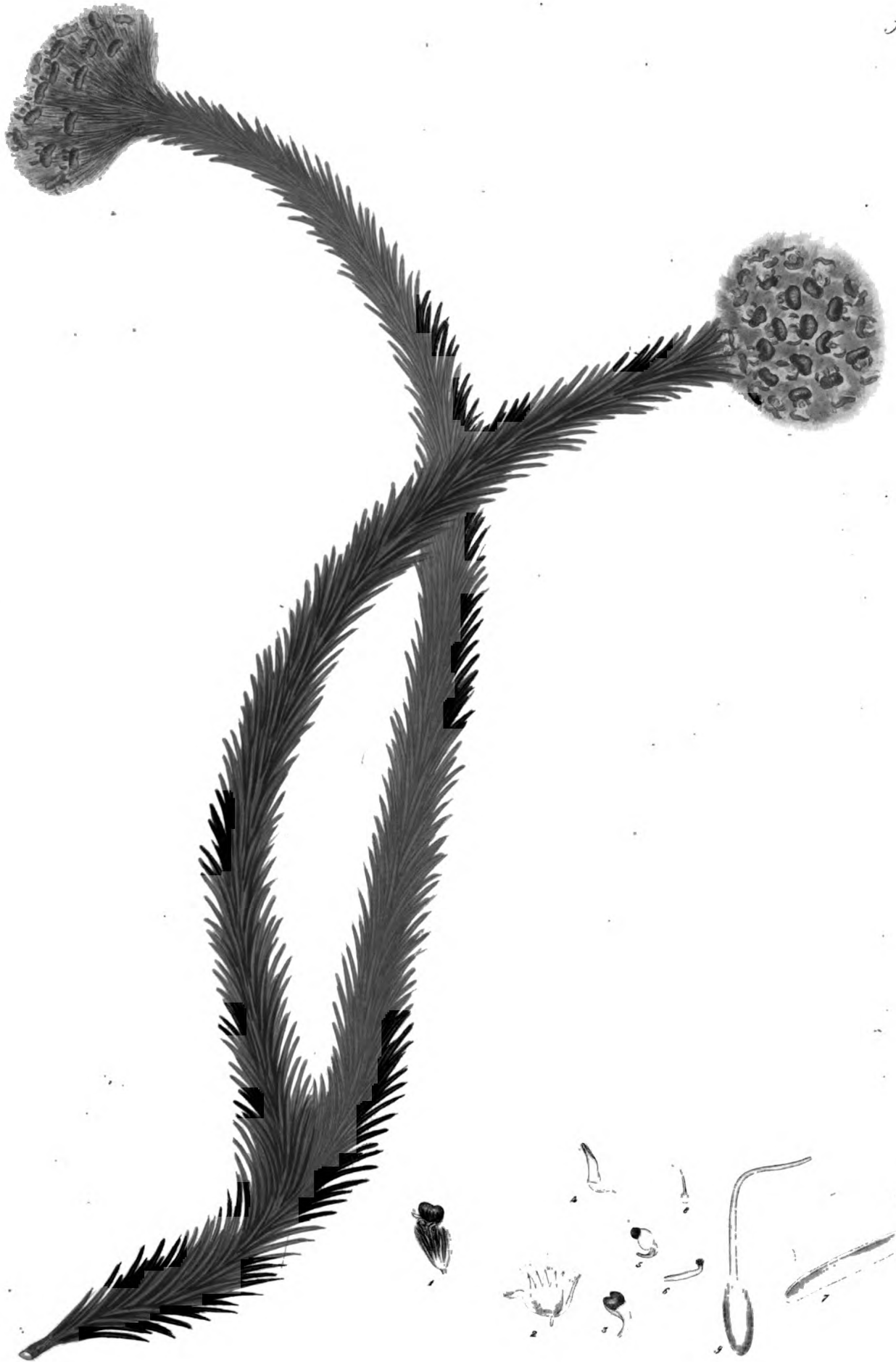
SPECIFIC CHARACTER.

| | | |
|--|--|---|
| ASPALATHUS foliis ramos vestientibus, linearibus, tomentosis: floribus terminalibus, in capitulo rotundato villosa confertis: corollis fuscis: ramis longis, gracilibus. | | ASPALATHUS with leaves clothing the branches, linear, and downy: flowers terminal, crowded together in a round woolly head: blossom brown: branches long and slender. |
|--|--|---|

REFERENCE TO THE PLATE.

1. A flower.
2. The empalement spread open.
3. The standard.
4. One of the wings.
5. The keel.
6. The chives.
7. The same magnified.
8. Seed-bud and pointal.
9. The same magnified.

THIS nondescript species of *Aspalathus* we have not seen in any collection but that of G. Hibbert, esq. where in the summer of 1801 it was in fine bloom, full three feet high, and its long pendulous branches gave it a very graceful appearance. Its compact globular heads of flowers remained a considerable time in perfection; but the close soft hair with which they were surrounded, indicated a delicacy of habit too susceptible of the damps which have since destroyed the plant, and we believe it is for the present lost to this country.



Palatrus, globosus.



PLATE DXI.
SOLANUM BETACEUM.
Beet-like Solanum.

CLASS V. ORDER I.

PENTANDRIA MONOGYNIA. Five Chives. One Pointal.

ESSENTIAL GENERIC CHARACTER.

COROLLA rotata. Antheræ subcoalitæ, apice poris geminis, dehiscentes. Bacca bilocularis.

BLOSSOM wheel-shaped. Antheræ nearly joined together, with holes in pairs at the point, and splitting. Berry two-locular.

SPECIFIC CHARACTER.

SOLANUM caule inermi, erecto, maculato, altissimo: foliis radicalibus permagnis, fœtidissimis: corollis carneis, patentibus, ad apicem sub-reflexis, qui cucullatus est.
Cavanilles Icones, vol. vi. 15. tab. 524.

NIGHTSHADE with an unarmed stem, upright, spotted, and very tall. The radical leaves are very large, and extremely fetid. Blossoms flesh-coloured, spreading, and somewhat reflexed at the point, which is hooded.

REFERENCE TO THE PLATE.

1. The empalement.
2. A blossom spread open.
3. Seed-bud and pointal.
4. A transverse section of the seed-bud magnified.

THIS gigantic plant is by far the largest species of Solanum at present known. Our figure represents the upper part of a plant that was twelve feet high, and the only one that ever flowered in this kingdom, in the collection of A. B. Lambert, esq. who informed me that the radical leaves measured fifteen inches in breadth and twenty in length. There is but one figure of it extant, and that is in the *Icones* of Cavanilles, who knew not whence it was indigenous: but it is supposed to be a native of South America. It thrives best against the shelter of a south wall in summer, but in winter requires the protection of the green-house. We have seen two plants of it in the collection at Holland-house, the enormous size of whose foliage then indicated an equal magnitude with our plant when they arrive at a flowering state. At present it is very scarce, and likely so to continue from the extreme fetidity of the foliage. Upon burning a piece of the stalk, it displayed such a nitrous appearance as indicated it to be very strongly impregnated with saltpetre.



Colanum, betaceum

100

PLATE DXII.
PROTEA PINNATA.

Winged-leaved Protea.

CLASS IV. ORDER I.

TETRANDRIA MONOGYNIA. Four Chives. One Pointal.

ESSENTIAL GENERIC CHARACTER.

| | | |
|---|--|--|
| COROLLA 4-fida, seu 4-petala. Antheræ lineares, petalis infra apices insertæ. Calyx proprius, nullus. Semina solitaria. | | Blossom four-cleft, or of four petals. Tips linear, inserted into the petals below the points. Cup proper, none. Seeds solitary. |
|---|--|--|

SPECIFIC CHARACTER.

| | | |
|---|--|--|
| PROTEA pinnata: floribus glomeratis, capitatis, terminalibus: corollis rubris, pilosis. | | PROTEA with winged leaves: flowers grow in round terminal heads: blossoms red and hairy. |
| Habitat ad Caput Bonæ Spei. | | Native of the Cape of Good Hope. |

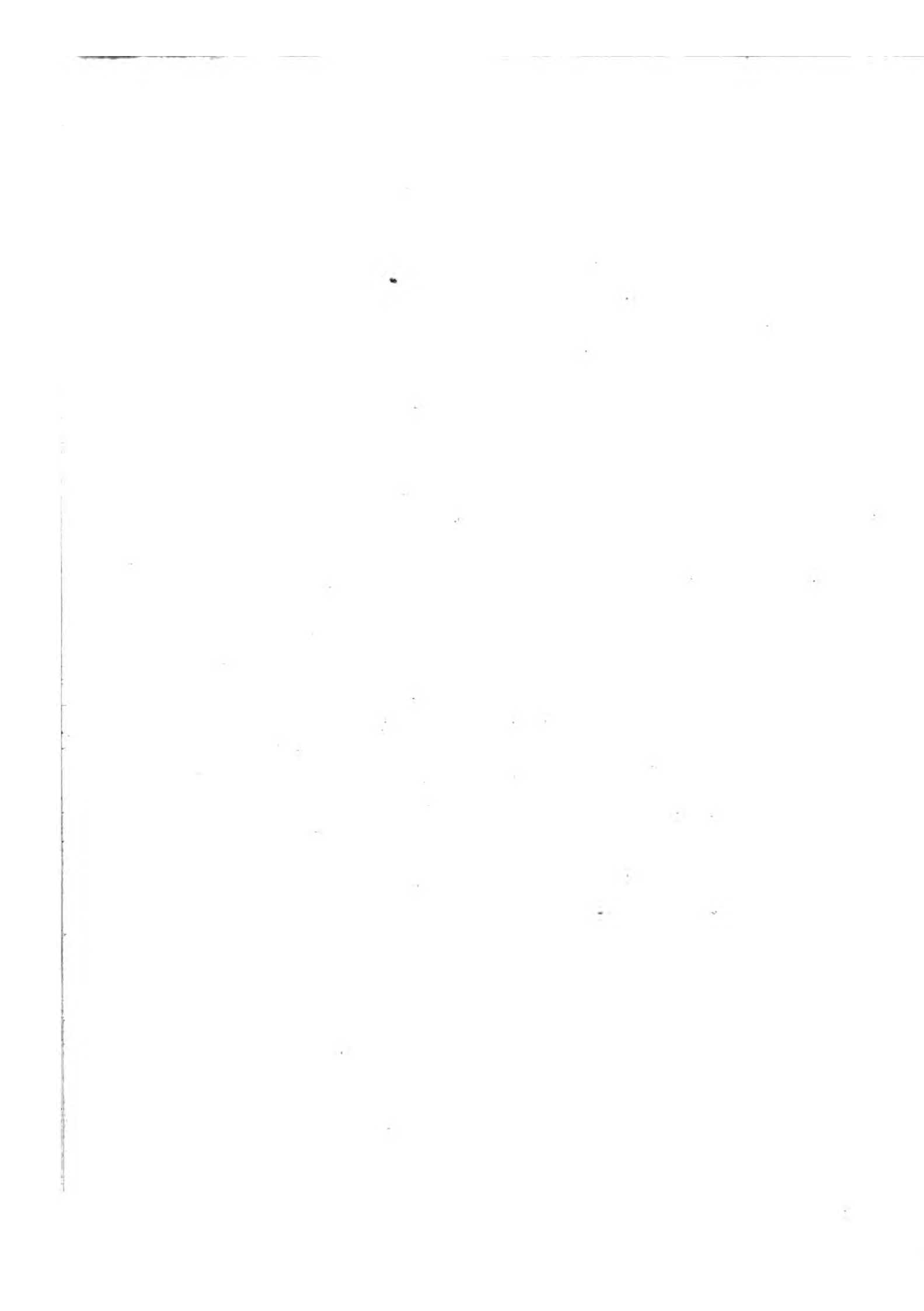
REFERENCE TO THE PLATE.

1. The flower prop.
2. A blossom with one tip magnified.
3. Seed-bud and pointal, summit magnified.

THIS new species of Protea resembles in its flowers the *P. glomerata*, in its foliage the *P. argentiflora*, but altogether is very different from either. Like most of the genus, it is slow in growth, and remains a long time in perfection. Our drawing was made at the Hibbertian collection the summer before last. We also observed it again last year, very near unfolding its flowers; but being later in the autumn than usual, most probably prevented their expansion. We are inclined to think this species is rather tender, and, like too many of this extensive family, requires great care and attention to preserve: a circumstance that most likely prevents their being in that request which their beauty and versatility would otherwise command.



Protea, pinnata



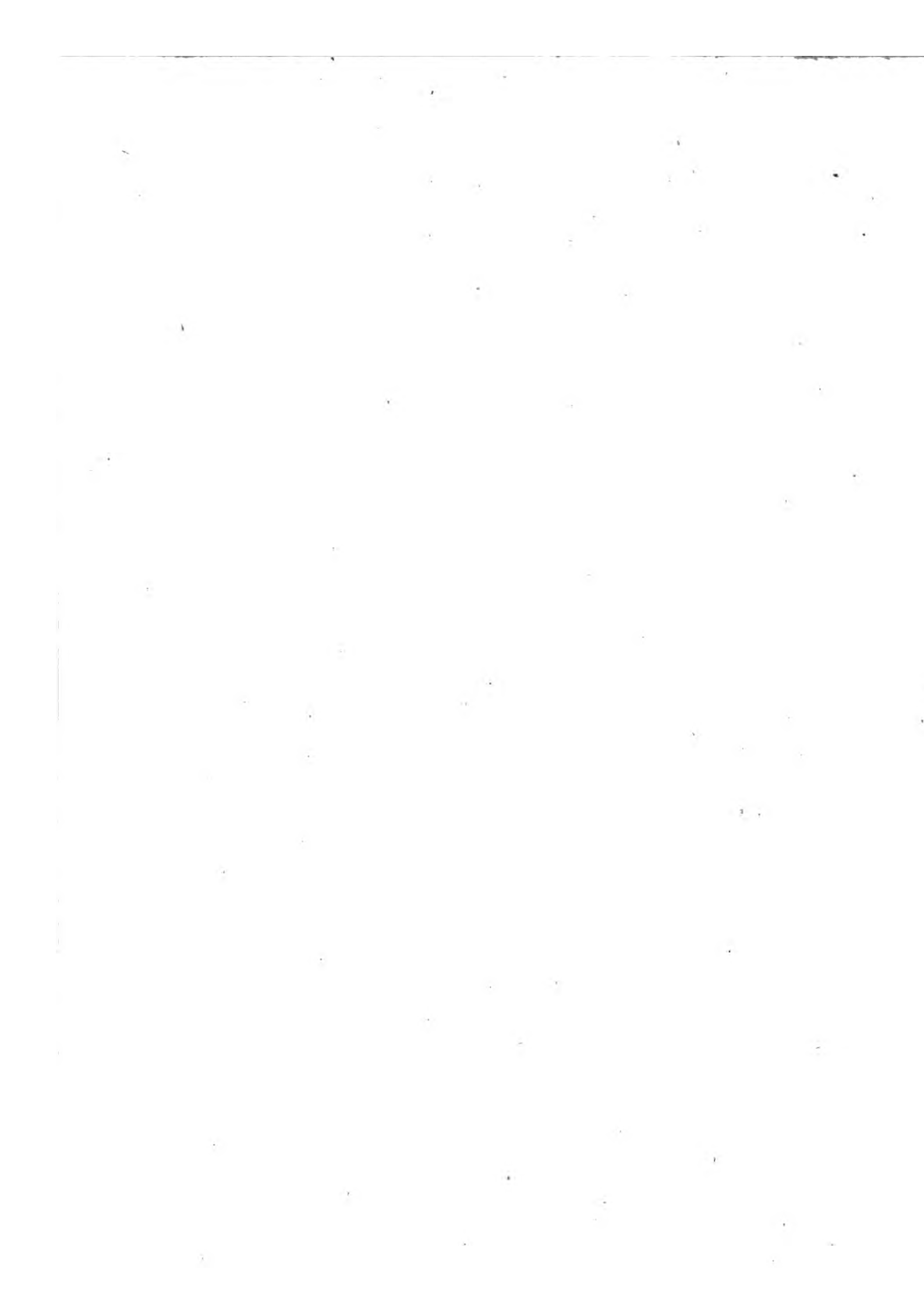


PLATE DXIII.
 CACTUS HEXAGONUS.
Great Torch Thistle.

CLASS XII. ORDER I.

ICOSANDRIA MONOGYNIA. About 20 Chives. One Pointal.

ESSENTIAL GENERIC CHARACTER.

CALYX monophyllus, superus, imbricatus. Corolla multiplex. Bacca monocularis, polysperma.

EMPALEMENT one-leaved, above, tiled. Blossom of many folds. Berry of one loculation, many-seeded.

SPECIFIC CHARACTER.

CACTUS erectus, altissimus, maximus, sex- et octagonus, angulis distantibus, aculeos stellatos ferens. Calyx tubulosus, viridis: corollis radiatis, albis: petalis exterioribus læviter purpureis.

CACTUS with an upright stem, tall and large, six- and eight-sided, angles distant, bearing starry prickles. Empalement tubular, and green. Blossom rayed, and white: the outer petals slightly tinged with purple.

Habitat in Surinamo.

Native of Surinam.

Cactus hexagonus. Willd. *Sp. Pl.*

REFERENCE TO THE PLATE.

1. A flower divested of the petals, and cut open to the base of the tube.
2. The seed-bud cut transversely.
3. One of the side shoots.
4. Miniature figure of the plant.

No genus of plants more remarkable has yet been discovered than that to which our present subject belongs, whether we consider their simple succulent structure, strange diversity of form and habit, or the geometrical manner of their growth and disposition of their spines. Some of them, like the *Opuntia* and *Ficus Indica*, grow like figs or cucumbers stuck one upon another; others, like *C. curasavicus*, resemble a little cushion stuck full of pins with the points outwards; the *C. Melocactus* and *mammillaris* are like melons covered with prickles: one, the *moniliformis*, has globular joints: the *C. Tuna*, (which Jacquin in his History of the Plants of America informs us is planted in the Island of St. Eustatius round their towns as fortifications,) the *coccinifer*, and some others, have compressed ones: in *C. Phyllanthus* they are two-edged: we have *Cactus triangularis*, *tetragonus*, *pentagonus*, and the *hexagonus* now figured, but which varies occasionally from 6 to 8: we also have 7- 8- 9- 10- 14- and 15-angled species, and even their spines are regularly disposed in quincunxes.

Monsieur Thiery, in his Voyage à Guaxaca, informs us that in Mexico he found whole forests of the *Cactus* composed of 8 or 10 different species, from 40 to 50 feet high, and some of them 5 or 6 feet in circumference. Woe to the unfortunate traveller who is under them in a storm, when their thorny tops are dashed to the ground! his destruction is inevitable. In Mexico and Campeachy, not only the fruits but the young shoots of most of the species of *Cacti* are eaten: ragouts are also made of the buds and unopened flowers: even their seeds are made into bread, and that of the smaller sorts (as *C. mammillaris*) into tarts; of which Monsieur Thiery says he had tasted, and they were excellent. With the fruit of *C. Pitahiaba* and that of *C. Tuna* he supported himself when almost famished in traversing the sandy deserts. Professor Jacquin also informs us, that the fruits of all the species he found in America were eaten by the natives. The arts are likewise much indebted to the genus *Cactus*, as the cochineal insect (so essential in the formation of our fine lake and carmine colours) can only be bred upon the *coccinifer* and some other species of *Cacti*.

Our figure represents a plant that flowered in the hot-house of Major Leathes at Bury St. Edmunds. The living specimen, accompanied with an accurate miniature representation of the plant, was obligingly communicated by the Rev. G. R. Leathes, who informs me that it was 17 feet high; that the bend at the top was owing to a want of room in its ascent, which subverted its otherwise naturally erect posture; that it began to flower in July, expanding about 5 in the afternoon, and was in the greatest perfection at midnight: but as the autumn advanced the flowers opened later and later, till at last in the month of October (by which time at least 30 had been produced) they did not open till 9 or 10 o'clock in the morning. It is increased by the side shoots, whose absence adds vigour to the plant, which is as hardy as any of the species, and may be kept in a green-house, but will not flower without the assistance of the hot-house, and even then is very rarely to be found in bloom.



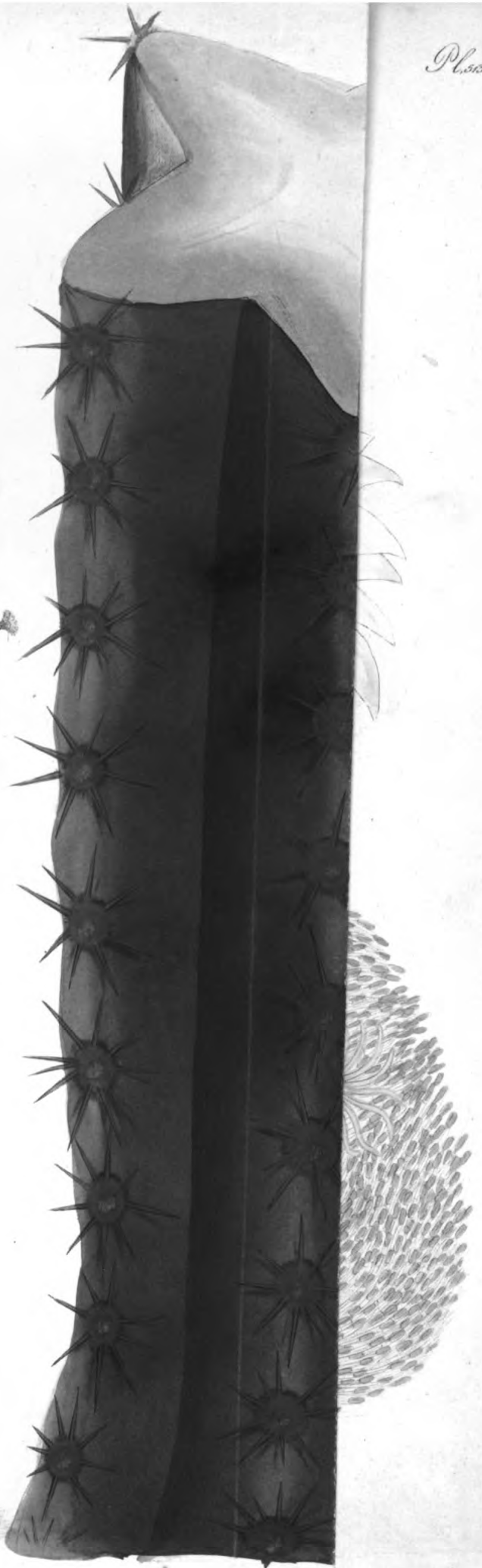
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4



Cactus, hexagonus

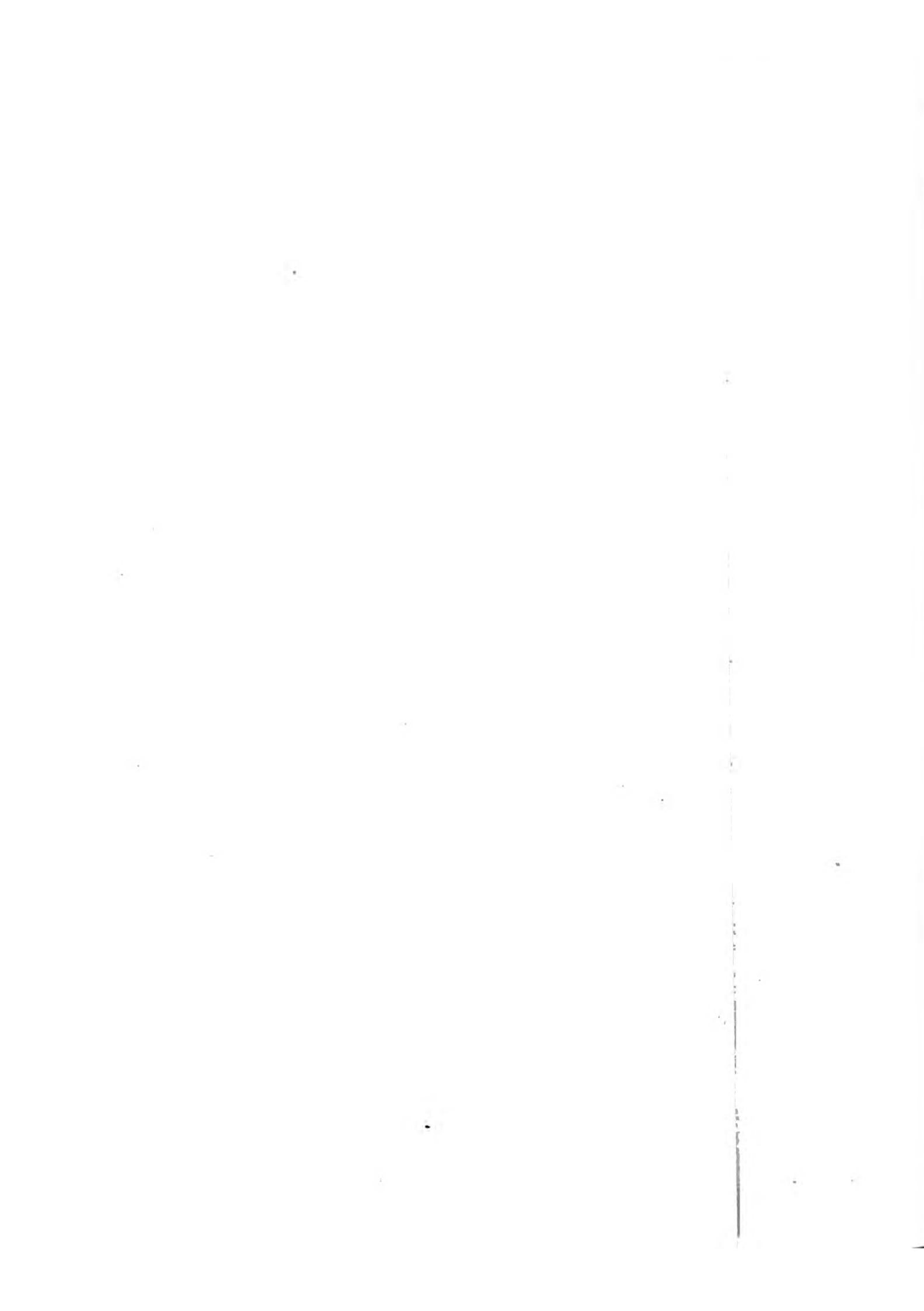




PLATE DXIV.
PÆONIA ANOMALA.
Anomalous-leaved Pæony.

CLASS XIII. ORDER V.

POLYANDRIA PENTAGYNIA. Many Chives. Five Pointals.

ESSENTIAL GENERIC CHARACTER.

CALYX 5-phyllus. Petala 5. Styli 0. Capsulæ polyspermæ. || CUP 5-leaved. Petals 5. Pointal none. Capsules many-seeded.

SPECIFIC CHARACTER.

PÆONIA foliis biternatis, multipartitis: foliolis lanceolatis, undulatis, glabris: corollis læte purpureis, depressis: capsulis glabris. || PÆONY with biternate leaves, many-parted. Leaflets lance-shaped, waved, and smooth. Blossom of a bright purple, depressed. Capsules smooth.

Habitat in totâ Sibiria. || Native throughout Siberia.

REFERENCE TO THE PLATE.

1. The empalement shown from the outer side.
 2. Seed-buds, chives, and pointals.
-

Our figure represents a fine and at present very rare species of Pæony, not only ornamental in its flowers, but useful in its roots, which are eaten by the Mongolians in Tartary, at their meals, as vegetables. It flowered for the first time in this country in the month of July 1807 in the garden of Mr. J. Bell, near Brentford.



Paeonia anomala

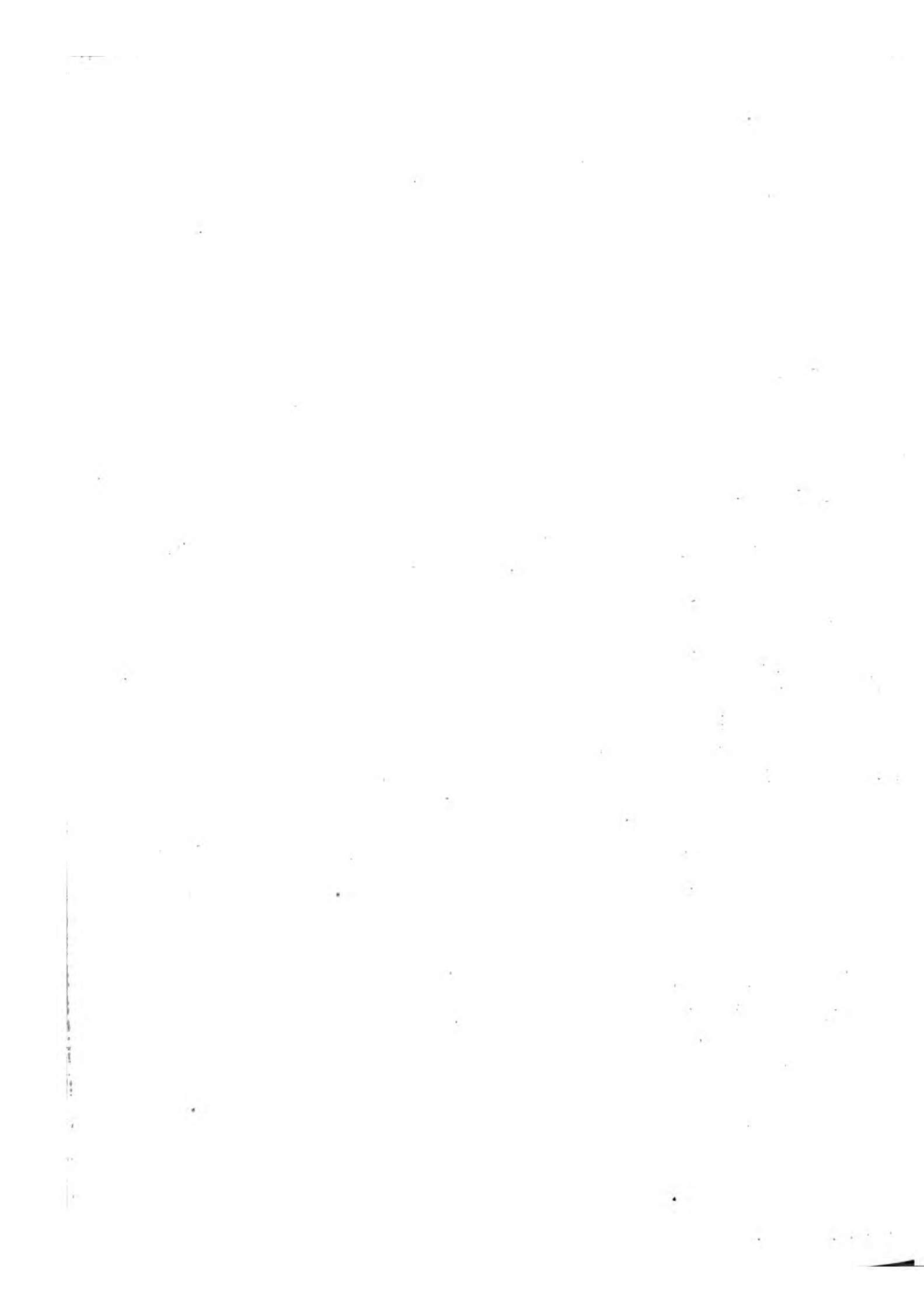


PLATE DXV.
CYNANCHUM MUCRONATUM.
Mucronate-leaved Cynanchum.

CLASS V. ORDER II.

PENTANDRIA DIGYNIA. Five Chives. Two Pointals.

ESSENTIAL GENERIC CHARACTER.

CONTORTUM. Nectarium cylindricum, quin-
quedentatum.

|| CONTORTED. Honey-cup cylindrical, five-
toothed.

SPECIFIC CHARACTER.

CYNANCHUM caule scandente, piloso: foliis
sub-cordatis, apice mucronatis: floribus
axillaribus, in umbellis proliferis: corollis
purpureis et virescentibus: oris laciniis
acutis, tortis, reflexis.

Habitat in Insula Trinidada.

CYNANCHUM with a hairy climbing stem. Leaves
nearly heart-shaped, with a mucronated
end. Flowers axillary, in proliferous um-
bels. Blossoms purple and greenish. Seg-
ments of the border pointed, twisted, and
bent back.

Native of the Island of Trinidad.

REFERENCE TO THE PLATE.

1. The empalement.
2. The blossom spread open.
3. The parts of fructification magnified.
4. The outer scale of the honey-cup.
5. The inner of the same.
6. The seed-bud, shaft, summit and chives, magnified.

THIS handsome new species of *Cynanchum* was introduced by Lord Seaforth, who informs us that it is a native of the Island of Trinidad. It flowered with A. B. Lambert, esq. at Royston House, last June, for the first time in England, and is not as yet in any other collection. It is a very free grower, running to a great length, with many umbels of flowers, which succeed each other during most part of the summer.



Cynanchum, microneatum

PLATE DXVI.
ASTRAGALUS VILLOSUS.
Hairy Astragalus.

CLASS XVII. ORDER IV.

DIADELPHIA DECANDRIA. Two Brotherhoods. Ten Chives.

ESSENTIAL GENERIC CHARACTER.

LEGUMEN plerumque biloculare, gibbum. Se- || A POD mostly two-celled, bunched. Seeds in
mina biserialia. || two rows.

SPECIFIC CHARACTER.

ASTRAGALUS caule humili villosus : foliis pinna- || ASTRAGALUS with a low hairy stem. Leaves
tis : foliolis 20-30, oblongis, geminis, vil- || winged. Leaflets 20 to 30, oblong, in pairs,
losis : petiolis longissimis, villosis : floribus || and villous. Footstalk of the leaves very
aggregatis viride flavis : leguminibus ob- || long, and hairy. Flowers in bunches, of
longis, lanatis. || a greenish yellow. Pod oblong, and woolly.

REFERENCE TO THE PLATE.

1. The empalement.
2. The standard.
3. One of the wings.
4. The keel.
5. The chives.
6. The same spread open.
7. Seed-bud and pointal.
8. The same shown from the under side.

THE figure of this handsome hardy perennial shrub was delineated from a plant in the collection of J. Swainson, esq. at Twickenham, where it was raised from seed received from Vienna in the year 1805, under the title of *Astragalus exscapus* : but upon comparison with the figures extant of that species, we could not with propriety rank it under that denomination, especially as it bears as much or more resemblance to some of the surrounding species of that extensive family, one hundred and seventy-four of which are already enumerated by Willdenow. It is a plant of very humble growth, but by no means stemless, and produces flowers in abundant succession during the months of July and August.



Astragalus villosus

PLATE DXVII.
PROTEA IMBRICATA.
Imbricated-leaved Protea.

CLASS IV. ORDER I.

TETRANDRIA MONOGYNIA. Four Chives. One Pointal.

ESSENTIAL GENERIC CHARACTER.

COROLLA 4-fida, seu 4-petala. Antheræ lineares, petalis infra apices insertæ. Calyx proprius, nullus. Semina solitaria.

BLOSSOM four-cleft, or of four petals. Tips linear, inserted into the petals below the points. Cup proper, none. Seeds solitary.

SPECIFIC CHARACTER.

PROTEA foliis imbricatis, lanceolatis, nervosis, pilosis: floribus terminalibus, confertim capitatis, villosis.

Habitat ad Caput Bonæ Spei.

Thunb. Diss. 45. t. 5. f. 2.

PROTEA with imbricated leaves, lance-shaped, nerved, and hairy: flowers terminal, in crowded heads, and hairy.

Native of the Cape of Good Hope.

REFERENCE TO THE PLATE.

1. A leaf magnified.
2. An umbel of flowers.
3. A chive magnified.
4. Seed-bud and pointal.

THIS Cape species is described and figured by Thunberg in his Dissertation on the genus Protea. It is rather a tender plant, and flowers at first very sparingly; which is the case with almost all this tribe for the first year or two: after they are more familiarized to our climate they become much more prolific. We have seen native specimens of this species abundant in flowers terminating every branch.

Our figure was made from a plant in the conservatory of G. Hibbert, esq. whose collection still contains unrivalled the greatest number of new and beautiful species of Protea.



Protea, imbricata

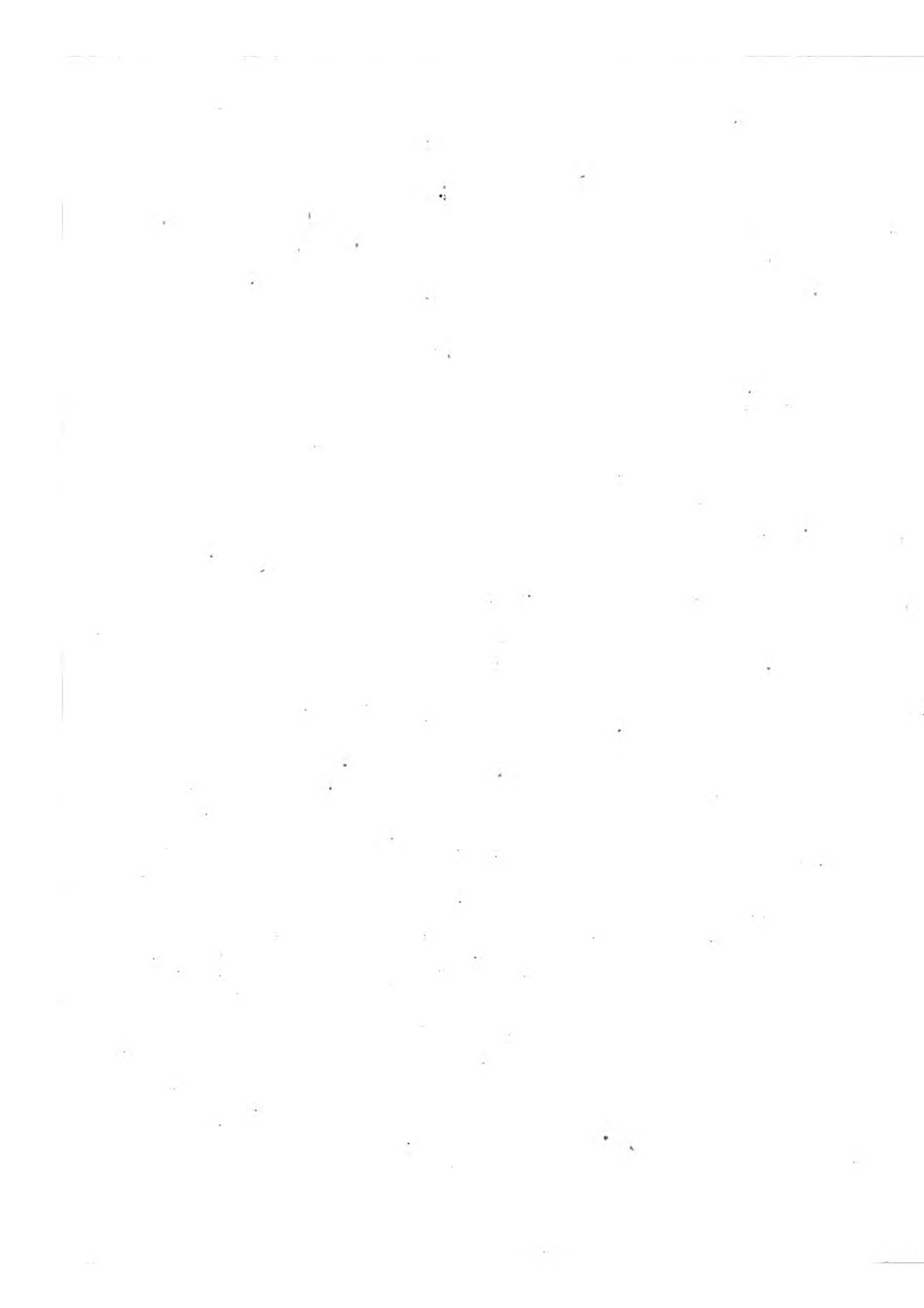


PLATE DXVIII.
MAGNOLIA GRANDIFLORA.
Large-flowered Magnolia.

CLASS XIII. ORDER VII.

POLYANDRIA POLYGYNIA. Many Chives. Many Pointals.

ESSENTIAL GENERIC CHARACTER.

CALYX 3-phyllus. Petala 6—12. Capsulæ
2-valves, imbricatæ. Semina baccata, pen-
dula.

CUP 3-leaved. Petals 6—12. Capsules 2-valved,
tiled. Seeds berried, pendulous.

SPECIFIC CHARACTER.

MAGNOLIA foliis persistentibus, lanceolatis,
obtusis, marginibus cartilagineis, supra vi-
ridi-lucidis, subtus ferrugineis: corollis
magnis, crassis, albis, odoratissimis.

MAGNOLIA with leaves persistent, lance-shaped,
and blunt, with cartilaginous margins of a
shining green on the upper surface, and
rusty-coloured beneath. Blossoms large,
thick, white, and very sweet-scented.

Habitat in Florida et Carolina meridionali.

Native of Florida and South Carolina.

REFERENCE TO THE PLATE.

1. The chives and pointals.
2. A chive.
3. The same shown from the outer side.

THIS odoriferous plant is figured by Catesby in his *Caroliniensis*, who describes it as a stately tree eighty feet high; that it perfumes the woods with its fragrance; that its fruit is of a glittering red, not falling immediately to the ground, but hanging pendulous by small white threads about two inches long, in which state it must still be a beautiful object. It very rarely, if ever, perfects its seed in this country. Independent of its fine large sweet-scented flowers, it is a handsome evergreen. There are several variations of it in foliage. It succeeds well, trained up against a south wall. From a plant so situated, on the premises of Messrs. Whitley and Brames, our figure was delineated.



Magnolia, grandiflora

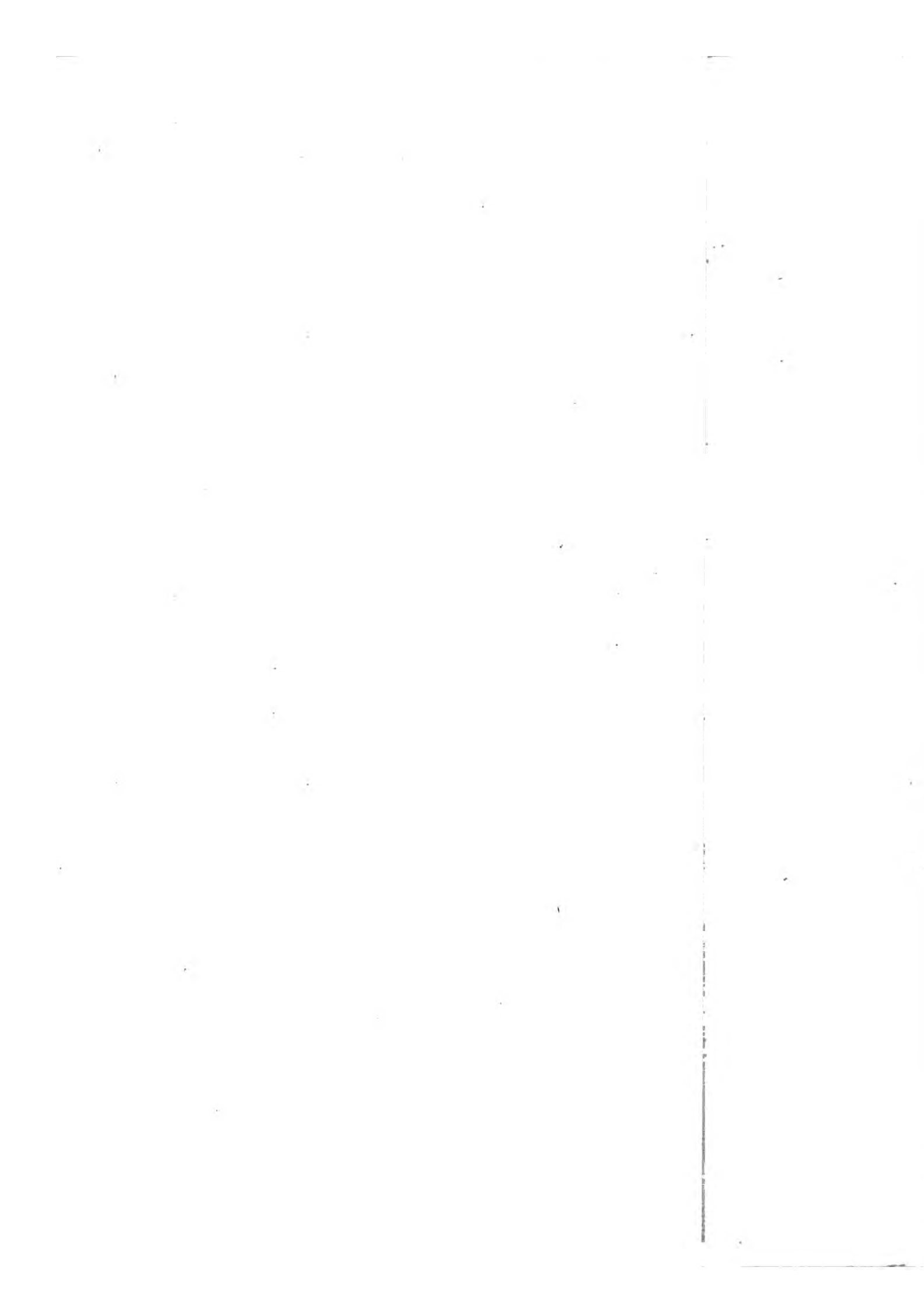




PLATE DXIX.
COMMERSONIA ECHINATA.
Bristly-fruited Commersonia.

CLASS V. ORDER V.
PENTANDRIA PENTAGYNIA. Five Chives. Five Pointals.

GENERIC CHARACTER.

CALYX monophyllus, 5-partitus.
COROLLA. Petala 5, linearia, basi lobata, apice inflexa. Nectarium 5-partitum.
STAMINA. Filamenta 5, brevissima, ad basin petalorum. Antheræ sub-rotundæ, parvæ.
GERMEN globosum, villosum. Styli 5, breves, approximantes. Stigma globosum.
CAPSULA dura, setacea: setis longis, pilosis, 5-locularibus: loculamentis dispermis.
SEMINA ovata.

EMPALEMENT one-leafed, 5-parted.
BLOSSOM. Petals 5, linear, lobed at the base, and turned inward at the point. Nectarium 5-parted.
CHIVES. Threads 5, very short, at the base of the petals. Tips nearly round, and small.
SEED-BUD globular and villose. Shafts 5, short, and approximating. Summit headed.
CAPSULE hard and bristly. Bristles long and hairy, 5-locular; the loculaments 2-seeded.
SEEDS ovate.

REFERENCE TO THE PLATE.

1. The empalement.
2. The petals and honey-cups.
3. A petal and chives, magnified.
4. Seed-bud and pointals.
5. The capsule spread open.
6. One of the loculaments divested of the bristles.
7. The same split open, one seed detached.

THIS fragrant plant was named by Forster after Commerson, the celebrated botanist, who accompanied Bougainville in his Voyage round the World, and explored the coasts of Brazil and Buenos Ayres, the Streights of Magellan, and the Islands of Otaheite, New Britain, Bourou, Java, and the Mauritius, for the space of seven years, and returned to France with a herbarium of above 3000 species, amongst which were many new genera; all which, together with his manuscripts, are preserved in the Museum of Natural History at Paris. Duplicates of them were by him sent to Linnæus, and are now in the possession of Dr. Smith, President of the Linnæan Society. Our drawing was made from a plant (the only one at present in the kingdom) in the hot-house of A. B. Lambert, esq. Boyton House, who informs me that it flowered with him the second year from seed, in great abundance, and continued in flower all the summer, during the warmer part of which it was extremely fragrant; which renders it a valuable addition to our collection of stove plants. The flowers for several weeks proved abortive, owing to their very singular construction; in which the short stamina are completely excluded from the pistillum. As a remedy for this, Mr. Lambert introduced a hive of bees into the hot-house, which soon produced the desired effect, as in three or four days after the germens began to swell. The form of the leaves varies exceedingly, particularly whilst the plant is young, coming sometimes much broader and with two side lobes; which has been mistaken by some for a different species. Almost every part of the plant is villous. Rumphius informs us (in his Herbarium Amboynense) that the Commersonia grows to a tree in the Moluccas, and is so plentiful that its wood is in common use as deal; that the bark is manufactured into matches; and that the bruised leaves smell like the flowers of the *Sampacca*, which is considered by the natives as one of the sweetest flowers in India. It is a native of Amboyna, New Caledonia, and other Islands in the South Seas.



Commersonia, echinata

Pub. & sold by the author, at the Academy of Sciences, Paris.

PLATE DXX.
EUOSMA ALBIFLORA.

White-flowered Euosma.

CLASS V. ORDER I.

PENTANDRIA MONOGYNIA. Five Chives. One Pointal.

GENERIC CHARACTER.

CALYX persistens, basi bracteatus, quinque-partitus, laciniis subrotundis appressis.

COROLLA campanulata, limbo patente 5-lobo.

STAMINA quinque tubo inserta, inclusa, divisuris que corollæ alterna: Filamenta brevia: Antheræ subrotundæ, compressæ.

GERMEN superum, subovatum: Stylus crassus, brevis: Stigma capitatum.

CAPSULA glabra cuneato-ovata, stylo persistente coronata, bisulca, dicocca: Cocculi bivalves polyspermi, intus ad apices dehiscentes: Receptacula in singulo cocculo singulum, subtrigonum, longum, erectum, marginibus valvarum annexum.

SEMINA ovata, hinc convexa, inde depressa papillis minutissimis undique scabra, duplici serie receptaculo imposita.

EMPALEMENT persistent, bracteated at the base, 5-parted, with the divisions nearly round, and lying close.

BLOSSOM bell-shaped, the mouth spreading 5-lobed.

CHIVES five inserted in the tube and included, alternate with the divisions of the blossom: Threads short: Tips nearly round, compressed.

SEED-BUD above, oval: Shaft thick and short: Summit simple-headed.

FRUIT a dry capsule of an oval wedge-shape, two-furrowed, dividing into two parts, and crowned with the persistent shaft: each part is two-valved and many-seeded, opening on the inside at the top: Receptacles for the seeds one in each cell; they are long, three-sided and erect, lying upon the edges of the valves.

SEEDS oval, convex on one side and depressed on the other, every where rough with minute tubercles, and placed upon the receptacle in a double series.

REFERENCE TO THE PLATE.

1. The empalement.
2. A blossom.
3. The same spread open.
4. Seed-bud and pointal.
5. The same magnified.
6. The capsule.
7. The same split into two divisions.
8. One of the divisions uncovered, to show the situation of the seed.
9. A ripe seed.

THE specimen of this new and very distinct genus was communicated April the 11th by the marquis of Blandford from a fine plant in his lordship's collection at White Knights, planted against a wall on a south aspect, about four feet high, and nearly covered with blossoms. Its great fragrance, more resembling that of the *May* (*Cratægus Oxyacantha*) than any thing else we are acquainted with, makes the plant very desirable to collectors, and the more so, that it is hardy enough to bear our winters without the shelter of a green-house, and blossoms so early in spring. This fragrant shrub is a native of New Holland in the neighbourhood of Port Jackson, from whence we have seen fine specimens in the collection of A. B. Lambert, esq. who favoured us with the ripe fruit. Who first introduced the plant, we have not been able to learn, but have seen it in several collections.



Eucosma altiflora

PLATE DXXI.
ERIOSPERMUM FOLIOLIFERUM,
Leaflet-bearing Eriospermum.

CLASS VI. ORDER I.

HEXANDRIA MONOGYNIA. Six Chives. One Pointal.

GENERIC CHARACTER.

CALYX nullus.

COROLLA. Petala sex basi connata, subtus lanceolata, acuta: tria exteriora patula: tria interiora erecta, cum limbo acuto patulo connivente. Omnia post impregnationem erecta, in modum conii.

STAMINA. Filamenta sex, late lanceolata, acuta, plana, apicibus introrsum volutis. Antheræ oblongæ, incumbentes.

PISTILLUM. Germen superum, subrotundum, trisulcatum. Stylus filiformis, erectus. Stigma obtusum.

PERICARPIUM. Capsula triloba, trilocularis, trivalvis.

SEMINA pauca, lanceolata, acuta, pilis tomentosis obsessa.

EMPALEMENT none.

BLOSSOM. Six petals approaching together at the base, beneath lance-shaped and pointed, the three outer ones spreading: the three inner ones upright, with a pointed wide approaching border. All after impregnation stand upright, like a cone.

CHIVES. Six threads broadly lance-shaped, pointed, and flat, with the points turned inward. Tips oblong, and lying on them.

POINTAL. Seed-bud above, nearly round, three-furrowed. Shaft thread-shaped, upright. Summit blunt.

SEED-VESSEL. Capsule 3-lobed, 3-locular, 3-valved.

SEEDS few, lance-shaped, pointed, and covered with downy hairs.

SPECIFIC CHARACTER.

ERIOSPERMUM foliis sub-cordatis, superne folia parva erecta linguæformia, filamentis albis parvis obsessa, ferentibus. Flores spicati, laxi. Corolla lutea, viride striata.

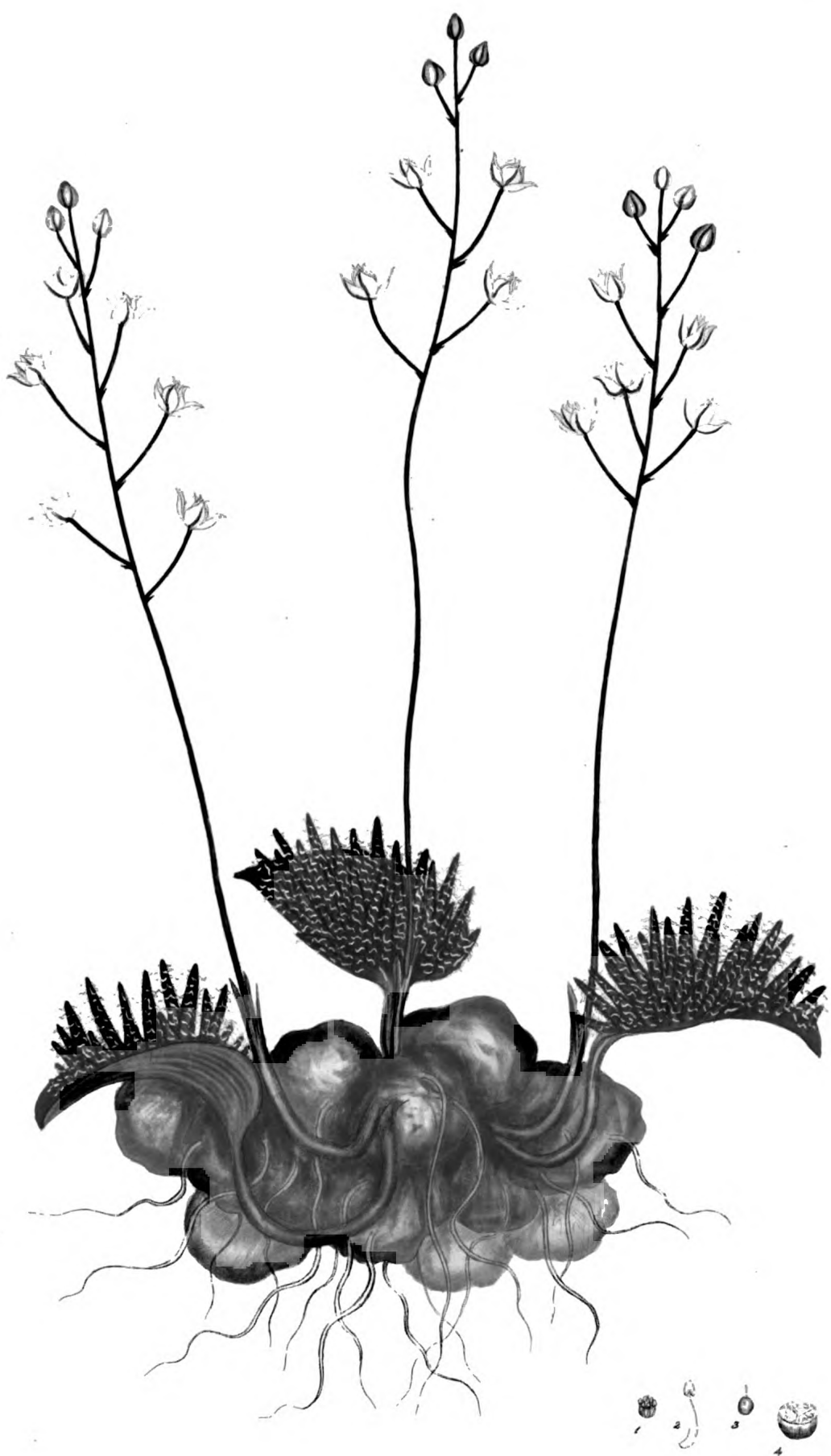
Habitat in Caput Bonæ Spei.

ERIOSPERMUM with nearly heart-shaped leaves, bearing on their upper surface little upright tongue-shaped leaflets beset with small white threads. Flowers grow in a loose spike. Blossom yellow, striped with green. Native of the Cape of Good Hope.

REFERENCE TO THE PLATE.

1. Chives and pointal.
2. A chive magnified.
3. Seed-bud and pointal.
4. Seed-bud cut transversely, magnified.

THIS curious Cape plant is not at present, we believe, in any other collection in this kingdom than that of G. Hibbert, esq. where we first observed it in the autumn of 1806. It was not then in bloom, but flowered the following summer. It is by no means specious in its flowers, but very interesting in the singularity of its foliage, whose uncommon structure is very distinct from any plant we have ever seen. Mr. Knight, the botanic gardener, informs me that it increases from the root, but not abundantly, and, like most Cape bulbs, is in a dormant state during the latter part of autumn, at which time it should be watered very sparingly. It appears rather impatient of having its roots often disturbed: once in two or three years is necessary, not only to renew the earth, but to take off any small bulbs it may have produced. It delights to grow in a light loamy or peaty soil, and should stand in an elevated part of the green-house, to enjoy a full circulation of air.



vernum folioliferum





PLATE DXXII.
PROTEA ABROTANIFOLIA HIRTA.
Hairy Southernwood-leaved Protea.

CLASS IV. ORDER I.

TETRANDRIA MONOGYNIA. Four Chives. One Pointal.

ESSENTIAL GENERIC CHARACTER.

COROLLA 4-fida, seu 4-petala. Antheræ lineares, petalis infra apices insertæ. Calyx proprius, nullus. Semina solitaria.

BLOSSOM four-cleft, or of four petals. Tips linear, inserted into the petals below the points. Cup proper, none. Seeds solitary.

SPECIFIC CHARACTER.

PROTEA foliis bipinnatis, filiformibus, pilosis: floribus ramos terminantibus in umbellis confertis: pedunculis brevissimis: bracteis erectis: corollis pallide carneis. Stigmata nigra.

PROTEA with doubly-winged leaves, thread-shaped, and hairy. Flowers terminate the branches in crowded umbels. Footstalks very short. Floral leaves upright. Blossoms of a pale flesh-colour. Summit of the pointal black.

Habitat ad Caput Bonæ Spei.

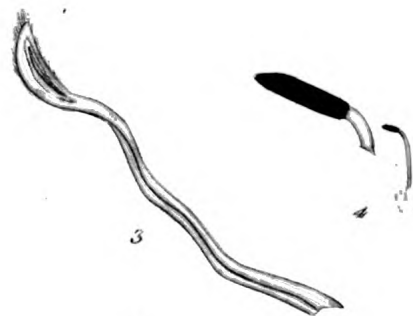
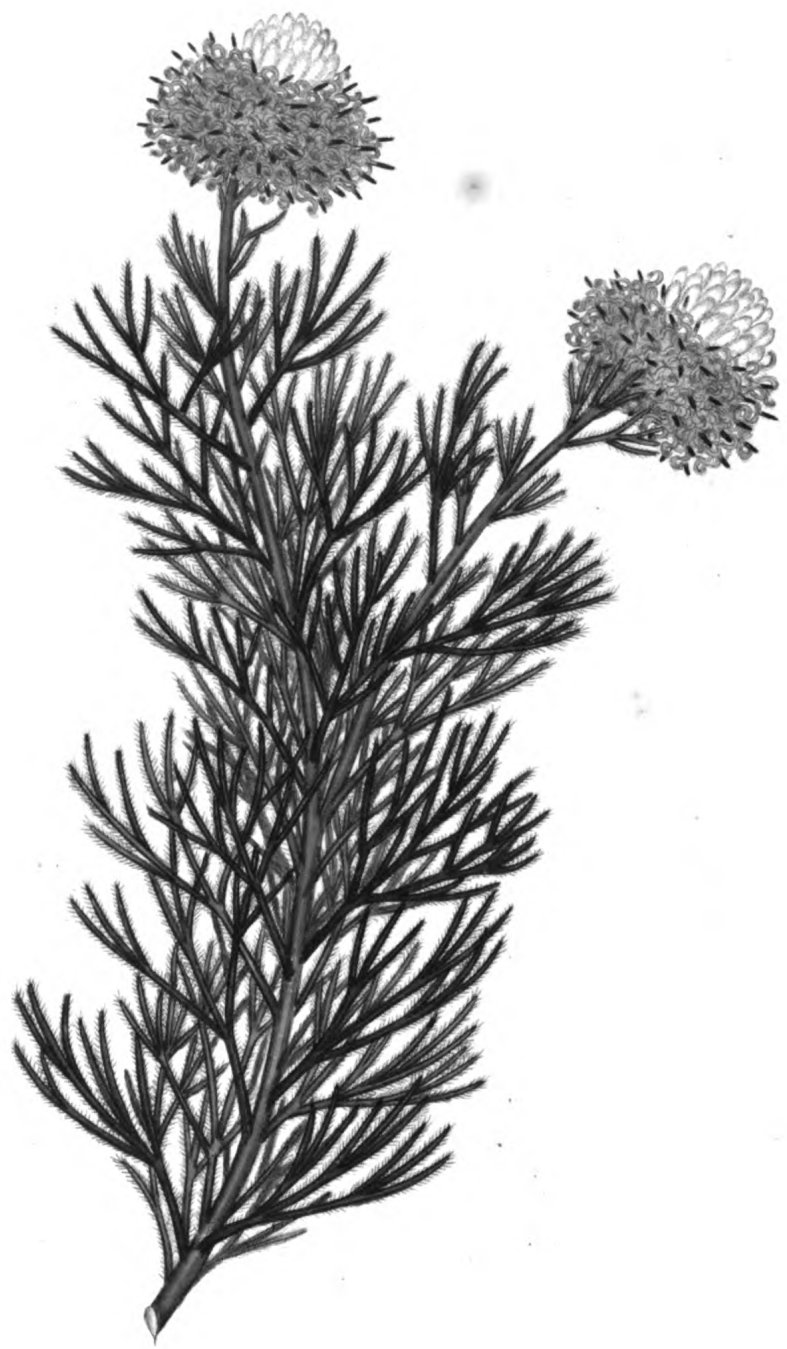
Native of the Cape of Good Hope.

REFERENCE TO THE PLATE.

1. A flower-prop.
2. The chives spread open.
3. A chive magnified.
4. Seed-bud and pointal, summit magnified.

THIS hairy-leaved Protea resembles the *P. abrotanifolia*, Pl. 512, but is upon examination very distinct. The flowers are of a pale rose colour, but have a lively appearance from the contrasted blackness of the stigma. It is a round bushy plant, flowering early in the autumn, requiring the same treatment as the generality of those species with small divided leaves.

Our figure was made from a plant in the Hibbertian collection.



tea, abrotanifolia horta

PLATE DXXIII.
 GORTERIA PAVONIA.
Peacock Gorteria.

CLASS XIX. ORDER IV.

SYNGENESIA POLYGAMIA NECESSARIA. Tips united. Necessary Pointals.

ESSENTIAL GENERIC CHARACTER.

RECEPTACULUM nudum. Pappus lanatus. Corolla radiata, lingulata. Calyx monophyllus, squamis imbricatis tectus.

RECEPTACLE naked. Down woolly. Blossom rayed, tongue-shaped. Empalement one-leaved, covered with imbricated scales.

SPECIFIC CHARACTER.

GORTERIA foliis pinnatis: foliolis æqualibus, ovatis, marginibus revolutis, pilosis, subtus albis: petalis radii magnis, aurantiis, ad basin eleganter notatis. Caulis herbaceus.

GORTERIA with winged leaves. The leaflets are equal, ovate, rolled back at the edges, hairy, and white beneath: petals of the ray large, of a gold-colour, and elegantly marked at the base. Stem herbaceous.

REFERENCE TO THE PLATE.

1. The empalement.
2. One of the radiating petals.
3. The same shown from the under side.
4. A petal as it appears when rolled up.
5. A floret of the disk.
6. The seed-bud and pointal.

THIS new species of *Gorteria* stands foremost in the ranks of beauty whilst expanded by the solar ray, whose absence is soon visible in the plant by the rolling up of the petals; but on the following morn, when the sun's beams begin to warm the vegetable world, they again unfold themselves with undiminished lustre, and so continue successively for near a fortnight.

Our drawing was made from a fine plant in the nursery of Mr. Harrison at Brompton. We also observed it in bloom at Messrs. Colville's; from whom, to complete the dissections, we received a flower, which, although it had been a week in bloom, continued to perform its diurnal evolutions (in a glass of water) of rolling up and expanding for nearly a week longer—but only from eleven till one in the day:—a shorter time, most probably owing to its being kept in a room whose northern aspect prevented the exhilarating rays of Phœbus from approaching. It was introduced from the Cape of Good Hope by G. Hibbert, esq. about the year 1804, and considered as biennial.

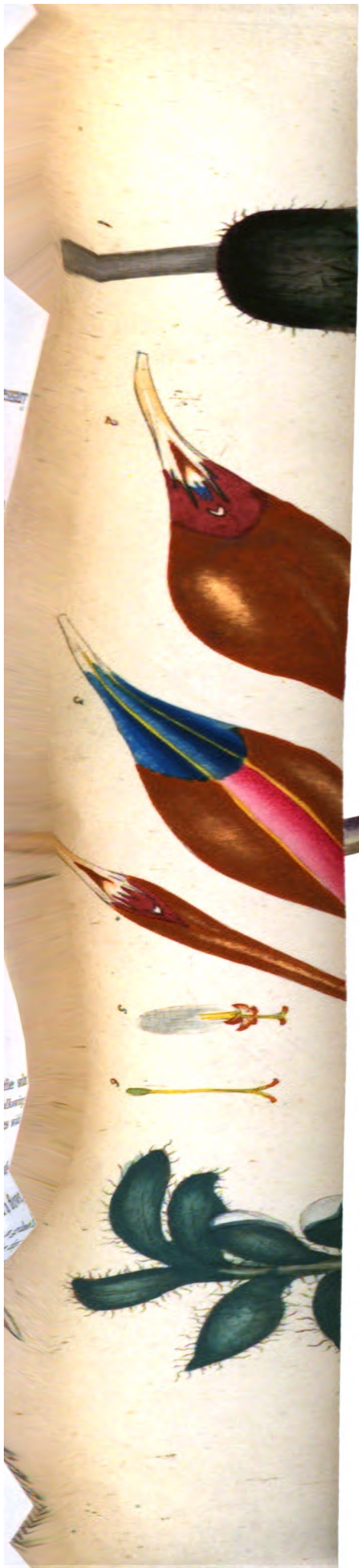






PLATE DXXIV.
LACHNÆA BUXIFOLIA.
Box-leaved Lachnæa.

CLASS VIII. ORDER I.

OCTANDRIA MONOGYNIA. Eight Chives. One Pointal.

ESSENTIAL GENERIC CHARACTER.

CALYX nullus. Corolla quadrifida; limbo in-æquali. Semen unum, sub-baccatum. || CUP none. Blossom four-cleft; border unequal. One seed, nearly berried.

SPECIFIC CHARACTER.

LACHNÆA foliis ovatis, glabris, glaucis: floribus in capitulis globosis: corollis albis, odoratis. Caulis teres, longissimus. || LACHNÆA with ovate, smooth, glaucous leaves. Flowers in globular heads. Blossoms white, and sweet-scented. Stem round, and very long. Habitat ad Caput Bonæ Spei. || Native of the Cape of Good Hope.

REFERENCE TO THE PLATE.

1. A blossom spread open.
2. The seed-bud and pointal.
3. The flower-receptacle.

THIS fragrant species of *Lachnæa* is the *L. buxifolia* of Lamarck, and the *Gnidia filamentosa* of Linnaeus; but certainly not a *Gnidia*, as it wants the four small inner petals, the distinguishing feature and most essential distinction between those two genera.

Our figure delineates a plant in the conservatory of G. Hibbert, esq. that was upwards of five feet high; and interspersed amongst some fine bushy shrubs, its compact flowers and delicate glaucous foliage gave it a picturesque appearance.



Xanthorrhoea bursifolia

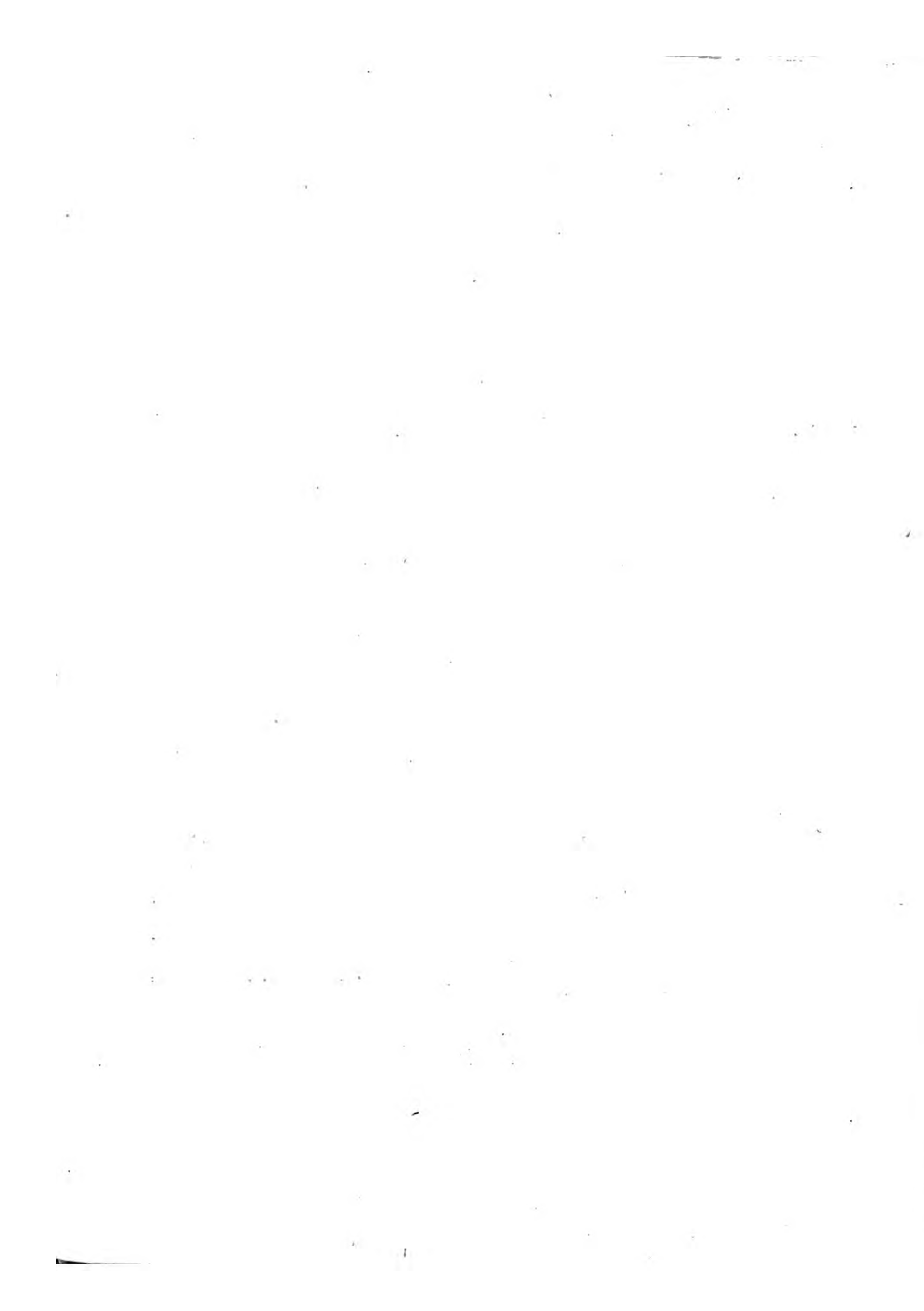


PLATE DXXV.
PODALYRIA HIRSUTA.

Hairy Podalyria.

CLASS X. ORDER I.

DECANDRIA MONOGYNIA. Ten Chives. One Pointal.

ESSENTIAL GENERIC CHARACTER.

CALYX sub-bilabiatus, quinquefidus. Corolla papilionacea. Alæ vexilli longitudine. Legumen ventricosum, polyspermum.

EMPALEMENT nearly bilabiate, five-cleft. Blossom butterfly-shaped. Wings the length of the standard. Pod ventricose, and many-seeded.

SPECIFIC CHARACTER.

PODALYRIA foliis simplicibus, hirsutis, ovatis vel oblongis: corollis magnis, purpureis, plerumque simplicibus: pedunculis longis: ramis teretibus, pilosis.

PODALYRIA with simple, hairy leaves, ovate or oblong. Blossoms large and purple, mostly single. Footstalks long. Branches round and hairy.

REFERENCE TO THE PLATE.

1. The empalement.
2. The standard.
3. One of the wings.
4. The keel.
5. Chives and pointal.
6. The chives spread open.
7. Seed-bud and pointal.

PODALYRIA is a section of the genus *Sophora*, separated from it by Lamarck, and named after the son of *Æsculapius*, the celebrated physician who accompanied the Grecians in their famous expedition against Troy.

This species, we have little doubt, is the *P. hirsuta* (an unfigured species) enumerated by Willdenow, although by some it is thought to be distinct from it, on account of the leaves being somewhat longer, and the flowers of a finer colour; differences, we think, accounted for in the latitude of growth resulting from varied modes of culture.

Our drawing was made from a plant raised from Cape seed, by Messrs. Whitley and Brames, in the year 1806.



Myrica hirsuta

W. & A. G. & Co. Lith. N.Y.

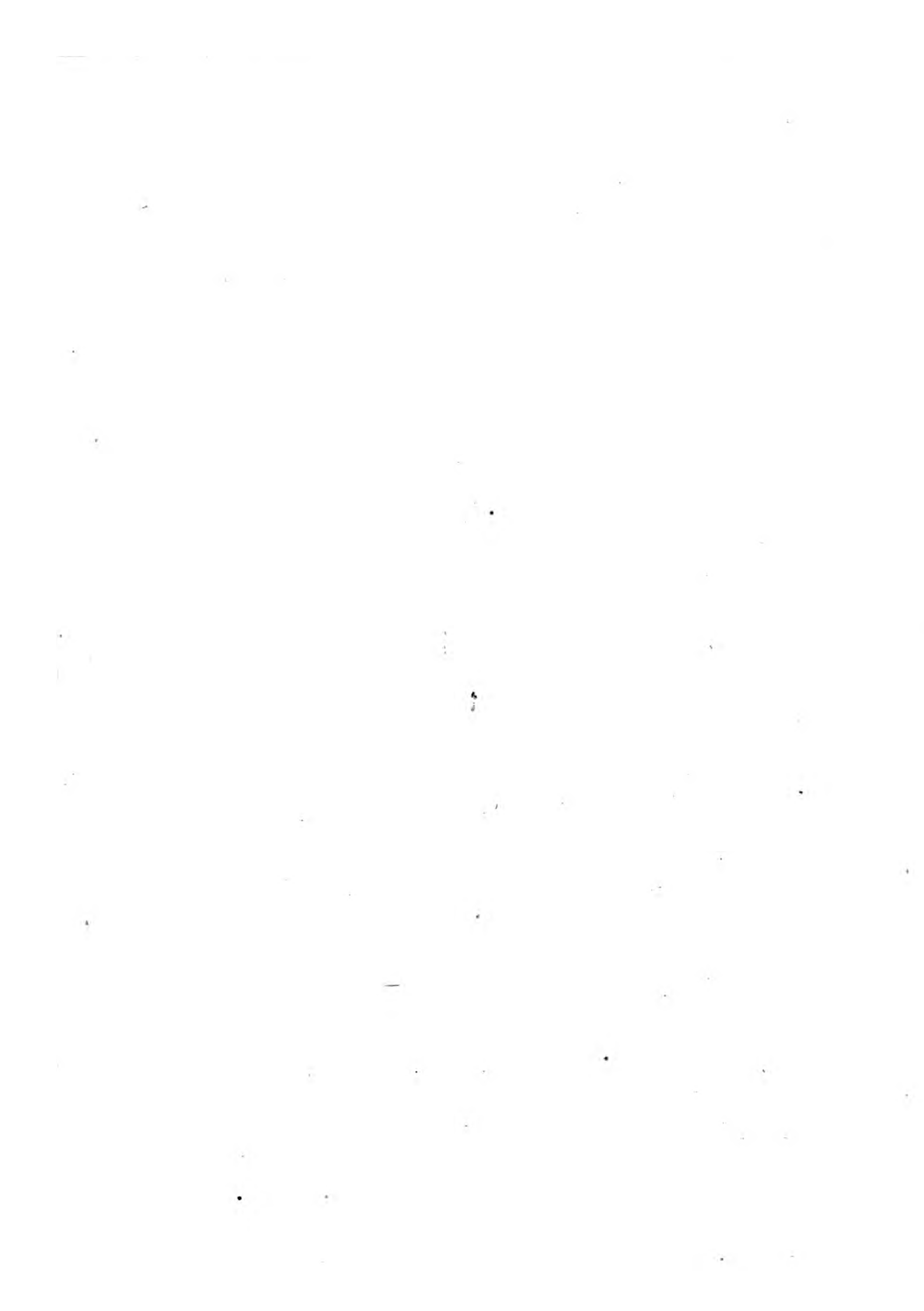


PLATE DXXVI.
PROTEA CESPITOSA.

Turfy Protea.

CLASS IV. ORDER I.

TETRANDRIA MONOGYNIA. Four Chives. One Pointal.

ESSENTIAL GENERIC CHARACTER.

COROLLA 4-fida, seu 4-petala. Antheræ lineares, petalis infra apices insertæ. Calyx proprius, nullus. Semina solitaria.

BLOSSOM four-cleft, or of four petals. Tips linear, inserted into the petals below the points. Cup proper, none. Seeds solitary.

SPECIFIC CHARACTER.

PROTEA foliis rigidis, lanceolatis, pilosis, undulatis, glabris, patentibus, apice adscendente, supra convexis, infra concavis: capitulo globoso, terminali: corollis ferrugineis: squamis pilosis, interne læte rubris. Caulis humilis.

PROTEA with rigid, lance-shaped, hairy leaves, waved, smooth, and spreading, with an ascending point, convex above, and concave beneath: head of flowers globular, and terminal. Blossoms of a rusty colour. Scales hairy, and of a bright red on the inside. Stem low.

Habitat ad Caput Bonæ Spei.

Native of the Cape of Good Hope.

REFERENCE TO THE PLATE.

1. A flower complete.
2. Seed-bud and pointal.

THIS new dwarf Protea is named from its sod- or turf-like appearance. Although of low and humble growth, it is by no means deficient in attraction. The inner side of the imbricating scales is of a fine red, which is a great addition to its beauty whilst expanded: but in our plant this was of short duration, occasioned by the pressure of the leaves from the rapid growth of the surrounding side shoots.

Our figure was made from the Hibbertian collection.



PLATE DXXVII.
RUELLIA FULGIDA.

Bright-flowered Ruellia.

CLASS IV. ORDER I.

TETRANDRIA MONOGYNIA. Four Chives, One Pointal.

ESSENTIAL GENERIC CHARACTER.

CALYX 5-partitus. Corolla monopetala, limbo 5-lobo, inæquali. Stamina biconjugata. Stylus filiformis. Stigma bifidum. Capsula dissepimentis dentatis, elasticis, dehiscentibus. Semina pauca.

EMPALEMENT 5-parted. Blossom one petal: border 5-lobed, unequal. Chives by pairs. Shaft thread-shaped. Summit two-cleft. Capsule with the partitions toothed, elastic, and splitting. Seeds few.

SPECIFIC CHARACTER.

RUELLIA foliis petiolatis, ovato-acuminatis, undulatis, pilosis, crenatis: pedunculis axillaribus, cum multis floribus tubæformibus.

RUELLIA with petiolated leaves ovately pointed, waved, hairy, and scalloped. Footstalks axillary, with many long trumpet-shaped flowers.

REFERENCE TO THE PLATE.

1. The empalement.
2. A blossom spread open.
3. Seed-bud and pointal.
4. The capsule.
5. The same split open.
6. A ripe seed.

THIS new and beautiful species of *Ruellia* was introduced by Lord Seaforth from the West Indies, and flowered in Mr. Lambert's stove at Boyton, in June 1807, for the first time in England; and continued, as he informs us, to flower during the greatest part of the summer, ripening its seeds in abundance, and being easily propagated by cuttings.



...fulgida



PLATE DXXVIII.
ORNITHOGALUM ELATUM.
Lofty Ornithogalum.

CLASS VI. ORDER I.

HEXANDRIA MONOGYNIA. Six Chives. One Pointal.

ESSENTIAL GENERIC CHARACTER.

COROLLA 6-petala, persistens. Filamenta basi dilatata. Capsula 3-locularis, Semina subrotunda, nuda.

BLOSSOM 6-petalled, remaining. Threads widened at the base. Capsule 3-celled. Seeds roundish and naked.

SPECIFIC CHARACTER.

ORNITHOGALUM foliis lanceolatis: floribus in racemo longissimo crescentibus, albis et parvis: staminibus longitudinem corollarum fere æquantibus.

ORNITHOGALUM with lance-shaped leaves. Flowers grow on a very long spike, are white and small. The stamens scarcely the length of the blossoms.

REFERENCE TO THE PLATE.

1. A petal and chive.
 2. A chive shown from the outer side.
 3. Seed-bud and pointal.
 4. The same magnified.
-

THIS tall and delicate plant was introduced by J. M. Cripps, esq., who found the roots in Egypt on the plains of Alexandria, near the spot where the famous battle was fought in the year 1801; and from one which he planted in his garden at Staunton in Sussex our drawing was made. It agrees in habit with the *Ornithogalum latifolium*, but is perfectly distinct both in the blossoms and foliage from that species. The plant which our figure represents had already produced four side bulbs. It flowered in March last, and appears to propagate freely.



1/1/82



PLATE DXXXI.
NITRARIA SCHOBERI.
Schober's Nitraria.

CLASS XI. ORDER I.

DODECANDRIA MONOGYNIA. Twelve Chives. One Pointal.

GENERIC CHARACTER.

| | | |
|--|--|--|
| •COROLLA 5-petala, cucullata. | | BLOSSOM five-petalled, hooded. |
| CALYX 5-fidus. Stamina 15. Drupa 1-sperma. | | EMPALEMENT 5-cleft. Chives 15. Berry one-seeded. |

SPECIFIC CHARACTER.

| | | |
|--|--|-------------------------------------|
| NITRARIA foliis integerrimis, obtusis. | | NITRARIA with entire leaves, blunt. |
| Habitat in Siberia. | | Native of Siberia. |
| <i>Pallas's Flora Rossica</i> , vol. i. tab. 50. | | |

REFERENCE TO THE PLATE.

1. The empalement.
2. A petal.
3. Seed-bud, chives, and pointal.
4. A chive magnified.
5. Seed-bud and pointal.
6. The same magnified.

THIS species of Nitraria is named after Schober, a physician and lover of botany in Russia. It grows in the barren salt deserts near the Caspian Sea, particularly about the salt lakes in Siberia, and is also found in Astracan. It bears reddish berries of a salt taste, is a very rare plant in our gardens, but successfully cultivated by Mr. Bell, who not only puts salt to the roots, but also on the foliage. From a plant of his thus treated our drawing was made last summer. Only one more species of the genus has yet been discovered.



Araria Schoberi

PLATE DXXX.
BIGNONIA UNCATA.
Hooked Bignonia.

CLASS XIV. ORDER II.

DIDYNAMIA ANGIOSPERMIA. Two Chives longer. Seeds covered.

ESSENTIAL GENERIC CHARACTER.

| | | |
|--|--|--|
| CALYX 5-fidus, cyathiformis. Corolla fauce campanulata, 5-fida, subtus ventricosa. Siliqua bilocularis. Semina membranacea, alata. | | EMPALEMENT 5-cleft, cup-shaped. Blossom bell-shaped at the mouth, 5-cleft, and bel-
lied beneath. A pod of two cells. Seeds winged, with a skinny membrane. |
|--|--|--|

SPECIFIC CHARACTER.

| | | |
|---|--|--|
| BIGNONIA foliis conjugatis, longo-lanceolatis, acuminatis, et tribus cirris acutis uncatis. | | BIGNONIA with conjugate, long-lanced, acuminate leaves, and three hooked sharp tendrils. |
|---|--|--|

REFERENCE TO THE PLATE.

1. The empalement.
2. A flower spread open, the segments of the border cut off.
3. Seed-bud and pointal.

THIS new species of *Bignonia* flowered for the first time in England in the stove of A. B. Lambert, esq. at Boyton. We have seen it (but not in flower) in other collections, and have heard it called by the specific title of *ophthalmica*: but as no reason could be assigned for that appellation within the reach of our inquiry, we have named it from its hooked tendrils. It is an autumnal-flowering plant running to a great length, with frequent blossoms, is a native of Cayenne, and was introduced by Lord Seaforth.



Ipomoea uncinata

Publ. par le Dr. G. B. S. 1848
de la Bibliothèque de la Ville de Paris

PLATE DXXXI.
VERONICA DERWENTIA.
New Holland Veronica.

CLASS II. ORDER I.

DIANDRIA MONOGYNIA. Two Chives. One Pointal.

ESSENTIAL GENERIC CHARACTER.

COROLLA limbo 4-partito: laciniis infimis angustioribus. Capsula bilocularis. || BLOSSOM, border 4-parted. Lowest segments narrower. Capsule two-ocular.

SPECIFIC CHARACTER.

VERONICA foliis lanceolatis, oppositis, alternis, dentatis: floribus spicatis, axillaribus: corollis parvis, pallide violaceis, fragrantissimis. || VERONICA with leaves lance-shaped, opposite, alternate, and toothed. Flowers grow in spikes from the axillæ of the leaves. Blossoms small, of a pale violet colour, and very fragrant.

REFERENCE TO THE PLATE.

1. The empalement.
2. A blossom spread open.
3. Seed-bud and pointal.

THIS new species of Veronica was communicated to us by A. B. Lambert, esq. It is a native of Botany Bay on the banks of the Derwent, and was sent over by one of the settlers. The abundance and agreeable fragrance of its flowers render it deserving a place in any collection.



onica, Verventia

PLATE DXXXII.
PROTEA HUMIFLORA.
Low-flowering Protea.

CLASS IV. ORDER I.

TETRANDRIA MONOGYNIA. Four Chives. One Pointal.

ESSENTIAL GENERIC CHARACTER.

COROLLA 4-fida, seu 4-petala. Antheræ lineares, petalis infra apices insertæ. Calyx proprius, nullus. Semina solitaria.

BLOSSOM four-cleft, or of four petals. Tips linear, inserted into the petals below the points. Cup proper, none. Seeds solitary.

SPECIFIC CHARACTER.

PROTEA foliis lanceolatis: ramis plurimis ascendentibus: floribus confertis, procumbentibus.

Habitat ad Caput Bonæ Spei.

PROTEA with lance-shaped leaves, with many ascending branches. Flowers crowded together, and lying on the ground.

Native of the Cape of Good Hope.

REFERENCE TO THE PLATE.

1. A flower complete.
 2. Seed-bud and pointal, summit magnified.
-

Of this perfectly new species of Protea we have represented the entire plant, just as we found it growing in the conservatory of G. Hibbert, esq., where it has flowered for the first time in this country. In the flowers it resembles the *P. cordata*, in its foliage the *P. canaliculata*, allied to each and yet removed from both. The procumbent situation of its crowded blossoms gives a singularity to its appearance, and altogether it is certainly a very interesting species. It should be planted in a light loamy soil, and kept in an airy part of the green-house.



humiflora

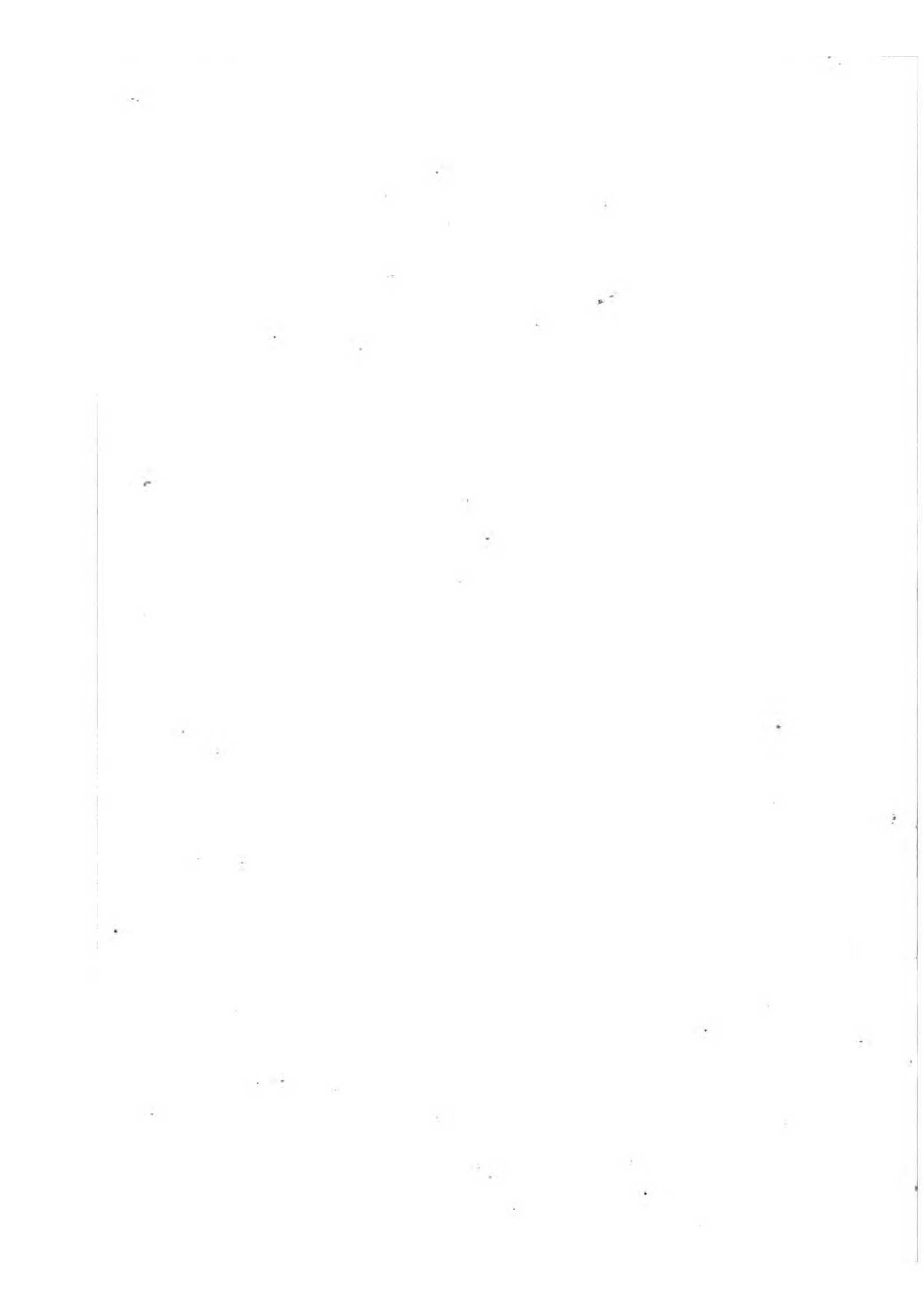


PLATE DXXXIII.
CACTUS COCCINELLIFER.
Cochineal Torch Thistle.

CLASS XII. ORDER I.

ICOSANDRIA MONOGYNIA. About twenty Chives. One Pointal.

ESSENTIAL GENERIC CHARACTER.

| | | |
|---|-----------|---|
| <p>CALYX monophyllus, superus, imbricatus. Corolla multiplex. Bacca monocularis, polysperma.</p> | <p> </p> | <p>EMPALEMENT one-leafed, above, tiled. Blossom of many folds. Berry of one loculation, many-seeded.</p> |
|---|-----------|---|

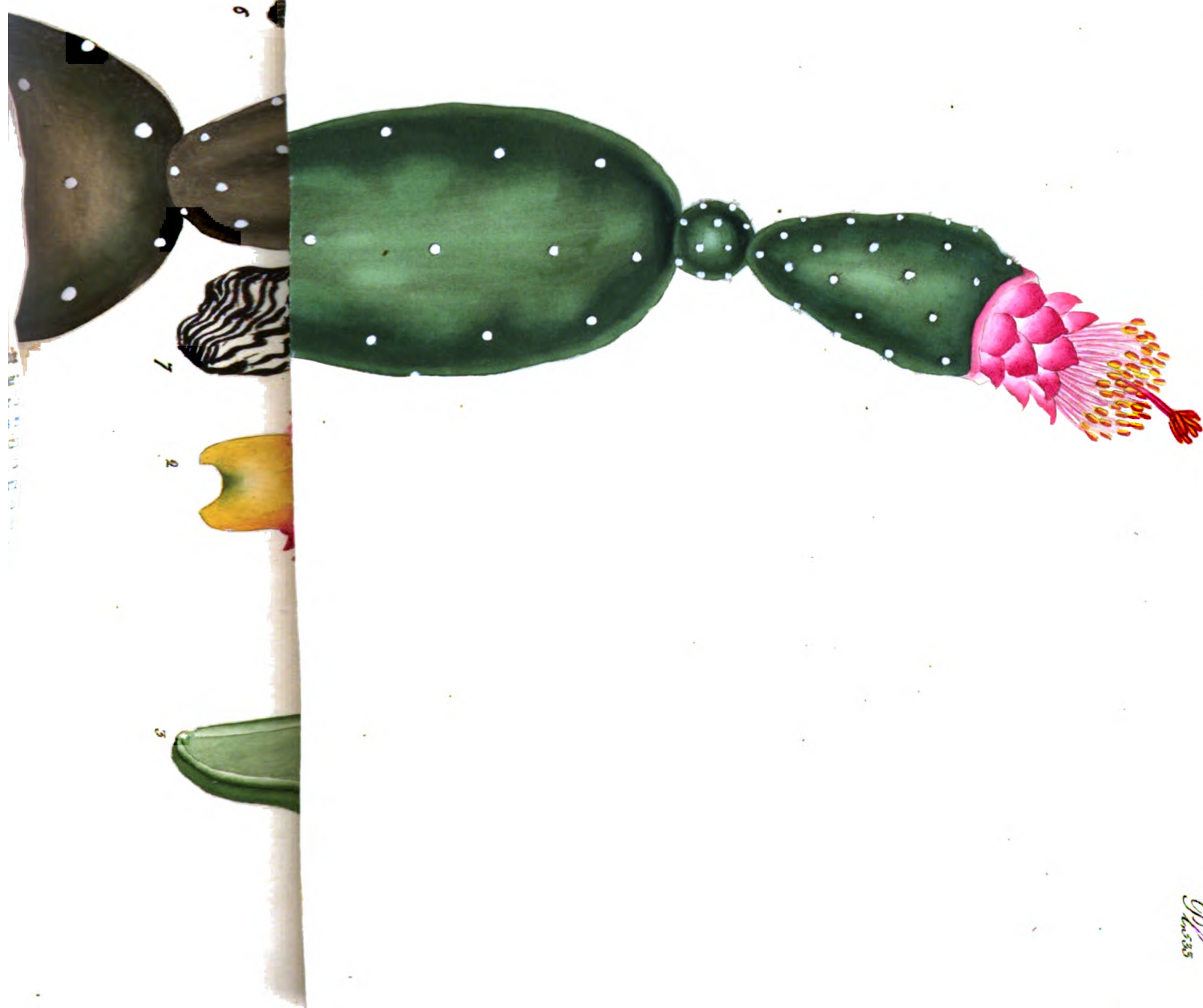
SPECIFIC CHARACTER.

| | | |
|--|-----------|--|
| <p>CACTUS prolifero-articulatus: articulis ovato-oblongis, sub-inermibus.
 Habitat in Mexico.
 <i>Tuna cochenillifera.</i>—<i>Dill. Elth. tab. 297.</i></p> | <p> </p> | <p>CEREUS proliferous-jointed. Joints are of an ovate and oblong form, and nearly unarmed.
 Native of Mexico.</p> |
|--|-----------|--|

REFERENCE TO THE PLATE.

1. A flower cut open.
2. The same shown from the outer side.
3. A longitudinal section of the seed-bud.
4. The cochineal insect as retailed in the shops.
5. The same shown from the under side.
6. A larger and darker sort.
7. The same shown from the under side and magnified.

Cactus coccinellifer is a native of Mexico, where the principal culture of cochineal is situated, under the torrid zone, where little or no rain falls during half the year (from the beginning of October to about the end of March); as rain destroys the insects, and is injurious to the plants. The dryer the soil is the better they succeed, as their roots are very impatient of water. Although the insects are found naturally upon the plant in those climates, the cultivators, we are informed, always stock their young plantations with insects of their own rearing, which are larger and finer than the wild sort, and give a more brilliant colour. These they breed under sheds in the rainy season; and, when the spring commences, always fresh stock their plantations, scattering a few breeding insects upon each plant, and in a few days the surface appears speckled over with them, each bringing about 300 at a birth. In two months after they begin to collect, by scraping the insects from the bark with the blunt edge of a knife; nor need they any other preparation than immersion for half a minute in boiling water, which is done by dipping them in a kind of sieve, and afterwards drying them in the sun, or by a common fire. Three collections in this manner are generally made in six months; fresh breeding insects being always replanted upon the plants after gathering. Other species of Cacti also breed the insects; but this is always preferred, as a man can gather from the *coccinellifer* ten pounds a day, while from the *Tuna*, *Opuntia*, and other thorny species, he could not gather two ounces. The plants are generally placed in lines from north to south, that both sides may have the benefit of the sun; and they consider them fit to bear insects at the age of 18 months. Although it is neither a new nor a rare plant, yet as an interesting one, and rarely seen in blossom in England, we presume it will be acceptable to our readers; nor is there any tolerable figure of it which we have seen, unless that of Dillenius in the *Hortus Elthamensis*, which is not in every body's hands. Our drawing was made in July 1808, at the Countess de Vandes' collection at Bayswater.



Cactus, cocciniferus

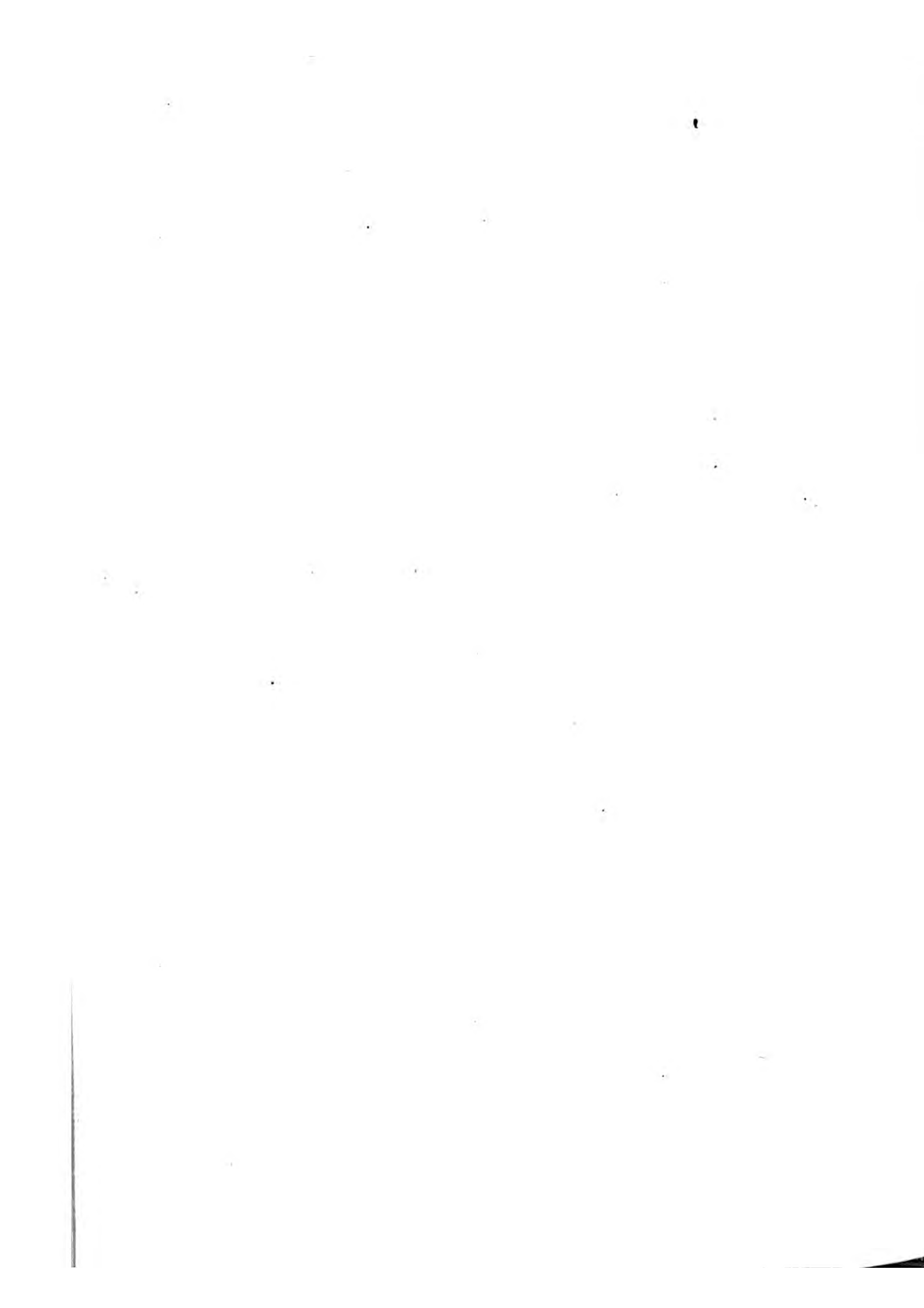


PLATE DXXXIV.
 JUNIPERUS DAURICA.

Daurian Juniper.

CLASS XXII. ORDER XIII.

DIÆCIA MONADELPHIA. Chives and Pointals on different Plants.
 Monadelphous.

GENERIC CHARACTER.

| | |
|--|---|
| <p><i>* Masculi flores.</i>
 AMENTUM ovatum. Calyx squamosus. Corolla
 nulla. Stamina 3.</p> <p><i>* Fœminei flores.</i>
 CALYX 3-partitus. Petala 3. Bacca 3-sperma,
 tubulata, tuberculata. Calyx inæqualis.</p> | <p><i>* Male flowers.</i>
 CATKIN egg-shaped. Empalement squamous.
 Blossom none. Chives 3.</p> <p><i>* Female flowers.</i>
 EMPALEMENT 3-parted. Petals 3. Shaft 3.
 Berry 3-seeded, hollowed, and a little swell-
 ed. Cup unequal.</p> |
|--|---|

SPECIFIC CHARACTER.

| | |
|--|---|
| <p>JUNIPERUS foliis oppositis, acutis, imbricatis,
 decurrentibus, passim patulis, subulatis.
 <i>Pallas's Flora Rossica</i>, vol. 2. p. 13. tab. 55.</p> | <p>JUNIPER with opposite leaves, acute, imbricated,
 and decurrent, here and there spreading,
 and awl-shaped.</p> |
|--|---|

REFERENCE TO THE PLATE.

1. A female flower magnified.
2. Seed-bud and pointals, magnified.
3. A berry.
4. The same cut in two, with a seed detached.

THE plant here figured is from the arboretum of the Marquis of Blandford at White Knights, where we first noticed it in 1806, growing in the greatest perfection, and bearing abundance of fruit, which it still continues to do annually; and being a finer species than any we before possessed, is an interesting addition to our collections of hardy evergreens. It agrees perfectly with the figure and description in the *Flora Rossica*, and also with the original specimen in the Pallasian Herbarium (now in the possession of A. B. Lambert, esq.)

The plant from which our figure was taken is above twelve feet high, and wide in proportion. The male plant we have not seen. Gmelin informs us (in his *History of the Plants of Siberia*) that in the town of Janisca the Cossacks burn the twigs of this plant to fumigate those who are afflicted with obscure diseases, or those which they superstitiously suppose to be excited by devils, of whose agency they are extremely credulous, and whom they believe to be pacified with smoke and hideous noises, as being congenial to their own nature.

Pl.



Juniperus, Daurica

1791

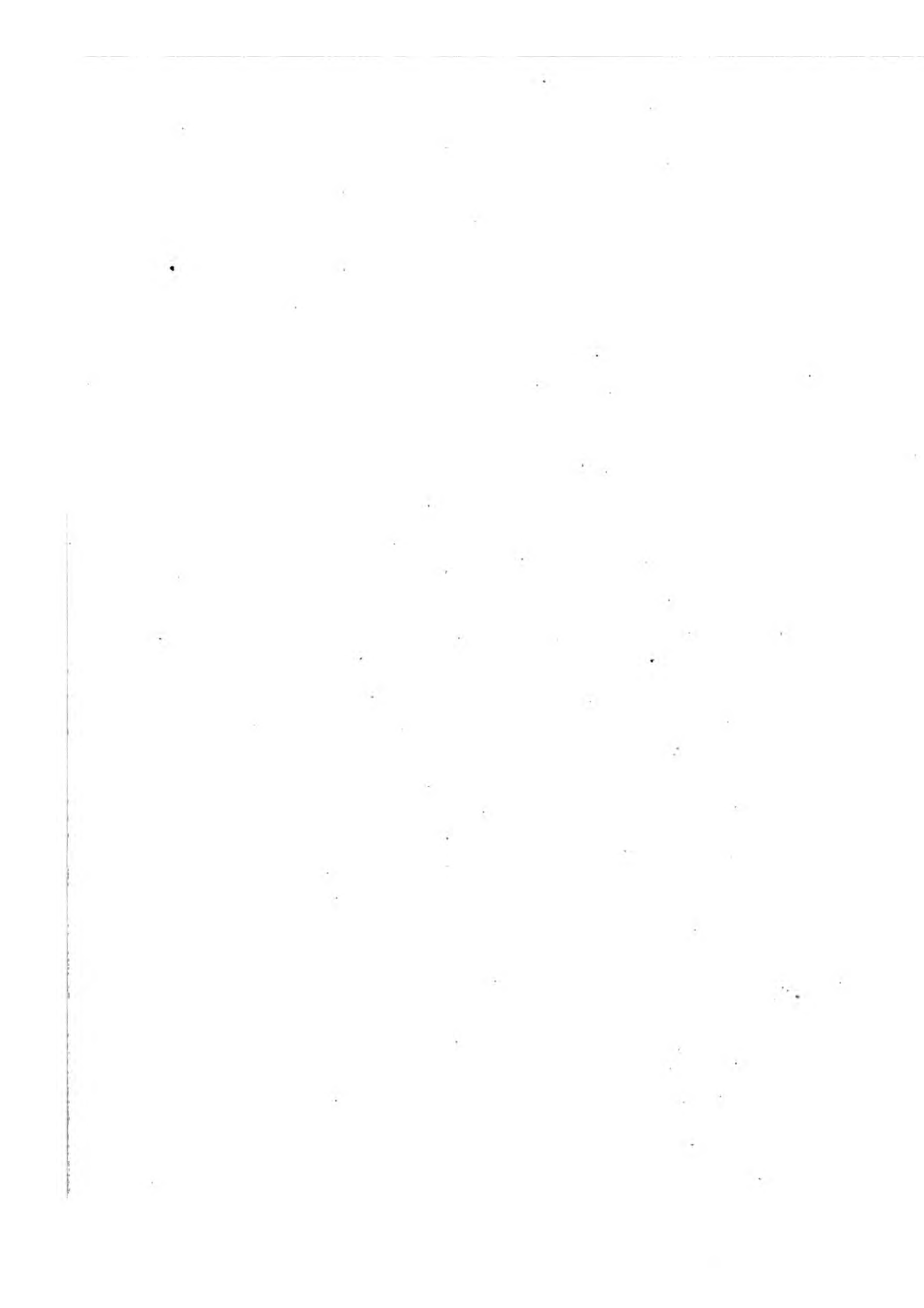


PLATE DXXXV.
TROPÆOLUM PINNATUM.
Winged Nasturtium.

CLASS VIII. ORDER I.

OCTANDRIA MONOGYNIA. Eight Chives. One Pointal.

GENERIC CHARACTER.

| | | |
|--|--|--|
| CALYX 1-phyllus, calcaratus. Petala 4—5, inæqualia. Nuces 3, coriaceæ. | | EMPALEMENT one-leafed, spurred. Petals 4 or 5, unequal. Kernels 3, coriaceous. |
|--|--|--|

SPECIFIC CHARACTER.

| | | |
|--|--|--|
| TROPÆOLUM foliis sub-peltatis: lobis obtusis, inæqualibus: floribus pinnatis: petalis quinque, cuneatis, apice dentatis. | | NASTURTIIUM with leaves nearly shield-shaped. Lobes obtuse, and unequal. Flowers winged. Petals 5, wedge-shaped, and toothed at the end. |
|--|--|--|

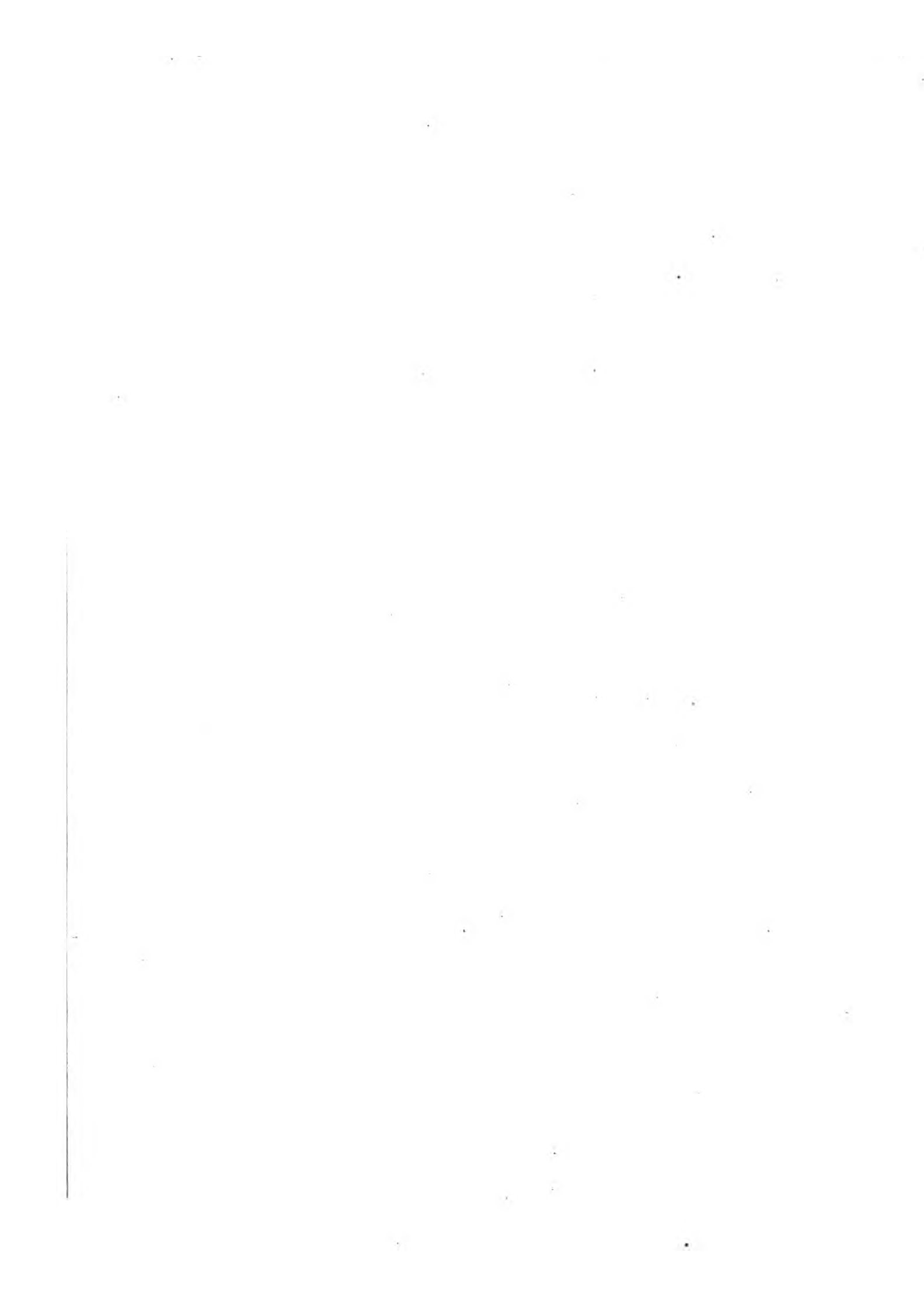
REFERENCE TO THE PLATE.

1. A flower spread open.
 2. Seed-bud, chives, and pointal.
 3. Seed-bud and pointal.
-

THIS nondescript and beautiful species of *Nasturtium* we met with in the select collection of the Countess de Vandes at Bayswater. Our figure represents the entire plant; but by whom introduced, or whence a native, we have not been able to learn. It appears to succeed well with the treatment usual to other *Tropæolums*; and, if it should seed with us, will no doubt be abundantly cultivated for the brilliance of its elegant little blossoms. It flowers during the summer months.



speculum pinnatum



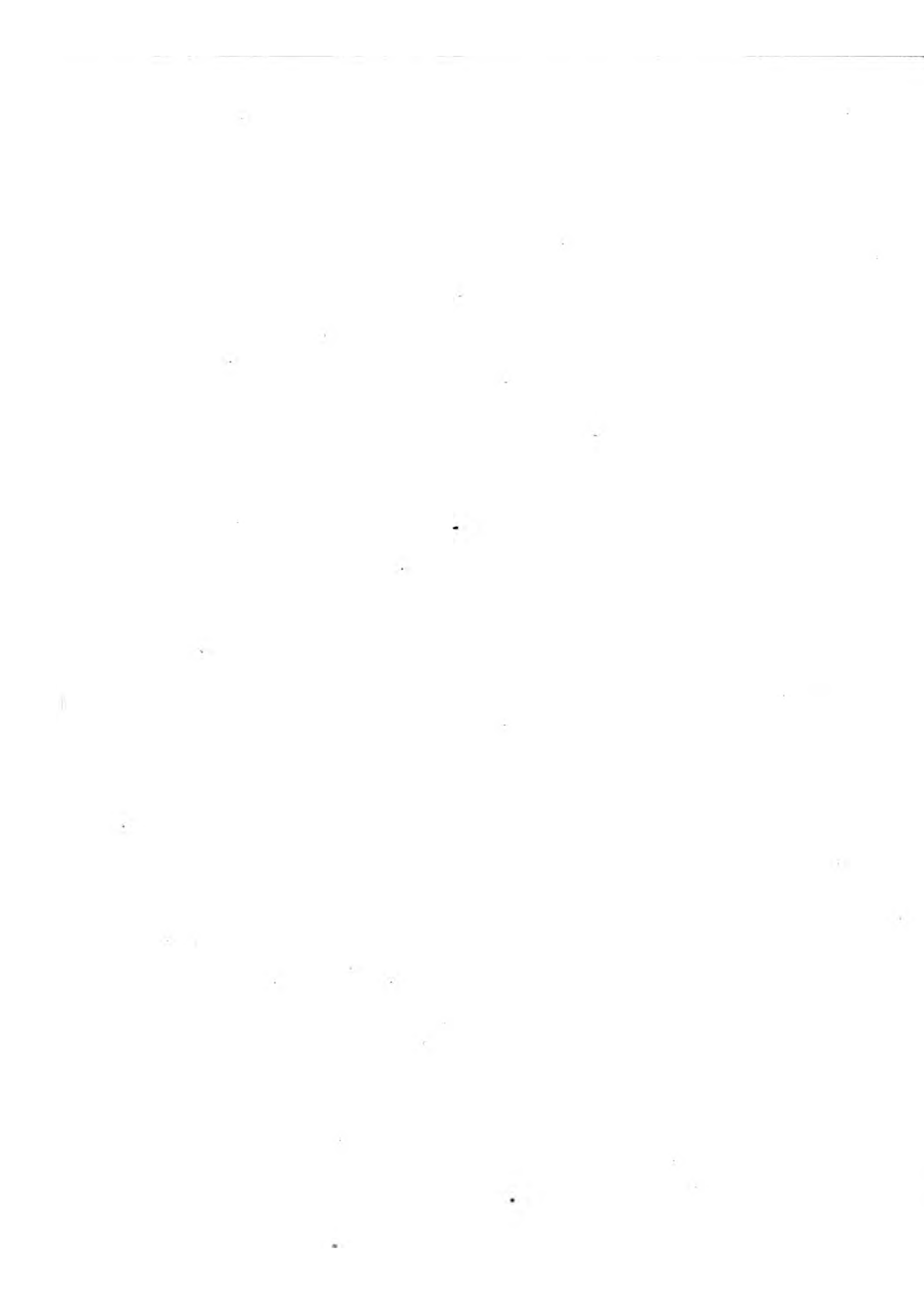


PLATE DXXXVI.
PROTEA ABROTANIFOLIA, *minor*.
Small Southernwood-leaved Protea..

CLASS IV. ORDER I.

TETRANDRIA MONOGYNIA. Four Chives. One Pointal.

ESSENTIAL GENERIC CHARACTER.

| | | |
|--|--|---|
| <p>COROLLA 4-fida, seu 4-petala. Antheræ lineares, petalis infra apices insertæ. Calyx proprius, nullus. Semina solitaria.</p> | | <p>BLOSSOM four-cleft, or of four petals. Tips linear, inserted into the petals below the points. Cup proper, none. Seeds solitary.</p> |
|--|--|---|

SPECIFIC CHARACTER.

| | | |
|--|--|---|
| <p>PROTEA foliis tri-furcatis, filiformibus, acutis: floribus parvis, ramos terminantibus in umbellis confertis.
Habitat ad Caput Bonæ Spei.</p> | | <p>PROTEA with leaves three-forked, thread-shaped, and pointed. Flowers small, and terminate the branches in crowded umbels.
Native of the Cape of Good Hope.</p> |
|--|--|---|

REFERENCE TO THE PLATE.

1. A leaf.
 2. A bract.
 3. A flower, one tip magnified.
 4. Seed-bud and pointal.
-

THROUGHOUT this small divided-leaved section of the genus Protea there is a similarity of appearance in the foliage, that makes the specific differences appear less distinct than they really are. The small-flowered species is a compact bushy little shrub, about fourteen inches high, and nearly the same in width, requiring a light sandy loam, free access of air, and a little attention to preserve it from the partial humidity of the atmosphere.



Protea, abrotanifolia minor

PLATE DXXXVII.
ORIGANUM TOURNEFORTII.
Tournefort's Origanum.

CLASS XIV. ORDER I.

DIDYNAMIA GYMNOSPERMIA. Two Chives longer. Seeds naked.

GENERIC CHARACTER.

STROBILUS tetragonus, spicatus, calyces colligens. Corollæ labium superius erectum : inferius 3-partitum : laciniis æqualibus.

|| HEAD of flowers four-sided, like ears of corn, containing the cups. The upper lip of the blossom is upright : the lower is three-parted, in equal segments.

SPECIFIC CHARACTER.

ORIGANUM spicis tetragonis : bracteis sub-rotundis, maximis : foliis geminis, oppositis, alternis, cordatis, punctatis, glaucis.

|| **ORIGANUM** with a four-sided spike : floral leaves nearly round, and large. Leaves by pairs, opposite and alternate, heart-shaped, dotted, and glaucous.

Habitat in Magna Græcia.

|| Native of Greece.

REFERENCE TO THE PLATE.

1. A flower.
2. The same spread without the cup.
3. Seed-bud and pointal.

THIS species of *Origanum* was first discovered by Tournefort, who, in his travels in the Levant, describes it as one of the rarest plants in all the Archipelago ; native of Amorgos, and only to be found in the clefts or rents of a hideous rock that overhangs the sea. At the bottom of this rock stands a convent of the Virgin, a large house resembling a chest of drawers, and to which there is no entrance but by a ladder of a dozen wooden steps through a small opening in one of the corners, the door of which is covered with iron plates. This frightful promontory is naturally perpendicular, and said to exceed in height that of *La Sainte Baume* in Provence.



Lonicera Tournoufortii

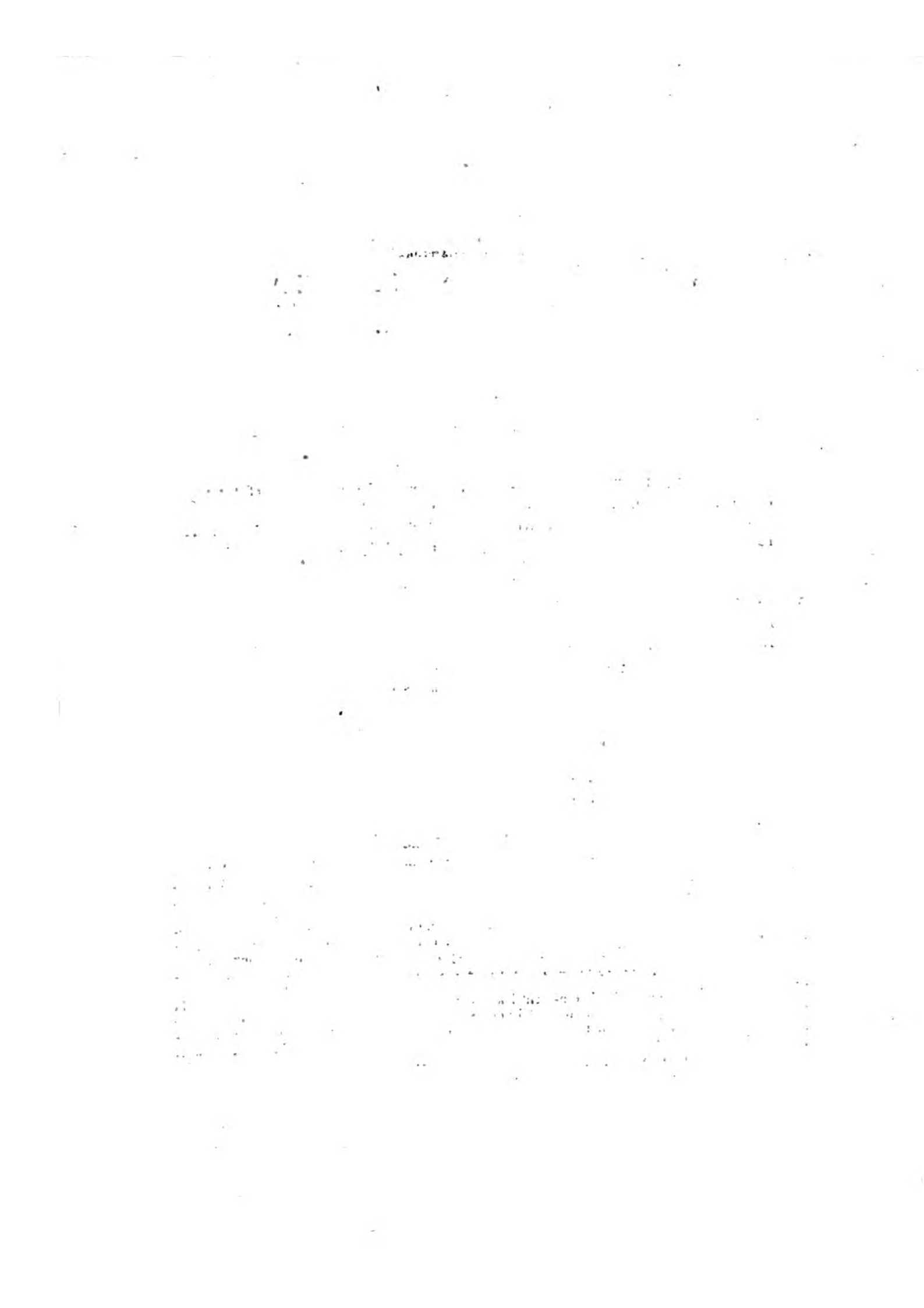


PLATE DXXXVIII.
VANILLA PLANIFOLIA.
Flat-leaved Vanilla.

CLASS XX. ORDER I.

GYNANDRIA DIANDRIA. Chives on the Pointals. Two Chives.

GENERIC CHARACTER.

COROLLA pentapetala. Labellum basi sub-cucullatum, ecalcaratum. Anthera opercularis, decidua. Capsula siliquæformis, carnosa.

BLOSSOM of five petals. Lip of the nectary nearly cowl-shaped, and without any spur. Anthers covered, at last falling off. Fruit a long fleshy pod.

SPECIFIC CHARACTER.

VANILLA foliis ovato-lanceolatis acuminatis obliquis, obsolete striatis, nitidis: petalis sublanceolatis, incurvis, obtusis.

VANILLA with oval-lanced, oblique pointed leaves, which are faintly streaked, and shining; and the petals of the blossom somewhat lance-shaped, blunt, and curved inwards.

REFERENCE TO THE PLATE.

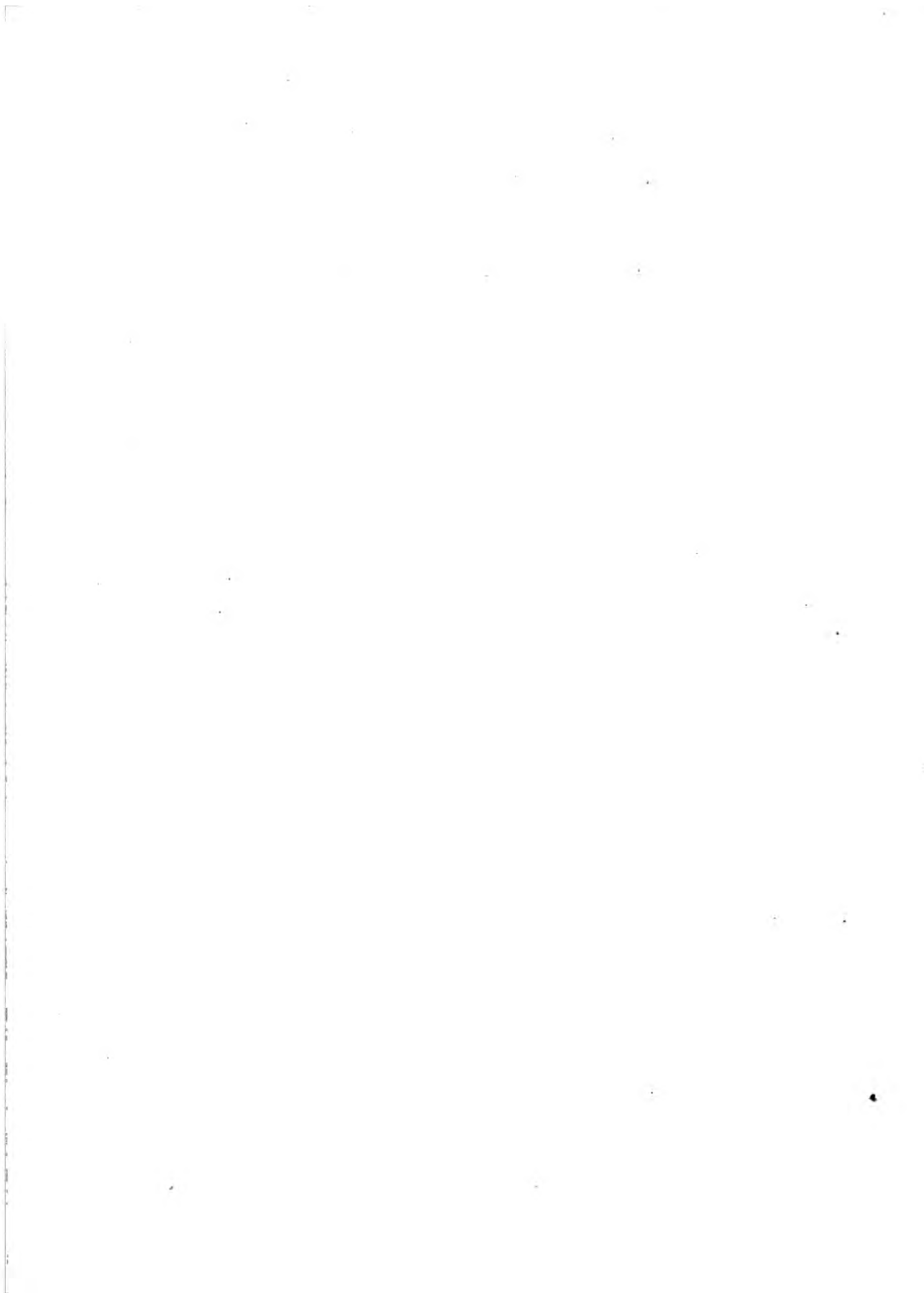
1. The nectarium spread open.
2. The chives and pointal.

VANILLA flore albo, fructu breviori corallino, of Plumier's unpublished drawings. The botanical history of this plant is curious. It was published by Plumier in the year 1703, as a third species of *Vanilla*, as we have ascertained by a copy of his original drawing in the collection of A. B. Lambert, esq. but unnoticed by Linnæus or any of his editors. In the *Paradisus Londinensis* it has been mistaken for Plumier's first species, the *Epidendrum Vanilla* of Linnæus, (*Vanilla aromatica* of Swartz and Willdenow,) of which we have three original figures: Catesby's, in his *History of Carolina*, vol. iii. tab. 7.; Madam Merian's, and Plumier's own drawing published by Burman; all of them totally unlike it. No two plants can be more specifically distinct, and we have seldom seen two species of one genus so different in the blossoms.

Vanilla planifolia is an exceedingly ornamental and as yet a scarce species, and runs to many feet in length, throwing out simple tendrils from the axils of the leaves. The finest specimen in England, and the only one that has blossomed, is in the choice collection of the Right Hon. Charles Greville, at Paddington, from which our drawing was taken. We are informed that it is a native of the West Indies, and was introduced to this country by the Marquis of Blandford.



Vanilla planifolia



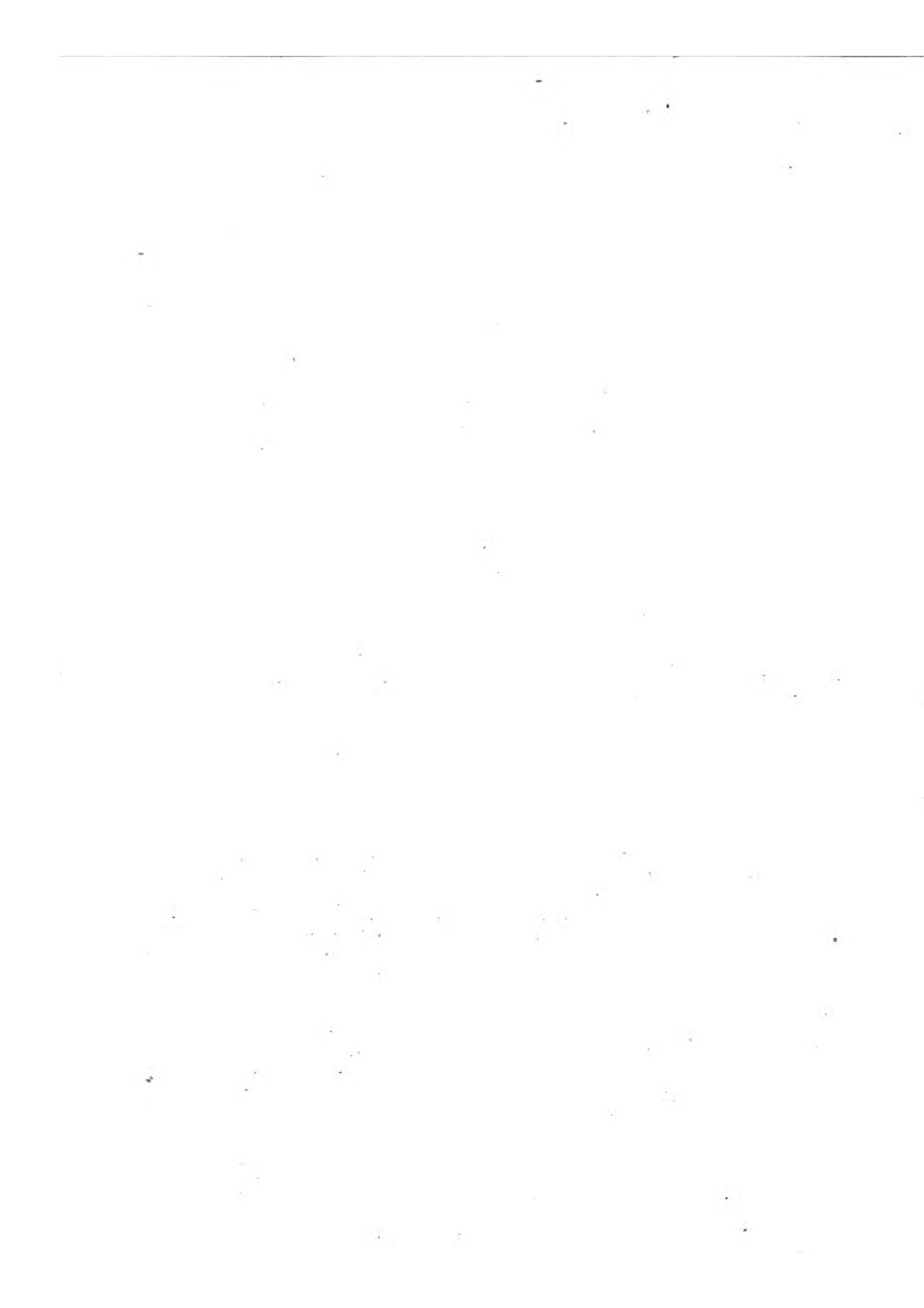


PLATE DXXXIX.
CALYCANTHUS FERTILIS.
Fruitful Allspice.

CLASS XII. ORDER VIII.

ICOSANDRIA POLYGYNIA. Twenty Chives. Many Pointals.

ESSENTIAL GENERIC CHARACTER.

| | | |
|--|--|---|
| CALYX imbricatus: foliolis coloratis. Corolla nulla. Styli plurimi. Stigmata glandulosa. Semina plurima, intra calycis partem succulentam. | | EMPALEMENT tiled: leaflets coloured. Blossom none. Shafts many. Summits glandular. Seeds many, within the fleshy part of the cup. |
|--|--|---|

SPECIFIC CHARACTER.

| | | |
|--|--|--|
| CALYCANTHUS ramis virgatis, sub-erectis: foliis ovato-lanceolatis, acuminatis: floribus fertilibus.
Habitat in Americâ Boreali. | | CALYCANTHUS with twiggly branches nearly upright. Leaves ovately lance-shaped, and pointed. Flowers fertile.
Native of North America. |
|--|--|--|

REFERENCE TO THE PLATE.

1. A flower divested of the leaflets of the cup.
2. The same cut open, to show the seeds.

THIS fruitful species of *Calycanthus* has not yet been figured by any author we know of, but has been described by two: first by Walter, in his *Flora Caroliniana*, under the title of *C. fertilis*; and afterwards by Michaux, in his *Flora Boreali-Americana*, under the appellation of *C. ferax*, synonymous appellations equally good: and we see no reason why it should have been altered from *fertilis*, if even for the better, unless that had been a very bad specific title. It is a native of the high mountains of Carolina, in North America, and was introduced by Mr. Lyons in 1807. Our figure is from a plant in the collection of the Marquis of Blandford.

Erratum.—In our last Number, Pl. DXXXVII, the description of *Origanum Tournefortii* (in the hurry too often attendant upon periodical publications) was left unfinished. The most necessary information omitted, is, that it is a hardy green-house shrub; and fine living specimens of it were communicated to us by A. B. Lambert, esq. who received it from the Royal Gardens at Kew, to which it was introduced by the late Dr. Sibthorpe in 1788.

9-1-1889



Calicanthus fertilis

PLATE DXL.
MESEMBRYANTHEMUM HETEROPHYLLUM.
Various-leaved Mesembryanthemum.

CLASS XII. ORDER V.

ICOSANDRIA PENTAGYNIA. Twenty Chives. Five Pointals.

ESSENTIAL GENERIC CHARACTER.

| | | |
|--|--|---|
| <p>CALYX 4—5-fidus. Petala numerosa, linearia, basi cohærentia. Capsula carnosâ, infera, polysperma.</p> | | <p>EMPALEMENT 4—5-cleft. Petals numerous, linear, and united at the base. Fruit fleshy, below, many-seeded.</p> |
|--|--|---|

SPECIFIC CHARACTER.

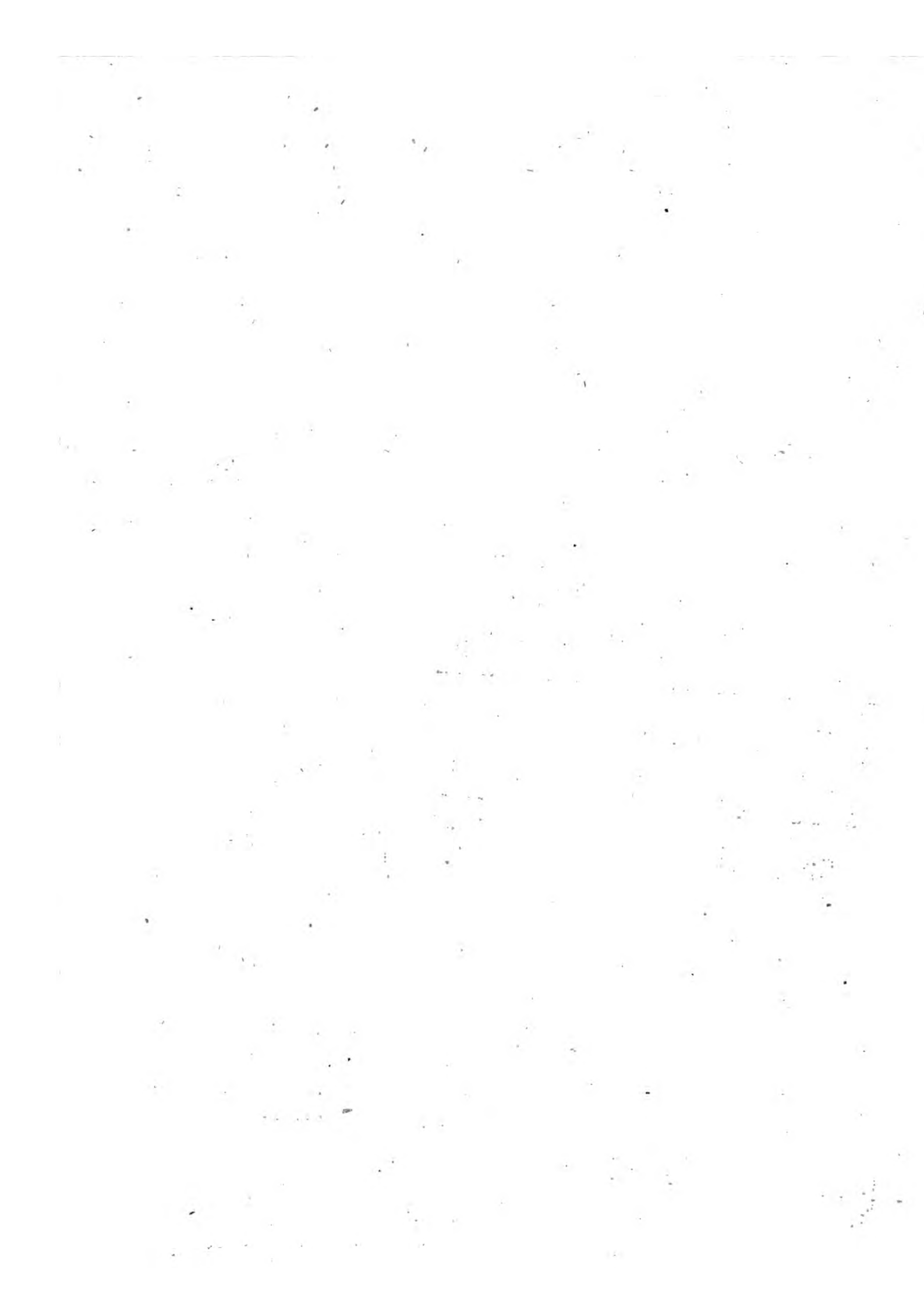
| | | |
|--|--|--|
| <p>MESEMBRYANTHEMUM octogynum, caulescens: foliis sub-semiteretibus, elongatis, obliquis, nitidis, basi connatis: apicibus vel adunco-rostratis vel ancipitibus, integris, obtusis.</p> | | <p>MESEMBRYANTHEMUM eight-styled, with a stem, and leaves nearly half-round, elongated, oblique, shining, and united at the base, with the points either like a hooked bill, or two-edged, entire, and blunt.</p> |
| <p>Habitat in Promontorio Bonæ Spei.</p> | | <p>Native of the Cape of Good Hope.</p> |

REFERENCE TO THE PLATE.

1. A flower divested of the petals cut open.
2. Seed-buds and pointals, a summit magnified.
3. A dry capsule.
4. The capsule as it appears when half expanded in water.
5. The same when fully expanded.

Of this fine Mesembryanthemum we have found no figure nor description. It is most allied to *M. difforme*, so well illustrated by Dillenius, and figured before by Plukenet; but the figure of Miller, *tab. 126. fig. 2.* quoted for the same plant in the four last editions of the *Species Plantarum*, is certainly *M. dolabriforme*, as the author himself says, although his editor here has not stuck close to his text. *M. heterophyllum* is very distinct from either, is a free growing species, and flowers from June to September, the blossom open early in the morning, and shut in the afternoon. It is propagated both by seeds and parting the roots. The fruit is divided into eight loculements for the seed, separated longitudinally by double elastic partitions, which are reflected above, so that the edges come in contact together and cover the seeds. Eight elastic valves attached to the margin of the fruit, and adhering firmly to the part containing the seeds, and to one another until mature, again enclose these. Two cartilaginous coloured bodies, jointed near the base, and arising from the outer edge of the partitions, are prominent upon the interior of each of those valves, which have their edges always more or less reflected to facilitate the entrance of moisture to the seeds, above which they continue to lie close so long as the atmosphere continues dry: but, when it rains, or water is poured upon them, it enters by the openings between the valves, and is imbibed by the receptacles of the seeds and cartilaginous partitions, which presently become much dilated, and the diameter of the fruit is considerably increased. The upper valves also by this extension are drawn outwards, and being pressed at the same time by the edges of the partitions, resting against the elastic rigid bodies on their interior surface, gradually rise to be perpendicular upon the margin, when the fruit somewhat resembles a little cup with a Vandyke edge; but this is of short duration, as the less elastic and hygrometrical exterior of the valves (for their interior parts imbibe water and dilate rapidly) soon draws them backwards into the form of a star or polypetaious flower, with colours as vivid as if really vegetating. The edges of the partitions now become more erect, leaving the seeds uncovered; and the water being led towards the centre by channels in the valves, and retained by an elevated margin, the seeds are floated out of their cells. The fruit when dry, again contracts as before, and the experiment may be repeated *ad libitum*. What a wonderful œconomy of Nature to produce the seeds just at the moment proper for their germination, and preventing them until that time from falling on the parched sands and rocks upon which those plants vegetate! In some plants, natives of cold regions, where seeds are in danger of perishing by moisture, and there is seldom sufficient warmth for their vegetation, an œconomy the direct reverse takes place. The cones of pines, being most hygrometrical externally, close firmly in moisture, and expand only in dry heat! The singular qualities of the fruits of Mesembryanthea, we find first mentioned by Dillenius—see his *Hortus Elthamensis*, vol. ii. p. 237. It has since been noticed by Dr. Sims, who has described the fruit of *M. pinnatifidum* in the *Medical Journal* for 1799, and also by Mr. König in the *Annals of Botany*, but we believe no elucidation of the phænomenon has been given before. Dr. Hagen, a German, who possessed the fruits of three species without knowing what they were, imagined they were the whole plants, and described them as a new and extraordinary reviviscent genus in Cryptogamia. Others have taken them for the Rose of Jericho, which is not a fruit, but a plant. The fruits of most Mesembryanthea exhibit the same metamorphosis, but with great variety. *M. hispidum* has the upper valves double, the inner membrane beautifully transparent. The fruit of this perfectly ripened, if put into tepid water, will fly open as if with a spring. We have made experiments with the fruits of *M. latum*, *scalpratum*, *cordatum*, and *pugioniforme*, all of which are very fine.

Our specimen is from the collection of A. B. Lambert, esq.



The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every entry should be supported by a valid receipt or invoice. This ensures transparency and allows for easy verification of the data.

Furthermore, it is noted that the records should be kept in a secure and accessible format. Regular backups are recommended to prevent data loss in the event of a system failure or disaster.

The second section details the process of reconciling the accounts. This involves comparing the internal records with the bank statements to identify any discrepancies. Any differences should be investigated immediately to determine the cause, such as a missed entry or a bank error.

It is also advised to review the records periodically to ensure they remain up-to-date and accurate. This practice helps in identifying trends and potential issues before they become significant.

In addition, the document highlights the need for clear communication between all parties involved. Regular meetings and reports should be held to discuss the financial status and any concerns. This helps in building trust and ensuring everyone is on the same page.

The final part of the document provides a summary of the key points discussed. It reiterates the importance of accuracy, security, and communication in managing financial records effectively.

The following table provides a summary of the financial data for the period covered by the report. It includes the total revenue, expenses, and net profit, along with a breakdown of the major categories.

| Category | Revenue | Expenses | Net Profit |
|--------------------|----------------|----------------|--------------|
| Sales | 120,000 | 0 | 120,000 |
| Cost of Goods Sold | 0 | 80,000 | (80,000) |
| Operating Expenses | 0 | 20,000 | (20,000) |
| Interest Expense | 0 | 5,000 | (5,000) |
| Taxes | 0 | 15,000 | (15,000) |
| Other Income | 10,000 | 0 | 10,000 |
| Other Expenses | 0 | 3,000 | (3,000) |
| Total | 130,000 | 123,000 | 7,000 |

The data shows a positive net profit of 7,000 for the period. This is primarily driven by the high revenue from sales, which significantly exceeds the total expenses.

The document concludes by stating that the financial records are accurate and complete. It is recommended that the same level of diligence be maintained in future reporting periods.



Mesembryanthemum heterophyllum

PLATE DXII.
PROTEA CONIFERA.
Cone-bearing Protea.

CLASS IV. ORDER I.

TETRANDRIA MONOGYNIA. Four Chives. One Pointal.

ESSENTIAL GENERIC CHARACTER.

| | | |
|---|--|--|
| <p>COROLLA 4-fida, seu 4-petala. Antheræ lineares, petalis infra apices insertæ. Calyx proprius, nullus. Semina solitaria.</p> | | <p>BLOSSOM four-cleft, or of four petals. Tips linear, inserted into the petals below the points. Cup proper, none. Seeds solitary.</p> |
|---|--|--|

SPECIFIC CHARACTER.

| | | |
|--|--|---|
| <p>PROTEA foliis acinaciformibus, glabris, callosis : floribus in capitulis terminalibus, pallide luteis : involucro patente, late lanceolato, concolore.</p> | | <p>PROTEA with scimitar-shaped leaves, smooth and hard. Flowers grow in terminal heads of a pale yellow colour : the involucrem is spreading, broadly lance-shaped, and the same colour as the blossoms.</p> |
|--|--|---|

REFERENCE TO THE PLATE.

1. A flower.
 2. A chive magnified.
 3. Seed-bud and pointal, summit magnified.
-

OUR figure represents part of a plant in the collection of G. Hibbert, esq. in the year 1803, and the smaller specimen a branch from the same plant in 1807. So considerable a latitude of growth is certainly deserving notice, as, upon a slight examination, they might easily be mistaken for distinct species. In the first year of its inflorescence its appearance is uninteresting ; but in a year or two afterwards it displays such an abundance of bloom, that it then becomes a very ornamental little shrub. It is a Cape species, and requires no particular treatment more than what is common to the generality of this extensive family.



Protea conifera

PLATE DXLII.
RUELLIA INFUNDIBULIFORMIS.
Funnel-flowered Ruellia.

CLASS IV. ORDER I.

TETRANDRIA MONOGYNIA. Four Chives. One Pointal.

ESSENTIAL GENERIC CHARACTER.

CALYX 5-partitus. Corolla monopetala, limbo 5-lobo, inæquali. Stamina biconjugata. Stylus filiformis. Stigma bifidum. Capsula dissepimentis dentatis, elasticis, dehiscentibus. Semina pauca.

EMPALEMENT 5-parted. Blossom one petal: border 5-lobed, unequal. Chives by pairs. Shaft thread-shaped. Summit two-cleft. Capsule with the partitions toothed, elastic, and splitting. Seeds few.

SPECIFIC CHARACTER.

RUELLIA foliis oppositis, alternis, lanceolatis, undulatis, costatis, lucidis: floribus in spicis terminalibus, confertis. Corolla infundibuliformis: laciniis limbi quinquefidis, crenatis, patentibus, rugosis, coccineis, ad basin luteis.

RUELLIA with opposite alternate leaves, lance-shaped, waved, ribbed, and shining. Flowers grow in terminal spikes, crowded together. Blossom funnel-shaped: segments of the border five-cleft and notched, spreading, wrinkled, of a scarlet colour, and yellow at the base.

REFERENCE TO THE PLATE.

1. The empalement.
2. A blossom spread open.
3. Seed-bud and pointal.

Few of the small plants that adorn the stove are superior in beauty to this elegant little shrub, whose successive bloom continues from June till January. It is the *Justicia infundibuliformis* of Linnæus, but must, according to his own system, be removed to the class *Tetrandria*. We have seen it in many collections in great luxuriance. It is a native of the East Indies, and was introduced by the Right Hon. C Greville, four or five years ago. As yet, we believe, it has not perfected its seed with us, but propagates freely by cuttings.



THE UNIVERSITY OF CHICAGO

PHYSICS DEPARTMENT

CHICAGO, ILL.

February 10, 1954

Mr. J. R. Oppenheimer

University of California

San Diego, California

Dear Mr. Oppenheimer:

I have your letter of January 28, 1954, regarding the proposed experiment on the production of muons in the atmosphere. The experiment is of great interest to us and we are glad to hear that you are planning to carry it out. We are sorry that we cannot do more for you at present, but we will be glad to help you in any way we can in the future.

Very truly yours,

Robert Serber

Professor of Physics

University of Chicago

Enclosed for you are two copies of a report on the production of muons in the atmosphere. The report is a preliminary one and is not perfect in many respects. It is, however, a good starting point for your work. I hope you will find it useful.



Quilcia, infundibuliformis

Sculp. de Lamarck del.

PLATE DXLIII.
PROTEA SPECIOSA PATENS.
Spreading Showy Protea.

CLASS IV. ORDER I.

TETRANDRIA MONOGYNIA. Four Chives. One Pointal.

ESSENTIAL GENERIC CHARACTER.

| | | |
|---|--|--|
| COROLLA 4-fida, seu 4-petala. Antheræ lineares, petalis infra apices insertæ. Calyx proprius, nullus. Semina solitaria. | | BLOSSOM four-cleft, or of four petals. Tips linear, inserted into the petals below the points. Cup proper, none. Seeds solitary. |
|---|--|--|

SPECIFIC CHARACTER.

| | | |
|---|--|--|
| PROTEA foliis lanceolatis, undulatis, pilosis: squamis calycinis rotundato-ovatis, marginibus fimbriatis nigricantibus. Caulis patens.
Habitat in Caput Bonæ Spei. | | PROTEA with lance-shaped leaves, waved and hairy. Scales of the empalement roundedly oval, with fringed margins of a black brown colour. Stem spreading.
Native of the Cape of Good Hope. |
|---|--|--|

REFERENCE TO THE PLATE.

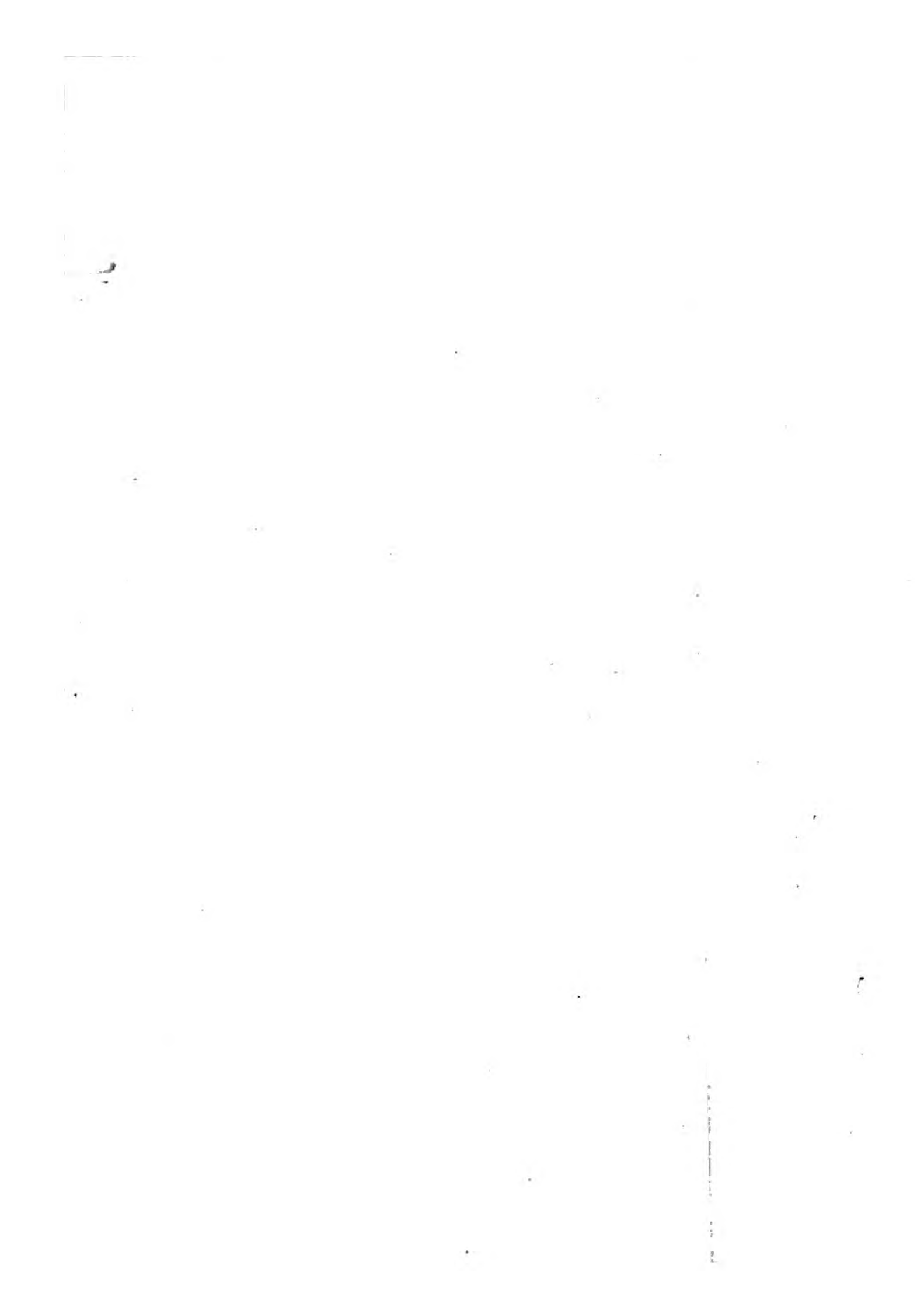
1. A flower, one tip magnified.
2. Seed-bud and pointal, summit magnified.

THIS fine fringed Protea in the foliage is very nearly allied to the *P. speciosa*, but the flower is more spread open than any of that section we have as yet seen. It is naturally so averse to grow upright, that it is with difficulty prevented from bending downwards, which the branches always do till they are tied up. In this particular it very much resembles the *P. repens*, and, if left at liberty, would no doubt, like that species, creep or spread itself about on the earth. Our figure was made from a plant lately in the conservatory of G. H. Hibbert, esq., but recently consigned to J. Knight, his botanic gardener, who has commenced nurseryman in the King's Road, Chelsea, with the whole of that well known valuable collection.

Portul. speciosa hiberna



G. L. 523



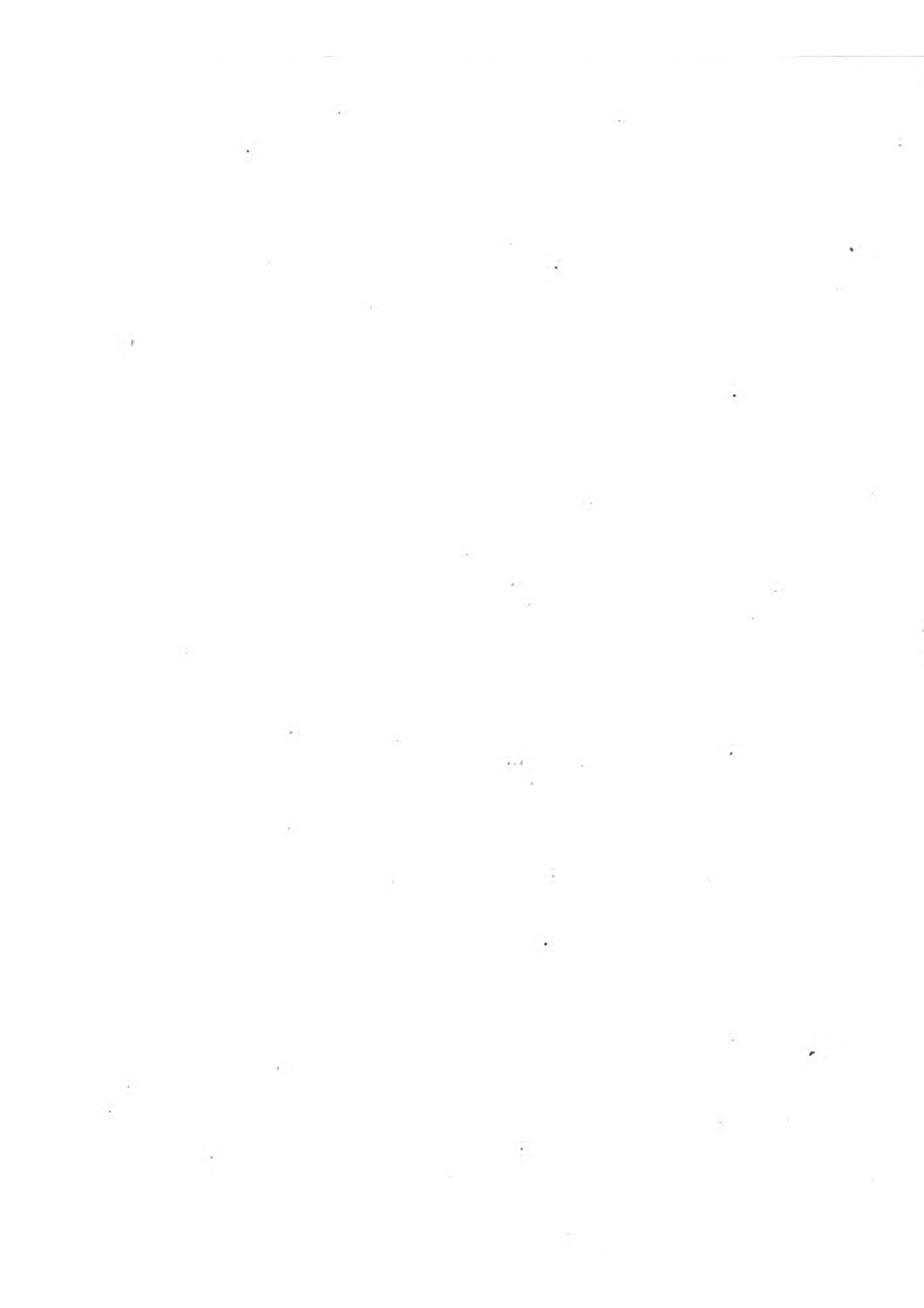


PLATE DXLIV.
MIMOSA PUDICA.
Bashful Mimosa.

CLASS XXIII. ORDER I.

POLYGAMIA MONÆCIA. Various Dispositions upon one Plant.

ESSENTIAL GENERIC CHARACTER.

HERMAPH. Calyx 5-dentatus. Corolla 5-fida.
Stamina 5, sive plura. Pistillum 1. Legumen.

MASCUL. Calyx 5-dentatus. Corolla 5-fida.
Stamina 4, 5, 10, sive plura.

HERMAPH. Empalement 5-toothed. Blossom five-cleft. Chives 5, or more. Pointal 1. A pod.

MALE. Empalement 5-toothed. Blossom 5-cleft. Chives 4, 5, 10, or more.

SPECIFIC CHARACTER.

MIMOSA foliis sensitivis palmato-pinnatis, pinnulis, multijugis. Caulis pilosus, aculeis paucis instructus. Petioli et pedunculi pilosi. Fructus echinatus.

Habitat in Brasiliâ.

MIMOSA with sensitive leaves palmately winged, the pinnulæ many-paired. Stem hairy, and furnished with a few prickles. Petioles and peduncles hairy. Fruit prickly.

Native of the Brazils.

REFERENCE TO THE PLATE.

1. A flower.
2. A chive magnified.
3. Seed-bud and pointal magnified.
4. The ripe capsule, with a seed detached.

FIVE distinct genera were once included under the generic title of *Mimosa*, but separated by Willdenow into 102 *Acacias*, 58 *Ingas*, 9 *Desmanthus*es, 3 *Shrankias*, and 32 *Mimosas*. This susceptible species of *Mimosa* is an old inhabitant of the stove, and well known to cultivators by the appellation of the Sensitive Plant (but not to be confounded with the *M. sensitiva*, a very different species). Although this *Mimosa* is neither new nor rare, it is nevertheless very interesting, and has not hitherto made its appearance in any modern publication; nor is there any coloured figure of it extant. Our representation of it, therefore, is in part a novelty, however old and familiar the plant itself may be. According to the observations of Linnæus, it opens or expands its foliage at three in the morning, and closes it about six in the evening. Its singular quality of shrinking from the touch is supposed to be owing to its being strongly saturated with oxygen gas, which it disengages upon the slightest provocation, and its place for a short time is supplied by the atmospheric air; which retiring, the leaves again resume their former appearance, and so remain expanded till the evening, unless disturbed by design or accident; for the rude approach of the common air disorganises its foliage.

The leaf is mostly composed of four divisions, but sometimes five and six may be found in plants of a luxuriant growth. Each division is supplied with numerous little leaflets, in pairs of an oblong form, with a small yellow gland at their base, which when carefully touched will close up separately, and leave the surrounding leaflets undisturbed. It may be considered either as an annual or a biennial, dying after ripening its seeds. Our drawing was made from fine plants in the collection of J. Vere, esq.



Mimosa pudica

STATE DEPT.

PROTEA ARBORESCENS

... ..

CLASS IV. ...

LEUCALBA MONOCOTYLA ...

... ..

... ..

PROTEA ARBORESCENS

... ..

... ..

... ..

... ..

PLATE DXLV.

PROTEA ABROTANIFOLIA, *odorata*.

Sweet-scented Southernwood-leaved Protea.

CLASS IV. ORDER I.

TETRANDRIA MONOGYNIA. Four Chives. One Pointal.

ESSENTIAL GENERIC CHARACTER.

COROLLA 4-fida, seu 4-petala. Antheræ lineares, petalis infra apices insertæ. Calyx proprius, nullus. Semina solitaria.

BLOSSOM four-cleft, or of four petals. Tips linear, inserted into the petals below the points. Cup proper, none. Seeds solitary.

SPECIFIC CHARACTER.

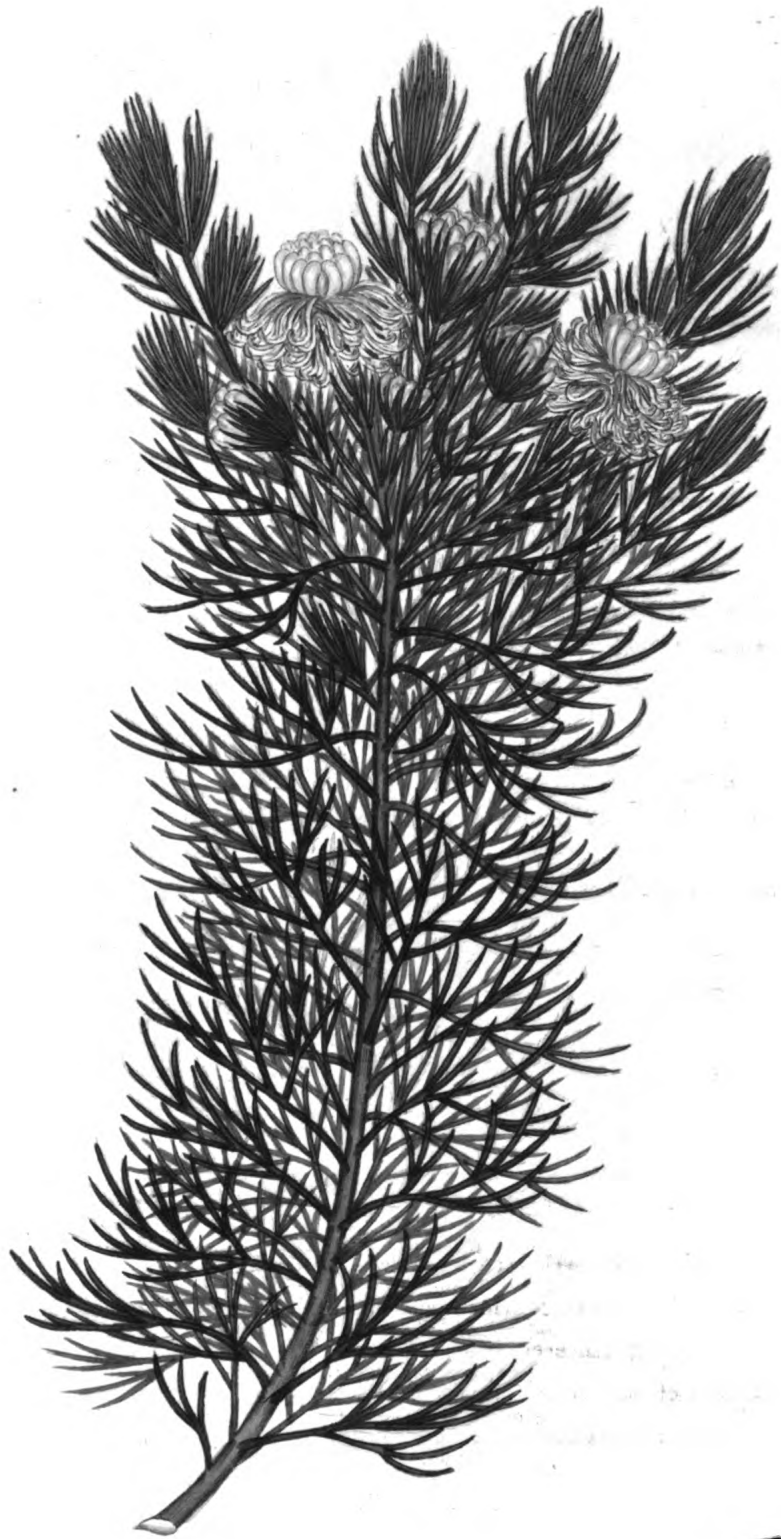
PROTEA foliis multifidis, filiformibus, acutis, pilosis: floribus in capitulis terminalibus, lucidis, odoratis.
Habitat in Caput Bonæ Spei.

PROTEA with many-cleft leaves, thread-shaped, pointed, and hairy: flowers grow in terminal heads, shining, and sweet-scented.
Native of the Cape of Good Hope.

REFERENCE TO THE PLATE.

1. A flower, one tip magnified.
2. Seed-bud and pointal.

THIS species of Protea well deserves a place in any collection, as, in addition to its light and graceful appearance, it is possessed of a most agreeable fragrance. There is a variation of it with white flowers, but exactly the same in every other particular. It remains a considerable time in bloom, but not many umbels of flowers are expanded at the same time. We have seen it in several collections. It is a Cape species, and appears to be of easy culture.



Protea, abrotanifolia odorata



PLATE DXLVI.
MONARDA PUNCTATA.
Dotted-flowered Monarda.

CLASS II. ORDER I.

DIANDRIA MONOGYNIA. Two Chives. One Pointal.

ESSENTIAL GENERIC CHARACTER.

CALYX tubulosus, quinque-dentatus. Corolla ringens, labio superiore lineari, filamenta involvente.

EMPALEMENT tubular, five-toothed. Blossom gaping: the upper lip linear, and enfolding the threads.

SPECIFIC CHARACTER.

MONARDA foliis lanceolatis, dentatis, minutè punctatis: floribus verticillatis, flavis, rubro punctatis: foliis involucri ovato-lanceolatis, glabris, incarnatis.

MONARDA with lance-shaped leaves, toothed, and minutely dotted. Flowers grow in whorls, are of a yellow colour, and dotted with red: the involucrate leaves are ovately lance-shaped, smooth, and flesh-coloured.

Habitat in Americâ Boreali.

Native of North America.

REFERENCE TO THE PLATE.

1. A flower.
2. A blossom spread open, one tip magnified.
3. Seed-bud and pointal, summit magnified.
4. Seed-bud magnified.

THE only figure of the *Monarda punctata* we have seen is an uncoloured one in Plukenet's *Phytographia*. It is a perfectly new species to the garden, and the only *Monarda* with yellow flowers at present known. Its specific title is particularly applicable to its bloom, as all the species yet enumerated are more or less punctured in the foliage, some so minutely as scarcely to be perceived without the aid of a magnifier. It is a native of Virginia in North America, but by whom introduced we have not been able to learn. Our drawing was made from plants in the nursery of Messrs. Whitley and Brames, who raised it from seed last year, 1807; but it did not flower till the latter part of the present summer. It is a hardy perennial, and certainly a handsome addition to the genus.



1. *Monarda punctata*

2. 3. 4.

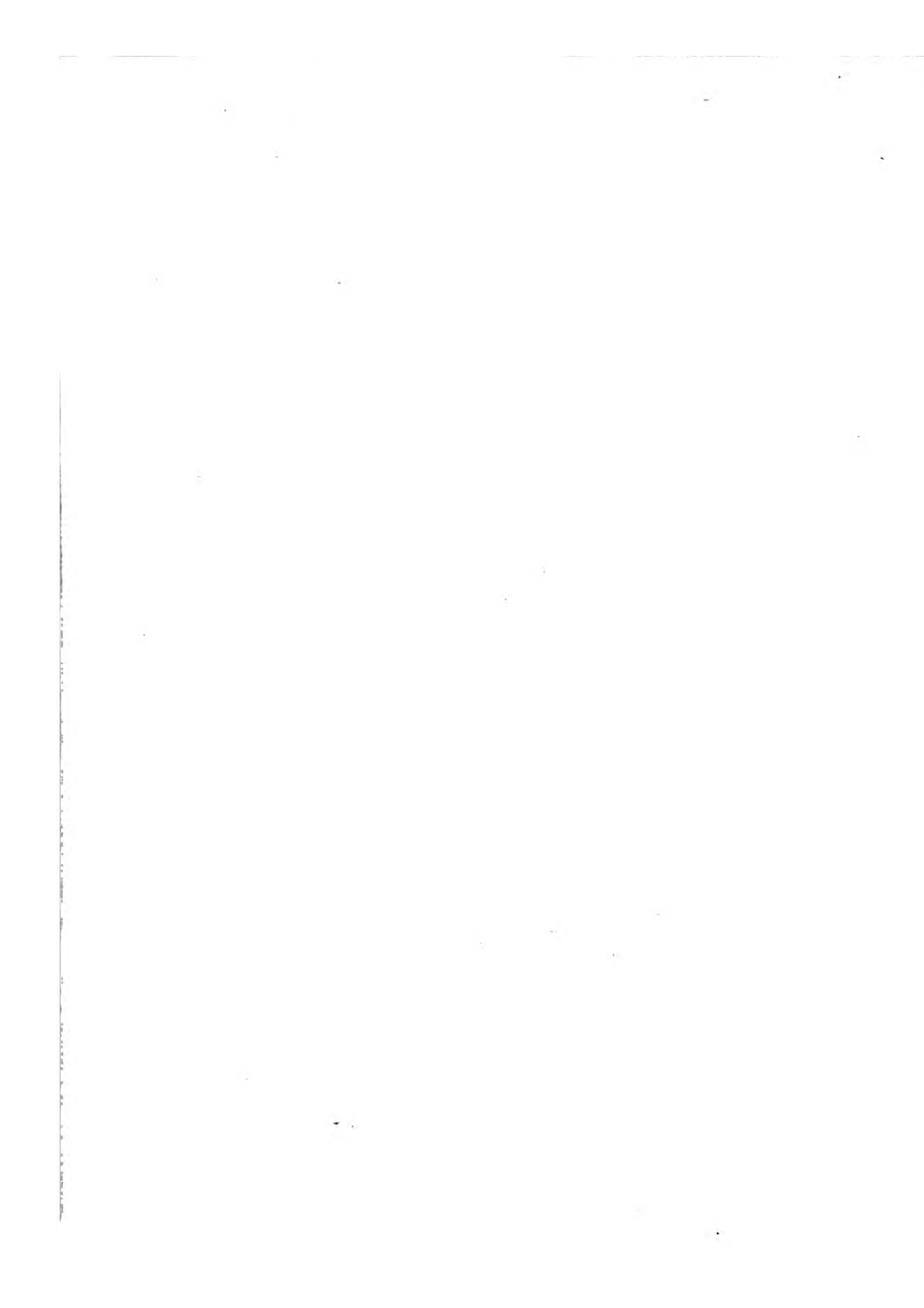




PLATE DXLVII.
PASSIFLORA PERFOLIATA.
Perfoliate-leaved Passion-flower.

CLASS XX. ORDER V.

GYNANDRIA PENTANDRIA. Chives on the Pointal. Five Chives.

ESSENTIAL GENERIC CHARACTER.

TRIGYNA. Calyx 5-phyllus. Petala 5. Nectarium corona. Bacca pedicellata.

|| THREE Styles. Cup 5-leaved. Petals 5. Honey-cup forming a crown. Berry standing on a footstalk.

SPECIFIC CHARACTER.

PASSIFLORA foliis bilobis: lobis oblongis, divaricatis, subtus punctatis, glaucis: laciniis calycinis linearibus.

Habitat in Caribbæis.

Jacquin's Hort. Schœn. vol. 2. tab. 182.

|| *PASSION-FLOWER* with leaves two-lobed: lobes oblong and straddling, dotted beneath, and glaucous: segments of the cup linear.

Native of the Caribbee Islands.

REFERENCE TO THE PLATE.

1. A flower spread open.

THE most graceful ornament to the hot-stove is the elegant and favourite genus *Passiflora*, whose branches meandering against the interior sides of the building adorn it to the greatest advantage. From a branch of the *Passiflora perfoliata* thus situated in the collection of the Countess de Vandes our drawing was taken. The only coloured figure of it we have seen is in the *Hortus Schoenbrunnensis* of *Jacquin*. It flowers in great luxuriance during the months of July and August.



Passiflora, perfoliata

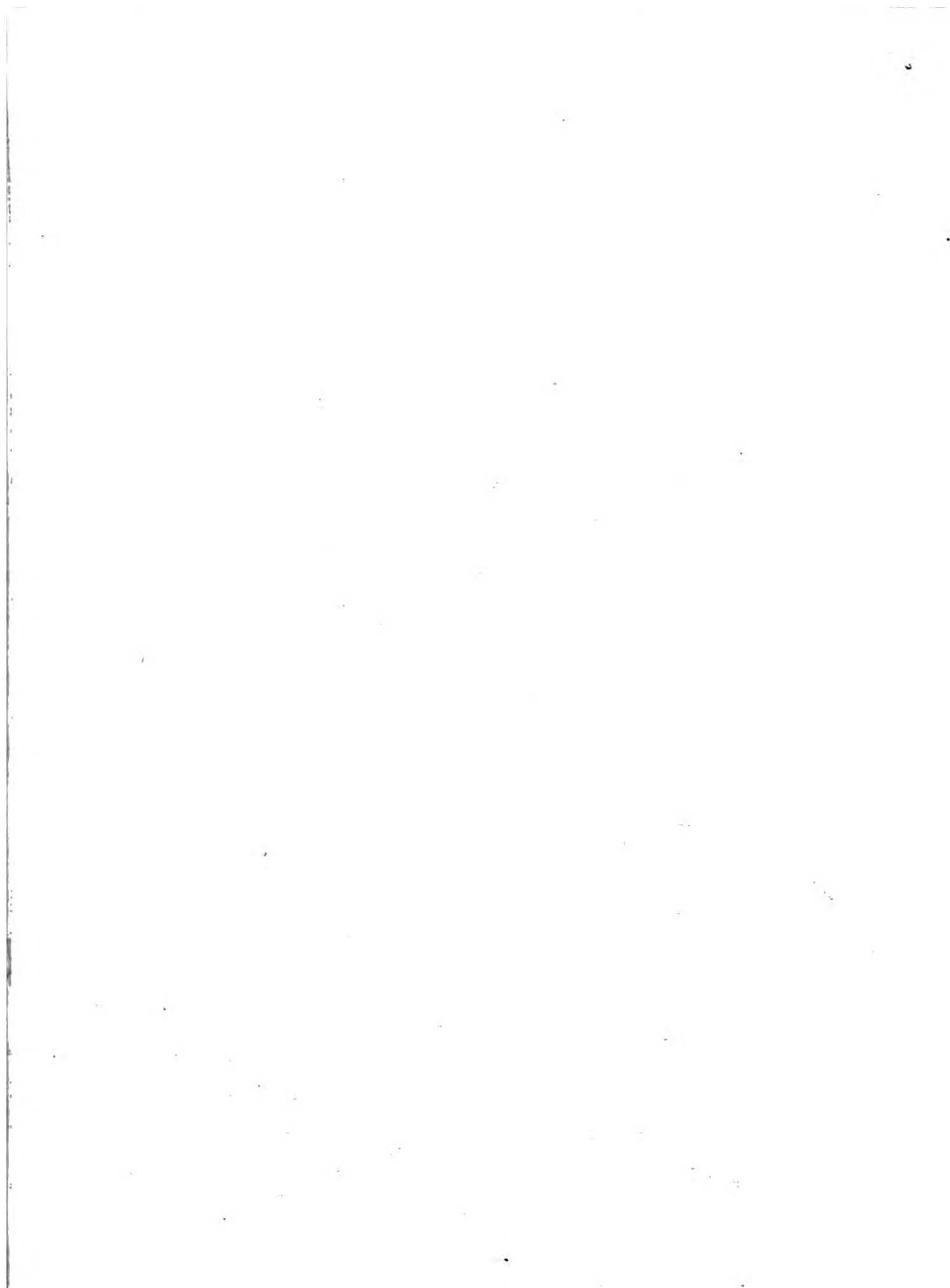


PLATE DXLVIII.
 CUCUMIS DUDAIM.
Sweet-scented Melon.

CLASS XXI. ORDER VIII.

MONÆCIA MONADELPHIA. Chives and Pointals separate. One Brotherhood.

ESSENTIAL GENERIC CHARACTER.

| | | |
|--|--|---|
| <p style="text-align: center;"><i>Masculini flores.</i></p> <p>CALYX 5-dentatus. Corolla 5-partita. Filamenta 3.</p> | | <p style="text-align: center;"><i>Male flowers.</i></p> <p>EMPALEMENT 5-toothed. Blossom 5-parted. Filaments 3.</p> |
| <p style="text-align: center;"><i>Fœminei flores.</i></p> <p>CALYX 5-dentatus. Corolla 5-partita. Pistillum 3-fidum.</p> | | <p style="text-align: center;"><i>Female flowers.</i></p> <p>EMPALEMENT 5-toothed. Blossom 3-parted. Pointal 3-cleft.</p> |

SPECIFIC CHARACTER.

| | | |
|---|--|--|
| <p>CUCUMIS foliorum angulis rotundatis, dentatis, hispidis: fructu sphærico, aurantio, variegato, odoratissimo.</p> | | <p>MELON with leaves angular, rounded, toothed, and hispid: fruit spherical, of a gold colour, variegated, and very sweet-scented.</p> |
|---|--|--|

REFERENCE TO THE PLATE.

1. A blossom spread open.
2. A chive magnified.
3. Empalement, seed-bud, and pointal.
4. A horizontal section of the fruit.
5. A female flower spread open.

THIS curious little species of Melon, although no new introduction to the English gardens, is but rarely met with, yet well deserves a place in every curious collection for the beauty and fragrance of its fruit; which, when cut before quite ripe, will continue fragrant nearly a fortnight. It is however only to be valued for its odour and beauty, the flavour being insipid. It is said to have been first introduced by Lord Petre, who sent the seeds from Morocco to Peter Collinson, F. R. S. It is also cultivated in Persia, and a figure of the fruit taken there is given in Gmelin's Travels, vol. iii. tab. 49. fig. 6. Its Hebrew appellation of Dudaim seems to have been bestowed by Linnæus, from the fantastical idea that it was the fruit mentioned in the Bible by the name of mandrake, with which Jacob's neglected wife purchased her husband's favours for one night of her rival. Another plant with perennial roots descending 6 or 8 feet into the earth, was taken by his pupil Hasselquist (sent to the East on purpose to illustrate the natural history of that country) for the celebrated Dudaim;—Which is the right one, let critics in Hebrew decide! The *Melo Ægypticus minor* of Tournefort, or Ægyptian Abdelavi, which Linnæus supposed to be the same as the *Melo aurantii figura odoratissimus* of Dillenius, and might partly have occasioned the name, is a very different species. Indeed the claim of our plant to Ægyptian origin seems doubtful, but we would reluctantly change a name that has been applied for more than half a century. Our specimens are from the collection of A. B. Lambert, esq.

Pl. 540



Cucumers

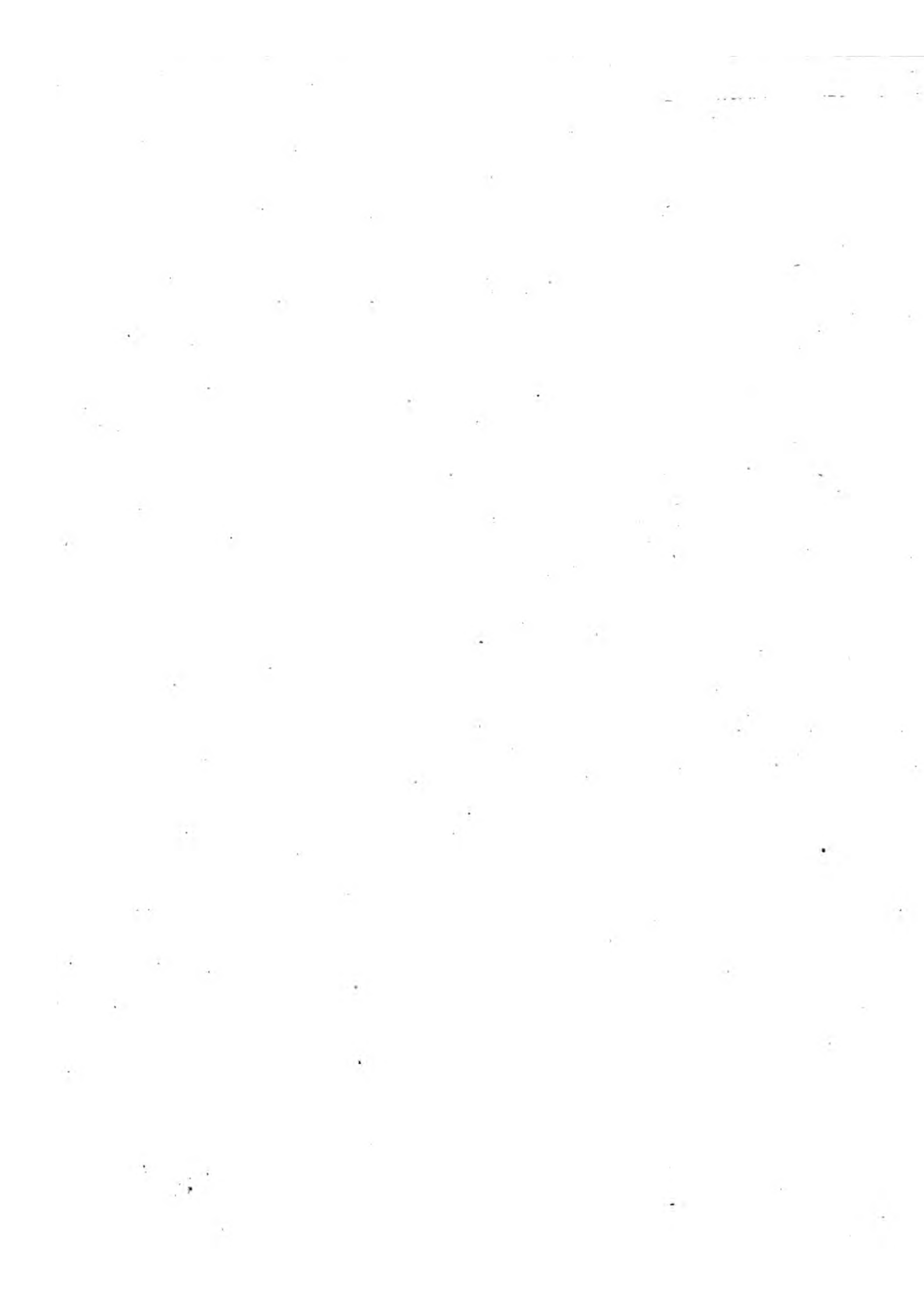


PLATE DXLIX.
PASCALIA GLAUCA.
Glaucous-leaved Pascalia.

CLASS XIX. ORDER II.

SYNGENESIA POLYGAMIA SUPERFLUA. Tips united. Superfluous Pointals.

ESSENTIAL GENERIC CHARACTER.

RECEPTACULUM paleaceum.

SEMINA drupacea. Pappus margine dentatus.
Calyx imbricatus.

RECEPTACLE chaffy.
SEEDS a ripe berry. Down toothed at the edge.
Empalement tiled.

SPECIFIC CHARACTER.

PASCALIA foliis oppositis, tri-nervibus, glaucis patentibusque; inferiora lato-lanceolatis, denticulatis, acutis, sæpius integerrimis: floribus terminalibus, solitariis: corolla flava.

PASCALIA with opposite leaves, three-nerved, glaucous and spreading; the lower ones are broadly lance-shaped, toothed, and pointed, but often entire: flowers terminal and solitary: blossom yellow.

Habitat in regno Chilensi.

Pascalia glauca Ortega Nov. rar. plant. tab. 4.

Native of the Kingdom of Chili.

REFERENCE TO THE PLATE.

1. The empalement and receptacle.
2. A floret of the ray.
3. A floret of the disk, summit magnified.
4. Seed-bud and pointal.

THE only figure of this syngenesious plant is in the new and rare plants of Ortega, who named it after D. Didaco Pascal, a Spanish physician. It is the only species of the genus yet known, and a fine living specimen of it was communicated to us by Mr. Lambert, who raised it from seed sent to him from Madrid by the late Cavanilles. It is perfectly hardy, and the roots so durable and spreading that they are not easily eradicated. It does not however bloom with equal facility, but seems to want a warmer sun to aid its flowers in their expansion.



Pseudocalsia glauca



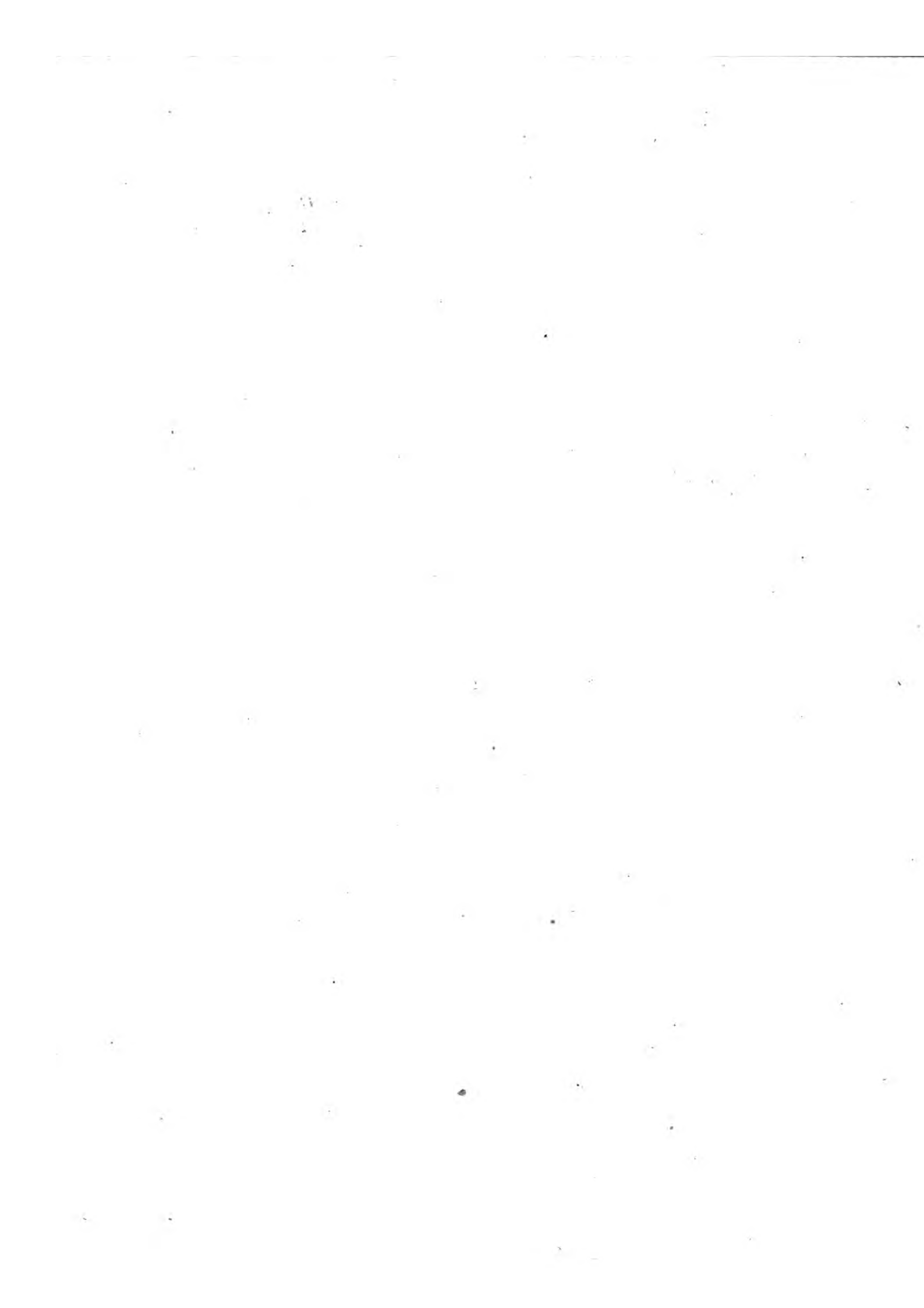


PLATE DL.
HERMANNIA FLAMMEA.

Flame-coloured Hermannia.

CLASS XVI. ORDER V.

MONADELPHIA PENTAGYNIA. One Brotherhood. Five Pointals.

ESSENTIAL GENERIC CHARACTER.

| | | |
|---|--|---|
| CALYX simplex, 5-fidus. Petala 5, spiraliter cucullata. Filamenta lanceolata. Styli 5. Capsula 5-locularis, polysperma. | | EMPALEMENT simple, 5-cleft. Petals 5, spiral and hooded. Filaments lance-shaped. Shafts 5. Capsule 5-celled, many-seeded. |
|---|--|---|

SPECIFIC CHARACTER.

| | | |
|---|--|---|
| HERMANNIA foliis cuneiformibus, apice dentatis: floribus ramos terminantibus, spicatis, laxis.
Habitat in Caput Bonæ Spei.
<i>Hermannia flammea</i> , Jacq. Hort. Schoen. vol. i. tab. 129. | | HERMANNIA with wedge-shaped leaves, toothed at the end. Flowers terminate the branches in loose spikes.
Native of the Cape of Good Hope. |
|---|--|---|

REFERENCE TO THE PLATE.

1. The empalement.
2. A petal.
3. The chives and pointal.
4. A chive magnified.
5. Seed-bud and pointal magnified.
6. A transverse section of the seed-bud magnified.

THIS species of *Hermannia* is figured in the Hortus Schœnbrunnensis of Jacquin. We have adopted his specific title of *flammea*, but think the plant would have been better marked by the appellation of *ignescens*; particularly as we have seen it in bloom with scarcely any vestige of yellow or flame colour on the petals, but always of a fine fiery red colour. It is a very handsome hardy green-house shrub, and flowers from June till January.

Our drawing was made from a plant in the nursery of Mr. Knight, King's Road, Chelsea.



Hermannia flammea

PLATE DLI.
LOPEZIA CORONATA.
Coronet-flowering Lopezia.

CLASS I. ORDER I.

MONANDRIA MONOGYNIA. One Chive. One Pointal.

ESSENTIAL GENERIC CHARACTER.

| | | |
|---|--|---|
| CALYX 4-phyllus. Corolla 5-petala, inæqualis.
Capsula 4-locularis, 4-valvis, polysperma. | | EMPALEMENT 4-leaved. Blossom 5-petaled, unequal. Capsule 4-celled, 4-valved, many seeded. |
|---|--|---|

SPECIFIC CHARACTER.

| | | |
|--|--|--|
| LOPEZIA ramis longis, simplicibus, adscendentibus: foliis sub-ovatis, acutis, dentatis, lucidis: petiolis decurrentibus: floribus axillaribus, in umbellis terminalibus. | | LOPEZIA with long, simple, ascending branches. Leaves nearly ovate, pointed, toothed, and shining, with decurrent footstalks. Flowers growing from the axillæ of the leaves, and terminate the branches in umbels. |
|--|--|--|

REFERENCE TO THE PLATE.

1. The empalement.
 2. The chives and pointal, with the lower petal magnified.
 3. The capsule cut transversely.
 4. A seed.
-

THE *Lopezia coronata* is a hardy little annual, of recent introduction, and a lively addition to this short genus, which at present contains but two species besides the one now figured. We have seen them all three in fine bloom in several collections. Our figure represents a branch from a plant in the conservatory of the Countess de Vandes, where we observed the side petals of many of the flowers of a pure white at the ends, which gave them a very singular and different appearance from plants of the same description we have seen elsewhere: and Mr. Fordyce the botanic gardener informs me it was always the character of his plant, after it had been some time in flower, for the large petals to acquire a white appearance, as if bleached, previous to their going out of bloom. We have therefore left one flower in that state in our specimen, to delineate the variation incidental to the plant from which our figure was taken.

Phlox



Phlox



STATE OF
 ILLINOIS

IN SENATE,
 January 10, 1891.

REPORT OF THE
 COMMISSIONERS OF THE LAND OFFICE.

Presented to the Senate at its session on January 10, 1891.

| Item | Amount | Total |
|---------------------------|------------------|------------------|
| Land sold at public sale | 1,234,567 | 1,234,567 |
| Land sold at private sale | 567,890 | 567,890 |
| Land sold at auction | 123,456 | 123,456 |
| Land sold at other sale | 78,901 | 78,901 |
| Total | 2,004,814 | 2,004,814 |

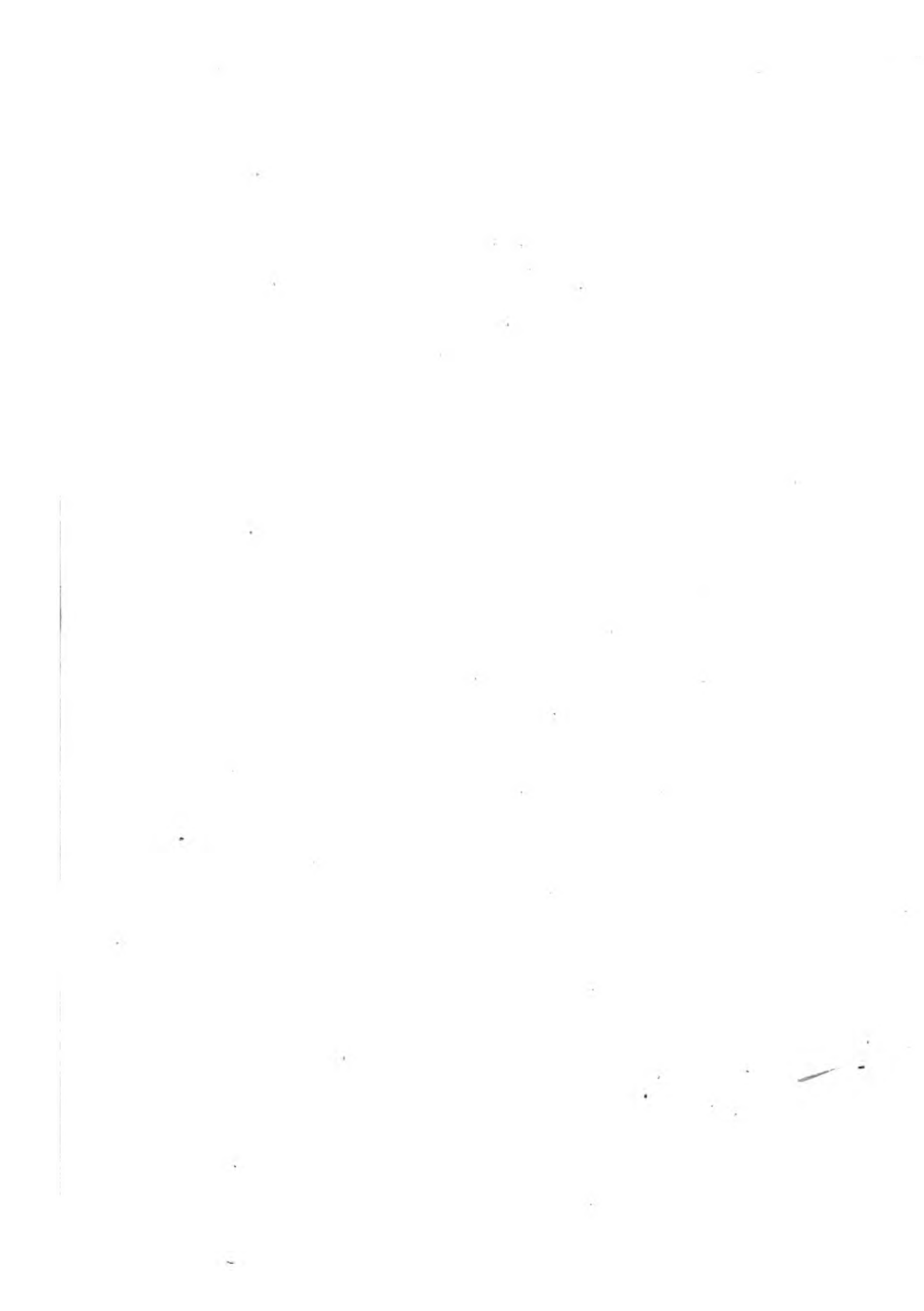
1. The amount of land sold at public sale.
2. The amount of land sold at private sale.
3. The amount of land sold at auction.
4. The amount of land sold at other sale.

The following is a summary of the land sold during the year ending December 31, 1890. The total amount of land sold was 2,004,814 acres. The land was sold at public sale, private sale, auction, and other sale. The amount of land sold at public sale was 1,234,567 acres, at private sale 567,890 acres, at auction 123,456 acres, and at other sale 78,901 acres.



Spiza coronata





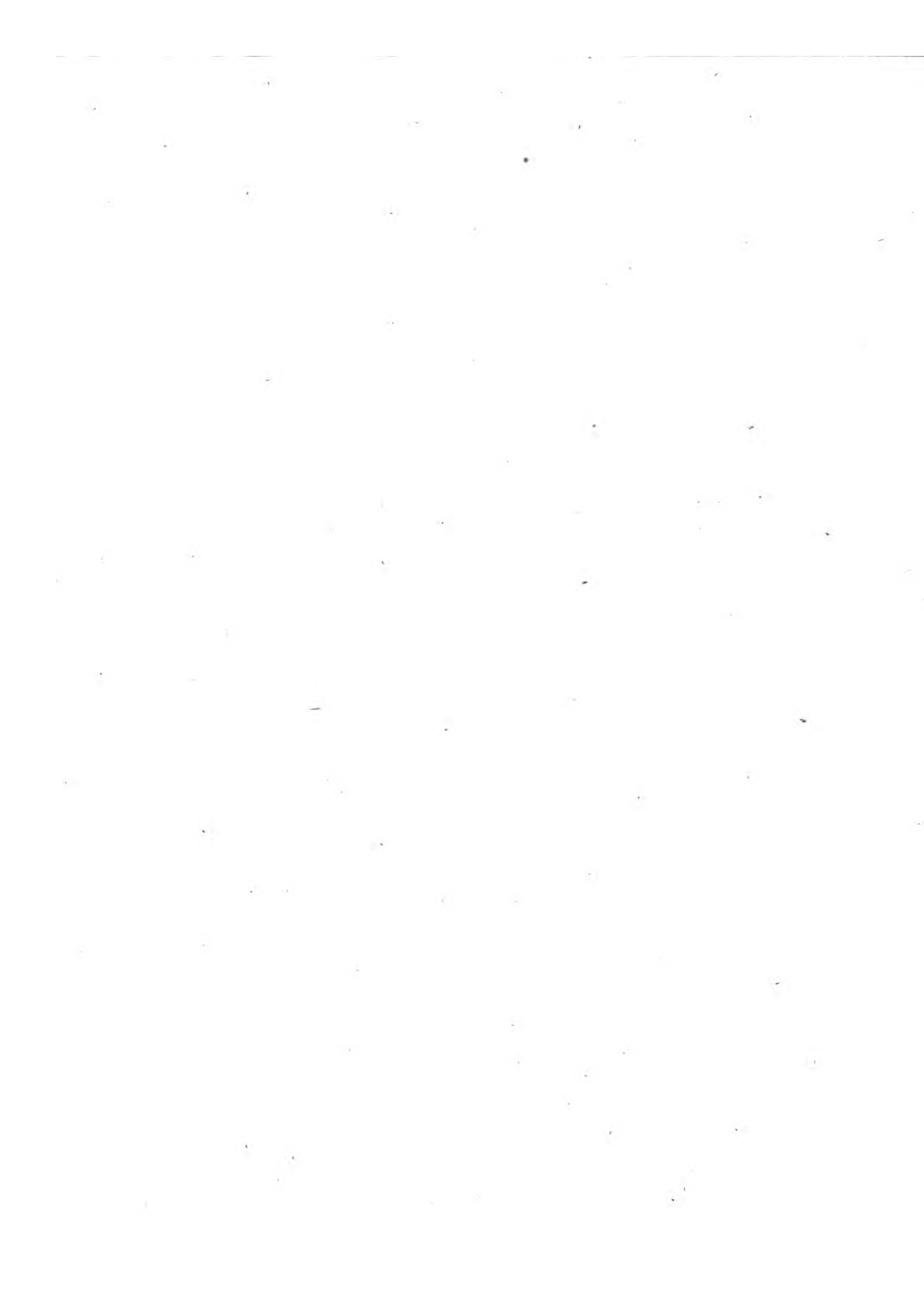


PLATE DLII.
HYPERICUM VIRGINICUM.
Virginia Hypericum.

CLASS XVIII. ORDER IV.

POLYADELPHIA POLYANDRIA. Many Brotherhoods. Many Males.

GENERIC CHARACTER.

CALYX 5-partita. Corolla 5-petala. Filamenta
multa, in 5 phalanges, basi connata. Cap-
sula locularis.

EMPALEMENT 5-parted. Blossom 5-petalled.
Threads many, conjoined at the base, in 5
squadrons. Capsule celled.

SPECIFIC CHARACTER.

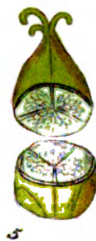
HYPERICUM floribus trigynis, enneandris, ter-
minalibus; foliis ellipticis, obtusis, sub-cor-
datis, amplexicaulibus: caule herbaceo.

HYPERICUM with flowers three-styled, nine-
chived, and terminal. Leaves elliptic, ob-
tuse, nearly heart-shaped, and embracing
the stem. Stem herbaceous.

REFERENCE TO THE PLATE.

1. The empalement.
2. A petal.
3. The chives and pointals, one tip magnified.
4. The pointals.
5. The same cut transversely and magnified.

THIS hardy little herbaceous plant was introduced by Mr. Lyons from America about the year 1804. There is no figure of it extant that we know of. Willdenow in his *Species Plantarum* has enumerated eighty-eight species of *Hypericum*; but amongst that number three distinct genera are certainly included. Our drawing was made from plants in the nursery of Messrs. Whitley and Brames, who raised them from seed, and with whom they flowered the second year. Their bloom is but of short duration, but few flowers are open at one time; and we are inclined to think that they will expand with more freedom and last longer in a shady situation than when fully exposed to the solar ray.



Hypericum, Virginicum



