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*To be continued Quarterly.*

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**No. LXXVII.**

*For AUGUST 1863,*

(PRICE 4s. 6d.,)

OF THE

**SUPPLEMENT**

TO

**ENGLISH BOTANY.**

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LONDON:

PUBLISHED BY THE PROPRIETOR, J. W. SALTER;  
AND SOLD BY J. VAN VOORST, PATERNOSTER ROW, AND ALL BOOKSELLERS.

1863.

*fn. 1.*





S U P P L E M E N T  
TO THE  
E N G L I S H B O T A N Y

OF THE LATE  
SIR J. E. SMITH AND MR. SOWERBY.

---

THE DESCRIPTIONS, SYNONYMS, AND  
PLACES OF GROWTH

BY-

THE LATE W. BORRER, Esq., F.R. & L.S.  
PROF. C. C. BABINGTON, M.A., F.R. & L.S.  
REV. W. W. NEWBOULD, M.A., F.L.S.  
AND OTHER EMINENT BOTANISTS;

THE FIGURES BY  
JAMES DE CARLE SOWERBY, F.L.S. &c.

AND

JOHN WILLIAM SALTER, A.L.S. &c.

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..... Natura  
Non habet extremum, caret ergo fine modoque.

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VOL. V.

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## PREFACE TO VOL. V.

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“*ENGLISH BOTANY*” is long-lived, and our subscribers must not be surprised, if now and then a volume makes its appearance. From various circumstances, and chiefly from the slender support accorded to the work, it is impossible to publish the numbers frequently or regularly, and fourteen years have passed since our last volume was completed.

During this interval between fifty and sixty drawings have been accumulated, and more are in progress : thanks rather to the zeal and kindness of the correspondents and editors of the work, whose names are long familiar to cultivators of British Botany, than to the endeavours of the proprietor and artist.

It is intended, therefore, to proceed as regularly as circumstances will allow with the numerous and interesting species which still remain unfigured. And we reckon (excluding the *Rubi* and *Hieracia*, which are all critical forms, and suited rather for a separate work) that 100 or 120 plants, at least, are well deserving illustration in this volume.

We shall endeavour to publish a number containing, as before, six plates, with corresponding letter-press, every two months, until the materials are exhausted. The date of publication will, as heretofore, be given on each plate. And though several of the figures

will from time to time appear in the new edition of *English Botany*, edited by Mr. Syme, and published by Messrs. Sowerby and Hardwicke, our subscribers will find numerous plants not given in that work, and will have the advantage of the full supervision of both plates and letter-press by our long-tried friend Prof. C. C. Babington.

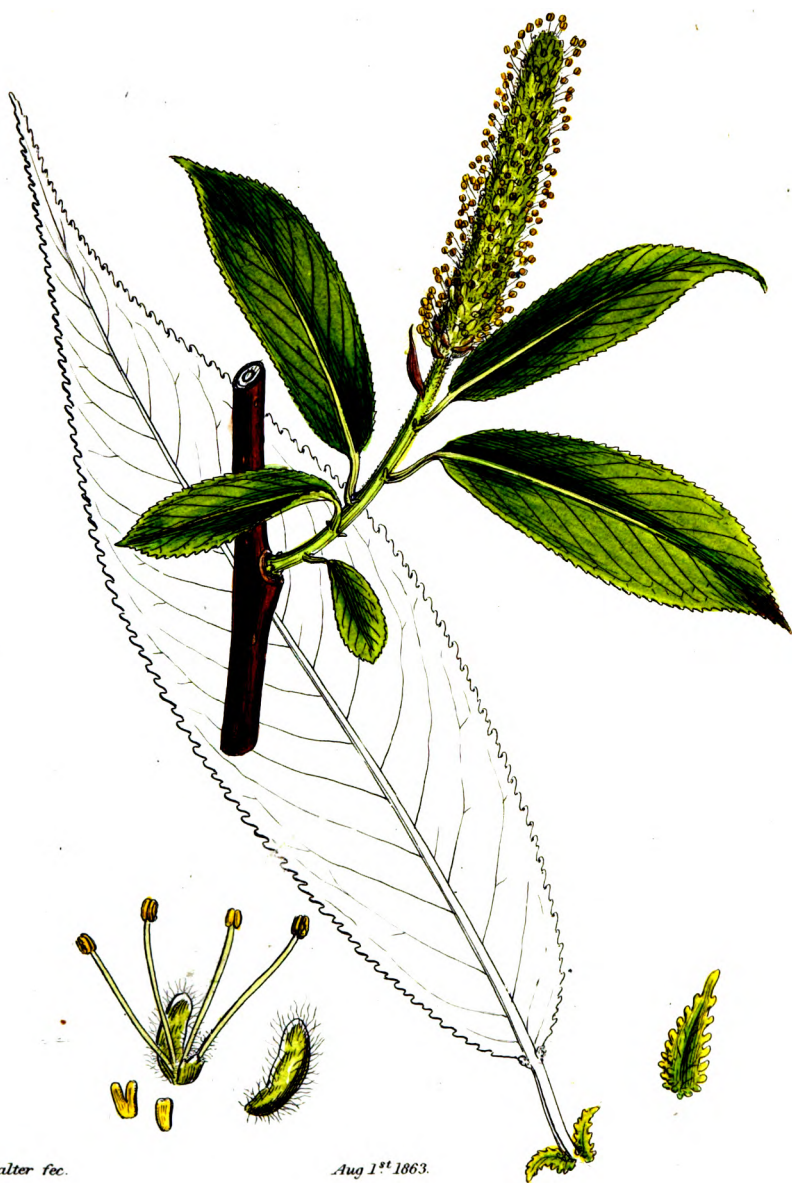
Moreover it is not desirable, on many grounds, that the public should be kept waiting for the figures of new species till they shall have appeared in the systematic order of the work above quoted. The order of publication in the Supplement is, as far as possible, the order of discovery; and as we have the hearty cooperation of all English botanists in the collection of material, the more or less rapid production of these will depend mainly on the botanical public.

We shall be glad to receive, addressed to Mr. J. D. C. Sowerby, of the Royal Botanic Gardens, Regent's Park, London (N.W.), authentic specimens of flowering plants, ferns, *Equiseta* and *Lycopodia*, not as yet figured in *English Botany*. The other Cryptogamic plants do not enter into our plan.

JOHN WILLIAM SALTER.

Swan Cottage, Church End, Finchley,  
August 1, 1863.





*J. W. Salter fec.*

*Aug 1<sup>st</sup> 1863.*







*J.W. Salter fec*

*Aug. 1<sup>st</sup> 1863.*

2961 ♂, 2962 ♀.

**SALIX** cuspidata.

*Pointed-leaved Willow.*

---

*DIÆCIA* Diandria.

**GEN. CHAR.** Male, *Cal.* a scale of an imbricated catkin, single-flowered. *Cor.* none. *Nect.* a gland or glands at the base of the stamens. *Stam.* 1-5 (or more). Female, *Cal.* and *Nect.* as in male. *Cor.* none. *Caps.* of 1 cell and 2 valves. *Seeds* tufted.

**SPEC. CHAR.** Leaves elliptic-lanceolate, long-pointed, densely serrulate. Stipules oblique, conspicuous. Catkins coming forth with the leaves, on leafy stalks. Calyx-scales pale throughout, hairy, entire, deciduous. Stamens mostly four. Capsules ovate-attenuate, on stalks 3 or 4 times as long as the nectary.

**SYN.** *Salix cuspidata.* *C. F. Schultz, Fl. Starg. Suppl.* 47. *Koch, Sal. Comm.* 14; *Synops. ed.* 2. 740. *Wood's Tourist's Fl.* 336. *Bab. Man. ed.* 5. 298. *Hook. and Arn. Brit. Fl. ed.* 8. 400.

*S. Meyeriana.* *Willd. "Berl. Baumz. ed.* 2. 427;" *Fl. Berol. Enum. Suppl.* 65 (name only). *Reich. Fl. Excurs.* 172; *Icon. Germ. et Helv. v.* 11. 28. *t.* 611. *Loudon, Arbor.* 1504. *f.* 1300.

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**RECORDED** as a native of Pomerania and of some parts of North Germany. First observed, apparently wild, in Britain, by the Rev. W. A. Leighton, at Hanwood, near Shrews-

bury, in June 1836, and subsequently, by the Rev. L. Darwall, in the neighbourhood of Pountesbury, Shropshire. We are indebted to both for specimens. Mr. Darwall remarks of his, that they were from trees in a hedge, which had, doubtless, been planted; but adds, "Of trees which seem not to have been planted I have, in one place or other, observed several." In the earlier editions of Hooker's *British Flora*, this species was erroneously admitted as growing at Brough.

A tree of moderate size, attaining the height of upwards of 30 feet. Branches brittle at the base, spreading; twigs greenish olive, at first green and slightly grooved. Leaves, when full-grown, 3 or 4 inches in length, elliptic-lanceolate, with a long point, even dark green and shining above, paler, but not glaucous, beneath; the whole margin closely serrated with gland-tipped teeth; viscid, and giving out a poplar-like fragrance while young; earlier leaves shorter and less cuspidate; the lowest obovate and blunt, and soon falling off: leaf-stalks about half an inch long, with a pair or two, or often a small cluster, of glands at the base of the leaf. Stipules attending the later leaves, soon falling off, oblique, reniform or half-heart-shaped, sometimes pointed, but more usually rounded, edged with glandular teeth, and bearing a cluster of glands on the upper side. Catkins cylindrical-oblong, on stalks of about their own length when in flower, which are loosely beset with 5 or 6 leaves, like the lower ones on the leaf-shoots; flowers closely set on a downy rachis; scales oblong, filmy, slightly wrinkled, sparsely hairy within and without; their apex rounded, slightly thickened, but not ragged with glands: nectary clasping the base of the fruit-stalk, the inner lobe usually entire, the exterior small, perhaps sometimes suppressed. Germen glabrous, on a short glabrous stalk, pale green, subquadrate, subulate, gradually tapered to the scarcely distinguishable style, which is terminated by two pale recurved slightly cleft stigmas. The capsule becomes ovate at the base, and obsolete tubercled, and its stalk at length 3 or 4 times as long as the nectary. A few silvery deciduous hairs occur on the young leaves of strong shoots; otherwise the whole plant, except the catkins, is free from pubescence.

In the male tree, not yet found wild in Britain, the twigs are somewhat browner; the leaves somewhat larger and longer; the stipules larger, usually acuminate, more copiously beset with glands; the nectary is usually more developed, its outer lobe often 2- or 3-cleft; the stamens are 2-5, mostly 4, hairy at the base, 2 or 3 times as long as the gland that surrounds them, often unequal in length.

*S. cuspidata* grows to a larger tree than *S. pentandra*, and its habit more resembles that of *S. fragilis*. In *S. pentandra* the leaves vary in shape, but are less remarkably cuspidate; their stalks have less numerous glands at the base of the leaf; the stipules are much smaller and inconspicuous; the calyx-scales toothed with glands; the male catkin is thicker and shorter; the stamens are more numerous; the advanced capsules on shorter stalks.

*S. fragilis*\* has leaves of narrower proportion, more lax, less shining, their underside glaucescent, their serratures coarser, less glandular, and scarcely at all viscid or fragrant; the lowest glands not usually more remarkable than the rest, although they do occasionally grow out into a lengthened point. The young leaves and tips of the branchlets are more silky. The catkins are more lax. The stamens, mostly 2, vary to 3, 4, 5, usually of unequal lengths. The nectary, too, is very variable, the interior portion in the male flower sometimes assuming wholly or partially the appearance of a small abortive germen.

The American *S. lucida*, Muhl., has much in common with *S. cuspidata*, but we believe it a distinct species.

We ought, perhaps, to adopt the earlier name for our Willow, since it scarcely admits of doubt that it is the species named *S. Meyeriana* by Willdenow in a German work which we have not seen. Schultz (*l. c.*) observes, judging from a dried specimen, that Willdenow's plant is nearer to *S. cuspidata* than to *S. pentandra*, and Koch (*Synopsis, l. c.*) pronounces it a variety of *S. cuspidata* with the calyx-scales and

\* The tree, at least, usually called so with us, and figured as *S. fragilis* in *English Botany*, t. 1807. Schultz (*l. c.*) characterizes *S. cuspidata*, "foliis subtus glaucescentibus," and *S. fragilis*, "foliis concoloribus."

stamens reversed. *S. pentandra* is figured in such a state in *English Botany*, t. 1805; and a tree exists in a plantation at Henfield in which the flowers are so arranged, and which seems to differ in no other respect from our male *S. cuspidata*, except that the leaves are smaller, and all its parts more slender.

Fries (*Nov. Suec. Mant.* 1. p. 41) and Koch, on his authority, have regarded *S. cuspidata* as the same with *S. tetrandra*, Linn.: but Anderson (*Sal. Lapp.* p. 16) is of opinion that *S. cuspidata* is a distinct species, and *S. tetrandra* but a variety (as Fries also held it) of *S. pentandra*.

We learn that Wimmer, in "*Flora von Schlesien*" (another work that we have not seen), gives our plant as a hybrid of *S. pentandra* and *S. fragilis*. We cannot disprove this opinion: but if hybrid Willows are so easily produced, so often fertile, and so capable of perpetuating their own forms, as the report of the experiments of M. Wichura at Breslau, translated from the original German in Dr. F. Schultz's *Archives de Flore* (ann. 1855), pp. 91 et seq., seems to prove, the "gift of scientific divination" (the term is Wichura's) is indeed needful for determining the species and their products. —W. B.





Aug. 1864.

J.W. Salter. sc.

## ALLIUM triquetrum.

*Three-sided Garlic.*

GEN. CHAR. *Perianth* single, of six petaloid segments; *stamens* inserted in its base. *Anthers* incumbent. *Germen* superior, 3-lobed, enclosing the base of the style. *Stigma* simple, or slightly incrassated.

SPEC. CHAR. Umbel without bulbs, lax, secund, drooping. Leaves sharply keeled. Scape triangular. Spathe of two lanceolate valves. *Perianth* campanulate; segments with one line. Filaments all simple, shorter than the perianth.

SYN. *Allium triquetrum*. *Linn. Sp. Pl. ed. 2.* 431. *Ait. Hort. Kew. ed. 2. v. 2.* 238. *Bot. Mag.* 869. *G. Don in Mem. Wern. Soc. v. 6.* 87. *Gouan, Ill.* 24. *Desf. Fl. Atl. v. 1.* 287. *Brot. Fl. Lusit. v. 1.* 567. *DeC. Fl. Fr. ed. 3. v. 3.* 222. *Guss. Fl. Sic. Prod. v. 1.* 401. *Bertol. Fl. Ital. v. 4.* 57. *Reich. Fl. Excurs. v. 2.* 40;  *Ic. Fl. Germ. et Helv. v. 10. 27. t. 503. f. 1101.*

*Tholycaule et foliis triangularibus. Park. Parad.* 142, 143. *f. 5.*

**D**ISCOVERED in Guernsey by the Rev. T. Salwey, in 1847, and subsequently observed by him and C. F. Lukis, Esq., in damp, shaded situations in many parts of the island, in Câtel, Forest, and St. Martin's parishes, flowering in spring. Mr. Lukis sent us specimens in May 1850. It had been previously recorded as a native of the South of Europe and North of Africa.

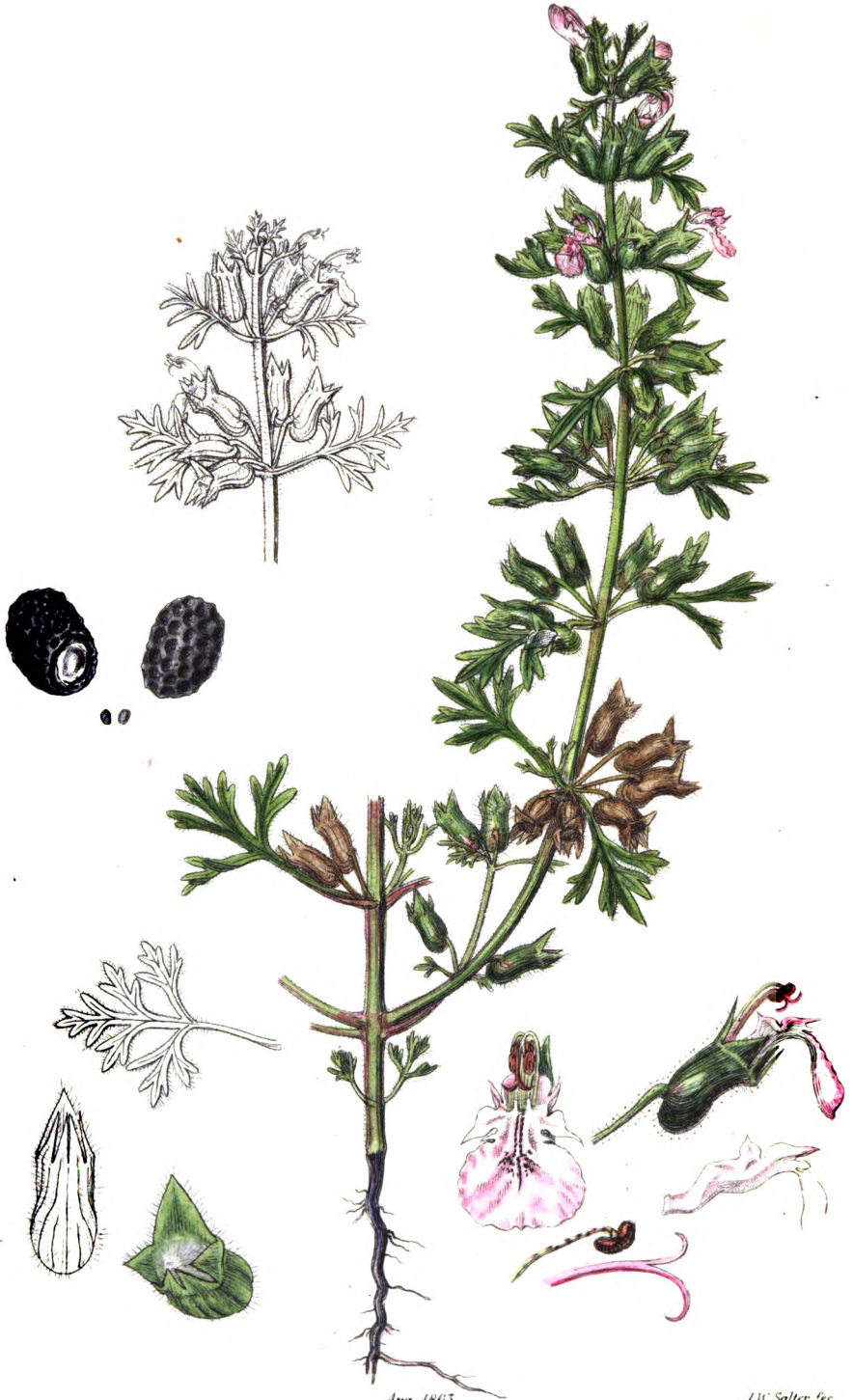
Rootstock small, with slender fibres, and supporting a small



cluster of white subglobose bulbs about as large as hazel-nuts, with a few stalked offsets of similar shape, and among them, when fertile, a scape or two, all sheathed in the expanded base of an outer leaf. Leaves 1-3 to each bulb, lax, twisted above, grass-green, glabrous and even, from a sheathing base, concave above, acutely and obliquely keeled beneath, and so thickened along the middle as to be unequally triquetral in the lower part, gradually flattening upwards, and tapering to the callus-tipped point. Scape 6-12 inches, tapering, acutely triangular, with two sides concave. Umbel with few flowers, twelve at most, drooping to one side, on unequal triquetral stalks, thickened below the flower. Spatha of two nearly equal, narrow, acuminate, pale, scariose valves, about as long as the flower-stalks. Perianth campanulate, about as long as the flower-stalk, white; the segments obtuse, marked along the middle, almost to the apex, with a single green line, darkest within; outer segments rather wider, with a minute apiculus. Stamens not half so long as the perianth, to which they are united at the base; filaments all subulate, white; simple. Germen obscurely trigonal; honey-pores inconspicuous. Style slender, trigonal, shorter than the stamens, closely embraced below by the lobes of the ovary, from which it is scarcely separable to the base till the capsule ripens; its apex trifold, with minutely capitate stigmas, at length recurved. Capsule subturbinate, on a rather narrower base; the summit depressed; opening with three quadrate valves. Seeds two in each cell, black, gibbous, trigonal, with a fleshy white stalk. Every part of the flower is persistent. The whole plant has the garlic scent.

Bertoloni observes that *A. triquetrum* of Redouté, *lib. 6. t. 329*, is more like *A. pendulinum* than this species. The figures quoted are inaccurate as to the position of the flowers. —W. B.





Aug. 1863.

J.W. Salter fec.

## TEUCRIUM Botrys.

*Annual Germander.**DIDYNAMIA Gymnospermia.*

GEN. CHAR. Upper lip of the *corolla* divided below its base, and divaricated. *Stamens* projecting.

SPEC. CHAR. Root annual. Leaves all subrhomboid, pinnatifid. Flowers mostly ternate. Calyx with saccate base; teeth appressed.

SYN. *Teucrium Botrys*. *Linn. Sp. Pl.* 786. *Willd. Sp. Pl. v. 3.* 14. *Benth. Lab.* 679; in *DeC. Prod. v. 12.* 587. *DeC. Fl. Fr. ed. 3. v. 3.* *Koch Deut. Fl. v. 4.* 222; *Syn. ed. 2.* 662. *Reich. Fl. Exc.* 314. *Meyer, Chlor. Hanov.* 286. *Lej. et Court. Fl. Belg. v. 2.* 220. *Poll. Fl. Pal. v. 2.* 129. *Wimm. et Grab, Fl. Siles. pt. 2. v. 1.* 175. *Scop. Fl. Carn. v. 1.* 420. *Host. Fl. Austr. v. 2.* 121. *Gaud. Fl. Helv. v. 4.* 15. *Bertol. Fl. Ital. v. 6.* 17. *Desf. Fl. Atl. v. 2.* 1. *Bab. Man. Br. Bot. ed. 5.* 263.

*Chamæpitys altera.* *Dodon. Pempt.* 46. f.

*C. femina.* *Ger. Em.* 525. f. 2.

*Chamædryas laciniatis foliis.* *Lob. Hist.* 209. *Park. Theatr.* 105. f. 4.

*C. minor annua laciniatis hirsutis foliis.* *Moris. Oxon. v. 3.* 423. s. 11. t. 22. f. 18.

*Iva muschata.* *Tabern. Kreut.* 105. f. 1.

*Botrys verticillata.* *Bauh. Hist.* 298.

PLANTS of this *Teucrium* were shown many years ago in the Chelsea Garden, by Mr. Anderson, as having been brought from Saunderstead in Surrey. We are not aware that in this locality it has since been verified; but it was discovered in 1844, on the same chalk-range, by Mr. Ingall (*Phytol. v. 1. p.* 1086), east of Box Hill. There, July 29, 1849, Mr. G. S. Gibson and the writer found it growing scattered for half

a mile or more, on broken ground and among corn. The situation is precisely such as it affects in Normandy, and not the slightest doubt can remain of its claim to be regarded as a native. It is said to extend from Moscow to Spain, and from Hanover to Algeria.

Root simply fusiform or branched, beset with flexuose branchy fibres. Stem erect, bearing a few pairs of axillary, simple, ascending, gradually shorter branches; or divided at the crown of the root, the lateral stems decumbent, then erect, usually branched like the central one, and attaining the same height, 8-10 inches. Stems quadrangular, often tinged with purple. Leaves opposite, spreading, on a narrowly-winged stalk, shorter than the leaf; outline of the upper leaves rhomboid, of the lower more triangular; all deeply pinnatifid, with flat, linear, bluntish segments, not wider than the rachis, about four pairs in the largest leaves, the lowest again pinnatifid, the others incised, trifid, or entire; the margin slightly revolute; the upper surface grooved, grass-green; the under paler, without hairs, except on the prominent ribs and edges: upper leaves smaller. Whorls shorter than the leaves, of 4-8, most commonly 6, flowers, set somewhat spirally on the stem in two opposite axillary sessile fascicles, but all turned to one side, whilst the subtending leaves spread together in the contrary direction. Flower-stalks ascending, afterward horizontal, affixed to the calyx above its base. Calyx obsoletely quadrangular, smooth within, except a ring of long hairs, somewhat inflated, slightly gibbous above, and contracted on the under side between the teeth and the rounded saccate base; teeth triangular, the uppermost as wide as the middle pair below, pressed upward by the style, the rest contiguous and appressed to the corolla. Corolla rose-purple, the upper part within white, varied with deep-red specks; tube slightly curved, shorter than the tube of the calyx; lip about as long as the calyx, deflexed from an ascending base, the sides of which bear two pairs of small, obliquely triangular, acute, wavy lobes, of which the upper pair are curved backward, and the lower larger pair point forward and are unequally bifid: the middle lobe is concave, rounded, entire or slightly emarginate: the outside of the corolla, and the upper part of the lip on the inside, are sprinkled with hairs. Stamens and style ascending through the notch of the upper lip, not so long as the lower lip. Anthers small, curved; the pollen-cells confluent. Stigma-lips subulate, curved, unequal. Fruit rugose, pitted, almost black, prettily dotted with white minute glands. The whole herb is somewhat viscid, except the underside of the leaves. The scent resembles Chamomile.

The old figures in Dodonæus, L'Obel and Johnson, and Gerarde are very characteristic.—W. B.





J.W. Salter fec.

Aug. 1st 1863.

## RANUNCULUS peltatus.

*Peltate-leaved Water-Crowfoot.**POLYANDRIA Polygynia.*

GEN. CHAR. *Calyx* of 5, rarely 3 leaves. *Petals* 5 or more, with a nectariferous pore at the base. *Pericarps* without awns.

SPEC. CHAR. Stem floating. Submersed leaves loosely trifurcate, divided into capillary rather rigid divaricate segments, which spread in all directions, and do not collapse; floating leaves long-stalked, subpeltate, half-3-5-fid; segments obovate, with 2-3 notches. Petals roundish, becoming obovate-cuneate, 9-veined, contiguous, persistent. Stamens many. Stigma club-shaped. Carpels half-obovate, very blunt. Receptacle ovate. Peduncles gradually narrowing upwards.

SYN. *R. peltatus*. *Fries, Summa Veg. Scand.* 141; *Herb. Norm. cent.* 12. no. 48. *Bab. in Ann. Nat. Hist. ser. 2. v. 16.* 398; *Man. Brit. Bot. ed. 5.* 7.

*R. aquatilis, a. peltatus*. *Koch in Sturm, Deutsch. Fl. fasc. 67. t. 7.*

*R. peltatus, a. vulgaris*. *Syme in E. Bot. ed. 3.* 1863. *pl. xvii.*

**S**TEM floating, often rising out of the water, bluntly angular. Submersed leaves light green, two or three times trifurcate, in a loose manner, afterwards bifurcate; intermediate divisions smaller than the others, all divaricate at each fork; segments filiform, rather rigid, not collapsing when taken out of the water. Petioles very short or wanting. Floating leaves rather convex (but in this plant and its allies the young leaves are flat or even slightly concave), divided (often scarcely half-way down) into three lobes, of which the central is smaller and shorter; outer edge of the leaf more or less (usually much) rounded at the base; outline of leaf forming about  $\frac{2}{3}$  of a



circle, but the bases of the sides not unfrequently overlap. Stipules adnate nearly throughout, rounded at the end. Peduncles very nearly always confined to the axils of the floating leaves (not as in *R. floribundus* and *R. heterophyllus* from those of both kinds of leaves), narrowing gradually from their base to the flower, rising high out of the water, very long. Flowers very large, sweet-scented. Sepals ovate, greenish, with a diaphanous edge. Petals quite contiguous, but separating slightly as the flowers advance by the lengthening of the lower part, white, but the base and claw yellow, even at first more than twice as long as the calyx, with 9 (rarely more) veins. Nectary ovate-oblong, with an equally elevated margin all round. Stamens about 30. Style short, recurved, papillose. Carpels compressed, rounded on the back, very blunt; inner edge straight. Receptacle small, ovate-oblong.

The very long, slender, and very gradually and uniformly narrowing peduncles combined with the rounded lateral bases of the convex scarcely trifid leaves, the ovate-oblong nectary, contiguous petals, and broadly topped carpels seem to distinguish this beautiful plant from its allies.

Very often this species is called *R. heterophyllus*, but it only requires familiarity with the plants to see their difference, although it is not easy to point it out in words. In all genera where there are many nearly allied species, this difficulty must arise. Those who hold that species are very few in number consider this as a proof that the many allied forms only constitute one species, which is simply a matter of opinion, incapable of proof by the holders of either view. As it seems desirable to place before botanists good figures of the allied Water-Crowfoots, we have thought it well to publish several of them in this work.

*R. peltatus* is not very common in England, and does not seem to be much known on the Continent. I have some slight doubt concerning the identity of Boreau's *R. peltatus* with our plant. I have seen specimens from Monmouthshire, Gloucestershire, Middlesex, Essex, Warwickshire, Norfolk, and from "the Devon near Dollar" in Scotland. It flowers through most of the summer. Those figured were gathered in Hampstead Well pond, on June 24, 1862, by the Rev. W. W. Newbould and Mr. J. W. Salter, and they inform me that it is abundant at Wimbledon and Finchley.—C. C. B.





Aug. 1<sup>st</sup> 1863.

J. W. Sutter fec.

## RANUNCULUS Baudotii.

*Baudot's Water-Crowfoot.*


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POLYANDRIA *Polygynia.*

GEN. CHAR. *Calyx* of 5, rarely 3 leaves. *Petals* 5 or more, with a nectariferous pore at the base. *Pericarps* without awns.

SPEC. CHAR. Stem floating. Submersed leaves closely trifurcate, divided into rather rigid capillary segments, which do not collapse and spread in all directions; floating leaves tripartite; segments wedge-shaped, 3-4-lobed. *Petals* obovate-cuneate, 7-veined, not contiguous, persistent. *Stamens* not exceeding the pistils. *Stigma* tongue-shaped. *Carpels*  $\frac{1}{2}$ -obovate, inflated at the end. *Receptacle* thick, long-conic. *Peduncles* thick, narrowed at the top, long.

SYN. R. Baudotii. *Godr. in Mém. de Nancy*, 1839. 21. f. 4; *Fl. Lorr. ed.* 2. 14. *Gren. & Godr. Fl. de Fr. v.* 1. 21. *Koch, Syn. Fl. Germ. ed.* 2. 434. *Brebis. Fl. Norm. ed.* 3, 6. *Bor. Fl. du Centre de la Fr. ed.* 3. 10. *Lloyd, Fl. de l'Ouest de la Fr.* 7. *Bab. in Ann. Nat. Hist. ser. 2. v.* 16. 395; *Man. Br. Bot. ed.* 5. 7. *Syme, E. Bot. ed.* 3. pl. xxii. *Batrachium Baudotii. Van den Bosch, Prod. Fl. Batav.* 7.

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**S**TEM floating, very bluntly angular. Submersed leaves pale green, two or three times trifurcate, in rather a loose manner, afterwards bifurcate, nearly or quite sessile; divisions nearly equal, divaricate at the first fork; segments filiform, rather rigid, and not collapsing naturally when taken out of

the water. Floating leaves long-stalked, flat, nearly or quite tripartite; segments all regularly wedge-shaped, 3-4-lobed or 3-4-partite; outline of leaf scarcely more than a semicircle, outer edge nearly or quite straight at the base. Upper stipules much adnate. Peduncles thick, long, narrowed slightly at their very top, often rising much out of the water. Flowers large. Sepals oblong, blunt, green, with a broad diaphanous edge. Petals obovate, not contiguous, white, with the base and claw yellow, twice as long as the calyx, even in the newly expanded flower. Stamens 15-20, not overtopping the pistils. Style very long, straight, beaklike, recurved at about its middle; the basal part persistent. Carpels very many, blunt, with a lateral apiculus; inner edge nearly straight. Receptacle long-conic, about as thick as the peduncle.

Closely allied to *R. confusus* (of which we hope soon to obtain specimens to figure); but the straight sides of the floating leaves, their usual separation into segments, quite to, or very nearly to, the base, the shorter stamens, and the very blunt inflated, but apiculate, carpels seem to distinguish them. In description *R. Baudotii* closely resembles *R. floribundus*, but scarcely in nature. That plant, as will be seen by our plate, *t.* 2969, has a rounded base to the outer edge of its leaves, longer stamens, a shorter style, very blunt, but not inflated, carpels, and a short nearly spherical receptacle.

*R. Baudotii* seems to like the neighbourhood of the sea, and does not object to brackish water; indeed, perhaps, prefers it. It is abundant at Brading in the Isle of Wight, near Chepstow in Monmouthshire, near Chichester, at Holme and Burnham in Norfolk, Hull and Coatham in Yorkshire, Seaton Carew, Durham, near Edinburgh, and near Waterford and Cork in Ireland, and probably in many other places. It is found near the west and north coasts of France, and in Holland and Belgium.

Our principal figure (*a*) is derived from specimens sent by the writer from Chepstow. The other (*b*) represents the appearance of the plant when growing upon muddy ground out of the water, and was contributed by Miss Bromehead of Ambleside, who found it at Barmouth in August 1857. The segments of the leaves of *b* were remarkably fleshy.

This species is in flower from the middle of May to the middle of August, or even later.—C. C. B.



a mile or more, on broken ground and among corn. The situation is precisely such as it affects in Normandy, and not the slightest doubt can remain of its claim to be regarded as a native. It is said to extend from Moscow to Spain, and from Hanover to Algeria.

Root simply fusiform or branched, beset with flexuose branchy fibres. Stem erect, bearing a few pairs of axillary, simple, ascending, gradually shorter branches; or divided at the crown of the root, the lateral stems decumbent, then erect, usually branched like the central one, and attaining the same height, 8-10 inches. Stems quadrangular, often tinged with purple. Leaves opposite, spreading, on a narrowly-winged stalk, shorter than the leaf; outline of the upper leaves rhomboid, of the lower more triangular; all deeply pinnatifid, with flat, linear, bluntish segments, not wider than the rachis, about four pairs in the largest leaves, the lowest again pinnatifid, the others incised, trifid, or entire; the margin slightly revolute; the upper surface grooved, grass-green; the under paler, without hairs, except on the prominent ribs and edges: upper leaves smaller. Whorls shorter than the leaves, of 4-8, most commonly 6, flowers, set somewhat spirally on the stem in two opposite axillary sessile fascicles, but all turned to one side, whilst the subtending leaves spread together in the contrary direction. Flower-stalks ascending, afterward horizontal, affixed to the calyx above its base. Calyx obsolete quadrangular, smooth within, except a ring of long hairs, somewhat inflated, slightly gibbous above, and contracted on the under side between the teeth and the rounded saccate base; teeth triangular, the uppermost as wide as the middle pair below, pressed upward by the style, the rest contiguous and appressed to the corolla. Corolla rose-purple, the upper part within white, varied with deep-red specks; tube slightly curved, shorter than the tube of the calyx; lip about as long as the calyx, deflexed from an ascending base, the sides of which bear two pairs of small, obliquely triangular, acute, wavy lobes, of which the upper pair are curved backward, and the lower larger pair point forward and are unequally bifid: the middle lobe is concave, rounded, entire or slightly emarginate: the outside of the corolla, and the upper part of the lip on the inside, are sprinkled with hairs. Stamens and style ascending through the notch of the upper lip, not so long as the lower lip. Anthers small, curved; the pollen-cells confluent. Stigma-lips subulate, curved, unequal. Fruit rugose, pitted, almost black, prettily dotted with white minute glands. The whole herb is somewhat viscid, except the underside of the leaves. The scent resembles Chamomile.

The old figures in Dodonæus, L'Obel and Johnson, and Gerarde are very characteristic.—W. B.







J.W. Salter fec.

Aug. 1st 1863.

## RANUNCULUS peltatus.

*Peltate-leaved Water-Crowfoot.*

## POLYANDRIA Polygynia.

GEN. CHAR. *Calyx* of 5, rarely 3 leaves. *Petals* 5 or more, with a nectariferous pore at the base. *Pericarps* without awns.

SPEC. CHAR. Stem floating. Submersed leaves loosely trifurcate, divided into capillary rather rigid divaricate segments, which spread in all directions, and do not collapse; floating leaves long-stalked, subpeltate, half-3-5-fid; segments obovate, with 2-3 notches. Petals roundish, becoming obovate-cuneate, 9-veined, contiguous, persistent. Stamens many. Stigma club-shaped. Carpels half-obovate, very blunt. Receptacle ovate. Peduncles gradually narrowing upwards.

SYN. *R. peltatus*. *Fries, Summa Veg. Scand.* 141; *Herb. Norm. cent.* 12. no. 48. *Bab. in Ann. Nat. Hist. ser. 2. v. 16.* 398; *Man. Brit. Bot. ed. 5.* 7.

*R. aquatilis, a. peltatus*. *Koch in Sturm, Deutsch. Fl. fasc. 67. t. 7.*

*R. peltatus, a. vulgaris*. *Syme in E. Bot. ed. 3.* 1863. *pl. xvii.*

**S**TEM floating, often rising out of the water, bluntly angular. Submersed leaves light green, two or three times trifurcate, in a loose manner, afterwards bifurcate; intermediate divisions smaller than the others, all divaricate at each fork; segments filiform, rather rigid, not collapsing when taken out of the water. Petioles very short or wanting. Floating leaves rather convex (but in this plant and its allies the young leaves are flat or even slightly concave), divided (often scarcely half-way down) into three lobes, of which the central is smaller and shorter; outer edge of the leaf more or less (usually much) rounded at the base; outline of leaf forming about  $\frac{2}{3}$  of a

circle, but the bases of the sides not unfrequently overlap. Stipules adnate nearly throughout, rounded at the end. Peduncles very nearly always confined to the axils of the floating leaves (not as in *R. floribundus* and *R. heterophyllus* from those of both kinds of leaves), narrowing gradually from their base to the flower, rising high out of the water, very long. Flowers very large, sweet-scented. Sepals ovate, greenish, with a diaphanous edge. Petals quite contiguous, but separating slightly as the flowers advance by the lengthening of the lower part, white, but the base and claw yellow, even at first more than twice as long as the calyx, with 9 (rarely more) veins. Nectary ovate-oblong, with an equally elevated margin all round. Stamens about 30. Style short, recurved, papillose. Carpels compressed, rounded on the back, very blunt; inner edge straight. Receptacle small, ovate-oblong.

The very long, slender, and very gradually and uniformly narrowing peduncles combined with the rounded lateral bases of the convex scarcely trifid leaves, the ovate-oblong nectary, contiguous petals, and broadly topped carpels seem to distinguish this beautiful plant from its allies.

Very often this species is called *R. heterophyllus*, but it only requires familiarity with the plants to see their difference, although it is not easy to point it out in words. In all genera where there are many nearly allied species, this difficulty must arise. Those who hold that species are very few in number consider this as a proof that the many allied forms only constitute one species, which is simply a matter of opinion, incapable of proof by the holders of either view. As it seems desirable to place before botanists good figures of the allied Water-Crow-foots, we have thought it well to publish several of them in this work.

*R. peltatus* is not very common in England, and does not seem to be much known on the Continent. I have some slight doubt concerning the identity of Boreau's *R. peltatus* with our plant. I have seen specimens from Monmouthshire, Gloucestershire, Middlesex, Essex, Warwickshire, Norfolk, and from "the Devon near Dollar" in Scotland. It flowers through most of the summer. Those figured were gathered in Hampstead Well pond, on June 24, 1862, by the Rev. W. W. Newbould and Mr. J. W. Salter, and they inform me that it is abundant at Wimbledon and Finchley.—C. C. B.





## RANUNCULUS Baudotii.

*Baudot's Water-Crowfoot.**POLYANDRIA Polygynia.*

GEN. CHAR. *Calyx* of 5, rarely 3 leaves. *Petals* 5 or more, with a nectariferous pore at the base. *Pericarps* without awns.

SPEC. CHAR. Stem floating. Submersed leaves closely trifurcate, divided into rather rigid capillary segments, which do not collapse and spread in all directions; floating leaves tripartite; segments wedge-shaped, 3-4-lobed. Petals obovate-cuneate, 7-veined, not contiguous, persistent. Stamens not exceeding the pistils. Stigma tongue-shaped. Carpels  $\frac{1}{2}$ -obovate, inflated at the end. Receptacle thick, long-conic. Peduncles thick, narrowed at the top, long.

SYN. R. Baudotii. *Godr. in Mém. de Nancy*, 1839. 21. f. 4; *Fl. Lorr. ed. 2.* 14. *Gren. & Godr. Fl. de Fr. v. 1.* 21. *Koch, Syn. Fl. Germ. ed. 2.* 434. *Brebis. Fl. Norm. ed. 3,* 6. *Bor. Fl. du Centre de la Fr. ed. 3.* 10. *Lloyd, Fl. de l'Ouest de la Fr. 7.* *Bab. in Ann. Nat. Hist. ser. 2. v. 16.* 395; *Man. Br. Bot. ed. 5.* 7. *Syme, E. Bot. ed. 3. pl. xxii.* *Batrachium Baudotii. Van den Bosch, Prod. Fl. Batav. 7.*

**S**TEM floating, very bluntly angular. Submersed leaves pale green, two or three times trifurcate, in rather a loose manner, afterwards bifurcate, nearly or quite sessile; divisions nearly equal, divaricate at the first fork; segments filiform, rather rigid, and not collapsing naturally when taken out of

the water. Floating leaves long-stalked, flat, nearly or quite tripartite; segments all regularly wedge-shaped, 3-4-lobed or 3-4-partite; outline of leaf scarcely more than a semicircle, outer edge nearly or quite straight at the base. Upper stipules much adnate. Peduncles thick, long, narrowed slightly at their very top, often rising much out of the water. Flowers large. Sepals oblong, blunt, green, with a broad diaphanous edge. Petals obovate, not contiguous, white, with the base and claw yellow, twice as long as the calyx, even in the newly expanded flower. Stamens 15-20, not overtopping the pistils. Style very long, straight, beaklike, recurved at about its middle; the basal part persistent. Carpels very many, blunt, with a lateral apiculus; inner edge nearly straight. Receptacle long-conic, about as thick as the peduncle.

Closely allied to *R. confusus* (of which we hope soon to obtain specimens to figure); but the straight sides of the floating leaves, their usual separation into segments, quite to, or very nearly to, the base, the shorter stamens, and the very blunt inflated, but apiculate, carpels seem to distinguish them. In description *R. Baudotii* closely resembles *R. floribundus*, but scarcely in nature. That plant, as will be seen by our plate, t. 2969, has a rounded base to the outer edge of its leaves, longer stamens, a shorter style, very blunt, but not inflated, carpels, and a short nearly spherical receptacle.

*R. Baudotii* seems to like the neighbourhood of the sea, and does not object to brackish water; indeed, perhaps, prefers it. It is abundant at Brading in the Isle of Wight, near Chepstow in Monmouthshire, near Chichester, at Holme and Burnham in Norfolk, Hull and Coatham in Yorkshire, Seaton Carew, Durham, near Edinburgh, and near Waterford and Cork in Ireland, and probably in many other places. It is found near the west and north coasts of France, and in Holland and Belgium.

Our principal figure (*a*) is derived from specimens sent by the writer from Chepstow. The other (*b*) represents the appearance of the plant when growing upon muddy ground out of the water, and was contributed by Miss Bromehead of Ambleside, who found it at Barmouth in August 1857. The segments of the leaves of *b* were remarkably fleshy.

This species is in flower from the middle of May to the middle of August, or even later.—C. C. B.





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**No. LXXVIII.**

*For NOVEMBER 1863,*

(PRICE 4s. 6d.,)

OF THE

**SUPPLEMENT**

TO

**ENGLISH BOTANY.**

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1863.







*J.W. Salter fec.*

*Aug. 1<sup>st</sup> 1863.*

## RANUNCULUS Drouetii.

*Drouet's Water-Crowfoot.**POLYANDRIA Polygynia.*

GEN. CHAR. *Calyx* of 5, rarely 3 leaves. *Petals* 5 or more, with a nectariferous pore at the base. *Pericarps* without awns.

SPEC. CHAR. Stem floating. Submersed leaves rather closely trifurcate, divided into capillary flaccid segments, which spread in all directions and collapse; floating leaves (rare) tripartite; segments sessile or stalked, wedge-shaped, bifid. Petals small, obovate, 5-7-veined, not contiguous, evanescent. Stamens few. Stigma oblong. Carpels half-obovate, laterally apiculate, inflated with a flattish edge at the end. Peduncles not narrowing upwards, about equalling the leaves.

SYN. R. Drouetii. *F. Schultz in Gren. et Godr. Fl. de Fr. v. 1. 24. Bor. Fl. du Centre de la Fr. ed. 3. 12. Brebis. Fl. Norman. ed. 3. 7. Bab. in Ann. Nat. Hist. ser. 2. v. 16. 391; Man. Brit. Bot. ed. 5. 6. Syme, E. Bot. ed. 3. pl. xx. Lloyd, Fl. de l'Ouest de la Fr. 8.*

**S**TEM floating, very bluntly angular. Submersed leaves light green, two or three times trifurcate, afterwards bifurcate; intermediate primary division smaller than the others and much directed downwards; divisions with divaricate branches at their first fork, their first internode very long and giving each division the appearance of being a separate leaf. Petioles

very short or wanting. Upper leaves quite sessile. Floating leaves very rarely produced, tripartite, with sessile or stalked wedge-shaped segments, of which the sides are very nearly straight; if stalked, the middle segment has much the shortest stalk, it is always much smaller than the others, and usually directed downwards into the water, so as to be at right angles with them; their petioles are rather long and nearly cylindrical. These flat leaves soon fade and disappear, and a series of submerged leaves succeeds them. Stipules broad, rounded, auricled, much adnate to the petiole. Peduncles equally thick throughout. Flowers very small. Sepals ovate, very blunt, concave, greenish dotted with purple, especially towards the diaphanous edge. Petals not touching each other, white, wedge-shaped, yellow, and slightly clawed at the base, 5-7-veined. Nectary scarcely margined or prominent. Stamens rarely more than 10. Style prolonging the inner edge of the ovary, short, curved. Carpels blunt, rather hairy at the end, which is a little inflated, and has a broad edge; inner edge nearly straight. Receptacle thick, oblong. Colour of the plant a bright lively green.

It is probable that this is a common plant, but, like several of its near allies, it is not generally understood, and therefore, not recognized. I possess specimens from Brading, Isle of Wight, *Mr. A. G. More*, Byford, Herefordshire, *Rev. W. H. Purchas*, Burnham, Norfolk, *Rev. W. W. Newbould*, and from several places in Cambridgeshire. The specimens drawn were sent by the *Rev. W. W. Newbould*, from Comberton near Cambridge, in June 1856. It is in flower during May and June.

The singular floating leaves are a peculiarity of this plant, and well deserve remark.

The bright green colour of the collapsing leaves, the inflated but flattened and blunt-ended carpels, and the loose habit distinguish this plant from *R. trichophyllus* and *R. heterophyllus*, with which alone it can be confounded.—C. C. B.







*J.W. Salter fec.*

*Aug. 1<sup>st</sup> 1863.*

## RANUNCULUS trichophyllus.

*Hair-leaved Water-Crowfoot.*

## POLYANDRIA Polygynia.

GEN. CHAR. *Calyx* of 5, rarely 3 leaves. *Petals* 5 or more, with a nectariferous pore at the base. *Pericarps* without awns.

SPEC. CHAR. Stem floating. Submersed leaves closely trifurcate, divided into short capillary rigid segments, which spread in all directions, and do not collapse on removal from the water; floating leaves unknown. *Petals* small, obovate, 5-7-veined, not contiguous, evanescent. *Stamens* few. *Stigma* oblong. *Carpels* half-ovate, laterally apiculate, compressed, rounded at the edge. *Peduncles* not narrowing upwards, about equaling the leaves.

SYN. *R. trichophyllus*. *Chaix in Vill. Fl. Dauph. v. 1. 335* (name only). *Gren. et Godr. Fl. de Fr. v. 1. 23. Bor. Fl. du Centre de la Fr. ed. 3. 12. Godr. Fl. Lorr. ed. 2. v. 1. 15. Bab. in Ann. Nat. Hist. ser. 2. v. 16. 390; Man. Brit. Bot. ed. 5. 5. Syme, E. Bot. ed. 3. pl. xxi. Lloyd, Fl. de l'Ouest de la France, 7.*

*R. pantothrix, a. capillaceus. DeC. Syst. v. 1. 235.*

*R. capillaceus. Lloyd, Fl. du Loire Inf. 5.*

*R. aquatilis, e. pantothrix. Koch, in Sturm Deutsch. Fl. fasc. 67. t. 11.*

*Batrachium trichophyllum. F. Schultz, Fl. Gal. et Germ. exsic. no. 805 bis, and 1203. Vanden Bosch, Prod. Fl. Batav. 5.*

**S**TEM floating, bluntly angular. Submersed leaves blackish green, with many short filiform very rigid segments, two or three times trifurcate, afterwards bifurcate; intermediate

primary division rather smaller than the others, and like them directed upwards, so that together the three form a kind of cup, as also do the branches of the secondary divisions; the first internodes are not remarkably longer than their successors, especially in the upper leaves. Petioles short; the upper leaves sessile. Peduncles equally thick throughout, short. Flowers small. Sepals ovate, blunt, concave, greenish with purple spots and a diaphanous edge. Petals not touching each other, wedge-shaped, white, but rather yellow at the base, 5-7-veined, becoming about twice as long as the sepals. Nectary only slightly prominent. Stamens 10-15. Style prolonging the inner edge of the ovary, short; stigma oblong. Carpels blunt, rather hairy at the end, which is slightly narrowed and compressed. Receptacle nearly globose, thick. Colour of the plant a lurid blackish green.

Perhaps no floating leaves of this plant have been seen in Britain, although it is probable that they exist, for Mr. Syme mentions that Mr. Borrer found them at Chichester. The *R. radians* (Rev.), *R. Godronii* (Gren.), seems to be this species when such leaves are present: they are tripartite with wedge-shaped, short, deeply lobed segments.

There is much confusion about this *Ranunculus*, arising from the difficulty of distinguishing it (in the Herbarium) from that form of *R. heterophyllus* which wants the floating leaves. *R. heterophyllus* has always very numerous (20 or more) stamens, larger and broader petals; carpels rounded and broad at the end, long peduncles narrowed just below the flowers, and longer and less dense submerged leaves which take the form of a painter's pencil when removed from the water.

Probably this is a generally distributed plant in England. I possess it from the Isle of Wight, Suffolk, Cambridgeshire, Warwickshire, and Worcestershire; and the specimens figured were sent by our greatly lamented friend, Mr. Borrer, from Eastbourne, Sussex, where he gathered it on July 5, 1855.—  
C. C. B.





Aug. 1<sup>st</sup> 1863.

J. W. Salter fec.

## RANUNCULUS floribundus.

*Many-flowered Water-Crowfoot.**POLYANDRIA Polygynia.*

GEN. CHAR. *Calyx* of 5, rarely 3 leaves. *Petals* 5 or more, with a nectariferous pore at the base. *Pericarps* without awns.

SPEC. CHAR. Stem floating. Submersed leaves closely trifurcate, divided into capillary rigid divaricate segments, which spread in all directions, and do not collapse; floating leaves long-stalked, subpeltate, half-trifid or tripartite; segments obovate, 3-5-lobed. Petals obovate-cuneate, 9-many-veined, not contiguous, persistent. Stamens many. Stigma tongue-shaped. Carpels half-obovate, very blunt. Receptacle spherical. Peduncles not narrowing upwards, scarcely exceeding the leaves.

SYN. *R. floribundus*. *Bab. in Ann. Nat. Hist. ser. 2. v. 16. (1855) 397; Man. Brit. Bot. ed. 5. 7.*

*R. peltatus*,  $\beta$ . *floribundus*. *Syme, in E. Bot. ed. 3. pl. xviii.*

**S**TEM floating, often rising out of the water, bluntly angular. Submersed leaves dark green, two or three times trifurcate in rather a close manner, afterwards bifurcate; intermediate primary division smaller than the others; segments filiform, rather rigid, and not collapsing naturally when taken out of the water. Petioles short, semiterete. Floating leaves rather convex, divided more than halfway down; middle segment the shorter; outer edge of leaf more or less (usually much) rounded at the base; outline of leaf about  $\frac{3}{4}$  of a circle.

Stipules broad, with a free rounded end. Peduncles from the axils of both kinds of leaves, equally thick throughout. Flowers very large. Sepals ovate, greenish, with a diaphanous edge. Petals not touching each other, except immediately after the flower has opened, white, with a claw and rather large space at the base yellow, even at first more than twice as long as the calyx, with many veins (9 or more). Nectary ovate, with an elevated margin slightly more prominent below. Stamens 20 or more. Style short, recurved, papillose. Carpels compressed, rounded on the back, very blunt; inner edge nearly straight. Receptacle thick.

I continue to be unable to identify this beautiful plant with any described species. It is nearly allied to *R. peltatus*, but may, I believe, be always distinguished by its deeply trifid or tripartite floating leaves, dark-green submersed leaves, and rather short peduncles equally thick throughout. It is also closely allied to *R. heterophyllus*; but in that plant the segments of the submersed leaves are not at all rigid, and always collapse when removed from the water (in *R. floribundus* they sometimes seem to do so, owing to the adhesion of extraneous matter to them), the floating leaves have the lower half of the outer edge nearly or even quite straight from its very base, its segments are frequently quite separate and often stalked, and their lobes are nearly acute (those of *R. floribundus* being very blunt).

It seems probable that many of the plants usually named *R. heterophyllus* belong really to *R. floribundus*, and that it is therefore a common plant. I am informed that it is very frequent on the northern side of London, in Epping Forest for instance, from whence Mr. G. Gulliver has sent it to me. I have seen specimens from the Isle of Wight, Essex, Hertfordshire, Suffolk, Norfolk, Cambridgeshire, Oxfordshire, Warwickshire, Shropshire, and the east riding of Yorkshire. The specimens figured were sent by the writer of this from West Wrattling, Cambridgeshire, where they grew in deep water and floated like the radii of a circle on the surface. It flowers in May and June.—C. C. B.







Nov. 1<sup>st</sup> 1863.

## FESTUCA ambigua.

*Dubious Fescue-grass.*


---

 TRIANDRIA Digynia.

GEN. CHAR. *Glumes* unequal, herbaceous, many-flowered. *Lower pale* rounded on the back, very acute, or with a short dorsal subterminal awn; lateral veins slightly converging, and not quite reaching the tip. *Upper pale* minutely ciliate on the ribs. *Styles* terminal, protruded at near the bottom of the flower. *Nut* furrowed, adhering to the pales. Spikelets of 2 or more flowers.

SPEC. CHAR. Sheath of uppermost leaf very nearly reaching to the long, narrow, erect, close panicle. Lowest branch of panicle equalling one-third of its length. Flowers terete, rough, monandrous. *Glumes* unequal, as 3-6 to 1; larger about equalling a third of lowest flower.

SYN. *Festuca ambigua*. *Le Gall, Fl. Morb.* 731. *More, in Journ. Linn. Soc. v. 5.* 190. *Bab. Man. Br. Bot. ed. 5.* 406.

*Festuca uniglumis*,  $\beta$ . *Bromf. Fl. Vect.* 606.

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**W**E are indebted to our friend Mr. A. G. More for the specimens figured. They were gathered at St. Helen's in the Isle of Wight, on the 6th of June 1862. It seems to have been imperfectly known to the late Dr. Bromfield, who gives a very meagre account of it in his 'Flora.' It is, therefore, to Mr. More that the credit is due of first discriminating the plant in this country, and to M. Le Gall on the Continent.

Our plant is somewhat intermediate in aspect between *Festuca (Vulpia) uniglumis* and *F. Myurus*. It grows in company with the former, and rather resembles it. The panicles of both grasses are upright and compact, but that of *F. ambigua* is not nearly so stout as that of *F. uniglumis*. The resemblance is superficial: a careful examination shows that its true affinity is with *F. Myurus*. *F. ambigua* agrees with that grass in having but one stamen and constantly two glumes. Its larger glume, too, has not the awn found in *F. uniglumis*.

We add Mr. More's description, extracted from his excellent paper quoted above:—

“Root annual, fibrous. Leaves narrow, involute, setaceous. Culms 8–12 inches high, numerous, tufted, suberect, geniculate below. Sheaths long, somewhat inflated, with a short truncate ligule, which becomes torn by the protrusion of the panicle. Panicle purplish, unilateral, narrowly lanceolate, rather close, upright: its lowest branches at first included in the sheath, but ultimately just free: lowest branch reaching a little more than  $\frac{1}{3}$ rd up the panicle: rachis of the panicle and branches compressed, rough-edged. Spikelets containing 4–7 purplish florets. Glumes broadly bordered with membrane, very unequal, as 3–6 to 1; the lower glume ovate-lanceolate or triangular-ovate, often nearly obsolete; the superior glume oblong-lanceolate, acute or bluntish, its membranous border being as it were eroded at the top: larger glume reaching  $\frac{1}{3}$ rd up the included contiguous floret. Florets scabrous (being covered with small points which pass into short hairs). The inferior pale terminates in an awn of nearly twice its own length. Stamen one.”

The only localities as yet known for this grass are the sandhills at St. Helen's, and a few similar spots on the Morbihan coast. It seems once to have inhabited “The Dover” at Ryde. Our plate may lead to its discovery on other parts of the southern coast of England.—C. C. B.





*J. W. Salter fec.*

*Aug. 1<sup>st</sup> 1863.*

## CAREX ericetorum.

*Heath Carex.*

MONŒCIA Triandria.

GEN. CHAR. *Flowers* in imbricated spikes, each covered by a scale. *Barren flowers* without calyx or corolla. *Fertile flowers* with a single urceolate persistent perianth, enclosing a nut. *Style* 1. *Stigmas* 2 or 3.

SPEC. CHAR. Barren spike 1. Fertile spikes 1–3, ovoid, near together, sessile. Bracts not sheathing, membranous. Glumes obovate, very blunt, finely ciliate; midrib not extending to the top. Perianth obovate, trigonous, hairy; with a very short truncate beak, deeply notched on one side. Nut subglobose, trigonous, not narrowed below, nor with a prominent ring at the top. Stigmas 3.

SYN. *Carex ericetorum*. *Poll. Fl. Palat. v. 2. 580 (1777)*; *Fl. Dan. t. 1756. Schkuhr, Riedgras, v. 2. 50. t. I. f. 42. Hoppe, in Sturm, Deutschl. Fl. B. t. 26. Reich. Fl. Germ. Exc. 64; Icon. Fl. Germ. v. 8. t. 262. Koch, Syn. Fl. Germ. ed. 2. 876. Drej. Fl. Hafn. 299. Gren. et Godr. Fl. de Fr. v. 3. 414. Des Moul. Phaner. de la Dordogne (Actes de la Soc. Linn. de Bord. v. 20) 335. Anders. Cyper. 30. t. 7. f. 83. Coss. et Germ. Fl. de Paris, ed. 2. 745. Bab. Man. Br. Bot. ed. 5. 375.*

*C. ciliata*. *Willd. in Act. Berol. ann. 1794, 47. t. 3. Sp. Pl. v. 4. pt. 1. 261. Hort, Fl. Aust. v. 2. 591. Kunth, Cyp. 438. Gaud. Agros. Helv. v. 2. 133.*

**R**HIZOME rather thick, branched, creeping, clothed with brown persistent scales, rooting. Culm 3–6 inches high, slender, trigonous, smooth, ascending. Leaves scarcely a line in breadth, much shorter than the stem, nearly flat,

rough on the edges and midrib. Barren spike not  $\frac{1}{2}$  an inch long, oblong, scarcely stalked. Fertile spikes 1-3, sessile, contiguous, 3-4 lines long, ovoid. Glumes all very blunt, oval, brown, with broad silvery edges, finely ciliate; midrib not extending to the top. Lowest bract brown, scarcely sheathing, with a short brown point. Perianth about 1 line long, broadly obovate, trigonous, brownish when ripe, minutely hairy; with a very short, round, truncate beak, which is divided on one side down to its base. Nut nearly globular, with a short beak supporting the style, with 3 slightly prominent slender ribs separating very convex faces.

This plant is exceedingly like *C. præcox* in general appearance, but may be at once known by attending to the shape of the glumes, and their structure and ciliation. The perianth and nut are also very different in shape, especially the latter, which is not narrowed to the base, has not the prominent ribs nor the cup-like ring that surround the base of the style in *C. præcox*. The *C. ericetorum* may be detected, when growing in company with *C. præcox*, by the silvery look which the broad pale edges of the glumes give to the spikes.

This plant has, as yet, been only found on the slopes of a Roman Road, locally called Wool Street, at about  $4\frac{1}{2}$  miles from Cambridge. It there grows, intermixed with an abundance of *C. præcox*, in a very dry chalky soil. Unfortunately that is one of the very few places now remaining on the chalk hills of Cambridgeshire which have not been ploughed; and even there, many interesting plants often suffer from the removal of the turf by gardeners. The spot on which this plant grew in 1861 has been now (1863) thus destroyed; but other patches of it are found in the immediate neighbourhood, from one of which the fruit figured was obtained by me on June 23, 1863, and the flowering plant on the preceding May 3.

This *Carex* was gathered near the Wool Street by Mr. J. Ball, F.L.S., and myself, in 1838, but remained undetected in our cabinets until 1861, when my attention was directed to it by Mr. Ball. It will probably soon be found in other parts of England. On the Continent it inhabits dry and sandy places.—C. C. B.







Nov. 17 1863.

## ARENARIA leptoclados.

*Slender Sandwort.*

## DECANDRIA Trigynia.

GEN. CHAR. *Calyx* 5-leaved. *Petals* 5, entire or slightly emarginate. *Capsule* 1-celled, many-seeded, opening with 6 valves or teeth.

SPEC. CHAR. Leaves small, ovate, acute, sessile. Petals shorter than the calyx. Sepals lanceolate, acute, 3-veined, hairy on the veins. Capsules ovate-oblong.

- SYN. *Arenaria leptoclados*. *Guss. Fl. Sic. Syn. v. 2. 824 (1845). Lloyd, Fl. de l'Ouest de la France, 77. Bor. Fl. Centre de la Fr. ed. 3. 109. Godr. Fl. Lorr. ed. 2. v. 1. 123. Brebis. Fl. Normand. ed. 3. 55. Bab. Fl. Cambr. 304; Man. Brit. Bot. ed. 5. 53.*  
*A. serpyllifolia*, *Ten. Syll. Pl. Fl. Neapol. 219. Guss. Fl. Sic. Syn. v. 495. Lloyd, Fl. Loire, 42.*  
*A. serpyllifolia, β. leptoclados. Reich. Icon. Fl. Germ. v. 5. t. 216.*  
*A. serpyllifolia, γ. tenuior. Koch, Syn. Fl. Germ. ed. 2. 128. Bab. Man. Brit. Bot. ed. 4. 52.*

**T**HIS plant is much smaller in all its parts than *A. serpyllifolia* (t. 923), and of a paler green. Stems very slender, branched, spreading, clothed with minute deflexed hairs. Leaves ovate, acute, sessile; the lower ones narrowed to their base. Flowers springing from the forks of the stem or axils of the leaves, their peduncles at least twice as long as the

capsules, often curved slightly just below the immature capsule, but ultimately straight. Sepals lanceolate, with 1-3 hairy veins. Petals obovate-oblong, narrowed below, falling short of the calyx, white. Stamens 10. Capsule ovoid-oblong, thin, compressible even when ripe, usually rather exceeding the calyx. Seeds minute, compressed, netted.

Godron remarks that although this plant and *A. serpyllifolia* grow in similar places, he has never seen intermediate specimens; and in that remark I quite concur. The plants are now allowed to be distinct by most Continental botanists, and also by the more accurate observers of British plants. It seems, indeed, scarcely possible for specimens of them to be placed side by side without their distinctness becoming very manifest. Comparison of the plants is requisite to acquire a true idea of them; but when that is obtained there ought to be no further difficulty or scepticism concerning them. The very much larger capsule, with its base much inflated and its brittle texture when ripe, is alone sufficient to distinguish *A. serpyllifolia* from *A. leptoclados*.

The specimens figured were gathered at Cambridge by the writer of this article, on June 23, 1862. The plant has been found near Sidmouth, Devonshire; Henfield, Sussex, where Mr. Borrer long since identified it with the *A. leptoclados*; Clevedon, Somerset; Bembridge, Isle of Wight; Wolvercot, Oxfordshire; in many places in Cambridgeshire; Dovedale, Derbyshire; and Wroxeter, Salop. It is probably not unfrequent throughout the southern half of the kingdom, flowering in June, July, and August, and inhabiting dry places and the tops of walls.—C. C. B.





Nov. 1863

2973.

ORCHIS latifolia.

*Broad-leaved Marsh-Orchis.*

---

GYNANDRIA Monandria.

GEN. CHAR. Lip spurred. Glands of the stalks of the pollen-masses contained in a common little pouch.

SPEC. CHAR. Lip obscurely three-lobed, its sides ultimately reflexed and crenate. Spur subulate, shorter than the germen. Lateral sepals patent. Middle sepal and petals converging. Stem hollow. Leaves lanceolate, acute. Tubers palmate.

SYN. *O. latifolia.* Linn. *Sp. Pl.* 1334; *Fl. Suec. ed. 2.* 312. *Sturm, Deutschl. Fl. Heft 7. t. 15.* Fries, *Nov. Fl. Suec. Mant. 2.* 53; *Mant. 3.* 127. Koch, *Syn. Fl. Germ. ed. 2.* 792. *Leight. Fl. Shrop.* 428. *Gren. et Godr. Fl. Fr. v. 3.* 295. *Godr. Fl. Lorr. ed. 2. v. 2.* 289. *Bab. Man. Br. Bot. ed. 5.* 318. *Reichenb. Icon. Fl. Germ. v. 13.* 57. *t. 402.*

*O. majalis.* *Reichenb. Iconogr. cent. 6. no. 770. t. 565.*

---

ALTHOUGH Linnæus always most carefully distinguished *O. incarnata* (our *O. latifolia*, *tab. 2308*, and of *Curt. Fl. Lond. v. 2. t. 184*) from *O. latifolia*, especially in his *Flora Suecica*, they have never been well understood in England. Unfortunately Sir J. E. Smith applied the latter name to the former plant, and his high authority misled other British botanists. It was not, therefore, until Leighton mentioned both species in his *Flora of Shropshire* that attention was directed to them. There is still much opposition to their reception as

distinct species in this country, but it is hardly possible to open any of the more modern Continental floras without finding them separated. The younger Reichenbach has excellently written concerning them in the *Icones Floræ Germanicæ*.

*O. latifolia* is distinguished at sight from its ally by the spreading, broader oblong or lanceolate leaves, which are usually ornamented with ring-like dark spots. The leaves grow from a narrow base, and widen up to about the middle of their length. The lower bracts overtop the flowers, but the upper ones are usually shorter. The flowers are darker in tint. But the leaves furnish the best and most certain distinctive character. Their shape and patent direction differ remarkably from those of *O. incarnata*, which narrow upwards from a very broad base, stand nearly parallel to the stem, usually (perhaps always) end bluntly in a small hood, and nearly always are without spots. The flowers of *O. incarnata* have a reddish-pink tint, or one nearly white.

Both of these plants are found on peaty soil, but *O. incarnata* appears to be the more common. It flowers several weeks sooner than *O. latifolia*, which is in perfection in June and July. The specimens figured were gathered at Triplog, Cambridgeshire, on July 5, 1856, and sent by the Rev. W. W. Newbould.

The distribution of these plants requires much elucidation; for the species intended by *O. latifolia* in local floras is not often determinable.—C. C. B.







Nov. 1<sup>st</sup> 1863.

## EUPHORBIA stricta.

*Upright Warted Spurge.**MONŒCIA Monandria.*

GEN. CHAR. *Involucrum* of one piece, including several barren flowers and 1 fertile. *Barren flower* a single stamen, without calyx or corolla. *Fertile flower* a single pistil, without calyx (or rarely a minute one) or corolla. *Germen* 3-lobed. *Style* 2-3-cleft. *Capsule* 3-seeded.

SPEC. CHAR. Umbel of 3, 4, or 5 3-5-fid rays. General and first partial bracts and leaves oblong-acute, clasping; other bracts cordate. Lobes of involucre transversely oval. Stamens rarely more than 2 in each involucre. Capsule spherical, covered with prominent cylindrical tubercles. Seeds smooth, oval, brown, shining. Seed-stalk cordate.

SYN. *Euphorbia stricta*. *Linn. Syst. ed. 10.* 1049? *Koch, Syn. Fl. Germ. ed. 2.* 723. *Gren. et Godr. Fl. de France, v. 3.* 78. *Hort, in Bot. Gaz. v. 3.* 15. *Godr. Fl. de Lorr. ed. 2. v. 2.* 196. *Bab. Man. Br. Bot. ed. 5.* 291. *Boiss. in DC. Prod. v. 15.* 133.

*E. platyphylla, β.* *Hook. & Arn. Br. Fl. ed. 8.* 384.

**S**TEM 1-3 feet high, smooth, reddish, leafy throughout, with many short flowering branches in its upper half. Leaves oblong-lanceolate, declining from a cordate base; lowest

seeming to be narrowed above their base, owing to their being crumpled as if by a pinch there. Involucral leaves similar to the upper stem-leaves. First partial bracts obovate-acute; other bracts cordate. Umbel of 3 to 7 rays, most usually 4 or 5 in our plant. Each ray 3-5-fid (on the cultivated plants all are 3-fid), and often afterward once or twice bifid. Involucre turbinate-bell-shaped, hairy within; lobes transversely oval, becoming reddish yellow. Stamens rarely more than two in each involucre. Capsule nearly spherical, covered with cylindrical tubercles. Seeds smooth, oval, brown, shining. Seed-stalk cordate.

This plant is very abundant in the woody district about the Wynd Cliff and Tintern in Monmouthshire, growing on the carboniferous limestone; and the Rev. F. J. A. Hort finds it plentifully at Bream Scowles, between Bream and Sidney in Gloucestershire, where also it is confined to the same limestone-rock. The specimen figured is the result of many generations of growth in the Cambridge Botanic Garden, from seeds obtained at Tintern. It is of less size than the wild state of the plant.

There does not now seem to be much, if any, reason to doubt that this is the plant intended by Linnæus when describing *E. stricta* in his *Systema Naturæ*. Smith fell into the error of supposing that the starved form of *E. platyphylla* (t. 333) was the Linnean *E. stricta*; but his idea seems never to have been adopted out of this country. Boissier has accidentally quoted our t. 333 to both of these species in DeCandolle's *Prodromus*.

The late Mr. Borrer seems to have been the first botanist who recognized this plant at Tintern, as is recorded in the fifth edition of Hooker's *British Flora*, p. 292.—C. C. B.



## CONTENTS OF No. 78.

~~~~~  
Descriptions of Plates 2967 to 2974.  
Plates 2970 to 2974 (still omitting 2963, 2964).

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*N.B. To the Possessors of "English Botany."*

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*For FEBRUARY 1864,*

(PRICE 4s. 6d.,)

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TO

**ENGLISH BOTANY.**

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LONDON:

PUBLISHED BY THE PROPRIETOR, J. W. SALTER;  
AND SOLD BY J. VAN VOORST, PATERNOSTER ROW, AND ALL BOOKSELLERS.

---

1864.









Nov. 1<sup>st</sup> 1863.

## EUPHORBIA stricta.

*Upright Warted Spurge.**MONŒCIA Monandria.*

GEN. CHAR. *Involucrum* of one piece, including several barren flowers and 1 fertile. *Barren flower* a single stamen, without calyx or corolla. *Fertile flower* a single pistil, without calyx (or rarely a minute one) or corolla. *Germen* 3-lobed. *Style* 2-3-cleft. *Capsule* 3-seeded.

SPEC. CHAR. Umbel of 3, 4, or 5 3-5-fid rays. General and first partial bracts and leaves oblong-acute, clasping; other bracts cordate. Lobes of involucre transversely oval. Stamens rarely more than 2 in each involucre. Capsule spherical, covered with prominent cylindrical tubercles. Seeds smooth, oval, brown, shining. Seed-stalk cordate.

SYN. *Euphorbia stricta*. *Linn. Syst. ed. 10.* 1049? *Koch, Syn. Fl. Germ. ed. 2.* 723. *Gren. et Godr. Fl. de France, v. 3.* 78. *Hort, in Bot. Gaz. v. 3.* 15. *Godr. Fl. de Lorr. ed. 2. v. 2.* 196. *Bab. Man. Br. Bot. ed. 5.* 291. *Boiss. in DC. Prod. v. 15.* 133.

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Feb. 1<sup>st</sup> 1864.

## GLYCERIA fluitans.

*Common Flote-Grass.**TRIANDRIA Digynia.*

GEN. CHAR. *Spikelets* of two or more florets. *Glumes* unequal, falling short of the lowest floret. *Outer palea* with five to seven strong prominent parallel ribs and a scarious margin, subcylindrical, unarmed. *Styles* terminal. *Stigmas* protruded from the base of the floret. *Nut* oblong, convex on the back, furrowed within, free.

SPEC. CHAR. Panicle secund, slightly branched, very long; branches nearly simple, roughish. *Spikelets* linear, of 7-12, adpressed, lanceolate-oblong, acute florets. Lower *paleæ* nearly three times as long as broad. *Sheaths* compressed.

SYN. *Glyceria fluitans*. *R. Br. Prod. Fl. Nov. Holl.* 179. *Mert. et Koch, Deutschl. Flora*, v. 1. 587. *Dumor. Agrost. Belg.* 107. *Fries, Nov. Mant.* 2. 7. *Wahl. Fl. Suec.* v. 1. 60. *Koch, Syn. Fl. Germ.* ed. 2. 932. *Gren. et Godr. Fl. Fr.* v. 3. 531. *Bab. Man. ed.* 5. 403.

*Festuca fluitans*. *Linn. Sp. Pl.* 111. *Curt. Fl. Lond.* v. 1. 18.

*Poa fluitans*. *Scop. Fl. Carn. ed. 2. v. 1.* 72. *Sm. Fl. Br.* v. 1. 96. *Koel. Gram.* 204. *Hook. et Arn. Br. Fl. ed.* 8. 548 (excl. var.  $\beta$ ).

*Poa fluitans*, v. *subspicata*. *Parn. Brit. Grasses*, t. 95.

*Gramen aquaticum cum longissima panicula*. *Bauh. Hist.* v. 2. 490. *Ray, Syn. ed.* 3. 412.

*G. aquaticum fluitans multiplici spica*. *Bauh. Pin.* 3.

THE plant before us is closely allied to that figured with the same name on our *tab.* 1520. We are indebted to the acuteness of Fries for their distinction. As in all similar cases, many botanists are not easily convinced that they are more than varieties of one species; but we are strongly impressed with the belief that they ought to be separated, although a little more than usual care in the observer is requisite for clearly understanding them. When seen in tolerably

good condition, we have never found any difficulty in naming them with certainty. Our *tab.* 1520 tolerably well represents the *G. plicata*, Fries, except that the larger leaf is far more acute than we have ever observed it to be. Is it possible that the top of that leaf represents a part of another specimen which did not belong to *G. plicata*? Such an error is not unlikely to have occurred in 1805, when the existence of two species was not even suspected. We have added, at the right-hand upper corner of our present plate, two spikelets, and magnified representations of the anthers and a part of a sheath, of *G. plicata*, so that they may be contrasted with the similar parts of *G. fuitans*, to which the principal figure and the details at the left-hand lower corner of the plate belong. It will be seen that the sheath of *G. fuitans* is compressed, and nearly or quite smooth, that the lower palea is considerably longer in proportion than that of *G. plicata*, and that the anthers are of a purple colour before the pollen is shed, as well as being very considerably longer in proportion to their breadth; they become pale yellow when empty, but those of *G. plicata* are fuscous when in that state. Both plants usually float to a considerable extent, sending out roots from their lower nodes; but the upper part of the stem ascends to the height of several feet, is leafy, and ends in a long panicle. The panicle of *G. fuitans* is usually slightly compound, but not unfrequently it is simple as drawn by Parnell; that of *G. plicata* is always, we believe, much branched and repeatedly subdivided. The lower palea is nearly three times as long as broad, and the length of the anther is about five times as great as its width. *G. plicata* has paleæ only twice as long as broad, and the length of the anthers is thrice their width. These distinctions are very apparent if the plants are contrasted, and are also easily seen when only one of the species is present. The anthers especially give a very different look to the spikelets.

These two plants are about equally common in watery places, commencing to flower in June, and continuing until the autumn.

The specific character of *G. plicata*, *tab.* 1520, may be corrected as follows:—

**SPEC. CHAR.** Panicle compound; branches nearly smooth, erect with flowers, divaricate with fruit. Spikelets linear, of 7–20, oval-oblong, rather acute florets. Lower palea twice as long as broad. Sheaths compressed.

**SYN.** *G. plicata*. Fries, *Nov. Mant.* 2. 6. Koch, *Syn.* 932. Gren. et Godr. *Fl. Fr.* v. 3. 531. Bab. *Man. ed.* 5. 403. C. C. B.



2472



Nov. 14. 1863.

J. W. Salter fecit.

## FUMARIA confusa.

*Jordan's Fumitory.*

## DIADELPHIA Hexandria.

GEN. CHAR. *Calyx* of 2 sepals. *Petals* 4, the upper one spurred at the base. *Stamens* in two bundles of 3 each. *Fruit* indehiscent, 1-seeded.

SPEC. CHAR. Sepals ovate, toothed, about half as long as the corolla (excluding the spur) and as broad as the tube. Fruit globose-compressed, rounded at the top, becoming rugulose, its fleshy base about as broad as the fruit. Fruit-stalks patent, twice as long as the bracts.

SYN. *F. confusa*. *Jord. Cat. Dij.* 1848. 18 (*Linnæa*, 1850. 469). *Lloyd, Fl. Ouest Fr.* 24. *Bab. in Linn. Soc. Journ.* v. 4. 165; *Man. Br. Bot. ed.* 5. 18. *Syme, E. Bot. ed.* 3. pl. lxxiii.

*F. Bastardi*. *Bor. in Duchart. Rev. Bot.* (1847) v. 2. 359 (in part); *Fl. Cent. Fr. ed.* 3. v. 2. 34. *Brebis. Fl. Norm. ed.* 3. 18.

*F. agraria*. *Mitt. in Lond. Journ. Bot.* v. 7. 556. *Bab. in Bot. Gaz.* v. 1. 62 (not *Lagasca*).

*F. capreolata*,  $\gamma$ . *media*. *Bab. Man. ed.* 4. 17.

*F. media*,  $\beta$ . *confusa*. *Hamm. Mon. Fum.* 28. t. 3 (*Act. Ups. ser.* 3. v. 1. pt. 1).

**T**HIS plant and its allies were formerly included under the name of *F. capreolata* (Linn.), but are very carefully distinguished by several accurate continental botanists. Our *F. capreolata* (t. 943) is apparently a bad figure of the *F. Boræi* (Jord.), of which the plate in Curtis's *Flora Londinensis* (v. 2. 145, or *fasc.* 6. 47) is a beautiful representation. Mr. Mitten detected this plant in the herbarium of our lamented friend,

Mr. Borrer, in the year 1848, and in the same year it was noticed abundantly by Mr. Newbould and myself in Wales. In common with Mr. Mitten, I was led to suppose it to be the *F. agraria* (Lag.); and, upon detection of the error, was persuaded to confound it with *F. capreolata* (Linn.). In the same year that we distinguished the plant in England, it was noticed in France, and described as a distinct species by Mr. A. Jordan, of Lyons.

The most remarkable characteristic is found in the succulent base by which the fruit is attached to the peduncle—a structure which it is very difficult to represent in a figure. It is often nearly as broad as the fruit itself, and always broader than the enlarged tip of the peduncle. The top of the fruit is rounded continuously with the sides, so that the whole vertical outline (excluding the base) is nearly round; there is a minute apiculus, consisting of the persistent base of the style, on each side of which the nut has a pit-like hollow, which becomes conspicuous when the fleshy mesocarp has shrunk in drying. The size and depth of these pits differ in the several species. In *F. confusa* they are broad and shallow. The colour and form of all parts of this beautiful plant are well represented on the plate; therefore a detailed description may be dispensed with.

The name adopted admits of no ambiguity, and has never been used for any other plant. *F. Bastardi*, applied to our plant exclusively by Boreau in the 2nd and 3rd editions of his *Flore*, originally included the *F. confusa* and *F. Boræi* of Jordan. The latter botanist's nomenclature is therefore older than that of the former when used for the plants as now distinguished: also it seems nearly certain that Bastard's *F. media* is what we now call *F. Boræi*.

This plant is abundant in the Isle of Wight, Devon, and Cornwall, along the coast of Wales, in some parts of Lancashire, and also apparently throughout Ireland. It is also the *F. capreolata* of my *Flora of the Channel Islands*, as far as can be learned from my rather numerous specimens. It flowers from June to September, and inhabits the borders of fields and hedge-banks. Our figure is made from specimens gathered in the Scilly Isles, on June 1, 1862, by Mr. Fred. Townsend.

—C. C. B.







Feb. 1<sup>re</sup> 1864.

## LEPIGONUM rupicola.

*Rock Sandwort.*

DECANDRIA Trigynia.

GEN. CHAR. *Calyx* 5-parted. *Petals* 5, entire, about equalling the calyx. *Stamens* 10 or fewer. *Styles* 3. *Capsules* 3-valved, dehiscent to the base. *Seeds* numerous, often winged.

SPEC. CHAR. Root perennial. Leaves fleshy, mucronate. Stipules short, triangular-ovate, suddenly pointed, usually entire. Panicle nearly leafless, peduncles 2–3 times as long as the capsule, which slightly exceeds the calyx. Seeds compressed, black, rough, obovate-pyriform, without a scarious margin.

SYN. *Lepigonum rupestre*. *Kindb. Symb. Lepig.* 8; *Monogr. Lepig. in Nov. Act. Soc. Upsal. ser. 3. v. 4. 29.* *Bab. Man. Br. Bot. ed. 5. 127.* *More, in Report of Thirsk Nat. Hist. Soc. 1861, 9 (not of Cambessèdes).*

*Spergularia rupestris*. *Syme, E. Bot. ed. 3. v. 2. 132. pl. cclvi.*

*Sp. rupestris, vel rupicola.* “*Lebel, in Herb. Mus. Paris.*” *Kindb. Symb. Lepig.* 8.

**I**N its general habit this plant resembles *Lepigonum marinum*, from which it may be easily distinguished by its much smaller seeds, which are black and rough on the surface, and never have the membranous margin which is conspicuous in

that species. The leaves are subterete, mucronate, and, as well as the stem, are usually more or less covered with gland-tipped hairs. The petals are broader than is represented in our plate, of a uniform bright pink colour; they are contiguous, and slightly exceed the calyx.

*L. rupicola* was first recorded as a British plant in the London Catalogue (Ed. 5), under the name of *Spergularia rupestris*, having been found in Guernsey by Mr. J. T. Boswell Syme. We have seen specimens from Jersey, Isle of Wight, Devon, Pembroke, Carnarvon, Anglesea, Wicklow, Dublin, and Antrim. Kindberg in his monograph states that there are some specimens in the Stockholm Herbarium gathered near Edinburgh. He also mentions the plant as found in France, Spain, Portugal, and Italy.

*Lepigonum rupicola* is not found in salt-marshes, but grows in crevices and on ledges of rock, or in sandy soil at their base. The specimen here figured was gathered on the Landslip near Luccombe, in the Isle of Wight, in the month of June.

This genus was named *Lepigonum* by Fries in the *Flora Hallandica* (1818): the generic name *Spergularia* was first employed in Presl's *Flora Cechica* (1819), and by Cambessèdes in St. Hilaire's *Flora Brasiliensis* (1829), Persoon having previously used the same term *Spergularia* for a section of *Arenaria*, but not generically, in his *Synopsis Plantarum* (1805). It is clear therefore that the first name given to these plants as a separate genus was conferred by Fries.

The name *L. rupicola* has been adopted in preference to *L. rupestre*, on account of the latter having been employed by Cambessèdes for a very different species of the same genus which he obtained from the southern coast of Brazil.  
—A. G. MORE.





## LEPIGONUM salinum.

*Kindberg's Sandwort.*DECANDRIA *Trigynia.*

GEN. CHAR. *Calyx* 5-parted. *Petals* 5-parted, entire, about equalling the calyx. *Stamens* 10 or fewer. *Styles* 3. *Capsule* 3-valved, dehiscent to the base. *Seeds* numerous, often winged.

SPEC. CHAR. Root annual. Leaves fleshy, pointed. Stipules triangular-ovate, acuminate, entire. Panicle with a few short leaves. Capsule exceeding the calyx, and as long as the peduncle. Seeds brown, compressed, roundly-obovate, surrounded by a thickened border; a few of them winged.

SYN. *Spergularia salina.* *Presl, Fl. Cechica, 95.*

*Arenaria marina.* *Wallroth, Sched. Crit. 201.*

*Alsine marina.* *Reichenbach, Fl. Exsicc. no. 447.*

*Lepigonum salinum.* *Kindb. Monog. Lepig. 36.*

*L. neglectum.* *Kindb. Symb. Lepig. 6. Fr. Herb.*

*Norm. fasc. 15. 46. Brébisson, Fl. Norm. ed. 3.*

*54. Bab. Man. Br. Bot. ed. 5. 127.*

*Spergularia neglecta.* *Syme's E. Bot. ed. 3. v. 2. 125. pl. cclv.*

*Lepigonum medium, var.  $\alpha$ . neglectum.* *More, in Report of Thirsk Nat. Hist. Soc. 1861, 8.*

**T**HIS plant is very common on the sea-coast. It has the appearance of a slender *L. marinum*, but may be known by its much smaller and mostly wingless seeds, and by its narrow petals, which are whitish at the base and purple at

the tip. The seeds are usually rough with raised prominences, but this is not a constant character.

The above description applies more especially to *L. salinum*, Kindb.; but as *L. medium*, Fries, and *L. leiospermum*, Kindb., are chiefly distinguished from *L. salinum* by the different proportions of the bracts and by the greater smoothness of their seeds, characters which seem to be very variable, it is reasonable to conclude that all three plants are forms of one species.

*Lepigonum medium*, Fries, is known by its peduncles being leafy to the top of the panicle; its pedicels are short, about equalling the capsule, which is more or less exserted. It is usually smaller than *L. salinum*, and the winged seeds are more numerous. *L. medium* appears to be far less common than *L. salinum* in this country, but ranges from the Isle of Wight to the north of Scotland.

*L. leiospermum*, Kindb., is more slender; its panicles are usually lengthened out into a leafy raceme. The pedicels are about twice as long as the capsule, and its seeds smooth. It appears to be scarce in Britain; the only specimens which we have seen were gathered in Cheshire.

Kindberg, in his recently published and elaborate monograph of this genus, has shown that *L. neglectum* of his *Symbolæ* is the *Spergularia salina* of Presl, and that being a much older name of the species, the first-named author has caused it to supersede that previously used by him.

The figure was made from specimens gathered near Bembridge, Isle of Wight, early in the month of June. Unfortunately the artist has not been able to give a representation of the petals, which had fallen before he received the specimens.

—A. G. MORE.







*Feb. 1<sup>st</sup> 1864.*

## DIANTHUS plumarius.

*Common Pink.**DECANDRIA Digynia.*

GEN. CHAR. *Calyx* cylindrical, 5-toothed, with 2-4 scales at the base. *Filaments* connate below, and adnate to stalk of ovary. *Capsule* stalked, 1-celled, many-seeded, opening at the top by 4 valves. *Seeds* peltate.

SPEC. CHAR. Stem 2-5-flowered. Flowers solitary. Scales of calyx roundish ovate, shortly mucronate, their length one-fourth that of the tube. Petals digitate-multifid to their middle, downy below. Seeds flat, orbicular, with a lateral point. Barren stems procumbent, rooting. Leaves linear-subulate, rough at the edge.

SYN. *Dianthus plumarius*. *Linn. Sp. Pl.* 589. *De Cand. Prod.* v. 11. 363. *Koch, Syn. Fl. Helv. et Germ. ed.* 2. 107. *Reichenb. Fl. Excurs.* 807; *Icon. Fl. Germ.* v. 6. t. 257. *Bertol. Fl. Ital.* v. 4. 558. *Mack. Fl. Hibern. pt.* 1. 40. *Leight. Fl. Shrop.* 188. *Bab. Man. Br. Bot. ed.* 5. 45. *Syme, E. Bot. ed.* 3. pl. cxcv.

*D. Caryophyllus*. *G. E. Sm. Pl. of S. Kent*, 25.

*D. arenarius*. *Huds. Fl. Angl. ed.* 2. 185.

**T**HIS plant has just the same, but no greater claims than *D. Caryophyllus* to be included in *English Botany*. Neither species can be considered as more than a naturalized plant. They both grow upon old walls, and are the result of mediæval

cultivation. *D. plumarius*, which is the original state of the common garden Pink, is more frequently found in England than *D. Caryophyllus*, from which we derive the Carnation. It was first recorded separately from the Carnation by Doody, in Ray's *Synopsis*, under *Caryophyllus simplex*, &c., as "speciem illam hirsutam, quæ in Cantio frequenter occurrit, et alibi etiam observatur, a vulgari distinctam esse haud dubito." Hudson distinguished it, under a wrong name, in the second edition of his *Flora*. It afterwards disappeared from our books, until Mr. Leighton detected and described it under its true name, and Mr. G. E. Smith erroneously called it *D. Caryophyllus*.

*D. plumarius* is known at a glance from *D. Caryophyllus*, by its deeply fimbriate petals, which are downy at the base of the limb. The denticulate edges of the leaves (we give an enlarged sketch of this structure) may also be contrasted with the quite entire and smooth edges of those of its ally. It rarely exceeds one foot in height, and has a more dense cæspitose habit.

The flowers, which appear chiefly in June, are of a pale pink colour.

The distribution of these two beautiful plants in England has not been satisfactorily determined; but apparently the present is the more common of them.

Our plate represents specimens from Weston Hanger, near Sandown, Kent, kindly sent by the Rev. G. E. Smith as the *D. Caryophyllus* of his "*Plants of South Kent*." They were gathered on June 24, 1831.

The Irish locality mentioned by Mackay is probably a mistake: no modern botanists have succeeded in finding this plant or *D. Caryophyllus* in the county of Cork.—C. C. B.





Nov. 1<sup>st</sup> 1863.

## MEDICAGO sylvestris.

*Wild Lucerne.**DIADELPHIA Decandria.*

GEN. CHAR. *Calyx* of five nearly equal teeth. *Keel* blunt. *Stamens* diadelphous. *Filaments* filiform. *Ovary* curved. *Pod* 1-celled, hooked or spirally twisted. *Seeds* 1 or more.

SPEC. CHAR. Stem pithy, ascending. Racemes many-flowered. Pod forming one complete flat ring. Pedicels shorter than the calyx, longer than the bract. Leaflets obovate-oblong, emarginate, mucronate.

SYN. *Medicago sylvestris*. *Fries, Herb. Norm. fasc. 7. 38 (1840); Nov. Fl. Suec. Mant. 3. 92; Summa Veg. Scand. 163. Bab. Man. Br. Bot. ed. 3. 71. ed. 5. 75. Syme, E. Bot. ed. 3. pl. cccxxxv.*

*M. falcata*,  $\beta$ . *sylvestris*. *Bab. in Bot. Gaz. v. 1. 6.*

IT is with much pleasure that we publish a plate of the Wild Lucerne; for we agree with Fries in believing it to be specifically distinct from the Lucerne of cultivation, *M. sativa*, Linn. Fries gave excellent illustrations of these plants in his valuable *Herbarium Normale*, when he described our present subject for the first time. There, as in his other works, he refers the *M. falcata* of Smith to his *M. sylvestris*, on the authority, as he afterwards tells us, of an authentic named specimen of the plant figured on our *tab. 1016*. It is clear that Sir J. E. Smith confounded the two plants, and that he has added a ripe pod of *M. sylvestris* to a figure of the flowering state of *M. falcata*. Indeed they were not distin-

guished by any botanist until the account of them from the pen of Fries, in his *Herb. Normale* and *Mantissa*, removed the obscurity in which they were previously enveloped. Sometimes it is not very easy to distinguish them when only in flower; but, even then, the rather soft, because pithy, ascending stem, and the nearly constant presence of some dark flowers amongst the dark-striped yellow ones, is sufficient to show that it is this plant, and not the *M. falcata*, which is before us. Here the pods form nearly one turn, making a quite flat ring. In *M. falcata* no ring is formed, for the pod, although slightly curved, is much twisted; the stem also of that plant is rounder, much harder (being more solid and woody), and more prostrate than that of *M. sylvestris*.

In the *M. sativa*, or Lucerne of the farmers, the stem is hollow and upright, the pods form a spiral of two or three turns. The corolla is not bright yellow like that of *M. falcata*, nor yellow with purple bands or blackish, as is that of *M. sylvestris*; but violet-blue, becoming yellowish or rusty as it fades.

*M. sativa* is probably well known; it is rarely found in the state of even a doubtful native in England. *M. falcata* and *M. sylvestris* are very local plants. They seem to be almost confined to the remarkable district which extends from near Newmarket across Suffolk to Thetford, and thence far into Norfolk. There they are frequently found on the sides of banks and at the edges of the plantations of fir, which are used as shelter in a tract of loose and sometimes shifting sand.

Our drawing was made from specimens sent by the present writer from Chippenham, Cambridgeshire, in July 1852. The flowers are produced from the middle of June until the commencement of August, and the root is perennial.

On one side of the plate, two of the darker flowers are represented separately; on the other, the dissections of one of the yellow flowers will be found.—C. C. B.





## CONTENTS OF No. 79.

Descriptions of Plates 2975 to 2980.

Plates 2975 to 2980.

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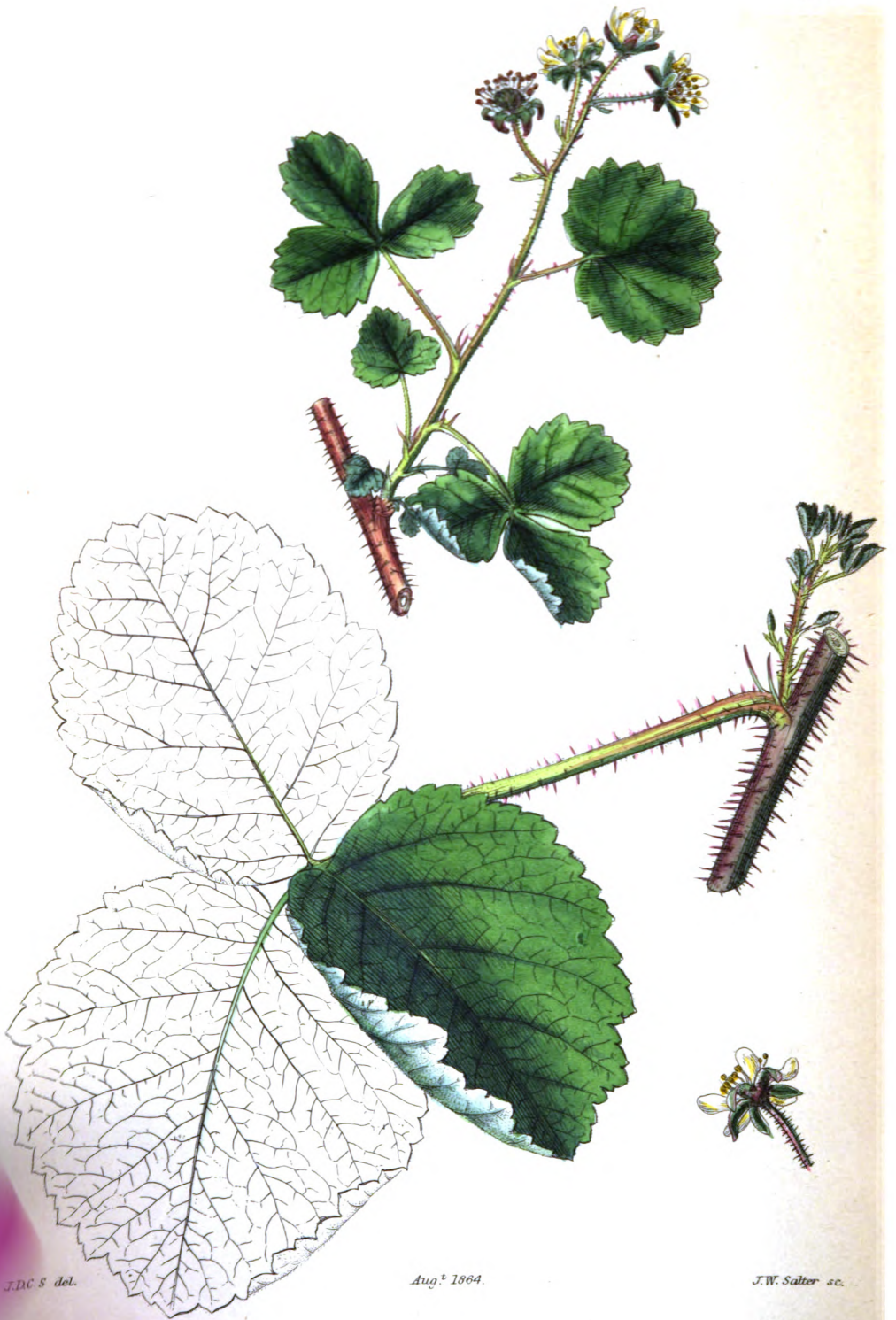
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1864.







J.D.C. s. del.

Aug<sup>t</sup> 1864.

J.W. Salter sc.

## RUBUS Leesii.

*Lees's Raspberry.**ICOSANDRIA Polygynia.*

GEN. CHAR. *Calyx* 5-parted, concave or flattish. *Petals* 5. *Stamens* numerous. *Fruit* superior, of several 1-seeded juicy *drupes*, placed upon a protuberant spongy receptacle. *Seed* pendulous.

SPEC. CHAR. Stem round, suberect; prickles setaceous, straight. Leaves 3-nate; leaflets all roundish ovate, almost sessile, the lateral overlapping the terminal leaflet. Flowering stem and peduncles with long slender prickles; flowers racemose, with cordate bracts.

SYN. *Rubus Leesii*. *Bab. Man. Brit. Bot. ed. 3. 92.*  
*Steele, Handb. Field Bot. 60. Syme, E. Bot. ed. 3.*  
*v. 3. pl. ccccxliii.*

R. *Idæus*, var. *c. fragariæ-similis*. *Lees in Lond. Cat. of Brit. Plants* (name only).

R. *Idæus*, *γ. Leesii*. *Bab. Syn. Brit. Rub. p. 6.*  
*Bell, Salt. in Hook. & Arn. Br. Fl. ed. 7. 123.*

**S**TEM rarely exceeding two feet in height, round, soft, and tomentose, generally with but a few long and weak purple prickles, though sometimes these are numerous. It is always upright, but weak and nodding at the summit. Stipules linear, downy, fringed with long hairs. Petioles downy, with very few straight prickles. Leaves ternate, the leaflets all roundish ovate, lateral ones sessile, overlapping the upper one, which is very shortly stalked, all coarsely serrate, tomentose, and very white, with pale green prominent ribs beneath.

The lower leaves have their leaflets frequently combined. Flowering stem rough with acicular prickles, the flowers in alternate axillary branches to its termination. Peduncles downy, almost unarmed, the flower-stalks more or less armed with slender prickles, and subtended by ternate or cordate floral leaves, which are very pale green or whitish beneath. Calyces downy, slightly armed. Sepals 5-10, with a reflexed point. Petals numerous, narrow, white. Styles few, the carpels generally abortive, and no fruit produced.

This *Rubus* extends itself much by runners, and throws up numerous barren shoots in a garden ; but scarcely ever, either in a wild or cultivated state, does it produce any fruit. Once only has a single ripe drupe fallen under our notice, which was bright scarlet and very small.

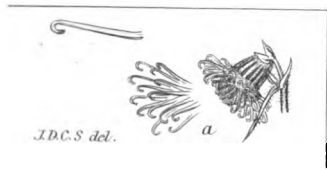
First found by Edwin Lees, F.L.S., in a wood near Ilford Bridges, about three miles from Lynmouth, Devon, in 1843. It was afterwards detected by the Rev. W. H. Coleman at the base of a rocky hill at Bonniton, near Dunster, Somerset, where it grows in considerable abundance. We have also found it by the side of a stream that flows into Lake Windermere, between Troutbeck and Bowness, Westmoreland.

Though allied to *Rubus Idæus*, to which it was originally referred as a variety, we have never observed the slightest disposition in the foliage to assume the pinnate division ; and hence the ternate strawberry-like leaves of the barren stem, and the cordate bracts conspicuous among the flowers, give this really beautiful plant a remarkable aspect. Though generally growing as a dwarf, the Westmoreland plant was as tall as any cultivated raspberry.—E. LEES.





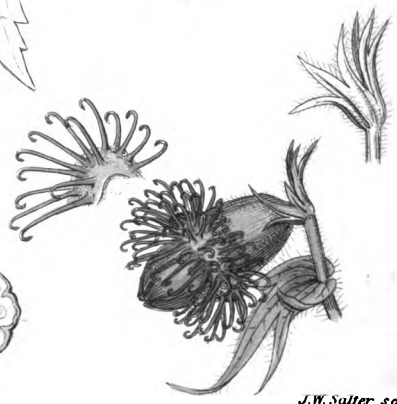
2982.



J.D.C.S. del.



Aug. 1864.



J.W. Salter sc.

## AGRIMONIA odorata.

*Scented Agrimony.**DODECANDRIA Digynia.*

GEN. CHAR. *Calyx* 5-cleft, without scales; tube turbinate, armed with hooked prickles. *Petals* 5. *Stamens* 7–20, both perigynous. *Nuts* 1–3, distinct, enclosed in dry tube of calyx. *Style* terminal. *Seed* suspended.

SPEC. CHAR. *Calyx*-tube of fruit bell-shaped, not furrowed; exterior prickles declining. Leaves interruptedly pinnate, hairy and glandular beneath.

SYN. *Agrimonia foliis pinnatis, foliolis oblongis acutis serratis.* *Mill. Dict. no. 3.*

*Agrimonia odorata.* *Willd. Sp. Pl. v. 2. 875. Fl. Dan. t. 2471. Ait. Hort. Kew. ed. 1. v. 2. 130. Mert. et Koch, Deutschl. Fl. v. 3. 376. Koch, Syn. ed. 2. 245. Gren. et Godr. Fl. Franc. v. 1. 562. Godr. Fl. Lorr. ed. 2. v. 1. 257. Bab. in Ann. Nat. Hist. ser. 2. v. 11. 363; Man. Br. Bot. ed. 5. 93. Hook. & Arn. Br. Fl. ed. 8. 134.*

*Agrimonia Eupatoria, β. odorata.* *Coss. et Germ. Fl. Par. ed. 2. 224.*

**T**HIS beautiful and scented plant was first introduced into the British flora on the authority of a specimen gathered by the Rev. W. W. Newbould at Beaumont in Jersey, in the year 1842, but was not detected in England or Ireland until after many years had elapsed. The late Mr. Joseph Woods

found it near the Start Point, Devon, and at Gwithian, in Cornwall, in the autumn of 1852; and Mr. Newbould and the present writer gathered it on the shore of Lough Neagh, by Shanes Castle, in Ireland, on September 9 of the same year. More recently it has been noticed in many parts of England. Mr. Watson has authority for recording its presence in eight of his Provinces, the most northern of them being The Lakes.

This plant much resembles *A. Eupatoria* (t. 1335) in general appearance, and has doubtless been often mistaken for that species. When bearing fruit, their difference is seen at a glance; for the present plant has then the tube of the calyx bell-shaped, and nearly, if not altogether, smooth below the exterior declining prickles; that of *A. Eupatoria* is turbinate or obconic, deeply furrowed almost throughout, and its lower prickles always spread horizontally or even ascend. The young calyx of *A. odorata* has shallow furrows on its upper half, but they disappear as the fruit ripens: on that of *A. Eupatoria* they extend to the base of the calyx, and are persistent. The leaves of our present plant bear very many minute odoriferous glands on their under surface, which are easily seen, and the species is easily ascertained by the pleasant scent produced by slight friction.

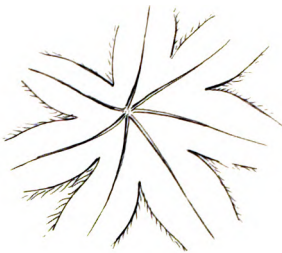
The quantity of nuts produced is not a constant character, although one is the most common number perfected by *A. Eupatoria*, and two by *A. odorata*. The shape of the calyx is not influenced materially by the number of nuts.

*A. odorata* is a larger plant in all respects than its ally. It is not unfrequently 3-4 feet high. It flowers from June to September.

Our specimens were gathered by A. G. More, Esq., at Yaverland, Isle of Wight, on September 9, 1862.

At (*a*) we have added the conical and ribbed calyx of the true *A. Eupatoria* for comparison with that of *A. odorata*.—  
C. C. B.





J.D.C.S del.

Aug<sup>e</sup> 1864.

J.W. Salter sc.

## ALCHEMILLA conjuncta.

*Silvery Lady's Mantle.*


---

 TETRANDRIA Monogymia.

GEN. CHAR. *Calyx* 8-parted, the alternate parts smaller, contracted at the throat, unarmed. *Petals* 0. *Stamens* 1-4, inserted on a ring in the throat of the calyx, opposite to the smaller segments. *Nuts* 1 or 2. *Style* basal. *Seed* ascending.

SPEC. CHAR. Radical leaves suborbicular, peltate-palmate; lobes much connected below, oblong, blunt, adpressed-serrate towards the end, greenish white and very silky beneath. Flowers in small terminal and lateral irregular corymbs. Stems much branched.

SYN. *Alchemilla conjuncta*. *Bab. in Ann. Nat. Hist. ser. 1. v. 10. 25*; *Man. ed. 5. 93*. *Walp. Repert. v. 2. 42*. *Syme, E. Bot. ed. 3. v. 3. pl. ccccxxiv*.  
*A. argentea*. *G. Don in Trevel. Faroe, 8 (not Lam. Fl. Fr. ed. 1. v. 3. 303)*.

---

WE hope to be excused for publishing a figure of a garden plant derived from one of Mr. Don's original specimens gathered at Clova, Forfarshire, very many years since. It is not so much developed as we desire, but well represents the plant as it often appears. On more developed specimens the flowering stems branch greatly and repeatedly, and the small subsessile rather irregular corymbs are separated by long internodes. There is no doubt that our *A. alpina* (tab. 244) was also drawn from a garden specimen of *A. conjuncta*, and altered to its present state by the directions of Sir J. E. Smith, who saw that it did not represent the true *A. alpina*.

The original drawing, with Smith's notes annexed, is a proof of this; and thus *tab.* 244 does not represent either plant. Our present plate is engraved from a drawing by Mr. J. W. Salter, which is beautifully accurate; but the engraver has not quite clearly understood it, and has made the lowest and outline leaves appear as if peltate, whereas the external smaller lobes are never quite connected together, although at times they even overlap: the leaves are really palmate, though they seem on a first view to be peltate.

It is the peltate appearance of the radical leaves, their palmate not digitate structure, much larger size, and much more satiny silkiness, combined with the much-branched inflorescence, which chiefly distinguish this plant from *A. alpina*. We have had the plants growing side by side for many years, and seen no alteration: Mr. H. C. Watson said, some time since, that he had raised them both from seed, and that whether confined to small pots or in the open ground, in stiff loam or loose mould, they continued constant in the shape, structure, colour, and lustre of their leaves; except that in *A. alpina* the lobes of the leaves became very slightly connected below. Nevertheless we think it quite possible that the plants are not distinct species, but only very constant races.

This plant passes, or did recently pass, for *A. alpina* in most botanic gardens, and Dr. Walker-Arnott states that it has borne the name of *A. hybrida* in some places. Don's name *A. argentea* would have been admirable, if Lamarck had not so-called the typical *A. alpina*. The resuscitation of an extinct name would therefore here have caused more than ordinary confusion.

Whenever we can trace the history of plants of *A. conjuncta*, they are stated to have been obtained from the late Mr. George Don of Forfar, and the specimen from him in the late Mr. Borrer's Herbarium was gathered at Clova. In 1853 Mr. A. O. Black found a very large patch of it, 8-10 feet square, on the Craig Rennet side of Glen Dole, Clova. In 1832 Dr. N. Tyache gathered it near the head of Glen Sannox, Goat Fell, Arran. It flowers in July and August on the mountains; in June in gardens.—C. C. B.







J.W. Salter fec

May 1864.

## VIOLA canina.

*Dog Violet.**PENTANDRIA Monogynia.*

GEN. CHAR. *Calyx* of 5 sepals, extended at the base.  
*Petals* 5, irregular, the lowermost spurred behind.  
*Anthers* slightly cohering, the two lower ones  
 spurred behind.

SPEC. CHAR. Primary and lateral stems flowering  
 and lengthening. Leaves cordate-ovate. Spur  
 of corolla blunt. Spurs of anthers lancet-shaped,  
 broad. Stigma slightly hooked, not capitate.

SYN. *Viola canina*. *Linn. Sp. Pl.* 1324. *Fries, Nov.*  
*Mant.* 3. 122; *Herb. Norm. Cent.* 4. 42. *Gren.*  
*et Godr. Fl. Fr. v.* 1. 180. *Coss. et Germ. Fl. Par.*  
*ed.* 2. 138 (excl. var.  $\beta$ ). *Bab. Man. ed.* 5. 38.  
*Syme, E. Bot. ed.* 3. v. 2. 21. *pl.* clxxv.

*Viola pumila*. *Hook. & Arn. Br. Fl. ed.* 8. 48 (not  
*Vill.*).

**T**HIS is accepted by Continental botanists as the true  
*Viola canina* of Linnæus, and we do not see any reason for  
 disagreeing with them, although attempts have been made to  
 show that the *V. sylvatica* of Fries is really what was intended  
 by that great botanist. Linnæus founded the species in the  
*Hort. Cliffortianus*, and there describes the present plant, and  
 quotes *Tilland's Icones Novæ*, where a tolerable figure of it  
 will be found. That cut certainly does not represent either  
 of the plants associated under *V. sylvatica*. This is not what  
 people in England usually intend by *Dog Violet*; but that does  
 not affect the scientific nomenclature in the slightest degree.

Nevertheless wherever known in England it is called *Dog Violet*; for the ordinary observer does not distinguish it from the *V. Riviniana* or *V. Reichenbachiana*, which together form the *V. sylvatica* of Fries.

The *V. flavicornis* of Smith, a small form of our *V. canina*, is often found on dry heaths. We have given a representation of it, as well as of the typical *V. canina*, on our plate. The *V. flavicornis* of Forster (our *tab.* 2763) is a dwarf form of *V. Riviniana*.

This plant is known by its want of any terminal rosette, its determinate caespitose growth, cordate-ovate leaves with rounded ends, large calycine appendages, yellow emarginate spur to the corolla. It has not a creeping rhizome, although, as the caespitose stems are much buried, they may easily be mistaken for one.

The *V. lactea* of Smith (*tab.* 445) is a variety of *V. canina*. It is the *V. lancifolia* of Thore and the French botanists, the *V. pumila* of Fries, but not of Villars.

This plant inhabits sandy heaths and peaty bogs. It is not found in shady places, but affects the most exposed spots, flowering in April, May, and June.

Our specimens were gathered in Bottisham Fen, Cambridge-shire, on June 13, 1851, by Prof. Babington. The smaller figure is drawn from more starved specimens.—C. C. B.





J.W. Salter fec.

May 1864.

## VIOLA stagnina.

*Bog Violet.*

## PENTANDRIA Monogynia.

GEN. CHAR. *Calyx* of 5 sepals, extended at the base. *Petals* 5, irregular, the lowermost spurred behind. *Anthers* slightly cohering, the two lower ones spurred behind.

SPEC. CHAR. Primary and lateral shoots flowering and lengthening. Leaves ovate-lanceolate, subcordate or truncate below. Stipules linear-lanceolate, incise-serrate, shorter than the petioles. Spur of corolla very short and blunt. Anther-spurs very short and broad. Stigma slightly hooked, not capitate. Subterranean stems creeping extensively and horizontally.

SYN. *Viola stagnina*. "Kit. in *Schultz's Oestreichs Fl.* v. 1. 426." *Mert. et Koch, Deutsch. Fl.* v. 2. 265. *Koch, Syn. Fl. Germ. et Helv. ed.* 2. 92. *Roth, Enum. Fl. Germ.* v. 1. 762. *Gren. et Godr. Fl. Fr.* v. 1. 181. *Bab. Man. Br. Bot. ed.* 5. 39; in *Bot. Gaz.* v. 2. 144 & 178. *Hook. et Arn. Br. Fl. ed.* 7. 48. *Syme, E. Bot. ed.* 3. v. 2. t. clxxvii.

*Viola lactea*. *Reichenb. Icon. Fl. Germ.* v. 3. t. 16. f. 4507 (nec *Smith*). *Hook. & Arn. Brit. Fl. ed.* 6. 48.

*Viola persicæfolia*. *Fr. Nov. Fl. Suec. ed.* 1. 48. ed. 2. 274; *Mant.* 3. 124 (nec *Roth*).

*Viola stricta*. *Bab. in Ann. Nat. Hist. ser.* 2. v. 9. 13.

*Viola Billotii*. *Schultz in Fl. Gal. et Germ. Exsic.* 4. "spec. no. 10."

*Viola stagnina*,  $\beta$ . *Billotii*. *Schultz, Arch. de la Fl. de Fr. et d'Allm.*

IT is with satisfaction that we give a plate of this beautiful and much-misunderstood violet. More synonyms might have

been added to the above long list. It seems undesirable to rake up the errors of little-known authors. This species has usually been confounded with either the *V. canina* (t. 2984) or the *V. lactea* of Smith (t. 445); but those plants want the slender, far-creeping rhizome of *V. stagnina*, and have flowers and leaves of a very different shape. *V. lactea* is now considered as a form of *V. canina*, from which it only differs by its narrower leaves and paler flower; for it is nearly certain that the creeping character given to the stem on our tab. 445 is an error. *V. lactea* is the *V. lancifolia* of Thore, *V. pumila* of Fries, but apparently not of Villars. The *V. stricta* found at Garry Land, near Gort, in Ireland, by Mr. A. G. More, is the *V. Billotii* of Schultz, but is certainly only a dwarf state of *V. stagnina*.

The stems of our plant are erect, from 2 or 3 inches to a foot high; stipules large, lanceolate, and always shorter than the petioles. The petals are very short in proportion to their width, and are of a colour varying from what the artist calls "smalt" to cream-coloured; the spur is exceedingly short, often scarcely extending beyond the rather large appendages to the calyx. The rhizome or sobole is often very much more slender than that which is represented on our plate, and, as it is exceedingly brittle, specimens are rarely gathered with it in a perfect state. In the fens of Cambridgeshire the plant was once abundant, but has now become scarce from the drainage of the county. There its rhizome ran for very long distances in the peaty soil, throwing up stems bearing leaves and flowers at intervals of an inch or two. On a specimen before us, which was dug up with especial care, the horizontal rhizome (although broken at both ends) is about seven inches long, and scarcely the hundredth of an inch in thickness.

*V. stagnina* flowers in May and June, and grows in peaty bogs. It has been found in England and Ireland, but not in Scotland. It is probably less rare than is usually supposed, but very few stations are recorded for it. The specimens figured were gathered in Bottisham Fen, near Cambridge, on June 5, 1852, by the present writer.—C. C. B.





2986.



Aug. 1864.

J.W. Salter fec.

## VIOLA Reichenbachiana.

*Lilac Wood Violet.**PENTANDRIA Monogynia.*

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*Petals* 5, irregular, the lowermost spurred behind.  
*Anthers* slightly cohering, the two lower ones  
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SPEC. CHAR. Primary stem not flowering, forming  
 a rosette, producing axillary lateral flowering  
 branches. Leaves cordate-prolonged. Calycine  
 appendages small and becoming indistinct. Petals  
 oblong, narrow; lower with a few parallel nearly  
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SYN. *Viola Reichenbachiana.* *Bor. Fl. du Centr. de  
 la Fr. ed. 3. 78.* *Syme, E. Bot. ed. 3. v. 2. 20.  
 pl. clxxiv.*

*Viola sylvatica.* *Fries, Nov. Mant. 3. 121; Herb.  
 Norm. Cent. 6. 25. Bab. Man. Br. Bot. ed. 2. 36.  
 Lloyd, Fl. de l'Ouest de la Fr. 56. Brebis. Fl.  
 Norm. ed. 3. 38.*

*Viola sylvestris.* *Reichenb. Fl. Excurs. 707; Icon:  
 Fl. Germ. v. 3. t. 12. f. 4503 (not Lam.).*

*Viola canina, β. sylvatica.* *Fries, Fl. Hall. 46; Nov.  
 Fl. Succ. 272.*

*Viola sylvatica, α. Reichenbachiana.* *Bab. Man. Br.  
 Bot. ed. 5. 38.*

AS the best modern Continental botanists consider this  
 plant to be specifically distinct from *V. Riviniana* of Reichen-

bach (the *V. canina* of our *tab.* 620, and of *Curt. Fl. Lond. v. 1. tab.* 182), we have thought it desirable to give a figure of it. It is certainly the original *V. sylvatica* of Fries, and we are strongly impressed with the opinion that his name ought to be retained for it. The nomenclature of the French botanist is here adopted, because it is devoid of all ambiguity. Lamarck's term, *V. sylvestris*, does not belong to this plant: it is an absolute synonym of the true *V. canina* of Linnæus. He called it *Violette sauvage*, and properly translated that term into the Latin *V. sylvestris* (*Fl. Fr. ed. 1. v. 2. 680*). *V. sylvatica* means *Wood Violet* as distinct from *V. canina*, which inhabits heaths and fens. *Sylvestris* means *wild* as contradistinguished from *cultivated*.

*V. Reichenbachiana* may be known from *V. Riviniana* (*tab.* 620) by its more slender habit, cordate-prolonged rather than cordate-acute leaves, narrower lilac flowers with much more slender petals and a spur which is usually, if not always, of a rather darker colour than the rest of the corolla, and the small appendages at the base of the corolla, which become less distinct as the fruit ripens. The venation of the lower petal affords a valuable character. Here it consists of a few parallel veins, usually nearly simple. In *V. Riviniana* these veins branch and anastomose.

This plant and its ally cannot be confounded with the true *V. canina*, if attention is paid to the central rosette of leaves in these, and its want in that plant. Here the growth is indeterminate, in that determinate; for here the terminal bud lives through the winter, and prolongs the short stem, there the stem dies back, and the new growth is from below the end of that of the preceding year.

This plant inhabits banks and thickets, and seems to be more common in the east of England than elsewhere. It flowers in the latter half of April and the first part of May. The specimens figured were gathered at Cambridge, on April 23, 1864, by the describer.—C. C. B.



## CONTENTS OF No. 80.

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Descriptions of Plates 2981 to 2986.

Plates (2963, omitted before) 2981, 2982, 2984 to 2986.

Plate 2983 will be given in the next Number with  
*Alchemilla alpina.*

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*To be continued Quarterly.*

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LONDON:

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1865.











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2986.



Aug. 1864.

J.W. Salter fec.

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1865.







Nov. 1862.

J.W. Salter fec.

## ULEX Gallii.

*Le Gall's Gorse.**MONADELPHIA Decandria.*

GEN. CHAR. *Calyx* of two parts ; the upper with two, the lower with three minute teeth ; a bract on each side at the base. *Pod* thick, few-seeded, scarcely longer than the calyx, which nearly equals the corolla.

SPEC. CHAR. Young leaves glabrous, ciliate, furrowed. Primary spines strong, deflexed, subterete, striate, smooth. Stem hairy. Flowers lateral and terminal. Bracts very minute, adpressed. *Calyx* finely silky. Wings of corolla exceeding the keel, subfalcate.

SYN. *Ulex Gallii*. *Planch. in Ann. Sc. Nat. ser. 3. v. 11. 213. t. 9 ; in Bot. Gaz. v. 1. 288. Webb in Ann. Sc. Nat. ser. 3. v. 17. 288. Le Jolis in Mém. Soc. Sc. Nat. Cherb. v. 1. Lloyd, Fl. de l'Ouest. de la Fr. 106. Bor. Fl. du Centre de la Fr. ed. 3. 140. Lees, Bot. Malv. ed. 2. 66. Delalande, Hædic et Houat, 110. Le Gall, Fl. Morbihan, 815.*

*U. provincialis*. *Le Gall, Fl. Morbihan, 128.*

*U. nanus, β. major*. *Bab. in Ann. Nat. Hist. ser. 1. v. 5. 302.*

*U. nanus, β. Gallii*. *Bab. Man. ed. 5. 73.*

**T**HIS plant has been almost universally recognized as a distinct species by the botanists of western Europe, but until

now I have shrunk from admitting it. It was first noticed as deserving of attention at the Meeting of the British Association at Bristol, in 1836, and was then erroneously supposed to be *U. provincialis* (Bab. Fl. Bathon. 73). It is the *U. nanus* of most British collectors; for the true plant of that name is very far from common, and the *U. Gallii* is universally distributed throughout the south-western counties of England, and constitutes a very large part of the Gorse of Ireland. Mr. P. B. Webb remarked "totam Hiberniam operit." It is also found in the south-west of Scotland. In its larger form it closely resembles *U. europæus*, and is then usually so called. It may be known from that species by its flowering in the autumn, having a silky (not shaggy) calyx, very small bracts, and glabrous, although strongly ciliate, leaves (phyllodia); from *U. nanus* by its strong, erect, or ascending, branches, long and strong but deflexed spines (ramuli), wings rather longer than the keel of the flower, although often seeming shorter than it from their somewhat falcate shape, causing them to appear as if "trying to embrace by arching over the keel," whereas in *U. nanus* they are very nearly straight and flatly applied to the keel. The flowers are usually of an orange-yellow tint, but the late Prof. E. Forbes told us (*Bot. Gaz. v. 1. 291*) that that colour is not constant even on the same bush. The *U. nanus* is almost always quite prostrate below; but the flowering ends of its branches turn up, and the whole forms an elastic carpet of a few inches in thickness over the exposed heaths of the west: *U. Gallii* does occasionally present a rather similar appearance, but is nearly always very much more erect, and is sometimes even 5 or 6 feet high.

The specimens from which our figure was made were sent from Durdham Down, near Bristol, on Oct. 13, 1849, by Mr. H. O. Stephens.—C. C. B.







J.W. Satter

Feb. 1865

ULEX europæus,  $\beta$ . strictus.*Irish Gorse.*

## MONADELPHIA Decandria.

GEN. CHAR. *Calyx* of two parts ; the upper with two, the lower with three minute teeth ; a bract at each side at the base. *Pod* thick, few-seeded, scarcely longer than the calyx, which nearly equals the corolla.

SPEC. CHAR. Young leaves shaggy beneath, furrowed. Primary spines strong, terete-polygonal, furrowed, rough. Stem hairy. Flowers lateral. Bracts ovate, lax. Calyx shaggy. Wings of corolla longer than the keel.—*Var.*  $\beta$ . Primary spines small, slender, tetragonal. Branches upright.

SYN. *Ulex strictus.* Mackay in *Trans. R. Irish Acad.* v. 14. 166. Lindl. *Syn. Br. Fl.* ed. 2. 322. Bab. in *Ann. Nat. Hist.* ser. 1. v. 5. 301. Walp. *Repert.* v. 1. 627. Planch. in *Ann. Sc. Nat.* ser. 3. v. 11. 212 ; *Bot. Gaz.* v. 1. 288.

*U. hibernicus.* G. Don, *Syst. Gard. and Bot.* v. 2. 148.

ALTHOUGH this plant has been proved by experimental sowing to be only a sport of the *U. europæus*, it is so different in appearance from that plant, and has attracted so much attention by its extreme variation from the type of the species, that we have thought a figure of it will be acceptable to botanists. It was first noticed in the Marquis of London-

derry's park, in the county of Down, in Ireland, in about the year 1815, and has ever since been cultivated in gardens, and even occasionally raised as a crop for feeding cattle. It rarely flowers, and, although usually reproduced from seed, does sometimes thus produce young plants similar to the type of the species. Its flowers spring from the summit of the young shoots, are smaller than and differ slightly in proportion from those of the true *U. europæus*. Its spines also are much less rigid. But its remarkable appearance is caused by its erect, close manner of growth.

The specimens figured were gathered in the Botanic Garden at Cambridge, on May 30, 1849.—C. C. B.





Nov. 1 1864.

J.W. Solter. Peo.

## POTERIUM muricatum.

*Muricated Lesser Burnet.*

---

*MONŒCIA Polyandria.*

GEN. CHAR. *Calyx* 4-cleft, with three external scales at its base; the tube quadrangular. *Petals* wanting. *Nuts* 2 or 3, enclosed in the dry tube of the calyx. *Style* terminal: stigma penicillate.

SPEC. CHAR. Stem herbaceous, erect. *Calyx* of the fruit hardened, 4-winged, the intermediate spaces reticulated with strongly elevated denticulate ridges.

SYN. *Poterium muricatum.* *Spach in Ann. Sc. Nat. ser. 3. v. 5. 36. Gren. et Godr. Fl. Fr. v. 1. 563. Bab. Man. ed. 5. 92. Syme, E. Bot. ed. 3. v. 3. 135, t. cccxxi.*

*P. polygamum.* *Walds. et Kit. Pl. rar. Hungar. v. 2. 117, t. 197? Koch, Syn. Fl. Germ. ed. 2. 258?*

*P. platylophium.* *Jord. Observ. Pl. Nov. frag. 7. 22. Bor. Fl. du Centre de la Fr. ed. 3. 212.*

*P. stenolophium.* *Jord. l. c. 22. Bor. l. c. 213.*

**T**HIS plant possesses slight claims to be considered as a part of the true flora of Britain. It was first noticed in 1849 (*Bot. Gaz. v. 1. 224*), and has probably in all cases been introduced with foreign seed to be used in agriculture, and established itself on the borders of fields and other waste ground adjoining the crops. It produces an abundance of seed; and the climate of the southern half of England appears to be so well suited to it, that it will most likely be a perma-



Nov. 1. 1864

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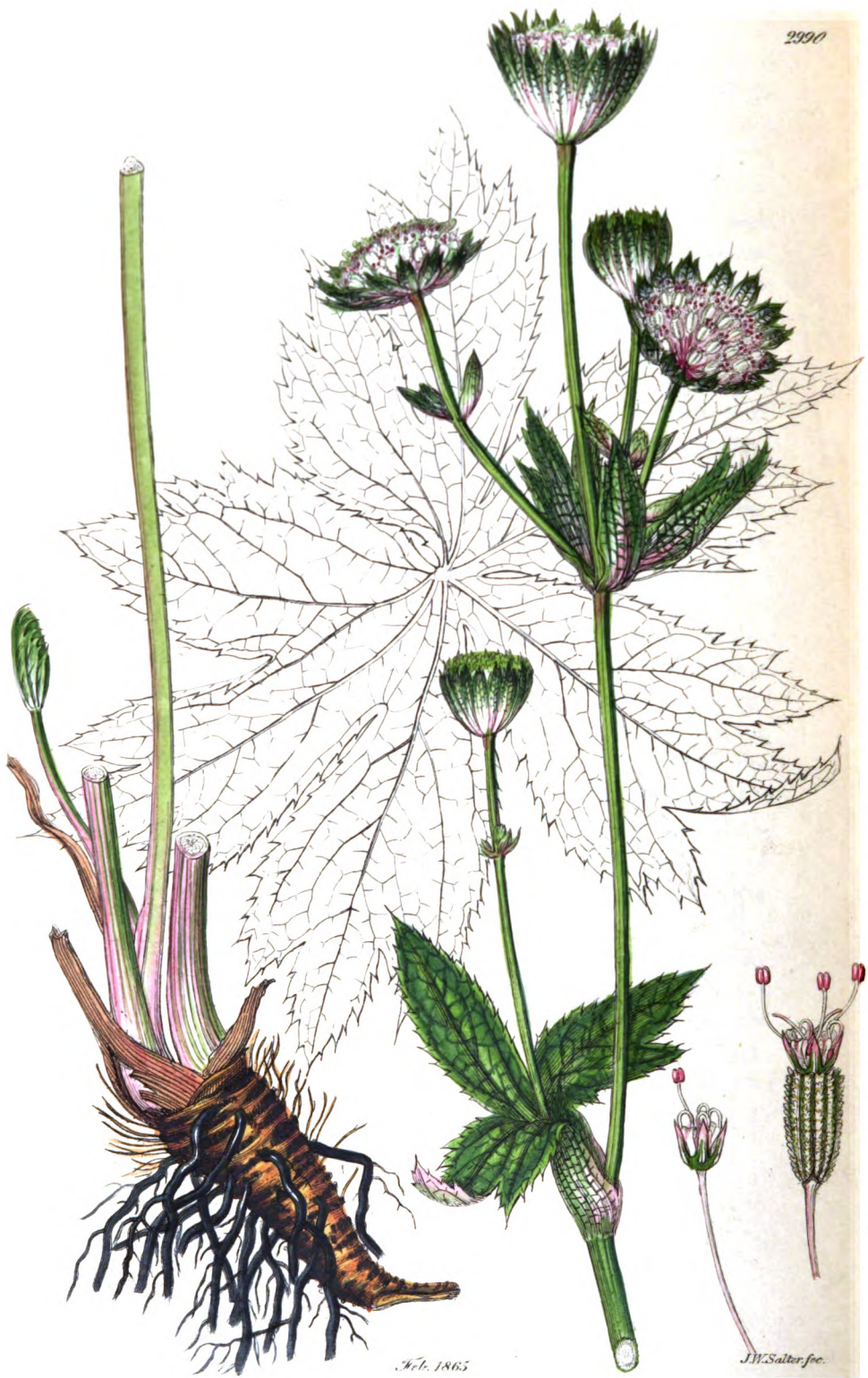
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ment inhabitant, and be recorded in all future catalogues of our plants. It does not seem to be so well able to stand the climate of the northern parts of this country; for it has not, as far as we know, been recorded from there.

*P. muricatum* resembles the common *P. Sanguisorba* (t. 860), but is larger and coarser. The stem is often 2 feet high. The heads of flowers are thicker and longer in proportion, and the fruits are considerably larger. Of these latter organs there are two kinds, found upon different plants—one fruit being rather elliptic in form, with thick blunt but denticulate wings, and the spaces between them divided by sharply denticulate ridges in a netted manner. This is the *P. platylophium* of Jordan. The other plant has ovoid fruits with sharp entire wings, and the spaces netted with bluntly denticulate ridges. It is the *P. stenolophium* of Jordan. Apparently these plants, which do not seem to differ materially in other respects, are about equally common in our southern counties. The fruit engraved on our plate is that of the *P. platylophium*, although the general figure is probably taken from a specimen of *P. stenolophium*. In *Syme's Eng. Bot.* the plate is derived from the same drawing, but the fruit of *P. stenolophium* has been added. As there is no recognizable difference, except in the fruit, we should not have known of this fact if it had not been recorded that the specimens drawn were sent from Cambridge on July 8, 1849, and been believed that the *P. platylophium* has not been found in that county. The fruits were drawn at a later date than the chief figure, and their origin is not recorded. M. Jordan remarks that, although these plants and other allied species of *Poterium* retain for generations the characteristic differences in their calyx-tubes, they are very variable and unstable in all points relating to their stem, leaves, pubescence, and habit.—C. C. B.





Feb. 1865

J.W. Salter fec.

## ASTRANTIA major.

*Great Black Masterwort.*

## PENTANDRIA Digynia.

GEN. CHAR. *Calyx* of 5 leaf-like teeth. Fruit obovate, with 5 inflated plicate-dentate ridges; vittæ none. *Umbel* of few rays. *General involucre* of few unequal, *partial* of numerous uniform leaves.

SPEC. CHAR. Leaves palmate; lobes 5, partially connate, subtrifid, doubly serrate. *Partial involucre* scarcely longer than the flowers. Ridges of fruit obtusely muricate.

SYN. *Astrantia major*. *Linn. Sp. Pl. ed. 2.* 339. *DeC. Prod. v. 4.* 86; *Fl. Fr. ed. 3. v. 4.* 315. *Woods, Tourist's Fl.* 142. *Sm. Exot. Bot. v. 2.* 23, t. 76 (not good). *Bab. Man. [ed. 5.]* 143]. *Gaud. Fl. Helv. v. 2.* 299. *Koch, Syn. Fl. Germ. ed. 2.* 309. *Reich. Fl. Excurs.* 483. *Bischoff in Gen. Pl. Germ. Illustr. fasc. 26* (excellent). *Bertol. Fl. Ital. v. 3.* 124.

*A. nigra.* *L'Ob. Hist.* 388. *Scop. Fl. Carn. ed. 2. v. 1.* 188.

*A. nigrum, sive Veratrum nigrum Dioscoridis.* *Ger.* 828. *Ger. Em.* 978 (fig. reprint of *L'Obel's*).

**A** NATIVE chiefly of the mountainous parts of more southern Europe; cultivated in England by Gerarde in 1597, but first observed as a wild plant in this country in Sidehill Wood, above Stokesay Castle, Shropshire, by Mr. Arthur Aikin, who presented a specimen to the Linnean Society in 1825. (See their *Transactions*, v. 15. p. 507.) In the same place our specimens were gathered in July 1841, a direction to it having been communicated by Mr. Daniel Sharpe. The spot is perfectly sequestered; yet, the plant growing in large separate patches along a portion only of the upper part of the wood, the idea is suggested that it was introduced, though very long ago, by human agency.

Plant densely tufted, several stems and bundles of root-

leaves springing from the thick blackish root-stock. Root-leaves on long stalks, palmate, with cordate base and 5, rarely 7, cuneate lobes, divided as to the mid-lobe almost to the leaf-stalk, the lateral ones more connate; points often trifid; margins incised, the coarse teeth, or lobules, again serrated with small bristle-tipped teeth: colour a deep green, paler and shining on the under side, where the reticulated veins are very prominent. Leaf-stalks sheathing at the base, upwards nearly cylindrical with a narrow groove, tubular, finely striated. Stem about 3 feet high, tubular, cylindrical, striated, erect and straight, with about 3 distant knots, each producing a leaf, and the uppermost often a sharp-axillary branch terminated by an umbel of 1-3 umbellules. Stem-leaves similar to the root-leaves, but gradually smaller and on shorter stalks; the uppermost only 3-lobed, its stalk reduced to a mere sheath. Terminal umbel of few rays, scarcely exceeding 5 besides the central one, the stalk of which is a straight continuation of the stem, and longer than the lateral ones: these are of unequal lengths, somewhat angular, each subtended by a sheathing trifid bract (or involucre leaf) resembling the uppermost stem-leaf: occasionally they are jointed about their mid-length, and beset there with 2 or 3 undivided bracts and as many secondary umbellules, which, however, are more commonly abortive. Involucre of numerous entire (or more rarely trifid), lanceolate, bristle-pointed, 3-veined, coloured leaves, usually tinged with pink, sometimes white, beautifully reticulated and tipped with green, spreading horizontally or slightly deflexed when the flowers are in perfection, afterward ascending and forming a cup under the ripening fruits. Flowers numerous, forming a dense convex umbellule, rather shorter than the involucre; their stalks about as long as the flower, hair-like, usually of a deep rose colour, sprinkled with minute nearly sessile glands. Calyx deeply cut into 5 triangular-lanceolate acuminate segments, with white keel and margin, overtopping the acute, inflexed, white petals. Stamens, when at length they unroll themselves, three times as long as the calyx; filaments white; unburst anthers crimson. Styles shorter than the stamens, diverging upwards; stigmas simple, obtuse, scarcely thickened. Fruit crowned with the persistent calyx and styles, obovate, slightly compressed, 10-furrowed, the ridges covered with a white plicate-dentate inflated skin, and imperfectly 2-celled within. A varying proportion of the flowers are male, on stalks as long as stalk and germen together of the hermaphrodite flowers. Every part of the plant is free from pubescence, if we except the minute glands on the flower-stalks.

Among British plants, the nearest affinity of this beautiful species is to *Sanicula europæa*.—From the late Mr. W. BORRER'S MS.



## CONTENTS OF No. 81.

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Descriptions of Plates 2987-2990.  
Plates (2983, omitted before) 2987-2990, and  
Descriptions of Plates 2977, 2978 (omitted in Number 79).

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N.B. *To the Possessors of "English Botany."*

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THE Proprietor of the 'Supplement,' having copies of that work still on hand, wishes to dispose of them to those who have the original 'English Botany,' but who may not like to give the full price for this extensive work. He offers the set of four volumes for £7, the reduced price of the separate volumes being as follows:—

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**No. LXXXII.**

*For MAY 1865,*

(PRICE 4s. 6d.,)

OF THE

**SUPPLEMENT**

TO

**ENGLISH BOTANY.**



LONDON:

PUBLISHED BY THE PROPRIETOR, J. W. SALTER;  
AND SOLD BY J. VAN VOORST, PATERNOSTER ROW, AND ALL BOOKSELLERS.

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1865.



## NOTICE.

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ALTHOUGH above 1000 copies of the original 'English Botany' are extant, and probably more of the Second Edition, to both of which works the 'Supplement' is a necessary addition, scarcely any of the original subscribers can be found, and the sale of the current numbers does not even pay for paper and print.

This is no doubt partly due to the success of the new or Third Edition, published by Mr. Hardwicke, and edited by Mr. Syme. But as there must be very numerous libraries in which one or other of the former editions exist, and as those editions can be made complete by the addition of the 'Supplement,' it is anxiously desired by the Proprietor that the friends of the work will bring it to the notice of those who possess the original work or the Second Edition.

If Subscribers cannot be obtained, he will be reluctantly obliged to close the work for the present.



J. W. Salkin

May 1865



1662

## CENANTHE pimpinelloides.

*Corky-fruited Water-Dropwort.*

## PENTANDRIA Digynia.

GEN. CHAR. *Calyx* of five lanceolate teeth. *Petals* obcordate, with an inflexed point. *Fruit* ovoid-cylindrical or subturbinate, crowned with the long suberect styles. *Carpels* more or less corky, with five blunt convex ridges. *Interstices* with single vittæ.

SPEC. CHAR. Root of long fibres, bearing round or ovoid knobs beyond their middle. Radical leaves bipinnate, with obovate, wedge-shaped, 3-lobed leaflets; stem-leaves pinnate, with linear acute leaflets; uppermost leaves simple. Radiant petals divided to the middle. Fruit subcylindrical, with an enlarged corky base.

SYN. *Cenanthe pimpinelloides*. *Linn. Sp. Pl.* 366. *Jacq. Aust. t.* 394. *Koch, Syn. Fl. Germ. ed.* 2. 322. *Gren. et Godr. Fl. Fr. v.* 1. 713. *Reichenb. Icon. Fl. Germ. v.* 21. 26. *t.* 1895. *Syme, E. Bot. ed.* 3. *v.* 4. 125. *t.* dxciv. *Hook. & Arn. Br. Fl. ed.* 8. 176.

**E**VEN a slight attention to the roots, radical leaves, and fruit-bearing umbels of this plant cannot, we think, fail to establish the opinion that *C. pimpinelloides* is a distinct species from *C. Lachenalii* and *C. silaifolia*. Nevertheless one of our highest botanical authorities has said that these differences have been shown to depend upon soil and situation, and that intermediate states show that the two, *C. pimpinellifolia* and *C. Lachenalii*, should be considered rather as marked varieties than as true species. We do not know by whom the intermediate variations have been proved to exist, and our experience leads us, in common with nearly all modern European botanists, to believe in the constancy and

distinctness of the species. It is thought that the annexed plate must tend to confirm this belief.

Root of several long, strong, but slender fibres, which enlarge suddenly beyond the middle of their length into ovoid or subglobular knobs of about  $\frac{1}{4}$  or  $\frac{1}{2}$  an inch in length. Stem often nearly 3 feet high. Radical leaves bipinnate; leaflets deeply jagged, obovate. Stem-leaves bipinnate; leaflets linear-lanceolate, very acute, entire. Uppermost leaves simple, long, linear. Umbels of 6–12 rays. General involucre 1–6-leaved, partial of many leaves. Partial umbels placed so close together as to form, when in fruit, one compact flat-topped mass of fruit. Fruits (*a*) nearly cylindrical, but having at the base a corky ring which is thicker on one side than on the other; at the top they are rather thickened and not rounded off.

At (*b*) on the plate a fruit of *Æ. Lachenalii* is added for comparison. It will be seen to have a totally different shape from the enlarged figure (*a*) of that of *Æ. pimpinelloides* placed just above it. The ripe umbellule there shown is also characteristic of the latter plant. On the opposite side of the plate the flowers and young fruit of *Æ. pimpinelloides* are represented.

Usually none of the radical leaves remain after the plant is in flower; and as some of the other characters of the species are not then easily detected, and as the upper leaves much resemble those of *Æ. Lachenalii*, the plants may be easily confounded; but if the root be carefully removed from the ground, no doubt need remain in the mind of the collector. When bearing ripe fruit, it is impossible to mistake one plant for the other.

*Æ. pimpinelloides* does not seem to be very generally distributed through this country. It is occasionally found in dry meadows and pastures in the southern half of England. Mr. Syme adds that it inhabits Ireland; but Mr. A. G. More informs us that this is a mistake. Our specimens were sent by Mr. More from the Isle of Wight, in July 1862; and, but for his absence in Donegal, we should have had a full description of them from his pen.—C. C. B.





alter.

May 1865.

## THYMUS Chamædrys.

*Germander Thyme.*

## DIDYNAMIA Gymnospermia.

GEN. CHAR. *Flowers* whorled. *Calyx* 2-lipped, 10–13-veined; throat hairy. *Corolla* 2-lipped; upper lip straight, nearly flat; lower lip patent, trifold. *Stamens* distant, exerted, parallel; anthers distant; cells nearly parallel, afterwards diverging; connective subtriangular.

SPEC. CHAR. Stems alike, diffuse, ascending. Leaves broadly oblong, with flat fringed stalks. Flowers whorled or capitate. Upper lip of calyx with three triangular teeth; lower of two subulate teeth. Upper lip of corolla semicircular.

SYN. *Thymus Chamædrys*. *Fries, Nov. Fl. Suec. ed. 1. 35; ed. 2. 197; Summa Veg. Scand. 197; Herb. Norm. Cent. 5. no. 6. Reichenb. Fl. Excurs. 312; Fl. Exsic. no. 188 and 189. Gren. et Godr. Fl. de Fr. v. 2. 658. Bor. Fl. du Centre de la Fr. ed. 3. 517. Fl. Dan. t. 2237. Bab. in Ann. Nat. Hist. ser. 2. v. 11. 431; Man. Br. Bot. ed. 5. 256.*

WE have much pleasure in publishing a figure of the true *Thymus Chamædrys* of Fries, but, unfortunately, cannot refer to our *tab. 1514* as an equally good representation of the *T. Serpyllum*. Indeed, it is quite possible that that figure, published in 1805, may consist of a mixture of the two species. It represents the continuation of the prostrate stem of the preceding year as terminating in flowers, as I am taught by experience to believe is never the case in true *T. Serpyllum*; and there are other questionable points in it. In *T. Serpyllum* there are two kinds of shoots produced each year—one quite prostrate, rooting, perennial, and without flowers; the other erect, annual, bearing the flowers, and springing from the buds produced in the axils of the leaves of

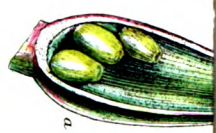
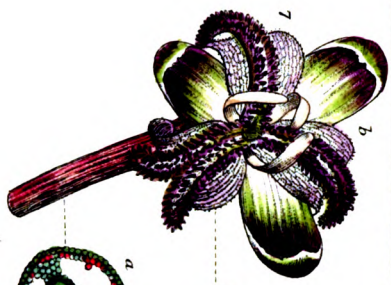


the creeping stem of the preceding year. In *T. Chamædrys* there is no such separation into two kinds of shoots; the flowering and flowerless shoots grow intermixed, and, as it seems to me, do not differ in any other respect. The leaves of our present subject are ovate and usually but little narrowed at the base. The flowers form a large oblong mass, consisting of several closely placed whorls; but there is always one, or usually more than one whorl rather distantly placed below the mass. Sometimes so many of the whorls are distinct that the terminal mass does not attract notice; and rarely the whorls are so numerous, and the mass so undistinguishable, that the stems may be described as long, filiform, leafy, and flowering at nearly all the nodes. This is the *T. sylvestris* of Schreber, according to Reichenbach, and was found by the late Mr. Borrer and myself in a damp hollow on Box Hill, Surrey, in September 1849. *T. Serpyllum* has scarcely even a single whorl separated from the dense mass which terminates the flowering shoots. The flowers of *T. Chamædrys* are purple; the upper lip semicircular and often seeming to be quite entire, although careful examination will show the existence of a notch such as might be made by the snip of a pair of scissors. The nuts are roundish, slightly compressed, and have a basal apiculus.

*T. Chamædrys* may be known by its totally wanting the creeping stems of its ally; but, unfortunately, when *T. Serpyllum* grows amongst dense herbage, this character is not always easily seen, although, when the plant is free to take its natural form, nothing can be more conspicuous. Owing to want of care in collecting Herbarium specimens, it is rarely to be seen on them, and is therefore but little known, except to the observant field-botanist.

*T. Chamædrys* is probably nearly as common a plant as *T. Serpyllum*. It seems to prefer damper places than those affected by its ally. The flowers are produced throughout the summer. Our plate is made from specimens gathered at Chippenham in Cambridgeshire in 1853.—C. C. B.





May, 1865.



ANACHARIS *Alsinastrum*.*Water Thyme.*DICECIA *Enneandria*.

GEN. CHAR. *Spath* tubular. *Flowers* dicæcious. *Calyx* 3-parted. *Petals* 3.—*Male flower*. “*Petals* linear or wanting. *Stamens* 9; filaments combined into a column below.”—*Female flower*. *Perianth* with a very long filiform tube; segments of limb alike. *Stamens* reduced to 3 subulate filaments. *Ovary* inferior. *Style* setaceous, connate with the perianth within the tube; stigmas 3, notched or lobed. *Capsule* 1-celled, few-seeded.

SPEC. CHAR. Leaves 3 in a whorl, oblong, bluntish, serrulate. Female flower in a tubular bifid spath, subtended by a floral leaf. Perianth of broad nearly equal segments. Germen sessile, many times shorter than the spath. Stigmas reflexed.

SYN. *Anacharis Alsinastrum*. *Bab. in Ann. Nat. Hist. ser. 2. v. 1. 83. t. 8*; *Man. Br. Bot. ed. 5. 314*. *Hook. & Arn. Br. Fl. ed. 8. 424*. *Johnst. Bot. of E. Borders, 191*.

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APPARENTLY there is no reason to doubt that this plant was introduced to the canal basins at Foxton, near Market Harborough, with timber from N. America, shortly before the year 1847. But it had been noticed in the lake at Dunse Castle, in Berwickshire, by the late Dr. G. Johnston, in 1842. See Marshall's ‘*New Water-Weed*’ in the *Phytologist*, v. 4. 706 (also published as a separate tract), where a full account is given of the discovery and dissemination of the plant. It has spread over nearly the whole kingdom, and is now extending its range to the European continent. In a very few years from its first appearance, it almost choked up the navigable canals and slower rivers, and especially the ditches in the Fens; but of late years its quantity has very considerably decreased; and it seems about to cease from being the great pest of our waters.

Although only the female plant is found in this country, and consequently no seeds are produced, the plant spreads with almost inconceivable rapidity by the fracture of its stems into short pieces, all of which produce independent plants.

Plant submerged. Stem solid, round, several feet long, branching and rooting irregularly and at distant points, with many closely placed whorls, in threes, of oblong bluntly pointed minutely serrulate diaphanous leaves, which spread at right angles to the stem. Occasionally only two opposite leaves are present, and very rarely (from the observations of Mr. Salter) a larger number than 3 is found in a whorl. The flower springs from the axil of a leaf-like bract, which is placed singly within and above the whorl of leaves. It is inclosed in a tubular bifid spath, has a sessile germen, and an exceedingly long tubular perianth ending in six lobes, 3 manifestly representing a calyx and 3 a corolla. Sepals concave, boat-like, thin, smooth, incurved. Petals very thin, flat, minutely rough, reflexed. Both are of a pale pink colour. Filaments linear, flat, blunt, incurved, totally without anthers. Style adnate to the tube of the perianth on three sides. Stigmas 3, ligulate, often bifid, fringed, reflexed. Fruit unknown in Britain; but we have given a representation of the young ovary and ovules (*f. 8 a, b*). The flowers are raised to the surface of the water by their long tubes, and float there like little pink spangles. They are produced in abundance during the latter part of the summer. The male flowers are stated to be sessile and without a tube, and to break off at maturity, as do those of *Vallisneria*. They are rarely seen, even in America.

This is not a fit place in which to discuss the nomenclature; but we consider *Elodea* and *Anacharis* to be distinct genera, and that our plant certainly belongs to the latter. The specific name is more open to objection, as there is a *Udora canadensis* of Nuttall, which may be the same plant as our *Anacharis*. But there is also an *Elodea canadensis* (Michx.) which can hardly be the same species as our *A. Alsinastrum*, for it has very narrow leaves; and as it is an *Anacharis*, our plant, if distinct, cannot bear the name of *A. canadensis*. An authentic specimen of Nuttall's *U. canadensis* seems to be the same as the plant of Michaux, and is exceedingly unlike our present subject.

The principal figure on the plate is taken from specimens gathered near Market Harborough in October 1847: the remainder, as also the details of the flowers, from cultivated plants communicated by the writer and the late Mr. Borrer, in June and August 1848.

Fig. 1. Market Harborough plant. Figs. 2 & 3. From Mr. Borrer's garden. Figs. 4 & 5. Base of flower and spath. Fig. 6. Flower-bud. Fig. 7. Flower much magnified: *a*, section of tube of perianth and style; *b*, flower; *c*, petal; *d*, cells producing the roughness of the petal. Fig. 8. *a*, vertical section of ovary with ovules; *b*, ovules. Fig. 9. Leaves and their tissue. Figs. 1, 2, and 3 are of the natural size; the others are all magnified, and chiefly derived from drawings made in 1848 by Mr. J. De C. Sowerby.—C. C. B.





J.D.C. Salter.

May 1865.

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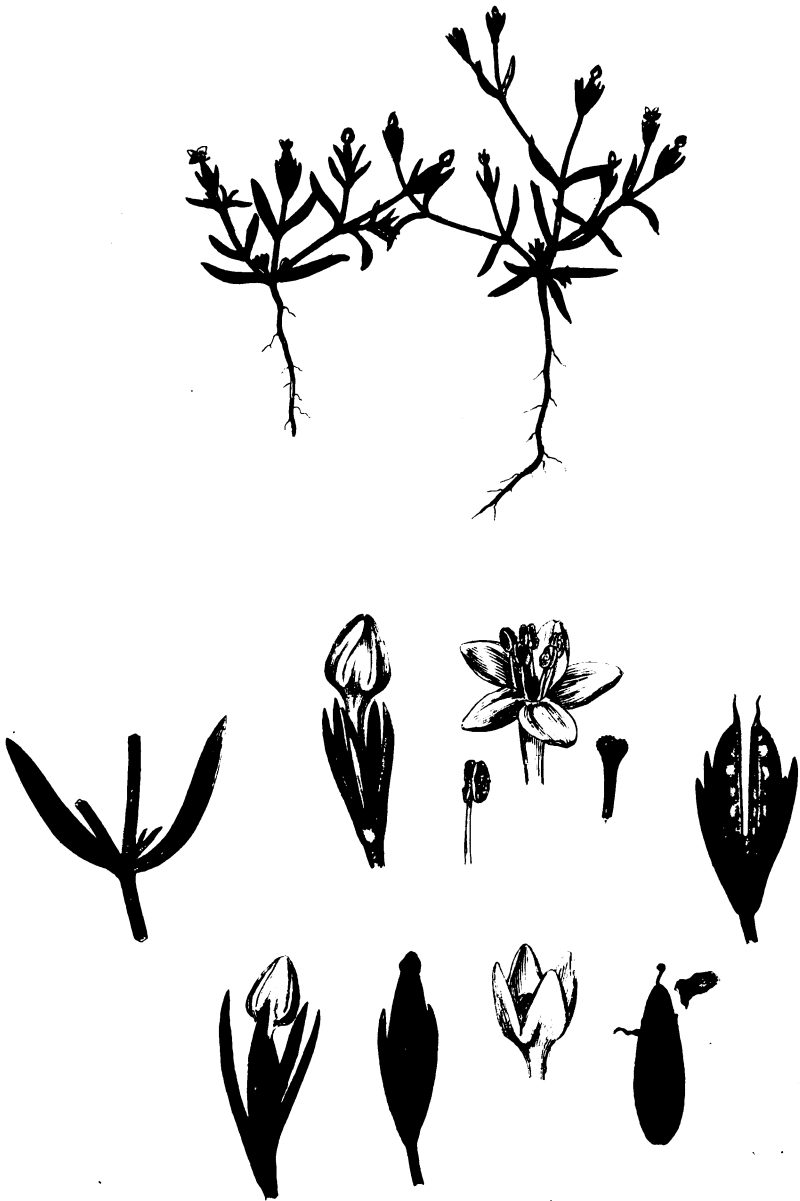
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This is not a fit place in which to discuss the nomenclature; but we consider *Elodea* and *Anacharis* to be distinct genera, and that our plant certainly belongs to the latter. The specific name is more open to objection, as there is a *Udora canadensis* of Nuttall, which may be the same plant as our *Anacharis*. But there is also an *Elodea canadensis* (Michx.) which can hardly be the same species as our *A. Alsinastrum*, for it has very narrow leaves; and as it is an *Anacharis*, our plant, if distinct, cannot bear the name of *A. canadensis*. An authentic specimen of Nuttall's *U. canadensis* seems to be the same as the plant of Michaux, and is exceedingly unlike our present subject.

The principal figure on the plate is taken from specimens gathered near Market Harborough in October 1847: the remainder, as also the details of the flowers, from cultivated plants communicated by the writer and the late Mr. Borrer, in June and August 1848.

Fig. 1. Market Harborough plant. Figs. 2 & 3. From Mr. Borrer's garden. Figs. 4 & 5. Base of flower and spathe. Fig. 6. Flower-bud. Fig. 7. Flower much magnified: *a*, section of tube of perianth and style; *b*, flower; *c*, petal; *d*, cells producing the roughness of the petal. Fig. 8. *a*, vertical section of ovary with ovules; *b*, ovules. Fig. 9. Leaves and their tissue. Figs. 1, 2, and 3 are of the natural size; the others are all magnified, and chiefly derived from drawings made in 1848 by Mr. J. De C. Sowerby.—C. C. B.





J.W. Salter

May, 1865.

## CICENDIA pusilla.

*Dwarf Cicendia.*

## TETRANDRIA Monogynia.

GEN. CHAR. *Calyx* of 4–5 segments. *Corolla* funnel-shaped; tube ventricose; limb of 4–5 segments. *Stamens* 4–5; anthers not twisted. *Style* distinct. *Capsule* 1-celled or imperfectly 2-celled by the introflexion of the edges. *Seeds* numerous, angular.

SPEC. CHAR. Stem with spreading branches. Leaves linear-lanceolate. *Calyx* divided to the base, with linear segments. *Corolla-tube* equalling the calyx; limb connivent.

SYN. *Cicendia pusilla*. Griesb. *Gent.* 157. DeC. *Prod.* v. 9. 61. Boreau, *Fl. Centr. Fr. ed.* 3. 448. Gren. & Godr. *Fl. Fr. v.* 2. 487. Godet, *Fl. Jura*, 462. Woods, *Tourist's Fl.* 249. Bab. *Man. ed.* 5. 223.

C. Candollei. Griesb. *Gent.* 158. DeC. *Prod.* l. c. Woods, *Tourist's Fl.* l. c. Bab. *Man. ed.* 3. 214.

*Exacum pusillum*. DeC. *Fl. Fr. ed.* 3. 663. Duby, *Bot. Gall.* 328. Lloyd, *Fl. Loire Inf.* 169; *Fl. Ouest. Fr.* 297. Coss. & Germ. *Fl. Par. ed.* 2. 315.

E. pusillum,  $\beta$ . DeC.  *Ic. Pl. Gall. rar. t.* 16.

E. Vaillantii. "Schmidt, *Fl. Brem. v.* 1. 432." Loisel. *Fl. Gall.* 97.

E. Candollei. "Bastard, *Suppl. Fl. Maine et Loire*, 22." Duby, l. c. Loisel. *Fl. Gall.* l. c.

*Gentiana pusilla*. Lam. *Encyc. Bot. v.* 2. 645.

*Centaurium palustre minimum*, flore inaperto. Vaill. *Bot. Par.* 32. t. 6. f. 2.

GATHERED, July 30, 1851, in spots where water occasionally stands on the common at Paradis, in the north-east corner of Guernsey, where it had previously been found by Captain Gosselin. Mr. Lukis informed the writer that he had himself seen the plant at Pleinmont, in the opposite corner of the island. It is at once distinguished from *Erythræa pulchella* by its divaricated growth and narrow leaves.

Stem quadrangular, erect, rigid, with a few decussate, short, linear-lanceolate, somewhat fleshy leaves. A branch, much longer than the stem, issues nearly at right angles from the



axil of each leaf, again, in the stronger specimens, once or twice branching in similar order, but at a more acute angle: not rarely the two branches of a pair are of unequal lengths: branches and branchlets quadrangular like the stem, and each, like it, terminated by a solitary flower, on a pedicel of variable length; or occasionally the place of a branch is supplied by a long-stalked flower. Calyx divided to the base into 4 or 5 segments similar to the leaves, often rather unequal, their apices sometimes a little incurved. Tube of the corolla as long as the calyx, thin and colourless, cylindrical at first, but swelling with the inclosed germen; limb of 4 or 5 rounded pink segments, shorter than the tube, not expanding spontaneously (so far as we have seen) even in bright sunshine\*. Stamens affixed to the upper part of the tube; filaments pale, thread-shaped, about as long as the roundish 2-celled anthers, which open longitudinally, and do not become twisted as in *Erythraea*. Style thick and short; stigma of 2 rounded lobes, filling the throat of the corolla. Capsule closely invested by the tube of the persistent corolla, and crowned by its withered limb, ovate, of one cell, the edges of the 2 valves being considerably inflexed, but not meeting in the middle. Seeds affixed at the suture of the capsule, numerous, minute, angular, as from mutual pressure, their surface punctulate or corrugate. The colour of the herb is a pale dull green, appearing slightly pulverulent under a glass. The flower is most usually 4-cleft. The stigma is generally described as undivided in the genus *Cicendia*: Cosson and Germain say bilobed, and so we find it in this species.

Probably the plant may attain a greater size in Guernsey under favourable circumstances; but the tallest of our specimens are scarcely 2 inches high, and, although none of their flowers are clustered, they are more like Vaillant's figure than DeCandolle's, whilst in habit they are more divaricate than either. DeCandolle's figure represents a plant of upright growth, 4 inches in height; and we have seen French specimens considerably taller still. He does not venture to pronounce his plant (*Evacum* and *Cicendia Candollei* of authors) a distinct species from *E. pusillum*; but distinguishes it by the very slender habit, more glaucous leaves, flowers on longer pedicels, rose-coloured, not whitish, and never crowded at the ends of the branches—differences scarcely of specific value. Indeed Lloyd asserts that it cannot be distinguished except by the colour of the flower; and Grenier follows Boreau in uniting it with *C. pusilla*, and says that it cannot constitute even a variety, being merely a more developed and elongated state, the flowers of the species varying in colour, being rose, or white, or pale yellow. Griesbach also and Woods testify to the variable colour of the flowers of *C. pusilla*, and express doubt of the distinctness of *C. Candollei*.—From the late Mr. W. BORRER'S MS.

\* The 5-cleft flower on our plate was forcibly laid open, and the anthers are accidentally represented as too long by half. The drawing was made many years ago by Mr. J. W. Salter.





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We shall be glad to receive, addressed to Mr. J. De Carle Sowerby, of the Royal Botanic Gardens, Regent's Park, London (N.W.), authentic specimens of flowering plants, Ferns, *Equiseta* and *Lycopodia*, not as yet figured in the 'English Botany.' The other Cryptogamic plants do not enter into our plan.

JOHN WILLIAM SALTER.

June 1, 1865.

8, Bolton Road, Boundary Road,  
St. John's Wood.

## CONTENTS OF No. 82.

Descriptions of Plates 2991–2994.

Plates 2988, 2890 (omitted before), and 2991–2995.

The description of *Orchis mascula* (large variety), pl. 2995, must appear in our next.

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