

Presented by
Miss Elizabeth Marbury
Jan. 1901

QK
306
C98X
1797
V. 2
CHM

758
C981
x
v.5

I N D E X I.

In which the Plants contained in the fifth Fasciculus are arranged according
to the System of LINNÆUS.

<i>Latin Name.</i>	<i>Class and Order.</i>
1 Ligustrum vulgare.....	} DIANDRIA Monogynia.
2 Veronica Anagallis.....	
3 Veronica scutellata.....	
4 Valeriana Locusta.....	} TRIANDRIA Monogynia.
5 Alopecurus pratensis.....	} TRIANDRIA Digynia.
6 Alopecurus geniculatus.....	
7 Bromus giganteus.....	
8 Holcus mollis.....	
9 Hordeum murinum.....	
10 Melica uniflora.....	} TETRANDRIA Monogynia.
11 Melica cærulea.....	
12 Poa aquatica.....	
13 Sherardia arvensis.....	} TETRANDRIA Tetragynia.
14 Sagina apetala.....	
15 Potamogeton crispum.....	} PENTANDRIA Monogynia.
16 Atropa Belladonna.....	
17 Lycopis arvensis.....	
18 Lyfimachia nemorum.....	
19 Lyfimachia vulgaris.....	
20 Chenopodium olidum.....	} PENTANDRIA Digynia.
21 Scandix Pecten.....	
22 Linum usitatissimum.....	} PENTANDRIA Pentagynia.
23 Leucojum æstivum.....	} HEXANDRIA Monogynia.
24 Convallaria majalis.....	
25 Juncus pilosus.....	
26 Juncus sylvaticus.....	} HEXANDRIA Polygynia.
27 Alisma Plantago.....	
28 Alisma Damafonium.....	
29 Rumex Acetosella.....	} HEXANDRIA Trigynia.
30 Erica vulgaris.....	} OCTANDRIA Monogynia.
31 Spergula arvensis.....	} DECANDRIA Pentagynia.
32 Agrimonia Eupatoria.....	} DODECANDRIA Digynia.
33 Spiræa Ulmaria.....	} ICOSANDRIA Pentagynia.
34 Rosa canina.....	} ICOSANDRIA Polygynia.
35 Tormentilla officinalis.....	
36 Cistus Helianthemum.....	} POLYANDRIA Monogynia.
37 Papaver dubium.....	
38 Papaver Argemone.....	
39 Origanum vulgare.....	} DIDYNAMIA Gymnospermia.
40 Teucrium Scorodonia.....	
41 Antirrhinum minus.....	} DIDYNAMIA Angiospermia.
42 Euphrasia officinalis.....	
43 Rhinanthus Crista Galli.....	
44 Schrophularia aquatica.....	} TETRADYNAMIA Siliculosa.
45 Thlaspi campestre.....	
46 Sinapis alba.....	} TETRADYNAMIA Siliquosa.
47 Sinapis arvensis.....	
48 Sifymbrium Irio.....	
49 Sifymbrium terrestre.....	} DIADELPHIA Decandria.
50 Erysimum officinale.....	
51 Lathyrus Aphaca.....	
52 Spartium Scoparium.....	} SYNGENESIA Polygamia æqualis.
53 Trifolium procumbens.....	
54 Vicia Cracca.....	
55 Crepis testorum.....	
56 Leontodon hispidum.....	
57 Onopordum Acanthium.....	} SYNGENESIA Polygamia superflua.
58 Prenanthes muralis.....	
59 Sonchus palustris.....	
60 Achillea Ptarmica.....	} GYNANDRIA Diandria.
61 Anthemis Cotula.....	
62 Chrysanthemum Leucanthemum.....	
63 Matricaria Chamomilla.....	
64 Senecio erucæfolius.....	} MONŒCIA Triandria.
65 Orchis latifolia.....	
66 Sparganium ramosum.....	} DIŒCIA Enneandria.
67 Sparganium simplex.....	
68 Mercurialis annua.....	} CRYPTOGAMIA Fungi.
69 Agaricus aurantius.....	
70 Agaricus æruginosus.....	
71 Agaricus carneus.....	
72 Agaricus verrucosus.....	

I N D E X II.

Latin Names of the Plants in the fifth Fasciculus, arranged Alphabetically.

	<i>Plate</i>
Achillea Ptarmica	60
Agaricus aurantius	69
Agaricus æruginosus	70
Agaricus carneus	71
Agaricus verrucosus	72
Agrimonia Eupatoria	32
Alisma Plantago	27
Alisma Damasonium	28
Alopecurus pratensis	5
Alopecurus geniculatus	6
Anthemis Cotula	61
Antirrhinum minus	41
Atropa Belladonna	16
Bromus giganteus	7
Chenopodium olidum	20
Chrysanthemum Leucanthemum	62
Cistus Helianthemum	36
Convallaria majalis	24
Crepis tectorum	55
Erica vulgaris	30
Erysimum officinale	50
Euphrasia officinalis	42
Holcus mollis	8
Hordeum murinum	9
Juncus pilosus	25
Juncus sylvaticus	26
Lathyrus Aphaca	51
Leontodon hispidum	56
Leucojum æstivum	23
Ligustrum vulgare	1
Linum usitatissimum	22
Lycopsis arvensis	17
Lyfimachia nemorum	18
Lyfimachia vulgaris	19
Matricaria Chamomilla	63
Melica uniflora	10
Melica cærulea	11
Mercurialis annua	68
Onopordum Acanthium	57
Orchis latifolia	65
Origanum vulgare	39
Papaver dubium	37
Papaver Argemone	38
Poa aquatica	12
Potamogeton crispum	15
Prenanthes muralis	58
Rhinanthus Crista Galli	43
Rosa canina	34
Rumex Acetofella	29
Sagina apetala	14
Scandix Pecten	21
Schrophularia aquatica	44
Senecio erucæfolius	64
Sherardia arvensis	13
Sinapis alba	46
Sinapis arvensis	47
Sisymbrium Irio	48
Sisymbrium terrestre	49
Sonchus palustris	59
Sparganium ramosum	66
Sparganium simplex	67
Spartium scoparium	52
Spergula arvensis	31
Spiræa Ulmaria	33
Teucrium Scorodonia	40
Thlaspi campestre	45
Tormentilla officinalis	35
Trifolium procumbens	53
Valeriana Locusta	4
Veronica scutellata	3
Veronica Anagallis	2
Vicia Cracca	54

I N D E X III.

English Names of the Plants in the fifth Fasciculus, arranged Alphabetically.

	<i>Plate</i>
AGRIMONY	32
BARLEY-GRASS wall	9
BLITE stinking	20
BROME-GRASS tall	7
BROOM common	31
BUGLOSS field	17
BURR-REED great	66
BURR-REED small	67
CHAMOMILE corn	63
CHARLOCK	47
CISTUS dwarf	36
CORN-SALLAD	4
COTTON-THISTLE	57
DANDELION rough	56
DWALE, or DEADLY NIGHTSHADE	16
EYEBRIGHT common	42
FIGWORT water	44
FLAX common	22
FOXTAIL-GRASS jointed	6
FOXTAIL-GRASS meadow	5
GERMANDER sage-leav'd	40
HEDGE-MUSTARD	50
HEATH common	30
LILY OF THE VALLEY	24
LOOSE STRIFE yellow	19
MARJORAM wild	39
MAYWEED stinking	61
MEADOW-GRASS water	12
MEADOW-SWEET	33
MELIC-GRASS single-flower'd	10
MELIC-GRASS blue	11
MERCURY annual	68
MITHRIDATE-MUSTARD	45
MONEYWORT wood	18
MUSHROOM fleshy	71
MUSHROOM warty	72
MUSHROOM orange	69
MUSHROOM verdigris	70
MUSTARD white	46
ORCHIS marsh	65
OXEYE common	62
PEARLWORT annual	14
PONDWEED curled	15
POPPY long prickly-headed	38
POPPY long smooth-headed	37
PRENANTHES, or WILD LETTUCE	58
PRIVET, or PRIM	1
RAGWORT hoary	64
ROCKET London	48
ROSE dog	34
RUSH small hairy wood	25
RUSH great hairy wood	26
SHEPHERDS-NEEDLE	21
SHERARDIA field	13
SNEESEWORT	60
SNOWFLAKE summer	23
SOFT-GRASS creeping	8
SORREL sheeps	29
SOW-THISTLE tree	59
SPEEDWELL bog	3
SPEEDWELL water	2
SPURREY corn	31
SUCCORY HAWKWEED smooth	55
TOAD-FLAX leaf	41
TORMENTIL	35
TREFOIL procumbent	53
VETCH tufted	54
VETCHLING yellow	51
WATER-PLANTAIN starry-headed	28
WATER-PLANTAIN greater	27
WATER-RADISH annual	49
YELLOW-RATTLE	43

LIGUSTRUM VULGARE. PRIVET or PRIM.

LIGUSTRUM *Lin. Gen. Pl. DIANDRIA MONOGYNIA.*

Cor. 4 fida. Bacca tetrasperma.

Raii Syn. ARBORES BACCIFERÆ.

LIGUSTRUM *vulgare. Lin. Syst. Vegetab. p. 54. Sp. Pl. p. 10. Fl. Suec. n. 5. Haller. Hist. n. 530. Scopoli Flor. Carniol. n. 4. Hudson. Fl. Angl. ed. 2. p. 3. Lightfoot Fl. Scot. p. 72.*

LIGUSTRUM *Germanicum. Baub. Pin. 475. Ger. em. p. 1394 Parkinson. p. 1446. Raii Syn. p. 465. Privet or Prim.*

FRUTEX sepedalis circiter, ramosus, cortex ex cinereo virefcens, punctis plurimis sparsis prominulis exasperata: rami oppositi, junioribus flexilibus, purpurafcentibus.	A SHRUB, usually about six feet high, branched, the bark of a greenish-ash colour, irregularly sprinkled with numerous prominent points; branches opposite, the young ones flexible and purplish.
FOLIA opposita, brevissime petiolata, ovato-lanceolata, utrinque glabra, integerrima, inferioribus ad exortum ramulorum minoribus.	LEAVES opposite, standing on very short foot-stalks, ovato-lanceolate, smooth on each side, perfectly entire, the lower ones at the bottoms of the small branches least.
FLORES albi, odorati, paniculati.	FLOWERS white, sweet-scented, forming a panicle.
PANICULA biuncialis, densa, subpyramidata.	PANICLE about two inches in length, close and somewhat pyramidal.
RAMI paniculæ ut pedicelli ad lentem villosi.	BRANCHES of the panicle, as well as the flower-stalks, villous when magnified.
CALYX: PERIANTHIUM monophyllum, minimum, hæmiphæricum, albidum, ore quadridentato, dentibus erectis, minimis, <i>fig. 1.</i>	CALYX: a PERIANTHIUM of one leaf, very small, hemispherical, and whitish, the mouth having four teeth, which are upright and very minute, <i>fig. 1.</i>
COROLLA monopetala, infundibuliformis, alba, cito rufescens. <i>Tubus</i> cylindraceus, longior calyce. <i>Limbus</i> quadripartitus, patens, laciniis ovatis crassis, obtusis, <i>fig. 2.</i>	COROLLA of one petal, funnel-shaped, white, soon changing to a reddish-brown colour. The <i>tube</i> cylindrical, longer than the calyx. <i>Limb</i> deeply divided into four segments, which are spreading, ovate, thick, and obtuse, <i>fig. 2.</i>
STAMINA: FILAMENTA duo, opposita, brevissima, alba. ANTHERÆ majusculæ, erectæ, longitudine fere corollæ. POLLEN flavescens, <i>fig. 3.</i>	STAMINA: two FILAMENTS, opposite, very short and white. ANTHERÆ rather large, upright, almost the length of the corolla. POLLEN yellowish, <i>fig. 3.</i>
PISTILLUM: GERMEN subrotundum. STYLUS filiformis, albus, superne paululum incrassatus. STIGMA obtusum, crassiusculum, vix manifeste bifidum, <i>fig. 4.</i>	PISTILLUM: GERMEN roundish. STYLE filiform, white, a little thickened above. STIGMA obtuse, thickish, scarce perceptibly bifid, <i>fig. 4.</i>
PERICARPIUM: BACCA globosa, glabra, nigra, unilocularis, <i>fig. 5.</i>	SEED-VESSEL: a round, smooth, shining, black, berry of one cavity, <i>fig. 5.</i>
SEMINA tria five quatuor, hinc convexa, inde angulata, <i>fig. 6.</i>	SEEDS three or four, convex on one side, and angular on the other, <i>fig. 6.</i>

Previous to the publication of the *Flora Japonica* by Professor THUNBERG*, the present celebrated successor to the immortal LINNÆUS, Botanists were acquainted with one species of Ligustrum only. That gentleman describes another, to which he gives the name of *japonicum*, and characterises the two in the following manner:

Ligustrum vulgare foliis ovatis obtusis, panicula simpliciter trichotoma.

Ligustrum japonicum foliis ovatis acuminatis panicula decompositi trichotoma.

In point of utility, not to say ornament, few of our English or even foreign shrubs exceed the common Privet. Its chief use is to form such hedges as are required in the dividing of gardens for shelter or ornament; the Italian or ever-green Privet, as it is called, which is only a variety of the common species, is usually preferred for this purpose. The Privet bears clipping admirably well; is not liable to be disfigured by insects, and having roots formed only of fibres, it robs the ground less than almost any other shrub. It is found to thrive better in the smoke of great cities than most others; so that whoever has a little garden in such places, and is desirous of having a few plants that look green and healthy, may be gratified in the Privet, because it will flourish and look well there. MILLER says it will grow well under the shade and drip of trees.

The best mode of raising Privet is from seeds, though it is capable of being propagated by layers and cuttings.

The Privet is not apt to be eaten by cattle, and the *Sphinx Ligustri*, or *Privet Hawk Moth*, one of the largest as well as the most beautiful insects we have, is almost the only one that feeds on it in its Caterpillar state. There are few gardens having Privet in which this Caterpillar may not be found in the months of August and September. The readiest way of discovering it is by its dung, which is sufficiently visible under those shrubs on which it feeds. The *Meloe vesicatorius*, commonly known by the name of Cantharides, or Blister-beetle, is found also on the leaves of this shrub. The berries of the Privet continue on the plant till spring advances, and in times of scarcity are eaten by different sorts of birds; but by none with so much avidity as the *Bulfinch* (*Loxia Pyrrhula*). Bird-catchers who know this, often catch them in the following manner: they take some large boughs of the Privet in berry, stick them into the ground where Bulfinches frequent, lime the top twigs, and place a call bird underneath.

The berries are also recommended in dying, colouring of wines, and as affording a purple colour to stain prints; but for these several purposes there are much better materials in common use.

It usually grows in woods and hedges; is not nice in its soil or situation, but flourishes most in a moist soil; flowers in July, and ripens its berries in Autumn.

It is found with three leaves at a joint, with variegated leaves, and white berries. HALLER.

* Caroli Petri Thunberg Flora Japonica, Lipsiæ 1784.



Leguistium vulgare.

in color. del. et. sculp.



Veronica Anagallis.

VERONICA ANAGALLIS. WATER SPEEDWELL.

VERONICA *Lin. Gen. Pl.* DIANDRIA MONOGYNIA:

Cor. Limbo 4-partito, laciniâ infima angustiore. *Capsula* bilocularis.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

VERONICA *Anagallis* racemis lateralibus, foliis lanceolatis ferratis, caule erecto. *Lin. Syst. Vegetab.* p. 56. *Sp. Pl.* p. 16. *Fl. Suec.* n. 13.

VERONICA foliis lanceolatis ferratis, glabris, ex alis racemosa. *Haller hist.* n. 553.

VERONICA *Anagallis Scopoli Fl. Carn.* n. 12.

ANAGALLIS aquatica minor folio oblongo. *Bauh. Pin.* 252.

ANAGALLIS aquatica folio oblongo crenato. *Park.* 1237.

ANAGALLIS aquatica major. *Ger. emac.* 620.

VERONICA aquatica longifolia media. *Raii Syn.* 280. The Middle Long-leav'd Water Speedwell or Brooklime. *Hudson, Fl. Angl. ed.* 2. p. 5. *Lightfoot Fl. Scot.* p. 73.

RADIX annua, fibrosa,	◇ ROOT annual, and fibrous.
CAULIS erectus, pedalis ad bipedalem, teres, subangulosus, glaber, ad basin usque ramosus, inferne purpurascens.	◇ STALK upright, from one to two feet high, round, slightly angular, smooth, branched quite to the bottom, below purplish.
FOLIA opposita, sessilia, lanceolata, sæpe ovato-lanceolata, ferrata, glabra, venosa, pallide viridia.	◇ LEAVES opposite, sessile, lanceolate, often ovato-lanceolate, ferrated, smooth, veiny, of a pale green colour.
FLORES racemosi, numerosi, triginta quadraginta aut etiam plures in singulo racemo.	◇ FLOWERS growing in racemi, numerous, from thirty to forty, or even more on one racemus.
RACEMI laterales, oppositi, longissimi, suberecti.	◇ RACEMI lateral, opposite, very long, nearly upright.
PEDUNCULI ad lentem subviscidi.	◇ FLOWER-STALKS somewhat viscid when magnified.
BRACTEÆ lanceolatæ.	◇ FLORAL-LEAVES lanceolate.
CALYX: PERIANTHIUM quadripartitum, persistens, laciniis ovato-lanceolatis, acutis, lævibus, trinerviis, subæqualibus, <i>fig.</i> 1.	◇ CALYX: a PERIANTHIUM deeply divided into four segments, and permanent, the segments ovato-lanceolate, pointed, smooth, three-ribb'd, and nearly equal, <i>fig.</i> 1.
COROLLA monopetala, rotata, pallide purpurea, laciniâ superiore et duabus lateralibus venis saturatoribus striata, <i>fig.</i> 2.	◇ COROLLA monopetalous, and wheel-shaped, of a pale purple colour, the uppermost segment and the two lateral ones streaked with deeper veins of the same colour, <i>fig.</i> 2.
STAMINA: FILAMENTA duo, purpurascens, medio crassiora; ANTHERÆ concolores; POLLEN album, <i>fig.</i> 3.	◇ STAMINA: two FILAMENTS of a purplish colour, thickest in the middle; ANTHERÆ of the same colour; POLLEN white, <i>fig.</i> 3.
PISTILLUM: GERMEN viride; STYLUS declinatus, purpurascens, superne crassior; STIGMA obtusum, <i>fig.</i> 4.	◇ PISTILLUM: GERMEN green; STYLE depending, purplish, thickened above; STIGMA blunt, <i>fig.</i> 4.
PERICARPIUM: CAPSULA bilocularis, subinde trilocularis, subrotunda, vix emarginata, polysperma, <i>fig.</i> 5.	◇ SEED-VESSEL: a CAPSULE of two cavities, sometimes three, roundish, scarcely emarginate, containing many seeds, <i>fig.</i> 5.
SEMINA plurima, subrotunda, minutissima, <i>fig.</i> 6.	◇ SEEDS numerous, roundish, and very minute, <i>fig.</i> 6.

The *Veronica Anagallis* is a much more general plant than the *Scutellata*, being found in almost every watery ditch, but especially in those which communicate with the Thames, on the edges of which it is also extremely common.

It is apt to vary considerably according to situation; when it grows in ditches that have a considerable depth of water, it becomes much taller, the stalk is proportionably thicker, and the leaves are apt to be curled; when it grows out of the water, the plant is smaller, the leaves are broader, flatter, and of a paler hue; in all situations its racemi are remarkably long and full of flowers; and its seeds are uncommonly small and numerous.

It blossoms from June to September.

The seed-vessels are sometimes found very much enlarged; on cutting them open a small larva was found in some, and a pupa in others, which, on being kept a proper time, produced a small Curculio or Weevil.

VERONICA SCUTELLATA. BOG SPEEDWELL.

VERONICA *Lin. Gen. Pl.* DIANDRIA MONOGYNIA.

Cor. Limbo 4-partito, laciniâ infima angustiore. *Capsula* bilocularis.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

VERONICA *scutellata* racemis lateralibus alternis: pedicellis pendulis, foliis linearibus integerrimis. *Lin. Syst. Vegetab.* p. 57. *Sp. Pl.* p. 16. *Fl. Suec.* n. 17.

VERONICA foliis lanceolatis, ferratis, glabris, ex alis racemosa. *Haller Hist.* 533.

VERONICA *scutellata.* *Scopoli Fl. Carn.* n. 22.

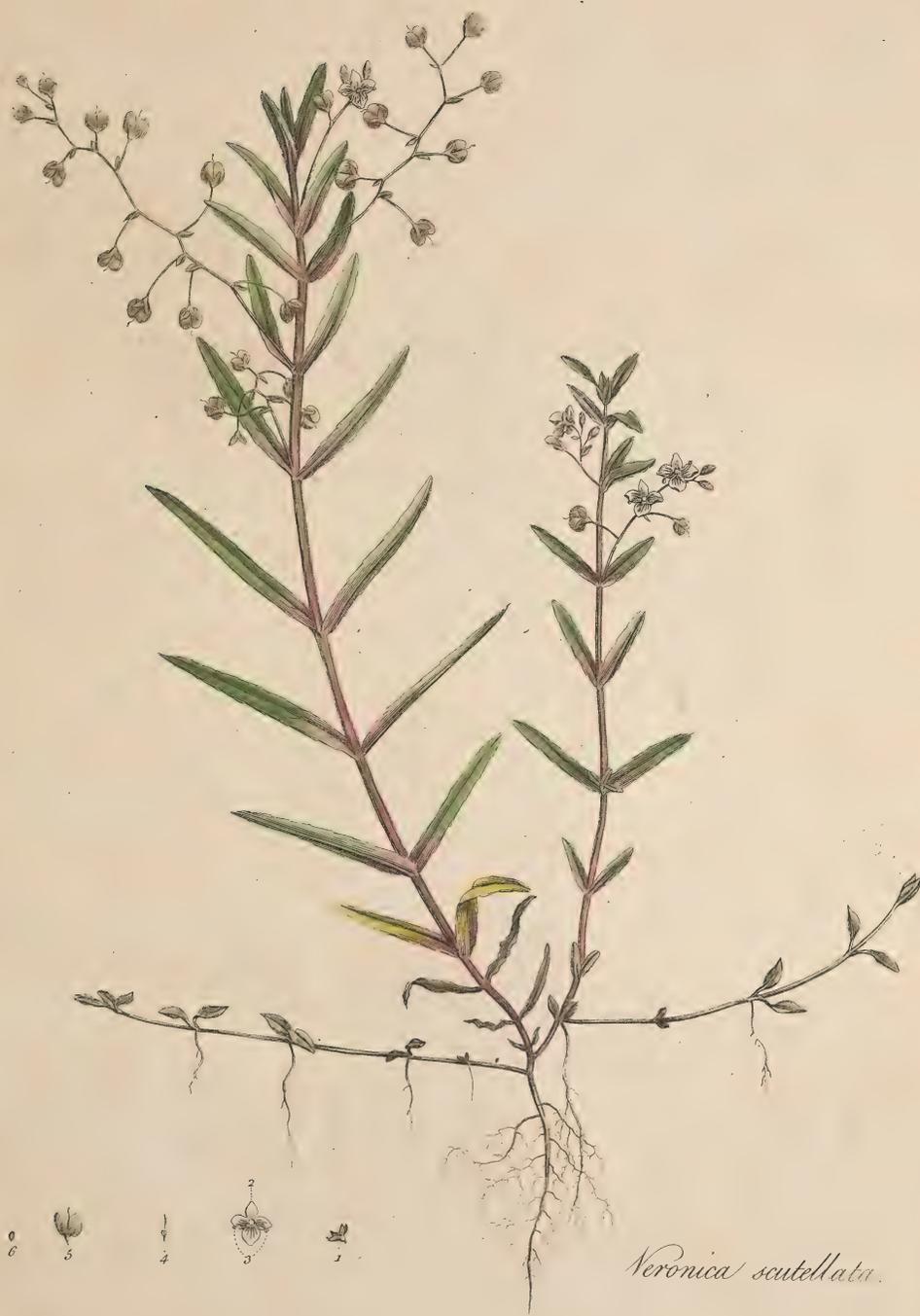
ANAGALLIS aquatica angustifolia scutellata. *Bauh. Pin.* 252.

VERONICA aquatica angustifolia minor. Narrow-leav'd Water Speedwell, or Brooklime. *Raii Syn.* p. 280. *Hudson. Fl. Angl. ed. 2.* p. 5. *Lightfoot Fl. Scot.* p. 74.

RADIX perennis, fibrosa, fusca.	◇ ROOT perennial, fibrous, of a brown colour.
CAULIS: paulo supra terram furculi plerumque steriles erumpunt, qui humi repunt, caulis florifer suberectus, debilis, teres, vix angulosus, glaber, ramosus, femipedalis ad pedalem, basi etiam aliquando repens.	◇ STALK: just above the ground young shoots spring forth, which are for the most part destitute of flowers and creep on the earth, the flowering stalk is nearly upright, weak, round, scarce perceptibly angular, smooth, branched, from six inches to a foot in height, sometimes also creeping at bottom.
FOLIA opposita, sessilia, lineari-lanceolata, glabra, minutim et rariter dentata.	◇ LEAVES opposite, sessile, betwixt linear and lanceolate, smooth, finely tooth'd, teeth distant.
FLORES albi, feu pallide carnei, racemosi.	◇ FLOWERS white, or of a pale flesh colour, growing in racemi.
RACEMI laterales, plerumque alterni, laxi, flexuosi, multiflori.	◇ RACEMI lateral, for the most part alternate, loose, crooked; and bearing many flowers.
BRACTEÆ minutæ, lanceolatæ.	◇ FLORAL-LEAVES minute, and lanceolate.
PEDUNCULI capillares, alterni, demum penduli.	◇ FLOWER-STALKS capillary, alternate, finally pendulous.
CALYX: PERIANTHIUM parvum, quadripartitum, laciniis ovato-lanceolatis, subæqualibus, fig. 1.	◇ CALYX: a PERIANTHIUM small, deeply divided into four segments, which are ovato-lanceolate and nearly equal, fig. 1.
COROLLA monopetala, rotata, plerumque alba, laciniâ superiore venis purpureis picta, fig. 2.	◇ COROLLA monopetalous, wheel-shaped, for the most part white, the upper segment streaked with purple veins, fig. 2.
STAMINA: FILAMENTA duo, medio incrassata, alba; ANTHERÆ albæ, fig. 3.	◇ STAMINA: two FILAMENTS, thickest in the middle, white; ANTHERÆ white, fig. 3.
PISTILLUM: GERMEN viride; STYLUS declinatus, albus; STIGMA obtusum, flavescens, fig. 4.	◇ PISTILLUM: GERMEN green; STYLE depending, white; STIGMA blunt, yellowish, fig. 4.
PERICARPIUM: CAPSULA compressa, suborbiculata, emarginata, bilocularis, polysperma, ad 16. fig. 5.	◇ SEED-VESSEL a CAPSULE nearly round, flattened, emarginate, of two cavities, containing numerous seeds, to 16. fig. 5.
SEMINA orbiculata, plana, flava, fig. 6.	◇ SEEDS round, flat, and yellow, fig. 6.

This species of Veronica is distinguished from the others by several characters, such as, its place of growth, which is peculiar, it being seldom found but on bogs, or the edges of ponds, especially such as we find on heaths and moors, hence we have called it *Bog Speedwell*; the narrowness as well as smoothness of its leaves also strikingly distinguishes it; LINNÆUS's term of *integerrimis*, as applied to them, is certainly too strong, for they are always toothed, though faintly, and in a singular manner; and if these characters were not sufficient, the loose straggling manner in which the flower stalks grow, would at once point out the *Scutellata* as a distinct species.

It is common in the situations above described on most of our heaths, and flowers from June to September.



Veronica scutellata.

J. Sowerby del. et sculp.

VALERIANA LOCUSTA. CORN SALLAD.

VALERIANA *Lin. Gen. Pl.* TRIANDRIA MONOGYNIA.

Cal. o. Cor. 1-petala, basi hinc gibba, supera. Sem. c.

VALERIANA *Locusta* floribus triandris, caule dichotomo, foliis linearibus. *Lin. Syst. Vegetab. p. 73. Sp. Pl. p. 47. Fl. Succ. n. 36.*

VALERIANA foliis oblongis, rariter incisfis, corona feminis simplici, acuminata. *Haller Hist. 214.*

VALERIANA *Locusta. Scopoli Fl. Carn. n. 46.*

VALERIANA campestris inodora major. *Baub. Pin. 165.*

VALERIANELLA arvensis præcox humilis femine compresso. *Mor. Umb.*

LACTUCA agnina. *Ger. emac. 310. Park. 812. Raii Syn. p. 201. Lamb's-Lettuce or Corn-Sallet. Hudson. Fl. Angl. ed. 2. p. 13. Lightfoot Fl. Scot. p. 85.*

RADIX annua, fibrosa, pallide fusca.

CAULIS erectus, spithamæus, pedalis et ultra, pro ratione loci, teres, angulato-striatus, subpubescens, tener, ad unum latus sæpius purpurascens, dichotomus.

FOLIA radicalia, plurima, patentiuscula, subfuculentæ, glabra, venosa, subrugosa, obovata, obsolete dentata, caulina opposita, sessilia, remota, ad basin præsertim ciliata, subrecta, suprema subferrata.

FLORES minimi, cœrulefcentes, corymbosi.

CALYX nullus.

COROLLA longitudine germinis, tubulosa, subviolacea, quinquefida, laciniis rotundatis, patentibus, subæqualibus, fig. 1.

STAMINA: FILAMENTA tria, alba, longitudine corollæ. ANTHERÆ parvæ, albæ, fig. 2.

PISTILLUM: GERMEN inferum, nudum, majusculum, obovatum, viride, utrinque lineâ exaratum, hinc convexum, subgibbosum, inde planiusculum, fig. 4. STYLUS staminibus paulo brevior. STIGMA trifidum, fig. 3.

SEMINA plurima, nuda, pallide fusca, subrotunda, acutiuscula, parum compressa, transversim rugosa, fig. 5.

ROOT annual, fibrous, of a pale brown colour.

STALK upright, from four inches to a foot or more in height, according to its place of growth, round, grooved or angular, slightly downy, tender, usually purplish on one side, dichotomous.

LEAVES next the root numerous, somewhat spreading, slightly succulent, smooth, veiny, a little wrinkled, inversely ovate, faintly toothed, those of the stalk opposite, sessile, remote, at the base particularly, edged with hairs, somewhat upright, the uppermost ones slightly ferrated.

FLOWERS very minute, of a blueish colour, growing in a corymbus.

CALYX wanting.

COROLLA the length of the germen, tubular, faintly violet-coloured, divided into five segments, which are roundish, spreading, and nearly equal, fig. 1.

STAMINA: three FILAMENTS of a white colour, the length of the corolla. ANTHERÆ small and white, fig. 2.

PISTILLUM: GERMEN placed below the corolla, naked, rather large, inversely ovate, green, having a narrow groove on each side, convex and somewhat gibbous on one side, flattish on the other, fig. 4. STYLE a little shorter than the stigma. STIGMA trifid, fig. 3.

SEEDS numerous, naked, of a pale brown colour, roundish, a little pointed, somewhat flattened, and transversely wrinkled, fig. 5.

In treating of the *Valeriana dioica* we had occasion to notice the extreme inconstancy of the fructification in this genus; an inconstancy scarcely to be paralleled in any other tribe, and affecting not only the Linnæan system, as depending on number of stamina, but such systems also as may be founded on the form of the corolla, or structure of the seed. In the *officinalis*, *dioica*, and several other valerians, the seeds are furnished with a pappus or down, here they are altogether naked.

The present plant is a well known culinary one; the radical leaves are in general use in the spring to mix with other sallad herbs, and sometimes eaten alone: the French call them *Salad de Preter*, from their being generally eaten in Lent.

It grows wild in corn-fields, on walls, banks, and in gardens. In corn-fields it is usually very small, grows with a single stem, and often occurs with diseased heads, occasioned by some insect. The leaves are sometimes more than usually ferrated. A variety of this sort is made a species of by RAY. There are several other varieties mentioned by LINNÆUS in his *Species Plantarum*, which have not come under our observation.

It flowers in May, and ripens its seed in June.



J. Sowerby del. et sculp.

Valeriana Locusta.



*Hoppecurus
pratensis.*

4-111
3
2-1

ALOPECURUS PRATENSIS. MEADOW FOXTAIL-GRASS.

ALOPECURUS *Lin. Gen. Pl.* TRIANDRIA DIGYNIA.

Cal. 2-valvis *Cor.* 1-valvis.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORÆ IMPERFECTO CULMIFERÆ.

ALOPECURUS *pratensis* culmo spicato erecto, glumis villosis, corollis muticis. *Lin. Syst. Vegetab.* p. 93. *Sp. Pl.* p. 88. *Fl. Suec.* 20.

ALOPECURUS spica ovata. *Haller. Hist. n.* 1539.

GRAMEN phalaroides majus five italicum. *Bauh. pin.* 4.

GRAMEN alopecuroides majus. *Ger. emac.* 10.

GRAMEN phalaroides majus. *Parkins.* 1164.

GRAMEN alopecuro simile glabrum cum pilis longiusculis in spica otocordon mihi denominatum. *J. B.* II. *Raii Syn.* p. 396. The most common Foxtail-grass. *Hudson. Fl. Angl. ed.* 2. p. 27. *Lightfoot Fl. Scot.* p. 91. *Schreb. Gram.* 133. t. 19. f. 1.

RADIX perennis, fibrosa, fibris pallide fuscis.

ROOT perennial and fibrous, the fibres of a pale brown colour.

CULMI sesquipedales, bipedales, et haud infrequenter tripedales, erecti, teretes, striati, læves, ad basin purpurei, radicantes.

STALKS a foot and a half, two feet, and not unfrequently three feet high, upright, round, finely grooved, smooth, at bottom purple, and til-
luring.

FOLIA palmaria, seu spithamea, sensim in acutum mucronem terminata, glabra, striata, parte superna et ad margines si digiti deorsum ducantur aspera, lineam unam cum dimidia communiter aut duas fere lata. *Vaginæ* striatæ, læves, in superiore parte culmi inflatæ. *Membrana* brevis, obtusa.

LEAVES a hand's breadth or short span in length, gradually tapering to a point, smooth, striated, if drawn backward across the fingers feeling rough on the upper side and on the edges, commonly a line and a half or almost two in breadth. *Sheaths* striated, smooth, on the upper part of the stalk inflated. *Membrane* short and blunt.

SPICA sesquiuncialis, biuncialis, duas etiam nonnunquam cum dimidia uncias longa, duas tresque lineas lata, teres, cylindracea, obtusa, mollis.

SPIKE an inch and a half, two inches, and sometimes even two inches and a half long, and two or three lines broad, round, cylindrical, blunt and soft.

SPICULÆ unifloræ, compressæ, utrinque ciliatæ, nervosæ, mucronato-tridentatæ, *fig.* 1.

SPICULÆ one flower in each, flat, each side edged with hairs, ribbed, slightly tridentate, the middle point longest, *fig.* 1.

CALYX: *Gluma* bivalvis, uniflora, valvulis subæqualibus, ovato-lanceolatis, concavis, compressis, trinerviis, nervis pilosis, *fig.* 2.

CALYX: a *Glume* of two valves, containing one flower, the valves nearly equal, ovate and pointed, flattened, three-ribbed, the ribs hairy, *fig.* 2.

COROLLA univalvis, *valvula* concava, longitudine calycis, albida, subdiaphana, superne nervis tribus viridibus insignita, aristata; *arista* calyce duplo fere longiore, dorso valvulæ versus basin inserta, *fig.* 3.

COROLLA of one valve, the valve hollow, the length of the calyx, whitish, somewhat transparent, marked on the upper part with three green ribs, and bearded; the *beard* or awn almost as long again as the calyx, inserted into the back of the valve towards the base, *fig.* 3.

STAMINA: FILAMENTA tria, capillaria. ANTHERÆ oblongæ, utrinque bifurcæ, plerumque purpurascens, demum ferrugineæ, *fig.* 4.

STAMINA: three capillary FILAMENTS. ANTHERÆ oblong, forked at each end, for the most part purplish, finally ferruginous, *fig.* 4.

PISTILLUM: GERMEN ovatum, minimum. STYLI duo, villosi, reflexi, calyce longiores. STIGMATA simplicia, *fig.* 5.

PISTILLUM: GERMEN ovate, very minute. STYLES two, villous, reflexed, longer than the glumes of the calyx. STIGMATA simple, *fig.* 5.

SEMEN ovatum, minimum, glumis tectum, *fig.* 6, 7.

SEED ovate, very minute, covered by the glumes, *fig.* 6, 7.

In a former number of this work, containing the *Festuca fluitans*, we gave a copious extract from that excellent work on Grasses, the *Beschreibung der Gräser* of Professor SCHREBER: we now present our readers with an abridged account from the same author of another grass, apparently of much greater consequence in agriculture.

The Meadow Foxtail-grass is chiefly an inhabitant of the northern part of our moderate zone, being found abundantly in most parts of Germany, Holland, France, England, Denmark, Norway, Sweden, and Russia. Professor GMELIN has also found it plentifully in Siberia.

Though the grasses in general are not so strongly attached to particular situations as many plants are, yet they are always more abundant, and superior in goodness, in some one kind of ground than another. The Meadow Fox-tail loves a meadow ground somewhat low, and moderately wet, with a good soil, though it will also grow in dry, and even in quite wet ground; yet, in the first, it remains poor, small, and disappears by little and little, while, in the latter, other grasses are apt to overpower and supplant it.

In

In such districts of Saxony as are celebrated for the goodness of their meadows, it always makes a considerable part of the hay; and the same remark has been made by Mr. STILLINGFLEET and Professor KALM in England, respecting the best meadows about London.

The Meadow Foxtail is one of those grasses which appear first in the spring, and sometimes blow twice in the same year*. In respect to flowering, it observes nearly the same time as the *Anthoxanthum odoratum*. In Germany it puts forth its silvery spikes about the beginning of May †, when the seed is ripe, which with us takes place before hay-making ‡, the spike remains unchanged in its shape for some time; the little husks containing the seed may easily be stripped off, but fall off very slowly of themselves.

Experience proves that the Meadow Foxtail-grass has a power of vegetating quickly. Its shoots proceed with such vigour, that it may very well be cut three times in a year. Its stalks are strong, and provided with large leaves, which are soft and juicy. Their taste is as that of good fodder-grass ought to be, sweetish and agreeable, having, when made into hay, neither the hardness of straw, nor the roughness or unpleasant taste attendant on some of the other grasses; we may therefore consider it as holding the first place among the good grasses, either used as fresh fodder, or made into hay, especially for the larger cattle. Though the sheep in such meadows as abound with this grass, do not improve in the fineness of their wool, yet they give a preference to it, both green and dried. On the whole, we may with truth assert, that hay is better in proportion to the quantity of Meadow Foxtail-grass there is among it; not to mention that such hay has the advantage in the weight, and consequently goes farther than hay made of the finer grasses.

In the northern countries, Sweden especially, the meadows are frequently laid waste by a most destructive caterpillar, which produces a moth called, by LINNÆUS, *Phalena graminis*: it has been discovered, that the *Alopecurus pratensis* remains untouched by this destructive insect; so far, therefore, from injuring this grass, it gives it an opportunity, by weakening and destroying the others, to extend itself farther; but though its particular taste or forward growth exempts it from the ravages of this species of caterpillar, there is another which is particularly fond of it, viz. the *Phalena potatoria*, yet as this feeds singly on its foliage, and never increases greatly, it suffers little from it §.

As this grass, therefore, appears to be our author of so much consequence in the making and improving of meadows and pastures, he proceeds to give some account how this improvement may be effected.

In this business the first thing of moment, he observes, is the necessary choice and preparation of the ground; if that be in the power of the cultivator, and as the Meadow Foxtail is found neither to thrive in a soil that is quite dry, or quite wet, he prefers a wet one rendered moderately dry by draining.

After procuring a piece of ground naturally fit, or rendered so by art, he recommends it to be ploughed up immediately after harvest, before the wet season sets in, in which state it is to remain all the winter; the frost breaking the clods, renders it fit for sowing in the spring, at which time you must throw in your seeds of the Meadow Foxtail, mixed with other proper pasture herbs ||; together with a crop of oats ¶; the latter, when sufficiently grown, may be cut for fodder.

A meadow, thus improved, requires all the care necessary in the management of meadows; in particular, a copious watering after hay-making, if the season prove unusually dry, must not be omitted. If after some years the soil should become bound, or noxious plants increase in such a manner as to make the meadow less productive, which often happens when the soil or situation is unfavourable, the meadow must be broken up and fresh sown.

The procuring of the seed, requisite even for a tolerably large sowing, is attended with but little difficulty, if we can only get some slips or roots of this grass. The great number of seeds which grow upon one spike, of which more than one spring from each slip; the double crop in one summer, and the rapid growth of this grass, evince this sufficiently. The gathering of the seed itself is very easy; it needs only to be stripped off with the hand, and put in a bag, and if there be a large quantity together, spread out and dried, even the hay-feed of such meadows as abound with Meadow Foxtail is useful in sowing; but we must well observe how it is mixed: good hay-feed should contain a greater proportion of grass-seeds than of other herbs; the latter must be esculent and nutritive, without any mixture of hard, woody, or succulent ones, which corrupt the hay; much less should it contain tasteless, acrid, or poisonous plants. But it may be asked, where is such hay-feed to be obtained? Certainly the meadows are rare which contain a mixture of proper plants unadulterated with noxious ones; hence the best method will be to collect separately the seeds of the most useful grasses and meadow plants, to increase them singly, to compound the hay-feed of them, and to sow therewith, at first, small meadows, from whence we may, in process of time, obtain a sufficient stock of seed for a more general cultivation.

* This disposition of grasses to flower more than once in the same year, is perhaps deserving of more attention than may have hitherto been paid to it. We have noticed it to take place strongly in the present grass, the yellow Oat, the tall Oat, and some others; on the contrary, there is one grass, viz. the *Poa pratensis*, already figured, which we have never observed to shew the least disposition to throw up a flowering stem twice in the same year. While this may serve as an additional character, whereby it may be distinguished from the *Poa trivialis*, it may also recommend it as a suitable grass for extensive lawns, where bents are troublesome, and offend the eye. We observed, in treating of the *Poa pratensis*, that its root was of the creeping kind; it will probably be found, that all those grasses which have that sort of root flower but once in a season; and if we consider a creeping root as similar in its economy to a bulb, we shall not be at a loss to account for it.

† Its usual time of flowering with us.

‡ In the neighbourhood of London, hay-making generally commences three or four weeks sooner than it does fifty miles from town. Whether this practice hath arisen from the richness of soil accelerating the growth of the herbage, or from the meadows abounding more with early grasses, it may perhaps be difficult to determine; but certainly, by this practice, we reap all the advantages from those early grasses which are lost by longer delay; and hence the seeds of our hay-lofts must be proportionably better than those at a distance, as early grass is preferable to late.

§ In the papers of the Bath Agricultural Society, vol. II. p. 79. the Rev. Mr. SWAYNE of Puckle Church, in Gloucestershire, gives an account of a very minute insect, which, feeding within the husks of the spikes, renders them barren; we shall quote his own words. "On rubbing out the husks, when I judged the seed to be approaching to ripeness, I found almost every seed-vessel occupied by a soft substance, of a deep yellow or orange colour, no ways resembling a seed. On applying the microscope, this substance proved to be a congeries of animalcules, which being shook out on a sheet of white paper, and separated from each other, displayed the exact shape and motion of those insects which are oftentimes found in hams and bacon, and which are known among housewives by the name of hoppers. The flies likewise, which these caterpillars produce, were found to be very like the hopper flies, only infinitely smaller."

¶ We should prefer the latter end of August, or beginning of September, for the purpose of sowing grass seeds, provided the season proved favourable.

|| Should the land intended to be laid down be very foul, we apprehend, repeated ploughings and harrowings, and that for more than one season, would be necessary. Farmers are divided in their opinions respecting the propriety of sowing Oats or Barley with grass-seeds; some apprehending, that the corn does the young grass more harm by robbing it of its nourishment, than the shade or shelter afforded thereby does it good.



Alopecurus geniculatus.

ALOPECURUS GENICULATUS. JOINTED FOX-TAIL GRASS.

ALOPECURUS *Lin. Gen. Pl.* TRIANDRIA DIGYNIA.

Cal. 2-valvis. *Cor.* 1-valvis.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

ALOPECURUS *geniculatus* culmo spicato infracto, corollis muticis, *Lin. Syst. Vegetab.* p. 93. *Sp. Pl.* 89. *Fl. Suec.* n. 60. *Haller. hist.* n. 1541.

ALOPECURUS *geniculatus* culmo adscendente, spica cylindrica, glumis apice divergentibus pilosis. *Hudson Fl. Angl. ed. 2.* p. 27.

ALOPECURUS *geniculatus* *Scopol. Fl. Carn.* n. 82.

GRAMEN aquaticum geniculatum spicatum. *Bauh. pin.* 3. *Scheuchz. Agroft.* 72.

GRAMEN fluviatile spicatum. *Ger. emac.* 14.

GRAMEN aquaticum spicatum. *Parkin. 1373.* *Raii Syn.* 396. Spiked Flote Grass. *Lightfoot, Fl. Scot.* p. 92. *Oeder Fl. Dan.* 564.

RADIX	perennis, fibrosa, fibris albicantibus, et quandoque subfuscis.	ROOT	perennial, fibrous, the fibres whitish, sometimes inclined to brown.
CULMI	plures, pedales, sesquipedales et ultra, inferne procumbentes, et sæpe repentes, suberecti, geniculati, infracti, ramosi, superne nudi, striati, præsertim in solo arido plus minus bulboso.	STALKS	several, a foot, a foot and a half or more in length, below procumbent, and often creeping, nearly upright, jointed, crooked, above naked and striated, branched, the base especially in a dry soil more or less bulbous.
FOLIA	duo aut tres lineas lata, striata, superne digitis deorsum ductis aspera, inferne lævia, superiora brevia, uncialia aut biuncialia, patentia, sæpe ad margines crispa; <i>membrana</i> ad basin folii ovata, acuta; <i>vaginæ</i> læves, striatæ, ventricosæ.	LEAVES	two or three lines broad, striated; the upper side if drawn backwards betwixt the fingers rough, the under side smooth, the uppermost leaves short, an inch or two inches long, spreading, often crimped at the edges; the <i>membrane</i> at the base of the leaf, ovate and pointed, the <i>sheaths</i> smooth, striated, and bellying out.
SPICÆ	unciales, sesquiunciales et ultra, subcylindraceæ, forma et colore maxime variantes, nunc obtusæ nunc ad apicem sensim attenuatæ, virescentes, purpurascens, aut etiam nigricantes procul saltem visæ.	SPIKE	an inch, an inch and a half or more in length, somewhat cylindrical, varying greatly both in form and colour, sometimes blunt, and sometimes tapering to a point, greenish, purplish, and even blackish, at least when viewed at a distance.
FLOSCULI	imbricati.	FLORETS	imbricated.
CALYX: GLUMA	uniflora, bivalvis, compressa, valvulis oblique truncatis, pubescentibus, trinerviis, carina ciliata, <i>fig. 1.</i>	CALYX: a GLUME	of two valves, containing one flower, flattened, the valves obliquely truncated, downy, three-ribb'd, the keel ciliated, <i>fig. 1.</i>
COROLLA: GLUMA	univalvis, oblonga, ovata, truncata, quinquenervis, pellucida, nuda, aristata, <i>fig. 2.</i> <i>Arista</i> juxta basin exserta corolla duplo longiore, <i>fig. 3.</i>	COROLLA: a GLUME	of one valve, oblong, ovate, truncated, five-rib'd, pellucid, without hairs, and bearded, <i>fig. 2.</i> the <i>Beard</i> or awn proceeding from near the base, and twice the length of the corolla, <i>fig. 3.</i>
STAMINA: FILAMENTA	tria, corollâ longiora; ANTHERÆ oblongæ, primum purpureæ, demum ferrugineæ, <i>fig. 4.</i>	STAMINA: three FILAMENTS,	longer than the corolla; ANTHERÆ oblong, at first purple, afterwards ferruginous, <i>fig. 4.</i>
PISTILLUM: GERMEN	subrotundum; STYLI duo, cirrhosi, albidii, extra calycem protensi, <i>fig. 5.</i>	PISTILLUM: GERMEN	roundish; STYLES two, slender, feathery, and extended beyond the calyx, <i>fig. 5.</i>

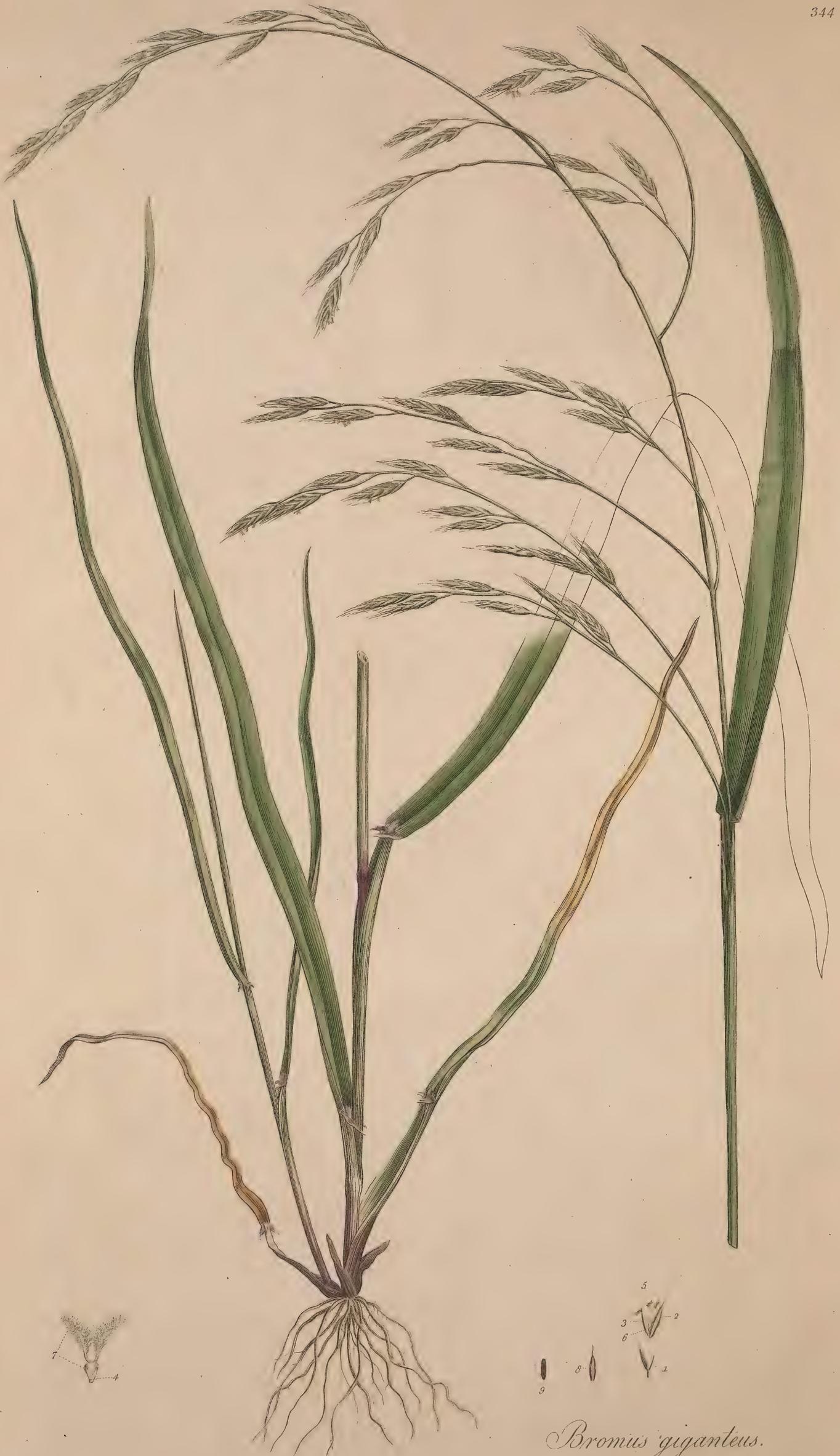
It is in the depressed parts of meadows, where water is occasionally apt to stagnate, that this species of Fox-Tail Grass particularly delights to grow, nor is it unfrequent on the edges of ponds, streams, and wet ditches, where it often makes its way into the water; it is also, though more rarely, found in dry pastures; and, according to these several situations, it is found to vary.

In the first, the stalks are procumbent at the base, spread themselves on the ground, and extend a foot or more in length; before they rise upwards, the spikes often assume a blackish or deep purple colour, which causes it to be noticed by the Farmer, who distinguishes it by the name of Black Grass*. In the second, it is very much enlarged in its size, and approaches near to the *Alopecurus pratensis*; but the stalk still retains towards the bottom its crooked appearance. In the third, it grows more upright, the spike becomes much slenderer, and the base of the stalk often swells out into a kind of bulb, as in the *Avena elatior*, and this variety has been called *Alopecurus bulbosus*; in all these several varieties, the *geniculatus* cannot easily be mistaken for any other species of *Alopecurus*.

It flowers in June.

Cattle eat it readily, nevertheless it cannot be recommended as a profitable Grass; nor do the more observing Farmers consider it as such: indeed, where such Grass is apt to abound, the best practice would be to fill up the depressions, and sow the ground with better Grasses.

* The Farmer also distinguishes the *Alopecurus agrestis* (*myosuroides*, *Fl. Lond.*) by the name of Black Grass.



Bromus giganteus.

J. Sowerby del. et sculp.

BROMUS GIGANTEUS. TALL BROME GRASS.

BROMUS *Lin. Gen. Pl.* TRIANDRIA DIGYNIA.

Cal. 2-valvis. *Spicula* oblonga, teres, disticha: arista infra apicem.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

BROMUS *giganteus* panicula nutante, spiculis quadrifloris: aristis brevioribus. *Lin. Syst. Vegetab.* p. 103. *Spec. Plant.* p. 114. *Fl. Succ. n.* 34.

BROMUS *giganteus* panicula ramosa nutante, ramis binatis, spiculis subquadrifloris arista brevioribus. *Hudson Fl. Angl.* p. 51.

BROMUS glaber, locustis quadrifloris nutantibus, aristis longissimis. *Haller. hist. n.* 1510.

BROMUS *giganteus.* *Scopoli Fl. Carn. n.* 116. VAR. 1. *glabra et minor.*

GRAMEN bromoides aquaticum latifolium, panicula sparsa tenuissime aristata. *Scheuchz. Agrost.* p. 264. t. 5. fig. 17.

GRAMEN sylvaticum glabrum, panicula recurva. *Vaill. Paris,* p. 93.

GRAMEN avenaceum glabrum, panicula e spicis raris strigosis composita, aristis tenuissimis. *Raii hist.* 1909. *Syn.* p. 415. *Lightfoot Fl. Scot.* p. 104.

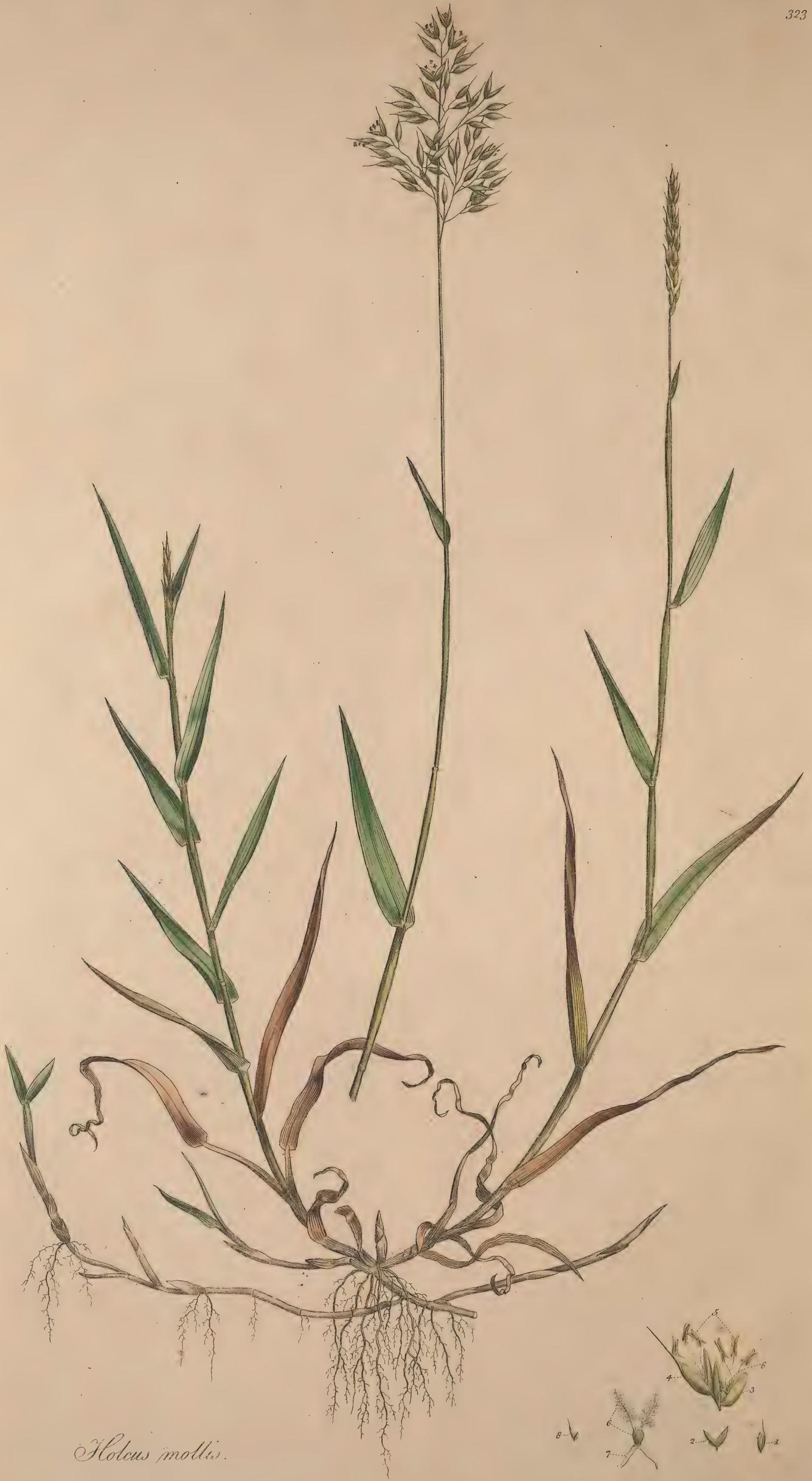
RADIX perennis, fibrosa.	◇ ROOT perennial and fibrous.
CULMUS tripedalis et ultra, erectus, lævis, geniculis plerumque purpureis.	◇ STALK three feet or more in height, upright, smooth, the joints for the most part purple.
FOLIA semunciam lata, læte viridia, lævia, inferne nitida, basi appendiculis ex fusco purpureis utrinque, caulem amplexantibus instructa, vagina inferne scabriuscula, minime pilosa, superne glabra, membrana brevissima.	◇ LEAVES half an inch broad, of a bright-green colour, smooth, shining underneath, furnished at the base on each side with two purplish-brown appendages, which embrace the stalk, <i>sheath</i> below a little rough to the touch, but not hairy, above smooth, the <i>membrane</i> very short.
PANICULA ampla, pedalis etiam, sparsa, ramis plerumque binatis, nutantibus, secundis, scabriusculis.	◇ PANICLE large, even a foot long, loose, branches generally growing in pairs, all one way, drooping, and roughish.
SPICULÆ ovato-lanceolatæ, subquinqüifloræ, semunciales, plerumque virides, læves, aristatæ: Aristæ albæ, spiculis paulo longiores, flexuosæ, scabræ.	◇ SPICULÆ ovato-lanceolate, containing about five flowers, half an inch in length, for the most part green, smooth, and bearded: <i>Beards</i> white, a little longer than the spiculæ, crooked, and rough.
CALYX: GLUMA bivalvis, valvulis inæqualibus, acuminatis, viridibus, marginibus albidis, majore lineis tribus, minore unica subdiaphana notata, fig. 1.	◇ CALYX: a GLUME of two valves, the valves unequal, pointed, green, with white edges, the large valve marked with three, and the small one with one somewhat transparent line, <i>fig. 1.</i>
COROLLA: GLUMA bivalvis, valvulis subæqualibus, viridibus, lævibus, margine albis, exteriore majore, concava, obsolete trinervis, aristata, arista glumâ longiore paulo infra apicem exsertâ, interiore minore, planiuscula, albida, fig. 2, 3.	◇ COROLLA: a GLUME of two valves, the valves nearly equal, green, smooth, the edges white, the outer one largest hollow, faintly three-rib'd, and bearded, the beard longer than the glume, and proceeding from a little below the point, the interior one least, somewhat flat and whitish, <i>fig. 2, 3.</i>
NECTARIUM: GLUMULÆ duæ, accuminatæ, ad basin germinis, fig. 4.	◇ NECTARY: two small pointed GLUMES at the base of the germen, <i>fig. 4.</i>
STAMINA: FILAMENTA tria, capillaria, alba; ANTHERÆ flavæ, bifurcæ, fig. 5.	◇ STAMINA: three capillary, white FILAMENTS; ANTHERÆ yellow and forked, <i>fig. 5.</i>
PISTILLUM: GERMEN obovatum, viride, nitidum; STYLI duo, patentes, ad basin usque ramosi, fig. 6. auct. fig. 7.	◇ PISTILLUM: GERMEN inversely ovate, green and shining; STYLES two, spreading and branched quite to the bottom, <i>fig. 6.</i> magnified, <i>fig. 7.</i>
SEMEN oblongum, ex nigro purpurascens, intra glumas adhærentes, inclusum, fig. 8, 9.	◇ SEED oblong, of a blackish-purple colour, enclosed within the glumes which adhere to it, <i>fig. 8, 9.</i>

There is only one grass for which this species of *Bromus* is liable to be mistaken, and that is the *Bromus hirsutus* already figured, they are both large grasses, and grow in similar situations, indeed frequently together: they have been confounded by SCOPOLI, who makes the *hirsutus* a variety of the *giganteus*; but the least attention would have taught him, that they were materially different.

The sheath of the lower leaves in the *hirsutus* is covered with long stiff hairs, which are wanting in the *giganteus*; the leaves of the *giganteus* are glossy on the under side, and those of the stalk, near their extremities, appear as if a slack ligature had been tied round them; but there is a character almost peculiar to this grass, the base of the leaf is terminated by two small appendages, of a reddish-brown colour, which usually embrace the stalk, and will never fail to distinguish it from the *hirsutus*: the spiculæ also, if no other distinguishing character were present, would be all-sufficient, being shorter by almost one half, containing fewer flowers, and having aristæ or awns longer in proportion to the spiculæ and more crooked: we may add another character which we have discovered from cultivation, the *giganteus* is a perennial, whereas the *hirsutus* is only an annual or biennial, a circumstance which we were not sufficiently apprized of when we described that plant.

This grass is frequent enough in the neighbourhood of London, in woods, and under hedges, especially such as are accompanied by a wet ditch, nor is it uncommon by the sides of the Thames; the situation which it affects with us, is more agreeable to the name given it by SCHEUCHZER, than to the account delivered by LINNÆUS in his *Species plantarum*, where he says, *habitat in Europæ sylvis siccis*: we very rarely or never find it in meadows; hence, though a productive grass, there seems not much probability of its becoming a good grass for meadows or pastures.

It flowers from July to September.



Holcus mollis.

HOLCUS MOLLIS. CREEPING SOFT-GRASS.

HOLCUS *Lin. Gen. Pl.* POLYGAMIA MONOECIA.

HERMAPHROD. *Cal.* Gluma 1-f. 2-flora. *Cor.* Gluma aristata. *Stam.* 3. *Styli* 2. *Sem.* 1.

MASC. *Cal.* Gluma 2-valvis. *Cor.* 0. *Stam.* 3.

HOLCUS *mollis* radice repente, geniculis villosis, aristâ extra spiculam productâ.

HOLCUS *mollis* glumis bifloris nudiusculis: flosculo hermaphrodito mutico; masculo aristâ geniculata. *Lin. Syst. Veget. p.* 760. *Sp. Pl. p.* 1485.

GRAMEN caninum longius radicatam majus et minus. *Bauh. Pin.* 1.

GRAMEN paniculatum molle, radice graminis canini repente. *Morif. Hist.* 3. *p.* 202.

GRAMEN caninum paniculatum molle. *Raii Hist.* 1285. *Scheuchz. Agrofl. p.* 235. *Vaill. Paris. p.* 87.

GRAMEN miliaceum aristatatum molle. *Raii Syn. p.* 404. *Hudson. Fl. Angl. ed. 2. p.* 440. *Lightfoot Fl. Scot. p.* 631. *Schreb. Agrofl. t.* 20.

RADIX perennis, tritici canini instar repens.
CULMI sesquipedales et ultra, sæpius erecti, foliosi, nodosi, geniculis albis, lanatis, culmi etiam steriles occurrunt ad terram magis reclinati, foliis crebrioribus, alternis, lanceolatis, vestiti.

FOLIA ad tres vel quatuor lineas lata, molli villo pubescentia, membranâ ad basin folii alba, obtusa, vagina striata, subcarinata, villosa.

PANICULA biuncialis, erecta, instante anthesi diffusa, demum coarctata.

RAMULI paniculæ purpurascens, pilosi.

SPICULÆ bifloræ etiam trifloræ, *fig.* 3, 4. albida seu parum purpurascens, flosculis omnibus hermaphroditis.

CALYX: gluma bivalvis, utrinque ciliata, ceteroquin nuda, valvula alterâ majore et paulo longiore, trinerve, nervis obscure viridibus, *fig.* 1, 2.

COROLLA: bivalvis, valvulis longitudine subæqualibus, basi pilosis, viridibus, exteriore majore, glabra, gibbosa, interiore plana ad lentem subnervosa, hispidula, e dorso majoris valvulæ superioris flosculi exurgit aristâ spicula longior primo recta, demum tortilis, geniculata, *fig.* 3, 4.

STAMINA: FILAMENTA tria, capillaria. ANTHERÆ oblongæ, flavæ; utrinque bifurcæ, *fig.* 5.

PISTILLUM: GERMEN subrotundum, nitidum, minimum. STYLI duo, plumosi, *fig.* 6.

NECTARIUM: glumulæ duæ, lanceolatae, ad basin germinis, *fig.* 7.

SEMINA duo, nitida, ovato-acuta, altera aristata, altera mutica, glumis calycinis inclusa, *fig.* 8.

ROOT perennial, creeping like the garden couch-grass.
STALKS a foot and a half or more in height, most commonly upright, leafy, jointed, the joints white and woolly, stems also arise producing no spikes, inclined more to the ground, and covered with more numerous, alternate, lanceolate leaves.

LEAVES three or four lines in breadth, covered with soft short hairs, the membrane at the base of the leaf white and obtuse, the sheath striated, somewhat keeled and villous.

PANICLE two inches in length, upright, during the flowering spread out, afterwards closed up.

BRANCHES of the panicle purplish and hairy.

SPICULÆ containing two, sometimes three flowers, *fig.* 3, 4. whitish, or slightly tinged with purple, all the florets hermaphrodite.

CALYX: a glume of two valves, edged on both sides with hairs, otherwise naked, one of the valves larger and a little longer than the other, having three ribs, of an obscure green colour, *fig.* 1, 2.

COROLLA of two valves, the valves nearly equal in length, hairy at bottom, of a green colour, the outermost largest, smooth, and gibbous, the innermost flat, somewhat ribbed when magnified, and a little hispid, from the back of the largest valve of the uppermost flower arises an awn, longer than the spicula, at first straight, lastly twisted and bent, *fig.* 3, 4.

STAMINA: three capillary FILAMENTS. ANTHERÆ oblong, yellow, forked at each end, *fig.* 5.

PISTILLUM: GERMEN roundish, shining, very small. STYLES two, feathery, *fig.* 6.

NECTARY: two, small, lanceolate glumes at the base of the germen, *fig.* 7.

SEEDS two, shining, ovate, pointed, the one bearded, the other naked, inclosed within the glumes of the calyx, *fig.* 8.

Notwithstanding this grass has been well named and described by some of the older Botanists, particularly MORISON and RAY, its characters do not appear to be generally well understood. Baron HALLER considers it as too nearly related to the *lanatus*, to be with propriety considered as a distinct species; and Mr. LIGHTFOOT, in his *Flora Scotica*, entertains similar doubts.

We have cultivated the two in separate beds, close to each other, for several years; have noticed them with a marked attention, where they have grown wild; and, from a variety of characters, are led to consider them as perfectly distinct.

The most striking of these characters we shall here enumerate. In the first place they differ widely in their natural places of growth: while the *lanatus* is most commonly found in meadows and pastures, the *mollis* rarely occurs but in woods and its environs. We have, indeed, frequently found the *lanatus*, which is by far the most general grass of the two, in a wood; but we never recollect seeing the *mollis* in meadows or pastures, and but rarely in corn-fields, where it has been said chiefly to grow. *Coomb Wood* in particular affords a strong instance of its attachment to shady situations. Contrary to what some authors assert, we have ever found the *mollis* the least plant; or, if it has been observed equally tall as the other, it has produced by far the most scanty panicle; nor do the spiculæ, in general, assume that brilliant colour which so eminently distinguishes those of the *lanatus* on their first coming out. But the character which puts its being a species out of all doubt, is its root; that of the *lanatus* does not creep, while the *mollis* possesses that property in a degree equal to the strongest couch-grass. The other characters which strikingly distinguish this species are its woolly joints and its large pointed spiculæ, in which the beard, or awn, is invariably much longer than the glumes of the calyx.

In speaking of the *lanatus* we took notice of the impropriety of separating that grass from the general mass, because one of the flowers in each spiculæ was imperfect*. The fructification of the present species argues more strongly for its union with the others: here both flowers are hermaphrodite, both have stamens and feathery styles, and both produce apparently perfect seeds. Indeed we can perceive no character to distinguish it from an *aira*, to which genus it perhaps with propriety belongs.

SCHREBER's figure gives a good representation of the panicle when closed, but neither represents the joints or root well.

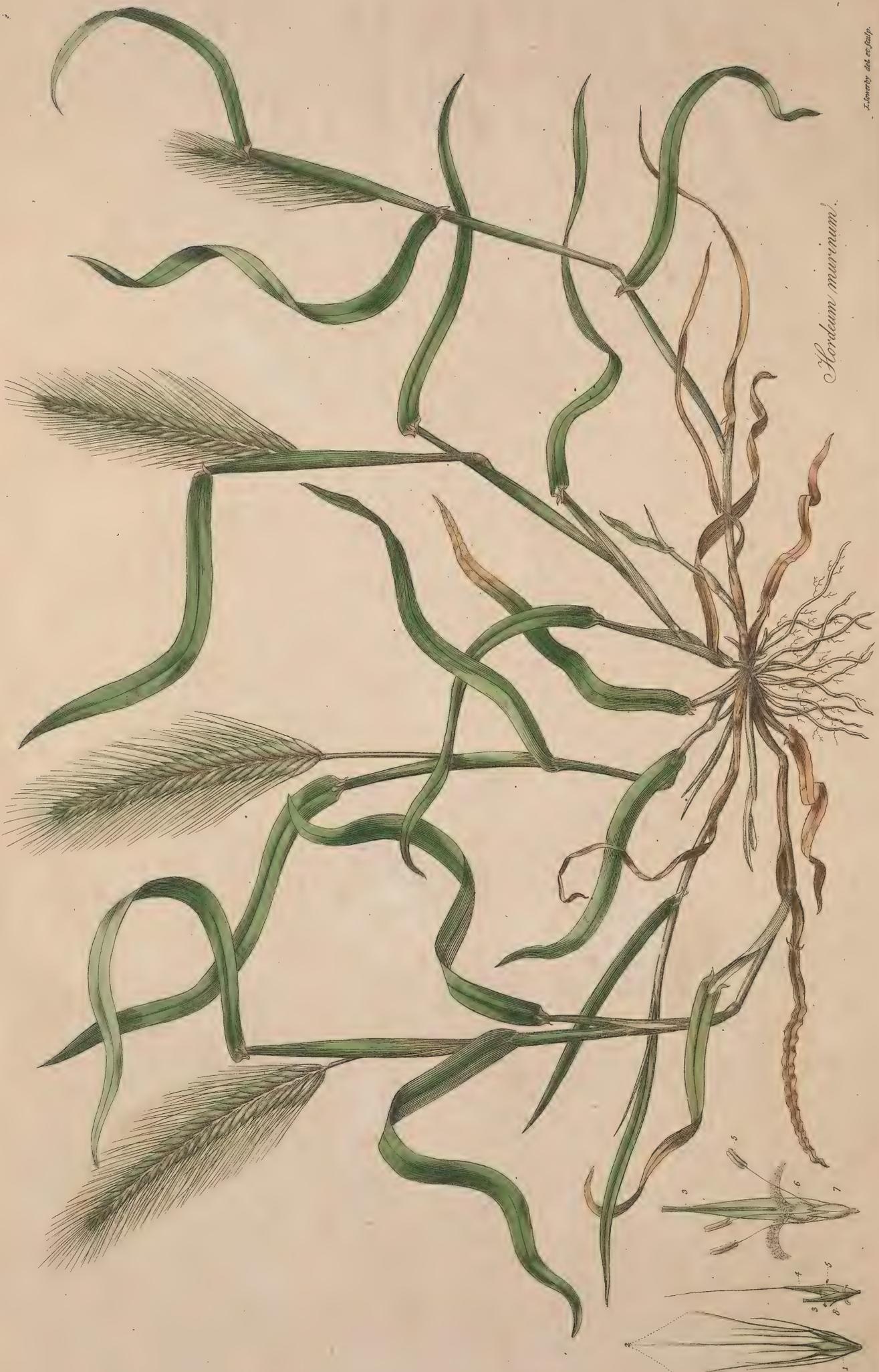
As we consider the *Holcus lanatus*, which is much to be preferred to the present species, as a very indifferent grass for cattle, so we cannot but look on the *mollis* as one of the worst species of couch; and, if it should ever become a practice to sow certain woods with grass seeds, this species ought surely to be eradicated.

It flowers in July.

* SCOPOLI, from a circumstance of this sort, has in our opinion absurdly enough placed the *Avena elatior* with the *Holcus*.



Hordium murinum.



HORDEUM MURINUM. WALL BARLEY.

HORDEUM *Lin. Gen. Pl.* TRIANDRIA DIGYNIA.

Cal. lateralis, bivalvis, uniflorus, ternus.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ, FLORE IMPERFECTO CULMIFERÆ.

HORDEUM *murinum* flosculis lateralibus masculis aristatis, involucris intermediis ciliatis. *Lin. Syst. Vegetab. p. 108. Sp. Pl. p. 126. Fl. Suec. n. 113.*

HORDEUM *spicis crassis, longe aristatis, calycinis glumis aristatis. Haller Hist. n. 1536.*

HORDEUM *murinum. Scopoli Fl. Carn. n. 1241.*

GRAMEN *hordeaceum minus et vulgare. Baub. Pin. 8.*

HORDEUM *spurium vulgare. Parkinson 1147.*

GRAMEN *fecalinum et fecale sylvestre. Ger. emac 73. Raii Syn. p. 391. Wild Rie or Rie-Grafs, Wall-Barley, Way-Bennet. Hudson. Fl. Angl. ed. 2. p. 56. Lightfoot Fl. Scot. p. 108.*

RADIX annua, fibrosa, albida vel subfusca.	ROOT annual, fibrous, whitish or of a brownish colour.
CULMI plures, pedales et sesquipedales, suberecti, foliosi, basi procumbentes, infracti, geniculati, geniculis majusculis, pallidioribus.	STALKS numerous, a foot or a foot and a half high, nearly upright, leafy, procumbent at the base, and crooked or broken, jointed, the joints rather large and paler than the stalk.
FOLIA palmaria in quibusdam etiam sex uncias longa, duas vel tres lineas lata, subglauca, molli pube vestita, basi appendiculis duabus albis, acuminatis, amplexicaulibus, instructa; membrana brevissima, obtusa; vagina vix pubescens.	LEAVES a hand's-breadth or in some even six inches in length, and two or three lines broad, somewhat glaucous, and covered with a soft down, furnished at the base with two small, white, pointed appendages, which embrace the stalk; membrane very short and obtuse; sheath scarcely downy.
SPICÆ palmares, et ultra, parum nutantes, pallide virentes, compressæ, spicis hordei distichi haud abfimiles.	SPIKES a hand's-breadth or more in length, drooping a little, of a pale green colour, flat, and not unlike those of common barley.
CALYX: INVOLUCRUM hexaphyllum, triflorum, foliolis fetaceis, acuminatis, aristis corollæ brevioribus, scabris, duobus intermediis basi latioribus, ciliatis, fig. 1.	CALYX: an INVOLUCRUM of six leaves, containing three flowers, the leaves running out to a long bristly point, shorter than the beards of the corolla, the two intermediate ones broader at the base than the others, and edged with hairs, fig. 1.
FLOS intermedius hermaphroditus, laterales masculi, omnibus magnitudine et forma similibus, fig. 2. <i>Flos Hermaphrod.</i>	FLOWER in the middle hermaphrodite, the side ones males, all alike in size and shape, fig. 2. <i>Hermaphrodite Flower.</i>
COROLLA bivalvis, valvula exterior oblongo-ovata, acuminata, obsolete trinervis, lævis, desinens in aristam biunciam scabram, fig. 4. valvula interior lanceolata, plana, medio sulcata, apice emarginato-truncata, fig. 3. ad basin anteriorem hujus valvulæ exsertur arista recta longitudine filamentorum, fig. 8.	COROLLA of two valves, the outer valve oblong-ovate, with a long point, faintly three-ribbed, smooth, terminating in a beard or awn, which is rough to the touch, fig. 4. the inner valve lanceolate, flat, with a groove, truncated at top, and slightly emarginate, fig. 3, at the outer base of this valve arises a straight awn the length of the filaments, fig. 8.
NECTARIUM: GLUMULÆ duæ, acuminatæ ad basin germinis, fig. 7.	NECTARY: two long-pointed, little GLUMES, at the base of the germen, fig. 7.
STAMINA: FILAMENTA tria, capillaria, glumis corollæ multo breviora. ANTHERÆ parvæ, e flavo virentes, fig. 5.	STAMINA: three capillary FILAMENTS, much shorter than the glumes of the corolla. ANTHERÆ small, of a yellowish green colour, fig. 5.
PISTILLUM: GERMEN ovatum, pubescens. STYLII duo, reflexi, villosi, fig. 6.	PISTILLUM: GERMEN ovate, downy. STYLES two, reflexed, and villous, fig. 6.

Some of the grasses are noxious to the husbandman in one way, and some in another. We have been informed, on the most respectable authority, that in the Isle of Thanet this grass is well known to the inn-keepers, who call it Squirrel-tail Grass; and find, that if horses feed on it for some time, the beards or awns of the spikes stick into their gums, and make them so sore, that they are in danger of being starved. The gentleman, who related to me this fact, informed me, that on the road he had a bill put into his hand, signifying, that at such an inn travellers might depend on having good hay for their cattle, without any mixture of Squirrel-tail Grass.

It is chiefly on the edges of paths, at the bottoms of walls, and on the borders of fields, that we find this noxious grass; and in such situations it is extremely common in the neighbourhood of London. Fortunately it is seldom or never found in the body of pastures and meadows, and consequently it rarely occurs in our hay.

It continues to flower and produce seed during the greatest part of the summer.

We are carefully to distinguish it from the *Hordeum pratense* of Mr. HUDSON, which LINNÆUS, contrary to the opinion of RAY, VAILLANT, HALLER, and other respectable Botanists, considers only as a variety of the present species.

MELICA UNIFLORA. SINGLE-FLOWERED MELIC-GRASS.

MELICA *Lin. Gen. Pl.* TRIANDRIA DIGYNIA.

Cal. bivalvis, biflorus, rudimentum floris inter flosculos.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

MELICA *uniflora* panicula rara, calycibus bifloris, flosculo altero hermaphrodito, altero neutro. *Retzii Fasc. Obs. Bot.* 1. p. 10. n. 9.

GRAMEN avenaceum locustis rarioribus. *Baub. Pin.* p. 10.

GRAMEN avenaceum spica mutica rariore gluma. *Hist. Ox.* III. t. 7. f. 49.

GRAMEN avenaceum nemorense, glumis rarioribus ex fusco xerampelinis. *Raii Syn.* p. 403.

GRAMEN avenaceum rariore grano nemorense danicum. *Lob. Ad. P. Alt.* p. 465. *ic. I. B.* p. 434.

MELICA *nutans* petalis imberbibus, panicula secunda nutante, gluma uniflora. *Hudson. Fl. Angl. ed. 2.* p. 37. *Lightfoot Fl. Scot.* p. 95.

RADIX perennis, fibrosa.

CULMUS simplex, sesquipedalis et ultra, foliosus, ubi vaginis foliorum tegitur subangulosus, scaber, striatus, ad basin fordide purpureus.

FOLIA caulina quinque circiter, e flavo viridia, plana, lineam unam cum dimidia aut duas fere lata, in acutum mucronem sensim attenuata, si digiti deorsum ducantur aspera, superne subpilosa, marginibus ad lentem minutissime ferrulatis, membrana brevissima, vix ulla, at quod valde singulare, et notatū dignum, foliolum ovato-acuminatum, erectum, coloratum, ex anteriore parte oris vaginæ oritur, nemine antehac, ne cl. *Retzio* observatum, *fig. 8.*

FLORES paniculati.

PANICULA rara, pedunculis inferioribus geminis altero brevioribus, trifloris, etiam septem aut octo floris in hortis culta, superioribus solitariis.

SPICULÆ pedicellatæ, primo atro-purpureæ, muticæ, bifloræ.

CALYX: *Gluma* bivalvis, biflorus, coloratus, nitidus, valvula exterior majore, ovata, concava, quinque nervi, submucronata, interiore minore, ovato-lanceolata, trinervi, *fig. 1.*

FLOS *hermaphrod.* sessilis, valvula exterior magna, ventricosa, marginibus interiorem amplectens, quæ planiuscula, marginibus membranaceis reflexis, præcipue prope basin, *fig. 2, 3.*

sterilis pedunculatus, imperfectus, *fig. 9.*; idem evolutus, *fig. 10.*

STAMINA: FILAMENTA tria, capillaria, brevissima. ANTHERÆ flavescens utrinque bifurcatæ, *fig. 4.*

PISTILLUM: GERME ovatum, glabrum, nitidum, flavescens. STYLI duo basi discreta, divaricata. STIGMATA villosa, *fig. 5.*

NECTARIUM: *Squamula* minima, integra, ad basin germinis, *fig. 6.*

SEMEN ovatum, nitidum, majusculum, nigricans, *fig. 7.*

ROOT perennial and fibrous.

STALK simple, a foot and a half or more in height, leafy, where it is covered with the sheaths of the leaves somewhat angular, rough and striated, at bottom of a dull purple colour.

LEAVES of the stalk about five in number, of a yellowish-green colour, flat, a line and a half or almost two lines broad, terminating gradually in a point, rough if drawn backwards betwixt the fingers, on the upper side somewhat hairy, the edges of the leaves when magnified finely serrated, the membrane very short, scarce any; but what is very remarkable and worthy notice, a small ovate leaf with a long point, upright, and coloured, rises from the fore-part of the mouth of the sheath, till now unobserved even by the celebrated *Retzius*, *fig. 8.*

FLOWERS growing in a panicle.

PANICLE loose, the lowermost flower-stalks growing two together, the one shorter than the other, bearing three flowers, and even seven or eight when cultivated in gardens, the uppermost growing singly.

SPICULÆ standing on little foot-stalks, at first of a dark purple colour, beardless, each containing two flowers.

CALYX: a *Glume* of two valves, containing two flowers, coloured and shining, the outermost valve ovate, hollow, having five ribs, and terminated by a short point, the innermost leaf, ovato-lanceolate, and three-ribbed, *fig. 1.*

FLOWER: the *hermaphrodite* one sessile, the outer valve large, bellying out, with its edges embracing the inner one, which is flattish, the edges membranous and turned back, especially near the base, *fig. 2, 3.*

the *sterile* flower standing on a foot-stalk, and imperfect, *fig. 9.*; the same unfolded, *fig. 10.*

STAMINA: three FILAMENTS, capillary and short. ANTHERÆ yellowish and forked at each end. *fig. 4.*

PISTILLUM: GERME ovate, smooth, shining, and yellowish. STYLES two, separate at bottom and spreading out. STIGMATA villous, *fig. 5.*

NECTARY: a very minute, entire scale, at the base of the germen, *fig. 6.*

SEED ovate, shining, rather large and blackish, *fig. 7.*

This elegant species, long since noticed and described by many of the old Botanists, particularly RAY, has been overlooked by LINNÆUS. Professor RETZIUS*, in the first fasciculus of his botanical observations, describes it anew, and gives it the name of *uniflora*, having found each spicula to contain only one perfect flower. This name we therefore most readily adopt. Mr. HUDSON, in his *Flora Anglica*, has mistaken this plant for the *nutans* of LINNÆUS; and to the *nutans* has given the name of *montana*.

The delicacy and striking colour of its panicle, joined to its place of growth, readily distinguishes it from all our other grasses.

It grows plentifully in most of the woods near London, and flowers in May and the beginning of June.

* Andr. Joh. Retzii Fasciculus Observationum Botanicarum primus, cum figuris æneis, Lipsiæ, 1779.



Melica uniflora.



Holcus carulea.

POA AQUATICA. WATER MEADOW GRASS.

POA *Lin. Gen. Pl.* TRIANDRIA DIGYNIA.

Cal. 2-valvis, multiflorus. *Spicula* ovata: valvulis margine scariofis acutiusculis.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

POA *aquatica* panicula diffusa, spiculis sexfloris linearibus. *Lin. Syst. Vegetab.* p. 97. *Sp. Pl.* p. 98. *Fl. Suec.* n. 26.

POA altissima, foliis latissimis, panicula amplissima, locustis distichis multifloris. *Haller hist.* n. 1454.

POA *aquatica.* *Scopoli Fl. Carn.* n. 105.

GRAMEN aquaticum paniculatum latifolium, *Bauh. Pin.* 3.

GRAMEN aquaticum majus. *Ger. emac.* 6. *Raii Syn.* p. 411. Great Water-Reed-Grass. *Hudson Fl. Angl. ed.* 2. p. 38.

RADIX perennis, repens.	◇ ROOT perennial, and creeping.
CULMUS tripedalis, ad sepedalem, erectus, foliosus, crassitie culmi arundinacei, superne ubi nudus, teres, lævis, subtilissime striatus; geniculis flavescens.	◇ STALK from three to six feet high, upright, leafy, the thickness of a reed straw, on the upper part where it is naked, round, smooth, very finely grooved; the joints yellowish.
FOLIA femunciam aut unciam fere lata, utrinque glabra, tenuissime striata, carinata, carina marginibusque asperis, ad basin folii utrinque macula triangularis flava, vagina glabra, striata, carina prominente, membrana brevis obtusa.	◇ LEAVES half an inch and almost an inch broad, smooth on both sides, very finely grooved, keeled, the keel as well as the edges rough, the base of the leaf on each side is marked with a yellow triangular spot, the sheath is smooth and striated, the keel prominent, the membrane short and obtuse.
PANICULA maxima, semipedalis, aut pedalis, erecta, ramosissima.	◇ PANICLE very large, from six inches to a foot in length, upright, very much branched.
PEDUNCULI subtriquetri, scabri, superne flexuosi.	◇ FLOWER-STALKS somewhat three-cornered, rough, crooked above.
SPICULÆ lanceolatae, subcompressae 6—8. florae, colore ex spadiceo et viridi misto.	◇ SPICULÆ lanceolate, somewhat flattened, containing from six to eight flowers, variegated with green and purple.
CALYX: <i>Gluma</i> bivalvis, valvulae membranaceae, uninerviæ, ovatae, concavae, interiore brevior et acutior.	◇ CALYX: a <i>Glume</i> of two valves, the valves membranous, one-ribbed, ovate, concave, the innermost shorter and more pointed than the other.
COROLLA bivalvis, valvulae subæquales, obtusae, exteriore majore, concava, nervosa, ad basin tuberculata, interiore planiuscula.	◇ COROLLA composed of two valves, which are nearly equal, obtuse, the outer one largest, concave, ribbed, with a small tubercle at the base, the inner one nearly flat.
STAMINA: FILAMENTA tria, alba, capillaria; ANTHERÆ oblongae, utrinque bifidae, flavæ aut purpureæ.	◇ STAMINA: three, white, capillary FILAMENTS; ANTHERÆ oblong, bifid at each end, yellow or purple.
PISTILLUM: GERMEN ovatum, glabrum; STYLII duo, superne ramosi, inferne nudi, paulo infra apicem prodeuntes.	◇ PISTILLUM: GERMEN, ovate, smooth; STYLES two, branched above, naked below, proceeding from a little below the top.
NECTARIUM: squamula parva truncata ad basin germinis.	◇ NECTARY: a small truncated scale at the base of the germen.
SEMEN testum, hinc convexum, striatum, inde concavum, pallide fuscum.	◇ SEED covered, convex and striated on one side, concave on the other, of a pale brown colour.

The *Poa aquatica* is one of the largest as well as the most useful of our grasses; it constitutes a great part of the riches of Cambridgeshire, Lincolnshire, and other counties, where draining the land by means of windmills has taken place; immense tracts of territory that used to be overflowed and produce useless aquatics, but which still retain much moisture, are, by the above process, spontaneously covered with this grass, which not only affords rich pasturage for their cattle in the summer, but forms the chief part of their winter fodder.

It has a powerfully creeping root, and bears frequent mowing well (we have known it cut thrice in one season in the vicinity of the Thames); hence it is apt to gain the ascendancy over, rather than be overcome by other plants.

It grows not only in very moist ground, but in the water itself: like the Cats-tails, Burr-reed, and several other plants of that kind, it soon fills up the watery ditches which surround the meadows in which it grows, and occasions them to require frequent cleansing; in this respect it is a formidable plant, even in flow rivers.

In the Isle of Ely, they have a particular method of cleansing the rivers, which are liable to be soon choked up by the Arrow-head, Water-lilies, Reeds, &c. by means of an instrument called a Bear, which is an iron roller, in which a number of pieces of iron, like small spades, are fixed; this is drawn up and down the river by horses, which travel on the banks, and tearing up every plant by the roots, they float and are carried away by the stream.

The *Poa aquatica* not only affords sustenance to cattle, but is a favourite food of the Caterpillar of the Gold-spot Moth (*Phalæna Festuæ*, *Lin.*) which LINNÆUS describes as feeding on the *Festuca fluitans*, but which feeds with us chiefly on this grass: the Moth proceeding from this larva, is one of the most beautiful which this country produces; the Caterpillar being smooth and of a green colour, is not easily distinguished from the grass on which it feeds; when full-grown, it usually bends down the top of one of the leaves, and underneath it, makes a thin spinning, in which it changes to chrysalis; this spinning, from its whiteness, is easily discovered; but we must apprise our readers, that these Caterpillars are not very numerous, and that they will be fortunate if they find one or two after a long search; the Moth, Caterpillar, and Chrysalis, are figured in ALBIN'S English Insects; but a much better painting of the Moth may be seen in ROESEL, *Tom.* 1. *Tab.* 30. We have generally found them at the commencement of harvest, when the wheat has been in sheaf; the Moth comes forth in a week or two.

We observed in the Isle of Ely, a much larger Caterpillar, when full-grown, nearly the size of the *Ph. Potatoria*, hairy and very beautiful, not uncommon on this grass; but not having the proper convenience for breeding it, we are as yet unacquainted with the Moth it produces, but suspect it will prove a non-descript.

The *Poa aquatica* flowers as late as August and September.



Poa aquatica.

SHERARDIA ARVENSIS. FIELD SHERARDIA.

SHERARDIA *Lin. Gen. Pl. TETRANDRIA MONOGYNIA.*

Cor. 1-petala, infundibuliformis. *Semina* 2, tridentata.

Raii Syn. Gen. 12. HERBÆ STELLATÆ.

SHERARDIA *arvensis* foliis omnibus verticillatis, floribus terminalibus. *Lin. Syst. Vegetab.* p. 125. *Spec. Pl.* p. 149. *Fl. Suec.* n. 120.

SHERARDIA foliis fenis lanceolatis, floribus seffilibus umbellatis. *Haller. Hist.* n. 734.

SCHERARDIA *arvensis.* *Scopoli Fl. Carn.* n. 143.

RUBEOLA *arvensis* repens cærulea. *Baub. Pin.* 334.

RUBIA minor pratensis cærulea. *Parkins.* p. 276.

RUBEOLA parvo flore cæruleo se spargens. *I. B. III.* 719. *Raii Syn.* p. 225. Little field Madder. *Hudson Fl. Angl. ed. 2.* p. 66. *Lightfoot Fl. Scot.* p. 114.

RADIX annua, fibrosissima, fibrillis rufis.

CAULES palmares, spithamæi et ultra, humifusi, asperi, tetragoni.

FOLIA superiora verticillata, fena, seu quina, foliolis lanceolatis, inferiora numero sensim decrefcunt, et latiora fiunt, infima sæpius terna, ovata, femiverticillata, omnibus mucronatis, superne scabris.

FLORES umbellati, seffiles, parvi, læte purpurei.

PEDUNCULI axillares, solitarii, tetragoni, perfecta florescentia longitudine foliorum.

CALYX INVOLUCRUM octophyllum, foliolis lanceolatis, carinatis, ciliatis.

CALYX PERIANTHIUM parvum, 6-dentatum, superum, persistens, *fig.* 1.

COROLLA monopetala, infundibuliformis. *Tubus* cylindraceus, longus. *Limbus* quadripartitus, planus, laciniis acutis, *fig.* 2.

STAMINA: FILAMENTA quatuor ad apicem tubi posita, demisso polline reflexa. ANTHERÆ simplices, pallide purpureæ, *fig.* 3.

PISTILLUM: GERMEN didy mum, oblongum, inferum, *fig.* 4. STYLUS filiformis, superne bifidus. STIGMATA capitata, *fig.* 5.

PERICARPIUM nullum; fructus oblongus, coronatus, longitudinaliter in duo semina separabilis.

SEMINA bina, oblonga, apice tribus acuminibus notata, hinc convexa inde plana, *fig.* 6, 7.

ROOT annual, extremely fibrous, the small fibres reddish brown.

STALKS a hand's breadth, half a foot or more in length, laying on the ground, rough and four-cornered.

LEAVES: those on the upper part of the stalk growing in whirls, five or six together, the leaves lanceolate, the lower leaves gradually decreasing in number, and becoming broader, the lowermost generally growing three together, ovate, and forming half a whirl, all of them terminating in a short point, and rough on the upper side.

FLOWERS growing in umbels, seffile, small, of a bright purple colour.

FLOWER-STALKS growing from the axæ of the leaves, solitary, four-cornered, when the flowering is over the length of the leaves.

CALYX: an INVOLUCRUM of eight leaves, which are lanceolate, keeled and edged with hairs.

CALYX: a small PERIANTHIUM, having six teeth, placed on the top of the germen and permanent, *fig.* 1.

COROLLA monopetalous, funnel-shaped. *Tube* cylindrical and long. *Limb* flat, divided into four sharp segments, *fig.* 2.

STAMINA: four FILAMENTS placed at the top of the tube, turning back on the shedding of the pollen. ANTHERÆ simple, pale purple, *fig.* 3.

PISTILLUM: GERMEN double, oblong, beneath the calyx, *fig.* 4. STYLE filiform, bifid at top. STIGMATA forming two small heads, *fig.* 5.

SEED-VESSEL none; the fruit oblong, crowned, separable longitudinally into two seeds.

SEEDS two together, oblong, furnished at top with three points, convex on one side and flat on the other, *fig.* 6, 7.

TOURNEFORT considered this plant as a species of *Aparine*. The more accurate DILLENIUS made a new genus of it, to which he gave the name of his friend and patron, that excellent English Botanist DR. SHERARD. *Vid. Dill. Nov. Pl. Gen.* p. 96.

This small annual is a native of our corn fields, and common almost every where, flowering during the greatest part of the summer.

There is a neatness in its blossoms almost sufficient to recommend it as an ornamental plant: to any other use it does not appear to have the least pretensions.



Sherardia arvensis.

J. Tournefort del. et fecit.



Sagina *apetala*.

SAGINA APETALA. ANNUAL PEARL-WORT.

SAGINA *Lin. Gen. Pl.* TETRANDRIA TETRAGYNIA.

Cal. 4-phyllus. *Petala* 4. *Caps.* 1-locularis, 4-valvis, polysperma.

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

SAGINA *apetala* radice annua, caule erectiusculo pubescente.

SAGINA *apetala* caule erectiusculo pubescente, floribus alternis apetalis. *Lin. Mantiff.* 559. *Syst. Vegetab.* p. 142.

SAGINA caulibus erectis, radice annua, floribus apetalis. *Ard Spec.* 2. p. 22. t. 8. fig. 1.

SAXIFRAGA Anglica Alfinefolia annua. *D. Plot Hist. Nat. Oxf.* c. 6. § 9. t. 9. f. 7. *Raii Syn.* p. 345. Annual Pearl wort.

ALSINE Saxifraga graminifolia, flosculis tetrapetalis herbidis et muscosis. *Pluk. Alm.* t. 74. f. 2.

SAGINA procumbens var. *Æ.* *Hudson Fl. Angl. ed.* 2. p. 73.

RADIX annua, fibrosa.

CAULES plures, primo procumbentes, demum erecti, unciales, triunciales et ultra, teretes, filiformes, hispiduli, nodosi.

FOLIA opposita, lineari-subulata, brevia, mucronata, hispidula.

FLORES alterni, pedunculati.

PEDUNCULI apice primo nutantes, demum erecti, pilis raris vestiti.

CALYX: PERIANTHIUM tetraphyllum subinde pentaphyllum, foliolis ovatis, obtusis, concavis, lævibus, persistentibus, marginibus purpurascens, fig. 1.

COROLLA: PETALA plerumque quatuor, minutissima, nudo oculo vix conspicua, alba, obcordata, fig. 2.

STAMINA: FILAMENTA quatuor alba, calyce breviora. ANTHERÆ albæ, fig. 3.

PISTILLUM et Capsula ut in Sagina procumbente.

ROOT annual and fibrous.

STALKS several, at first procumbent, afterwards upright, from one to three inches or more in height, round, filiform, somewhat hispid, and jointed.

LEAVES opposite, linear, and somewhat awl-shaped, short, terminated by a fine point, and somewhat hispid.

FLOWERS alternate, and standing on foot-stalks.

FLOWER-STALKS first drooping at top, finally upright, covered with a few hairs.

CALYX: a PERIANTHIUM of four, sometimes five, ovate, obtuse, hollow, smooth, permanent leaves, with purplish edges, fig. 1.

COROLLA: generally composed of four PETALS, which are extremely small, and scarcely visible to the naked eye, white and inversely heart-shaped, fig. 2.

STAMINA: four white FILAMENTS, shorter than the calyx. ANTHERÆ white, fig. 3.

PISTILLUM and Capsule as in the procumbent Pearl-wort.

Mr. RAY, in his Synopsis, considers this species as distinct from the *procumbens*; and informs us, that it differs from it not only in the colour of its stalks and leaves, which are of a browner hue, but that it has an annual root; and that it does not put forth roots at the joints as the *procumbens* does, he refers to a figure given of it by PLOT in his Natural History of Oxfordshire.

Notwithstanding RAY's description, and PLOT's figure, LINNÆUS, in his *Spec. Plant.* considered it only as a variety of the *procumbens*; but afterwards, more fully convinced by the description and figure given of this plant by ARDUINI, an Italian Botanist, he adopts it in his second *Mantissa* as a species. It appears, by Mr. HUDSON's quotations, that he has been no stranger to the observations of these authors; but, in opposition to them all, he continues it only as a variety.

From a thorough conviction of the propriety of Mr. RAY's conduct in making it a species, we have given a separate figure of it, and shall not only confirm his account, but give a few additional remarks of our own, which we presume may finally settle this matter.

The distinction of an annual and perennial root, though it cannot be admitted, perhaps, in all cases as a specific character, must be allowed to have considerable weight. To ascertain the constancy of this character we have for several years cultivated the two plants close together, on a wall with partitions containing earth; the result has been that the *apetala* has proved as regular an annual as the *Draba verna*, while the *procumbens* has continued green through the winter; and we have no doubt but this always is the case with these plants, when they grow in their natural situations.

The *procumbens* is always procumbent; and when it grows, as it most commonly does, in moist situations, it mats and spreads on the ground. The stalks of the *apetala*, when the plant is young, spread on the ground; but as it advances to maturity they rise up, and, if several grow together, become quite erect. Where the plants grow singly, and in a dry situation, they neither acquire the same height, nor the same degree of uprightiness. Sometimes this species is found on moist shady walls, much taller and more branched than the specimens we have figured; but whether the plants of the *apetala* be small or large, their stalks and leaves are always hairy; while in the *procumbens* they are perfectly smooth, the hairs are visible to the naked eye, and when magnified have no little globules at their extremities, as those of the *Spergula saginoides* have, which comes very near in its appearance to the Pearl-wort: thus we find these three difficult plants may, with certainty, be distinguished by their stalks alone.

The *apetala* is a smaller plant than the *procumbens*, and much finer in its stalks. Its leaves are also shorter by almost one-half, and less succulent; and these, so far we have observed, are the chief differences.

From its name one would be led to suppose, that it was perfectly apetalous; and both LINNÆUS and ARDUINI describe it as such. We have generally found it with petals; but so minute, indeed, as almost to require a magnifier to render them visible. These petals we have given a magnified view of, and have represented the plant in the several states in which it is found in dry situations.

Mr. RAY does not appear to have had an idea of its being a common plant, as he mentions the particular spots where it was to be found: with us there is no plant more abundant, especially on walls, in gravel walks, where it is a troublesome weed, and on barren heaths.

It flowers in *May* and *June*. There is, perhaps, scarce any plant that is quicker in ripening its seeds.

In our examination of this plant we found the egg of a very small moth glued to an unripe capsule, the seeds of which were probably destined to feed its caterpillar.

POTAMOGETON CRISPUM. CURLED PONDWEED, OR GREATER WATER CALTROPS.

POTAMOGETON *Lin. Gen. Pl.* TETRANDRIA TETRAGYNIA.

Cal. 6. *Petala* 4. *Stylus* 0. *Sem.* 4.

Raii Syn. Gen. 5. HERBÆ FLORE IMPERFECTO SEU STAMINEO VEL APETALO
POTIUS.

POTAMOGETON *crispum* foliis lanceolatis alternis oppositifve undulatis ferratis. *Lin. Syst. Vegetab.*
p. 141. *Sp. Pl.* p. 183. *Fl. Succ.* n. 148.

POTAMOGETON. *Hall. Hist.* n. 848.

POTAMOGETON *crispum.* *Scopoli Fl. Carn.* n. 181.

POTAMOGETON foliis crispis feu lactuca ranarum, *Baub.* p. 465.

POTAMOGETON feu fontinalis crispa. *I. B. III.* p. 778.

TRIBULUS aquaticus minor *Quercus floribus.* *Ger. em.* 1282.

TRIBULUS aquaticus minor prior. *Park.* 1248. *Raii Syn.* p. 149. The greater Water Caltrops.
Hudson Fl. Angl. p. 75. *Lightfoot Fl. Scot.* p. 122..

RADIX perennis, repens.	ROOT perennial and creeping.
CAULES plurimi, variæ longitudinis, fordide carnei, subdiaphani, compressi, utrinque sulcati, ramosi.	STALKS numerous, of various lengths, of a dirty flesh colour, somewhat transparent, flattened, with a groove on each side, and branched.
VAGINÆ breves, concolores, vix distinguendæ.	SHEATHS short, of the same colour as the stalks, scarcely to be distinguished.
FOLIA sessilia, lanceolata, obtusa, subdiaphana, crispa, scariofa, nitida, trinervia, ferrulata, inferioribus alternis, superioribus oppositis.	LEAVES sessile, lanceolate, obtuse, somewhat transparent, curled, sonorous to the touch, shining, three-ribbed, sharply and finely serrated, the lower ones alternate, the upper ones opposite.
PEDUNCULI axillares, bi seu triunciales, crassiusculi, subcompressi.	GENERAL FLOWER-STALKS growing from the axæ of the leaves, two or three inches in length, thickish, and somewhat flattened.
FLORES spicati, sex five octo, sessiles.	FLOWERS six or eight, growing in a spike, and sessile.
CALYX nullus.	CALYX wanting.
COROLLA: PETALA quatuor, subrotunda, obtusa, concava, unguiculata, primo erecta, dein patentia, decidua, e fusco viridia, fig. 1.	COROLLA: four PETALS, roundish, obtuse, hollow, connected by a little claw, at first upright, afterwards spreading and deciduous, of a greenish brown colour, fig. 1.
STAMINA: FILAMENTA quatuor, brevissima, vix distinguenda. ANTHERÆ breves, didymæ, albæ, fig. 2.	STAMINA: four FILAMENTS, very short, scarcely to be distinguished. ANTHERÆ short, having two separate lobes, of a white colour, fig. 2.
PISTILLUM: GERMINA quatuor, ovato-acuminata. STYLUS nullus. STIGMATA obtusa, fig. 3.	PISTILLUM: GERMINA four, ovate, with a long point. STYLE none. STIGMATA obtuse, fig. 3.
SEMINA quatuor, nuda, majuscula, fordide virentia, utrinque compressa, externe ad basin denticulata, fig. 4.	SEEDS four, naked, rather large, of a dirty green, flattened on each side, toothed externally at the base, fig. 4.

Most of the plants of this *genus* have creeping roots, which penetrating easily through the mud, cause them to spread very fast, so as soon to fill up a pond or slow river, if unmolested.

We have observed, that ducks very readily eat not only the seeds, but the leaves of the present species, which is one of the most common. The introduction of water-fowl may therefore probably prevent this species at least, and perhaps some of the others, from increasing too much.

It flowers in *June* and *July*.



Potamogeton crispum



Atropa Belladonna.

J. Sowerby del. et sculp.

ATROPA BELLADONNA. DWALE, OR DEADLY NIGHTSHADE.

ATROPA *Lin. Gen. Pl.* PENTANDRIA MONOGYNIA.

Cor. campanulata. Stam. distantia. Bacca globosa, 2-locularis.

Raii Syn. Gen. 16. Herbae Bacciferæ.

ATROPA *Belladonna* caule herbaceo, foliis ovatis integris. *Lin. Syst. Vegetab. ed. 14. p. 221. Sp. Plant. p. 260.*

BELLADONNA caule herbaceo, brachiato, foliis ovato lanceolatis, integerrimis. *Haller. Hist. n. 579.*

BELLADONNA *trichotoma. Scopoli Fl. Carn. n. 255.*

SOLANUM *melanocerafus. Bauh. pin. 166.*

SOLANUM *lethale. Ger. emac. 340. Parkinsf. 346. Raii Syn. p. 265. Deadly Nightshade, Dwale. Hudson Fl. Angl. p. 93. Lightfoot Fl. Scot. p. 144. Jacquin Fl. Austr. t. 309.*

RADIX perennis, crassa, albida, ramosa, repens.	◇ ROOT perennial, thick, whitish, branched, and creeping.
CAULES plures, basi digitum crassi, tripedales et ultra, erecti, herbacei, teretes, ramosi, in apicis fordide purpurei, pubescentes.	◇ STALKS several, at bottom the thickness of one's finger, three feet or more high, upright, herbaceous, round, branched, in exposed situations of a dingy purple colour, downy.
FOLIA petiolata, ovata, acuta, integerrima, utrinque lævia, venosa, ad latera caulis ramorumque gemina et magnitudine inæqualia, inter quæ pedunculus uniflorus et sæpius solitarius egreditur.	◇ LEAVES standing on footstalks, ovate, pointed, perfectly entire, smooth on both sides, veiny, growing in pairs (but unequal in size) from the sides of the stalks, from betwixt them rises the flower-stalk supporting one flower, and usually single.
PEDUNCULI teretes, viscidi, ad flores paululum incrassati.	◇ FLOWER-STALKS round, viscid, thickened somewhat next the flowers.
FLORES cernui, inodori, fordide purpurei, subviscidi, externe nitidi, venosi.	◇ FLOWERS drooping, scentless, of a dingy purple colour, somewhat viscid, externally glossy and veiny.
CALYX: PERIANTHIUM monophyllum, quinquepartitum, angulatum, laciniis ovato-acuminatis, inæqualibus, viscosis, fig. 1.	◇ CALYX: a PERIANTHIUM of one leaf, deeply divided into five segments, angular, the segments ovato-acuminate, unequal, and viscid, fig. 1.
COROLLA monopetala, campanulata; Tubus brevissimus, albus, subpentagonus; Limbus ventricosus, ovatus, ore quinquefido, patulo, laciniis subæqualibus, fig. 2.	◇ COROLLA monopetalous, bell-shaped; Tube very short, white, slightly five-cornered; Limb bellying out, ovate, mouth spreading, divided into five equal segments, fig. 2.
STAMINA: FILAMENTA quinque, albida, quorum duo paulo breviora, inferne paulo crassiora, pilosa, apice incurva, longitudine tubi; ANTHERÆ magnæ, didymæ, lutescentes, remotæ, fig. 3.	◇ STAMINA: five FILAMENTS, whitish, two of which are a little shorter than the rest, somewhat thickest towards the base, and hairy, bent down at top, the length of the tube; ANTHERÆ large, double, yellowish, and remote, fig. 3.
PISTILLUM: GERMEN femiovatum, utrinque fuscum, ad basin glandula lutescente cinctum; STYLUS filiformis, staminibus longior, inclinatus; STIGMA capitatum, assurgens, transverso-oblongum, bilabiatum, viride, fig. 4.	◇ PISTILLUM: GERMEN femiovate, with a groove on each side, surrounded at bottom with a yellowish gland; STYLE thread-shaped, longer than the stamina, inclined downwards; STIGMA forming a little head, transversely oblong, two-lip'd, of a green colour, fig. 4.
PERICARPIUM: BACCA atra, nitida, subrotunda, saporis dulcis, bilocularis, fig. 5, 6.	◇ SEED-VESSEL: a black, glossy, roundish BERRY, of a sweet taste, with two cavities, fig. 5, 6.
SEMINA plurima, fusca, irregularia, fig. 7.	◇ SEEDS numerous, brown, and irregular in shape, fig. 7.
Obs. Semina fufcescunt priusquam Bacca nigrescit.	◇ Obs. The seeds turn brown before the Berry becomes black.

The rage for building, joined to the numerous alterations perpetually making in the environs of London, have been the means of extirpating many plants which formerly grew plentifully around us. To this cause we are to attribute the loss of the present plant, which the late Sir WILLIAM WATSON and Mr. STANESBY ALCHORNE of the Tower, gentlemen eminent for their knowledge of British plants, have often assured me grew, within their remembrance, in several places near town; happily we are now under the necessity of going much further into the country, if we wish to see it grow wild. We have frequently noticed it in many of the chalk-pits in Kent, and in both shady and exposed situations elsewhere; in particular, we remember to have seen it growing in great abundance on Keep-Hill, near High Wycomb, Buckinghamshire. Close by the spot where we observed it, there chanced to be a little boy; I asked him, if he knew the plant? He answered "Yes; it was *naughty man's cherries*." I then inquired of him, if he had ever eaten any of the berries? He said he had, with several other children from an adjoining poor-house, and that it made them all very sick, but that none of them had died.

Was not this plant studiously destroyed wherever it is found wild, it would be much more common than it is; for there are few plants to which nature has been so liberal in the means of increase: it has a very large perennial root, which runs deep into the earth, multiplies greatly, and frequently creeps under ground to a great distance; added to this, its berries are very numerous, and contain a prodigious quantity of seeds.

Forbidding

Forbidding as this plant may appear to some, its large glossy berries are certainly a great temptation to children; and, therefore, gentlemen, if they have the plant in their gardens, should never suffer it to ripen its fruit.

It flowers in June and July; its berries are ripe in August and September.

Numerous instances of the pernicious, and even deleterious effects of the deadly Nightshade are on record; among others, such of our readers as are fond of history will not be displeas'd with the prolixity of the following account taken from *Blair's Pharmaco-Botanologia*, p. 81.

“ The *Solanum Lethale* seems to produce the same effects with the *Hyoscyamus*, *Cynoglossum*, and other intense Narcotics, which usually, before they affect the person with sleep, produce *delirious* and *maniacal* symptoms; however it is an *herb* of so pernicious a nature, that scarce any Author who treats of it fails, from proper observation, or good information, to give dismal instances of its bad effects. *Simon Pauli* refers us to *Lobelius* his *Adversaria*, and *Bodeus à Stapel*. Mr. *Ray*'s account of what happened to a Mendicant Friar, upon the taking a glass of the infusion of it in *mallow wine*, gives a good account of the various symptoms it produces. In a short time, he became *delirious*, after a little (*Cachinne*) a grinning laughter like the *Rifus Sardonicus* succeeded; after that several irregular motions; and at last a real *madness*, and such a stupidity as those that are sottishly drunk have: which after all was cured by a draught of vinegar. Mr. *Miller* mentions several Children at *Croydon*, who not long since were poisoned. Another instance of its bad effects has fallen under my own observation: two or three persons not far from hence, having got into a gentleman's garden, were delighted with the black berries of the *Solanum Lethale*, and eat some of them; it was very pleasant (within a short time after) to see their frantic humours, gestures, and speeches: but upon their taking of emetics in due time, they were cured. It is worthy of recital what Mr. *Ray* tells us happened to a *Lady of Quality* of his acquaintance, who having a small ulcer a little below her eye, which she suspected to be cancerous; she applied a bit of the leaf of this *Solanum*, which so relaxed the *Tunica Uvea* in one night, that she could not contract the *Pupilla* the next day, so that the *Pupilla* of the one eye was four times as big as the other; and upon the removal of the leaf, the fibres recovered their muscular tone by degrees: and, lest this should seem to be merely accidental, she repeated the experiment three times, at which Mr. *Ray* himself was present.

“ But the most memorable instance of the direful effects of this *Plant* is to be seen recorded by the celebrated *Buchanan*, in his History of Scotland; by which we may observe how the Almighty God can convert the most deadly poisons into the fittest antidotes, for those whom he has a mind to preserve. This obliges me to make a digression, not altogether unsuitable, since it gives the *botanical* description of a *Plant*, writ about a hundred and fifty years ago, by one who himself was no professed *Botanist*, the use made of it, and the wonderful effects it produced.

“ In the reign of *Duncan I. King of Scotland* (who was afterwards murdered by *Mackbeth the Tyrant*) *Harold the Dane* invaded *England*, not long before the days of *King William the Conqueror*: *Sveno*, his brother, at the same time invaded *Scotland*. Upon his landing in *Fife*, he obtained a signal victory, which obliged the *King of Scotland*, with the remainder of his routed forces, to retire to *Bertha* (an ancient town of great note situated on the river *Tay*, which was not long after destroyed by an inundation, and out of whose ruins the town of *Perth* was built, and now stands upon the same river, two miles nearer the sea) and pursued them so closely, that he laid siege to the town both by land and water. The *Scots* were put to great straits, not for want of provisions, but for want of *men* to repel the besiegers. *King Duncan* was a peaceable unactive man; he had sometime before committed the government to the management of *Bancho*, of a cunning and subtle wit; and to *Mackbeth*, of a fierce, bold, aspiring spirit. *Mackbeth* went to the country to raise a reinforcement, while *Bancho* treated with the enemy, and first obtained a cessation of arms, and then spun out time by framing of articles of peace. The *Danes* wanted provisions, but abounded with men; the *Scots* abounded in provisions, but wanted men. The truce was equally acceptable to both, especially to the *Danes*, who for the present expected plenty of all things, and for the future the conquest of a whole kingdom. Care was immediately taken by the *Scots* to afford them all manner of liquors, both wine and ale, and they continued to mix with them a good quantity of the Deadly Nightshade (this *Solanum Lethale*, or *Somniferum*) of which we now treat. The bait took; the *Danes* drank plentifully, and were all intoxicated: mad with this poisonous juice, and asleep through drunkenness, the *Scots* fell upon them, killed the most part, and, with much ado, a few remaining got to their vessels; while their befotted *King* was carried, like a sack-load, upon a beast down to the river, where there were scarce failors enough saved from the slaughter to man the vessels.”

DEERING relates, that a friend of his, a *Dr. Medley*, has several times eaten three or four of the berries, without receiving any hurt: and *HALLER* mentions his having seen a medical student swallow several. It is probable that these berries will not kill, unless many are eaten, but perhaps this poison, like many others, may act differently on different constitutions.

Vinegar has been recommended as an antidote to its poison; but powerful evacuations, particularly vomiting, are most to be depended on. In cases where a poison of this kind is known to have been swallowed, the medical practitioner will be justified in a bold practice, for his patient is not only in a very dangerous situation, but the effect of emetics has been known to be lessened by the poison, so that fourteen grains of Emetic Tartar have been scarcely sufficient to excite vomiting.

Many substances, which in large quantities, or injudiciously administered, have proved poisonous, in small doses, skilfully exhibited, have been found extremely efficacious in the cure of diseases, and hence this, as well as other plants have been tried, particularly in such disorders as have no impression made on them by common remedies; but after numerous trials, there appears but little hopes of success from the *Atropa Belladonna*.

Such as wish to know the particular diseases against which the Deadly and the Garden Nightshades have been directed, with the various symptoms they have produced on being taken, may consult *GATAKER'S Observations on the Internal Use of the Nightshade, with the Supplement*; and *BROMFIELD'S Account of the English Nightshades, and their Effects*, 1757.

We have seen a goat eat, without injury, the leaves and stalks; and the caterpillar of the *Phalæna Antiqua*, *Roefel t. 39*, and *Brassicæ Roefel t. 29*, feed on its foliage.

LYCOPSIS ARVENSIS. FIELD, or SMALL WILD BUGLOSS.

LYCOPSIS *Lin. Gen. Pl.* PENTANDRIA MONOGYNIA.
Corolla tubo incurvato.

Raii Syn. Gen. 13. HERBÆ ASPERIFOLIÆ.

LYCOPSIS *arvensis* foliis lanceolatis hispidis, calycibus florecentibus erectis. *Lin. Syst. Vegetab.*
p. 160. *Sp. Pl.* *p.* 199. *Fl. Succ. n.* 167. *Fl. Lappon* 77.

LYCOPSIS foliis asperrimis, undulatis, ferratis, linguiformibus. *Hall. hist.* 605.

ECHIUM Fuchii seu Borrage sylvestris. *I. B. III.* 581.

BUGLOSSUM sylvestre minus. *Bauh. pin.* 256. *Parkinsf.* 765. *Dillen. Nov. Gen. Tab.* 3.

BUGLOSSA sylvestris minor. *Ger. emac.* 799. *Raii Syn.* *p.* 227. *Hudson. Fl. Angl.* *p.* 82.
Lightfoot Fl. Scot. *p.* 135.

RADIX annua, simplex, fibrosa, albida.	◇ ROOT annual, simple, fibrous, and whitish.
CAULIS pedalis, et ultra, erectus, subangulosus, hispidus, plerumque superne tantum ramifusus.	◇ STALK a foot or more in height, upright, slightly angular, hispid, for the most part branched at top only.
FOLIA alterna, sessilia, lanceolata, obtusiuscula, papilloso-hispida, subtus pallidiora, avenia, margine undulata, subrevoluta.	◇ LEAVES alternate, sessile, lanceolate, bluntish, hispid, hairs issuing from small papillæ, palest on the under side, veinless, waved at the edge, and slightly rolled back.
FLORES cærulei, spicati, secundi, sessiles, deorsum spectantes.	◇ FLOWERS blue, growing in spikes, all one way, sessile, and turned backward.
BRACTEÆ foliis subfimiles.	◇ FLORAL-LEAVES somewhat like the leaves themselves.
CALYX: PERIANTHIUM, quinquepartitum, hispidum, persistens, laciniis oblongis, acutis, longitudine fere corollæ.	◇ CALYX: a PERIANTHIUM deeply divided into five segments, hispid, and permanent; the segments oblong, pointed, and almost the length of the corolla.
COROLLA monopetala, infundibuliformis; <i>tubus</i> cylindraceus, curvato-flexus, <i>fig. 2.</i> <i>limbus</i> femiquinquefidus, obtusus; <i>faux</i> clausa squamulis quinque, pilosis, albis, <i>fig. 3.</i>	◇ COROLLA monopetalous, funnel-shaped; <i>tube</i> cylindrical, crooked, <i>fig. 2.</i> <i>limb</i> slightly divided into five segments, obtuse; <i>mouth</i> closed by five, small, white, hairy scales, <i>fig. 3.</i>
STAMINA: FILAMENTA quinque, minima, ad flexuram tubi corollæ; ANTHERÆ parvæ, fuscæ, <i>fig. 4.</i>	◇ STAMINA: five FILAMENTS, very minute, at the curvature of the tube of the corolla; ANTHERÆ small and brown, <i>fig. 4.</i>
PISTILLUM: GERMINA quatuor, viridia, glabra; STYLUS filiformis, longitudine staminum; STIGMA obtusum, subbifidum, <i>fig. 5.</i>	◇ PISTILLUM: GERMINA four, green and smooth; STYLE filiform, the length of the stamina; STIGMA obtuse and slightly bifid, <i>fig. 5.</i>
PERICARPIUM nullum, <i>Calyx</i> finu femina fovens, maximus, laciniis conniventibus donec femina nigrescant deinde patentibus.	◇ SEED-VESSEL none, the <i>Calyx</i> which contains the seed in its bosom, is very large, closing together till the seeds grow black, and then spreading.
SEMINA quatuor, majuscula, nigricantia, reticulato-rugosa, acutiuscula, <i>fig. 6.</i>	◇ SEEDS four, largish, nearly black, with a reticulated or wrinkly surface, and a little pointed, <i>fig. 6.</i>
RECEPTACULUM punctis quatuor fuscis excavatis notatum.	◇ RECEPTACLE marked with four round dots, hollowed out.

The *Lycopsis Arvensis* is a very common plant in the corn fields, especially such as are sandy, and on dry banks, in the neighbourhood of London. We have sometimes seen it so plentiful as to be highly injurious to the husbandman: it may be found in blossom from May to July.

The following account of the medicinal virtues of this plant, appeared lately in most of our newspapers: without vouching for the truth of the report, we have thought it our duty to lay it before our readers, with a sincere wish that the herb may prove as efficacious in its application, as is here represented.

“The celebrated M. JEAN FONTANA, Member of the learned academy of Turin, has lately published, for the general good of suffering mankind, a specific remedy against the ANTHRAX, or corrosive ulcer, otherwise called Carbuncle, or Plague-Sore. The curative prescription was communicated to him by the person who has administered it for many years to patients of that description, and with constant success. It consists simply in the use of a field-plant, called by Linnæus, LYCOPSIS ARVENSIS. Bruise and pound the plant; lay it on the tumour; fix it there by means of a bandage, and do not touch it before it hath remained twenty-four hours. During the first six or seven hours, the patient will feel a painful and burning heat in the part. It often happens that on taking off the first apparel, the slough gets loose and discovers a wound, which heals in a few days, by applying to it a plaster of the unguent called *Bastlicon*. If the case should be otherwise, the first method of cure must be repeated. This second application of the bruised plant, which will not occasion above two hours pain to the patient, will be fully sufficient to remove the slough, and then the use of the above plaster effects a speedy and radical cure.”



Lycopsis arvensis.

J. Sowerby del. et sculp.



Lysimachia nemorum.

LYSIMACHIA NEMORUM. WOOD MONEYWORT, or LOOSESTRIFE.

LYSIMACHIA *Linnaei Gen. Pl.* PENTANDRIA MONOGYNIA.

Cor. rotata. Caps. globosa, mucronata, 10-valvis.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

LYSIMACHIA *nemorum* foliis ovatis acutis, floribus solitariis, caule procumbente. *Lin. Syst. Vegetab. p. 165. Sp. Pl. p. 211.*

LYSIMACHIA caule decumbente, foliis ovato-lanceolatis, petiolis alaribus unifloris. *Haller hist. p. 278.*

ANAGALLIS lutea nemorum. *Bauhin Pin. p. 252.*

ANAGALLIS lutea. *Gerard emac. 618.*

ANAGALLIS flore luteo. *Parkinsf. 558.*

ANAGALLIS lutea nummulariæ similis. *J. Bauh. III. 370. Raii Syn. p. 282. Yellow Pimpernel of the Woods. Hudson Fl. Ang. p. 86. Lightfoot Fl. Scot. p. 138.*

RADIX perennis, fibrosa, fibris albidis.	◇ ROOT perennial, fibrous, the fibres whitish.
CAULES plures, decumbentes, teretiusculi, utrinque fulcati, idque alterne, læves, rubentes, ex ima parte radicanes.	◇ STALKS several, decumbent, roundish, with a fur- row on each side, and that alternately, smooth, of a red colour, striking root at the base.
FOLIA opposita, petiolata, ovata, acuta, utrinque glabra, subundulata, e flavo-viridia, venis prominulis; petiolis brevibus, latiusculis.	◇ LEAVES opposite, standing on foot-stalks, ovate, pointed, glossy on each side, somewhat waved, of a yellowish-green colour, the veins a little prominent; leaf-stalks short and broadish.
PEDUNCULI axillares, bini five solitarii, teretes, uniflori, tenues, quam folia longiores.	◇ FLOWER-STALKS axillary, growing sometimes in pairs, sometimes singly, round, one-flower'd, slender, and longer than the leaves.
CALYX: PERIANTHIUM quinquepartitum, persistens, laciniis subulatis, subtriangularibus, <i>fig. 1.</i>	◇ CALYX: a PERIANTHIUM deeply divided into five segments, and permanent, the segments awl- shaped, and somewhat triangular, <i>fig. 1.</i>
COROLLA monopetala, flava, <i>tubus</i> nullus; limbus quinquepartitus, laciniis ovatis, <i>fig. 2. 3.</i> basi saturatius flavis, nitidisque, in fauce co- rollæ glandulæ flavæ inter filamenta locantur, et margo corollæ glandulis pedicellatis or- natur, <i>fig. 6.</i>	◇ COROLLA monopetalous, yellow, <i>tube</i> wanting, the limb divided into five ovate segments, <i>fig. 2.</i> <i>3.</i> at bottom more intensely yellow and shining, in the mouth of the corolla small yel- low glands are observable betwixt the fila- ments, and the edge of the corolla is orna- mented with little glands standing on foot- stalks, <i>fig. 6.</i>
STAMINA: FILAMENTA quinque, lævia erecta, medio paulo crassiora; ANTHERÆ oblongæ, incurvatæ, <i>fig. 4. 5.</i>	◇ STAMINA: five FILAMENTS, smooth, upright, somewhat thickest in the middle; ANTHERÆ oblong, bent a little downwards, <i>fig. 4. 5.</i>
PISTILLUM: GERMEN subrotundum, læve; STY- LUS filiformis, apice paulo crassior; STIGMA simplex, <i>fig. 7.</i>	◇ PISTILLUM: GERMEN roundish, smooth; STYLE filiform, somewhat thickest at top; STIGMA simple, <i>fig. 7.</i>
PERICARPIUM: CAPSULA globosa, unilocularis, <i>fig. 8.</i>	◇ SEED-VESSEL: a globular CAPSULE of one cavity, <i>fig. 8.</i>
SEMINA plurima, orbiculata, plana, <i>fig. 9.</i>	◇ SEEDS numerous, round, and flat, <i>fig. 9.</i>

When the blossoms of this plant are expanded, they somewhat resemble those of the common Pimpernel in shape, and hence the older Botanists, who paid little regard to such minute but necessary distinctions, as the hairiness of the Filaments, &c. considered it as an *Anagallis*; LINNÆUS has joined it with the Moneywort, to which, in its general habit, it bears no small affinity, but from which it essentially differs in many particulars; the leaves, for instance, are more pointed, the flowers are smaller, less bell-shaped, and stand on much longer foot-stalks, and the stalks are generally redder.

This species grows in moist woods, and is not uncommon in the neighbourhood of London; in Charlton-Wood it particularly abounds, flowering from June to September.



Lysemachia vulgaris.

LYSIMACHIA VULGARIS. YELLOW LOOSE-STRIFE.

LYSIMACHIA *Lin. Gen. Pl.* PENTANDRIA MONOGYNIA.

Cor. rotata. *Capsf.* globosa, mucronata, decemvalvis.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

LYSIMACHIA *vulgaris* paniculata, racemis terminalibus. *Lin. Syst. Vegetab.* p. 165. *Sp. Pl.* p. 209. *Fl. Suecic.* n. 175.

LYSIMACHIA foliis ovato-lanceolatis, spicis paniculatis. *Hall. Hist.* 630.

LYSIMACHIA *vulgaris.* *Scopoli Fl. Carn.* n. 214.

LYSIMACHIA lutea. *I. B. II.* 901. *Ger. emac.* 474.

LYSIMACHIA lutea major quæ Diofcoridis. *Baub. Pin.* 245.

LYSIMACHIA lutea major vulgaris. *Park.* 544. Yellow Willow-herb or Loose strife. *Raii Syn.* 282. *Hudson Fl. Angl. ed. 2.* p. 86. *Lightfoot Fl. Scot.* p. 138.

RADIX perennis, repens.

CAULIS tripedalis et ultra, erectus, ubi folia bina obtuse tetragonus, ubi terna sulcatus, seu angulosus, angulis obtusis; superne hirsutus, inferne glaber, ramofus, ad genicula paululum incrassatus.

FOLIA bina, feu terna, quaterna et quina etiam observavi, sessilia, ovato-lanceolata, integra, margine inæquali, venosa, nuda.

FLORES paniculati, lutei, racemis terminalibus ex alis foliorum.

PEDUNCULI uniflori, subviscidi, apice incrassati.

CALYX: PERIANTHIUM monophyllum, quinquepartitum, acutum, erectum, persistens, laciniis striatis, rubro marginatis, apicibus ante et post florescentiam tortuosis. *fig. 1.*

COROLLA monopetala, rotata. *Limb* quinquepartitus, laciniis ovatis, acutis. *fig. 2.*

STAMINA: FILAMENTA quinque, inæqualia, corolla breviora, subulata, compressa, viscosa, basi connata. ANTHERÆ incumbentes, subsagittatae. *fig. 3.*

PISTILLUM: GERMEN subrotundum. STYLUS filiformis, longitudine staminum, peractâ florescentiâ elongatus. STIGMA obtusum. *fig. 4.*

PERICARPIUM: CAPSULA globosa, unilocularis, decemvalvis.

SEMINA plurima, minima.

RECEPTACULUM globosum, maximum.

ROOT perennial and creeping.

STALK three feet or more in height, when the leaves grow in pairs, obtusely four-cornered; when three together, grooved or angular, angles obtuse, the upper part of the stalk slightly hairy, the lower smooth, branched, and a little thickened at the joints.

LEAVES growing in pairs, or three together, I have even noticed them growing four or five together, sessile, ovate and pointed, entire but not perfectly even on the edges, veiny and destitute of hairs.

FLOWERS yellow, forming a panicle, flower-branches terminal, growing from the axæ of the leaves.

FLOWER-STALKS single-flowered, somewhat viscid, and thickened at the extremity.

CALYX: a PERIANTHIUM of one leaf, deeply divided into five segments, pointed, upright, and permanent, the segments striated, and edged with red, the tips both before and after flowering twisted. *fig. 1.*

COROLLA monopetalous, wheel-shaped. *Limb* deeply divided into five segments, which are ovate and pointed. *fig. 2.*

STAMINA: five FILAMENTS, unequal, shorter than the corolla, tapering, flattened, viscid, growing together at bottom. ANTHERÆ incumbent, somewhat arrow-shaped. *fig. 3.*

PISTILLUM: GERMEN roundish. STYLE filiform, the length of the stamina, lengthened out as the flowers go off. STIGMA blunt. *fig. 4.*

SEED-VESSEL a globular capsule of one cavity, and ten valves.

SEEDS numerous, very minute.

RECEPTACLE globular, and very large.

Some of the ancient writers attributed a very singular property to this plant; no less than a power of taming ferocious, and reconciling discordant animals; and hence they derive its name of *Lysimachia* *. Others attribute the origin of its name to the learned and brave LYSIMACHUS, who, they say, was its first discoverer: however this be, our English name of *Loose-strife* appears evidently to be founded on the power thus idly ascribed to it.

This herb, though not so common as its name seems to imply, is tolerably frequent about *London*, in moist meadows, and by water-sides, especially in the environs of the *Thames*.

It varies much in the number of the leaves at the joints, and consequently in the angular appearance of its stalk. The twisted tips of the Calyx, though very remarkable, do not appear to have been noticed by authors.

Such as wish to ornament the edge of a river, or piece of water, cannot select a more proper plant; but its beautiful effect will be heightened by planting with it the *Lythrum Salicaria*; both of these have strong perennial roots, and will also readily grow in gardens where the soil is moist.

It flowers in *July* and *August*.

Some ascribe to it the power of dying green.

* A pugna dirimenda for λύσις τῶν μάχων ἐστὶν certamen dirimere, of taking away strife or debate between beasts, not only those that are yoked together, but even those that are wild also, by making them tame and quiet, which, as they say, this herb will do, if it be either put about their yokes or their necks, which how true I leave to them who shall try and find it so. *Parkins.* p. 544.

CHENOPODIUM OLIDUM. STINKING BLITE, or ORACH.

CHENOPODIUM *Lin. Gen. Pl.* PENTANDRIA DIGYNIA.

Cal. 5-phyllus, 5-gonus. *Cor.* o. *Semen* 1, lenticulare superum.

Raii Syn. Gen. 5. HERBÆ FLORE IMPERFECTO SEU STAMINEO VEL APETALO POTIUS.

CHENOPODIUM *Vulvaria* foliis integerrimis, rhomboideo-ovatis, floribus conglomeratis axillaribus. *Lin. Syst. Vegetab.* p. 216. *Sp. Pl.* 321. *Fl. Suec.* 222.

CHENOPODIUM caule diffuso, foliis obtuse lanceolatis. *Haller hist.* n. 1577.

CHENOPODIUM *Vulvaria.* *Scopoli Fl. Carn.* n. 281.

ATRIPLEX foetida. *Bauh. Pin.* 119.

ATRIPLEX olida. *Ger. emac.* 327.

ATRIPLEX fylvestris foetida. *Park.* 749.

BLITUM foetidum *Vulvaria* dictum. *Raii Syn.* p. 156. Stinking Orache. *Hudson Fl. Angl. ed.* 2. p. 107. *Lightfoot Fl. Scot.* p. 149.

Tota planta farina alba pellucida adspersa.

✦ The whole plant sprinkled with a white pellucid meal.

RADIX annua, fibrosa.

✦ ROOT annual and fibrous.

CAULES plures, diffusi, teretes, substriati, nudiufructi.

✦ STALKS numerous, spreading, round, somewhat striated, and thinly beset with leaves.

FOLIA alterna, petiolata, rhomboideo-ovata, integerrima.

✦ LEAVES alternate, standing on footstalks, rhomboid-ovate, perfectly entire.

FLORES axillares et terminales, dense glomerati, subspicati.

✦ FLOWERS axillary and terminal, thickly clustered, and somewhat spiked.

FRUCTIFICATIO a reliquis hujus generis vix diversa.

✦ FRUCTIFICATION scarcely different from the rest of this genus.

Fig. 1. exhibet Calycem, Stamina, cum Pistillo.

✦ *Fig. 1.* exhibits the Calyx, with the Stamina and Pistillum.

Fig. 2. Semen Calyce inclusum.

✦ *Fig. 2.* The Seed enclosed by the Calyx.

Fig. 3. Semen seorsim. Omnia auct.

✦ *Fig. 3.* The Seed separate. All magnified.

There is some difficulty in ascertaining several of the plants of this genus, but that difficulty cannot be alleged against the present species, as it is at all times, both fresh and dried, discoverable by its smell alone; the whole plant, if ever so slightly bruised betwixt the thumb and fingers, communicating a very permanently disagreeable odour, resembling, in the opinion of most persons, stale salt fish: it is, moreover, a procumbent plant.

This species is very common in the neighbourhood of London, on dry banks, and at the foot of walls and paling, where it flowers from July to September. LEWIS errs egregiously when he says it naturally delights in moist places.

It is a plant of little consequence, except in a medicinal point of view, and in that its virtues are, perhaps, ill-founded; it retains, however, a place in the London and Edinburgh Dispensatories.

“ Stinking Orache, on account of its strong scent, is reckoned an useful antihysterick; in which intention, some recommend a conserve of the leaves, others a watery infusion, and others a spirituous tincture of them. On some occasions it may, perhaps, be preferable to the fetids, which have been more commonly made use of, as not being accompanied with any pungency or irritation, and seeming to act merely by virtue of its odorous principle.” *Lewis's Mat. Med.* p. 124.



Chenopodium olidum.

SCANDIX PECTEN. SHEPHERDS NEEDLE, or VENUS'S COMB.

SCANDIX -*Lin. Gen. Pl.* PENTANDRIA DIGYNIA.

*Corolla radiata. Fructus subulatus. Petala emarginata. Flosculi disci
sæpe masculi.*

Raii Syn. Gen. 11. UMBELLIFERÆ HERBÆ.

SCANDIX *Pecten* feminibus lævibus rostro longissimo. *Lin. Syst. Veget. ed. 14. p. 287. Sp. Pl. p. 368.*

MYRRHIS feminis cornu longissimo. *Haller hist. n. 754.*

SCANDIX *Pecten. Scopoli Fl. Carn. n. 349.*

SCANDIX femine rostrato vulgaris. *Bauh. Pin. 152.*

PECTEN VENERIS I. B. III. 2. 71.

PECTEN VENERIS feu scandix. *Ger. emac. p. 1040.*

SCANDIX vulgaris, feu *Pecten Veneris. Park. 916. Raii Syn. p. 207. Shepherds Needle, or
Venus's Comb. Hudson Fl. Angl. ed. 2. p. 123. Lightfoot Fl. Scot. p. 166. Jacquin
Fl. Austr. t. 263.*

RADIX annua, simplex, albida, paucis fibrillis in- fructa.	◇	ROOT annual, simple, whitish, furnished with few fibres.
CAULIS nunc solitarius, nunc plures ex eadem ra- dice, ramosi, diffusi, villosi, semipedales, aut pedales, inferne purpurei, aut lineis pur- pureis striati, teretes, ad geniculos vix incref- fati.	◇	◇
	◇	◇
	◇	◇
FOLIA dauci instar tenuiter divisa, ad basin vagi- nantia, laciniis linearibus, bifidis trifidive, acutis, ad lentem rariter ciliatis, fig. 1.	◇	◇
	◇	◇
	◇	◇
INVOLUCRUM <i>universale</i> nullum.	◇	◇
	◇	◇
UMBELLA: <i>universalis</i> plerumque biradiata.	◇	◇
	◇	◇
INVOLUCRUM <i>partiale</i> magnum, pentaphyllum, foliolis nervosis, ciliatis, bifidis.	◇	◇
	◇	◇
	◇	◇
FLORES <i>Umbellulæ</i> quinque ad septem, plerumque fertiles, albæ.	◇	◇
	◇	◇
	◇	◇
COROLLA: PETALA quinque, obverse ovata, apice inflexa, patentia, exteriore majore, fig. 2.	◇	◇
	◇	◇
	◇	◇
STAMINA: FILAMENTA quinque, alba; ANTHERÆ primo virescentes, demum nigricantes, fig. 3.	◇	◇
	◇	◇
	◇	◇
PISTILLUM: GERMEN brevissime pedicellatum, oblongum, hirsutulum; STYLI duo, subu- lati, erecti, persistentes; STIGMATA simpli- cia, fig. 4, 5.	◇	◇
	◇	◇
	◇	◇
SEMINA duo, fusca, hinc convexa, striata, inde plana hirsutula, in rostrum longissimum ex- currentia, fig. 7.	◇	◇
	◇	◇
	◇	◇
NECTARIUM: ad basin styli, purpurei coloris, fig. 6.	◇	◇

Common in corn fields, not only in Great-Britain, but in all the southern parts of Europe, sometimes so plentiful, as to prove injurious to the farmer.

Is particularly distinguished from all our other umbelliferous plants by the uncommon length of the beak of the seeds, as well as by the singularity of the leaves of the involuclum, which are uncommonly large and bifid.

Flowers in June, and ripens its seed in July.

Its seed-leaves, on their first appearance above ground, are uncommonly long.



Scandix Pecten.

Scandix Pecten.

LINUM USITATISSIMUM. COMMON FLAX.

LINUM *Lin. Gen. Pl.* PENTANDRIA PENTAGYNIA.

Cal. 5-phyllus. *Petala* 5. *Caps.* 5-valvis, 10-locularis. *Sem.* solitaria.

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

LINUM *usitatissimum* calycibus capsulisque mucronatis, petalis crenatis, foliis lanceolatis alternis, caule subfolitario. *Lin. Syst. Vegetab.* p. 249. *Sp. Pl.* p. 397.

LINUM *arvense.* *Baub. Pin.* 214.

LINUM *sylvestre vulgatus.* *Park.* 1334. *Ger. emac.* 556. *Raii Syn.* p. 362. Manured Flax. *Hudson. Fl. Angl. ed. 2.* p. 133. *Lightfoot Fl. Scot.* p. 173.

RADIX annua, simplex, fibrosa, pallide fusca.	ROOT annual, simple, fibrous, of a pale brown colour.
CAULIS erectus, sesquipedalis, bipedalis et ultra, teres, glaber, foliosus, superne tantum ramosus.	STALK upright, a foot and a half, two feet high or more, round, smooth, leafy, branched above only.
FOLIA lanceolata, sessilia, conferta, sparsa, subrecta, integerrima, lævia, trinervia.	LEAVES lanceolate, sessile, growing thickly together, without any regular order, almost upright, perfectly entire.
FLORES majusculi, pulchre cærulei, paniculati.	FLOWERS large, of a beautiful blue colour, growing in a panicle.
PEDUNCULI teretes, glabri.	FLOWER-STALKS round and smooth.
CALYX: PERIANTHIUM 5-phyllum, foliolis ovatis, acuminatis, carinatis, persistentibus, margine membranaceis, ad lentem ciliatis, <i>fig. 1.</i>	CALYX: a PERIANTHIUM of five leaves, which are ovate, pointed, keeled, permanent, the edge membranous, and if magnified fringed with hairs, <i>fig. 1.</i>
COROLLA: PETALA 5, cæruleo-rosea, cuneifolia, decidua, venis saturatoribus picta, unguibus albis, apicibus suberosis, <i>fig. 2.</i>	COROLLA: 5 blueish, wedge-shaped, deciduous PETALS, streaked with veins of a deeper colour, claws white, tips somewhat gnawed, <i>fig. 2.</i>
STAMINA: FILAMENTA quinque, alba, subulata, basi dilatata. ANTHERÆ primo oblongæ, demum sagittatæ, <i>fig. 3.</i> incumbentes, cæruleæ, ad stylos inclinatæ et subcoadunatæ, <i>fig. 3. 4.</i>	STAMINA: five white tapering FILAMENTS, dilated at the base. ANTHERÆ at first oblong, finally arrow-shaped, <i>fig. 3.</i> incumbent, of a blue colour, inclined to the styles, and somewhat united, <i>fig. 3, 4.</i>
PISTILLUM: GERMEN ovatum, nitidum. STYLI quinque, longitudine filamentorum, sub-clavati, cæruleo-rosei, apice leviter cohærentes. STIGMATA simplicia, <i>fig. 5.</i>	PISTILLUM: GERMEN ovate, shining. STYLES five, the length of the filaments, somewhat club-shaped, blueish, slightly cohering. STIGMATA simple, <i>fig. 5.</i>
PERICARPIUM: CAPSULA globosa, subangulata, mucronata, decemlocularis, quinquevalvis, <i>fig. 6.</i>	SEED-VESSEL: a globular, somewhat angular and pointed CAPSULE, having ten cavities, and five valves, <i>fig. 6.</i>
SEMINA in singulo loculamento solitaria, ovato-acuta, compressa, nitida, <i>fig. 7.</i>	SEEDS one in each cavity, ovate, pointed, flat and glossy, <i>fig. 7.</i>

It may be doubted, perhaps, whether the common flax, found in any part of the kingdom, may not originally have been introduced from abroad; yet Mr. HUDSON speaks of it as a common plant in Dorsetshire and Devonshire, and entertains no idea of its being a doubtful native. However this may be, the few specimens of it which we find occasionally in corn fields and among rubbish, particularly in the neighbourhood of Battersea (for flax is not cultivated near London), have doubtless been introduced there with the produce of the garden or the corn field.

It flowers in June and July.

In the earliest record we have, flax is mentioned as a plant cultivated in Egypt (Exodus ch. ix. v. 31.); for which reason antiquaries have been surprised to find the vestments of mummies made of cotton. It is highly probable, however, that mankind made thread of cotton before the use of flax was discovered; for cotton is produced in a state ready for spinning, whereas flax requires a long process before it can be brought to that state.

In the simplicity of former times, when families in this island provided within themselves most of the necessaries and conveniences of life, every garden supplied a proper quantity of hemp and flax; but the macerating or steeping, which was necessary to separate the thread by rotting the stalk, was in many places found to render the water so offensive and detrimental, that in the reign of Henry VIII. a law was made that “No person shall water any hemp or flax in any river, running water, stream, brook, or other common pond, where beasts are used to be watered, on pain of forfeiting, for every time so doing, twenty shillings. 33 Hen. VIII. c. 17. § 1. Might not this inconvenience be prevented, and the process much accelerated, by using boiling water, and a proper quantity of the ashes of any vegetable? *Vid.* below.

The wisdom of Parliament hath lately thought proper to encourage, by a premium, the growth of hemp and flax in this kingdom, certainly with a very laudable intention, as long as we procure these articles from countries where the balance of trade is against us; or, in other words, while we continue to pay for them in money, and not with our manufactures. The premium is four pence for every fourteen pounds of flax.

The ancients were of opinion, that flax impoverished land. “Urit enim lini campum seges.” *Virg. G. I. v. 77.* But, while speculative and practical cultivators unfortunately continue to be such very distinct people, the rules which we find in books cannot be much depended on. However, it may be a caution to those who have not a plentiful command of manure not to engage too largely with this plant without proper trials. As flax will be new

to



Linum usitatissimum.

J. Smarke del. et sculp.

to most of the land in the kingdom, there is little doubt but that the produce will at first be large, and it is very desirable to introduce a new kind of grain into husbandry to extend the succession of crops.

*“ For the vicissitudes of various grain
“ Tend to preserve the vigour of the plain.”*

Flax not only supplies us with cloathing, but its seeds, well known by the name of lin-seed, afford an oil of great use in painting, varnishing, &c. They are also used medicinally. Infusions of lin-seed, like other mucilaginous liquors, are used as emollients, in crassants, and obtundents of acrimony, in heat of urine, stranguries, thin defluxions on the lungs, and other like disorders. A spoonful of the seeds, unbruised, is sufficient for a quart of water, larger proportions rendering the liquor disagreeably slimy. The mucilage obtained by inspissating the infusions or decoctions is an excellent addition for reducing disgusting powders into the form of an electuary, occasioning the compound to pass the fauces freely, without sticking or discovering its taste in the mouth. The expressed oil is supposed to be more of a healing and balsamic nature than the other oils of this class, and has been particularly recommended in coughs, spitting of blood, cholics, and constipations of the belly. The seeds in substance, or the matter remaining after the expression of the oil, are employed externally in emollient and maturing cataplasms. In some places these seeds in times of scarcity have supplied the place of grain; but appeared to be an unwholesome as well as an unpalatable food. *Tragus* relates, that those who fed on them in Zealand had the hypochondres in a short time distended, and the face and other parts swelled; and that not a few died of these complaints.

The following reflections communicated to me by a friend will, I flatter myself, not be unacceptable to my readers. Should practice justify the theory, I will venture to say, they will be golden reflections to the nation.

Some reflections relative to the watering of flax by a new method, so as to shorten labour, add to the strength of the flax, and give it a much finer colour, which would render the operation of bleaching safer and less tedious.

THOUGH the following reflections have for their object an improvement in the very essential article of watering of flax, yet I must advertise my reader, that they are only theory, and must depend entirely for their truth and justification upon future experiments, skilfully and judiciously made. Should repeated trials prove the advantage of the method proposed, we may venture to affirm, it would be an improvement that would increase the national income in the agricultural branch many thousand pounds annually, would add greatly to the perfection of the linen manufacture, and over and above would suppress a very disagreeable nuisance, which the present method of watering flax occasions during some part of the summer in every flax-growing country.

The intention of watering flax is, in my opinion, to make the boon more brittle or friable, and by soaking to dissolve that gluey kind of sap that makes the bark of plants and trees adhere, in a small degree, to the woody part. The bark is called the harle, and produces the flax; the useless woody part, which remains when the bark is separated, the boon. To effect this separation easily, the practice has long prevailed of soaking the flax in water to a certain degree of fermentation, and afterwards drying it. For this soaking some prefer rivulets that have a small current, and others stagnant water in ponds and lakes. In both these ways the water acts as in all other cases of infusion and maceration. After two or three weeks it extracts a great many juices of a very strong quality, which in ponds give the water an inky tinge, and offensive smell, and in rivulets mix in the stream, and kill the fish.

Nay, if this maceration is too long continued, the extracted and fermented sap will completely kill the flax itself: for if, instead of two or three weeks, the new flax were to lay soaking in the water four or five months, I presume it would be good for nothing but to be thrown upon the dunghill. Both harle and boon would in that time be completely rotted; yet the harle or flax, when entirely freed from this sap, and manufactured into linen, or into ropes, might be many months under water without being much damaged. As linen, it may be washed, steeped, and boiled in scalding water twenty times, without losing much of its strength: and as paper, it acquires a kind of incorruptibility.

It appears then essential, to the right management of new flax, to get rid of this pernicious vegetative sap, and to macerate the boon; but from the complaints made against both the methods of watering now in use, there is reason to think, that there is still great room for improvement in that article. In rivulets, the vegetative sap, as it is dissolved, is carried off by the current, to the destruction of the fish. This prevents the flax from being stained; but the operation is tedious, and, I have been told, often not complete, from the uncertainty of knowing the precise times when it is just enough, and not too much, or perhaps from neglect. In ponds, the inky tinge of the water often serves as a kind dye to the flax, which imbibes it so strongly, that double the labour in bleaching will hardly bring the linen made of such flax to an equality in whiteness with linen made of flax untinged. This seems to be equally unwise, as though we were to dye cotton black first, as a means to whiten it afterwards. These ponds besides become a great nuisance to the neighbourhood: the impregnated water is often of such a pernicious quality, that cattle, however thirsty, will not drink of it, and the effluvia of it may perhaps be nearly as infectious as it is offensive. If this effluvia is really attended with any contagious effects in our cold climates, a thing worth enquiring into, how much more pernicious must its effects have been in the hot climate of Egypt, a country early noted for its great cultivation of flax!

From these considerations I have been led to think, that the process of watering might be greatly improved and shortened by plunging the new flax, after it is rippled, into scalding water, which, in regard to extracting the vegetative sap, would do in five minutes more than cold water would do in a fortnight, or perhaps more than cold water could do at all, in respect to the clearing the plant of that sap. Rough almonds, when thrown into scalding water, are blanched in an instant; but perhaps a fortnight macerating those almonds in cold water would not make them part so easily with their skins, which are the same to them as the harle to the flax. Were tea leaves to be infused in cold water a fortnight, perhaps the tea produced by that infusion would not be so good to the taste, nor so strongly tinged to the eye, as what is effected by scalding water in five minutes. By the same analogy, I think, flax, or any small twig, would be made to part with its bark much easier and quicker, by being dipped in boiling water, than by being steeped in cold water. This reflection opens a door for a great variety of new experiments in regard to flax. I would therefore recommend to gentlemen cultivators and farmers to make repeated trials upon this new system, which would soon ascertain whether it ought to be adopted in practice or rejected. One thing, I think,

think, we may be certain of, that, if the Egyptians watered their flax in our common manner, they undoubtedly watered it in very warm water, from the great heat of their climate, which probably might make them neglect to think of water heated by any other means than that of the sun. A good general practice can only be established upon repeated trials; but, I am persuaded, many lose half the value of their crop by some of the present methods of watering it. Though one experiment may fail, another with a little variation may succeed, and the importance of the object desired to be obtained will justify a good degree of perseverance in the prosecution of the means. In this view, as the Chinese thread is said to be very strong, it would be worth while to be acquainted with the practice of that distant nation in regard to the rearing and manufacturing of flax, as well as with the methods used by the Flemings and the Dutch.

Boiling water perhaps might at once clear the new flax from many impurities, which, when not removed till spun into yarn, are then removed with difficulty, and loss of substance to the yarn. Why should not the longitudinal fibres of the flax, before they be spun into yarn, be made not only as fine but as clean as possible? Upon the new system proposed, the act of bleaching would begin immediately after the rippling of the flax; and a little done then might save much of what is generally done after the spinning and weaving. To spin dirty flax, with a view of cleaning it afterwards, appears to be the same impropriety as though we were to reserve part of the dressing given to leather till after it is made into a glove.

Should the plunging the flax into the boiling water not suffice to make the boon brittle enough, as I am inclined to think it would not, then the common watering might be added; but, in this case, probably half the time usually given to the watering would suffice, and the flax might then be laid in clear rivulets, without any apprehensions of its infecting the water and poisoning the fish, or of being discoloured itself; for the boiling water into which it had been previously put would have extracted all the poisonous vegetative sap, which, I presume, is what chiefly discolours the flax, or kills the fish.

On the supposition that boiling water, in the preparation of flax, may be found to be advantageous and profitable, I can recollect at present but one objection against it being generally adopted. Every flax-grower, it may be said, could not be expected to have conveniences for boiling water sufficient for the purpose, the consumption of water would be great, and some additional expence would be incurred. In answer to this I shall only observe, that I presume any additional expence would be more than reimbursed by the better marketable price of the flax; for otherwise any new improvement, if it will not quit cost, must be dropped, were it even the searching after gold. In a large cauldron a great deal of flax might be dipped in the same water, and the consumption perhaps would not be more than a quart to each sheaf: even a large household pot would be capable of containing one sheaf after another; and I believe the whole objection would be obviated, were the practice to prevail with us, as in Flanders and Holland, that the flax-grower and the flax-dresser should be two distinct professions.

I shall conclude with recommending to those who are inclined to make experiments, not to be discouraged by the failure of one or two trials. Perhaps the flax, instead of being just plunged into the scalding water, ought to be kept in it five minutes; perhaps a quarter of an hour; perhaps a whole hour. Should five minutes, or a quarter of an hour, or an hour, not be sufficient to make the boon and harle easily separate, it might perhaps be found expedient to boil the flax for more than an hour; and such boiling, when in this state, might in return save several hours boiling in the article of bleaching. It is not, I think, at all probable, that the boiling of the flax with the boon in it would prejudice the harle; for, in the course of its future existence, it is made to be exposed twenty or forty times to this boiling trial, and, if not detrimental in the one case, it is to be presumed it would not be detrimental in the other. Perhaps after the boiling it would be proper to pile up the flax in one heap for a whole day, or for half a day, to occasion some fermentation, or perhaps, immediately after the boiling, it might be proper to wash it in cold water. The great object, when the flax is pulled, is to get the harle from the boon with as little loss and damage as possible; and if this is accomplished in a more complete manner than usual, considerable labour and expence will be saved in the future manufacturing of the flax. On this account, I think, much more would be gained than lost, were the two or three last inches of the roots of the flax to be chopped off, or clipped off, previous to its being either watered or boiled.

The following precaution is necessary to be observed, that the flax should never be spread out to dry at a season when it may be in danger of being exposed to the frost.



Leucojum aestivum.



Convallaria majalis.

CONVALLARIA MAJALIS. LILY OF THE VALLEY.

CONVALLARIA *Lin. Gen. Pl.* HEXANDRIA MONOGYNIA.

Cor. sexfida. Bacca maculosa 3-locularis.

Raii Syn. Gen. 16. HERBÆ BACCIFERÆ.

CONVALLARIA *majalis* scapo nudo. *Lin. Syst. Vegetab. p. 275. Spec. Plant. p. 451. Flor. Suec. n. 292.*

POLYGONATUM scapo diphylo, floribus spicatis, nutantibus, campaniformibus. *Haller. Hist. n. 1241.*

CONVALLARIA *majalis. Scopoli Fl. Carn. n. 418.*

LILIUM convallium album. *Baub. Pin. p. 304.*

LILIUM convallium. *Ger. Emac. p. 410. flore albo, Parkins. Parad. p. 349. Raii Syn. p. 264. Lily-convally or May Lily. Hudson. Fl. Angl. ed. 2. p. 146. Lightfoot, Fl. Scot. p. 182.*

RADIX	perennis, fibrosa, fibris plurimis, teretibus, transversim rugosis, horizontaliter paulo infra terram in longum extensis, repentibus.	ROOT	perennial, fibrous, fibres numerous, round, transversely wrinkled, extending horizontally just below the surface of the earth, and creeping to a considerable distance.
SQUAMÆ	quatuor, vel quinque, subnervosæ, purpurascentes, alternæ, basin foliorum et scapi obvestiunt et colligant.	SCALES	four or five slightly ribbed, purplish, alternate scales surround and bind together the base of the leaves and stalk.
FOLIA	bina, petiolata, ovata, utrinque acuta, erecta, lævia, nervosa, altero plerumque majori, late viridia, petiolis teretibus, exteriore punctis rubris adperso, tubuloso ad recipiendum interiorem solidum.	LEAVES	growing two together, standing on foot-stalks, pointed at each end, upright, smooth ribbed, one generally larger than the other, of a bright green colour, foot-stalks round, the outermost dotted with red, and tubular to receive the inner one which is solid.
SCAPUS	lateralis, longitudine foliorum, erectus, nudus lævis, femicylindraceus.	STALK	lateral, the length of the leaves, upright, naked, smooth, femicylindrical.
BRACTÆA	lanceolata, membranacea, sub singulo pedunculo, pedunculo brevior.	FLORAL-LEAF	lanceolate, membranous, under each flower-stalk, shorter than the flower-stalk.
FLORES	sex, five octo, racemosi, nutantes, albi seu lutescentes, odorati.	FLOWERS	six or eight, growing in a racemus, hanging down, white or yellowish, and sweet-scented.
PEDUNCULI	uniflori, teretes, filiformes.	FLOWER-STALKS	one flowered, round, and filiform.
CALYX	nullus.	CALYX	wanting.
COROLLA	monopetala, globoso-campanulata. <i>Limbus sexfidus, laciniis obtusiusculis, reflexis, fig. 1.</i>	COROLLA	monopetalous, roundish, bell-shaped. The <i>Limb</i> divided into six obtuse reflexed segments, <i>fig. 1.</i>
STAMINA: FILAMENTA	sex, subulata, petalo inserta, corolla breviora. ANTHERÆ oblongæ, erectæ, biloculares, flavæ, longitudine filamentorum, <i>fig. 2.</i>	STAMINA: six FILAMENTS	tapering, inserted into the petal, and shorter than the corolla. ANTHERÆ oblong, upright, bilocular, yellow, the length of the filaments, <i>fig. 2.</i>
PISTILLUM: GERMEN	subrotundum, viride. STYLUS filiformis, staminibus longior. STIGMA obtusum, trigonum, <i>fig. 3.</i>	PISTILLUM: GERMEN	roundish, green. STYLE filiform, longer than the stamina. STIGMA obtuse, and three-cornered, <i>fig. 3.</i>
PERICARPIUM: BACCA	globosa, majuscula, rubra, trilocularis, polysperma, <i>fig. 4.</i>	SEED-VESSEL	a round, largish, red BERRY, having three cavities, and containing many seeds, <i>fig. 4.</i>
SEMINA	quinque et ultra majuscula, lutescentia, hinc convexa, inde plana seu angulata, <i>fig. 5, 6.</i>	SEEDS	five and more, largish, yellowish, convex on one side, and flat or angular on the other, <i>fig. 5, 6.</i>

LINNÆUS, in his *Flora Lapponica*, p. 80. gives his reasons at large for uniting in one genus the *Lilium convallium*, the *Polygonatum*, and *Unifolium*, and for adopting the name *Convallaria*.

The Lily of the Valley claims our notice as an ornamental and a medicinal plant. As an ornamental one, few are held in greater estimation; indeed, few are the flowers which can boast such delicacy with such fragrance; fortunately it is most easy of cultivation, requiring only to be placed in the shady part of a garden, and to be transplanted now and then, when the roots are too much matted together to produce flowers freely. It bears forcing admirably in pots, and hence the curious may have it in blossom at least two months in the year.

There is a variety of it with reddish flowers and double blossoms. In its wild state it is seldom seen in berry; but produces them readily when cultivated. Like many of those plants which are eagerly sought after, it is now become rather scarce in the neighbourhood of London. In Mr. RAY's time it grew plentifully on Hampstead-Heath, but is now sparingly found there. In Lord Mansfield's wood, near the Spaniard, it may be met with in greater abundance; nor is it uncommon in the woods about Dulwich. It flowers in May and June.

The flowers readily impart their fragrance, as well as a penetrating bitterish taste, both to watery and spirituous menstrua. Their odorous matter, like that of the white Lily, is very volatile, being totally dissipated in exsiccation, and elevated in distillation; nor does the distilled spirit turn milky on the admixture of water, as those spirits do which are impregnated with actual oil. The pungency and bitterness, on the other hand, reside in a fixed matter, which remains entire both in the watery and spirituous extracts, and which in this concentrated state approaches, as CARTHEUSER observes, to hepatic Aloes.

It is principally from the volatile parts of these flowers, that medicinal virtues have been expected in nervous and catarrhus disorders; but probably their fixed parts also, which have no smell, have perhaps the greatest share in their efficacy. The flowers, dried and powdered, and thus divested of their odoriferous principle, prove strongly stimulatory. Watery or spirituous extracts made from them, given in doses of a scruple or half a dram, act as gentle stimulating aperients and laxatives, and seem to partake of the purgative virtue as well as of the bitterness of Aloes.

The roots possess a greater degree of bitterness, and a similar purgative quality. *Lewis's Mat. Med.*

JUNCUS PILOSUS. SMALL HAIRY WOOD-RUSH.

JUNCUS *Lin Gen. Pl.* HEXANDRIA MONOGYNIA.

Cal. 6-phyllus; *Cor.* o. *Capf.* 1-locularis.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

JUNCUS *pilosus* foliis planis pilosis, corymbo ramoso. *Lin. Syst. Vegetab.* p. 280. *Sp. Pl.* 468. *Fl. Succ.* 308.

JUNCUS foliis planis, hirsutus, floribus umbellatis, folitariis, petiolatis, aristatis. *Haller hist.* n. 1325.

JUNCUS *pilosus.* *Scopoli Fl. Carn.* n. 435.

GRAMEN nemorosum hirsutum latifolium minus. *Bauhin pin.* 7.

GRAMEN nemorosum hirsutum. *Ger. emac.* 19. majus *Park.* 1184.

GRAMEN nemorosum hirsutum vulgare. *Raii Syn.* p. 416. Small hairy Wood-Rush. *Hudson.* *Fl. Angl.* p. 151. *Lightfoot. Fl. Scot.* p. 186.

RADIX	perennis, fibrosa, fibris numerosis, fuscis, folionibus brevibus acutis quoque instruitur, ita ut subrepens dici potest.	◇	ROOT	perennial, and fibrous, fibres numerous and brown, it is also furnished with short pointed shoots, so that it may be called somewhat creeping.
CULMI	plures, ex eadem radice, spithamæi et ultra, suberecti, foliosi, superne nudi, simplices, læves, striati, teretes, tribus aut quatuor geniculis minime protuberantibus instructi.	◇	STALKS	many from the same root, about a span in length, sometimes more, nearly upright, leafy, naked above, simple, smooth, striated, round, furnished with three or four joints, which do not protuberate.
FOLIA	radicalia plurima, tres quatuorve uncias longa, lineas tres, tresque cum dimidiâ lata, ad basin paulo angustiora, parum concava, superne obscure plerumque virentia et lævia glabraque, inferne dilutius virentia et glabra, ad margines autem, raris et longis pilis villosa, densius autem hirsuta sunt versus eorum origines, sæpe rubentia, apice obtusifuscula et subtruncata, caulina plana.	◇	LEAVES	next the root numerous, three or four inches long, and three lines or three and a half broad, somewhat narrowest at the base, a little concave, above generally of a dull green colour, smooth and rather glossy, beneath of a paler green, and slightly glossy, at the edges especially, covered with a few long hairs, which are most numerous towards the base of the leaf, often of a reddish colour, a little blunt and as it were cut off at the point, the stalk leaves flat.
FLORES	paniculati, panicula diffusa.	◇	FLOWERS	forming a spreading panicle.
PEDUNCULI	inæquales, pauci simplices, plures proliferi, dichotomi et trichotomi, demum retro porrecti, omnes uniflori, flosculis intermediis sessilibus.	◇	FLOWER-STALKS	of unequal lengths, a few of them simple, most of them proliferous, dichotomous or trichotomous, finally stretch out backward, all of them supporting a single flower, the intermediate ones sessile.
CALYX	<i>Gluma</i> bivalvis, <i>fig. 1.</i> <i>Perianthium</i> hexaphyllum, foliolis oblongis, acuminatis, carinatis, concavis, ex purpureo fuscis, persistentibus, <i>fig. 2.</i> auct.	◇	CALYX:	a <i>Glume</i> of two valves, <i>fig. 1.</i> a <i>Perianthium</i> of six leaves, which are oblong, pointed, keel'd, concave, of a purplish brown colour and permanent, <i>fig. 2.</i> magnified.
COROLLA	nulla.	◇	COROLLA	wanting.
STAMINA: FILAMENTA	sex, capillaria, brevissima, ANTHERÆ oblongæ, erectæ, flavæ, <i>fig. 3.</i>	◇	STAMINA:	six FILAMENTS, capillary and very short; ANTHERÆ oblong, upright, and yellow, <i>fig. 3.</i>
PISTILLUM: GERMEN	triquetrum, acuminatum; STYLUS brevis, filiformis; STIGMATA tria, longa, filiformia, villosa, <i>fig. 4.</i>	◇	PISTILLUM: GERMEN	three-cornered, pointed; STYLE short, filiform: STIGMATA three, long, filiform, and villous, <i>fig. 4.</i>

The *Juncus pilosus*, *sylvaticus*, and *campestris*, are distinguished from the other species, by their grass-like hairy leaves; the first of these has some little affinity with the *campestris* already figured, but differs from it, not only in its place of growth, but in having its flowers stand singly, and not in clusters; while the *campestris* delights in exposed, the *pilosus* is found only in woods, and shady situations; and from this circumstance we may perhaps in some degree account for its flowering earlier than any of the others, for if the season be not very unfavourable, it will begin to flower in February, and is usually out of bloom the beginning of May.

We know of no use to which this species, or the *sylvaticus*, is applicable; nor yet from the places they inhabit, can they be considered in any degree noxious in Agriculture.



Juncus pilosus.



Juncus sylvaticus.

L. Swerby del. et sculp.

JUNCUS SYLVATICUS. GREAT HAIRY WOOD-RUSH.

JUNCUS *Lin. Gen. Pl.* HEXANDRIA MONOGYNIA.

Cal. 6-phyllus. *Cor.* o. *Capf.* 1-locularis.

Raii Syn. Gen. 27. HERBÆ GRAMINIFOLIÆ FLORÆ IMPERFECTO CULMIFERÆ.

JUNCUS *sylvaticus* foliis planis pilosis, corymbo decomposito, floribus fasciculatis sessilibus. *Hudson Fl. Angl.* p. 151.

JUNCUS foliis planis hirsutis, floribus paniculatis, fasciculatis. *Haller hist.* n. 1324.

GRAMEN nemorosum hirsutum latifolium majus. *Scheuch. Agrofl.* p. 317. *C. B. Pin.* 7.

GRAMEN nemorosum hirsutum latifolium maximum. *Raii Syn.* p. 416. The greatest broad-leaved hairy Wood-Grass.

GRAMEN luzulæ maximum. *J. B.* II. 493. *Lightfoot Fl. Scot.* p. 186.

Authors have contributed not a little to mislead students, by describing this species of *Juncus*, as uncommonly large and scarce, and it is probable that Mr. RAY would not have considered it as a species, had he not by accident met with some very luxuriant specimens of it; in certain situations it doubtless may be found very large, and tall, but it more usually occurs with a stalk a little more than a foot high; of some plants growing in my garden, close to each other, in a moist, but not very shady situation, the comparative height of the *Juncus campestris*, *pilosus*, and *sylvaticus*, was as follows, *campestris* 9 inches, *pilosus* 11, and *sylvaticus* 15; the account of its being a scarce plant is still more erroneous, as there is hardly a wood in the neighbourhood of London, nor as far as we have observed in any part of the kingdom, in which they do not grow plentifully together; they do so at least in Bishop's-Wood, Hampstead, which is near the spot where Mr. RAY describes his plant as growing.

By LINNÆUS this plant is considered as a variety only of the *pilosus*: Mr. HUDSON and Baron HALLER, examining it with more attention than LINNÆUS, make a distinct species of it, and give such a description of it as cannot fail to make it known.

To the characters given in their synonyms above quoted, we may add that the leaves are not only much broader, and more concave, but more sharply pointed than those of the *pilosus*, that it flowers three weeks or a month later, and that when the flowering is over, the flower-stalks of the *pilosus* are more reflexed or pendulous than those of the *sylvaticus*.

This species flowers in May, or earlier if the season be a mild one.



Alisma Plantago aquatica.

J. Sowerby del. et sculp.

ALISMA PLANTAGO. GREAT WATER-PLANTAIN.

ALISMA *Lin. Gen. Pl.* HEXANDRIA POLYGYNIA.

Cal. 3-phyllus. *Petala* 3. *Sem.* plura.

Raii Syn. Gen. 15. HERBÆ SEMINE NUDD POLYSPERMÆ.

ALISMA *Plantago* foliis ovatis acutis, fructibus obtuse trigonis. *Lin. Syst. Vegetab.* p. 288. *Spec. Pl.* p. 486. *Fl. Suec. n.* 323.

DAMASONIUM foliis ellipticis, lanceolatis, capitulo rotunde triquetro. *Haller. Hist. n.* 1184.

ALISMA *Plantago.* *Scopoli Fl. Carn. n.* 449.

PLANTAGO aquatica latifolia. *Bauh. Pin.* 190.

PLANTAGO aquatica major. *Ger. emac.* 417. *Park.* 1245. *Raii Syn.* 257. Great Water-Plantain. *Hudson. Fl. Angl. ed. 2. p.* 159. *Lightfoot Fl. Scot. p.* 193.

RADIX perennis, alba, bulbiformis, tunicata, densissimis fibris capillata.	ROOT perennial, white, somewhat bulbous, coated, and furnished with a tuft of numerous fibres.
FOLIA omnia radicalia, longe petiolata, ovata, acuta, glabra, nervosa, integerrima, erecta, subundulata, petiolis semiteretibus, basi vaginantibus, purpurascensibus.	LEAVES all springing from the root, standing on long foot-stalks, ovate, pointed, smooth, ribbed, perfectly entire, upright, slightly waved, the foot-stalks semicylindrical, at bottom sheathing and purplish.
SCAPUS obtuse trigonus, nudus, lævis, pedalis ad tripedalem.	STALK obtusely three-cornered, naked, smooth, from one to three feet in height.
RAMI floriferi verticillatim circa scapum dispositi, utut ramuli circa ramos, numero quam maxime variantes, nudi.	BRANCHES producing the flowers disposed in whirls round the stalk and the lesser branches in a similar manner round them, varying greatly in number, and naked.
STIPULÆ ad basin cujusvis verticilli, membranaceæ, marcidæ, vaginantes.	STIPULÆ at the base of each whirl, membranous, withered and sheathing.
CALYX: PERIANTHIUM triphyllum, foliolis ovatis, acutiusculis, concavis, lineatis, patentibus, margine membranaceis, fig. 1.	CALYX: a PERIANTHIUM of three leaves, the leaves ovate, a little pointed, concave, marked with lines, spreading, membranous on the edge, fig. 1.
COROLLA: PETALA tria, subrotunda, purpurea, erosa, plana, patentia, remotiuscula, unguibus flavis, fig. 2.	COROLLA three PETALS, roundish, purple, gnawed on the edge, flat, spreading, somewhat remote from each other, claws yellow, fig. 2.
STAMINA: FILAMENTA sex, setacea, subincurvata. ANTHERÆ virescentes, fig. 3.	STAMINA: six FILAMENTS, fine and tapering, slightly bending inwards. ANTHERÆ greenish, fig. 3.
PISTILLUM: GERMINA plurima, 12 et ultra, in orbem posita. STYLI tot quot germina, filiformes, erecti. STIGMATA simplicia, fig. 4. Pistillum auct. fig. 5.	PISTILLUM: GERMINA numerous, to 12 or more placed in a circle. STYLES as numerous as the germina, filiform, upright. STIGMATA simple, fig. 4. The Pistillum magnified, fig. 5.

The ancient Botanists, taken with the first appearance of things, and observing a similarity in the leaves of this plant to those of Plantain, without consulting the flower or fruit, made it at once a Plantago, though its fructification bears not the most distant affinity to that genus.

Baron HALLER observes, that in its acrimonious quality it comes near to the Crowfoots, and on the authority of FABREGOU relatès, that it has proved fatal to kine and other animals who have eaten it. From these effects he very properly queries how comes it to be considered by FLOYER as a cooler and astringent, and by BOCCONE as useful in the Piles.

Externally applied it blisters; taken internally it produces the same effect as the Crowfoots. Cattle are much injured, and sometimes killed by it. Atrophy and immobility of the hind parts of the body are the effects of which it is productive. LINDENSTOLPIUS, *Brugman's Dissertatio Quænam sunt Plantæ inutiles, &c.* 1783.

There is no plant more common than this species of Water Plantain in and by the sides of ponds, rivers, &c. It flowers in July, August, and September.



Alisma Damasonium

J. Sowerby del. et sculp.

ALISMA DAMASONIUM. STARRY-HEADED WATER-PLANTAIN.

ALISMA *Lin. Gen. Pl.* HEXANDRIA POLYGYNIA.

Cal. 3-phyllus. *Petala* 3. *Sem.* plura.

Raii Syn. Gen. 27. HERBÆ MULTISILIQUÆ SEU CORNICULATÆ.

ALISMA *Damaſonium* foliis cordato oblongis, floribus hexagynis, capsulis ſubulatis. *Lin. Syſt. Vegetab.* p. 350. *Sp. Pl.* p. 486.

PLANTAGO aquatica ſtellata. *Bauh. Pin.* 190.

DAMASONIUM ſtellatum Dalechampii. *I. B.* III. 789.

PLANTAGO aquatica minor ſtellata. *Ger. emac.* 417.

PLANTAGO aquatica minor muricata. *Park.* 1245. *Raii Syn.* Star-headed Water-Plantain. *Hudſ. Fl. Angl. ed. 2.* p. 158.

RADIX	perennis, fibroſa, fibris plurimis, denſiſſime capillatis, ſimpliciuſulis, ex fuſco-aurantiacis, in limum profunde demiſſis, junioribus albis.	ROOT	perennial, fibrous, fibres numerous, thickly matted together, moſtly ſimple, of a browniſh orange colour, ſtriking deeply into the mud, the young ones white.
FOLIA	longe petiolata, natantia, cordato-oblonga, integerrima, utrinque glabra, obtuſa, margine ipſa purpuraſcente, ſubtus nervoſa, nervis duobus vix protuberantibus parallelis prope marginem.	LEAVES	ſtanding on long footſtalks, ſwimming, of an oblong heart ſhape, perfectly entire, ſmooth on both ſides, obtuſe, the very edge purpliſh, ribb'd on the under ſide, two very ſlightly, prominent, parallel ribs near the margin.
PETIOLI	obtuſe trigoni, ſubdiaphani, ſpongioſi, ad baſin lati, et membranâ albidâ utrinque inſtructi.	LEAF-STALKS	obtuſely three-cornered, ſomewhat tranſparent, ſpongy, broad at the baſe, and edged on each ſide with a whitish membrane.
SCAPUS	ſpithamæus, teres, lævis, nudus, craſſiuſculus, ſuperne fordide purpureus, multiflorus.	STALK	about a ſpan long, round, ſmooth, naked, clumsy, of a dirty purple colour above, many-flower'd.
FLORES	albi, ſubumbellati.	FLOWERS	white, growing umbel-like.
UMBELLÆ	plerumque tres, inferior lateralis, octo-radiata, proxima ſuperior ſexradiata, ſuprema triradiata, numerus vero variat in diverſis plantis.	UMBELS	for the moſt part three, the lowermoſt lateral, eight-rayed, the next above ſix-rayed, the uppermoſt three-rayed, the number however varies in different plants.
INVOLUCRUM	umbellæ triphyllum, foliolis ovato-lanceolatis, membranaceis, marceſcentibus.	INVOLUCRUM	of the umbel three-leav'd, leaves ovato-lanceolate, membranous, and withering.
PEDUNCULI	qui radii umbellæ, teretes, nudi, ſequiunciales, ſuperioribus brevioribus.	FLOWER-STALKS	which form the rays of the umbel, round, naked, an inch and a half in length, the upper ones ſhorteſt.
CALYX: PERIANTHIUM	triphyllum, foliolis ſubovatis, obtuſis, concavis, patentibus, apice membranaceis, cito mareſcentibus, <i>fig.</i> 1.	CALYX:	a PERIANTHIUM of three leaves, the leaflets nearly ovate, obtuſe, concave, ſpreading, membranous at the top, and ſoon withering, <i>fig.</i> 1.
COROLLA: PETALA	tria, ſubrotunda, alba, tenera, ungue flavo, <i>fig.</i> 2.	COROLLA	compoſed of three roundiſh, white, tender PETALS with yellow claws, <i>fig.</i> 2.
STAMINA: FILAMENTA	ſex, ſubulata, flavoſcentia, corollâ breviora: ANTHERÆ oblongæ, flavæ, <i>fig.</i> 3.	STAMINA:	ſix tapering yellowiſh FILAMENTS, ſhorter than the corolla: ANTHERÆ oblong and yellow, <i>fig.</i> 3.
PISTILLUM: GERMINA	plerumque ſex, ſubulata, erecta: STYLI nulli: STIGMATA villoſa, ſubreflexa, <i>fig.</i> 4.	PISTILLUM:	GERMINA for the moſt part ſix in number, tapering, upright: STYLES none: STIGMATA villoſus, ſomewhat reflexed, <i>fig.</i> 4.
PERICARPIUM: CAPSULÆ	ſex, patentæ, ſubulatæ, inferne compreſſæ, uniloculares, monospermæ vel diſpermæ, <i>fig.</i> 5.	SEED-VESSEL:	ſix ſpreading CAPSULES, tapering to a point, flattened below, one-cell'd, a ſingle ſeed or two in each, <i>fig.</i> 5.
SEMEN	oblongum, obtuſum, nigricans, nitidum, ad lentem punctis exaſperatum, fulco per medium utrinque longitudinali, <i>fig.</i> 6.	SEED	oblong, obtuſe, blackiſh, ſhining, when magnified appearing rough with little prominent points, a groove running down the middle on each ſide, <i>fig.</i> 6.

Not very uncommon in the neighbourhood of London, in ditches, ſtagnant waters, and ponds, eſpecially ſuch as have been formed by the digging of gravel: particularly plentiful in ſuch like ponds on Wandſworth Common, with *Sparganium ſimplex*: alſo, about Clapham, Walworth, &c.

Flowers from June to September.

Is not remarkable for its qualities or uſes.

TOURNEFORT makes a diſtinct genus of the *Damaſonium*, referring the *Alisma Plantago* and *ranunculoides* to the genus *Ranunculus*.

RAY alſo ſeparates it from the *Plantago aquatica*, but obſerves that it agrees with it in its tripetalous flowers, though it differs in its ſeed-veſſels.

Notwithſtanding this diſcrepancy in the ſeed-veſſels, the other parts of its fructification, joined to its general habit, in our humble opinion, fully juſtify LINNÆUS in making it an *Alisma*.

RUMEX ACETOSELLA. SHEEP'S SORREL.

RUMEX *Lin. Gen. Pl. HEXANDRIA TRIGYNIA.*

Cal. 3-phyllus. *Petala* 3; conniventia. *Sem.* 1. triquetrum.

Raii Syn. Gen. 5. Herbæ flore imperfecto feu flamineo (vel apetalò potius).

RUMEX *Acetosella* floribus dioicis foliis lanceolato-hastatis. *Linn. Syst. Vegetab.* p. 286. *Sp. Pl.* 481.
Fl. Suec. n. 319.

LAPATHUM fexubus separatis, foliis sagittatis, hamis acutis recurvis. *Haller hist.* 1596.

LAPATHUM *Acetosella.* *Scopoli Fl. Carn.* n. 439.

ACETOSA arvensis lanceolata. *Baubin. Pin.* p. 114.

OXALIS tenuifolia. *Ger. emac.* 397.

ACETOSA minor lanceolata. *Parkin.* 744.

LAPATHUM acetosum repens lanceolatum. *Raii Syn.* p. 143. Sheep's Sorrel. *Hudson Fl. Angl.*
p. 156. *Lightfoot Fl. Scot.* p. 191.

RADIX perennis, sublignosa, repens, fusca.	ROOT perennial, of a brown colour, somewhat woody, and creeping.
CAULIS palmaris ad pedalem, erectus, lævis, striatus, subangulosus, ramosus.	STALK from a hand's breadth to a foot in height, upright, smooth, striated, somewhat angular, branched.
FOLIA alterna, petiolata, inferiora lanceolato-hastata, hamis sæpius recurvis, in umbrosis subglauca, in apricis ut ut tota planta sanguinea, superiora lineari-lanceolata.	LEAVES alternate, standing on foot-stalks, the lower ones lanceolate, and halbert-shaped, the lobes forming the halbert, usually bent upwards, in shady situations somewhat glaucous, in exposed ones of a blood colour, as well as the whole plant, the upper ones entire, betwixt linear and lance-shaped.
PETIOLUS longitudine folii, inferne striatus, superne canaliculatus, basi vaginans, vaginâ apice membranaceâ, albâ, lacerâ, sæpe reflexâ.	LEAF-STALK the length of the leaf, on the under side striated, above single-channeled, forming a sheath at bottom, the tip of which is membranous, white, torn, and often reflexed.
SPICÆ plurimæ, nudæ, subramosæ, sæpe nutantes.	SPIKES numerous, naked, somewhat branched, and often drooping.
FLORES masculi et foeminei in distinctis plantis, minimi; <i>fig.</i> 1, 2. flos masculus auctus; <i>fig.</i> 3. foemineus; <i>fig.</i> 4. semen magnitudine naturali; <i>fig.</i> 5. idem auct.	FLOWERS male and female in separate plants, very minute; <i>fig.</i> 1, 2. a male flower magnified; <i>fig.</i> 3. a female flower; <i>fig.</i> 4. the seed of its natural size; <i>fig.</i> 5. the same magnified.

In representing the two sexes (which occur in this as well as in the common Sorrel) we have intended that one of them should express the plant in its dwarf state, as it usually occurs on very dry, hilly pastures. In such situations the whole plant is frequently found of a bright red colour. In more shady aspects it grows taller, and the leaves assume a greener hue. Wherever it abounds we may in general look on it as a sure indication of a dry, barren soil. HALLER observes, that it is often found growing in Coal-yards (*areis carbonariorum*).

Agriculturally considered, we must number it with the weeds, and with those too, from its creeping roots, of difficult extirpation.

It is found in flower from June to September.



Rumex Acetosella

J. Sowerby del et sculp

ERICA VULGARIS. COMMON HEATH.

ERICA *Lin. Gen. Pl.* OCTANDRIA MONOGYNIA.

Cal. 4-phyllus. *Cor.* 4-fida. *Filamentâ* receptaculo inserta. *Antherae* bifidæ.
Caps. 4-locularis.

Raii Syn. ARBORES ET FRUTICES.

ERICA *vulgaris* antheris aristatis, corollis campanulatis subæqualibus, calycibus duplicatis, foliis oppositis sagittatis. *Lin. Syst. Vegetab.* p. 301. *Sp. Pl.* p. 501. *Fl. Suec.* n. 336.

ERICA foliis imis adpressis simplicibus, floralibus calcaratis. *Haller. Hist. n.* p. 1012.

ERICA *vulgaris.* *Scopoli Fl. Carn.* n. 460.

ERICA *vulgaris* glabra. *Baub. Pin.* 485.

ERICA *vulgaris* seu pumila. *Ger. emac.* 1380.

ERICA *vulgaris.* *Parkinsf.* 1480. *Raii Syn.* 470. Common Heath or Ling. *Scot. Hather.* *Hudson. Fl. Angl. ed. 2.* p. 165. *Lightfoot Fl. Scot.* p. 204.

Fruticulus pedalis, bipedalis et ultra, valde ramosus, rami suberecti, teretes, pubescentes, rubicundi.	A small shrub, a foot or two in height, or more, very much branched, the branches mostly upright, round, downy, and reddish.
FOLIA opposita, circa ramulos in quatuor series imbricata, sessilia, sagittata.	LEAVES opposite, sessile and arrow-shaped, placed round the small branches in four rows.
FLORES purpurei, spicati, subsecundi.	FLOWERS purple, growing in a spike, mostly all one way.
PÉDUNCULI brevissimi, longitudine foliorum.	FLOWER-STALKS very short, the length of the leaves.
CALYX: duplex, persistens, exterior brevissimus, tetraphyllus, foliolis ovatis, acutis, patentibus, e viridi purpurascens, ad lentem ciliatis, interior cum corolla concolor, tetraphyllus, foliolis ovato-lanceolatis, nitidis, corolla longioribus, demum inflexis, <i>fig. 1, 2.</i>	CALYX: double, and permanent, the outermost very short, composed of four leaves, which are ovate, pointed, spreading, partly green, and partly purple, when magnified hairy on the edges, the inner one the same colour as the corolla, composed of four somewhat lanceolate leaves, shining, longer than the corolla, finally bending inward, <i>fig. 1, 2.</i>
COROLLA monopetala, purpurea, quadripartita, corollâ brevior, inclusa, <i>fig. 3.</i>	COROLLA monopetalous, purple, deeply divided into four segments, shorter than the corolla, and inclosed within it, <i>fig. 3.</i>
STAMINA: FILAMENTA octo, alba. ANTHERÆ subcoadunatæ, aurantiacæ, bicornes, <i>fig. 4, 5.</i>	STAMINA: eight white FILAMENTS. ANTHERÆ somewhat united, orange-coloured, each furnished with two little horns, <i>fig. 4, 5.</i>
PISTILLUM: GERMEN villosum. STYLUS calyce longior, sursum curvatus. STIGMA quadrifidum, <i>fig. 6.</i>	PISTILLUM: GERMEN villous. STYLE longer than the calyx, bent upward. STIGMA quadrifid, <i>fig. 6.</i>

There is, perhaps, no tribe of plants whose flowers assume a greater variety of form than those of the present genus. Such as have had opportunities of examining many of the foreign heaths, must assent to the truth of this observation; and such as have not, need only consult the present species, and compare the dissections with those of the *Erica cinerea*, and *Tetralix* already figured, to be perfectly convinced of it: so great indeed has this difference appeared to some botanists, that they have divided them into distinct genera.

Africa produces more heaths than the whole world besides. Next to Africa, Europe is the most productive; and almost every part of this quarter of the globe, especially the northern, abounds with this species. LINNÆUS remarks, in his *Flora Laponica*, that, in some of the districts through which he passed, scarce any plant was to be seen but the barren heath, which every where covered the ground, and could no ways be extirpated. The country people, he observes, had an idea that there were two plants which would finally overspread and destroy the whole earth, *viz.* Heath and Tobacco.

Exclusive of the animation which the blossoms of this species in particular impart to our dreary wastes at the close of summer, it answers many important purposes in natural as well as rural economy.

While its branches afford shelter to many of the feathered tribe, its seeds form a principal part of their food, especially those of the Grouse kind: and here we may remark a particular provision of nature in forming the seed-vessel, &c. in such a manner as to preserve the seeds a whole year, or longer, whence they have a constant supply. The foliage of this species affords nourishment to the caterpillar of the *Phalena quercus Linnæi*, or great Egger Moth: we observed many instances of this in our northern tour. Bees are well known to collect largely from the blossoms of heath; but such honey is browner, coarser, and of less value than such as is collected where no heath grows. According to Linnæus's experiments, no kind of cattle appear to be fond of it. Horses and Oxen will eat it; Sheep and Goats sometimes eat, sometimes reject it. Cattle, not accustomed to browse on heath, give bloody milk; but are soon cured, by drinking plentifully of water. *Pennant's Tour*, p. 229.

Heath or Hather is applied to many æconomical purposes among the Highlanders: they frequently cover their houses with it instead of thatch, or else twist it into ropes, and bind down the thatch with them in a kind of lattice-work. In most of the western isles they dye their yarn of a yellow colour, by boiling it in water with the green tops and flowers of this plant. In Rum, Skye, and the Long Island, they frequently tan their leather in a strong decoction of it. Formerly the young tops are said to have been used alone to brew a kind of ale; and even now, I was informed, that the inhabitants of Isla and Jura still continue to brew a very potable liquor, by mixing two-thirds of the tops of Hather, and one-third of malt. This is not the only refreshment that Hather affords; the hardy Highlanders frequently make their beds with it, laying the roots downwards, and the tops upwards, which, though not quite so soft and luxurious as beds of down, are altogether as refreshing to those who sleep on them, and perhaps much more healthy. *Lightfoot Fl. Scot.* p. 205.

In most parts of Great Britain, Heath is in general use for making brooms; and for this purpose is usually cut when in blossom. The turf, with the Heath growing on it, is cut up, dried, and used for fuel by the poor cottager. It is also in use for heating ovens, for mending bad roads where better materials are wanting, and for making drains under-ground.

This species, as well as the others, is sometimes found with white blossoms, and a variety with hoary leaves is not uncommon, particularly on Bagshot Heath. Some authors have improperly considered this as the *Erica ciliaris* of LINNÆUS.

The Dodder very frequently entwines itself about this plant, and gives it an appearance which may puzzle, if not mislead, the inexperienced botanist.



Erica vulgaris.





Spargula arvensis.

L. Swartz. Bot. et. Scap.

SPERGULA ARVENSIS. CORN SPURREY.

SPERGULA *Linnaei Gen. Pl.* DECANDRIA PENTAGYNIA.

Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

SPERGULA *arvensis* foliis verticillatis, floribus decandris. *Linn. Syst. Vegetab.* p. 363. *Sp. Pl.* p. 630.
Flor. Suec. n. 419.

ALSINE foliis verticillatis, feminibus rotundis. *Haller. hist. n.* 873.

ALSINE *Spergula dicta major.* *Baubin. Pin.* 251.

SAGINA *Spergula.* *Ger. emac.* 1125.

SAGINA *Spergula major.* *Parkin. 562.* *Raii Syn.* p. 351. *Spurrey. Hudson. Fl. Angl. ed. 2.* p. 203.
Lightfoot Fl. Scot. p. 243.

RADIX annua, fibrosa.

CAULES plures, spithamæi, seu pedales, subrecti, teretes, læves, superne viscosi, geniculis globosis.

STIPULÆ ad genicula binæ, brevissimæ, apicibus inferiorum reflexis.

FOLIA verticillata, fasciculos duos constituentia, foliolis octo circiter in quovis fasciculo, interioribus sensim minoribus, linearia, teretia, apicibus flavis, dorso lineâ exarato, superioribus viscosis:

FLORES albi, pulchelli, paniculati, panicula dichotoma.

PEDUNCULI viscosi, peractâ florescentiâ penduli.

CALYX: PERIANTHIUM pentaphyllum, foliolis ovatis, obtusiusculis, concavis, patentibus, persistentibus, marginibus albidis, *fig. 1.*

COROLLA: PETALA quinque, ovata, acutiuscula, concava, calyce longiora, unguie brevi affixa, *fig. 2.*

STAMINA: FILAMENTA decem, alba, subulata; AN-
THERÆ subrotundæ, flavæ, *fig. 3.*

PISTILLUM: GERMEN subrotundum; STYLI quin-
que, breves, reflexi; STIGMATA simplicia, *fig. 4.*

PERICARPIUM: CAPSULA ovata, tecta, unilocularis, quinquevalvis, *fig. 5.*

SEMINA plurima, majuscula, nigricantia, depresso-
globosa, punctis rufis prominulis ad lentem
exasperata, annulo manifeste cincta, *fig. 6, 7.*

ROOT annual and fibrous.

STALKS numerous, about a span or a foot in length, nearly upright, round, smooth, on the upper part clammy, joints globular.

STIPULÆ growing in pairs at the joints, very short, the tips of the lower ones reflexed.

LEAVES growing in whirls, and forming two bundles, about eight in each bundle, the inner ones gradually smallest, linear, round, tips yellow; with a deep furrow on the back, the upper ones clammy.

FLOWERS white, pretty, growing in a panicle, which is dichotomous.

PEDUNCLES clammy, hanging down when the flowering is over.

CALYX: a PERIANTHIUM of five leaves, the leaves ovate, bluntish, concave, spreading, permanent, the edges whitish, *fig. 1.*

COROLLA: five PETALS, ovate, a little pointed, concave, longer than the calyx, affixed by a short claw, *fig. 2.*

STAMINA: ten FILAMENTS, white, tapering; AN-
THERÆ roundish and yellow, *fig. 3.*

PISTILLUM: GERMEN roundish; STYLES five, short, reflexed; STIGMATA simple, *fig. 4.*

SEED-VESSEL: an ovate CAPSULÆ covered, by the remaining calyx, of one cavity and five valves, *fig. 5.*

SEEDS numerous, rather large, blackish, round, with a small degree of flatness, if viewed with a magnifier beset with small, reddish, prominent points, and encircled with a manifest ring; *fig. 6, 7.*

The *Spergula arvensis* is seldom found but in a sandy soil; and as that kind of soil does not abound much in the neighbourhood of London, so this species of *Spergula* may be considered as one of our plantæ rariores. On some parts of Hampstead-Heath, and in the neighbourhood of the Spaniard, we have often noticed it, as well as in the sand-pits at Charlton. In some sandy fields near Carshalton, in Surrey, we have seen it so plentiful as to appear like the intended crop. As no use is made of it with us, it may be considered as one of the worst weeds to which a sandy soil is subject. Abroad, however, it is an object of cultivation. In some parts of Flanders, Germany, and Norway, they feed their cattle with the plant, and their poultry with its seeds; but as Tares and Buck-wheat, which are far more productive, as well as nutritious, may be cultivated in a similar soil, our Farmers do wisely in rejecting it.

It is found in blossom from July to September.

We have not found this plant unusually subject to vary in the number of its stamina; nor have we observed it to vary so much in any other respect as to make us suspect we had seen the *Spergula pentandra* of LINNÆUS, which Mr. HUDSON makes a variety of the *arvensis*, contrary to the opinion of some of the greatest authorities. If the difference betwixt these two plants was to depend solely on the number of its stamina, we should be extremely ready to consider them as the same; but RAY, whose opinion must be allowed to have great weight, describes the *pentandra* as a species totally distinct from the *arvensis*. He does not found his specific difference on the number of its stamina; but on characters, less subject to variation: the leaves at the joints, he observes, are fewer and thicker, the plant flowers early, and soon goes off (neither of which takes place in the *arvensis*); and adds, that Dr. SHERHARD observed it in sandy places in Ireland.

To shew that other Authors have likewise entertained an opinion of its being a distinct species, we shall quote their respective synonyms.

Spergula foliis filiformibus verticillatis raris feminibus nigris. *Sauv. Monsp.* 167.

Alsine spergulæ facie minima feminibus emarginatis. *Tourn. inst.* 244. *Vaill. Paris* 3.

Alsine spergulæ facie minima. *Magn. Monsp.* 14.

Arenaria teretifolia verna, flore albo, femine limbo foliaceo cincto. *Rupp. Jen.* 101.

Spergula annua, femine foliaceo nigro circulo membranaceo albo cincto. *Moris hist.* 2. p. 551. *blæs.* 28. *Dill Gifs* 46. *E. N. C. cent.* 5 p. 275. t. 4.

On these several authorities we cannot but conclude, that there exists such a plant as the *Pentandra*; nor can we avoid expressing a wish, that some gentleman, whose residence may afford him an opportunity of observing its history, will favour us with a more complete account of it.



Agrimonia Eupatoria.

del. et sculp.

SPIRÆA ULMARIA. MEADOW-SWEET.

SPIRÆA *Lin. Gen. Pl.* ICOSANDRIA PENTAGYNIA.

Cal. 5-fidus. *Petala* 5. *Capsf.* polyspermæ.

Raii Syn. Gen. 15. HERBÆ SEMINE NUDO POLYSPERMÆ.

SPIRÆA *Ulmaria* foliis pinnatis : impari majore lobato, floribus cymosis. *Lin. Syst. Vegetab.* p. 393. *Sp. Pl.* p. 702. *Fl. Succ. n.* 440.

FILIPENDULA foliis pinnatis, acute ferratis, minimis intermissis, extrema trilobata maxima. *Haller. hist. n.* 1135.

SPIRÆA *Ulmaria Scopoli Fl. Carn.* n. 603.

BARBA CAPRI floribus compactis. *Bauh. Pin.* 164.

ULMARIA *I. B.* III. 488.

REGINA PRATI *Ger. emac.* p. 1043.

ULMARIA vulgaris. *Parkin.* 592. *Raii Syn.* p. 259. Meadow-Sweet. *Hudson Fl. Angl. ed.* 2. p. 217. *Lightfoot Fl. Scot.* p. 259.

<p>RADIX perennis, crassitie minimi digiti, obliqua, rubicunda, fibris plurimis ex fusco lutescentibus descendens instructa.</p>	<p>ROOT perennial, the thickness of the little finger, oblique, reddish, furnished with numerous fibres of a brownish yellow colour, running deep into the earth.</p>
<p>CAULIS bi feu tripedalis et ultra, erectus, foliosus, angulatus, glaber, hinc inde rubicundus, plerumque simplex.</p>	<p>STALK from two to three feet high or more, upright, leafy, angular, smooth, here and there of a reddish colour, for the most part unbranched.</p>
<p>FOLIA alterna, petiolata, pinnata, 3-vel 5-juga : foliolis oppositis, sessilibus, ovato-oblongis, supra viridibus, glabris, lucidiusculis, lineatis, minutim venulosis, rugosis, subtus nervosis, minutim tomentosus, cinereis, margine inciso-dentatis, undique ferratis, minutim ciliatis ; terminatis foliolo majore, trifido-palmato.</p>	<p>LEAVES alternate, standing on foot-stalks, pinnated, pinnæ from three to five pair, opposite, sessile, ovato-oblong, above green, smooth and somewhat shining, minutely veined, and wrinkled, the veins impressed, beneath ribbed, covered with an ash-coloured downy substance, the edge jagged, ferrated, and finely edged with hairs, the terminal pinna large and deeply divided into three segments.</p>
<p>PETIOLI subtus convexi, supra concavi ; radicales triplo longiores.</p>	<p>LEAF-STALKS convex beneath, concave above, those of the radical leaves three times as long as the others.</p>
<p>STIPULÆ amplexicaules, acutæ, margine undique ferratæ, minutim ciliatæ ; <i>partiales</i> in petiolo communi intra singulum par pinnarum, sub oppositæ, parvæ, inæquales magnitudine, ovatæ, dentato-ferratæ, pariter subtus tomentosæ.</p>	<p>STIPULÆ stem-clasping, pointed, ferrated, and finely edged with hairs, the <i>partial</i> ones on the common foot-stalk betwixt each pair of pinnæ, nearly opposite, small, unequal in size, ovate, indented or ferrated, and like the pinnæ downy underneath.</p>
<p>CORYMBUS terminalis, erectus, minutim pubescens, pedunculatus, nudus, compositus e cymis plurimis inæqualibus, intermedia sessili.</p>	<p>CORYMBUS terminal, upright, slightly pubescent, stalked, naked, composed of several unequal cymæ, the intermediate one sessile.</p>
<p>CALYX : PERIANTHIUM monophyllum, subcampanulatum, ad lentem pubescens, pallidum, quinquefidum, laciniis ovatis, acutis, demum reflexis, <i>fig.</i> 1.</p>	<p>CALYX : a PERIANTHIUM of one leaf, somewhat bell-shaped, if magnified slightly downy, of a pale colour, divided into five segments, which are ovate, pointed, and finally reflexed, <i>fig.</i> 1.</p>
<p>COROLLA : PETALA quinque, albida, oblongo-rotundata, unguiculata, patentia, calyce duplo longiora, <i>fig.</i> 2.</p>	<p>COROLLA : five whitish PETALS, oblong, roundish, clawed, spreading twice the length of the calyx, <i>fig.</i> 2.</p>
<p>STAMINA : FILAMENTA viginti plura, filiformia, flavescens, longitudine corollæ, calyci inserta. ANTHERÆ subrotundæ, flavescens, <i>fig.</i> 3.</p>	<p>STAMINA : twenty FILAMENTS or more, filiform, yellowish, the length of the corolla, inserted into the calyx. ANTHERÆ nearly round, and yellowish, <i>fig.</i> 3.</p>
<p>PISTILLUM : GERMINA quinque, sex, five plura ; STYLI totidem, superne incrassati, reflexa ; STIGMATA capitata, <i>fig.</i> 4.</p>	<p>PISTILLUM : GERMINA five, six, or more ; STYLES as many, thickened above and turned back ; STIGMATA forming little heads, <i>fig.</i> 4.</p>
<p>PERICARPIUM : CAPSULÆ plurimæ, spiraliter contortæ, <i>fig.</i> 5.</p>	<p>SEED-VESSEL : CAPSULES several, twisted together spirally, <i>fig.</i> 5.</p>

The Meadow-Sweet has been justly celebrated for its fragrance and beauty, the agreeable odour which the whole plant, but more particularly the flowers, diffuse, has recommended it for the purpose of scenting rooms, and purifying the air, by strewing it on the floors ; it is said not to affect the head like other perfumes : the leaves also, like those of Burnet, impart an agreeable flavour to wine and other liquors.

As an ornamental plant, it has long held a place in our gardens, not only in its wild state, but with variegated leaves and double flowers.

It puts in its claim also for medicinal virtues, which, however, do not appear to be of the most powerful kind ; the leaves are recommended as mildly astringent, and useful in Dysenteries ; the flowers are said to be antispasmodic and diuretic : their pleasant smell, in which their virtue resides, is soon dissipated by keeping.

It grows plentifully in wet meadows and by the sides of ponds and ditches, flowering from July to September. Horses and kine are said to refuse it, sheep to eat it, and goats to be particularly fond of it ; as it forms a great part of the pasturage in some meadows, it is of consequence for the husbandman more clearly to ascertain whether horses and cows refuse the young foliage, and whether they reject the whole plant when made into hay.

We have frequently observed small red tubercles on the leaves, which we have supposed to be occasioned by some species of Cynips.



Spina Ulmaria.

ROSA CANINA. DOG ROSE.

ROSA *Lin. Gen. Pl.* ICOSANDRIA POLYGYNIA.

Cal. urceolatus, quinquefidus, carnosus, collo coarctatus. *Petala* 5. *Sem.* plurima, hispida, calycis interiori lateri affixa.

Raii Syn. ARBORES ET FRUTICES

ROSA *camina* germinibus ovatis, pedunculisque glabris, caule petiolisque aculeatis. *Lin. Syb. Vegetab.* p. 394. *Sp. Pl.* p. 704. *Fl. Succ.* n. 441.

ROSA *spinis* aduncis, foliis septenis, calycibus tomentosis, segmentis pinnatis et femipinnatis, tubis brevissimis. *Haller. Hist.* n. 1101.

ROSA *canina.* *Scopoli Fl. Carn.* n. 604.

ROSA *sylvestris vulgaris* flore odorato incarnato. *Baub. Pin.* p. 483.

ROSA *sylvestris inodora* f. *canina.* *Park.* p. 1017. *sylvestris alba* cum rubore folio glabro. *I. B. II.* p. 43. *Raii Syn.* p. 454. *Cynobatos* et *Cynorrhodon* *Officinarum.* The common wild Briar or Dog's Rose, the Hep-tree. *Hudson. Fl. Angl.* ed. 2. p. 220. *Lightfoot Fl. Scot.* p. 262.

FRUTEX	sepedalis et ultra, aculeatus, scandens, serpensive.	A SHRUB	six feet or more in height, prickly, climbing or creeping.
CAULIS	teres, viridis, feu purpureus, ramosus, aculeatus, aculei validi, recurvi, juniores ruberrimi, senescentes cinerei.	STALK	round, green, or purple, branched and prickly, prickles strong, crooked back, the young ones bright red, the old ones ash-coloured.
FOLIA	alterna, pinnata, plerumque septena, inodora, foliolis sessilibus, ovatis, acutis, serratis, superne nitidis, inferne pallidioribus, inferioribus sensim minoribus, nervo medio subtus aculeato.	LEAVES	alternate, pinnated, consisting for the most part of seven folioli, which are scentless, ovate, pointed, serrated, the upper side shining, the lower side paler, the lowermost ones gradually smallest, the mid-rib prickly underneath.
STIPULÆ	denticulatæ, denticulis apice rubris, capitatis.	STIPULÆ	finely toothed, the teeth tipped with red, and terminated by a globule.
FLORES	terminales, bini feu terni, etiam feni, pedunculati, pedunculis teretibus, nudis.	FLOWERS	terminal, growing two or three, even sometimes six together, standing on foot-stalks, which are round and naked.
CALYX	: calycis foliola lanceolata, longe caudata, duo simplicia, duo utrinque pinnata, pinnis latefcentibus, acutis, unum ab altero tantum latere pinnatum, <i>fig. 1.</i>	CALYX	: the folioli lanceolate, and long-tailed, two of them simple, two pinnated on each side, the pinnæ broadish and pointed, and one pinnated only on one side, <i>fig. 1.</i>
COROLLA	: PETALA quinque, obcordata, remotiuscula, carnea, ad basin pallidiora.	COROLLA	: five PETALS inversely cordate, a little remote from each other, pale red, faintest towards the base.
STAMINA	: FILAMENTA plurima, lutea, fetacea. ANTHERÆ incumbentes, ovatæ, <i>fig. 2.</i>	STAMINA	: FILAMENTS numerous, yellow, tapering. ANTHERÆ incumbent, and ovate, <i>fig. 2.</i>
PISTILLUM	: GERMINA plurima, intra tubum calycis, <i>fig. 3.</i> oblonga, lanata. STYLI filiformes. STIGMATA plurima, arcte conniventia in capitulum, <i>fig. 3.</i>	PISTILLUM	: GERMINA numerous, within the tube of the calyx, <i>fig. 3.</i> oblong and woolly. STYLES filiform. STIGMATA numerous, closely uniting and forming a little head, <i>fig. 3.</i>
PERICARPIUM	: BACCA ovalis, nitida, coccinea, unilocularis.	SEED-VESSEL	: an oval, shining, scarlet BERRY of one cavity.
SEMINA	plurima, lutescentia, subovata, lanata, apice barbata.	SEEDS	numerous, yellowish, somewhat ovate, woolly, bearded at top.

We remember somewhere to have seen an attempt to verify the Genera Plantarum: should such a plan ever be seriously agitated, we might recommend the following lines, written perhaps before any true notion was entertained of genus or species, as expressive of the Rose:

“ Quinque sumus fratres, sub eodem tempore nati,
 “ Bini barbati, bini sine crine creati,
 “ Quintus habet barbam, sed tantum dimidiatam.”

On examination it will appear, that this description, however quaint, accords exactly with the calyx in most, it not all, the species of this genus.

In some parts of Europe, particularly Austria and Carniola, the Roses are much more numerous than with us; and appear to create difficulties in determining the species to which we are happily strangers. SCOPOLI thus exclaims: “ *Fungum et Rosam quisque noscit, species vero genuinas utriusque generis ne Botanici quidem consummati.*” The present species, without some little attention, may however be mistaken for the *alba*, especially when its flowers are whiter than ordinary.

The Dog Rose is well known to produce the Hep, a fruit agreeable enough when ripe and mellowed by the frost. Of these a conserve is made, and kept in the shops, where it is more used as a vehicle for other medicines than for any virtue of its own.

A very singular mossy protuberance is often found on various parts of this Rose, which is occasioned by an insect, the *Cynips Rosæ* of LINNÆUS. Formerly this substance, under the name *Bedeguar*, was used medicinally; but is now with much propriety rejected.

Its lively blossoms decorate our hedges in the month of July. The fruit is late before it ripens. In the winter it is much sought after by many birds, especially the Pheasant.

The water distilled from the wild Rose is said to be infinitely more fragrant than the common Rose water. HALLER says of it, “ *Fragrantia ejus olei omnia alia odoramenta superat, ut inter regia dona sit.*”

The strong thorns with which this shrub is furnished make it valuable either for forming hedges of itself, or for planting with others of stronger growth. The best way of raising plants for this purpose will be from seeds.



Rosa canina.



Tormentilla officinalis.

TORMENTILLA OFFICINALIS. TORMENTIL.

TORMENTILLA *Lin. Gen. Pl.* ICOSANDRIA POLYGYNIA.

Cal. 8-fidus. *Petala* 4. *Sem.* subrotunda, nuda, receptaculo parvo exsucco affixa.

Raii Syn. Gen. 15. HERBÆ SEMINE NUDD POLYSPERMÆ.

TORMENTILLA *officinalis.*

TORMENTILLA *erecta* caule erectiusculo, foliis sessilibus. *Lin. Syst. Vegetab.* p. 399. *Sp. Pl.* p. 716. *Fl. Suec. n.* 459.

FRAGRARIA tetrapetala, foliis caulinis sessilibus, quinatis. *Haller. hist. n.* 1117.

POTENTILLA *Tormentilla erecta.* *Scopoli Fl. Carn.* n. 620.

TORMENTILLA *fylvestris.* *Bauh. Pin.* 326.

TORMENTILLA *Ger. emac.* 992. *vulgaris Parkinsf.* 394.

Raii Syn. p. 257. Tormentil, Septfoil. *Hudson Fl. Angl. ed.* 2. p. 225. *Lightfoot Fl. Scot.* p. 272.

RADIX crassa, tuberosa, variæ magnitudinis et formæ, extus fusca, intus rubicunda.	♦ ROOT thick, and tuberos, various both in size and shape, externally brown, internally red.
CAULES plures ex una radice, spithamæi et ultra, procumbentes, teretes, filiformes, pilosi, inferne simplices, et sæpe nudi, superne ramosi.	♦ STALKS several from one root, a span or more in length, procumbent, round, filiform, hairy, below simple and often naked, above branched.
FOLIA alterna, sessilia, amplexicauli-perfoliata, multifida, utrinque parce pubescentia, supra saturate viridia, laciniis obverse lanceolatis, obtusis, superne latioribus, incisus, patentibus, tribus exterioribus duplo longioribus.	♦ LEAVES alternate, sessile, nearly perfoliate, on each side slightly pubescent, above of a deep green colour, divided into many segments, the segments inversely lanceolate, obtuse, broadest above, serrated on the edges, and spreading, the three outermost twice as long as the others.
PEDUNCULI axillares, filiformes, elongati, uniflori, nudi, pilosi.	♦ FLOWER-STALKS axillary, filiform, long, supporting one flower, naked, and hairy.
FLORES primo cernui, postea erecti.	♦ FLOWERS at first drooping, afterwards upright.
CALYX: PERIANTHIUM monophyllum, octopartitum, pubescens, laciniis ovatis, acutis, patentibus, alternis minoribus, <i>fig.</i> 1.	♦ CALYX: a PERIANTHIUM of one leaf, deeply divided into eight segments, downy, the segments ovate, pointed, alternately least, <i>fig.</i> 1.
COROLLA: PETALA quatuor, lutea, obcordata, plana, patentia, unguibus calyci inserta, <i>fig.</i> 2.	♦ COROLLA: four PETALS, of a yellow colour, inversely heart-shaped, flat, spreading, inserted by the claws into the calyx, <i>fig.</i> 2.
STAMINA: FILAMENTA sedecim circiter, calyci inserta, corolla breviora; ANTHERÆ simplices, luteæ, <i>fig.</i> 3.	♦ STAMINA: about sixteen FILAMENTS, inserted into the calyx, shorter than the corolla; ANTHERÆ simple and yellow, <i>fig.</i> 3.
PISTILLUM: GERMINA octo circiter, glabra, subrotunda, in capitulum conniventia, <i>fig.</i> 4. STYLI filiformes, longitudine staminum, lateri germinis inserti; STIGMATA obtusa, <i>fig.</i> 5. auct.	♦ PISTILLUM: GERMINA about eight, smooth, roundish, forming a little head, <i>fig.</i> 4. STYLES filiform, the length of the stamina, inserted into the side of the germen; STIGMA blunt, <i>fig.</i> 5. magnified.
RECEPTACULUM villosum.	♦ RECEPTACLE villous.
SEMINA tot quot germina, oblongiuscula, obtusa, glabra, nuda, lutescentia, <i>fig.</i> 6.	♦ SEEDS as numerous as the germina, rather oblong, obtuse, smooth, naked, and yellowish, <i>fig.</i> 6.

Tormentil is a plant of considerable importance in rural economy and medicine.

The roots are used in most of the Western Isles, and in the *Orkneys*, for tanning of leather; in which intention they are proved, by some late experiments, to be superior even to the oak-bark. They are first of all boiled in water, and the leather afterwards steeped in the cold liquor. In the islands of *Tirey* and *Col* the inhabitants have destroyed so much ground by digging them up, that they have lately been prohibited the use of them. *Lightfoot Fl. Scot.* p. 272.

Considered medicinally, Tormentil root is a strong and almost flavourless astringent, and gives out its astringency both to water and rectified spirit, most perfectly to the latter: the watery decoction, of a transparent brownish-red colour whilst hot, becomes turbid in cooling like that of the Peruvian bark, and deposits a portion of resinous matter: the spirituous tincture, of a brighter reddish colour, retains its pellucidity. The extracts obtained by inspissation, are intensely styptic, the spirituous most so. It is generally given in decoction: an ounce and a half of the powdered root may be boiled in three pints of water to a quart, adding, towards the end of the boiling, a drachm of cinnamon: of the strained liquor, sweetened with an ounce of any agreeable syrup, two ounces or more may be taken four or five times a day.

We are by no means fond of changing the Linnæan names, but on the present occasion we are, in some degree, compelled to it, from the great inconvenience we have experienced in calling a plant *erecta*, which with us is always procumbent, unless drawn up by surrounding herbage, or by growing in woods, where it more rarely occurs.

Its most usual place of growth is on heaths, moors, and mountainous pastures, where it is extremely common, and flowers from June to September.

LINNÆUS appears to have been induced to call this plant *erecta*, by way of contrast to the *Tormentilla reptans*, which he enumerates as a species: such a plant is certainly figured and described by several English Botanists, but we never yet saw any species of Tormentil with a creeping stalk; we have observed the common Tormentil vary much in size, in the length of its branches, and in the number and size of its petals, we have noticed the leaves sometimes to have foot-stalks, and we have for several years cultivated a *large variety* of this plant, which from one root has extended its stalks nearly a yard every way, and though they have lain close to the ground, on a moist soil, we never could perceive the least tendency in them to throw out roots at the joints; hence we are induced to conclude, that no other than one *species* of Tormentil exists.

As the Tormentil varies with five petals, so the *Potentilla reptans* has sometimes only four, and, perhaps, a starved specimen of the latter, originally gave rise to the *Tormentilla reptans*.

This occasional variation in the number of the petals, &c. at once destroys the generic character of the Tormentil; for, add one-fifth part more of the fructification to those which already exist in the Tormentilla, and you make a *Potentilla* of it; or, *vice versa*, take one fifth-part of the fructification from a *Potentilla*, and it becomes a *Tormentilla*; they ought surely then to form but one genus: SCOPOLI unites them, facetiously remarking, *Monoculum Hominem ab humano genere quis separabit*: HALLER joins the *Potentilla*, *Tormentilla*, *Fragraria*, and *Sibbaldia*, in one family.



Cistus

Mimulus



Papaver dubium.

PAPAVER DUBIUM. LONG-SMOOTH-HEADED POPPY.

PAPAVER *Lin. Gen. Pl.* POLYANDRIA MONOGYNIA.

Cor. 4-petala. *Cal.* 2-phyllus. *Capsula* 1-locularis, sub stigmate persistente poris dehiscens.

Raii Syn Gen. 22. HERBÆ VASCULIFERÆ FLORE TETRAPETALO ANOMALÆ.

PAPAVER *dubium* capsulis oblongis glabris, caule multifloro setis adpressis, foliis pinnatifidis incis. *Lin. Syst. Vegetab.* p. 407. *Sp. Pl.* 726. *Fl. Suec. n.* 467.

PAPAVER foliis hispida, pinnatis, pinnis lobatis, fructu ovato lævi. *Haller. Hist. n.* 1063.

PAPAVER erraticum capite longissimo glabro. *Tourn. Inst.* 238.

PAPAVER laciniato folio, capitulo longiore glabro, seu Argemone capitulo longiore glabro. *Mor. H. R. Bl. H. Ox. II.* 279. *S. III. t. 14. fig. 11.* *Raii Syn.* p. 309. Smooth-headed Bastard-Poppy. *Hudson. Fl. Angl.* p. 231. *Lightfoot Fl. Scot.* p. 280.

This plant, in its general appearance, is so very similar to the *Papaver Rhæas*, as often to be overlooked and mistaken for that species. Were the flowers white, as JACQUIN informs us they constantly are in Austria, the two plants would be much more obviously distinguished; but, fortunately, it has a few characters which always point it out to the attentive observer. These are principally drawn from the Capsules and Flower-stalks; the Capsules of the *Rhæas* are broad and short, somewhat resembling one-half of an egg cut transversely: those of the *dubium* are long and slender. Such is the general appearance of the two Capsules, which, however, are subject to considerable variation. In the *Rhæas*, the hairs on the Flower-stalk are strong, rigid, and spread horizontally; in the *dubium* they are finer, and pressed upward close to the stalk*. On the young Flower-stalks they assume a shining, silvery-white appearance, which looks very beautiful. Below the Flower-stalks, on the other parts of the plant, the hairs spread out. In this last character we do not recollect to have ever been deceived. Besides these, which are the principal differences, the stalks and leaves of the *dubium* are much paler: the flowers are also much smaller, and less intensely red.

Culture produces no alteration in the constancy of its characters.

In Battersea Fields, where the soil is light, the *dubium* is nearly as common, and as much of a weed, as the *Rhæas*; nor is it unfrequent on walls, in the environs of the Metropolis; according to Mr. LIGHTFOOT, it is the most common species in North Britain.

In a corn field, betwixt Croydon and Shirley Common, we once noticed several specimens of this poppy with very large Capsules, which, if we mistake not, were diseased.

It flowers in June.

* JACQUIN'S figure represents the hairs of the Flower-stalks reversed, and the leaves too finely divided.

PAPAVER ARGEMONE. LONG PRICKLY-HEADED POPPY.

PAPAVER *Lin. Gen. Pl.* POLYANDRIA MONOGYNIA.

Cor. 4 petala. *Cal.* 2 phyllus. *Capsula* 1-locularis, sub stigmate persistente poris dehiscens.

Raii Syn. Gen. 22. HERBÆ VASCULIFERÆ, FLORE TETRAPETALO ANOMALÆ.

PAPAVER *Argemone* capsulis clavatis hispidis, caule folioso multifloro. *Lin. Syst. Vegetab.* p. 407. *Spec. Pl.* 725. *Fl. Suec.* n. 466.

PAPAVER foliis hispidis, pinnatis, pinnis lobatis, capitulis ellipticis, hispidis. *Haller Hist.* n. 1063.

PAPAVER *Argemone.* *Scopoli Fl. Carn.* n. 636.

ARGEMONE capitulo longiore. *C. Baub. Pin.* 172. *Ger. emac.* 273. *Park.* 370.

PAPAVER laciniato folio, capitulo hispido longiore. *Raii Syn.* p. 308. Long rough-headed bastard Poppy. *Hudson. Fl. Angl. ed. 2.* p. 230. *Lightfoot Fl. Scot.* p. 279.

RADIX annua, simplex, fibrosa.

CAULIS: ubi læte crescit caules profert plures, pedales, et ultra, foliosos, adscendentes, hirsutos, inter segetes vero caule solitario erecto sæpius gaudet.

FOLIA radicalia plurima, longe petiolata, pinnata, pinnis inciso-dentatis, dentibus mucronatis, caulina tripartita, pinnatifida, omnibus pilosis, superne saturate viridibus, nitidis, inferne pallidioribus.

PEDUNCULI pilosi, pilis adpressis.

CALYX: PERIANTHIUM diphyllum, seu triphyllum, deciduum, papilloso-hispidum.

COROLLA: PETALA quatuor, miniata, suberecta, remotiuscula, obverse ovata, apice crenulata, basi nigricantia, maxime caduca, *fig.* 1.

STAMINA: FILAMENTA viginti circiter, purpurea, plana, apice dilatata, nitida. ANTHERÆ brevissime pedicellatæ, biloculares. POLLEN cærulefcens, *fig.* 2. auct. *fig.* 3.

PISTILLUM: GERMEN longitudine filamentorum, clavatum, subangulatum, hispidum, pilis canis, adpressis. STIGMATIS radii 3 ad 5 villosi, cærulefcens, *fig.* 4.

PERICARPIUM: CAPSULA oblonga, clavata, subangulosa, hispida, inferne nudiuscula, purpurascens, *fig.* 5.

SEMINA plurima, minuta, nigricantia, *fig.* 6, 7.

ROOT annual, simple, and fibrous.

STALK: where the plant grows luxuriantly, it puts forth several leafy, hairy stalks, a foot or more in height, and bending upwards, but among corn it is most commonly found with a single upright stem.

LEAVES next the root numerous, standing on long foot-stalks, pinnated, the pinnæ deeply indented, the teeth terminating in a short point, those of the stalk deeply divided into three segments which are pinnatifid, all the leaves are hairy, on the upper side of a deep green colour, and shining, on the under side paler.

FLOWER-STALKS hairy, hairs pressed close to the stalk.

CALYX: a PERIANTHIUM composed of two or three leaves, deciduous, hispid, the hairs issuing from small papillæ or prominent points.

COROLLA: four PETALS, of a scarlet colour, nearly upright, a little distant from each other, inversely ovate, finely notched at top, and blackish at the base, *fig.* 1.

STAMINA: about twenty FILAMENTS, of a purple colour, flat, dilated at top, and shining. ANTHERÆ standing each on a very short foot-stalk, having two cavities. POLLEN blueish, *fig.* 2. one of the stamina magnified, *fig.* 3.

PISTILLUM: GERMEN the length of the filaments, thickest at top, somewhat angular, hispid, the hairs grey and pressed to it. STIGMA composed of 3 to 5 villous rays, of a bluish colour, *fig.* 4.

SEED-VESSEL: an oblong, club-shaped CAPSULE, somewhat angular, hispid, below for the most part naked, of a purplish colour, *fig.* 5.

SEEDS numerous, minute, and blackish, *fig.* 6, 7.

This species of Poppy is distinguished by a variety of particulars besides its long prickly heads, which, though not absolutely necessary to discriminate the species, are well worthy of our attention. The divisions of the leaves are finer than in any of the other poppies. The petals in general grow more upright; and, instead of having the edges falling over each other, are usually a little distant. The stamina are very remarkable, having the filaments uncommonly dilated towards the top, not at the base, as HALLER asserts; and the Antheræ stand on a very slender foot-stalk placed on the top of each filament.

Like most of the other poppies it usually grows in corn fields, and is not very unfrequent in the neighbourhood of London. About the beginning of June it blossoms in Battersea Fields; but is often overlooked from the extreme fugacity of its petals, which rarely continue expanded more than six hours.



Papaver Argemone.

J. Sowerby del. et sculp.

ORIGANUM VULGARE. WILD MARJORAM.

ORIGANUM. *Lin. Gen. Pl.* DIDYNAMIA GYMNOSPERMIA.

Strobilus tetragonus, spicatus, calyces colligens. fig. 6.

Raii Synop. Gen. 14. SUFFRUTICES ET HERBÆ VERTICILLATÆ.

ORIGANUM *vulgare* spicis subrotundis paniculatis conglomeratis, bracteis calyce longioribus ovatis. *Lin. Syst. Vegetab. p. 452. Spec. Pl. p. 824. Fl. Succ. n. 534.*

ORIGANUM foliis ovatis, umbellis coloratis, staminibus exsertis. *Haller hist. n. 233.*

ORIGANUM *vulgare. Scopoli Fl. Carn. n. 740.*

ORIGANUM sylvestre. *Bauh. pin. 223.*

ORIGANUM anglicum. *Ger. emac. 666.*

MAJORANA sylvestris. *Park. 12.*

ORIGANUM *vulgare spontaneum. Bauh. hist. III. 236.*

Raii Syn. 236. Wild Marjoram. Hudson Fl. Angl. ed. 2. p. 262. Lightfoot Fl. Scot. p. 317.

RADIX perennis, repens, horizontalis, fusca, plurimis fibris capillata.	◇ ROOT perennial, creeping, horizontal, brown, tufted with numerous fibres.
CAULIS pedalis, ad sesquipedalem, erectus, tetragonus, purpurascens, pubescens, ramosus.	◇ STALK, a foot or a foot and a half high, upright, four cornered, purplish, downy, and branched.
RAMI oppositi, erecti, caule teneriores, in cæteris conformes.	◇ BRANCHES opposite, upright, more tender than the stalk, in other respects similar.
FOLIA ad genicula, opposita, petiolata, ovata, acuta, minutim et rariter dentata, supra glabriuscula, subtus pubescentia, utrinque punctata, margine minutim ciliata, patentia.	◇ LEAVES placed at the joints, opposite, standing on foot-stalks, ovate, pointed, finely and rarely toothed, above nearly smooth, beneath downy, dotted on both sides, the edge finely fringed, spreading.
PETIOLI pubescentes.	◇ LEAF-STALKS downy.
AXILLÆ foliorum in planta culta foliolis onustæ.	◇ ALÆ of the leaves, in the cultivated plant, bearing numerous small leaves.
FLORES paniculati, panicula e spicis plurimis, subrotundis, conglomeratis composita.	◇ FLOWERS forming a <i>panicle</i> , composed of numerous, roundish spikes, growing in clusters.
BRACTEÆ ovato-lanceolatæ, sessiles, concavæ, integre, corollâ intensius coloratæ, ad lentem pubescentes, floribus subjectæ singulæ, fig. 1.	◇ FLORAL-LEAVES ovato-lanceolate, sessile, concave, entire, more deeply coloured than the corolla, appearing downy when magnified, placed one under each flower, fig. 1.
CALYX: PERIANTHIUM monophyllum, tubulatum, striatum, subpubescens, pedicellatum, longitudine fere bracteæ, ore barbato, quinquefido, laciniis acutis, erectis, æqualibus, purpureis, fig. 2.	◇ CALYX: A PERIANTHIUM of one leaf, tubular, striated, slightly downy, standing on a short foot-stalk, and almost the length of the floral-leaf, the mouth bearded, divided into five, pointed, upright, equal, purple segments, fig. 2.
COROLLA infundibuliformis, purpurea, tubus villosus, sensim sursum ampliatus, calyce longior, limbus bilabiatus, labium superius erectum, bifidum, obtusum, inferius trifidum, patens, obtusum, fig. 3.	◇ COROLLA funnel-shaped, purple, the <i>tube</i> villous, gradually enlarged upwards, longer than the calyx, the <i>limb</i> composed of two lips, the <i>upper lip</i> upright, bifid and obtuse, the <i>lower lip</i> trifid, spreading and obtuse, fig. 3.
STAMINA: FILAMENTA quatuor, purpurea, corollâ paulo longiora, duobus inferioribus paulo longioribus; ANTHERÆ didymæ, saturatius coloratæ, fig. 4.	◇ STAMINA: four purple FILAMENTS, a little longer than the corolla, the two lowermost somewhat the longest; ANTHERÆ double, and more deeply coloured, fig. 4.
PISTILLUM: GERMEN quadripartitum; STYLUS filiformis, corollâ longior; STIGMA bifidum, acutum, revolutum, fig. 5.	◇ PISTILLUM: GERMEN divided into four parts. STYLE filiform, longer than the corolla; STIGMA bifid, pointed, and turned back, fig. 5.
SEMINA quatuor, ovata, in sinu calycis conniventis.	◇ SEEDS four, ovate, in the bottom of the calyx, which closes over them.

This aromatic and ornamental plant, grows wild on dry chalky hills, and gravelly ground, in most parts of Great Britain, though sparingly in the vicinity of London.

It flowers in July and August.

The leaves and flowery tops of Origanum have an agreeable aromatic smell, and a pungent taste, warmer than that of the Garden Marjoram, and much resembling Thyme; with which they appear to agree in medicinal virtue. Infusions of them are sometimes drank as tea, in weakness of the stomach, disorders of the breast, for promoting perspiration, and the fluid secretions in general; they are sometimes used also in nervine and antirheumatic baths; and the powder of the dried herb as an errhine. Distilled with water, they yield a moderate quantity of a very acrid and penetrating essential oil, smelling strongly of the Origanum, but less agreeable than the herb itself: this oil is applied on a little cotton for easing the pains of carious teeth; and sometimes diluted and rubbed on the nostrils, or snuffed up the nose, for attenuating and evacuating mucous humours. *Lewis M. Med. p. 469.*

It dyes linen cloth of a reddish brown colour; for this purpose the linen is first macerated in alum water and dried; it is then soaked for two days in a decoction of the bark of the crab-tree; it is wrung out of this, boiled in a ley of ashes, and then suffered to boil in the decoction. *Haller hist. Helv. p. 102.*

According to LINNÆUS, it dyes woollen cloth also of a purple colour; is sometimes used as a succedaneum for tea, and added to beer to make it more quickly intoxicatèd, as likewise to prevent it from too quickly turning sour.



Origanum vulgare.

W. Woodcut.



Teucrium Scorodonia.

TEUCRIUM SCORODONIA. SAGE-LEAVED GERMANDER, or WOOD SAGE.

TEUCRIUM *Lin. Gen. Pl.* DIDYNAMIA GYMNOSPERMIA.

Corollæ labium superius (nullum) ultra basin bipartitum, divaricatum ubi
stamina.

Raii Syn. Gen. 14. SUFFRUTICES ET HERBÆ VERTICILLATÆ.

TEUCRIUM *Scorodonia* foliis cordatis ferratis petiolatis, racemis lateralibus secundis, caule erecto. *Lin.*

Syst. Vegetab. p. 440. *Sp. Pl.* 789.

CHAMÆDRYS foliis cordatis productis, spicis longissimis nudis heteromallis. *Haller. Hist. n.* 287.

TEUCRIUM *Scorodonia.* *Scopoli Fl. Carn. n.* 721.

SCORDIUM alterum five salvia agrestis *Bauh. Pin.* 247.

SCORODONIA five salvia agrestis. *Ger. em.* 662.

SCORODONIA *Scordium alterum* quibusdam et salvia agrestis. *Park. III.* *Raii Syn.* 245. *Hudson.*

Fl. Angl. p. 248. *Lightfoot Fl. Scot.* p. 303. *Fl. Dan. t.* 485.

RADIX perennis, lignosa, subrepens.

CAULES plures, sesquipedales, bipedales et ultra, sub-
erecti, tetragoni, duri, purpurei, hirsuti.

FOLIA opposita, petiolata, cordato-oblonga, plerumque
obtusa, sæpe vero acutiuscula, salviæ instar
venosa, utrinque hirsutula, obtuse et inæqualiter
ferrata.

PETIOLI hirsuti.

FLORES straminei, racemosi, secundi, racemis op-
positis, longis, nudis, terminali duplo fere
longiore.

BRACTÆA ovato-acuminata, singulo flori subiecta.

CALYX: PERIANTHIUM monophyllum, tubulosum,
inferne basi gibbosum, labio superiore erecto,
integro, aut obsolete trilobo; inferiore quadri-
dentato, dentibus subæqualibus, *fig. 1.*

COROLLA monopetala, ringens; *Tubus* cylindraceus,
brevis; *Labium* superius ultra basin profunde
bipartitum, distantibus ad latera laciniis; *La-
bium* inferius patens, trifidum, laciniis laterali-
bus figura labii superioris, media maxima, sub-
rotunda, *fig. 2.*

STAMINA: FILAMENTA quatuor, quorum duo lon-
giora, purpurea, pilosa, primo erecta, conni-
ventia, postea reflexa, et disjuncta. ANTHERÆ
flavæ, *fig. 3.*

PISTILLUM: GERMEN quadripartitum. STYLUS fili-
formis. STIGMATA duo, tenuia, *fig. 4.*

SEMINA quatuor, subrotunda, nigricantia, nitida, in
fundo calycis, pilis transversis rigidis fere tecta,
ibique detenta, ad debitam maturitatem, *fig. 5.*

ROOT perennial, woody, and somewhat creeping.

STALKS several, a foot and a half, two feet high, and
more, nearly upright, four-cornered, hard,
purple, and hairy.

LEAVES opposite, standing on foot-stalks, of an oblong
heart-shape, generally obtuse, but often a little
pointed, veiny like sage, a little hairy on each
side, obtusely and unequally ferrated.

LEAF-STALKS hairy.

FLOWERS straw-coloured, growing all one way, on
long, opposite, naked racemi, the terminal
one of which is almost twice as long as the
rest.

FLORAL-LEAF ovate, pointed, and placed under each
flower.

CALYX: a PERIANTHIUM of one leaf, tubular, on the
under side gibbous at the base, the upper lip
upright, entire or faintly three-lobed; the
lower lip furnished with four teeth, which are
nearly equal, *fig. 1.*

COROLLA monopetalous and ringent; *Tube* cylindrical
and short; upper *Lip* deeply divided beyond
the base, segments standing wide; lower *Lip*
spreading, trifid, lateral segments the same
shape as the segments of the upper lip, the
middle one very large and roundish, *fig. 2.*

STAMINA: four FILAMENTS, two of which are longer
than the rest, purple and hairy, at first upright,
and closing together, afterwards turned back,
and separated. ANTHERÆ yellow, *fig. 3.*

PISTILLUM: GERMEN quadripartite. STYLE fili-
form. STIGMATA two, slender, *fig. 4.*

SEEDS four, nearly round, blackish, shining, in the
bottom of the calyx, almost covered with cross
rigid hairs, and kept there till they have ac-
quired a proper degree of ripeness, *fig. 5.*

The Wood-sage, or more properly sage-leaved Germander, delights to grow in woody and hilly situations, among bushes, and under hedges, where the soil is dry and stony; and in such places it is not only common with us, but frequent in most parts of Great Britain.

It flowers in July, August, and September.

Its leaves much resembles those of Sage, from which circumstance, and not from any botanical or medical affinity, it receives its name.

As a medicinal plant, it has never been highly celebrated. Lewis omits it in his *Materia Medica*, but retains it in his *Dispensatory*: in smell, taste, and medical virtues, he says, it comes nearer to *Scordium* than Sage. RUTTY relates a case of Vertigo, brought on by the odour which arose from frequently handling the herb in the distillation of it. He ascribes to it the smell of the Hop, in lieu of which, he says, it may be substituted in making beer; and that, when boiled in the wort, the beer sooner becomes clear than when hops are made use of. Its virtues, in this respect, are highly extolled by the Rev. P. LAURENTIS of Bury*. We have only to wish, that experiment may justify the encomiums of our learned and benevolent friend.

“ Seeing so much fine ground under costly hops, which, it must be owned, had very large and verdant leaves, I could not but repine at the expence of soil, poles, dung, and labour, bestowed on this plant, especially when there is great reason to suppose, that the *Teucrium Scorodonia* would better answer the purpose. Of this plant I can so far say, that in smell and taste it resembles Hops. The name by which it goes in some authors is *Ambrosia*, a name announcing something immortal and divine; and to this day, *ambroise* is the appellation by which it goes among the common people in the island of Jersey. Here, when Cyder, the common beverage, has failed, I have known the people malt each his barley at home, and, instead of Hops use to very good purpose, the *Ambroise* of their hedges.

“ It is my ardent wish, I own, to see justice done to the neglected merits of this ambrosial plant; but should indolence, prejudice, or private interest, obstruct the introduction of it into use, let me at least intreat brewers to honour it with their notice, in preference to any unpalatable and unwholesome substitute they may have occasion to use in lieu of Hops.”

* Vide Tour through Flanders, &c. published in the fourth number of Mr. Young's *Annals of Agriculture*.

ANTIRRHINUM MINUS. THE LEAST TOAD-FLAX.

ANTIRRHINUM *Lin. Gen. Pl. DIDYNAMIA ANGIOSPERMIA.*

Cal. 5-phyllus. *Corollæ* basis deorsum prominens, nectarifera. *Capsula* 2-ocularis.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

ANTIRRHINUM *minus* foliis plerisque alternis lanceolatis obtusis, caule ramosissimo diffuso. *Lin. Syst. Vegetab.* p. 466. *Sp. Pl.* p. 852. *Fl. Suec.* p. 502.

ANTIRRHINUM viscidum foliis inferioribus conjugatis ellipticis obtusis hirsutis, calcare dimidii floris longitudine. *Haller. Hist. n.* 335.

ANTIRRHINUM *minus.* *Scopoli Fl. Carn.* n. 769.

ANTIRRHINUM arvense minus. *Baub. pin.* 212.

ANTIRRHINUM minimum repens. *Ger. emac.* 549.

ANTIRRHINUM sylvestre minimum. *Parkins.* 1334.

LINARIA Antirrhinum dicta. *Raii Syn.* p. *283. The least Calf's Snout or Snap-dragon. *Hudson. Fl. Angl. ed. 2.* p. 272. *Oeder. Fl. Dan. t.* 532.

RADIX annua, simplex, fibrosa.	ROOT annual, simple, and fibrous.
CAULIS erectus, spithameus, seu dodrantalis, ad basin usque ramosus, teres, ramis inferioribus oppositis, superioribus alternis.	STALK upright, from five to nine inches in height, branched down to the bottom, round, the lowermost branches opposite, the uppermost alternate.
FOLIA ut ut tota planta villosa, subviscosa, inferiora opposita, patentia, subspatulata, superiora alterna, recurvata, lineari-lanceolata, obtusa.	LEAVES as well as the whole plant villous, and somewhat viscid, the lower ones opposite, spreading, somewhat spatula-shaped, the upper ones alternate, bent back, betwixt linear and lanceolate, the extremity obtuse.
FLORES parvi, solitarii, alterni, pedunculati, pedunculis erectis.	FLOWERS small, solitary, alternate, standing on upright foot-stalks.
CALYX: PERIANTHIUM quinque-partitum, persistens, laciniis linearibus, subæqualibus, corolla brevioribus, <i>fig. 1.</i>	CALYX: a PERIANTHIUM deeply divided into five segments, which are linear, nearly equal, shorter than the corolla and permanent, <i>fig. 1.</i>
COROLLA monopetala, tubus superne purpureus, inferne maculis duabus parallelis, purpureis notatus, calcar brevissimum subulatum purpurascens, labium superius bifidum, inferne albidum, inferius trifidum, album; palatum villosum, flavescens, <i>fig. 2.</i>	COROLLA monopetalous, the tube on the upper side purple, underneath marked with two parallel purple spots, spur very short and tapering, of a purplish colour, the upper lip bifid, on the underside whitish, the lower trifid and white, the palate villous and yellowish, <i>fig. 2.</i>
STAMINA: FILAMENTA quatuor, alba. ANTHERÆ nigricantes. POLLEN album.	STAMINA: four white FILAMENTS. ANTHERÆ blackish. POLLEN white.
PISTILLUM: GERMEN subovatum, viscidum, rufescens. STYLUS filiformis, superne purpureus. STIGMA simplex, album.	PISTILLUM: GERMEN somewhat ovate, viscid, and of a reddish brown colour. STYLE filiform, on the upper part purplish. STIGMA simple and white.
PERICARPIUM: CAPSULA ovata, apice dehiscens.	SEED-VESSEL, an ovate CAPSULE opening at top.

Botanists have distinguished this species by the names of *minus* and *minimum*, as being the most diminutive of the genus. It may also be considered as one of the least ornamental.

It is chiefly found in corn fields, especially where the soil is sandy. We have occasionally noticed it in Battersea Fields with the *Orontium*; but in many parts of Kent it grows much more plentifully.

We know of no use to which it is applicable; and it is too diminutive a plant to do much harm where it is most abundant.

Introduced into the garden, it comes up annually without any care, nor is it easily lost.

It branches and spreads according to the luxuriance of the soil, and frequently grows to a much greater size than our figure represents.

It flowers from June to August.



Antirrhinum minus.



Euphrasia officinalis.

J. Sowerby del. et sculp.

EUPHRASIA OFFICINALIS. COMMON EYEBRIGHT.

EUPHRASIA *Lin. Gen. Pl.* DIDYNAMIA ANGIOSPERMIA.

Cal. 4-fidus, cylindricus. *Caps.* 2-locularis, ovato-oblonga. *Antheræ* inferiores altero lobo basi spinosæ.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

EUPHRASIA *officinalis* foliis ovatis lineatis argute dentatis. *Lin. Syst. Vegetab.* p. 460. *Sp. Pl.* p. 481. *Fl. Suec.* n. 543. *Haller hist.* 303.

EUPHRASIA *officinalis.* *Scopoli Fl. Carn.* n. 753.

EUPHRASIA *officinarum.* *Bauh. pin.* 233. *Ger. emac.* 663. *Parkin.* 1329. *Raii. Syn.* p. * 284. Eyebright, *Hudson Fl. Angl. ed. 2.* p. 268. *Lightfoot Fl. Scot.* p. 323.

RADIX annua, fibrosa, albida.	◇ ROOT annual, fibrous, and whitish.
CAULIS bipollicaris ad palmarem et ultra, erectus, teres, pubescens, purpureus, plerumque ramofus.	◇ STALK from two to four inches high, or more, upright, round, hoary, purple, for the most part branched.
FOLIA opposita, ovata, obtusa, ferrato-dentata, dentibus acuminatis, supra convexis, subtus concavis, minutim ciliatis, utrinque hirsutula, supra nitidula, lineata, subtus venosa.	◇ LEAVES opposite, ovate, obtuse, ferrated or indented, teeth pointed, above convex, beneath concave, finely edged with hairs, slightly hirsute on each side, above somewhat glossy, with lines impressed, underneath veiny.
RACEMUS terminalis, foliaceus, erectus, floribus axillaribus, oppositis, sessilibus.	◇ RACEMUS terminal, leafy, upright, flowers in the axæ of the leaves, opposite and sessile.
CALYX: PERIANTHIUM monophyllum, ovatum, angulatum, persistens, foliis paulo brevius, pubescens, quadrifidum, laciniis, lanceolatis, acuminatis, erectis, ciliatis, subæqualibus, <i>fig. 1.</i>	◇ CALYX: a PERIANTHIUM of one leaf, ovate, angular, permanent, a little shorter than the leaves, pubescent, divided into four segments, which are lanceolate, long-pointed, upright, edged with hairs, and nearly equal, <i>fig. 1.</i>
COROLLA monopetala, alba, ringens; <i>Tubus</i> cylindricus, albus, glaber, longitudine calycis, <i>fig. 2.</i> <i>Limbus</i> bilabiatus; <i>Labium</i> superius album, subovatum, concavum, pubescens, striis cærulescentibus utrinque 3, intus pictum, obtusum, erectum, bifidum, lobis emarginatis, <i>fig. 3;</i> inferiori paulo majus, trifidum, laciniis omnibus emarginatis, <i>fig. 4.</i> <i>Faux</i> undique striata, et picta striis cærulescentibus, antice vero colore luteo.	◇ COROLLA monopetalous, white, ringent; <i>Tube</i> cylindrical, white, smooth, the length of the calyx, <i>fig. 2.</i> <i>Limb</i> two-lip'd; upper <i>Lip</i> white, somewhat ovate, hollow, downy, painted on the inside with three blueish streaks on each side, blunt, upright, bifid, the lobes emarginate, <i>fig. 3;</i> the lower lip somewhat larger than the upper, trifid, all the segments emarginate, <i>fig. 4.</i> <i>Mouth</i> striated all round, and painted with blueish streaks, but anteriorly of a yellow colour.
STAMINA: FILAMENTA quatuor, subulata, purpurescentia, tubo inserta, <i>fig. 5.</i> ANTHERÆ purpureæ, bilobæ, obtusæ, subtus barbatae, conniventes, lobis spinula terminatis, duabus inferioribus longioribus, <i>fig. 6, 7.</i>	◇ STAMINA: four tapering, purplish FILAMENTS inserted into the tube of the corolla, <i>fig. 5.</i> ANTHERÆ purple, two-lob'd, obtuse, bearded underneath, closing together, the lobes terminating in a spine, the two lowermost the longest, <i>fig. 6, 7.</i>
PISTILLUM: GERMEN ovatum, obtusum, barbatum, <i>fig. 8.</i> STYLUS filiformis, superne pubescens, <i>fig. 9.</i> STIGMA obtusum, integrum, <i>fig. 10.</i>	◇ PISTILLUM: GERMEN ovate, obtuse, bearded, <i>fig. 8.</i> STYLE, filiform, downy, on the upper part, <i>fig. 9.</i> STIGMA blunt, and entire, <i>fig. 10.</i>
PERICARPIUM: CAPSULA ovato-oblonga, compressa, obtusa, mucronata, bilocularis, <i>fig. 11.</i>	◇ SEED-VESSEL: an ovate, oblong, CAPSULE, flattened, obtuse, with a short point, of two cavities, <i>fig. 11.</i>
SEMINA plurima, albida, striata, <i>fig. 12.</i>	◇ SEEDS several, whitish, and striated, <i>fig. 12.</i>

Eyebright is a very common plant on heaths, and pastures, especially where the soil is chalky; it varies much in size and in the branchedness of its stalk, as well as in the colour and size of its blossoms, and flowers from July to September.

Many writers on the *Materia Medica*, ascribe to this plant wonderful efficacy in disorders of the Eyes: ALSTON says, it has been long reckoned a specific ophthalmic, and commended for dim, weak, and watery eyes, for inflamed and sore eyes, for cataracts, &c. yea, it is said to make old eyes become young again, and the blind to see. MILTON, who most probably from his own misfortune, had been induced to look into books of this sort, thus mentions it:

————— “ but to nobler fights
 “ Michael from Adam's eyes the film remov'd,
 “ Which that false fruit that promis'd clearer sight
 “ Had bred; then purg'd with *euphrasy* and rue
 “ The visual nerve, for he had much to see.”

On the other hand, there are not wanting those who condemn its use, especially in inflammatory complaints of the eyes; a friend of LOBEL's is said nearly to have lost his eyesight by the use of it. In such contrariety of sentiment, it will, perhaps, be most prudent not to lay too much stress on so doubtful a remedy.

RHINANTHUS CRISTA GALLI. YELLOW RATTLE.

RHINANTHUS *Lin. Gen. Pl. DIDYNAMIA ANGIOSPERMIA.*

Cal. 4-fidus, ventricosus. *Capsula* 2-locularis, obtusa, compressa.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI, FLORE MONOPETALO.

RHINANTHUS *Crista Galli* corollis labio superiore compresso brevior. *Lin. Syst. Vegetab.* p. 459.
Sp. Pl. p. 840. *Fl. Suec.* 542.

ALECTOROLOPHUS calycibus glabris. *Haller. Hist.* 313.

MIMULUS *Crista Galli.* *Scopoli Fl. Carn.* n. 751.

PEDICULARIS pratensis lutea vel *Crista Galli.* *Baub. Pin.* 163.

CRISTA GALLI foemina. *I. B.* III. 436.

CRISTA GALLI. *Ger. em.* 1071.

PEDICULARIS feu *Crista Galli* lutea. *Park.* 713. Yellow Rattle or Cocks-comb. *Raii Syn.* * 284.
Hudson. Fl. Angl. ed. 2. p. 268. *Lightfoot Fl. Scot.* p. 322.

RADIX annua, simplex, albida, parum fibrosa.	ROOT annual, simple, whitish, furnished with few fibres.
CAULIS pedalis circiter, erectus, simplex, feu ramosus, quadrangulus, glaber, purpureo maculatus.	STALK about a foot high, upright, simple or branched, square, smooth, and spotted with purple.
FOLIA opposita, remotiuscula, sessilia, cordato-lanceolata, obtusiuscula, venosa, laevia, subtus tuberculis albidis pulchre reticulata, serrata, serraturis marginis crassis et subinvolutis.	LEAVES opposite, rather remote from each other, sessile, lanceolate with a heart-shaped base, bluntish, veiny, smooth, underneath beautifully reticulated with white tubercles, sawed, the notches thick on the edge, and somewhat rolled back.
BRACTEÆ oppositæ, magnæ, foliis similes at basi latiores, et profundius incisæ, serraturis acuminatis.	FLORAL-LEAVES opposite, large like the leaves, but broader at the base, and more deeply cut in, the notches pointed.
FLORES flavi, spicati, pedunculis brevissimis infidentes.	FLOWERS yellow, growing in a spike, and sitting on very short foot-stalks.
CALYX: PERIANTHIUM monophyllum, subrotundum, inflatum, compressum, quadridentatum, dentibus equalibus, pallide virens, venosum, persistens, <i>fig.</i> 1.	CALYX: a PERIANTHIUM of one leaf, roundish, inflated, flattened, having four equal teeth, of a pale green colour, and permanent, <i>fig.</i> 1.
COROLLA monopetala, ringens. <i>Tubus</i> subcylindraceus, longitudine calycis; <i>labium</i> superius galeatum, compressum, emarginatum, margine anteriori utrinque violaceo; <i>labium</i> inferius trifidum, laciniis lateralibus planis, rugosis, intermedia majori, marginibus involutis, <i>fig.</i> 2.	COROLLA monopetalous, ringent. <i>Tube</i> somewhat cylindrical, the length of the calyx; the upper <i>lip</i> helmet-shaped, flattened, with a notch on the end, the anterior edge blueish on each side, the lower <i>lip</i> trifid, the lateral segments flat and wrinkled, the middle one largest, the edges rolled inward, <i>fig.</i> 2.
STAMINA: FILAMENTA quatuor, longitudine labii superioris, sub quo recondita, quorum duo breviora. ANTHERÆ incumbentes, hinc bifidæ, hirsutæ, <i>fig.</i> 3.	STAMINA: four FILAMENTS, the length of the upper lip, under which they lie hid, two of which are shorter than the others. ANTHERÆ incumbent, at one end bifid, and hairy, <i>fig.</i> 3.
PISTILLUM: GERMEN ovatum, compressum, glabrum. STYLUS filiformis, staminibus longior. STIGMA obtusum, inflexum, <i>fig.</i> 4.	PISTILLUM: GERMEN ovate, flattened, smooth. STYLE filiform, longer than the stamens. STIGMA blunt, and bent downwards, <i>fig.</i> 4.
PERICARPIUM: CAPSULA orbiculata, mucronata, compressa, bilocularis, bivalvis, <i>fig.</i> 7.	SEED-VESSEL: a round, flat CAPSULE of two cavities and two valves, terminating in a short point, <i>fig.</i> 7.
SEMINA plurima, majuscula, compressa, subreniformia, libera, <i>fig.</i> 8.	SEEDS several, rather large, flattened, somewhat kidney-shaped and loose, <i>fig.</i> 8.

The seeds of this plant, when ripe, rattle in the husks, and hence its name. LINNÆUS informs us, that this circumstance guides the Swedish peasant in mowing his grass for hay. In the neighbourhood of London hay-making commences while this plant is in full bloom.

It abounds in most of our pastures, and flowers early in June.

Agriculturally considered, we may rank it with the useless plants.

In the third edition of RAY's Synopsis, DILLENUS, on the authority of Dr. RICHARDSON, adds another species, which he calls *Pedicularis major angustifolia ramosissima flore minore luteo, labello purpureo*. Found near York, and also in Northumberland. This, however, is considered by succeeding Botanists as a variety only, and is not found with us.



Rhinanthus Crista Galli.



Schrophularia aquatica.

SCHROPHULARIA AQUATICA. WATER-FIGWORT, or WATER-BETONY.

SCHROPHULARIA *Lin. Gen. Pl. DIDYNAMIA ANGIOSPERMIA.*

Cal. quinquefidus. Cor. subglobosa, resupinata. Caps. bilocularis.

Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI, FLORE MONOPETALO.

SCHROPHULARIA *aquatica* foliis cordatis obtusis petiolatis decurrentibus, caule membranis angulato racemis terminalibus, *Lin. Syst. Vegetab. p. 468. Sp. Pl. p. 864.*

SCHROPHULARIA caule alato quadrangulo paniculato, foliis ovato lanceolatis. *Hall. Hist. 326.*

SCHROPHULARIA *aquatica. Scopoli Fl. Carn. n. 776.*

SCHROPHULARIA *aquatica major. Baub. Pin. 235.*

BETONICA *aquatica. Ger. emac. 715.*

BETONICA *aquatica major. Parkinson. 613. Raii Syn. 283. Water-Betony, but more truly Water-Figwort. Hudson Fl. Angl. p. 275. Lightfoot Fl. Scot. p. 329.*

RADIX perennis, crassa, fibris numerosis, majusculis, longis, albis, donata.

CAULIS tripedalis, ad orgyalem, erectus, ramosus, lævis, quadrangularis, purpureus, angulis alatis; rami foliosi, cauli similes.

FOLIA petiolata, opposita, distantia, decurrentia, subconnata, cordato-oblonga, subinde appendiculata, obtusa, venosa, crenata, nuda.

FLORES paniculato-spicati, terminales.

RAMI paniculæ oppositi, trichotomi, bractea lanceolata suffulti, pedunculis lateralibus, multifloris, bractæatis, subviscidis, intermedio solitario.

CALYX: PERIANTHIUM monophyllum, quinquefidum, persistens, laciniis corollæ brevioribus, rotundatis, membranâ fusca lacerâ marginatis, *fig. 1.*

COROLLA monopetala, inæqualis, atro-rubens. *Tube globosus, magnus, inflatus, fig. 2. Limbus quinquepartitus, laciniis duabus majoribus suberectis, rotundatis, fig. 3. cum intermedia squamula labrum parvum mentiente subiecta, fig. 4. duabus lateralibus patulis, fig. 5. tertia minima subinvoluta, fig. 6.*

STAMINA: FILAMENTA quatuor, alba, linearia, subviscida, declinata, longitudine corollæ, quorum duo feriora. ANTHERÆ didymæ, flavæ, *fig. 7, 8.*

PISTILLUM: GERMEN subconicum, glandula nectarifera cinctum, *fig. 9, 10. STYLUS* subulatus, apice subincurvatus, *fig. 11. STIGMA* obtusum, flavum, *fig. 12.*

PERICARPIUM: CAPSULA subrotunda, acuminata, bilocularis, bivalvis, dissepimento e marginibus valvularum inflexis constructo, apice dehiscens, *fig. 13.*

SEMINA plurima parva, fusca.

RECEPTACULUM unum, subrotundum in utrumque loculamentum se insinuans.

ROOT perennial, thick, furnished with numerous, large, long, white fibres.

STALK from three to six feet in height, upright; branched, smooth, four-cornered, purple, the angles winged, branches leafy, like the stalk.

LEAVES standing on foot-stalks, opposite, remote from each other, uniting in some degree at the base, current, oblong heart-shaped, having sometimes little appendages, obtuse, veiny, crenated, and smooth.

FLOWERS terminal, growing in a panicle-like spike.

BRANCHES of the panicle opposite, trichotomous, supported by a pointed floral-leaf, flower-stalks lateral, many-flowered, furnished with floral leaves, somewhat viscid, the middle one solitary.

CALYX: a PERIANTHIUM of one leaf, divided into five segments and permanent, the segments shorter than the corolla, round and edged with a ragged brown membrane. *fig. 1.*

COROLLA monopetalous, unequal, of a deep red colour. *Tube* globular, large inflated. *fig. 2. Limb* deeply divided into five segments, the two uppermost of which are largest, somewhat upright, and rounded, *fig. 3.* with an intermediate little scale like a small lip placed underneath them, *fig. 4.* the two side ones spreading, *fig. 5.* the third very minute and rolled up, *fig. 6.*

STAMINA: four white, linear, slightly viscid FILAMENTS, inclining downwards, the length of the corolla, two of which are later than the others. ANTHERÆ double and yellow, *fig. 7, 8.*

PISTILLUM: GERMEN somewhat conical, supported by a nectareous gland, *fig. 9, 10. STYLE* tapering, bending downwards a little at the top, *fig. 11. STIGMA* blunt and yellow, *fig. 12.*

SEED-VESSEL a roundish pointed CAPSULE, of two cavities and two valves, partition formed by the edges of the valves turning in, opening at top.

SEEDS numerous, small, and brown.

RECEPTACLE single, roundish, insinuating itself into each cavity or cell.

The name of *Water-Betony* (by which this plant is, perhaps, more generally better known than by its other name of *Water-Figwort*) has been assigned it from the great similitude which its leaves bear to those of the *Wood-Betony*; but as it differs from it totally in its fructification, and consequently in its generic character, the latter name is certainly to be preferred.

In its usual state of growth it has little to recommend it as an ornamental plant; but when variegated, few exceed it in beauty. In this state it is not uncommon in the nurseries about *London*.

It grows naturally by the sides of rivers, ponds, and wet ditches; and flowers from *June* to *September*.

Medicinally the leaves of this species are recommended for the same purposes of those of the *Scrophularia nodosa*, to which they have by some been preferred: in taste and smell they are similar, but weaker. Mr. MARCHANT reports, in the Memoires of the French Academy, that this plant is the same with the *Iquetia* of the Brazilians, celebrated as a specific corrector of the ill flavour of Sena. On his authority the *Edinburgh* College, in their common infusion of that drug, directed two-thirds its weight of the *Water-figwort* leaves to be joined; but as they have now discarded this ingredient, we may presume that it was not found to be of much use. *Lewis's Mat. Med. Ed. Aikin, p. 598.*

The disagreeable smell which attends this plant when bruised makes it rejected by cattle in general; nevertheless, both its leaves and flowers are much resorted to by different kinds of insects. The *Tentredo Schrophulariæ* *Lin.* feeds on its foliage, both in its caterpillar and perfect state. The beautiful caterpillar of the *Phalæna Verbasci* feeds on this plant as well as on the Mullein. Both bees and wasps collect great quantities of honey from its flowers, and as these continue to be produced for a great length of time, it is one of those plants which perhaps may be made to grow near bee-hives with advantage.



Thlaspi campestre.

J. Sowerby del. et sculp.

THLASPI CAMPESTRE. MITHRIDATE MUSTARD.

THLASPI *Lin. Gen. Pl. TETRADYNAMIA SILICULOSA.*

Silicula emarginata, obovata, polysperma: valvulis navicularibus, marginato-carinatis.

Raii Syn. Gen. 21. HERBÆ TETRAPETALÆ SILIQUOSÆ ET SILICULOSÆ.

THLASPI *campestre* filiculis subrotundis, foliis sagittatis dentatis, incanis. *Lin. Sp. Pl. p. 902. Syst. Vegetab. p. 491. Fl. Succ. n. 575.*

NASTURTIUM foliis imis petiolatis ovatis, caulinis sagittatis dentatis. *Haller. Hist. n. 509.*

THLASPI *campestre. Scopoli Flor. Carn. n. 807.*

THLASPI *arvense, Vaccariæ folio majus. Baub. Pin. 106.*

THLASPI *mithridaticum five vulgatissimum Vaccariæ folio. Parkins. p. 835.*

THLASPI *vulgatius. J. Baub. II. p. 921.*

THLASPI *vulgatissimum. Ger. em. p. 262. Raii Syn. 305. Mithridate Mustard, Bastard Cresses. Hudson. Fl. Angl. p. 281. Lightfoot Fl. Scot. p. 341.*

RADIX	annua, simplex, fibrosa.	ROOT	annual, simple, and fibrous.
CAULIS	pedalis ad sesquipedalem, erectus, teres, subangulosus, villosus, superne tantum ramosus.	STALK	a foot or a foot and a half high, upright, round, very slightly angular, villous, branched at top only.
FOLIA	radicalia longe petiolata, oblongo-ovata, obtusa, sæpius subintegra, interdum vero basi pinnatifida, cito marcescentia, caulina sagittata, sparsa, conferta, suberecta, villosa, dentata, amplexicaulia.	LEAVES	next the root standing on long foot-stalks, of an oblong ovate shape, for the most part nearly entire, but sometimes pinnatifid at the base, soon decaying, those of the stalk arrow-shaped, placed irregularly, numerous, nearly upright, villous, toothed, and embracing the stalk.
FLORES	minimi, albi.	FLOWERS	very small and white.
RACEMI	longi, erecti.	RACEMI	long and upright.
PEDUNCULI	teretes, villosi, patentes, filiculis paulo longiores.	FLOWER-STALKS	round, villous and spreading, a little longer than the seed-pods.
CALYX	PERIANTHIUM tetraphyllum, foliolis ovatis, obtusis, concavis, ad lentem subpilosis, marginibus et apicibus albidis, alternis paulo brevioribus et angustioribus, fig. 1.	CALYX	a PERIANTHIUM of four leaves, the leaflets ovate, obtuse, hollow, slightly hairy when magnified, the edges and tips whitish, the alternate ones shorter and narrower than the others, fig. 1.
COROLLA	PETALA quatuor, alba, calyce paulo longiora, limbo subrotundo, ungue gracili, fig. 2.	COROLLA	composed of four white PETALS, a little longer than the calyx, the limb roundish, and claw very slender, fig. 2.
STAMINA	FILAMENTA sex, quorum duo paulo breviora. ANTHERÆ flavæ, fig. 3.	STAMINA	six FILAMENTS, of which two are shorter than the rest, fig. 3.
PISTILLUM	GERMEN ovale, compressum, emarginatum. STYLUS brevissimus. STIGMA capitatum, fig. 4.	PISTILLUM	GERMEN oval, flat, emarginate. STYLE very short. STIGMA forming a little head, fig. 4.
PERICARPIUM	SILICULA ovata, obtusa, emarginata dispersa, inferne gibba, superne concava, seminibus protuberantibus, fig. 5, 6.	SEED-VESSEL	an ovate POD, obtuse, emarginate, containing two seeds, underneath gibbous, above concave, the seeds protuberating, fig. 5, 6.

The *Thlaspi arvense* siliquis latis of *C. Baubine*, and the present species, are the two whose seeds have been selected from this numerous genus for medicinal use. These appear to have been used indiscriminately; and sometimes the seeds of the common Cress (*Lepidium sativum*) have been substituted for both. Their virtues appear to be pretty similar: RUTTY prefers those of the *arvense*, as being the most active: they certainly have much more of the alliaceous taste than those of the *campestre*.

In the present practice they are rarely made use of any otherwise than as ingredients in the Venice Treacle and Mithridate, though some recommend them in different disorders, preferably to the common Mustard, with which they agree nearly in their pharmaceutic properties. *Lewis, Mat. Med. p. 647.*

The present species is not an unusual inhabitant of corn-fields; nevertheless it is rather a scarce plant with us. We have noticed it in the greatest plenty about Coomb Wood, near Kingston. Dr. GOODENOUGH informs me, it is not uncommon in Gunnerbury Lane, near Ealing.

It flowers in June, and ripens its seeds in July and August.

Received of the Treasurer of the State of New York the sum of \$1000.00 for the year 1870.

John J. ...
State of New York
County of ...
In presence of ...
Subscribed and sworn to before me this ... day of ... 1870.
Notary Public for the State of New York

John J. ...
Treasurer of the State of New York
I hereby certify that the above is a true and correct copy of the original as the same appears in the books of the Treasurer of the State of New York.

SINAPIS ALBA. WHITE MUSTARD.

SINAPIS *Lin. Gen. Pl.* TETRADYNAMIA SILIQUOSA.

Cal. patens. Cor. unguis recti. Glandula inter stamina breviora et pistillum, interque longiora et calycem.

Raii Syn. Gen. 21. HERBÆ TETRAPETALÆ SILIQUOSÆ ET SILICULOSÆ.

SINAPIS alba, filiquis hispidis: rostro obliquo longissimo ensiformi. *Lin. Syst. Vegetab. p. 503. Sp. Pl. p. 933. Haller Hist. 466.*

SINAPIS alba. *Scopoli Fl. Carn. n. 843.*

SINAPI apii foliis. *Baub. Pin. 99.*

SINAPI album filiqua hirsuta, femine albo vel ruffo. *I. B. II. 856.*

SINAPI fylvestre minus? *Parkins. 830. Raii Syn. p. 295. White Mustard. Hudson. Fl. Angl. ed. 2. p. 298. Lightfoot Fl. Scot. p. 361.*

RADIX annua, simplex, fibrosa, albida.

CAULIS sesquipedalis ad bipedalem, erectus, ramosus, crassiusculus, striatus, tener, fragilis, hirsutus, pilis numerosis, rigidiusculis, deorsum versis.

FOLIA petiolata, alterna, radicalia et pleraque caulina, pallide virentia, venosa, utrinque hirsutula, pinnis trium circiter parium, inferioribus minimis, extima subtriloba, omnibus varie dentatis.

FLORES lutei, terminales.

PEDUNCULI tetragono-striati.

CALYX: PERIANTHIUM tetraphyllum, foliolis patentibus, concavis, deciduis, lævibus, sublinearibus, apice obtusis, fig. 1, 2.

COROLLA: PETALA quatuor, subrotunda, plana, patentia, integra, unguibus erectis, linearibus, longitudine vix calycis, fig. 3.

STAMINA: FILAMENTA sex, quorum duo breviora, virentes, subulata. ANTHERÆ luteæ, erectæ, subfagittatæ, fig. 4.

GLANDULÆ ut in plerisque hujus generis, fig. 5.

PISTILLUM: GERME obovatum, subangulosum, ad lentem hispidum. STYLUS subulatus, anceps, germine duplo fere longior, staminibus paulo brevior. STIGMA capitatum, fig. 6.

PERICARPIUM: SILIQUA hirsuta, subarticulata, subtetrasperma, rostro longissimo ensiformi terminata, fig. 7, 8.

SEMINA majuscula, fusca, fig. 9.

ROOT annual, simple, fibrous, and whitish.

STALK a foot and a half to two feet high, upright, branched, somewhat clumsy, finely grooved, tender, brittle, and hirsute, the hairs numerous, stiffish, and turned downward.

LEAVES standing on foot-stalks, alternate, those next the root and most of those on the stalk pinnated, of a pale green colour, veiny, slightly hirsute on both sides, composed of three or four pair of pinnæ, the lowermost of which are very small, the terminal one often three-lobed, and all of them variously indented.

FLOWERS yellow, and terminal.

FLOWER-STALKS having four grooves or corners.

CALYX: a PERIANTHIUM of four leaves, which are spreading, concave, deciduous, smooth, somewhat linear, and blunt at top, fig. 1, 2.

COROLLA: four roundish PETALS, flat, spreading, entire, claws upright, linear, scarcely the length of the calyx, fig. 3.

STAMINA: six FILAMENTS, two of which are shorter than the rest, of a greenish colour, and tapering. ANTHERÆ yellow, upright, somewhat arrow-shaped, fig. 4.

GLANDS as in most of this genus, fig. 5.

PISTILLUM: GERME inversely ovate, slightly angular, hispid when magnified. STYLE tapering, two-edged, almost twice the length of the germen, and a little shorter than the stamina. STIGMA forming a little head, fig. 6.

SEED-VESSEL: a hairy POD, somewhat jointed, containing about four seeds, terminated by a very long sword-shaped beak, fig. 7, 8.

SEEDS rather large and brown, fig. 9.

In the corn-fields in Buckinghamshire, especially about High Wycomb, the *Sinapis alba* is as common, and as troublesome a weed among the corn as the *arvensis*: with us it is found more sparingly. It is frequently met with on banks, and among the corn in Batefeild-fields, and well known to constitute a part of young fallowing.

RAY has been particularly happy in pointing out the striking characters of the several species of *Sinapis*, which LINNÆUS has adopted. The seed-vessels, either in their form, size, or manner of growth, will always with certainty distinguish them; but as these plants may occur when they are not sufficiently advanced to exhibit those characters, it is necessary to call in others to our assistance: we may then, in addition to LINNÆUS's specific characters, observe, that the *Sinapis alba* is most obviously distinguished from the *nigra* by having its stalk finely grooved, and strongly haired, and from the *arvensis*, for which it is perhaps much more liable to be mistaken, by having its leaves more divided or jagged as our figure expresses.

It flowers in June, and ripens its seeds in July.



Sinapis alba.



Sinapis arvensis.

J. Severy del. et sculp.

SINAPIS ARVENSIS. CHARLOCK.

SINAPIS *Lin. Gen. Pl.* TETRADYNAMIA SILIQUOSA.

Cal. patens. Cor. unguis recti. Glandula inter stamina breviora et pistillum, interque longiora et calycem.

Raii Syn. Gen. 15. HERBÆ TETRAPETALÆ SILIQUOSÆ ET SILICULOSEÆ.

SINAPIS *arvensis* filiquis multangulis toroso-turgidis lævibus rostro ancipiti longioribus. *Lin. Syst. Vegetab. p. 503. Sp. Plant. p. 933. Fl. Suec. 610. Haller. Hist. n. 467.*

SINAPIS *arvensis. Scopoli Fl. Carn. n. 842.*

RAPISTRUM flore luteo. *Baub. Pin. 95.*

RAPISTRUM arvorum. *Ger. emac. 233. Parkinsf. 862. Raii Syn. 295. Charlock or Wild Mustard. Hudson. Fl. Angl. p. 298. Lightfoot Fl. Scot. p. 360.*

RADIX annua, simplex, fibrosa, rigida, albida.	ROOT annual, simple, fibrous, rigid, and whitish.
CAULIS pedalis, sesquipedalis, et ultra, ramosus, teres, solidus, striato-fulcatus, hispida, purpurascens, ramis diffusis.	STALK from one to a foot and a half high, upright; branched, round, solid, striated or grooved, hispid, and purplish, the branches spreading wide.
FOLIA alterna, petiolata, patentia, scabriuscula, venosa, dentato-ferrata, ovato-lanceolata, sæpe integra, sæpius vero basi sinuata, raro pinnata.	LEAVES alternate, standing on foot-stalks, spreading, roughish, veiny, indented or serrated, ovato-lanceolate, often entire, but most commonly jagged at the base, rarely pinnated.
FLORES lutei, terminales, pedunculati.	FLOWERS of a yellow colour, growing in heads, and standing on flower-stalks.
PEDUNCULI longitudine calycis; hispidi.	FLOWER-STALKS the length of the calyx, slightly hispid.
CALYX: PERIANTHIUM tetraphyllum, foliolis linearibus, canaliculatis, patentibus, flavis, obtusis, pilosis, fig. 1.	CALYX: a PERIANTHIUM of four leaves, the leaves linear, hollowed above, spreading, yellow, blunt and hairy, fig. 1.
COROLLA: PETALA quatuor, lutea, obcordata, unguiculata, patentia, unguibus longitudine fere calycis, fig. 1.	COROLLA: four PETALS of a yellow colour, inversely heart-shaped, spreading, claws almost the length of the calyx, fig. 2.
NECTARIA: Glandulæ quatuor saturate virides.	NECTARIES: four Glands of a deep green colour.
STAMINA: FILAMENTA sex, quorum duo breviora, lutea, subulata. ANTHERÆ concolores, incumbentes, primo sagittatæ, apicibus demum revolutis, fig. 3.	STAMINA: six FILAMENTS, two of which are shorter than the rest, yellow and tapering. ANTHERÆ of the same colour, incumbent, first arrow-shaped, tips finally rolling back, fig. 3.
PISTILLUM: GERMEN cylindraceum, longitudine fere styli, et paulo crassior, nunc læve, nunc hirsutum. STYLUS longitudine staminum. STIGMA capitatum, bilabiatum, fig. 4.	PISTILLUM: GERMEN cylindrical, almost the length of the style, and a little thicker, sometimes smooth, sometimes a little hairy. STYLE the length of the stamina. STIGMA forming a little head, divided into two lips, fig. 4.
PERICARPIUM: SILIQUA teres, vix angulosa, patens, lævis aut hirsuta, polysperma, rostro brevi sub-tetragono terminata, fig. 5, 6.	SEED-VESEL a round Pod, scarce perceptibly angular, spreading, smooth or hirsute, containing many seeds, terminated by a short somewhat four-cornered beak, fig. 5, 6.
SEMINA plurima, minuta, nigricantia.	SEEDS numerous, minute, and blackish.

There are three plants peculiar to corn fields, which, in various parts of the kingdom, are more or less common, and all of which are apt indiscriminately to be called CHARLOCK; these are the *Sinapis arvensis*, *Sinapis alba*, and *Raphanus Raphanistrum*; the first and the last of which are by far the most general. The name of *Charlock* ought, however, to be confined to the *Sinapis arvensis*, the most noxious weed of the three, and as such most carefully to extirpated from among the corn.

The leaves of this plant, on their first appearing above ground, and for some time afterwards, resemble those of the turnip so much, that we have known an intelligent farmer deceived by them, and mistaken in his crop. The whole plant, when young, is often eaten by the labouring part of the community; and, like turnip-tops, is no bad substitute to other culinary plants in times of scarcity.

June is the month in which the Charlock flowers most plentifully; but it may frequently be found in blossom earlier, as well as much later. It is not confined to corn fields, but is almost equally common among rubbish.

It varies much in height, colour of its stalk, number of its branches, and degree of hairiness. Among corn it grows taller, and is less branched. The stalk, in some situations, is wholly green; but is more frequently purple at the joints, and very often wholly so. The seed-vessels also vary much in colour and hairiness. We have not observed the flowers subject to any variation of colour.

For the means of distinguishing it from the *Raphanus Raphanistrum*, which at first sight it considerably resembles, vid. *Raphanus Raphanistrum* already figured.



Sisymbrium Irio.

T. Goussier del.

SISYMBRIUM IRIO. LONDON ROCKET.

SISYMBRIUM *Lin. Gen. Pl. TETRADYNAMIA SILIQUOSA.*

Siliqua dehiscens, valvulis rectiusculis. Calyx patens. Corolla patens.

Raii Syn. Gen. 21. HERBÆ TETRAPETALÆ SILIQUOSÆ ET SILICULOSÆ.

SISYMBRIUM *Irio* foliis runcinatis dentatis nudis, caule lævi, siliquis erectis. *Lin. Syst. Vegetab. p. 499. Sp. Pl. 921. Fl. Succ. n. 596.*

ERYSIMUM latifolium majus glabrum. *Baub. Pin. 101.*

IRIS lævis Apulus erucæ folio. *Col. Ecpbr. 1. 264.*

ERYSIMUM latifolium Neapolitanum. *Park. 834. Raii Syn. p. 298. Smoother broad-leaved Hedge-mustard. Hudson. Fl. Angl. ed. 2. p. 297. Jacquim. Fl. Austr. tab. 322.*

Tota planta perpetuo glaberrima est, nec ullum pilum aut villum habet, acre sinapios sapore gaudens. The whole plant is always perfectly smooth, without any hair or down, having the biting taste of mustard.

RADIX annua, albida, calami anserini crassitie, simplex, quandoque ramosa. ROOT annual, whitish, the thickness of a goose-quill, simple, sometimes branched.

CAULIS pedalis, ad bipedalem, teres, hic illic purpurescens, nitidus, firmus inferne, non striatus, sæpius ab ipsa basi ramosus. STALK from one to two feet high, round, here and there purplish, shining, below rigid, not striated or grooved, often branched quite from the bottom.

FOLIA radicalia, quæ brevi marcescunt, et caulina pleuraque, sunt pinnatifida, sinuata, inæqualiter dentata aut serrata, petiolata, patentia, flaccida, lobis ut plurimum acutis, extremo majore et longiore, summa hastata, et quædam integerrima ac simplicia. LEAVES next the root, which soon wither, and most of those on the stalk are pinnatifid, sinuated, unequally toothed or serrated, standing on foot-stalks, spreading and flaccid, the lobes for the most part pointed, the end one larger and longer, the uppermost leaves hastate, some of them entire and simple.

CORYMBI in racemos producuntur longissimos, modo rectos, modo flaccidos. CORYMBI lengthened out into long racemi, sometimes straight, sometimes flaccid.

FLORES pusilli, flavi. FLOWERS small and yellow.

CALYX patens, flavescens, fig. 1. CALYX spreading and yellowish, fig. 1.

PETALA obtusa, et oblonga, unguës habent subrectos, supra hos patentissima, fig. 2. PETALS obtuse, and oblong, having claws nearly upright, above which they spread widely, fig. 2.

STAMINA et STYLUS etiam flavescunt, fig. 3, 4. STAMINA and the STYLE are also of a yellowish colour, fig. 3, 4.

SILIQUÆ graciles, subteretes, ad femina torulosæ, et biunciales, brevibus insunt pedunculis et quaquaversum laxè patent, fig. 5. PODS slender, nearly round, about two inches long, standing on short foot-stalks, and spreading loosely every way, seeds protuberant, fig. 5.

SEMINA minuta, pallide flavent, fig. 6. SEEDS minute, of a pale yellow colour, fig. 6.

The *Sisymbrium Irio*, though a scarce plant in many parts of Great Britain, is frequent enough in the neighbourhood of London: we find it on dry banks, especially such as are made of road sand, walls, and among rubbish in uncultivated places. Its chief time of flowering is from July to September. Like many other annuals it is inconstant as to its particular place of growth. In favourable seasons and situations it is capable of multiplying itself exceedingly from the great number of seed-vessels which it produces. The seeds are very small, and protuberating a little through the valves of the seed-vessel give them the appearance of finely jointed pods; a character, which when present will readily distinguish this plant. Mr. Ray observed it at Faulkourn in Essex, and on the walls of Berwick on the Tweed. That great naturalist remarks, that after the fire of London in the years 1767, 1768, it came up abundantly among the rubbish in the ruins. MORISON, who lived at that period, was particularly struck with so singular an appearance, and in his *Preludia Botanica* has a long dialogue on this very subject; in which, whatever laurels he may gain as a Botanist, few will think him entitled to any as a Philosopher.

As the book, containing this curious dialogue, is in few hands, we flatter ourselves a copy of it will not be unacceptable to many of our readers.

“ *Botan.* Secundo die Septembris, anno Domini, 1666, incepit incendium illud luctuosum et ad triduum, aut quatrimum duravit. Nec ope humanâ (divinitus evenit, quum non est malum in civitate, quod non fecit Dominus) extingui poterat: nam Æolus aperto ventorum carcere (ut ita loquar) regnabat: per triduum aut quatrimum illud. Post octomestrem spatium, per rudera ducentorum jugerum, solo æquatatorum, mihi perambulanti versus excambium vetus nunc. Antè illud tempus; Collegium Greshamianum dictum tendenti, in vestigiis, ædificiorum et tectorum, mihi tanta sese objecit copia, Erysimi illius, quod irio lævis Apulus alter Fabio Columnæ dicitur: Et eodem revertens, mensibus duobus post hoc; adeo densè pullulavit, ut falce quasi Triticum, aut fecale demeti potuerit. *Soc.* Quid inde sequetur, unde provenisse tantam copiam istius Iriionis? putas tu; an à femine seu fatione? *Botan.* Quid quæso, te movet ad talem proponendam questionem, cum ædificia omnia circa ædem Divi Pauli, et alibi passim in meditullio celeberrimi Emporii Londini, à mille aut saltem centenis annis: Fuere constructa et tectis conservata? *Soc.* Ergò tanta copia illius feminis, latebat in cellis et cavearum fundis, et foli et pluvie exposita, fructificavit. *Botan.* Unum hoc addam: ego non sum Plinius, ut ex aliorum relatione mundo imponam; nec Mattheolus ut appingam ea quæ nunquam extitere: sed ut vis appertis
“ verbis

“ verbis nec Calamistratis: meum tibi dicam animum. *Soc.* Dicas quæso? *Botan.* Nullum est fenum plantæ,
“ quod producit (conservatum quam diligentissime) post decennium; perraro post quinquennium: multo minus
“ post centenos aliquot, et mille annos. *Soc.* Ergo aliquis semina istius plantæ, per rudera sparfit. *Botan.* Non
“ credo imò, certò scio tantam istius Irionis, feminis copiam non fuisse in tota insula Britannia, imò nec in Gallia:
“ dubito an in Germania et Italia ipsa; (cujus Neapolis est regnum, ubi frequenter crescebat tempore Fab. Columnæ,)
“ unquam floruit tanta istius plantæ copia, ergo etiam si feminatores fuissent (ex tuâ opinione, post hæc tibi à me
“ audita) non poterat tanta copia istius individualis speciei, feminis; à tot Regnis suppeditari. *Soc.* De hoc non
“ multum nunc dubito: sed quid concludis, sis rationi consentaneus. Unde provenit tanta copia istius Irionis,
“ forte sponte. Sub idem tempus, ibidem vidisti et observasti multas alias plantas, pappescentes, imò gramineas
“ aliasque diversarum classium. *Botan.* Vidi et attentè observavi. *Soc.* Undè hæc aliæ venere? *Botan.* A semine
“ volatili pappescenti quod potest (ut supra clarè satis docui) ad multa Milliaria, vento transferri, et in altum attolli
“ et ubicunque ceciderit, germinat et fructificat. *Soc.* De pappescentibus non dubito quod dicis, insuper Gramina,
“ densè satis proveniunt: in qualibet terra si negligatur: quare non potest tuum Erysimum, seu Irio lævis Apulus
“ alter in rudibus Londinensibus, sponte etiam provenire. *Botan.* Non est par ratio inter Gramina et Erysimum
“ hoc: Quia Graminum semina sparguntur passim; est omnium vegetantium plantarum, in omnibus regionibus,
“ frequentissima et facilius sese propagat. *Soc.* Est planta tamen perfecta, ex supra dictis à te: ergo à semine, multi-
“ plicatur. *Botan.* Hoc ego semper credidi, et in hanc horam credo. Unum a te sciscitari velim, putasne hanc
“ plantam, Irionem lævem Apulum Col. a quovis hortulano, aut incola hujus civitatis satam, in rudibus fuisse.
“ *Soc.* Neminem hujus insulæ primò tam curiosum, secundò nec tantæ ejus plantæ feminis, copia instructum
“ fuisse, pro certo ratum et statutum habeo. Quis tam stolidus aut malè feriatu homo, si semina ad manum haberet
“ (quod impossibile supra demonstratum est) rudibus ducentorum jugerum terræ, solo æquatorum, committeret.
“ Ergo cum neq; à satione, nec à semine, ad aliquot centenos annos in rudibus latente, produci poterat; hujus
“ plantæ tanta copia. Unde concludere vis, tantam ipsius multitudinem provenisse. *Botan.* Certè ut supra dixi ex
“ sale partim volatili, partim fixo, salpetro, sulphure, et ex terra sive calcosa aut ruderosa et aqua, mixtaque
“ materia, quocunque modo appelles, per me non stabit. Nescio quid mihi persuasum habere debeo, adhuc.
“ Probabile certè est, hanc plantam tam copiosè provenisse spontè; ut supra dictum fuit. Sed hæc opinio apperit
“ januam ad philosophastros contemplativos, qui indifferenter, credunt cujuslibet generis plantas, arbores, frutices,
“ suffruticesve, ex terra tanquam matrice, spontè sine semine provenire. Sed hæc opinio (ut mihi videtur) repugnat
“ sacre scripturæ, et rationi. Hæc per dialogum inter nos dixisse, impræsentiarum, sat esse puto. Quod reitat de
“ hac materia; Sociis virtuosis, Parisiensibus, et Londinensibus, viris nobilissimis, clarissimis et doctissimis (ex quorum
“ numero te esse scio) discutiendum relinquo. Vale, mi doctissime vir.”

SISYMBRIUM TERRESTRE. ANNUAL WATER-RADISH.

SISYMBRIUM *Lin. Gen. Pl.* TETRADYNAMIA SILIQUOSA.

Siliqua dehiscens, valvulis rectiusculis. *Cal.* patens. *Corolla* patens.

Raii Syn. Gen. HERBÆ TETRAPETALÆ SILIQUOSÆ ET SILICULOSÆ.

SISYMBRIUM *terrestre* radice annua, foliis pinnatifidis dentato-ferratis, filiquis fœcundis.

RADIX annua, fibrosa, albida.	ROOT annual, fibrous and whitish.
CAULIS pedalis, fœsqipedalis, et ultra, plerumque erectus, ramosus, fulcatus, lævis, viridis, seu purpurascens.	STALK a foot, a foot and a half, or more, in height, generally upright, branched, grooved, smooth, of a green or purplish colour.
FOLIA omnia pinnatifida, Erysimi officinalis quodammodo similia, lævia, pinnis trium, quatuor, five sex parium, cum impari, omnibus inæqualiter dentato ferratis, extima presertim in inferioribus foliis rotundata; caulina semiamplexicaulia.	LEAVES, all of them pinnatifid, somewhat like those of Hedge-mustard, smooth, the pinnæ consist of three, four, or six pair, with an odd one, all of them unequally indented, the outermost especially in the bottom leaves roundish, those of the stalk partly amplexicaule.
FLORES minimi, lutei, semper fœcundi.	FLOWERS very small, yellow, and always producing feed.
CALYX: PERIANTHIUM tetraphyllum, foliolis ovatis, obtusis, concavis, subrectis, flavescens. <i>fig. 1. auct.</i>	CALYX: a PERIANTHIUM of four leaves, which are ovate, obtuse, hollow, nearly upright, and yellowish. <i>fig. 1. magn.</i>
COROLLA; PETALA quatuor, lutea, sæpius emarginata, vix longitudine calycis. <i>fig. 2.</i>	COROLLA: four PETALS, of a yellow colour, generally nicked at the end, scarcely the length of the calyx. <i>fig. 2.</i>
STAMINA: FILAMENTA sex, subæqualia, longitudine pistilli, flavescens. ANTHERÆ luteæ, incumbentes. <i>fig. 3.</i>	STAMINA: six FILAMENTS, nearly equal, the length of the pistillum, of a yellowish colour. ANTHERÆ yellow and incumbent. <i>fig. 3.</i>
PISTILLUM: GERME oblongum. STYLUS brevissimus. STIGMA capitatum, villosum. <i>fig. 4.</i>	PISTILLUM: GERME oblong. STYLE very short. STIGMA forming a little head and villous. <i>fig. 4.</i>
PERICARPIUM: SILIQUA teres, longitudine pedunculi, sursum subarcuata, feminibus plurimis haud æqualiter protuberantibus turgida. <i>fig. 5, 6.</i>	SEED-VESSEL a round Pod, the length of the flower-stalk, somewhat curved upward, turgid with numerous seeds which protuberate unequally. <i>fig. 5, 6.</i>
SEMINA minima, fusca, <i>fig. 7.</i>	SEEDS very small and brown. <i>fig. 7.</i>

We have taken the name of *terrestre*, which LINNÆUS applies to the third variety of his *Sisymbrium amphibium*, not so much from the certainty of its being the plant he intends, as from the propriety of its application to this species, it being generally found in dryer situations than the true *amphibium*.

Repeated observation and culture have thoroughly satisfied us that the present plant is a species perfectly distinct from the *amphibium*; and we ground our authority for considering it as such on the following circumstances.

1st, It is an annual, whereas the *amphibium* is not only a perennial, but has a creeping root.

2dly, It is a much smaller plant than the *amphibium*, seldom acquiring half its height.

3dly, It is seldom or never found in the water, unless accidentally overflown.

4thly, Its foliage is very different, the radical leaves much resembling those of the *Erysimum officinale*.

And, lastly, its seed-vessels are always turgid, and full of seeds, while those of the *amphibium* are usually abortive.

As we can find no satisfactory account of this plant either in RAY, HUDSON, LINNÆUS, HALLER, or the numerous authors we have consulted, we have omitted all synonyms, and contented ourselves with giving it a new specific character, chiefly intended to contrast it with the *amphibium*.

In the course of our botanical researches we have had frequent occasion to remark, that our most common plants are the least known; we seek with avidity such as are rare and with difficulty acquired, and neglect those that we daily tread under foot. The present plant affords an instance of this inattention, as it is a very common one in the environs of London, and found in the same situations as the *Rumex maritimus*, on the edges of wet ditches, and on ground apt to be occasionally overflown. We have observed it in *Totbill-Fields*, on the edge of a ditch by the roadside leading from the *Magdalen Hospital* to *Lambeth Marsh*, and in our garden it comes up spontaneously as a common weed.

When this plant grows by itself, in a situation tolerably dry, it grows quite erect, and quickly produces a considerable quantity of seeds. Should it happen to be overflown, which is frequently the case, it is then more procumbent, and will sometimes take root at the joints, in which state it appears to be the *Sisymbrium palustre repens parvo flore* of VAILLANT, at least it accords in part.

This species of *Sisymbrium* flowers in *June*, *July*, *August*, and *September*.

It has a similar taste to most of the plants of the cress kind, but is not very pungent.



Sisymbrium terrestris.

ERYSIMUM OFFICINALE. HEDGE MUSTARD.

ERYSIMUM *Lin. Gen. Pl. TETRADYNAMIA SILIQUOSA.*

Siliqua columnaris, exacte tetraëdra, Cal. clausus.

Raii Syn. Gen. 21. HERBÆ TETRAPETALÆ SILIQUOSÆ ET SILICULOSÆ.

ERYSIMUM *officinale* filiquis spicæ adpressis. *Lin. Syst. Vegetab. p. 499. Sp. Pl. p. 922. Fl. Suec. n. 598.*

ERYSIMUM foliis pinnatis, pinnis rectangulis, acutis, extrema triangulari maxima, filiquis adpressis. *Haller. Hist. 878.*

SISYMBRIUM *officinale. Scopoli Fl. Carn. n. 824.*

ERYSIMUM vulgare. *Baub. Pin. 100.*

ERYSIMUM Diofcoridis Lobelio. *Ger. em. 254.*

ERYSIMUM vulgare. *Parkin. 833.*

ERUCA hirsuta filiqua caule appressa Erysimum dicta. *Raii Syn. 298. Common Hedge-mustard. Hudon. Fl. Angl. ed. 2. p. 286. Lightfoot Fl. Scot. p. 354.*

RADIX annua, descendens, flexuosa, fibrillosa.

CAULIS pedalis ad bipedalem, erectus, teres, striatus, pubescens, scaber, ramosus, sæpius purpurascens.

FOLIA alterna, petiolata, utrinque parcius pubescentia, subtus scabra, præcipue in costa et nervis, pinnatifida; laciniis oppositis, oblongis, serrato-dentatis, terminali majore, cum laciniis proximis confluenta.

RACEMI florum terminales, subrotundi; fructuum filiformes, elongati, nudi, pubescentes.

CALYX: PERIANTHIUM tetraphyllum, pallidum, foliolis lineari ovalibus, obtusiusculis, concavis, pubescentibus, *fig. 1.*

COROLLA cruciformis, tetrapetala, fordide lutescens, petalis cuneiformibus, obtusis, venulosis, unguiculatis, calyce longioribus, *fig. 4.*

STAMINA: FILAMENTA sex, subulata, pallida, corollâ paulo breviora; quorum duo adhuc breviora. ANTHERÆ cordatæ, acutæ, subrecurvæ, *fig. 2.*

NECTARIA: Glandulæ duæ utrinque ad stamina breviora.

PISTILLUM: GERMEN cylindricum, striatum. STYLUS brevis, pubescens. STIGMA orbiculatum, planiusculum, emarginatum, altitudine fere staminum, *fig. 3.*

SILIQUÆ cylindricæ, striatæ, virides aut purpuræ, pubescentes, cauli adpressæ, *fig. 5, 6.*

SEMINA fordide lutescentia, utrinque oblique truncata, *fig. 7.*

ROOT annual, descending, crooked, and fibrous.

STALK from one to two feet high, upright, round, finely grooved, beset with numerous short rough hairs, branched, and for the most part purplish.

LEAVES alternate, standing on foot-stalks, slightly downy on each side, particularly on the midrib and nerves, pinnatifid, the segments opposite, oblong, serrated or toothed, the end one largest, and connected with the next to it.

RACEMI of the flowers terminal, roundish; of the fruit filiform, lengthened out, naked, and downy.

CALYX: a PERIANTHIUM of four leaves, of a pale colour, linear-oval, bluntish, concave, and downy, *fig. 1.*

COROLLA cross-shaped, composed of four petals, of a dull yellow colour, wedge-shaped, obtuse, veiny, clawed, longer than the calyx, *fig. 4.*

STAMINA: six FILAMENTS, tapering, of a pale colour, a little shorter than the corolla; two of which are shorter than the rest. ANTHERÆ heart-shaped, pointed, bent somewhat upward, *fig. 2.*

NECTARIES: two Glands one on each side, placed at the base of the shorter stamina.

PISTILLUM: GERMEN cylindrical, striated. STYLE short, downy. STIGMATA round, flattish, emarginate, almost the height of the stamina, *fig. 3.*

PODS cylindrical, finely grooved, green or purple, downy and pressed to the stalk, *fig. 5, 6.*

SEEDS of a dingy yellow colour, obliquely truncated at each end, *fig. 7.*

The *Erysimum officinale* affords a remarkable instance of that diversity of appearance which the same plant may assume at different periods of its growth. View it just as it comes into blossom, and afterwards, when its flowering branches shoot out horizontally to a great length, and you will scarcely believe that it is one and the same plant.

It grows very commonly on dry banks, under walls, pales, and in waste places; and flowers from June to September.

The leaves of Hedge Mustard are said to be attenuant, expectorant, and diuretic, and stand particularly recommended against chronic coughs and hoarseness, whether humoral or occasioned by immoderate exertion of the voice. LOBEL greatly commends for this purpose a compound syrup, which, as GEOFFROY observes, is not superior to a simple mixture of the expressed juice of the herb with honey; and indeed it is not very clear, whether the virtue of the honey is much improved by the Erysimum.

The herb has no smell; and its taste, at least when moderately dried, is little other than herbaceous, with somewhat of a slight saline impregnation.

The seeds of Erysimum are considerably pungent, and appear to be nearly of the same quality with those of mustard, but weaker. Their acrimony, like that of mustard-seed is extracted totally by water, and partially by rectified spirit, and strongly impregnates water in distillation. *Aikin's Ed. of Lewis's Mat. Med. p. 290.*



Erysimum officinale.

J. Sowerby del. et sculp.



Lathyrus Aphaca.

LATHYRUS APHACA. YELLOW VETCHLING.

LATHYRUS *Lin. Gen. Pl.* DIADELPHIA DECANDRIA.

Stylus planus, supra villosus, superne latior. *Cal.* laciniæ superiores
2 breviores.

Raii Syn. Gen. 23. HERBÆ FLORE PAPILIONACEO SEU LEGUMINOSÆ.

LATHYRUS *Aphaca* pedunculis unifloris, cirrhis aphyllis, stipulis sagittato-cordatis. *Lin. Syst. Vegetab.* p. 662. *Sp. Pl.* 1029.

LATHYRUS aphyllis stipulis sagittatis latissimis. *Haller hist. n.* 442.

LATHYRUS *Aphaca.* *Scopoli Fl. Carn.* n. 887.

VICIA lutea foliis convolvuli minoris. *Bauh. Pin.* 345.

APHACA *Parkinsf.* 1067. *Ger. emac.* 1250. *Raii Syn. ed.* 3. p. 320. *Hudson Fl. Angl. ed.* 2. p. 315.

RADIX annua, fibrosa.

CAULIS pedalis, sesquipedalis, et ultra, debilis, ope cirrhorum scandens, tetragonus, lævis.

FOLIA nulla.

STIPULÆ binæ, magnæ, sagittato-cordatæ, obtusæ, utrinque prope basin denticulo notatæ, glaucæ, subtus nervosæ.

CIRRHUS simplex, patens.

FLORES lutei, parvi, solitarii, pedunculati, axillares.

PEDUNCULI foliis longiores, tetragoni, uniflori, bractæa minimâ prope florem instructi.

CALYX: PERIANTHIUM monophyllum, quinque partitum, laciniis lanceolatis, subæqualibus, nervosis, longitudine fere corollæ, *fig.* 1.

COROLLA papilionacea, VEXILLUM luteum, reflexum, intus lineis cæruleis striatum, *fig.* 2. ALÆ luteæ, subrotundæ, longitudine carinæ, hamis duobus inæqualibus, pallidioribus, *fig.* 3. CARINA pallide sulphurea, postice fissâ, *fig.* 4.

STAMINA: FILAMENTA decem, simplex, et novem fidum, affurgentia, albida, ANTHERÆ subrotundæ, luteæ, *fig.* 5.

PISTILLUM GERMINUM oblongum, compressum, viride, glabrum; STYLUS sursum erectus, pallidior, superne latior, obtusus; STIGMA a medietate styli antice villosus, *fig.* 6.

PERICARPIUM: LEGUMEN unciale, latiusculum, compressum.

SEMINA septem octave, subrotunda, nitida.

ROOT annual, and fibrous.

STALK a foot, a foot and a half or more in height, weak, climbing by means of its tendrils, four-cornered, and smooth.

LEAVES none.

STIPULÆ growing in pairs, large, betwixt arrow and heart-shaped, obtuse, on each side near the base furnished with a tooth, glaucous, and ribbed on the under side.

TENDRIL simple and spreading.

FLOWERS yellow, small, solitary, growing on footstalks from the axæ of the leaves.

FLOWER-STALKS longer than the leaves, four-cornered, one-flowered, furnished near the flower with a minute bractæa or floral leaf.

CALYX: a PERIANTHIUM of one leaf, deeply divided into five segments, which are lanceolate, nearly equal, ribbed, and almost the length of the corolla, *fig.* 1.

COROLLA papilionaceous, STANDARD yellow, reflexed, striped on the inside with blue lines, *fig.* 2. WINGS yellow, nearly round, the length of the keel, claws two, unequal, paler, *fig.* 3. KEEL of a pale sulphur colour, cloven behind, *fig.* 4.

STAMINA: ten FILAMENTS, one single, nine connected, rising upwards, whitish; ANTHERÆ roundish and yellow, *fig.* 5.

PISTILLUM GERMINUM oblong, flat, green, and smooth, STYLE rising upwards, upright, paler, dilated above, obtuse; STIGMA which rises from the middle of the style villous on its fore part, *fig.* 6.

SEED-VESSEL: a POD about an inch in length, broadish, and flattened.

SEEDS seven or eight, roundish, and shining.

We have here a very unusual phenomenon in the vegetable œconomy, a plant whose stipulæ supply the place of leaves, at least when the plant becomes of a certain age; for, by a kind of accidental examination, we lately discovered that this species of Lathyrus, soon after it comes up from seed, is usually furnished with one or more pair of leaves, similar to the other plants of this family, but which, as the plant advances, totally disappear; these are represented at *fig.* 7.

A somewhat similar appearance we noticed last summer at Mr. MALCOLM'S, *Kennington*, in a rare species of *Mimosa*, called *verticillata*, all the leaves of the young plants were pinnated, and all those of the old plants whorled.

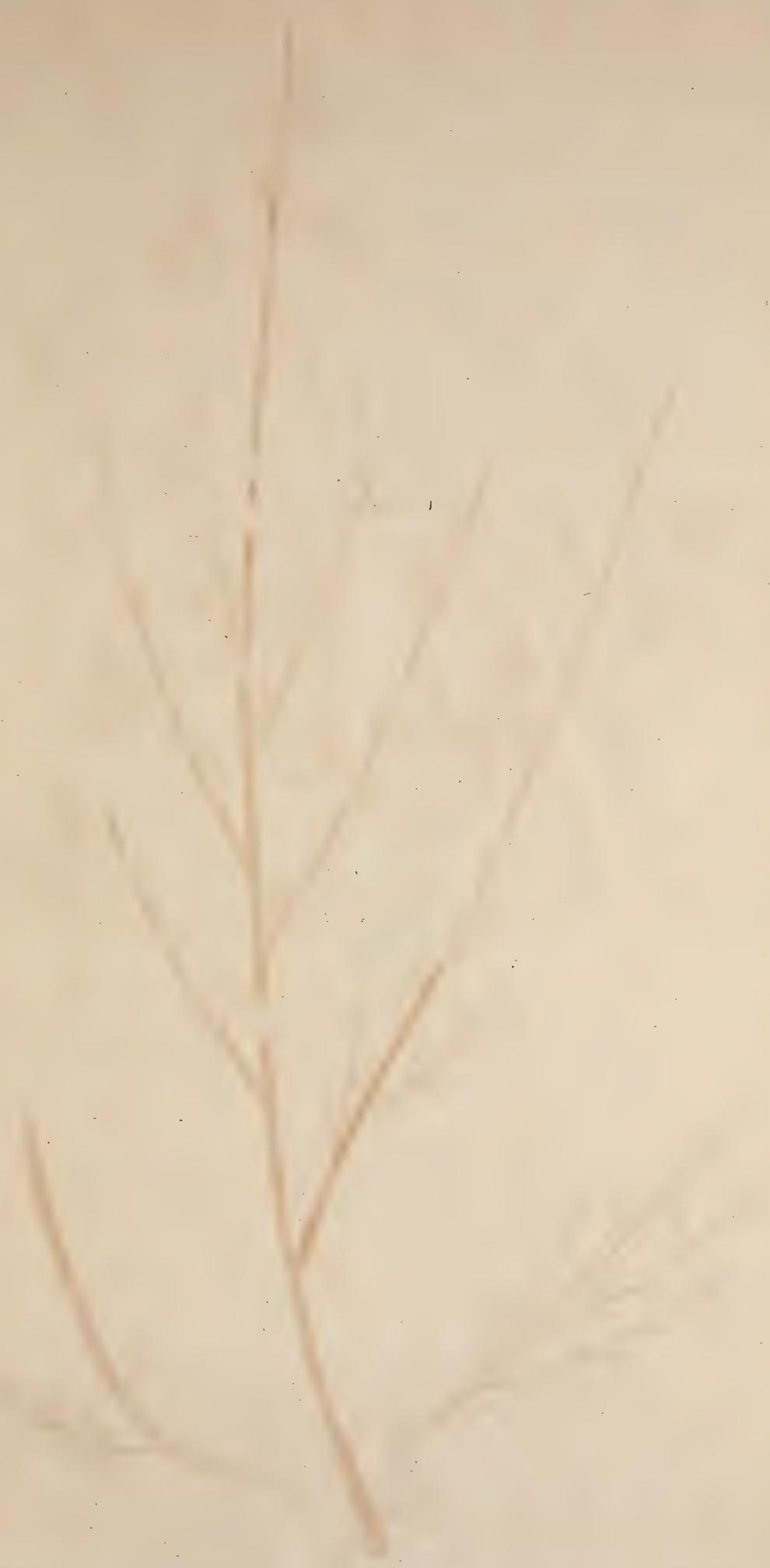
LINNÆUS, in his *Species Plant.* takes some notice of the *Aphaca*'s producing leaves; his words are, *Cirrhus interdum aliquis gerit foliola conjugata, 2, lanceolata, reliquis Lathyrus semillima at hoc rarissime.*

According to our observation, the leaves grew on footstalks in the usual way, without any, or a very short tendril, and they were observable on every seedling; hence we suspect them to be common to this plant when young; and rare, merely from being overlooked.

This species is an annual which grows spontaneously in our corn fields, but is not common in the neighbourhood of London; we have observed it most frequently about Tottenham and Enfield.

It flowers in June and July.

No particular uses or noxious qualities are ascribed to it.





*Spartium
Scoparium.*

SPARTIUM SCOPARIUM. COMMON BROOM.

SPARTIUM *Lin. Gen. Pl.* DIADELPHIA DECANDRIA.

Stigma longitudinale, supra villosum. *Filamenta* germini adhærentia.
Cal. deorsum productus.

Raii Syn. ARBORES ET FRUTICES.

SPARTIUM *Scoparium* foliis ternatis folitariisque ramis inermibus angulatis. *Lin. Syst. Vegetab.*
p. 644. *Sp. Pl.* *p.* 996. *Fl. Suec. n.* 633.

SPARTIUM foliis inferioribus ternatis hirsutis, superioribus simplicibus. *Haller hist. n.* 354.

GENISTA angulosa et scoparia. *Bauh. pin.* 395.

GENISTA cum rapo. *Dodon. Pempt. p.* 761. *Ger. emac.* 1311.

GENISTA vulgaris five scoparia. *Park. Theat. p.* 228.

GENISTA angulosa trifolia. *I. B. I.* 388. *Raii Syn. p.* 474. Common Broom, *Hudson Fl.*
Angl. ed. 2. p. 310. *Lightfoot Fl. Scot. p.* 382.

Frutex tripedalis ad orgyalem et ultra, ramofissimus, ramis erectis, virgatis, viridibus, angulatis, flexilibus, junioribus pubescentibus	◇ A Shrub from three to six feet high or more, very much branched, the branches upright, twiggy, green, angular, flexible, the young ones downy.
FOLIA sæpius ternata, summis subinde folitariis, foliolis ovatis, acutis, pubescentibus, ciliatis, ciliis mollibus inflexis.	◇ LEAVES most commonly growing by threes, uppermost ones sometimes singly, leaflets ovate, acute, downy, edged with soft hairs bending inwards.
PETIOLI pubescentes, complanati.	◇ LEAF-STALKS downy, flattened.
FLORES lutei, maximi, laxe racemosi.	◇ FLOWERS yellow, very large, growing in loose racemi.
BRACTEÆ quatuor, obovatæ, inæquales, cruciatæ, obtusæ, ad basin pedunculorum.	◇ BRACTEÆ four, inversely ovate, unequal, cross-shaped, obtuse at the base of the flower-stalks.
PEDUNCULI folitarii, sæpius bini, raro terni, teretes, glabri, stipulâ minimâ utrinque instructi.	◇ FLOWER-STALKS single, oftener two, rarely three, round, smooth, furnished on each side with a very minute stipula.
CALYX: PERIANTHIUM monophyllum, parvum, bilabiatum, sæpe purpureum, obsolete denticulatum, labiorum apicibus marcidis fuscis, <i>fig. 1.</i>	◇ CALYX: a PERIANTHIUM of one leaf, small, two-lipped, often purple, faintly toothed, extremities of the lips withered and brown, <i>fig. 1.</i>
COROLLA papilionacea, pentapetala, <i>Vexillum</i> obcordatum, reflexum, maximum, <i>fig. 2.</i> <i>Alæ</i> longitudine carinæ, subovales, breviter petiolatæ, <i>fig. 3.</i> <i>Carina</i> ampla et profunda, obtuse rostrata, <i>fig. 4.</i> dipetala, aut in duas partes facile separabilis, margine carinali villis connexo.	◇ COROLLA papilionaceous, pentapetalous, <i>Standard</i> inversely heart-shaped, reflexed, very large, <i>fig. 2.</i> <i>Wings</i> the length of the keel, somewhat oval, on short footstalks, <i>fig. 3.</i> <i>Keel</i> large and deep, beak blunt, <i>fig. 4.</i> composed of two petals, or at least easily separated into two parts, the edges being connected together at the keel with soft hairs.
STAMINA: FILAMENTA decem, inferne in unum corpus coalita (hinc decandria non diadelphia) assurgentes, inferioribus longioribus; ANTHERÆ oblongæ, crocæ, <i>fig. 5.</i>	◇ STAMINA: ten FILAMENTS, below united into one body (hence of the class decandria rather than diadelphia) rising upwards, the lowermost ones longest; ANTHERÆ oblong, saffron-coloured, <i>fig. 5.</i>
PISTILLUM: GERMEN oblongum, hirsutum; STYLUS subulatus, assurgens, demum spiraliter involutus ad apicem inferne canaliculatus, STIGMA terminale, minimum, capitatum, <i>fig. 6.</i> auct. <i>fig. 7.</i>	◇ PISTILLUM: GERMEN oblong, hirsute; STYLE tapering, rising upward, finally bent spirally, so as to form somewhat more than a circle, near the tip hollowed below; STIGMA terminal, very small, and forming a little head, <i>fig. 6.</i> magnified, <i>fig. 7.</i>
PERICARPIUM: LEGUMEN latum, compressum, nigricans, marginibus pilis mollibus ciliatis, <i>fig. 8.</i>	◇ SEED-VESSEL a broad, flat, blackish POD, edged with soft hairs, <i>fig. 8.</i>
SEMINA plurima ad 20, minuta, subovata, lutescentia, nitida, <i>fig. 9.</i>	◇ SEEDS numerous to 20, small, somewhat ovate, dingy yellow, glossy, <i>fig. 9.</i>

The common English Broom is one of the most ornamental shrubs we have, especially that variety of it, in which the calyx is purple, and the blossoms strongly tinged with orange; but even in its common state, such is the profusion of blossoms with which its branches are loaded in the summer, such the charming verdure of its twigs in the winter season, that it may be said to vie with any of the foreign ones, and to be equally deserving a place in all ornamental grounds.

It grows naturally in dry, sandy, barren soils, bears transplanting badly, but is most readily raised from seed.

It is not only in an ornamental point of view, that this plant deserves our notice, it claims our attention also as an useful plant in rural œconomy and medicine.

Though not so commonly used for besoms as the common Heath and Birch, it is preferred for many purposes; in the Northern parts of Great-Britain it is made use of for thatching cottages, corn and hay-ricks, also as a substitute for reeds in making fences or screens; and we have been credibly informed, that in some parts of Scotland, where coals are scarce, whole fields are sown with its seeds to form fuel.

Authors mention the flower-buds, just before they become yellow, as proper for pickling, in the manner of capers*; the branches, as capable of tanning leather†, and of being manufactured into coarse cloth‡; the old wood, as furnishing the cabinet-maker with the most beautiful materials for veneering; and the tender branches, to be frequently mixed with hops for brewing§.

* DODON, &c. † HALLER. ‡ Ibid. § LIGHTFOOT, Fl. Scot.

The twigs, when bruised, smell disagreeably; this may, perhaps, be one reason for their being generally rejected by cattle; the plant, however, affords nourishment to a great variety of insects; in particular, to the larvæ of several *Phalænæ* not described by LINNÆUS.

From the roots of this plant springs the Broom Rape, figured in a former number of this work.

“ The leaves and stalks of broom have a nauseous bitter taste, which they give out by infusion, both to water and rectified spirit; and which, on gently inspissating the filtered liquors, remains concentrated in the extracts: the watery tincture is of a yellowish green or brownish, the spirituous of a dark green colour. They are accounted laxative, aperient, and diuretic; and in this intention have been often used by the common people in dropsies and other serous disorders. Dr. MEAD relates a case of an hydropic person, who, after the paracentesis had been thrice performed, and sundry purgatives and diuretics had been tried without relief, was perfectly cured, by taking, every morning and evening, half a pint of a decoction of green broom tops, with a spoonful of whole mustard seed: by this medicine, the thirst was abated, the belly loosened, and the urinary discharge increased to the quantity of at least five or six pints a day.

“ Infusions of the ashes of the plant in acidulous wines, have likewise been employed in the same intention, and often with good success. The virtue of this medicine does not depend, as some have supposed, on any of the peculiar qualities of the broom remaining in the ashes, but on the alkaline salt and earth, which are the same in the ashes of broom as in those of other vegetables, combined, wholly or in part, with the vinous acid. A solution even of the pure earthy part of vegetable ashes, made in vegetable acids, proves notably purgative and diuretic.

“ Of the seeds and flowers, the medicinal qualities are not well known. It is said, that the seeds, in doses of a dram and a half in substance, and five or six drams in decoction or infusion, prove purgative or emetic. Some report that the flowers also operate in the same manner; but LOBEL assures us, from his own observation, that they have been taken in quantity without producing any such effect: and I have known infusions of the flowery tops drank freely in some asthmatic cases, without any other sensible operation than a salutary increase of urine and expectoration. The seeds, slightly roasted, are used in some places as coffee.” LEWIS'S *Mater. Med.* p. 318.

A variety of this plant, much more hoary than common, is accidentally met with; the most usual time of its flowering with us, is about the latter end of May or beginning of June.

THOMSON, whose observing eye rarely suffered any of the beauties of nature to escape him, has noticed the flowering of this shrub in the following passage, in which he describes the effect which the genial warmth of the season produces on the various animals:

“ While thus the gentle tenants of the shade
“ Indulge their purer loves, the rougher world
“ Of brutes below rush furious into flame
“ And fierce desire, Thro' all his lusty veins
“ The bull deep-scorch'd, the raging passion feels;
“ Of pasture sick, and negligent of food,
“ Scarce seen, he wades among the yellow broom.

TRIFOLIUM PROCUMBENS. PROCUMBENT TREFOIL.

TRIFOLIUM *Lin. Gen. Pl.* DIADELPHIA DECANDRIA.

Flores subcapitati. Legumen vix calyce longius, non dehiscens, deciduum.

Raii Syn. Gen. 24. HERBÆ FLORE PAPILIONACEO SEU LEGUMINOSÆ.

TRIFOLIUM *procumbens* spicis ovalibus imbricatis: vexillis deflexis persistentibus, caulibus procumbentibus. *Linnaei Syst. Veg. p. 574. Sp. Pl. 1088. Fl. Suec. n. 673.*

TRIFOLIUM spicis strepentibus paucifloris, caulibus erectis. *Haller hist. 364.*

TRIFOLIUM luteum flore lupulino minus. *I. B. II. 381.*

TRIFOLIUM lupulinum alterum minus. *Raii Syn. p. 330. a. 17. The lesser Hop-Trefoil. Hudson. Fl. Angl. ed. 2. p. 328. Lightfoot Flor. Scot. p. 409.*

RADIX annua, fibrosa.

CAULES plures, spithamæi, pedales et ultra, teretes, duriusculi, pilis adpressis pubescentes, præsertim ad extremitates, purpurei, procumbentes, ramosi.

FOLIA terna, petiolata, remota, inferiora obcordata, superiora obovata, plerumque emarginata, ad apicem argute serrata, plerumque lævia, venis rectis, simplicibus, utrinque impressis.

PETIOLI breves, longitudine stipularum.

STIPULÆ binæ, ovatæ, acutæ, quinquenerves, ad margines pilosæ, basi amplexicaules.

PEDUNCULI unciales circiter, pubescentes.

SPICÆ subrotundæ, multifloræ (raro infra octo, aut ultra viginti) laxius imbricatæ.

FLORES parvi, lutei, pedicellis brevissimis, infidentes.

CALYX: PERIANTHIUM quinquedentatum, persistens, subpilosum, dentibus tribus inferioribus longioribus, subulatis, *fig. 1.*

COROLLA papilionacea, persistens, marcescens, demum rufa, venis saturatioribus striata, *fig. 2.*

PERICARPIUM: LEGUMEN ovatum, compressum, monospermum, deorsum reflexum, corollâ persistente inclusum, *fig. 3.*

ROOT annual and fibrous.

STALKS several, a span, or even a foot or more in length, round, hardish, downy, with hairs pressed close to the stalk, particularly at the extremities, purple, procumbent, and branched.

LEAVES growing three together, remotely, standing on foot-stalks, the lowermost obcordate, the uppermost obovate, for the most part emarginate, towards the top finely serrated, commonly smooth, the veins straight, unbranched, impressed on each side of the leaf.

LEAF-STALKS short, the length of the stipulæ.

STIPULÆ growing in pairs, ovate, pointed, five-ribbed, edged with hairs, and at the base embracing the stalk.

FLOWER-STALKS about an inch in length and downy.

SPIKES roundish, many flowered, flowers seldom fewer than eight or more than twenty, loosely imbricated.

FLOWERS small and yellow, fitting on very short foot-stalks.

CALYX: a PERIANTHIUM with five teeth, permanent, and somewhat hairy, the three lowermost longer than the rest, and awl-shaped, *fig. 1.*

COROLLA papilionaceous, permanent, and withering, finally becoming of a reddish brown colour, and striped with veins of a deeper colour, *fig. 2.*

SEED-VESSEL an ovate, flat Pod, turning backward, inclosed in the corolla, which continues, and containing one seed, *fig. 3.*

The *Trifolium procumbens* is often found larger, but more frequently much smaller, than the specimen we have here figured. When it grows luxuriantly it bears a near resemblance to the *agrarium* already published; but in that species the spikes are not only much larger, but also much more closely imbricated, compared with the *procumbens* the *agrarium* may be considered with us at least as a scarce plant; while that is found only in certain spots, the *procumbens* is met with every where, there being scarcely a dry, hilly pasture, or grass plat, on which it may not be found. In its dwarf state it comes very near to the *filiforme* figured in *Ray's Synopsis, tab. 14. fig. 4.* Indeed it is very difficult to assign their respective limits; but both Mr. HUDSON and Mr. LIGHTFOOT agree in making the *filiforme* a distinct species; and the latter assures us, that culture proves them to be specifically different.

All the Trefoils are considered as affording excellent pasturage and fodder for cattle. The present species is, perhaps, not inferior to any of them in these respects; but the quantity it affords is so trifling, that it can scarcely be thought worth cultivating, especially as it is only an annual.

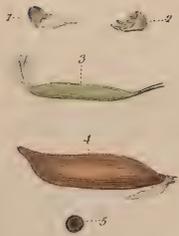
It flowers during the greatest part of the summer.

HALLER describes it as growing upright, which it never does with us, unless drawn up by surrounding herbage.

L. Bonpland del. G. Smith sculp.



Styplium procremberis



Vicia Cracca.

L. Swartz del. et sculp.

VICIA CRACCA. TUFTED VETCH.

VICIA *Lin. Gen. Pl.* DIADELPHIA DECANDRIA.

Stigma latere inferiore tranſverſe barbatum.

Raii Syn. Gen. 23. HERBÆ FLORE PAPILIONACEO SEU LEGUMINOSÆ.

VICIA *Cracca* pedunculis multifloris, floribus imbricatis, foliolis lanceolatis pubescentibus, ſtipulis integris. *Lin. Syſt. Vegetab.* p. 553. *Sp. Pl.* p. 1035. *Fl. Suec.* n. 652.

VICIA foliis lanceolatis fericeis, racemis multifloris reflexis, ſtipulis integerrimis. *Haller. Hiſt.* n. 424.

VICIA *Cracca.* *Scopoli. Fl. Carn.* n. 899.

VICIA multiflora. *Baub. Pin.* 345.

VICIA multiflora feu ſpicata. *Park.* 1072.

CRACCA. *Riv. Tetr.* 49. *Raii Syn.* p. 322. Tufted Vetches. *Hudſon. Fl. Angl.* p. 317. *Lightfoot Fl. Scot.* p. 394.

RADIX perennis, repens.

CAULIS bipedalis, tripedalis et ultra, pro ratione loci, ſcandens, anguloſo-fulcatus, pubescens, fragilis, frangendo crepitans, ramosus.

STIPULÆ binæ, femifagittatæ, integræ aut dentatæ.

FOLIA pinnata, pinnarum 8 ſeu 12 parium, raro ultra, oblongo-lanceolata, mucronata, utrinque fericea pube albida, pinnis oppoſitis alterniſve, cirrho tripartito terminata.

FLORES racemofi.

RACEMI alterni, multiflori, primo ſubrecti, apice incurvi, poſtea reflexi, floſculis 10 ad 40, violaceis, confertis, breviffime pedicellatis.

CALYX: PERIANTHIUM monophyllum, tubulatum, coloratum, quinquedentatum, dentibus tribus inferioribus longioribus, pilofis, medio productiore, duobus ſuperioribus minimis, *fig.* 2.

COROLLA: VEXILLUM emarginatum, reflexum, violaceum, venis ſaturatioribus obſolete ſtriatum. ALÆ conniventes. CARINA albida, ad apicem maculâ ſaturate violacæâ, utrinque notatum, *fig.* 1.

STAMINA: FILAMENTA 10, ſimplex et novem fidum, alba. ANTHERÆ parvæ, luteæ.

GERMEN oblongum, compreſſum, glabrum. STYLUS ſubrectus, undiquè pilofus. STIGMA obtuſum, *fig.* 3.

PERICARPIUM: LEGUMEN ſemunciale, pallide ſufcum, glabrum, utrinque compreſſum, *fig.* 4.

SEMINA quatuor vel quinque in ſingulo legumine ſubrotunda, nigricantia, *fig.* 5.

ROOT perennial and creeping.

STALK two, three feet or more in height, according to its place of growth, climbing, angular, grooved, downy, brittle, ſnapping when broken, branched.

STIPULÆ growing in pairs, each reſembling half an arrow, entire, or toothed.

LEAVES pinnated, compoſed of 8 or 12 pair, ſeldom more, oblong, lanceolate, terminated by a point, covered on each ſide with a kind of white filky down, the pinnæ oppoſite or alternate, terminated by a tripartite cirrhus.

FLOWERS growing in bunches or racemi.

RACEMI alternate, many-flowered, at firſt nearly upright, with the tip bent in, afterwards reflexed, flowers from 10 to 40, of a violet colour, crowded together, and ſtanding on very ſhort foot-ſtalks.

CALYX: a PERIANTHIUM of one leaf, tubular, coloured, having five teeth, the three lowermoſt longer than the upper ones, the middle one fartheſt extended, the two upper ones very minute, *fig.* 2.

COROLLA: STANDARD emarginate, reflexed, of a violet colour, faintly ſtriped with veins of a deeper colour. WINGS cloſing. KEEL whitish, marked on each ſide at the tip with a deeply violet-coloured ſpot, *fig.* 1.

STAMINA: ten FILAMENTS, nine united, one ſingle, white. ANTHERÆ ſmall and yellow.

GERMEN oblong, compreſſed, ſmooth. STYLE nearly upright, hairy all round. STIGMA blunt, *fig.* 3.

SEED-VESSEL: a POD about half an inch long, of a pale brown colour, flattened on each ſide, *fig.* 4.

SEEDS four or five in each pod, nearly round and blackiſh, *fig.* 5.

LINNÆUS, HALLER, and SCOPOLI, aſcribe to this plant *ſtipulæ integræ*. Indeed the two former found a part of their ſpecific character on this very circumſtance; but this character is certainly a very fallacious one, as the plant is frequently found with us having *ſtipulæ dentatæ*, and ſuch is the ſpecimen we have figured. It has, however, other characters by which it is obviously diſtinguiſhed. The moſt ſtriking are drawn from the leaves and flowers: the former are covered with a fine kind of filky down, which gives them a manifeſt whiteness. This is moſt apparent in ſuch ſpecimens as grow in dry, expoſed ſituations. The flowers are of a rich deep purple colour, grow in long bunches or racemi, thickly crowded together, and are conſpicuous at a diſtance.

It is a very common plant in the neighbourhood of London, and no where more plentiful than in Bateſſea Meadows. When it has an opportunity of climbing up a hedge, it will grow to the height of five or ſix feet; and it is then that its bloſſoms are diſplayed to advantage. In the open paſtures and fields, it is found much more dwarfiſh.

It flowers from July to September.

Gentlemen who wiſh to decorate the hedges of their plantations cannot ſelect a more proper plant, as it is not apt, like the great Bindweed, Travellers-joy, and other ſtrong growing plants, to ſuffocate the ſhrubs which ſupport it.

It is recommended alſo, by ſome authors, as affording excellent fodder for cattle.

CREPIS TECTORUM. SMOOTH SUCCORY-HAWKWEED.

CREPIS *Lin. Gen. Pl.* SYNGENESIA POLYGAMIA EQUALIS.

Recept. nudum. Cal. calyculatus, squamis deciduis. Pappus plumosus, stipitatus.

Raii Syn. Gen. 6. HERBÆ FLORÆ COMPOSITO, NATURA PLENO LACTESCENTES.

CREPIS *tectorum* foliis lanceolato-runcinatis sessilibus lævibus, inferioribus dentatis. *Lin. Syst. Vegetab. p. 600. Sp. Pl. p. 1135. Fl. Suec. n. 705.*

HEDYPNOIS *tectorum* caule folioso ramoso, foliis runcinatis nudis, radicalibus lanceolatis, caulinis sagittatis acutis sessilibus. *Hudson. Fl. Angl. ed. 2. p. 341.*

CREPIS foliis ad terram pinnatis, superne amplexicaulis pinnatis hastatis. *Haller. Hist. n. 31.*

CREPIS *tectorum. Scopoli Fl. Carn. n. 954.*

HIERACIUM luteum glabrum five minus hirsutum. *I. B. II. 1024.*

CICHOREUM pratense luteum lævius. *Baub. Pin. 126. Park. 778.*

HIERACIUM aphacoides. *Ger. em. 297.*

HIERACIUM foliis et facie chondrillæ. *Parkin. 794. Raii Syn. p. 165. Smooth Succory Hawkweed. Lightfoot Fl. Scot. p. 440.*

RADIX annua, simplex, parum fibrosa, descendens, lutescens.

ROOT annual, simple, furnished with few fibres, descending, yellowish.

CAULIS pedalis, bipedalis et ultra, erectus, angulato-friatus, nunc glaber, nunc hirsutus, præsertim inferne, sæpe purpureus, foliosus, ramosus.

STALK from one to two feet high or more, upright, somewhat angular and finely grooved, sometimes perfectly smooth, sometimes a little hairy, especially towards the base, often purple, leafy, and branched.

FOLIA valde variabilia, sæpe tota glabra, alias utrinque hirsutula, radicalia taraxaci persimilia, sed paulo angustiora, nervo medio superne purpureo, caulina amplexicaulia, acuta, varie dentata, ramæ subintegra, linearia, subfagittata, marginibus revolutis.

LEAVES extremely variable, sometimes perfectly smooth, sometimes slightly hirsute on both sides, those next the root very like the leaves of dandelion, but a little narrower, the midrib purple on the upper side, those of the stalk embracing the stalk, pointed, and variously indented, those of the branches nearly entire, linear and somewhat arrow-shaped, the edges rolled back.

FLORES inter minores hujus familiæ, flavi, laxe corymbofi.

FLOWERS smaller than most of this family, yellow, and growing loosely in a kind of corymbus.

CALYX communis duplex, exterior brevissimus, patulus, interior subcylindraceus, simplex, sulcatus, squamis erectis, linearibus, conniventibus, æqualibus, longitudinaliter pilis globuliferis hispulis, squamæ ad basin quinque aut plures, subulatæ, breves, inæquales, laxæ, pariter hispidae.

CALYX common to all the florets double, the exterior one very short and spreading, the interior one somewhat cylindrical, simple, and grooved, the scales upright, linear, connivent, equal, longitudinally beset with stiff hairs, having a little globule at their extremities, the scales at the base are about five or more in number, subulate, short, unequal, loose, and like the others slightly hispid.

COROLLA composita, imbricata; Corollis hermaproditis, plurimis, æqualibus, propria monopetala, truncata, quinque-dentata, subtus plerumque purpurea, fig. 1.

COROLLA compound, and imbricated; Florets hermaproditic, numerous and equal, each single floret monopetalous, truncated, having five teeth, and for the most part purple beneath, fig. 1.

STAMINA: FILAMENTA quinque, capillaria, brevissima. ANTHERA cylindracea, tubulosa, fig. 2.

STAMINA: five, very short, capillary FILAMENTS. ANTHERÆ united into a cylindrical tube, fig. 2.

PISTILLUM: GERMEN subovatum. STYLUS filiformis, longitudine staminum. STIGMATA duo, reflexa, fig. 3.

PISTILLUM: GERMEN somewhat ovate. STYLE filiform, the length of the stamina. STIGMATA two, turned back, fig. 3.

SEMINA viginti et ultra in singulo capitulo, fusca, striata; Pappus semine longior, sessilis, simplex, fig. 4.

SEEDS twenty or more in each head, brown, and finely grooved; Down longer than the seed, sessile, and simple, fig. 4.

The great variety of appearances to which this plant is subject, in common with many others of the same class, has occasioned no small confusion among botanists, especially the older ones, who have divided it into several species: even modern botanists, and those of the first character, have confessed the difficulty of distinguishing it in its various states. LINNÆUS exclaims, *Nulla planta hac vulgarior, nulla magis structura et facie varians, nulla magis confusis synonymis.* HALLER writes, *Insuperabiles tenebræ synonyma obducunt:* and SCOPOLI says, *Melius diceretur Crepis VARIA.*

Perhaps nothing short of repeated observation will enable a botanist to distinguish the same plant in its various states, especially such as are subject to such unusual variations; yet there is frequently some character not liable to be altered by difference of soil and situation, which, if pointed out, will be of great service in directing those who may not have plants constantly before them. RAY observes, that the flowers, heads, and seeds of this plant are smaller than those of any other English Hawkweed, the *Hyoseris* excepted (he might have added the *Hypocharis glabra*). To the smallness of the flowers, &c. may be joined the structure of the calyx and the stem-clasping leaves; and when it is known to be a plant growing generally in this country on dry banks, in pastures, and on walls, we flatter ourselves there will be little difficulty, with the assistance of our figure, which represents the plant of its medium size, in distinguishing it at all times.

It flowers from June to September.

Mr. HUDSON has thought proper to remove it from the genus *Crepis* of LINNÆUS, with which it must be owned it does not well accord, and make it an *Hedypnois*; yet it does not very well agree with the character he himself has given of that genus; for the pappus can scarcely be said to be subplumosus, unless very highly magnified.



Crepis tectorum

J. Swartz del. et fecit.

56



Leontodon hispidum.

J. Sowerby del. et sculp.

LEONTODON HISPIDUM. ROUGH DANDELION.

LEONTODON *Lin. Gen. Pl. SYNGENESIA POLYGAMIA ÆQUALIS.*

Recept. nudum. Calyx imbricatus, squamis laxiusculis. Pappus plumosus.

Raii Syn. Gen. 6. HERBÆ FLORE COMPOSITO, NATURA PLENO LACTESCENTES.

LEONTODON *hispidum* calyce toto erecto, foliis dentatis integerrimis hispidis: fetis furcatis. *Lin. Syst. Vegetab. p. 596. Sp. Pl. 1124. Fl. Succ. n. 694.*

HEDYPNOIS scapo nudo unifloro, foliis lanceolatis dentatis hispidis. *Hudson Fl. Angl. 340.*

PICRIS caule nudo, unifloro, foliis asperis dentatis. *Haller. Hist. n. 25.*

LEONTODON *hispidum. Scopoli Fl. Carn. n. 977.*

TARAXACONOIDES perennis et vulgaris. *Vaill. Art. 1721, p. 232.*

HIERACIUM asperum folio magno dentis leonis. *Bauh. Pin. 127.*

HIERACIUM dentis leonis folio hirsutum. *Ger. em. 303.*

HIERACIUM asperum foliis et floribus dentis leonis bulbosi. *Park. 788.*

DENS LEONIS hirsutus λεπτόμαυλον Hieracium dictus. *Raii Syn. p. 171. Rough Dandelion commonly called Dandelion Hawkweed. Lightfoot Fl. Scot. p. 433.*

RADIX	perennis, obliqua, e nigro-fusca, plurimis fibris pallidioribus, in terram recte demissis capillata.	ROOT	perennial, oblique, of a blackish brown colour, furnished with numerous fibres of a paler colour, running straight into the earth.
SCAPI	plerumque plures ex eadem radice, pedales aut sesquipedales, erecti, teretes, fistulosi, hirsuti, simplices, nudi, subinde foliolo five pluribus instructi, superne obvie striati et incrassati, ad basin purpurei.	STALKS	usually several from the same root, a foot or a foot and a half high, upright, round, hollow, hirsute, simple, naked, now and then furnished with one or more small leaves, above obviously striated and thickened, purple at the base.
FOLIA	radicalia plurima, in pratis suberecta, in apricis supra terram expansa, palmaria seu spithamæa, petiolata, oblonga, sinuato-dentata, obtusifolia, pallide viridia, hirsuta, pilis ut etiam scapi furcatis.	LEAVES	radical leaves numerous, in meadows nearly upright, in exposed situations expanded on the ground, a hand's breadth or more in length, standing on foot-stalks, oblong, indented and toothed, bluntish, of a pale green colour, hirsute, the hairs as also those of the stalk forked at the extremity.
FLORES	majusculi, lutei, ante florescentiam semper nutantes.	FLOWERS	largish, yellow, before blowing always drooping.
CALYX	fordide virens, squamæ laxè imbricatæ, inæquales, pilis longis albidis plerumque simplicibus hirsutæ.	CALYX	of a dingy green colour, scales loosely imbricated, unequal, rough with long whitish hairs, which are for the most part simple.
COROLLA	composita, æqualis, flosculi quinquedentati, tubus superne pilosus, fig. 2.	COROLLA	compound, equal, florets furnished with five teeth, the tube hairy on the upper part, fig. 2.
SEMINA	oblonga, sublinearia, longitudine fere pappi, exteriores paululum incurvati, interiores recti, ad lentem transversè rugosi, fig. 3.	SEEDS	oblong, nearly linear, almost the length of the pappus, the outer ones bending a little inward, the innermost ones straight, when magnified transversely wrinkled, fig. 3.
PAPPUS	pilosus, sessilis, fig. 4.	DOWN	hairy, and sessile, fig. 4.
RECEPTACULUM	planum, nudum, punctatum.	RECEPTACLE	flat, naked and dotted.

Like the other plants of the class *Syngenesia*, the *Leontodon hispidum* is subject to vary considerably in size and hairiness; but very luckily it has one character which attends it in all its states, and which never fails to distinguish it, its blossoms droop while in the bud: striking as this character is, we believe it has escaped the observation of former Botanists, at least it has not been considered as of the first consequence in ascertaining the species. The singleness of its stalks also contributes to distinguish it from some other plants of the same class, while the hairs on the leaves afford a more minute distinction, being usually bifid, but not always so.

As far as we have had opportunity of observing, it is a very general plant throughout the kingdom, especially where there is chalk or lime-stone. In such sort of pastures it abounds as much as the common Dandelion does in rich cultivated ones, and when in flower, which is usually in July, cloaths them in the same golden livery.

As it forms so considerable a part of our pasturage, it is of some consequence that we should know whether Cattle are fond of it, either fresh or made into hay; and we wished to lay before our readers the result of LINNÆUS or his Pupils experiments on this head; but, though a Swedish plant, it unfortunately proved to be one of those with which no experiments were made.

The common Dandelion, according to the Linnæan character, is certainly no *Leontodon*, the pappus being simple, and SCOPOLI has accordingly made another genus of it, *Hedypnois*.

Mr. HUDSON has united the present plant, the *Leontodon autumnale*, two species of *Crepis*, with the *Picris echioides*, under one genus of the same name *Hedypnois*; and HALLER arranges our plant with his *Picris*. Amidst all this confusion we have thought it best in the present instance to follow LINNÆUS, especially as there is nothing in the fructification of our plant which militates against the generic character of his *Leontodon*.

ONOPORDUM ACANTHIUM. COTTON THISTLE.

ONOPORDUM *Lin. Gen. Pl.* SYNGENESIA POLYGAMIA ÆQUALIS.

Recept. favosum. Cal. squamæ mucronatæ.

Raii Syn. Gen. 9. HERBÆ FLORE EX FLOSCULIS FISTULARIBUS COMPOSITO, SIVE CAPITATÆ.

ONOPORDUM *Acanthium calycibus squarrosis: squamis patentibus, foliis ovato oblongis sinuatis. Lin. Syst. Vegetab. p. 607. Sp. Pl. p. 1158. Fl. Suec. n. 724.*

ONOPORDUM caule alato, foliis ovatis dentatis, dentibus angulosis aristatis. *Haller hist. n. 159.*

ACANOS *Spina. Scopoli Fl. Carn. n. 1013.*

SPINA alba tomentosa latifolia fylvestris. *Bauh. pin. 382.*

ACANTHIUM album. *Ger. emac. 1149.*

ACANTHIUM vulgare. *Parkins. 1149.*

CARDUUS tomentosus, Acanthium dictus vulgaris. *Raii Syn. 196. Common Cotton Thistle. Hudson Fl. Angl. ed. 2. p. 354. Lightfoot Fl. Scot. p. 459.*

RADIX biennis.	◇ ROOT biennial.
CAULIS tripedalis ad sepedalem, ad basin usque ramosus, sublanuginosus, per totam longitudinem alatus, alis latis, spinosis, spinis lutescentibus, divergentibus.	◇ STALK from three to six feet high, branched down to the bottom, somewhat woolly, winged throughout its whole length, wings broad and spinous, the spines yellowish and diverging.
RAMI longi, diffusi.	◇ BRANCHES long, and spreading.
FOLIA sessilia, ovata, acuta, decurrentia, sinuata, dentata, seu angulosa, utrinque lanugine incana, inferiora amplissima, longitudine sesquipedalia, latitudine fere pedalia, margine spinosa.	◇ LEAVES sessile, ovate, pointed, running down the stalk, sinuated and indented or angular, covered on both sides with a kind of white woolly down, the lowermost leaves very large, a foot and a half long, and almost a foot in breadth, spinous on the edge.
FLORES purpurei, erecti, terminales, magnitudine florum Cardui mariani.	◇ FLOWERS terminal, purple, upright, the size of those of the Milk Thistle.
CALYX: communis subrotundus, ventricosus, imbricatus, squamis numerosis, spinosis, undique prominentibus, spinis apice luteis, basi pilis albis intertextis, fig. 1.	◇ CALYX: common to all the florets, somewhat round, bellying out, and imbricated, the scales numerous, spinous, projecting on every side, the spines yellow at the points, and at the base interwoven with white hairs, fig. 1.
COROLLA: composita, tubulosa, uniformis; Corollulæ hermaphroditæ, æquales, monopetalæ, infundibuliformes, tubo tenuissimo, fig. 2. limbo erecto, ventricoso, quinquefido, laciniis æqualibus, linearibus, fig. 3.	◇ COROLLA compound, tubular, uniform, Florets hermaphrodite, equal, monopetalous and funnel-shaped, tube very slender, fig. 2. limb upright, bellying out, divided into five equal linear segments, fig. 3.
STAMINA: FILAMENTA quinque, capillaria, brevissima; ANTHERÆ purpureæ, in cylindrum coalitæ, quinquedentatæ, fig. 4.	◇ STAMINA: five capillary, very short FILAMENTS; ANTHERÆ purple, forming a cylindrical tube, terminating above in five teeth, fig. 4.
PISTILLUM: GERMEN ovatum, fig. 6. STYLUS filiformis, flaminibus longior; STIGMA bifidum, fig. 5.	◇ PISTILLUM: GERMEN ovate, fig. 6. STYLE filiform, longer than the stamina; STIGMA bifid, fig. 5.
PERICARPIUM nullum, Calyx arcte connivens.	◇ SEED-VESSEL none, the Calyx closing strongly together.
SEMINA obovata, subcompressa, obsolete angulata, rugosa, nigricantia, fig. 7. Pappus sessilis, ad lentem hispidulus, fig. 8.	◇ SEEDS inversely ovate, a little flattened, faintly angular, wrinkled, blackish, fig. 7. Down sessile, slightly hispid when magnified, fig. 8.
RECEPTACULUM cellulis membranaceis, tetragonis, reticulatum, favi instar, fig. 9.	◇ RECEPTACLE reticulated with square, membranous cells, like a honeycomb, fig. 9.

When the Cotton-Thistle grows to its full size, in a pure air, uncontaminated by London Smoke, the grandeur and snowy whiteness of its foliage render it highly conspicuous and ornamental.

With us it grows most commonly on the sunny side of dry banks, and occasionally among rubbish, but very seldom in open fields; hence it proves very little injurious to the husbandman.

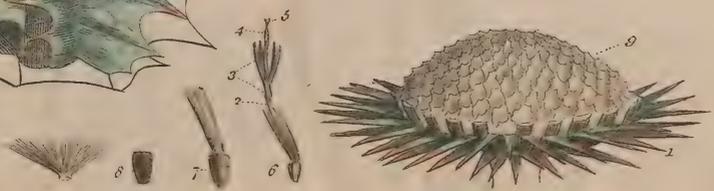
It is distinguished from the Carduus tribe, by having a receptacle somewhat like a honeycomb, *vid. fig. 9.* It differs also in another circumstance. When the flowering is over, the innermost scales of the calyx close strongly together, and preserve the seed; in the Thistles, as soon as the seed is ripe, the first hot day opens the heads, expands the pappus, and the least wind carries away the seed; in the Onopordum they remain shut up, and strongly defended, nor can they commit themselves to the earth, or be eaten by birds, till long exposure to the weather has decayed the calyx which encloses them; on this account, they may afford sustenance to birds later in the year, when similar food is not to be obtained.

June and July are the principal months of its flowering.

It is not very subject to the depredations of insects, and it is defended by its strong spines from the attacks of most quadrupeds.



Onopordum Acanthium.





Prenanthes muralis.

PRENANTHES MURALIS. IVY-LEAVED WILD LETTUCE.

PRENANTHES *Linnæi Gen. Pl.* SYNGENESIA POLYGAMIA ÆQUALIS.

*Recept. nudum. Calyx calyculatus. Pappus simplex, subseffilis.
Flosculi simplici serie.*

Raii Syn. Gen. 6. HERBÆ FLORE COMPOSITO, NATURA PLENO LACTESCENTES.

PRENANTHES *muralis* flosculis quinis, foliis runcinatis. *Linn. Syst. Vegetab. p. 596. Sp. Pl. 1121.
Fl. Suec. n. 692.*

PRENANTHES foliis ferratis pinnatis, pinna suprema triangulari trilobata. *Haller. hist. n. 18.*

PRENANTHES *muralis. Scopoli Fl. Carn. n. 964.*

LACTUCA *fylvestris murorum flore luteo. I. B. II. 1004.*

SONCHUS *lævis laciniatus muralis parvis floribus. Baubin. Pin. 124.*

SONCHUS *lævis muralis. Ger. emac. 293.*

SONCHUS *lævis alter parvis floribus. Park. 805. Raii Syn. p. 162. Ivy-leaved Sow-thistle, or Wild
Lettuce. Hudson. Fl. Angl. ed. 2. p. 338. Lightfoot Fl. Scot. p. 431.*

RADIX perennis, ramosa, pallide fusca, lactescens.	ROOT perennial, branched, of a pale brown colour, and milky.
CAULIS pedalis ad tripedalem, erectus, simplex, foliosus, superne subflexuosus, teres, glaucus, purpurascens.	STALK from one to three feet high, upright, simple, leafy, somewhat crooked towards the top, round, glaucous, and purplish.
FOLIA radicalia Soncho oleraceo persimilia, inferne purpurea, caulina alterna, amplexicaulia, patentia.	LEAVES next the root very like those of the common Sow-thistle, purple on the under side, those of the stalk alternate, spreading, and embracing it.
FLORES parvi, lutei, erecti, paniculati.	FLOWERS small, yellow, upright, growing in a panicle.
PANICULA ampla, nuda, ramosissima, purpurascens.	PANICLE large, naked, exceedingly branched, and purplish.
CALYX communis cylindraceus, glaber, purpurascens, squamis cylindri numero corollularum, squamis ad basin cylindri tribus brevissimis inæqualibus, <i>fig. 1.</i>	CALYX: the common Calyx cylindrical, smooth, purplish, the scales of the cylinder as numerous as the florets, with three, very short, unequal small ones at its base, <i>fig. 1.</i>
COROLLA composita, <i>Corollulæ</i> hermaphroditæ plerumque quinque, æquales, in orbem simplicem positæ, latiusculæ, nervosæ, quinquedentatæ, <i>fig. 2.</i>	COROLLA compound, <i>Florets</i> hermaphrodite, usually five in number, equal, forming a single circle, broadish, ribbed, terminated by five teeth, <i>fig. 2.</i>
STAMINA: FILAMENTA quinque, capillaria, brevissima, flava; ANTHERÆ cylindraceæ, tubulosæ.	STAMINA: five capillary FILAMENTS, very short and yellow; ANTHERÆ forming a hollow cylinder.
PISTILLUM: GERMEN subovatum; STYLUS filiformis, staminibus longior; STIGMA bifidum, reflexum, <i>fig. 3.</i>	PISTILLUM: GERMEN subovate; STYLE filiform, longer than the stamens; STIGMA bifid and reflexed, <i>fig. 3.</i>
SEMEN oblongum, basi acuminatum, nigrum, striatum: PAPPUS brevissime petiolatus, simplex, <i>fig. 4.</i> ; lente auct. <i>fig. 5.</i>	SEED oblong, pointed at the base and striated: DOWN standing on a very short foot-stalk, simple, <i>fig. 4.</i> ; magnified, <i>fig. 5.</i>

Some of the old Botanists considered this plant as a *Lactuca*; others as a *Sonchus*. It approaches nearest to the former, both in its fructification and habit, not but the foliage is very like that of the *Sonchus oleraceus*. LINNÆUS, from the paucity of its florets, makes a distinct genus of it, though number seems scarcely sufficient to constitute a generic character. This paucity of florets (there being seldom more than five) at once distinguishes it however from all its kindred; but at the same time we have known it not a little to puzzle students beginning to learn the classes, and who had studied them from such flowers as Dandelion.

It is not a very common plant with us, but is met with occasionally on walls, in woods, and other shady places. We observed plenty of it this year on the outside of the pales which terminate the Terrace at the Spaniard, Hampstead-Heath, on the declivity towards Lord Mansfield's little wood.

It flowers from July to September.



Sonchus palustris.

SONCHUS PALUSTRIS. MARSH OR TREE SOW-THISTLE.

SONCHUS *Lin. Gen. Pl.* SYNGENESIA POLYGAMIA ÆQUALIS.

Recept. nudum. Calyx imbricatus; ventricosus. Pappus plumosus.

Raii Syn. Gen. 27. HERBÆ FLORE COMPOSITO, NATURÀ PLENO LACTESCENTES.

SONCHUS *palustris* pedunculis calycibusque hispidis subumbellatis, foliis runcinatis basi aristatis. *Lin. Syst. Vegetab.* p. 594. basi sagittatis. *Sp. Pl.* p. 1116.

SONCHUS asper arborefcens. *Baubin. Pin.* p. 124. ed. 2.

HIERACIUM arborefcens palustre. *Ejusd.* ed. 1.

SONCHUS tricubitalis, folio cuspidato. *Merr. Pin.*

SONCHUS arborefcens alter. *Ger. Em.* p. 294.

SONCHUS lævis altissimus vel Sonchus lævior austriacus 5. altissimus. *Clus. Hist.* CXLVII.

SONCHUS arborefcens. *Parkins.* p. 808. *Raii Syn.* p. 163. The greatest Marsh Tree Sow-thistle. *Hudson. Fl. Anglic.* p. 337.

<p>RADIX perennis, plurimis fibris majusculis capillata, minime verò repens sicut in arvensi.</p>	<p>ROOT perennial, furnished with numerous large fibres, but not creeping, as in the corn Sow-thistle.</p>
<p>CAULIS: ex eadem radice, exfurgunt caules plures, erecti, orgyales, et ultra, crassitie pollicis, angulati, læves, purpurascens; fistulosi, lactescens; foliosi, apice ramosi.</p>	<p>STALK: from the same root arise several stalks, upright; six feet or more high, the thickness of one's thumb, angular, smooth, purplish; hollow, milky, and branched at top.</p>
<p>FOLIA caulina sparsa; inferiora basi sagittata; runcinata, laciniis duabus, vel tribus utrinque inæqualibus, acuminatis, terminali longissima, suprema integra, ensiformia, basi aristata, omnibus minutim denticulatis.</p>	<p>LEAVES of the stalk placed without any regular order, the lower ones arrow-shaped at the base, and runcinate, with two or three unequal pointed segments on each side, the terminal one very long, the upper leaves entire, sword-shaped; bearded at the base, all of them very finely toothed.</p>
<p>FLORES subumbellati, lutei, floribus arvensis duplo minores.</p>	<p>FLOWERS of a yellow colour; about half the size of those of the corn Sow-thistle, forming a large kind of umbel.</p>
<p>PEDUNCULI hispidi seu potius viscidii cum omnes pili globulo terminantur.</p>	<p>FLOWER-STALKS hispid or rather viscid, as each hair is terminated by a globule.</p>
<p>CALYX communis primo cylindraceus, apice truncatus; viscidus, perfecta florescentia ventricosus-conicus, squamis plurimis, linearibus, inæqualibus.</p>	<p>CALYX: the common calyx at first cylindrical; truncated at top; and viscid, the flowering being over, bellying out at bottom and conical, the scales numerous, linear and unequal.</p>
<p>COROLLA composita, imbricata, uniformis. <i>Corollulæ</i> hermaphroditæ, numerosæ, æquales. <i>Tubus</i> longitudine limbi, albus, pilosus. <i>Limbus</i> linearis, apice quinque-dentatus, <i>fig. 1, 2.</i></p>	<p>COROLLA compound; imbricated and uniform. <i>Florets</i> hermaphrodite, numerous, and equal: <i>Tube</i> the length of the limb, white and hairy: <i>Limb</i> linear, terminated by five teeth, <i>fig. 1, 2.</i></p>
<p>STAMINA: FILAMENTA quinque, capillaria, brevissima. ANTHERÆ flavæ; in tubum cylindraceum coalitæ, <i>fig. 3.</i></p>	<p>STAMINA: five; capillary, very short FILAMENTS: ANTHERÆ yellow, forming a cylindrical tube; <i>fig. 3.</i></p>
<p>PISTILLUM: GERME oblongo-ovatum, album. STYLUS filiformis, longitudine staminum. STIGMATA duo, revoluta, <i>fig. 4, 5.</i></p>	<p>PISTILLUM: GERME oblong-ovate; white. STYLE filiform, the length of the stamina. STIGMATA two, rolled back, <i>fig. 4, 5.</i></p>
<p>SEMEN pallide fuscum, oblongum, utrinque sulcatum, unde subtetragonium apparet, <i>fig. 6.</i></p>	<p>SEED pale brown, oblong, with a groove on each side; whence it appears somewhat four-cornered; <i>fig. 6.</i></p>
<p>PAPPUS femine longior, sessilis, simplex.</p>	<p>DOWN longer than the seed; sessile, unbranched.</p>
<p>RECEPTACULUM nudum, punctis prominulis scabrum.</p>	<p>RECEPTACLE naked, rough with small prominent points.</p>

PARKINSON gives a tolerable figure, and a pretty accurate description of this plant; and succeeding Botanists, particularly RAY, have sufficiently ascertained its specific characters: nevertheless HALLER considers it as a variety of the *arvensis*: his words are, "nec mihi omnia consideranti differre videtur." Had the Baron seen the plant growing, he certainly would not have been thus singular in his opinion.

It agrees with the *arvensis* in having a perennial root, which however does not creep. When placed in a garden, by the side of the *arvensis*, it exceeds it one half; and when planted by the water side, out-tops it by two-thirds. Indeed, in such situations we have seen it ten feet high, and we believe it may justly be considered as the tallest English plant; but though it is so much taller than the *arvensis*, its blossoms are not so large. In its place of growth it differs also from the *arvensis*; while the one is chiefly observed in corn-fields, the other is a constant inhabitant of marshes. There is a difference also in the periods of their flowering, the *palustris* being later by about three weeks; but the base of the leaf in these two plants affords, perhaps, the best character, and of which LINNÆUS, with his usual acumen, has availed himself.

The *Sonchus palustris* occurs sparingly in the marshes about Blackwall and Poplar, and flowers the latter end of July.

The common Sow-thistle is well known to be a favourite food of rabbits; but we believe it has scarcely been suspected, that it might be ranked with our esculent herbs; yet a gentleman, whose delicate state of health has led him to make experiments on such kind of plants; and in whose veracity we place the most implicit confidence, assures us, that he has found the tender shoots and buds of the common Sow-thistle (the smooth sort) boiled in the manner of Spinach, to afford excellent greens, superior to any others which he has tried, not in common use.

ACHILLEA PTARMICA. SNEEZEWORD.

ACHILLEA *Lin. Gen. Pl.* SYNGENESIA POLYGAMIA SUPERFLUA.

Recept. paleaceum. *Pappus* nullus. *Cal.* ovatus, imbricatus. *Flo-*
culi radii circiter 4.

Raii Syn. Gen. 8. HERBÆ FLORE COMPOSITO DISCOIDE; SEMINIBUS PAPPO
DESTITUTIS *corymbiferæ* DICTÆ.

ACHILLEA *Ptarmica* foliis lanceolatis acuminatis argute ferratis. *Lin. Syst. Vegetab.* p. 647. *Sp.*
Pl. p. 1266. *Fl. Suecic.* n. 771.

ACHILLEA foliis linearibus lanceolatis acutissime ferratis. *Haller hist.* 117.

DRACUNCULUS ferrato folio pratensis. *Bauh.* p. 198.

PTARMICA *Ger. emac.* 606. *Park.* 859. *Raii Syn.* p. 183. Sneezewort, Bastard-Pellitory,
Goose-Tongue. *Hudson, Fl. Angl.* 375. *Lightfoot, Fl. Scot.* p. 495.

RADIX	perennis, repens, alba, subgeniculata, fibris majusculis et longissimis donata, e geniculis exeuntibus, sapore acri et fervido.	◇	ROOT	perennial, creeping, white, somewhat jointed, furnished with large and very long fibres which proceed from the joints, of a hot acrid taste.
CAULIS	pedalis ad tripedalem, erectus, plerumque simplex, rigidulus, inferne teres, glaber, superne subangulatus, villosus, paniculatim ramosus.	◇	STALK	from one to three feet high, upright, generally simple, somewhat rigid, below round and smooth, above slightly angular, villous, and branching out into a kind of panicle.
FOLIA	numerosa, alterna, sessilia, amplexicaulia, linearia, acuta, bi vel tripollicaria, utrinque glabra, lucidiuscula, saturate viridia, margine retrorsum scabra, subcrenata; crenis minutim ferrulato aculeatis; subtus trinervia; nervis longitudinalibus, quorum intermedius est costa.	◇	LEAVES	numerous, alternate, sessile, embracing the stalk, linear, pointed, two or three inches long, smooth on both sides, and somewhat shining, of a deep-green colour, the edge rough, if the finger be drawn along it, from the top to the base, somewhat crenated, the notches forming a sharp prickly kind of saw, underneath having two longitudinal ribs, beside the midrib.
CORYMBUS	terminalis, compositus, erectus, villosus, foliosus.	◇	CORYMBUS	terminal, compound, upright, villous, and leafy.
BRACTEÆ	lineares in pedunculis.	◇	FLORAL-LEAVES	linear on the flower-stalks.
CALYX	<i>communis</i> hæmisphericus, subtomentosus, imbricatus, squamis ovato-lanceolatis, erectis, subcarinatis, margine rufis, subciliatis.	◇	CALYX	<i>common</i> to all the florets, hemispherical, somewhat woolly; the scales composing it placed one over another, of an oval-pointed shape, upright, somewhat keeled, the margin reddish, and slightly edged with hairs.
COROLLA	composita, radiata, <i>flores femineæ</i> in radio, ligulatæ, numero 8-10, lamina ovata, alba, patens, bifurca, apice obtusa, tridentata, <i>fig. 1.</i> <i>tubus</i> marginatus, brevis, longitudine germinis, apice rubellus, <i>fig. 2.</i> <i>flores</i> hermaphroditi in disco numerosi, <i>tubus</i> subcylindraceus, marginatus, virescens; <i>limbus</i> quinquefidus, albus, tubo brevior, laciniis subrevolutis, <i>fig. 3.</i>	◇	COROLLA	compound and radiate, <i>female flowers</i> in the circumference, tubular at bottom and spreading at top, from 8 to 10 in number, the lamina ovate, white, spreading, with two grooves, blunt at top, with three small blunt teeth, <i>fig. 1.</i> the tube two-edged, short; the length of the germen, and reddish at top, <i>fig. 2.</i> <i>hermaphrodite</i> flowers numerous in the centre, the tube nearly cylindrical, two-edged, greenish, the limb white, divided into five segments, shorter than the tube, the segments somewhat rolled back, <i>fig. 3.</i>
STAMINA	in hermaphroditis; FILAMENTA quinque, capillaria; ANTHERÆ flavæ, in tubum coalitæ, <i>fig. 4.</i>	◇	STAMINA	in the hermaphrodite flowers; FILAMENTS five, very fine; ANTHERÆ yellow, uniting in a tube, <i>fig. 4.</i>
PISTILLUM	in femineis et hermaphroditis: GERMEN compressum, turbinatum; STYLUS filiformis; STIGMATA duo, revoluta, apicibus obtusis, <i>fig. 5.</i>	◇	PISTILLUM	in the female and hermaphrodite flowers; GERMEN flattened, broadest at top; STYLE thread-shaped; STIGMATA two, rolled back, the ends blunt, <i>fig. 5.</i>
SEMINA	plurima, nuda, utrinque subalata, nitida, apice truncata.	◇	SEEDS	numerous, naked, having a kind of wing on each side, shining, and cut off as it were at top.
RECEPTACULUM	paleaceum, squamis membranaceis, lineari-lanceolatis, obtusis, vix longitudine florum.	◇	RECEPTACLE	chaffy, the scales membranous, of a shape betwixt linear and lanceolate, blunt, scarcely the length of the flowers.

The dried powder of this plant snuffed up the nostrils provokes sneezing, hence it has acquired its name of *Sneezewort*; chewed in the mouth, like Pellitory of Spain, it promotes the flow of the saliva, and is found serviceable in the cure of the tooth-ach: these appear to be the only medicinal purposes to which it is applied.

In its double state, it has long been an ornament in gardens, and distinguished by the name of *Batchelors Buttons*; having a creeping and very increasing root, it requires more care to destroy than to increase it.

It is a common plant in wet pastures and on heaths, and may be found in plenty by the sides of the ditches in Battersea-Meadows, where it flowers in July and August.



Achillea Millefolium.

J. Sowerby del. et sculp.

ANTHEMIS COTULA. STINKING MAYWEED.

ANTHEMIS *Lin. Gen. Pl.* SYNGENESIA POLYGAMIA SUPERFLUA.

Recept. paleaceum. *Pappus* nullus. *Cal.* hemisphæricus, subæqualis.
Flosculi radii plures quam 5.

Raii Syn. Gen. 8. HERBÆ FLORE COMPOSITO DISCOIDE SEMINIBUS PAPPO
DESTITUTIS CORYMBIFERÆ DICTÆ.

ANTHEMIS *Cotula* receptaculis cōnicis: paleis fetaceis, feminibus nudis. *Lin. Syst. Vegetab.*
p. 646. *Sp. Pl. p.* 1261. *Fl. Suec. n.* 767.

CHAMÆMELUM foliis glabris, duplicato-pinnatis, nervo foliaceo, pinnulis lanceolatis feminibus
exasperatis. *Haller hist.* 104.

ANTHEMIS *Cotula. Scopoli Fl. Carn. n.* 1092.

CHAMÆMELUM fætidium. *B. Pin.* 135.

CHAMÆMELUM fætidium feu *Cotula fætida I. B. III.* 120.

COTULA alba *Dod. Pempt.* 258. *Raii Syn. p.* 185. Stinking Mayweed. *Hudson. Fl. Angl. ed. 2.*
p. 373. *Lightfoot Flor. Scot. p.* 495.

Tota planta fœtidissima, sublanuginosa.

RADIX annua, simplex, fibrosa.

CAULIS pedalis ad bipedalem, erectus, subangulatus,
fstriatus, pubescens, ramosus, sæpe usque ad
basin.

FOLIA alterna, sessilia, sublanuginosa, pinnata, costa
lineam lata, subtus carinata, pinnis plerum-
que ramosis, planis, acutis, superne punctis
impressis, nudo oculo conspicuis notata.

PEDUNCULI erecti, striati, nudi, superne subin-
crassati.

FLORES albi, disco luteo, minime virescente.

CALYX communis, hæmisphæricus, imbricatus, squa-
mis pallide virentibus, exterioribus obtusis,
fusco marginatis, carina saturatius virente.

FLOSCULI radii tredecim circiter, feminei, subovati,
lineas duas fere lati, obtusi, binerves, triden-
tati, dentibus obtusis, *fig. 1.* pars tubulosa
flosculi ut ut *Germen*, glandulis pellucidis,
nudo oculo conspicuis ornata, *fig. 2.* *Stigma*
bifidum, laciniis reflexis, sæpe mancum,
fig. 3.

FLOSCULI *disci* numerosi, tubulosi, hermaphroditi,
quinquedentati, *fig. 4.* *Stigma* bifidum, lac-
iniis revolutis, *fig. 6.* *Germen* ut ut corolla
ad lentem glandulosa, *fig. 5.*

SEMEN obtuse tetragonum, fuscum, rugosum, apice
planum, puncto in vertice prominulo, ex-
cavato, inferne attenuatum, *fig. 7.* auct.

RECEPTACULUM subcylindraceum, superne paleis
fetaceis, rigidis instructum, *fig. 8.*

♦ The whole plant extremely fetid, and slightly woolly.

♦ ROOT annual, simple, and fibrous.

♦ STALK from one to two feet high, upright, some-
what angular, finely grooved, downy, branched
often almost to the bottom.

♦ LEAVES alternate, sessile, slightly woolly, pinnated,
the midrib a line broad, keeled underneath,
the pinnæ for the most part branched, flat,
pointed, on the upper side marked with im-
pressed dots visible to the naked eye.

♦ FLOWER STALKS upright, finely grooved, naked,
somewhat thickened above.

♦ FLOWERS white, the centre yellow, without any
tendency to green.

♦ CALYX common to all the florets, hemispherical,
imbricated, the scales of a pale green colour,
the outer ones blunt, and edged with brown,
the keel more deeply coloured.

♦ FLOWERS of the *radius* about thirteen, female,
nearly ovate, almost two lines broad, obtuse,
two-rib'd, terminating in three obtuse teeth,
fig. 1. the tubular part of the floret as well as
the *Germen*, ornamented with transparent
glands, visible to the naked eye, *fig. 2.*
Stigma bifid, the segments reflexed, often
imperfect, *fig. 3.*

♦ FLOWERS of the *disk* numerous, tubular, herma-
phrodite, five-tooth'd, *fig. 4.* *Stigma* bifid,
the segments rolled back, *fig. 6.* *Germen* as
well as the corolla, when magnified, studded
with little glands, *fig. 5.*

♦ SEED bluntly four-cornered, brown, wrinkled, flat
at top, with a prominent hollow point in the
centre, below slenderer, *fig. 7.* magnified.

♦ RECEPTACLE nearly cylindrical, on the upper part
furnished with rigid, bristle-shaped paleæ or
chaff, *fig. 8.*

The *Anthemis Cotula*, like the *Matricaria Chamomilla*, is very common in corn-fields, where it is well known frequently to blister the skin of the reapers, or of children who may happen to gather it, which the *Matricaria* never does;—if the plant be examined with a microscope, it will be found besprinkled with little glands, in which its acrid matter most probably resides.

Independent of this quality, it abounds to that degree in some corn-fields, as greatly to diminish the crop.

It is fond of a soil well manured, and as it is frequently suffered to seed on dunghills, it by that means often becomes more generally disseminated: farmers cannot be too careful in weeding their dunghills; they are not aware of the amazing increase from a single plant of the *Anthemis Cotula*, *Rumex crispus*, *Chenopodium album*, or many others equally, if not more, injurious.

We have observed the petals to vary much in length and breadth, and Botanists have sometimes found it with double flowers.

It differs greatly in its qualities from the *Anthemis nobilis* and *Matricaria Chamomilla*, has never been much in use, nor are its medicinal effects well known. Decoctions of it are said sometimes to have been employed as a bath or fomentation against hysterical suffocations, and hæmorrhoidal pains and swellings. Mr. RAY says, that a decoction of the herb has by some been given internally, with success, in scrophulous cases. BROWN LANGRISH gives an account of a decoction of it throwing a person afflicted with rheumatism into a profuse sweat, and curing him. *Lewis's Mat. Med. p.* 223. *Vid. Matricaria Chamomilla.*



Anthemis Cotula.

J. Smolke del. et sculp.



Chrysanthemum Leucanthemum.

Delin. by A. L. de Juss.

CHRYSANTHEMUM LEUCANTHEMUM. COMMON OX-EYE, OR GREATER DAISY.

CHRYSANTHEMUM *Lin. Gen. Pl.* SYNGENESIA POLYGAMIA SUPERFLUA.

Recept. nudum. Pappus marginatus. Cal. hemisphæricus, imbricatus, squamis marginalibus membranaceis.

Raii Syn. Gen. 8. HERBÆ FLORE COMPOSITO DISCOIDE, SEMINIBUS PAPPO DESTITUTIS, CORÛMBIFERÆ DICTÆ.

CHRYSANTHEMUM *Leucanthemum* foliis amplexicaulibus oblongis; superne ferratis; inferne dentatis. *Lin. Syst. Vegetab. ed. 14. p. 772. Sp. Pl. p. 1251. Fl. Suec. n. 763.*

MATRICARIA foliis radicalibus petiolatis, ovatis, crénatis, caulinis amplexicaulibus dentatis; *Haller hist. 98.*

MATRICARIA *Leucanthemum. Scopoli Fl. Carn. n. 1041.*

BELLIS sylvestris caule folioso major. *Bauh. Pin. 261.*

LEUCANTHEMUM vulgare. *Tourn. 492.*

BELLIS major. *Ger. emac. 634.*

BELLIS major vulgaris five sylvestris. *Parkin. 528. Raii Syn. p. 184. The Greater Daisy, or Ox-Eye. Lightfoot Fl. Scot. p. 488. Hudson. Fl. Angl. ed. 2. p. 371.*

RADIX perennis, fusca, subrepens, fibrosa.	◇ ROOT perennial, brown, somewhat creeping, and fibrous.
CAULIS pedalis, sesquipedalis et ultra, erectus, rigidus, angulosus, inferne purpurascens, hirsutus, superne nudus, simplex, subinde ramifusus.	◇ STALK a foot or a foot and a half high or more, upright, rigid, angular, below purplish and hairy, above naked, simple, sometimes branched.
FOLIA radicalia a caulinis diversissima, petiolis longis infidentia, obovata, vix pubescentia, incisoferrata, caulina alterna, sessilia, amplexicaulia, linearia, extrorsum latiora, remote denticulata, denticulis ad basin crebrioribus et longioribus.	◇ LEAVES next the root very different from those of the stalk, standing on long footstalks, obovate, scarcely downy, deeply sawed, those of the stalk alternate, sessile, stem-clasping, linear, outwardly broadest, distantly toothed, teeth at the base more crowded and longest.
FLORES pedunculati, terminales, solitarii, magni, speciosi.	◇ FLOWERS standing on footstalks, terminal, single, large, and showy.
PEDUNCULI striati, subincrassati.	◇ FLOWER-STALKS finely grooved, and somewhat thickened.
CALYX communis hemisphærico-planus, arcte imbricatus, squamis exterioribus oblongo-ovatis, obtusiusculis, margine membranaceis, fuscis, interioribus lanceolatis, acutis.	◇ CALYX common to all the florets, like a hemisphere flattened, closely imbricated, exterior scales oblong-ovate, somewhat blunt, the margin membranous and brown, interior scales lanceolate and pointed.
COROLLA composita, radiata; <i>Discus</i> luteus, convexus; <i>Radius</i> albus patens.	◇ COROLLA compound and radiate; <i>Centre</i> yellow and convex; <i>Circumference</i> white and spreading.
COROLLULÆ <i>Hermaphroditæ</i> , tubulosæ, numerosæ, infundibuliformes, quinquefidæ, in disco, <i>fig. 1. Femininæ</i> 16 circiter, in radio, oblongæ, obtusæ, tricrenatæ, <i>fig. 5.</i>	◇ FLORETS <i>Hermaphrodite</i> tubular, numerous, funnel-shaped, divided into five segments, in the centre, <i>fig. 1. Female</i> about 16 in the circumference, oblong, obtuse, three-notch'd, <i>fig. 5.</i>
ANTHERÆ flavæ, in tubum coalitæ, <i>fig. 2.</i>	◇ ANTHERÆ yellow, forming a tube, <i>fig. 2.</i>
PISTILLUM <i>Hermaphroditis</i> : GERMEN oblongum, striatum, angulatum, glabrum, <i>fig. 3. STYLUS</i> filiformis, staminibus longior; STIGMATA duo, subrevoluta, superne ad lentem canaliculata, apicibus truncatis, crassiusculis, <i>fig. 4. Feminis</i> GERMEN et STYLUS ut in <i>Hermaphroditis</i> ; STIGMA subfimile, laciniis minus revolutis, <i>fig. 6.</i>	◇ PISTILLUM of the <i>Hermaphrodite</i> flowers: GERMEN oblong, finely grooved, angular, smooth, <i>fig. 3. STYLE</i> filiform, longer than the stamina; STIGMATA two, rolled a little back, on the upper part channelled if magnified, the tips truncated and thickish, <i>fig. 4. of the Female</i> flowers, GERMEN and STYLUS as in the <i>Hermaphrodite</i> flowers; STIGMA somewhat similar, but less rolled back, <i>fig. 6.</i>
SEMEN oblongum, basi attenuatum, undique profunde sulcatum, ex nigro-purpurascens, <i>fig. 7, 8. fig. 9. auct.</i>	◇ SEED oblong, slenderer towards the base, deeply grooved all round, and purplish black, <i>fig. 7, 8. fig. 9. magn.</i>

This species of Chrysanthemum is extremely common in meadows and pastures, sometimes even on walls, and in corn-fields; it is a hardy perennial, increases greatly by seed, and flowers in June and July.

As it is so prevalent in pastures, it is of no small consequence to ascertain how far it is agreeable to cattle, and, on such occasions, the only guide we have at present to consult, are the experiments of LINNÆUS; from those it appears that kine and swine refuse it, but that horses, sheep, and goats feed on it.

The fresh leaves chewed, discover a sweetish, unpleasant, slightly aromatic taste, somewhat like Parsly, but not hot or biting; they have been recommended in disorders of the breast, both asthmatical and pthical, and as diuretics, but are now seldom called for.

As such a number of beautiful double varieties of the Common Daisy are met with in almost every garden, it has often been matter of wonder to us, that we never see this plant in a similar state: I have indeed been very credibly informed, that two double varieties of this plant exist in a garden near Air in Scotland, but never yet saw them.





Matricaria Chamomilla.

J. Sowerby del. et sculp.

MATRICARIA CHAMOMILLA. CORN FEVERFEW, OR CAMOMILE.

MATRICARIA *Lin. Gen. Pl.* SYNGENESIA POLYGAMIA SUPERFLUA.

Recept. nudum. Pappus nullus. Cal. hemisphæricus, imbricatus; marginalibus solidis, acutiusculis.

Raii Syn. Gen. 8. HERBÆ FLORE COMPOSITO DISCOIDE, SEMINIBUS PAPPO DESTITUTIS, CORYMBIFERÆ DICTÆ.

MATRICARIA *Chamomilla* receptaculis conicis, radiis patentibus, squamis calycinis margine æqualibus. *Lin. Syst. Vegetab. p. 643. Sp. Pl. p. 1256. Fl. Suec. n. 764.*

MATRICARIA foliis planis capillaribus, duplicato-pinnatis, pinnulis lanceolatis bifidis trifidisque. *Haller. hist. n. 101.*

CHAMÆMELUM vulgare, Leucanthemum Dioscoridis. *Bauh. pin. 135.*

CHAMÆMELUM *Gerard. emac. 754.*

CHAMÆMELUM vulgare *Parkin. 85. (qui vulgare cum nobili confundit) Raii Syn. p. 185. Hudson Fl. Angl. ed. 2. p. 372. Lightfoot Fl. Scot. p. 491.*

RADIX annua, simplex, fibrosa.	♦ ROOT annual, simple, and fibrous.
CAULIS pedalis, ad sesquipedalem, erectus, ramosus, fubangulosus, striatus, lævis.	♦ STALK a foot, or a foot and a half high, upright, branched, somewhat angular, striated, and smooth.
FOLIA saturate viridia, alterna, sessilia, lævia, pinnata, pinnis linearibus, inferioribus simplicibus, superioribus ramosis, pinnulis acutis, mucronatis, divaricatis, costa femilineam lata, carinata.	♦ LEAVES of a deep green colour, alternate, sessile, smooth, pinnated, the pinnæ linear, the lower ones simple, the upper ones branched, the pinnulæ or small pinnæ sharp and terminating in a short point, divaricating, the midrib half a line broad, and keeled.
PEDUNCULI erecti, striati, nudi, superne fubincrassati.	♦ FLOWER STALKS upright, striated, naked, a little thickened above.
FLORES albi, disco e luteo-virescente.	♦ FLOWERS white, the disk of a yellowish-green colour.
CALYX communis hemisphæricus, squamis plurimis, imbricatis, obtusiusculis, apice fufcescentibus, fubmembranaceis, longitudine fere tubi floscolorum femineorum in radio, fig. 1.	♦ CALYX common to all the florets, hemispherical, scales numerous, imbricated, somewhat obtuse, the tips brownish, and a little membranous, almost the length of the tube of the female flowers in the circumference, fig. 1.
FLOSCULI radii 13 circiter, feminei, oblongi, sesquilineam lati, bifulci, tridentati, dentibus obtusiusculis, fig. 2. STIGMA bifidum, flavum, laciniis reflexis, fig. 3.	♦ FLOWERS of the radius about 13 in number, female, oblong, a line and a half broad, two-grooved, three-toothed, teeth bluntish, fig. 2. STIGMA bifid, yellow, the segments turned back, fig. 3.
FLOSCULI disci, numerosi, tubulosi, hermaphroditi, quinquedentati, fig. 4. STIGMA bifidum, laciniis reflexis, fig. 5.	♦ FLOWERS of the disk, numerous, tubular, hermaphrodite, five-toothed, fig. 4. STIGMA bifid, the segments turned back, fig. 5.
SEMINA numerosa, minuta, pallide fufca, oblonga, fulcata, fig. 6.	♦ SEEDS numerous, minute, of a pale brown colour, oblong and grooved, fig. 6.
RECEPTACULUM oblongum nudum.	♦ RECEPTACLE oblong and naked.

The *Matricaria Chamomilla*, *Anthemis Cotula*, and *Chrysanthemum inodorum*, are three very common plants in the neighbourhood of London; as the two first are extremely similar in their general appearance, and are often found growing together, we have published them in the same number, that an opportunity might be afforded of comparing and contrasting them.

PARKINSON, deceived by their great similarity, makes only one plant of them; *Mayweed*, says he, is so like unto Chamomile, that I must needs join them together.

The student who is acquainted with the mode of investigating the generic character of each, will quickly distinguish the one from the other; on dissecting the heads, he will find the pointed paleæ which are fixed to the receptacle of the *Anthemis* totally wanting in the *Matricaria*; but this knowledge, though highly necessary, is not sufficient for those who would wish to know plants at first sight, which is always desirable; we shall therefore, in addition to the generic character, point out several others, in which they have appeared to us materially to differ from each other.

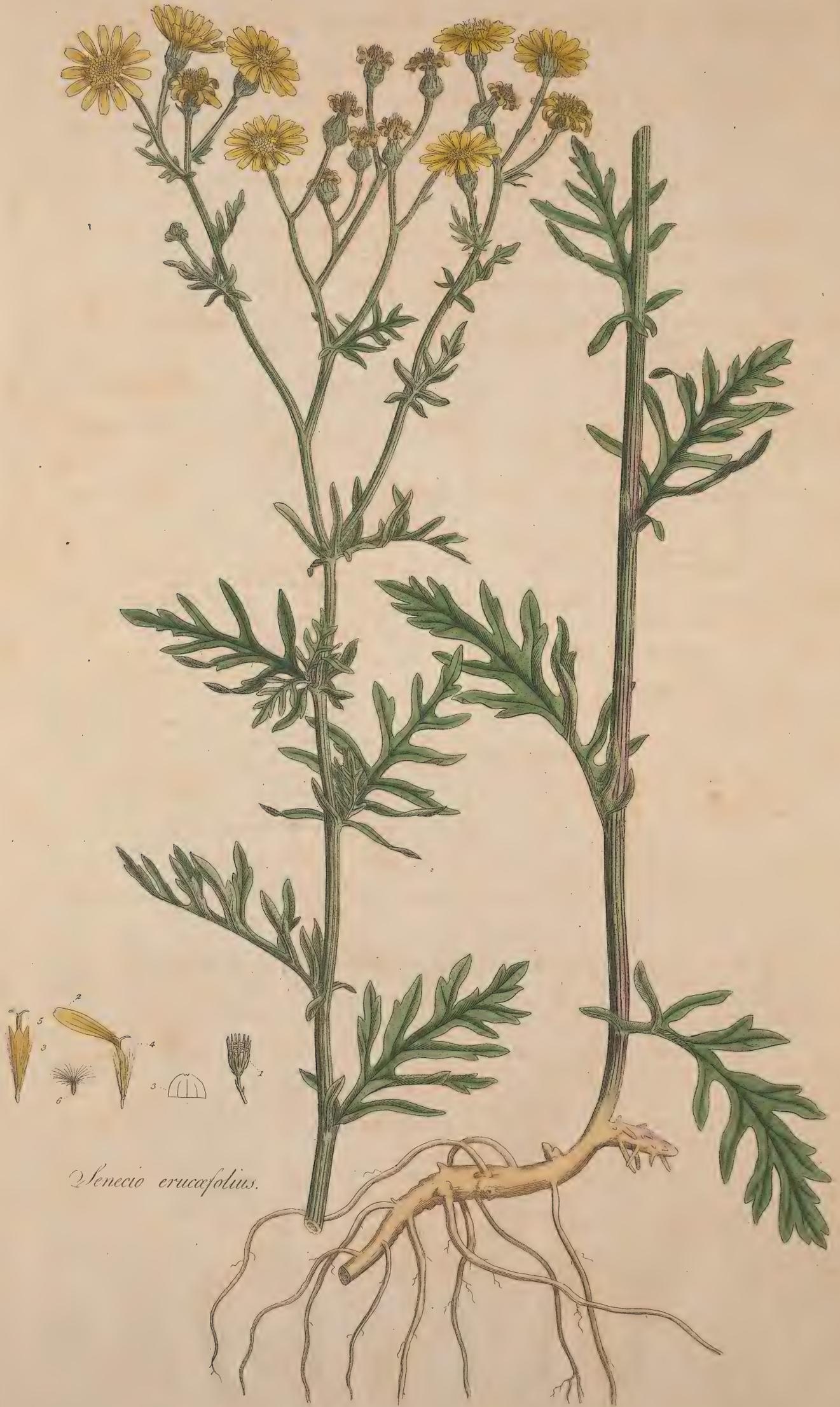
Their place of growth affords but little distinction, they are both natives of corn-fields, both grow in them in the greatest abundance, often together, frequently separate, nor is it unusual to find them on the confines of dunghills, and by road-sides; they both flower at the same time, from May to July and August, both are annuals, and grow nearly to the same height, but in the following particulars they differ: the whole plant in the *Matricaria* puts on a deep green colour, and somewhat shining appearance; the *Anthemis*, on the contrary, assumes a much paler hue, and the stalk is often covered with a kind of woolly substance: the leaves in the *Matricaria* are nearly as fine as those of fennel, which they distantly resemble; in the *Anthemis* they are almost twice as broad, and the points of them, which in the *Matricaria* are simple, in the *Anthemis* are often bifid.

The Petals in both these plants begin to hang down in the evening, and continue to do so till morning; but those of the *Anthemis* are in general much broader than those of the *Matricaria*, and somewhat shorter; but, in this particular, both plants are subject to great variation; the disk of the flower in the *Anthemis* is not so prominent, but of a lighter yellow than that of the *Matricaria*. Such are the characters which present themselves to the eye of an accurate observer, but there is another which will greatly assist to corroborate, confirm, and render it impossible for the plants to be mistaken, viz. the smell; if the heads of the *Matricaria* are bruised, they will be found to emit a strong smell, somewhat resembling the true Chamomile, but not so pleasant, while the heads of the *Anthemis*, treated in the same manner, smell intolerably disagreeable; another circumstance may also be added, the *Matricaria* is not known to blister the skin, in which alone it is perhaps less mischievous to the husbandman than the other: nor is the character which may be drawn from the seeds to be despised, those of the *Anthemis* being broad and truncated at top, wrinkly, and of a deep brown colour when ripe, those of the *Matricaria* much smaller, paler, and different in their shape, vid. fig. 6.

July 7th, we discovered several larvæ feeding on this species, which produced the *Cassida viridis*.—Cattle in general refuse the *Matricaria*.—In Sweden the flowers are used medicinally instead of the *Anthemis nobilis*.

Mr. HUDSON, in our opinion, is perfectly justified, in making one plant of the *Matricaria Chamomilla* and *suaveolens*; Mr. LIGHTFOOT, in his *Flora Scotica*, previously suggested that they were the same. We are surprised that Professor MURRAY should adopt a species founded on such vague characters as *radiis deflexis* and *radiis patentibus*.





Senecio erucifolius.

SENECIO ERUCÆFOLIUS. HOARY RAGWORT.

SENECIO *Lin. Gen. Pl.* SYNGENESIA POLYGAMIA SUPERFLUA.

Recept. nudum. *Pappus* simplex. *Cal.* cylindricus, calyculatus: squamis apice sphacelatis.

Raii Syn. Gen. 7. HERBÆ FLORE COMPOSITO, SEMINE PAPPOSO NON LACTESCENTES FLORE DISCOIDE.

SENECIO *erucæfolius* corollis radiantibus, foliis pinnatifidis dentatis subhirtis, caule erecto. *Lin. Syst. Vegetab.* p. 631. *Sp. Pl.* p. 1218. *Fl. Suec.* p. 750.

JACOBÆA altissima, foliis erucæ artemisiæve similibus et æmulis. *Rupp. Jen.* 164.

JACOBÆA Senecionis folio incano perennis. *Raii Syn.* p. 177. Hoary perennial Ragwort with Groundfel leaves. *Hudson. Fl. Angl.* p. 366.

<p>RADIX perennis, alba, plures turiones crassitie pennæ anserinæ, unciales, aut biunciales, sapore ingrato, in sequentem annum proferens.</p>	<p>ROOT perennial, white, putting forth against the next year several shoots, the thickness of a goose quill, an inch or two inches in length, of a disagreeable taste.</p>
<p>CAULIS erectus, tripedalis, foliosus, rigidus, substriatus, purpureus, lanuginosus.</p>	<p>STALK upright, three feet high, leafy, rigid, slightly striated, purple and woolly.</p>
<p>FOLIA alterna, semiamplexicaulia, subtus hirsuta, etiam incana, omnia pinnata seu pinnatifida, pinnis linearibus, acutis, dentatis.</p>	<p>LEAVES alternate, half embracing the stalk, hairy underneath, and sometimes white with down, all of them pinnated, or rather pinnatifid, the pinnæ linear, pointed and toothed.</p>
<p>FLORES lutei, numerosi, corymbosi, magnitudine fere florum Senecionis Jacobæa.</p>	<p>FLOWERS yellow, numerous, almost the size of the flowers of the common Ragwort, growing in a corymbus.</p>
<p>CALYX communis sub-cylindraceus, fulcatus, squamis tredecim, æqualibus, margine membranaceis, apicibus hirsuto-glandulosis, nulla nigredine tinctis, squamulis paucis linearibus adpressis ad basin, <i>fig. 1.</i></p>	<p>CALYX common to all the florets, somewhat cylindrical, grooved, scales thirteen in number, equal, membranous at the edge, the tips hairy and somewhat glandular, not tinged with black, furnished with a few linear scales at the base, which are pressed close, <i>fig. 1.</i></p>
<p>COROLLA composita, radiata, <i>Flosculi feminei</i> in radio tredecim circiter, patentes, oblongi, obsolete tridentati, <i>fig. 2.</i> <i>Hermaphroditi</i> numerosi in disco, limbo quinquefido, suberecto, <i>fig. 3.</i></p>	<p>COROLLA compound and radiate, <i>Female flowers</i> in the circumference about thirteen in number, spreading, oblong, faintly three-toothed, <i>fig. 2.</i> <i>Hermaphrodite flowers</i> in the center numerous, the limb divided into five segments and nearly upright, <i>fig. 3.</i></p>
<p>STAMINA: FILAMENTA quinque capillaria. ANTHERÆ in cylindrum coalitæ, <i>fig. 5.</i></p>	<p>STAMINA: five capillary FILAMENTS. ANTHERÆ united, and forming a cylinder, <i>fig. 5.</i></p>
<p>SEMEN oblongum, hispidulum, pappo sessili, simpliciter instructum, <i>fig. 6.</i></p>	<p>SEED oblong, a little hispid, furnished with sessile, simple down, <i>fig. 6.</i></p>

We have no doubt but the plant here figured is the *Jacobæa Senecionis folio incano perennis* of *Ray's Synopsi*, ed. 3. p. 177. It certainly has a less jagged, and more groundfel-like leaf, than the common Ragwort. Its leaves and stalks are also in general hoary, especially the latter*; and so far the description discriminates; but why perennis? since both the *aquaticus* and *Jacobæa*, with which it has the greatest affinity, are considered as perennial. We believe also, that our plant is the *Jacobæa altissima, foliis Erucæ artemisiæve similibus et æmulis* of *Ruppertus Fl. Jen. ed. Hall.* p. 176. And as this descriptive name appears among those which LINNÆUS applies to his *Erucæfolius*, we consider ourselves warranted in adopting his name of *Erucæfolius*. Baron HALLER, who oftener makes species of varieties, than varieties of species, in the present instance considers this plant as a variety only of the *Jacobæa*. Professor JACQUIN, in his *Flora Austriaca*, gives a figure and description of a *Senecio*, which he calls *tenuifolius*; but as he adduces no synonyms, and as his figure differs in some respect from our plant, though we strongly suspect it to be the same, we dare not consider it as such.

The *Senecio Erucæfolius*, though not so common as the *Jacobæa*, is not unfrequent in the neighbourhood of London in certain situations, particularly in the environs of woods, under hedges, among bushes, &c. and no where more abundant than about the Oak of Honour Wood, near Peckham. The *Jacobæa*, on the contrary, delights to grow in open hilly pastures, church-yards, by road sides every where: nor do these plants differ less in their usual period of flowering; the *Erucæfolius* flowering chiefly in August, a month later than the other.

* This hoariness is most observable when the plant is young, or when it grows in a woody and hilly situation, which it chiefly affects. When it is found in a moist soil, or cultivated in a garden, it loses this character, in common with many other plants of the same class.

ORCHIS LATIFOLIA. MARSH ORCHIS.

ORCHIS *Lin. Gen. Pl.* GYNANDRIA DIANDRIA.

Nectarium corniforme pone florem.

Raii Syn. HERBÆ BULBOSIS AFFINES.

- ORCHIS *latifolia* bulbis subpalmatis rectis, nectarii cornu conico: labio trilobo lateralibus reflexo, bracteis flore longioribus. *Lin. Syst. Vegetab. ed. 14. p. 810. Sp. Pl. 1334. Fl. Suec. n. 801.*
- ORCHIS radicibus palmatis, caule fistuloso, bracteis maximis, labello trifido ferrato: medio segmento obtuso. *Haller. hist. 1279. t. 32.*
- ORCHIS *latifolia.* *Scopoli Fl. Carn. n. 1118.*
- ORCHIS palmata pratensis latifolia, longis calcaribus. *Bauh. Pin. 85.*
- PALMA CHRISTI mas. *Ger. emac. 220.*
- ORCHIS palmata mas f. Palma Christi mas. *Park. 1356.*
- ORCHIS palmata non maculata. *I. B. II. 774. Raii Syn. p. 380. The Male-Handed Orchis, or Male Satyrion Royal. Lightfoot Fl. Scot. p. 516. Hudson Fl. Angl. ed. 2. p. 385.*

RADIX bulbosa, bulbis palmatis.	◇ ROOT bulbous, bulbs palmated, or handed.
CAULIS plerumque pedalis aut sesquipedalis; ad apicem fere foliosus, crassus, fistulosus, superne subangulosus, glaber.	◇ STALK usually a foot or a foot and a half high, leafy almost to the top, thick, hollow, somewhat angular above, perfectly smooth.
FOLIA e flavo viridia, suberecta, glabra, nobiscum immaculata, plerisque hujus generis et longiora et latiora.	◇ LEAVES of a yellowish-green colour, nearly upright, smooth, spotless with us, and both longer and broader than most of this tribe.
FLORES nobiscum sæpius rosei seu carnei, sæpe purpurei, raro albi, spicati, conferti.	◇ FLOWERS with us for the most part rose or flesh-coloured, often purple, rarely white, growing in a spike thickly together.
SPICA subovata, foliosa.	◇ SPIKE somewhat ovate, and leafy.
BRACTEÆ magnæ, acuminatæ, coloratæ, fig. 1.	◇ FLORAL-LEAVES large, long-pointed, and coloured, fig. 1.
COROLLA: petala quinque, duo exteriora ovato-lanceolata, suberecta, parum maculata, fig. 3. interiora conniventia, fig. 4. Calcar germen brevius, conicum, incurvum, obtusum.	◇ COROLLA pentapetalous, the two outermost ovato-lanceolate, nearly upright, spotted a little, fig. 3. the innermost closing together, fig. 4. the Spur shorter than the germen, conical, incurved, and blunt.
NECTARIUM obsoletè trilobum lineolis et punctis saturatoribus pulchre variegatum, lateribus per ætatem reflexis, fig. 2.	◇ NECTARY faintly three-lob'd, beautifully variegated with small lines and dots of a deeper colour, the sides reflexed with age, fig. 2.
STAMINA: FILAMENTA duo; ANTHERÆ subrotundo-clavatæ, e luteo-virescentes, fig. 5. auct.	◇ STAMINA: two FILAMENTS; ANTHERÆ roundish, club-shaped, of a yellowish-green colour, fig. 5. magnified.

The *Orchis Latifolia* is particularly distinguished from the others, by growing (with us at least) only in very wet meadows, where *Valeriana dioica*, *Menyanthes trifoliata*, and *Lychnis Flos Cuculi*, usually abound, and from which circumstance, we have called it *Marsh Orchis*, by its spotless foliage, which is of a yellowish-green colour, and by the uncommon length of the floral leaves, which give the spike a very leafy appearance.

It comes nearest to the *maculata*: HALLER represents the leaves somewhat spotted, and LINNÆUS describes them *parum maculata*; we do not find them so in the neighbourhood of London; but probably they may be so in other places: should that be the case, these two plants will approach still nearer to each other.

With us, pink is the most predominant colour of its blossoms, though they are frequently found purple, and sometimes white; even in the same meadow.

We need go no further than Battersea-Meadows to find this plant in tolerable abundance; at a greater distance from town it will be found much more plentifully; it flowers towards the latter end of May.

It is more easily cultivated than many of the same genus, and if planted in a moist border, in a mixture of bog earth and loam, will grow to a much greater size than is represented on the plate.



Orchis latifolia.

J. Smith.

SPARGANIUM RAMOSUM. GREAT BUR-REED.

SPARGANIUM *Lin. Gen. Pl.* MONOECIA TRIANDRIA.

MASC. Amentum subrotundum. *Cal.* 3-phyllus. *Cor.* o.

FEM. Amentum subrotundum. *Cal.* 3-phyllus. *Cor.* o. *Stigma* 2-fidum. *Drupa* exsucca, 1-sperma.

Raii Syn. GRAMINIFOLIÆ NON CULMIFERÆ SINGULARES ET SUI GENERIS.

SPARGANIUM *ramosum* foliis basi triangularibus, lateribus concavis, pedunculis ramosis.

SPARGANIUM *erectum* foliis erectis triquetris. *Lin. Syst. Vegetab.* p. 702. *Sp. Pl.* p. 1378. *Fl. Suec.* n. 831.

SPARGANIUM caule foliisque erectis. *Haller hist.* 1303.

SPARGANIUM *erectum.* *Scopoli Fl. Carn.* n. 1146.

SPARGANIUM *ramosum.* *Bauh. Pin.* 15. *Ger. emac.* 45. *Parkin.* 1205. *Raii Syn.* 437. Branched Bur-Reed. *Hudson Fl. Angl. ed.* 2. p. 401. *Lightfoot Fl. Scot.* p. 539.

RADIX	perennis, repens, radiculis fibrillis numerosissimis instructis.	ROOT	perennial, and creeping, the small roots furnished with very numerous fibres.
CULMUS	bipedalis, tripedalis, et ultra, erectus, teres, glaber, foliosus, foliis tribus circiter, præter bractæas.	STALK	two, three feet high, or more, upright, round, smooth, leafy, leaves about three in number besides the floral leaves.
FOLIA	radicalia erecta, saturate viridia, culmo duplo fere longiora, basi vaginantia, equitantia, paulo supra basin fere ad apicem usque triquetra, latere interiore planiusculo, duobus exterioribus concavis.	LEAVES	next the root upright, of a deep green colour, almost twice the length of the stem, sheathy at bottom and riding one on the other, from the base nearly, almost to the top three-cornered, the inner side almost flat, the two outermost hollow.
BRACTEÆ	quatuor circiter, foliis caulinis subsimiles, inferioribus longioribus.	FLORAL-LEAVES	about four in number, somewhat like the leaves of the stalk, the lowermost longest.
FLORES	monoici, in capitula collecti, spicati.	FLOWERS	monoicous, formed into little heads, and growing in spikes.
PEDUNCULI	axillares, alterni, flexuosi, multiflori, capitulis sessilibus, inferioribus femineis, duobus aut tribus, superioribus masculis pluribus; pedunculi supremi flores masculos tantum gerunt.	FLOWER-STALKS	growing from the bosoms of the leaves, alternate, crooked, supporting many flowers, the little heads sessile, the lowermost ones female, two or three in number, the uppermost ones male, and more numerous; the uppermost flower-stalks bear only male flowers.
CALYX	Flor. Masc. Amentum commune, subrotundum, undique densissime imbricatum, constans Perianthiis propriis plerumque triphyllis, basi linearibus, apice ovato-acutis, deciduis, fig. 1. auct.	CALYX	of the Male Flowers. One common roundish <i>Catkin</i> , closely imbricated on every side, and composed of numerous individual <i>Perianthia</i> , consisting for the most part of three leaves, linear at the base, ovate and pointed at top, and deciduous, fig. 1. magnified.
COROLLA	nulla.	COROLLA	none.
STAMINA: FILAMENTA	plerumque tria, capillaria, longitudine calycis; ANTHERÆ oblongæ, flavæ, fig. 2.	STAMINA:	usually three capillary FILAMENTS, the length of the calyx; ANTHERÆ oblong, yellow, fig. 2.
CALYX	Flor. Fem. Perianthium ut in masculo, at basi latior, magis concavus, nec deciduus, fig. 3.	CALYX	of the Female Flowers. A <i>Perianthium</i> as in the males, but broader at the base, more concave, and not deciduous, fig. 3.
PISTILLUM: GERMEN	oblongo-ovatum, angulatum, desinens in STYLUM brevem subulatum; STIGMA oblongum ad unum latus villosum, fig. 4.	PISTILLUM:	GERMEN oblongo-ovate, angular, terminating in a short tapering STYLE; STIGMA oblong, villous on one side, fig. 4.
PERICARPIUM: DRUPA	exsucca, turbinata cum acumine, inferne angulata, fig. 5.	SEED-VESSEL:	a juiceless DRUPE, turban-shaped and pointed; angular below, fig. 5.
SEMEN: NUCES	duæ, ossæ, oblongo-ovatæ, fig. 6.	SEEDS:	two bony NUTS, of an oblong ovate shape, fig. 6.

The *Sparganium ramosum* having a very strong creeping root, is one of those plants which very soon fill up a ditch or piece of water, if suffered to remain unmolested; we have not seen it more plentiful any where than in the Isle of Dogs, the ditches of which are full of it.

We know of no use to which it is applicable.

The stalk is liable to be eaten by some kind of larva whose history we have not yet discovered, the leaves by the larva of a *Tenthredo* unknown to us, as well as by the larva of the *Phalæna Fesluca*—two of which in their *Chrysalis* state, we this year, August 24, 1786, found in a web under the leaves of the plant, in a pond near Malden in Essex; and on the leaves of the same plant, at the same time and place, Dr. GOODENOUGH and myself were so fortunate as to find two specimens of that rare insect the *Sphæx fissipes Linnæi*.

The male flowers vary much in the number of their stamina, and both sorts in the number of the leaves of the calyx.

In treating of the *Typha latifolia*, we promised, when we gave a figure of this plant, to inform our readers whether its seeds vegetated: we have since then had an opportunity of observing one of its heads, as it lay in a wet situation, assume a green colour, which, on a careful examination, it was found to owe to the seeds having just begun to vegetate.



Sparganium ramosum.





Sparganium simplex!

J. Sowerby del. et sculp.

SPARGANIUM SIMPLEX. SMALL BUR-REED.

SPARGANIUM *Lin. Gen. Pl.* MONOECIA TRIANDRIA.

MASC. Amentum subrotundum. *Cal.* 3-phyllus, *Cor.* 6.

FÆM. Amentum subrotundum. *Cal.* 3-phyllus. *Cor.* 6. *Stigmata* 2-fidum. *Drupa* ex succa, 1-sperma.

Raii Syn. GRAMINIFOLIÆ NON CULMIFERÆ SINGULARES ET SUI GENERIS;

SPARGANIUM *Simplex* foliis basi triangularibus, lateribus planis, pedunculis simplicibus.

SPARGANIUM *simplex* foliis ensiformibus planis, caule simplici, *Hudson Fl. Angl. p.* 401.

SPARGANIUM *natans* foliis decumbentibus planis. *Lin. Syst. Vegetab. p.* 702. *Sp. Pl.* 1378.

SPARGANIUM non ramosum. *Bauh. Pin.* 15.

SPARGANIUM non ramosum. *Parkinsf.* 1205. *Raii Syn. p.* 437. n. 2, 3. Bur-reed not branched.

LINNÆUS makes only two species of the genus Sparganium, one of which he calls *erectum*, and the other *natans*; the former he describes as very common in ditches and fish-ponds, the latter peculiar to lakes and deep waters.

Older Botanists describe three species, the *ramosum*, the *non ramosum*, and the *minimum*; the *non ramosum* LINNÆUS considers as a variety of his *erectum*; it is this plant which we here give a figure of, from a thorough conviction of its being a species perfectly distinct from the common one, whether it differs specifically from the *natans* we do not take on us at present to determine: MR. LIGHTFOOT, who has seen the *natans* in many places in Scotland, pronounces it a species; MR. HUDSON, on the contrary, considers it as a variety of the present plant;—certain it is, soil and situation will occasion an amazing difference in the appearance of plants; we need only look at the *Polygonum amphibium* to be convinced of this; when it grows on land its leaves are all erect, in the water they float; the leaves of the *Festuca fluitans* float in the spring; as the summer advances they grow upright; possibly the depth and consequent coldness of the water, with other circumstances, may occasion the present plant to assume the floating appearance which authors describe;—culture, perhaps, can only decide this matter:—let the experiment turn out as it may, as there are found to be two species with erect leaves, it became necessary to alter LINNÆUS's names, which MR. HUDSON having judiciously done we have adopted them.

We shall now point out the several characters in which the present plant has appeared to us to differ from the *ramosum*.

It differs in its place of growth,
In its size,
In the colour and shape of its leaves,
In the branchedness of its flower-stalks, and
In the colour of the male and female flowers.

The common Bur-Reed grows in almost every ditch in the neighbourhood of London, the small one on the contrary is found only in particular spots, particularly in such pools of water as one meets with on heaths, and which are frequently made by the digging of gravel, along with the *Myriophyllum*, the *Alisma Damasonium*, *Sison inundatum*, *Scirpus fluitans*, &c. It particularly abounds on Battersea Common, just before you enter Wandsworth on the left-hand side from London, and flowers during the whole of the summer.

It is seldom found more than one fourth part so high as the *Sparganium ramosum*.

The leaves incline much more to a yellow colour, and instead of being hollow on two sides near the base, as those of the *ramosum* are, they are flat, so that a transverse section forms a triangle with nearly plain sides; we look on this as its best specific character. Such as have opportunities of observing the *natans*, will do well to observe whether its leaves are similar near the base.

Each flower-stalk supports only a single globule of male or female flowers; the lowermost which support the female flowers vary considerably in length, being sometimes more than an inch long, and at other times sessile.

The flowers before they blow look yellow, and have none of that blackness about them, so conspicuous in those of the *ramosum*: they are also larger in proportion.



Mercurialis annua.

J. Sowerby del. et. sculp.

MERCURIALIS ANNUA. ANNUAL, OR FRENCH MERCURY.

MERCURIALIS *Lin. Gen. Pl.* DIOECIA ENNEANDRIA.

MASC. Cal. 3-partitus. Cor. o. Stam. 9-f. 12. Antheræ globosæ didymæ.

FÆM. Cal. 3-partitus. Cor. o. Styli 2. Caps. dicocca, 2-locularis, 1-sperma.

MERCURIALIS *annua* caule brachiato, foliis glabris, floribus spicatis. *Lin. Syst. Vegetab. p. 746: Spec. Pl. p. 1465.*

MERCURIALIS caule annuo, brachiato, foliis conjugatis, ovato lanceolatis, glabris. *Haller hist. n. 1600.*

MERCURIALIS *Cynocrambe Scopoli Fl. Carn. n. 1226.*

MERCURIALIS testiculata, five mas Diosc. et Plinii. *Bauhin pin. 121.*

MERCURIALIS spicata, five fæmina, Diosc. et Plinii. *Bauhin pin. 121.*

MERCURIALIS vulgaris mas et femina. *Park. 295.*

MERCURIALIS mas et femina. *Ger. emac. 332.*

MERCURIALIS *annua glabra vulgaris. Raii Syn. p. 139. French Mercury, the male and female, Hudson. Fl. Angl. ed. 2. p. 435.*

RADIX annua, fibrosa, alba.

CAULIS pedalis ad sesquipedalem, erectus, glaber, ad basin usque ramosus, geniculatus, geniculis incrassatis; subcompressis, anceps, idque alterne.

RAMI alterne oppositi, foliosi, cauli subfimiles.

FOLIA opposita, petiolata, ovata, obtusiuscula, patentia, basi biglandulosa, obtuse ferrata, ad lentem ciliata, utrinque glabra, lucidiuscula, venosa.

PETIOLI foliis multo breviores, glabri, supra canaliculati.

STIPULÆ quatuor, ad genicula, utrinque binæ, minimæ.

PEDUNCULI florum masc. axillares, oppositi, erecti, nudi, filiformes, foliis longiores, subtetragoni, superne proferentes glomerulos plures florum, sessiles, odore sambuci.

CALYX: PERIANTHIUM tripartitum, foliolis ovatis, acutis, patentibus, *fig. 1.*

COROLLA nulla.

STAMINA: FILAMENTA plerumque novem, alba, capillaria; ANTHERÆ didymæ, flavæ, *fig. 2.*

FLORES FÆMINEI in distinctâ plantâ.

PEDUNCULI axillares, foliis breviores, sæpius biflori, inter flores fæmineos aliquando observatur masculus imperfectus, longius productus.

CALYX ut in mare, nisi quod foliola paulo minora, *fig. 3.*

COROLLA nulla.

NECTARIA duo, subulata, utrinque ad latus germenis solitaria, *fig. 4.*

PISTILLUM: GERMEN subrotundum, didymum, compressum, hispidum; STYLUS vix ullus; STIGMATA duo, subulata, patentia, longitudinaliter superne hispida, *fig. 5.*

PERICARPIUM: CAPSULA didyma, echinata, bilocularis.

SEMEN unicum in singulo loculamento globosum, extus castaneum, intus album.

ROOT annual, fibrous, of a white colour.

STALK a foot or a foot and a half high, upright, smooth, branched quite to the bottom, jointed, the joints swelled, and somewhat flattened, a prominent line runs on each side of the stalk, from one joint to another, and that alternately.

BRANCHES alternately opposite, leafy, somewhat like the stalk.

LEAVES opposite, standing on footstalks, ovate, bluntish, spreading, having two glands at the base, obtusely ferrated, if magnified edged with hairs, smooth on each side, somewhat glossy, and veiny.

LEAF-STALKS much shorter than the leaves, smooth, channelled above.

STIPULÆ four at each joint, two on each side, very minute.

FLOWER-STALKS of the male flowers axillary, opposite, upright, naked, filiform, longer than the leaves, somewhat four-cornered, producing towards the top, several round, sessile, small clusters of flowers, having the smell of elder.

CALYX: a PERIANTHIUM deeply divided into three segments, which are ovate, pointed, and spreading, *fig. 1.*

COROLLA wanting.

STAMINA: generally nine FILAMENTS, white and very fine; ANTHERÆ double, and yellow, *fig. 2.*

FEMALE FLOWERS on a separate plant.

FLOWER-STALKS axillary, shorter than the leaves, generally sustaining two flowers; among the female flowers we sometimes find an imperfect male flower standing on a longer footstalk.

CALYX as in the male, except that the leaves are a little smaller, *fig. 3.*

COROLLA wanting.

NECTARIES two, tapering, one growing singly on each side of the germen, *fig. 4.*

PISTILLUM: GERMEN roundish, double, flattened, hispid; STYLE scarce any; STIGMATA two, tapering, spreading, on the upper side hispid lengthwise, *fig. 5.*

SEED-VESSEL a twin CAPSULE, prickly, having two cavities.

SEED one in each cavity, globular, chestnut coloured without, white within.

We can discover no satisfactory reason for calling this species by the name of French Mercury, as it is not peculiar to France, but found with us, in a variety of places: RAY mentions it as growing plentifully on the sea-beach, near *Ryde*, in the Isle of Wight; and PARKINSON, near a village called *Brookeland*, in Romney-Marsh, Kent: it would appear to be more common now than formerly, as we very frequently meet with it in waste places, by the sides of roads, and in neglected gardens, in the neighbourhood of London.

The

The Dogs Mercury was at one period thought to be an innocent plant, its poisonous qualities were discovered by accident: the Annual, or French Mercury, has, at present, the reputation of being not only harmless, but to possess medicinal virtues; it is of some consequence then for us rightly to distinguish the two, and in this there is little difficulty. The Dogs Mercury has a strong, creeping, perennial root; this an annual one: the Dogs Mercury flowers only in the Spring; this the whole Summer long; the Dogs Mercury has an unbranched stem; this a stalk branched down to the bottom.

The Annual Mercury has been ranked among the emollient oleraceous herbs; it is said gently to loosen the belly; its principal use has been in glysters.

The whole plant, particularly when in flower, has a strong smell of Elder.

The fine blue colour which the *Dogs Mercury* acquires in drying, has induced several persons to believe, that the plant, if properly treated, might be made, as well as many others, to produce Indigo: this induced Mr. MACINTOSH, an ingenious young gentleman of Glasgow, to make the following chemical analysis of it, with which he was so obliging as to favour me; and though it does not come under the proper plant, we apprehend no apology will be necessary for inserting it here.

“ The whole plant, on being put into water, gives out a fine blue colour, which is immediately changed into a green by the addition of an alkali; but an acid has not the power of changing its colour into red, as it does most blue liquors, it only weakens the blue, and if a large quantity be added, it nearly destroys it. The whole plant, on being dried, assumes a blue colour, which it gives out readily to water; but in all cases, if a boiling heat be used, it only acquires a deep dirty green, which changes gradually into a brownish red. Upon agitating violently the blue liquor, I always found it was changed into a brown colour, the blue being entirely lost, and not to be recovered by any means I could fall upon. There falls during this process, a small quantity of precipitate, which is also brown. If the blue liquor be evaporated, the whole is likewise changed into the same brownish colour, and a similar precipitate falls, which, on being put into water, gives it a dark red colour. Newly-slacked lime put into the blue liquor, first changes it into a green, which is very soon after destroyed. I have observed in the beginning of the evaporation, a blue fecula upon the sides of the vessel, but always before the end of the process, the whole was of the brownish colour mentioned above.”

AGARICUS AURANTIUS. ORANGE MUSHROOM.

AGARICUS *Linnæi Gen. Pl* CRYPTOGAMIA FUNGI.

Fungus horizontalis subtus lamellosus.

Raii Syn. Gen. 1. FUNGI.

AGARICUS *aurantius* pileo conico viscido aurantio, lamellis luteis, stipite nudo. *Lightfoot. Flor. Scot. p. 1025.*

AMANITA glutinosus, flavus, pileo umbonato. *Haller. hist. n. 2420.*

FUNGUS parvus, lubricus, aureus, lamellis raris, amplioribus, pediculo crassiore. *Mich. p. 147.*

FUNGUS aurantii coloris capitulo in conum abeunte. *Vaillant Bot. Par. p. 67.*

FUNGUS pratensis minor, externe viscidus, striis subtus fulvis seu croceis. *Raii Syn. p. 8. n. 38.?*

<p>In pascuis elatioribus solitarius plerumque invenitur, sat copiose nobiscum.</p>	<p>Found plentifully enough with us in elevated pastures, and for the most part singly.</p>
<p>STIPES uncialis, ad triuncialem, nudus, fistulosus, fragilis, et admodum fissilis, crassiusculus, subtiliter striatus, lævis, sæpe tortuosus, plerumque croceus.</p>	<p>STALK from one to three inches high, naked, hollow, brittle, and much disposed to split, thickish, finely striated, smooth, often twisted, and for the most part saffron-coloured.</p>
<p>PILEUS uncialis, aut biuncialis, raro triuncialis, ut plurimum conicus, præsertim in junioribus, lubricus, et subviscidus, primo coccineus, dein croceus, seu aurantius, demum niger; nonnulli formam conicam retinent usque ad dissolutionem, alii plani fiunt vertice tumescente.</p>	<p>STALK one or two, seldom three inches broad, generally conical, especially when young, slippery, and somewhat clammy, at first of a bright scarlet colour, then saffron or orange-coloured, and finally black; some preserve their conical form even in decay, others become flat with a prominent crown.</p>
<p>LAMELLÆ primo albidæ, dein subcroceæ, si contundantur statim nigrescentes.</p>	<p>GILLS first whitish, afterwards somewhat saffron-coloured, on being bruised quickly becoming black.</p>

As this Fungus is so distinguishable for its colours, so distinct in its specific characters, and withal so common, it is matter of admiration that we do not find more notice taken of it by Authors. Mr. LIGHTFOOT in his *Flora Scotica* has given an accurate description of it, which cannot fail of making it known: he quotes SCHÆFFER's figure, which represents our plant, and adopts his name of *aurantius*. Mr. HUDSON does not mention it; and we are not certain whether the plant we refer to in RAY be ours or not. As well as Mr. LIGHTFOOT, we had our doubts whether it was the *fragilis* of LINNÆUS; but considering his description, as well as that of VAILLANT, who gives a figure to which LINNÆUS refers, we are certain it must be a different plant. If the *fragilis* of Mr. HUDSON be the *fragilis* of LINNÆUS, it is a very different plant from ours indeed. *Vid. SCHÆFF. Ic. tab. 230.* to which he refers.

This Fungus is by no means uncommon in elevated pastures, particularly where Eye-bright grows. It is usually dwarfish on heaths; but where the grass is not close fed, it is found with a stalk three inches high. The brilliancy of its colour soon strikes the eye. We may observe, that this colour is most vivid, or most inclined to red in the young ones. As it grows old, it becomes yellower, and quickly changes quite black. Indeed it has an extraordinary tendency to turn black, not only from age, but from the slightest bruise. The stalk is also brittle, and very apt to split.

It is found in perfection about the middle of September.

It does not possess any particular acrimony; but is not numbered with such as may be eaten with safety.



Agaricus aurantius.



Agaricus aruginosus.

Linnaeus del. et sculp.

AGARICUS ÆRUGINOSUS. VERDIGRIS MUSHROOM.

AGARICUS *Linnaei Gen. Pl. CRYPTOGAMIA FUNGI.*

Fungus horizontalis, subtus lamellosus.

Raii Syn. Gen. I. FUNGI.

AGARICUS *æruginosus* stipitatus, annulatus, annulo superne nigricante; pileo convexo, cæruleo, viridi, viscoso, lamellis purpureo-fuscis.

AGARICUS *viridis* stipitatus pileo convexo viridi, lamellis albidis, stipite longo virescente. *Hudson Fl. Angl. p. 614.*

AMANITA annulatus, pileo convexo cæruleo viridi, lamellis roseo cæruleis. *Haller. hist. n. 2444.*

FUNGUS medius pileo mucro æruginei coloris obducto. *Raii Syn. ed. 3. p. 6. Deering Catal. Stirp. p. 80.*

FUNGUS pileolo cucullato, viscido, intense viridi, et quasi vernigine oblito, inferne lamellis et pediculo albis. *Micheli p. 152.*

AGARICUS. *Schæf. Icon. tab. 1.*

<p>Solitarius, et cæspitosus in fylvis et pascuis nascitur, rarior nobiscum.</p>	<p>Grows singly, and in clusters, in woods and pastures, scarce with us.</p>
<p>STIPES biuncialis, seu triuncialis, ex albo virescens, fistulosus, annulatus, infra annulum floccosus, teres, subfragilis, supra annulum lævis, substriatus, ad basin lanuginosus, raro strictus.</p>	<p>STALK two or three inches high, of a greenish white colour, hollow, ruffled, below the ruffle shaggy, round, somewhat brittle, above the ruffle smooth, and slightly striated, at the base woolly, seldom perfectly straight.</p>
<p>ANNULUS persistens, tenuis, superne striatus, e fusco nigricans, inferne virescens.</p>	<p>RUFFLE permanent, slender, on the upper side striated and of a blackish purple colour, on the under side greenish.</p>
<p>PILEUS unciam aut duas latus, primo convexo-conicus, ex cæruleo-viridis, lubricus et subviscidus, lævis, prope marginem et in margine ipsa floccis albidis adpersus, demum planus aut parum concavus, e fusco-lutescens, cuticula facile separanda.</p>	<p>CAP from one to two inches broad, at first somewhat roundish, yet conical, the colour of verdigris, slippery and somewhat viscid, smooth, except near the edge, and on the edge itself, where it is covered with a whitish, shaggy substance, finally flat, or a little concave, of a yellowish brown colour, the cuticle easily peeled off.</p>
<p>LAMELLÆ numerosæ, brevioribus interjectis, e fusco-purpurascentes, parum nebulosæ, demum nigricantes.</p>	<p>GILLS numerous, with shorter ones intervening, of a brownish purple colour, a little clouded, finally blackish.</p>

Amidst that variety of colour observable in the Fungi, there are few in which the green predominates so much as in the present species: hence it affords an obvious character. But, alas! in these plants of a day, we must not lay too much stress on colour: *nimum ne crede colori* cannot be better applied to any subject. It is, however, chiefly in its decline that it loses that verdigris green, which on its first appearance renders it so conspicuous, the cap being often found of a pale yellowish brown colour, and sometimes variegated with green, yellow, and black. The viscosity of the cap is as constant a character as its green colour, and this also is most observable in the young ones, especially in the morning, or in showery weather; for in a very dry atmosphere the most viscid Fungi lose their viscosity. Next to the greenness and viscosity of the cap, we may remark, that the edge of it, where it breaks from the annulus, is very apt to be ragged: we have also found, that the outer skin of the cap has an unusual tendency to separate from the flesh. The gills, from the very beginning, are of a purplish brown colour; and the annulus or ruffle, while connected to the edge of the pileus, receives from the gills a fine powder, which communicates to the upper part of it a dark brown tint; this, contrasted with the light colour on the under side, forms a very conspicuous character. The stalk below the ruffle is usually of a blueish green colour, and shaggy.

This Fungus is not very common with us. Several of them appeared this autumn, in a grass plat in my garden; and I have observed twenty or thirty in Earl Mansfield's little wood near the Spaniard, Hampstead-Heath, where, if the season be not remarkably unfavourable, they are with certainty to be found about the middle of September.

It has no acrid or disagreeable taste; nevertheless, we do not venture to pronounce it an eatable one.

RAY's description, though a short one, and SCHÆFFER's figure, accord exactly with our plant. HALLER quotes SCHÆFFER: we therefore conclude from that circumstance, as well as from the consonancy of his description, that our plant is the same as his; and MICHELI, who is also quoted by HALLER, gives a description so exactly corresponding with RAY's, that we have no doubt but his also is the same as ours. Whether our plant be the *viridis* of Mr. HUDSON, we have our doubts; for he quotes authors who describe two different Fungi; at the same time that he quotes SCHÆFFER, *tab. 1.* (our plant), and HALLER, *n. 2444.* (our plant), he refers to MICHELI, RAY, and SCOPOLI, who describe another Fungus. SCOPOLI gives to his the name of *virens*; part of his DIAGN. is *Stipes nudus*. RAY quotes the *Fungus magnus viridis* of STERBECK, and the *sylvarum asper esculentus, seu ex albo virescens* of J. BAUHINE: and MICHELI thus describes his, *Fungus esculentus, pileo pubescente, viridi, inferne cum pediculo albo*. This description is quoted by SCOPOLI for his *virens*. Thus it would appear that these two are different species; we must leave it to Mr. HUDSON to reconcile these contradictory synonyma.

It could be wished, that every Fungus was as distinct in its characters as the present, we should then soon see order spring from that chaos in which this tribe of plants has been considered as so long involved; not but that chaos which LINNÆUS and other Botanists have so much lamented, is rather to be considered as a creature of their own imagination than as the child of nature. The more we look into these variable plants, the more we are convinced that our ignorance of them depends on our inattention and want of observation. Bestow the same pains on them as on other plants, observe them in all their states, in all their varieties of situation, and we shall find that each of them has some peculiarity of character. The discovery of this character is what we should aim at; but this will not be found in the closet. We may read over, with the most sedulous attention, BATTARRA, MICHELI, GLEDITSCH, and HALLER, or turn over the multitudinous plates of SCHÆFFER to little purpose: to know the Fungi well we must watch them daily and yearly; in short *we must live with them*.

AGARICUS CARNOSUS. FLESHY MUSHROOM.

AGARICUS *carnosus* pileo convexo albo, medio rufescente, lamellis confertis albis carne pilei duplo angustioribus.

<p>In fylvis acerosis habitat nobiscum rarior, autumnovigens.</p> <p>Solitarius plerumque invenitur, subinde caespitosus.</p> <p>STIPES triuncialis et ultra, magnitudine fere digiti minimi, crassus, nudus, fistulosus, carne diametro tubi, firmus, albidus, sæpe rubro maculatus, parum striatus, basi intra folia pini mortua descendente.</p> <p>PILEUS uncialis, ad triuncialem, albidus, medio rufescens, et hinc inde maculis concoloribus adspersus, lævis, carnosus, carne multo, solido, albo, primo convexus, dein planiusculus, nec acris, nec lactescens.</p> <p>LAMELLÆ numerosissimæ, albidæ, angustæ, sesquilineam latæ, brevioribus interjectis, demum rufescentes.</p>	<p>Found with us in pine woods in the autumn, scarce.</p> <p>Is generally found growing singly, sometimes in clusters.</p> <p>STALK three inches high and upwards, almost the thickness of the little finger, clumsy, naked, hollow, the flesh the diameter of the tube, firm, whitish, often spotted with red, faintly striated, the base descending amongst the dead pine leaves.</p> <p>CAP from one to three inches in diameter, reddish in the middle, and here and there blotched with spots of the same colour, smooth, fleshy, the flesh abundant, solid, white, first convex, finally almost flat, neither acrid nor milky.</p> <p>GILLS exceedingly numerous, whitish, narrow, a line and a half broad, shorter ones intervening, finally of a reddish brown colour.</p>
--	--

We can find no certain traces of this fungus either in the figures or descriptions of authors; at least in those of our own country. This may perhaps arise, from its being a local, or at least not a common mushroom.

We have hitherto found it only in Lord Mansfield's small pine wood, Hampstead, and there in no great plenty; but having observed them in the same spot, and assuming the same character for several successive years, we are perfectly satisfied of its being a very distinct species. This autumn, Sept. 22, we found about twenty of them.

It is in some degree characterised by the singularity of its colour. We have few fungi that have a white Pileus, with a reddish disk, and that, together with the stalk, irregularly blotched with the same colour; but it is more distinguished by the quantity of flesh both in the Pileus and Stipes. It is this which gives it an unusual degree of firmness to the touch, and has induced us to bestow on it the name of *carnosus*.

Chewed, it discovers no unpleasant taste; but notwithstanding this circumstance, and notwithstanding its tempting appearance, we must, till we have further proofs of its innocence, place it at least among the suspicious fungi.



Agaricus carneus.

J. L. Sowerby del. et sculp.



329

J. Koenig del. et. sculp.

Agaricus verrucosus.

AGARICUS VERRUCOSUS. WARTY MUSHROOM.

AGARICUS *Lin. Gen. Pl. CRYPTOGAMIA FUNGI.*

Fungus horizontalis, subtus lamellosus.

Raii Syn. Gen. 1. FUNGI.

AGARICUS *verrucosus* stipitatus, stipite bulboso, annulato, annulo laxo, pendulo, pileo verrucoso, lamellis albis.

AGARICUS *muscarius* stipitatus, lamellis dimidiatis solitariis, stipite volvato: apice dilatato, basi ovato. *Lin. Syst. Veg. p. 820. Spec. Pl. 1640. Fl. S. 449.*

AGARICUS *verrucosus* caulescens, pileo convexo cinereo, verrucis lamellisq;ue albis. *Hudson. Fl. Angl. p. 613. Lightfoot p. 1012.*

AMANITA petiolo procero fistuloso annulato, pileolo plano striato verrucoso fordido lamellis albis. *Haller Hist. n. 2397.*

AMANITA petiolo annulato, pileo fanguineo, lamellis albis. *Haller Hist. n. 2373.*

LEUCOMYCES gemmatus. *Batar. tab. 6. B.*

LEUCOMYCES speciosior. *Batarra tab. 6. A.*

AGARICUS *muscarius. Scopoli Fl. Carn. n. 1459.*

FUNGORUM perniciosorum. *Gen. 12. Spec. 4. Clus. p. 280. Schæffer. Icon. Fung. t. XX. LXXIV? XC. XCI. CCXLI. CCLVIII? CCLXI.*

Solitarie nascitur in fylvis frequens.

Frequent in woods growing singly.

STIPES palmaris et ultra, crassitie digiti minimi, seu intermedii, ad basin semper bulbosus, teres, ex albo-rubescens, et maculatus, non raro flavescens, annulatus.

STALK a hand's breadth or more in height, the thickness of the little or middle finger, always bulbous at its base, round, of a reddish white colour and spotted, not unfrequently yellowish, and furnished with a ring or ruffle.

ANNULUS magnus, persistens, pendulus, plerumque striatus, ex lamellis impressis.

RING or ruffle large, permanent, pendulous, for the most part striated.

PILEUS duas, tres, aut etiam quatuor uncias latus, primo subrotundus, dein hemisphericus, demum planus, ad marginem superne obsolete striatus, varii coloris, sæpius vero aut fordide ruber medio saturatius colorato, aut flavescens; plerumque verrucosus, interdum nudus, verrucis albidis.

CAP two, three, or even four inches broad, at first roundish, then hemispherical, lastly flat, on the upper side, faintly striated at the margin, various in its colour, but most commonly either of a dingy red, strongest in the middle, or yellowish, for the most part warty, sometimes bare, the warts whitish.

LAMELLÆ numerosæ, brevioribus interjectis, horizontalibus, primo albæ, demum fordide carneæ.

GILLS numerous, shorter ones intervening, horizontal, at first white, lastly of a dirty flesh colour.

Most modern authors consider the *Agaricus verrucosus* and *muscarius* as different species: Mr. LIGHTFOOT, suggests, that they may be only varieties differing in colour. Repeated examination has perfectly convinced us, that his conjecture is well founded; the *verrucosus* being with us by far the most common, we shall consider it as the species, and the *muscarius* as the variety: so singular and so beautiful is the variety, however, that we intend giving a separate plate of it.

Before we speak more particularly of these fungi, it will be proper to explain to some of our readers what is meant by a few terms made use of in describing this and three or four others, viz. *Volva*, *Annulus*, and *Velum*, parts which occur in some mushrooms, but not in others.

There are a few of these plants, which, on their first emerging from the earth, assume the appearance of an egg, and are enclosed in a kind of membranous shell or case; this case we call the *Volva*. If we cut the egg longitudinally down the middle, we may observe the inclosed fungus as yet unexpanded. Vid. *Schæffer Icon. Fung. tab. 244. fig. 1. 2. 3.* As the mushroom increases in size, it bursts open this *Volva*, and sometimes leaves it intirely behind, as in the *Pballus impudicus*; but more frequently the upper half of it is borne upwards on the *Pileus* or *Cap*, which not being sufficiently large to cover when the *Pileus* is expanded, it breaks in various directions, and appears in the form of a number of little knobs or warts irregularly scattered. Such then is the origin of the warts: as the membrane which forms them may sometimes be thinner than ordinary; or as it may be rubbed off as the mushroom pushes itself out of the ground; or destroyed by heavy rains, or other accidents; so we never find these warts alike either in number or shape in any two fungi, and frequently intirely wanting; but if no extraordinary accident happens, they will be found in every well-formed fungus of this species. We may remark, that the *Volva*, which we have thus described, is not the *Volva* of LINNÆUS; his *Volva* is our *Annulus*.

In many of the fungi the gills are covered and protected in their infancy by a membrane, more or less thick, totally independent of the Volva, attached to the edge of the Pileus one way, and round the stalk the other. While the membrane is visibly thus connected, which is just as the Pileus is beginning to expand, we call it the Velum or Veil, though generally the term is applied to those membranes which are remarkably thin, almost like a cobweb, and which, when the Pileus is expanded, leave little or no traces of their existence behind, as in the *Agaricus fascicularis*. The greatest part of this membrane in separating is generally left either with the Pileus or Stipes: sometimes what it leaves remains with the Pileus, and is only sufficient to give the edge a ragged or toothed appearance; but more commonly, where it is in any degree substantial, it leaves the Pileus, and attaches itself to the Stipes, where it either projects horizontally, as in the *æruginosus*; or becomes pendulous, as in the present species. This part, thus attached to the stalk, we call the *Annulus, Ring* or *Ruffle*.

There are three characters which distinguish the present species of mushroom, *viz.* a cap, more or less covered with warts; a stalk, bulbous at its base, and furnished above with a pendulous striated ruffle. These will be found in every perfect fungus of this sort. Colour is not to be depended on; the cap being sometimes, as in the variety *muscarius*, of the most beautiful crimson, and very frequently, especially in Charlton Wood, of a cream colour; but its most usual tint is a dingy red, inclining to brown. The Gills are always white at first, and become of a dingy red at last. The stalk in those which have a reddish Pileus is usually mottled with red and white. The whole fungus, but particularly the base, is apt to be soon destroyed by the larvæ of various insects, and among others by those of an undescribed species of *Tipula*, somewhat less than the *Tipula plumosa*, and distinguished by having its legs unusually hairy. It was by accident we discovered the attachment of this insect. Betwixt the Velum and the Gills, previous to the separation of the former from the edge of the Pileus, there is a considerable cavity. In this cavity we found, in a young fungus of this species, at least twenty of these *Tipulæ*, which had introduced themselves through an accidental aperture in the Velum.

The *Agaricus verrucosus* is very common in all our woods about the middle of September. The *muscarius* is plentiful only in particular spots.

We had the curiosity to taste this shewy fungus. Chewed, it was not unpleasant in the mouth; swallowed, it quickly produced a disagreeable burning kind of sensation in the throat, which extended to the stomach, though the quantity swallowed was but small; and this sensation continued a considerable time. That I might not be mistaken in my idea of this sensation, I prevailed on my draughtsman and gardener to chew and swallow some of it, who complained of its producing a similar effect. Hence we may infer, that this species, taken in any quantity, is likely to prove highly poisonous. This effect accords with the account given of it by different authors. SCOPOLI makes mention of some persons being poisoned by it, mistaking it for the *Agaricus caesareus*. HALLER relates, that six persons of Lithuania perished at one time by eating it; and that in Kamtschatka it had driven others raving mad; that there, three or four of them are eaten without much effect, but that ten intoxicate: nevertheless, the Russians eat it with their food; and the inhabitants of Kamtschatka prepare a liquor from this fungus, and a species of *Epilobium*, which, taken in small quantities, inebriates, and produces a trembling of the nerves, making some joyous, others melancholy. The very urine of those who drink it is found to intoxicate. LINNÆUS says, that flies are killed, SCOPOLI only stupified, by tasting an infusion of the *muscarius* in milk, whence its name, and that it is also inimical to bugs; but we have certainly much better remedies for these troublesome insects.

39088006016752