MEDICAL BOTANY:

CONTAINING

SYSTEMATIC AND GENERAL DESCRIPTIONS,

WITH

Plates of all the Medicinal Plants,

INDIGENOUS AND EXOTIC,

COMPREHENDED IN THE

CATALOGUES OF THE MATERIA MEDICA,

AS PUBLISHED BY THE

ROYAL COLLEGES OF PHYSICIANS OF LONDON AND EDINBURGH:

TOGETHER WITH MOST OF THE PRINCIPAL MEDICINAL PLANTS

NOT INCLUDED IN THOSE PHARMACOPŒIAS.

ACCOMPANIED WITH A CIRCUMSTANTIAL DETAIL OF THEIR MEDICINAL EFFECTS,

AND OF THE DISEASES IN WHICH THEY HAVE BEEN MOST

SUCCESSFULLY EMPLOYED.

BY

WILLIAM WOODVILLE, M. D.

FELLOW OF THE LINNEAN SOCIETY,

OF THE ROYAL COLLEGE OF PHYSICIANS, LONDON,

AND PHYSICIAN TO THE SMALL-POX AND INOCULATION HOSPITALS.

SECOND EDITION.

VOL. II.

——— *et herbarum subjecta potentia nobis.* OVID.

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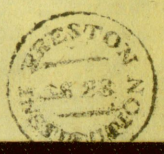

Dedication to the First Edition.

TO JAMES EDWARD SMITH, M.D. F.R.S.

PRESIDENT OF THE LINNEAN SOCIETY,

AND PROFESSOR OF THE LINNEAN COLLECTION.

SIR,

Not only Friendship and Gratitude, but Propriety induce me to dedicate this Volume to You: for, as the first Volume of this Work, which relates both to Medicine and Botany, has been honoured by the Patronage of the President of the Royal College of Physicians, I am happy to find a Botanical Patron, to do equal Honour to the second Volume, in the President of the Linnean Society.

I have the honour to be

With the utmost respect and esteem,

Your faithful Servant,

WM. WOODVILLE.

PENTONVILLE,
February 20th, 1792.



Cucumis Colocynthis

Published by Phillips & Fawdon, March 1st 1807.

PRESTON
1828

ORD. XI. CUCURBITACEÆ.

From *Cucurbita*, a Gourd.—Gourd-like Plants.

CUCUMIS COLOCYNTHIS. BITTER CUCUMBER, Or, COLOQUINTIDA.

SYNONYMA. Colocynthis. *Pharm. Lond. & Edinb. Gerard Emac. p.* 915. *Cam. Epit. p.* 982. *Raii Hist. p.* 642. Colocynthis fructu rotundo minor. *Bauh. Pin. p.* 313. Colocynthis vulgaris. *Park. Theat. p.* 160.

Class Monoecia. *Ord.* Syngenesia. *Lin. Gen. Plant.* 1092.

Ess. Gen. Ch. *Masc. Cal.* 5-dentatus. *Cor.* 5-partita. *Filamenta* 3.
Fem. Cal. 5-dentatus. *Cor.* 5-partita. *Pist.* 3-fidum.
Pomi semina arguta.

Sp. Ch. C. foliis multifidis, pomis globosis glabris.

THE root is annual, white, divided into long branches, which strike deeply into the ground: the stems trail, like those of the garden cucumber, a considerable length, and are beset with rough hairs: the leaves are of a triangular shape, obtuse, variously sinuated, hairy, on the upper surface of a fine green, beneath rough, and whitish: the flowers are yellow, solitary, and appear at the axillæ of the leaves: the calyx of the male flowers is bell-shaped, and

divided at the brim into five tapering segments: the corolla is monopetalous, bell-shaped, and divided at the limb into five pointed segments: the filaments are three, two of which are bifid at the apex; they are all very short, and inserted into the calyx: the antheræ are linear, long, erect, and adhere together on the outer side: the calyx and corolla of the female flower are similar to those of the male: the three filaments are without antheræ: the germen is large: the style cylindrical, very short, furnished with three stigmata, which are thick, gibbous, bifid, and bent outwardly: the fruit is a round apple, of the size of an orange, divided into three cells, abounding with a pulpy matter, separated every where by cellular membrane, and including many ovate compressed seeds. The flowers appear from May till August.

Colocynth is imported for use to this part of Europe from Turkey, but it is yet unknown here of what place this plant is a native. It seems to have been cultivated in Britain in the time of Turner, and the figure we have given was drawn from a specimen of the plant produced by sowing the seed in a hot bed. Though the plants thus raised put forth flowers readily, they are very rarely known to bear fruit. The spongy membranous medullary part of the fruit is directed for medicinal use: this, "which to the taste is nauseous, acrid, and intensely bitter, on being boiled in water, renders a large quantity of the liquor ropy and slimy: even a tincture of it made in proof spirit is so glutinous as not to pass through a filter, and not easily through a common strainer. The watery decoctions inspissated, yield a large proportion, half of the weight of the colocynth, or more, of a mucilaginous extract; which purges strongly, but with much less irritation, and greater safety, than the colocynth itself, and appears to be the best preparation obtainable from this drastic drug."[a]

This very powerful and irritating cathartic is the Κολοκυνθις of the Ancient Greeks, and the Alhandal of the Arabians. It was frequently employed by both in different diseases, though not without

[a] *Lewis, M. M. p.* 246.

an apprehension of danger, from the violence of its effects, of which various instances are related.[b] In doses of ten or twelve grains this substance purges with great vehemence, frequently producing violent gripes, bloody discharges, and even disordering the whole system. Many attempts therefore have been made to correct its virulence, by the addition of acids, astringents, and the like; but these seem to answer no other purpose than what might be equally effected by a reduction of the dose. "The best method of abating its virulence, without diminishing its purgative virtue, seems to be by triturating it with gummy farinaceous substances, or the oily seeds, which, without making any alteration in the colocynth itself, prevents its resinous particles from cohering, and sticking upon the membranes of the intestines, so as to irritate, inflame, or corrode them."[c]

This drastic purgative has been recommended in various chronic complaints;[d] but as several other cathartics have all the advantages of coloquintida, and may be used with more safety, its use is now seldom resorted to, especially alone. Extractum colocinthidis compositum & pipulæ ex colocynthide cum aloe, are directed by the Pharmacopœias.

[b] See *Shulz Diss. de Colocynthide. Tulp. Obs. lib.* 4. *c.* 26. *p.* 218. A case in which it proved fatal is mentioned by *Plater*, *Obs. p.* 858. And *Dioscorides* observes, that, employed in the way of enema, it occasioned a bloody discharge. *Lib.* 4. *c.* 178.

[c] *Edinburgh New Dispens. by Dr. Duncan. p.* 175.

[d] As worms, lues venerea, cephalalgia, mania, dropsy, Gonorrhæa, epilepsy, asthma, &c.

MOMORDICA ELATERIUM. WILD, Or SQUIRTING CUCUMBER.

SYNONYMA. Cucumis agrestis. *Pharm Lond.* Cucumis asininus. *Gerard Emac. p.* 912. Cucumis sylvestris asininus dictus. *Bauh. Pin.* 314. Cucumis sylvestris sive asininus. *J. Bauh.* i. *p.* 248. *Raii Hist. p.* 647. Cucumis agrestis sive asininus. *Park. Theat.* 161. Σικυς ἀγγιος *Græcorum.* Succus fructus inspissatus, Elaterium dictus.

Class Monoecia. *Ord.* Syngenesia. *Lin. Gen. Plant.* 1090.

Ess. Gen. Ch. *Masc. Cal.* 5-fidus. *Cor.* 5-partita. *Filamenta* 3.
Fem. Cal. 5-fidus. *Cor.* 5-partita. *Stylus* 3-fidus.
Pomum elastice dissiliens.

Sp. Ch. M. pomis hispidis, cirrhis nullis.

THE root is annual, long, thick, and of a fleshy substance; it sends forth several stems, which are round, branched, thick, rough, and trailing like the common cucumber, but without tendrils; the leaves are irregularly heart-shaped, slightly sinuated, veined, above of a deep green colour, underneath paler, rough, reticulated, and stand upon strong footstalks: the flowers proceed from the base of the footstalks of the leaves, and are both male and female on the same plant: the corolla is divided into five acute segments, reticulated with green veins, and placed above the germen: the calyx consists of five narrow acute segments: the stamina, in the male flowers, are three, short, tapering, two of which have cloven antheræ, the other has a simple one; in the female flowers the filaments are very short, and without antheræ: the style is short, trifid, and terminated by oblong stigmata, of a green colour: the fruit is large, oblong, hairy, divided into three cells, which contain many flat seeds: when ripe this fruit, on being touched, bursts open with great force, and



Momordica Elaterium

Published by Phillips & Fardon, March 1st 1807.

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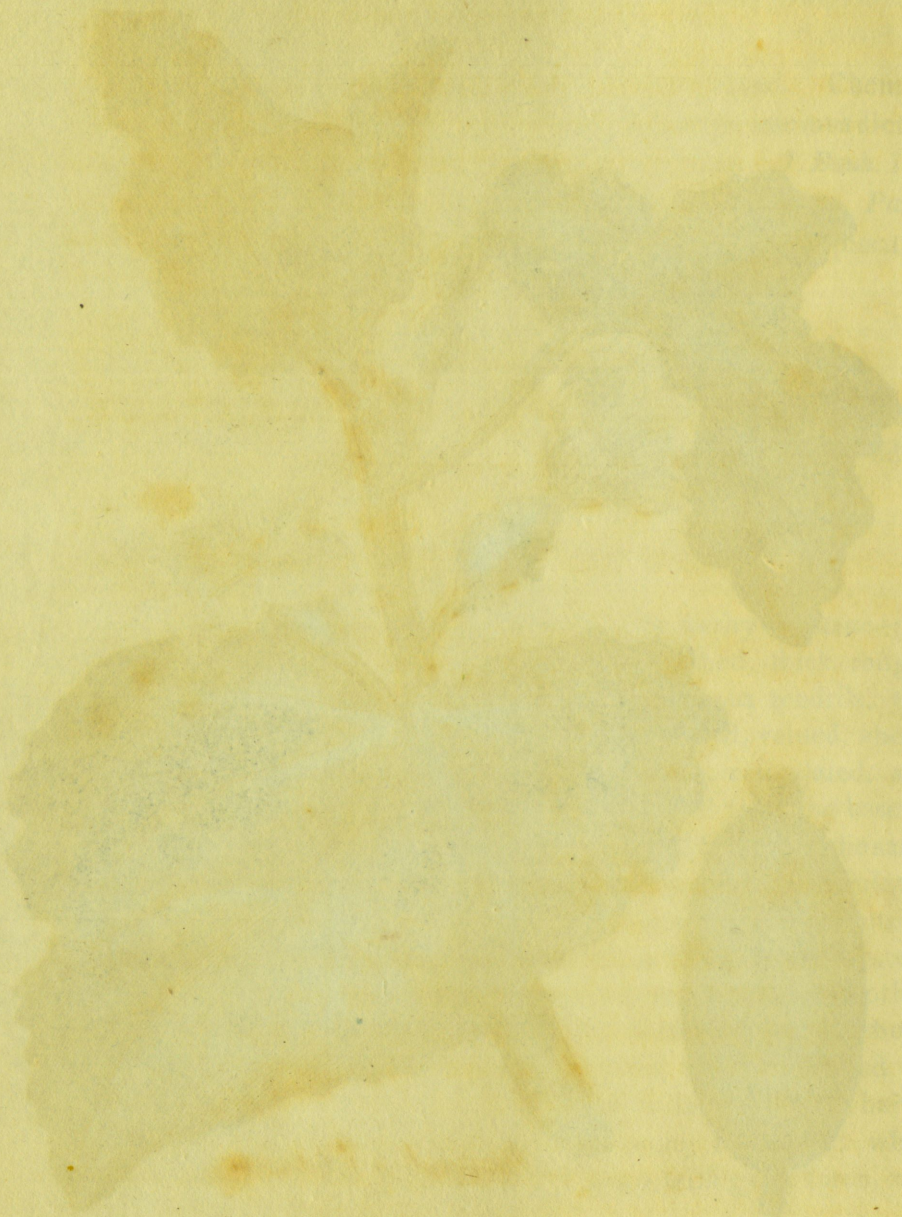

throws its contents to a considerable distance; hence the name Squirting Cucumber. It is a native of the South of Europe, and flowers in June and July.

Since the time of Gerard, the wild cucumber has been regularly cultivated in this country for medical use: all the parts of the plant are bitter, and strongly purgative,* but the dried juice, or fæculæ of the fruit, known in the shops by the name of Elaterium, is the only part now medicinally employed, and has been distinguished into white and black Elaterium: the first is prepared from the juice, which issues spontaneously, and the latter from that which is obtained by expression.[a] The method directed in the London Pharm. for preparing this medicine, is as follows:—"Slit ripe wild cucumbers, and pass the juice (very lightly pressed) through a very fine sieve into a glass vessel; then set it by for some hours, until the thicker part has subsided. Pour off the thinner part swimming at the top, and separate the rest by filtering; cover the thicker part which remains after filtration, with a linen cloth, and dry it with a gentle heat."

The sensible qualities of this inspissated juice are not remarkable either to the smell or to the taste; it is inflammable, and dissolves readily in watery or spirituous menstrua. Elaterium is a very powerful cathartic, and was frequently employed as such both by the Greek and Arabian physicians, and its use has since been much commended in hydropic cases, particularly by Pauli,[b] Sydenham,[c]

* Radicum vis cathartica major est quam foliorum, minor vero quam fructuum. *Geoff.*

[a] This drug was formerly prepared in several different ways, a circumstance necessary to be attended to in the history of its medicinal effects.

[b] Although S. Pauli employed this medicine with great success, yet from the extreme violence of its operation, he thinks it should not be used until the milder purgatives have failed.

[c] "Elaterium sive fæcula Cucumeris agrestis, potenter, in permodica quantitate vires suas exserit, in conturbanda alvo, & fæcibus, cum serosis & aquosis humoribus copiose egerendis," &c. Op. p. 488.

and Lister.[d] It is undoubtedly the most violent purgative in the Materia Medica, and ought therefore to be administered with great caution, and only where the milder cathartics have proved ineffectual. The dose is from half a grain to three grains: the most prudent and effectual way in which dropsies are now treated by this remedy, is by repeating it at short intervals in small doses.

[d] We may also notice, that Lister observes that the patients, by taking this medicine, became very hot, and found unusual stroug pulsations at the extremities of their fingers. De Hydrope, in App. Op. Mortoni, p. 25.

BRYONIA ALBA. WHITE BRYONY.

SYNONYMA. Bryonia. *Pharm Edinb.* Bryonia aspera sive alba, baccis rubris. *Bauh. Pin. p.* 297. Bryonia alba vulgaris. *Park. Theat. p.* 178. Bryonia alba. *Gerard. Emac. p.* 869. *Raii. Hist. p.* 659. *Synop. p.* 261. *Hall. Hist. Stirp. Helv.* 574. *Hudson. Flor. Ang. p.* 437. *Relhan. Flor. Cantab. p.* 375. *Lightfoot. Flor. Scot.* Bryonia *dioica. Withering. Bot. Arr. p.* 1133. *Ic. Flor. Dan. t.* 813. *Jacq. Flor. Aust. t.* 199. *Miller. t.* 70.

Class Dioecia. *Ord.* Syngenesia. *Lin. Gen. Plant.* 1093.

Ess. Gen. Ch. *Masc. Cal.* 5-dentatus. *Cor.* 5-partita. *Filamenta* 3.
Fem. Cal. 5-dentatus. *Cor.* 5-partita. *Stylus* 3-fidus.
Bacca subglobosa, polysperma.

Sp. Ch. B. foliis palmatis utrinque calloso-scabris.

THE root is perennial, large, often a foot in circumference, tapering, branched, and of a whitish yellow colour: the stems are several yards in length, angular, slender, scandent, twisting themselves about the bushes for support: the leaves are large, hairy,



Bryonia alba

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lobed, or palmated, lobes pointed; they stand alternately upon strong hairy footstalks: the flowers are of a yellowish green colour, produced in clusters at the footstalks of the leaves, and are male and female on different plants: the calyx of the male flowers is bell-shaped, and deeply divided into five narrow pointed segments: the corolla is also divided into five segments, which are ovate, and spreading: the filaments are three, short, thick, and furnished with irregular antheræ, of which two are said to be on each two of the filaments, and one on the third: the calyx and corolla of the female flower resemble those of the male, but are smaller: the germen is round, and placed below the flower: the style is strong, erect, of the length of the corolla, and divided at the top into three parts, which are bent downwards, and each furnished with a large triangular stigma: the fruit is a smooth red berry containing five or six seeds. It is common in woods and hedges, and flowers in May and June.

Linnæus places this plant in the class Monoecia, though he tells us that Jacquin describes it as dioecious, and we have always seen it so in this country; nor have we ever found it to bear black berries. Some doubt may also arise whether it be properly referred to the order Syngenesia, as the antheræ upon the different filaments do not unite; a circumstance which we have endeavoured to represent in a separate display of the flower.

"Fresh Bryony root, taken up in the beginning of spring, abounds with a thin milky juice: if the upper part of the root be bared of earth, and the top cut over transversely, the juice continues to rise gradually to the surface, in notable quantity, for two or three days successively, and may be collected by forming a cavity in the middle to receive it. Both the root in substance, and the juice, have a disagreeable smell, and a nauseous bitter biting taste: applied for some time to the skin, they inflame or even vesicate the part. On drying the one, or inspissating the other, they lose most of their acrimony, and nearly the whole of their ill scent. In summer the root proves much less juicy and weaker both in smell and taste."[a]

[a] *Lewis, M. M. p.* 165.

Bergius [b] states the virtues of this root to be purgans, hydragoga, emmenagoga, diuretica; *recent. rad.* subemetica; and recommends it in dropsy and asthma.

This powerful and irritating cathartic, though now seldom prescribed by physicians, is said to be of great efficacy in evacuating serous humours, and has been chiefly employed in hydropical disorders.[c] Instances of its good effects in other chronic diseases are also mentioned, as asthma, mania,[d] and epilepsy.[e] In small doses it is reported to operate as a diuretic, and to be resolvent and deobstruent: given in powder, from a scruple to a dram, it proves strongly purgative; and the juice, which issues spontaneously in doses of a spoonful or more, has similar effects, but is more gentle in its operation. An extract, prepared by water, acts more mildly, and with greater safety, than the root in substance, and may be given from half a dram to a dram. Externally the fresh root has been employed in cataplasms, as a resolvent and discutient; also in ischiadic and other rheumatic affections.

[b] *Mat. Med. p.* 786.

[c] See *Burcgraf, Lexicon Med. p.* 1710. where he gives a particular account of a successful method of employing this root.

[d] *Sydenham, Process. integr. in op. p.* 626.

[e] *Arnoldus De Villa Nova. Brev. pract. L.* 1. *c.* 22. *Reussner, Curat. & Observ. p.* 158.

END OF THE FIRST VOL.

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Datura Stramonium

Published by Phillips & Fardon, March 1st 1807.

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1823

ORD. XII.

SOLANACEÆ, SEU LURIDÆ.

Linnæus called this Order Luridæ, from the Plants it included being of a pallid noxious appearance. "*Sunt plantæ suspectæ.*" Lin.

DATURA STRAMONIUM. COMMON THORN-APPLE.

SYNONYMA. Stramonium. *Pharm. Edinb.* Solanum fœtidum, pomo spinoso oblongo. *Bauh. Pin. p.* 168. Stramonium majus album. *Park. Parad. p.* 360. Stramonium spinosum. *Gerard. Emac. p.* 348. *Raii. Hist. p.* 748. Stramonium foliis angulosis, fructu erecto, muricato calyce pentagonia. *Hall. Stirp. Helv. n.* 586. D. stramonium. *Withering. Bot. Arrang. p.* 230. *Flor. Danic. p.* 436. *Stoerck. Libell. de Stram. &c. Curt. Flor. Lond. Smith. Flor. Brit.* 253.

Class Pentandria. *Ord.* Monogynia. *Lin. Gen. Plant. p.* 246.

Ess. Gen. Ch. Cor. infundib. plicata. *Cal.* tubulosus, angulatus, deciduus. *Caps.* 4-valvis.

Sp. Ch. D. pericarp. spinosis erectis ovatis, foliis ovatis glabris.

THE root is large, annual, white, divided, and fibrous: the stalk is thick, erect, round, smooth, shining, below simple, above dichotomous, and rises about two feet in height: the leaves are alternate,

large, broad towards the base, pointed at the extremity, indented, and formed into several obtuse angles, smooth, of a dark green colour, and standing upon strong round short footstalks: the flowers are solitary, large, white, and placed on short erect peduncles at the junction of the branches: the calyx is composed of one leaf, tubular, pentangular, and divided at the brim into five teeth: the corolla is white, monopetalous, funnel-shaped, plicated, cut at the margin into five teeth, and furnished with a long cylindrical tube: the five filaments are tapering, about the length of the calyx, adhering to the tube, and supplied with oblong flat antheræ: the germen is oblong, and placed above the insertion of the corolla: the style is filiform, equal in length to the filaments, and terminated by a thick blunt stigma: the capsule is large, oval, fleshy, beset with spines, divided into the cells, and four valves, which contain numerous kidney-shaped seeds. It grows wild in this country, about dunghills, rubbish, and in gardens, flowering in July.

This plant has been long known as a powerful narcotic poison; its congener, the D. Metel, is thought to be Στρυχνος μανικος of Theophrastus and Dioscorides, and is therefore the species received by Linnæus into the Materia Medica. The Stramonium, in its recent state, has a bitterish taste, and a smell somewhat resembling that of poppies, or as called by Bergius, narcotic, especially if the leaves be rubbed betwixt the fingers. By holding the plant to the nose for some time, or sleeping in a bed where the leaves are strewed, giddiness of the head and stupor are said to have been produced.[a]

Instances of the deleterious effects of this plant are numerous, especially of the seeds,[b] some of which we shall relate for the pur-

[a] *Stoerck, l. c. p.* 5.

[b] Kramer, in *Comm. Nor. A.* 1733. *p.* 251. Kaauw. *impet. n.* 349. Lobsten *epist. ad* Gurrin. *plant. venen. Alsat.* Clauder. *prax. med. leg. Cas. i. Eph. Nat. Cur. Cent. ix. obs.* 94. Huckel, in *Comm. Lit. Nor.* 1744. *p.* 14. Kaauw. *Act. Franc. i. p.* 200. Buchner, *Miscell.* 1725. *p.* 611. *Eph. Nat. cur. Dec. iii. a.* 3. *obs.* 170. Barrere, *Essai sur l'hist. nat. de la France* (ed. nov.) *p.* 48. Deering. *Catal. of Plants, &c. p.* 209. Buchner, *Misc. Phys. Math. Med.* 1727. *p.* 122. Sauvages, *Nosol. T.* 2. *P.* 2. *p.* 430. Fowler, *Med. Comm. vol. v. p.* 161. Rush. *Med. Com. vol. i.* 74.

pose of stating the symptoms which they produce. A man, aged sixty-nine, labouring under a calculous complaint, by mistake boiled the capsules of the Stramonium in milk, and in consequence of drinking this decoction was affected with vertigo, dryness of the fauces, anxiety, followed with loss of voice and sense; the pulse became small and quick, the extremities cold, the limbs paralytic, the features distorted, accompanied with violent delirium, continual watchfulness, and a total suppression of all the evacuations; but in a few hours he was restored to his former state of health.[c]

Every part of the plant appears to possess a narcotic power,[d] but the seeds are the only part, of whose fatal effects we find instances recorded. Their soporiferous and intoxicating qualities are well

The circumstances recited in the following advertisement, published by my friend Dr. Haygarth, shew the necessity of adopting the precautions, which he judiciously recommends, and which ought to be made public.

"Gardeners are particularly desired to take care never to throw poisonous plants "out of gardens into the streets, lanes, or even the fields to which people can have "access. Poor children, for diversion, curiosity, or hunger, are prompted to eat all "kinds of vegetables which come in their way, especially seeds, fruits, or roots. "This caution does not proceed from fanciful speculation, but from actual mischief, "produced by the cause here specified. A physician has lately seen several children "poisoned with the roots of the Aconite or Monkshood, thrown into an open field "in the City of Chester, and with the Seeds of the Stramonium or Thorn Apple, "thrown into the street. The former were seized with very violent complaints of "vomiting, an alarming pain of the head, stomach, and bowels; the latter with blind-"ness, and a kind of madness, biting, scratching, shrieking, laughing, and crying, "in a frightful manner. Many of them were very dangerously affected, and escaped "very narrowly with life. These, and all other, poisonous plants, taken out of "gardens, should be carefully buried or burned."

[c] *Ess. & Obs. Phys. & Lit. v. ii. p.* 247.

According to Haller, "Deliria facit utique & sopores, inde amentiam, maniam, convulsiones, paralyses artuum, sudores frigidas, sitim vehementem, tremores." *l. c.*

[d] For that of the root, see *Ray, l. c.* For that of the leaves, *Döderlin, Comm. Nor. l. c. p.* 15.

known in eastern countries,[e] and if we can credit the accounts of some authors, have been converted into purposes the most licentious and dishonourable.[f] The internal use of Stramonium, as well as that of several other deleterious plants which we have had occasion to notice, was first ventured upon and recommended by Baron Stoerck, who gave an extract prepared of the expressed juice of the plant, with advantage, in cases of mania, epilepsy, and some other convulsive affections.[g] But as the success of this plant, even in the hands of the Baron, was not remarkable enough to claim very extraordinary praise, his account of the efficacy of the Stramonium probably would not have procured it a place in the Materia Medica of the Edinburgh Pharmacopœia, had its character rested solely upon its representation. Odhelius tells us, that of fourteen patients suffering under epileptic and convulsive affections, to whom he gave the Stramonium in an hospital at Stockholm, eight were completely cured, five were relieved, and only one received no benefit.[h] Bergius relates three cases of its success, viz. one of mania, and two of convulsions.[i] Reef, a Sweedish physician, mentions its utility in two cases of mania.[k] Wedenberg cured four girls,

[e] "Ab Indis inter alia inebriantia et aromatica in electuarium recipitur semen, ad grata phantasmata cienda, et, ut quidam volunt, quo ad celera patranda tanto audaciores evadant." *Kæmpher, Exot. p.* 650. Cited by *Murray, App. Med. vol. i. p.* 458.

It was a custom with the Chinese to infuse the seeds in beer. *Sprat, Hist. of the Royal Society, p.* 162.

[f] "Somnum facit adeo profundum, ut impune pudicitia puellæ violari possit, quæ hoc toxicum sumserit." See *Haller, l. c.* A mulierculis infidis Turcis, gynecæis inclusis, ad consopiendos & dementandos maritos, quo aliorum magis desideratorum amplexibus satientur, usurpari, et Hamburgi a vetula sic honestam feminam, quo se inscia moechum admitteret, intoxicatam narratur. *Lindenstolpe de ven. Ed. Stenzel. p.* 531. Cited by *Murray, l. c.*

[g] *Lib. de Stram. &c.* published in 1762.

[h] See *Vetensk. Acad. Handl.* 1766. *p.* 277. *sq.* Also *Med. Com. V. i.* 368.

[i] In his Mat. Med. he also says, "Delirium post puerperium sæpe curavi cum Datura, ubi aila fefellerunt;" adding, "Pariter illa profuit adversus ideam fixam ex mœrore cum deliratione mansueta conjuncta," p. 122.

[k] Strandberg, *om. chron. spikd. p.* 16.

affected with convulsive complaints, by the use of this medicine.[l] Other instances of the kind might be added. Greding however, who made many experiments, with a view to ascertain the efficacy of this plant, was not so successful; for out of the great number of cases in which he employed the Stramonium, it was only in one instance that it effected a cure; and he odjects to the cases stated by Dr. Odhelius, on the ground that the patients were dismissed before sufficient time was allowed to know whether the disease would return again or not.[m] In this country we are unacquainted with any practitioners whose experience tends to throw any light on the medical character of this plant. It appears to us, that its effects as a medicine are to be referred to no other power than that of a narcotic; and Dr. Cullen, speaking on this subject, says, "I have no doubt that narcotics may be a remedy in certain cases of mania and epilepsy; but I have not, and I doubt if any other person has, learned to distinguish the cases to which such remedies are properly adapted. It is therefore that we find the other narcotics, as well as the Stramonium, to fail in the same hands in which they had in other cases seemed to succeed. It is this consideration that has occasioned my neglecting the use of Stramonium, and therefore prevented me from speaking more precisely from my own experience on this subject."[n]

The extract of this plant has been the preparation usually employed, and from one to ten grains and upwards, a day; but the powdered leaves, after the manner of those directed of hemlock, would seem for the reason there given, to be a preparation more certain and convenient. Greding found the strength of the extract to vary exceedingly; that which he obtained from Ludwig, was a much more powerful medicine than that which he had of Stoerck.

Externally the leaves of Stramonium have been used as an application to inflammatory tumours and burns; in the latter a remarkable instance is noticed by Gerard. l. c.

[l] *Diss. de Stammonii usu, &c.*

[m] *Ludwig. Advers. vol. i. p.* 354. [n] *Mat. Med. vol. ii. p.* 282.

VERBASCUM THAPSUS. GREAT BROAD-LEAVED MULLEIN.

SYNONYMA. Verbascum. *Pharm. Edinb.* Verbascum mas litifolium luteum. *Bauh. Pin. p.* 239. *Raii. Hist. p.* 1094. *Synop. p.* 287. Verbascum album vulgare, sive Tapsus barbatus communis. *Park. Theat. p.* 60. Tapsus barbatus. *Gerard. Emac. p.* 773. Verbascum foliis decurrentibus utrinque tomentosis *(lanatis) Hal. Stirp. Helv. n.* 581. V. Thapsus. *Flor. Dan. p.* 631. *Hudson. Ang. p.* 89. *Withering. Bot. Arr. p.* 223.

Class Pentandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 243.

Ess. Gen. Ch. Cor. rotata subinæqualis. *Caps.* 3-locularis, 2-valvis.

Sp. Ch. V. foliis decurrentibus utrinque tomentosis caule simplici.

THE root is biennial, long, divided, and descends deeply into the ground: the stalk is simple, erect, round, rigid, hairy, rises two or three feet in height, and is irregularly beset with leaves, which are large, without footstalks, at the base decurrent, or running along the stem, oblong or oval, somewhat pointed, indented at the margin, of a pale green colour, and covered on both sides with thick down, or white soft hairs: the bracteæ are lance-shaped, with narrow points, hairy on the under side, on the upper smooth, and longer than the calyx: the flowers are yellow, and produced in long close terminal inclining spikes: the calyx is divided into five pointed segments, which are hairy on the outside: the corolla is monopetalous, yellow, divided at the limb into five unequal segments, which are blunt, oval, veined, and slightly indented at the edges: the five filaments are hairy, of unequal length, and furnished with double reddish antheræ: the germen is roundish, downy, and supports a simple style, crowned with a compressed stigma: the capsule is oblong, separated into two cells and valves, and contains



Verbascum Thapsus

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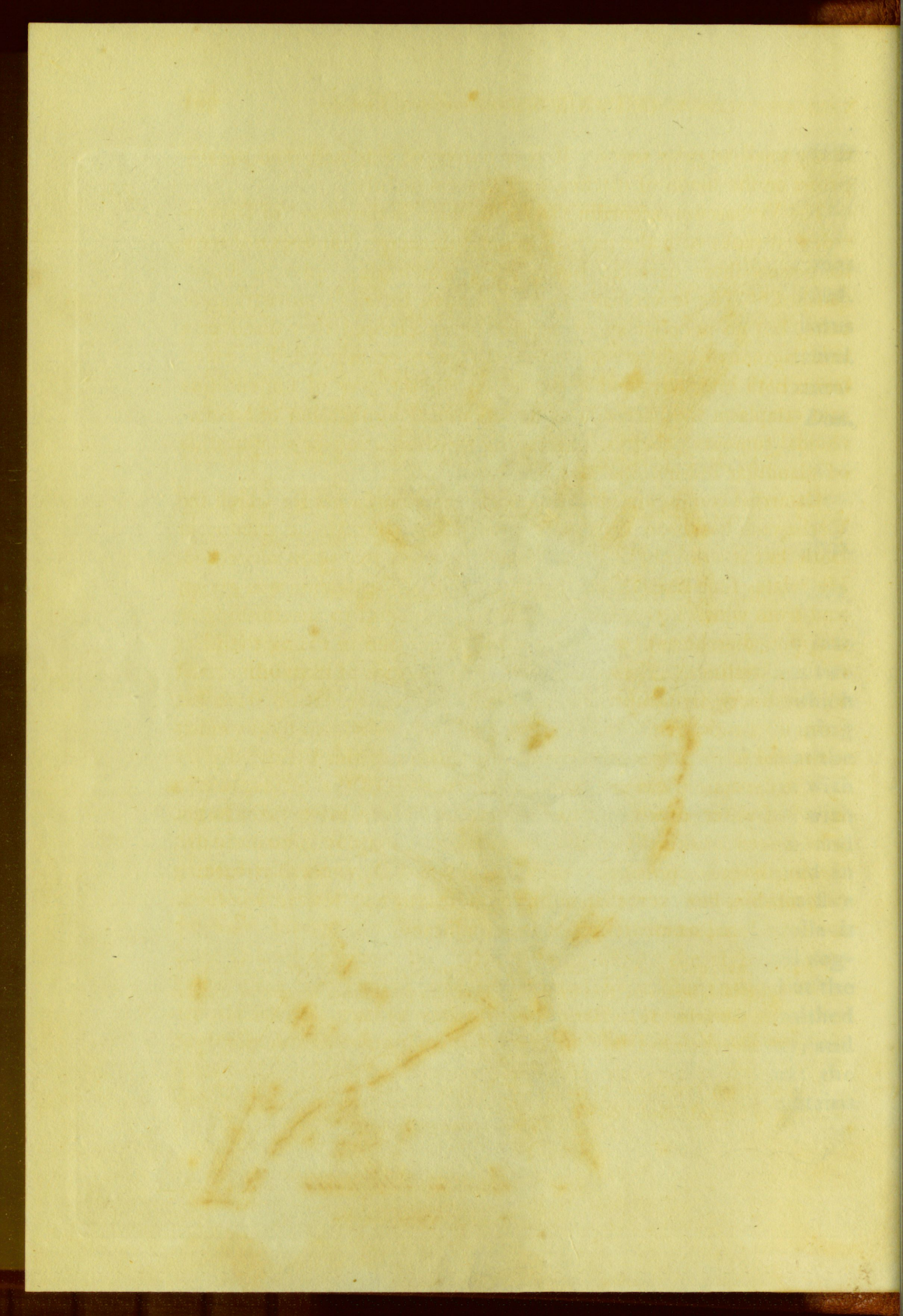

many small angular seeds. It is a native of England, and usually grows on the banks of ditches, and flowers in July.

The Verbascum, according to C. Bauhin, is the φλομος [a] of Dioscorides: it ranks with the natural order Solanaceæ, but does not seem to possess those narcotic powers for which this order is distinguished.* The leaves have an herbaceous, bitterish, subastringent taste, but no peculiar smell: upon being chewed they discover a mucilaginous quality; and hence they are recommended as emollients both internally and externally. In the way of fomentation and cataplasm they are said to be an useful application to hæmorrhoidal tumours; also for promoting the resolution or suppuration of glandular indurations.[b]

Catarrhal coughs and diarrhœas are the complaints for which the Verbascum has been internally prescribed. Dr. Home tried it in both, but it was only in the latter disease that this plant succeeded. He relates four cases in which a decoction of Verbascum was given; and from which he concludes, that it "is useful in diminishing or stopping diarrhœas of an old standing, and often in easing the pains of the intestines. These acquire a great degree of irritability; and the ordinary irritating causes, aliment, bile, distention from air, keep up a quicker peristaltic motion. This is obviated by the emollient and perhaps gentle astringent qualities of this plant.[c]

The decoction was prepared of two ounces of the leaves, with a quart of water, of which four ounces were given every three hours. The flowers of this plant have likewise been employed medicinally, having been supposed to possess anodyne and pectoral virtues: it is probable, however, that neither the leaves nor flowers deserve to be considered as medicines of much efficacy.

[a] Α φλεγω, uro, quasi φλογος, flamma, quia hujus pro elychnïis usus est. *C. Bauh. l. c.*

* We are told, however, that by the seeds of this plant fishes become so stupified as to suffer themselves to be taken out of the water by the hand. *Boccone*, Vide *Bergius, Mat. Med. p.* 117. [b] See *Mur. M. M. vol. i. p.* 488. [c] *Clinical Ex. & Hist. sect.* 22.

In pulmonary complaints of cattle the Verbascum was found of great use, and hence is by Gerard called Cow's Lung-wort.

HYOSCYAMUS NIGER. BLACK HENBANE.

SYNONYMA. Hyoscyamus. *Pharm. Edinb.* Hyoscyamus vulgaris. et niger. *Bauh. Pin. p.* 169. Hyoscyamus niger. *Gerard. Emac. p.* 353. Hyoscyamus vulgaris. *J. Bauh.* iii. 627. *Raii. Hist. p.* 711. *Synop. p.* 274. *Park. Theat. p.* 362. Hyoscyamus. *Hal. Stirp. Helv. n.* 580. *Stoerck Libel. de Stramonio, &c. Withering. Bot. Arrang. p.* 231.

Class Pentandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 247.

Ess. Gen. Ch. Cor. infundibul. obtusa. *Stam.* inclinata. *Caps.* operculata, 2-locularis.

Sp. Ch. H. foliis amplexicaulibus sinuatis, floribus sessilibus.

THE root is biennial, long, compact, white, and beset with many fibres: the stalk is erect, round, woody, branched, and rises about two feet in height: the leaves are large, cut into irregular lobes or pointed segments, of a sea-green colour, undulated, woolly, and at their bases embrace the stem: the flowers are produced in irregular clusters at the tops of the branches; they are funnel-shaped, consisting of a short tube, with an expanded limb, which is divided into five obtuse segments, of an obscure yellow colour, and beautifully painted with many purple veins: the calyx is divided into five short pointed downy segments: the five filaments are tapering, downy at the base, inserted in the tube of the corolla, and furnished with large oblong antheræ: the germen is roundish: the style slender, longer than the stamina, and terminated by a blunt stigma: the capsule is oval, marked with a line on each side, and divided into two cells, which contain many small irregular brown seeds. It is a native of England, and grows commonly amongst rubbish, about villages, road sides, &c. and flowers in June.



Hyoscyamus niger.

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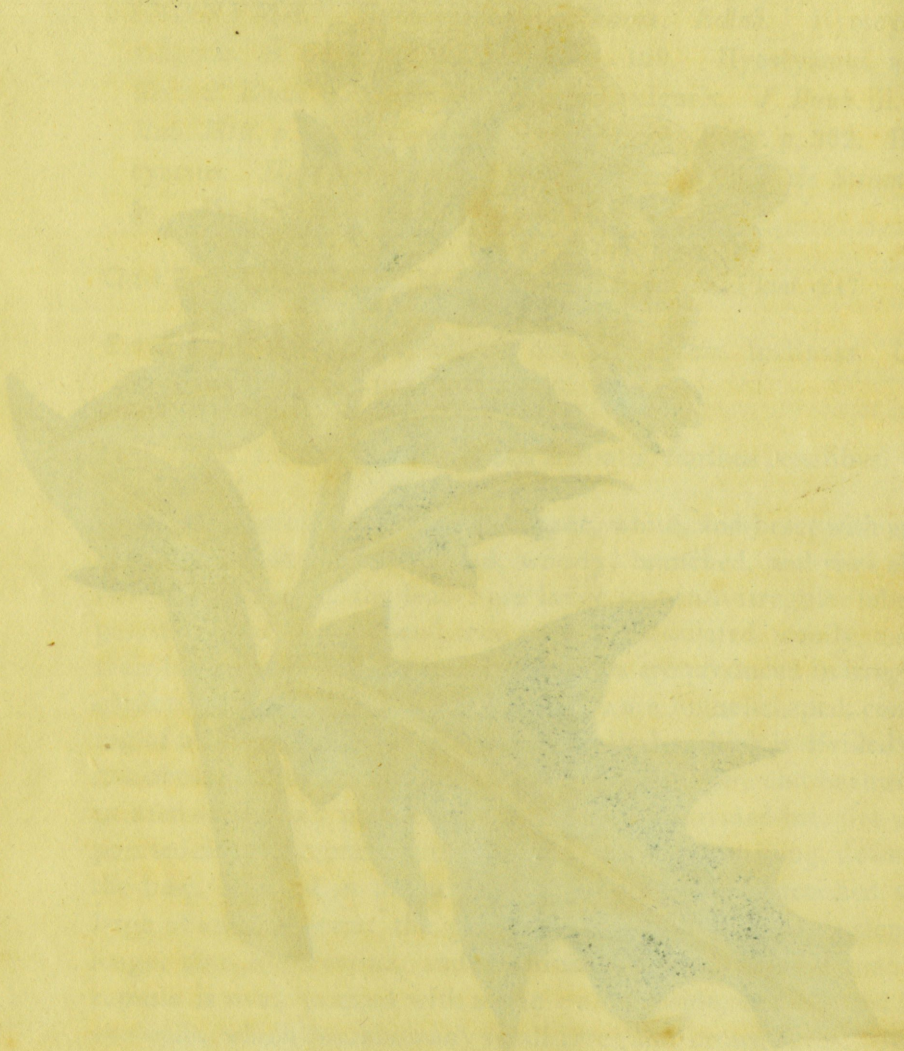
PRESTON INSTITUTION 1828



"The smell of Hyoscyamus is strong and peculiar, and the leaves, when bruised, emit somewhat of the odour of tobacco. This smell is still stronger when the leaves are burnt; and on burning they sparkle with a deflagration, somewhat resembling that of nitre, but to the taste they are mild, and mucilaginous." Henbane is a powerful narcotic poison,[a] and many instances of its deleterious effects are recorded by different authors;[b] from which it appears that any

[a] Haller says, Memini sodalem meum Simonium, cum Leidæ mecum, anno 1725. Boerhaavii scholas frequentaret, Aconita, Apocyna, Belladonnæ baccas impune devorasse, ab Hyoscyami vero semine victum, nimiæ curiositatis pœnas dedisse, atque mente alienatum, alteroque latere resolutum, tamen a Præceptore servatum fuisse. *Stirp. Helv. n.* 580.

[b] Out of the many instances of this kind, we shall only advert to some of them, in order to shew that the roots, seeds, and leaves of this plant, have separately produced poisonous effects. Dr. Patouillat, Physician at Toucy in France, relates (in the *Phil. Trans. vol.* 40. *p.* 446) that nine persons, in consequence of having eaten the *roots* of Hyoscyamus, were seized with most alarming symptoms; "some were speechless, and shewed no other signs of life than by convulsions, contortions of their limbs, and the risus sardonicus; all having their eyes starting out of their heads, and their mouths drawn backwards on both sides; others had all the symptoms alike; however five of them did now and then open their mouths, but it was to utter howlings. The madness of all these patients was so complete, and their agitations so violent, that in order to give one of them the antidote, I was obliged to employ six strong men to hold him while I was getting his teeth asunder to pour down the remedy." And what is remarkable, Dr. P. says, that on their recovery, all objects appeared to them as red as scarlet, for two or three days.—Further accounts of the effects of these roots are given by Wepfer de Cicut, &c. p. 230. Simon Pauli Quadr. p. 384. Blom, in Vet. Ac. Handl. 1774. p. 52.——Respecting the *seeds* of Henbane, we have an account given by Sir Hans Sloane, (in the *Phil. Trans. vol.* 38. *p.* 99.) of four children who ate them by mistaking the capsules, in which they were contained, for filberts. "The symptoms that appeared in all the four were great thirst, swimmings of the head, dimness of sight, ravings, profound sleep, which last in one of the children continued two days and nights." See also *Essays and Observations, phys. & lit. vol* 2. *p.* 243. *Helmont. Ort. Med. p.* 306. *Ephemer. Germ. annis* 7 *&* 8. *&c.*——The *leaves* of Hyoscyamus, we are told, were boiled in broth, and eaten by seven persons, (five men and two women) who soon became affected with symptoms of intoxication. Dr. Stedman says, "I saw them about three hours after having eat it; and then three of the men were become quite insensible, did not know their comrades, talked inco-

part of the plant, when taken in sufficient quantity, is capable of producing very dangerous and terrible symptoms.‡ But there cannot be a doubt that this plant, like others of the same natural order, under proper management, may be safely employed, and be found in many cases to be an active and useful remedy. Hyoscyamus was well known to the ancients, and its effects as an anodyne were experienced by Dioscorides,[c] and with this intention it has been used both internally and externally by several subsequent writers, particularly by Celsus;[d] and in hæmorrhagic diseases, the sem. Hyoscyami were successfully given by Plater,[e] Forestus,[f] and Boyle.[g]

It appears however that for a long time past the employment of Henbane, in the practice of medicine, was wholly laid aside till Baron Stoerck published several cases of different diseases, in which an extract, prepared from the juice of this plant, has been discovered to be an efficacious remedy.[h] These diseases are stated by the Baron to be internal spasms and convulsions, palpitations of the heart, madness, melancholy, epilepsy, inveterate head-achs, hæmoptysis; and a troublesome cough, which accompanied the last-mentioned complaint, was completely appeased by the repeated use

herently, and were in as high a delirium as people in the rage of a fever. All of them had low irregular pulses, slavered, and frequently changed colour: their eyes looked fiery, and they catched at whatever lay next them, calling out that it was going to fall." *Phil. Trans. vol.* 47. *an.* 1750.

For additional facts, see *Haller l. c. Spielmanni Diss. de veget. ven. Alsat.*

Henbane is poisonous to birds and dogs; but horses, cows, goats, and swine, it does not affect.

‡ Vires emollientes, & narcoticas, classis suæ potentissimas possidet, ut etiam magis, quam reliquæ, mentem emovere videatur, & deliria furiosa, rixosaque ciere, unde olim nomen gessit *alterci.* Ea deliria aliquando fugacia sunt, & temulentiæ similia; alias diutius durant; & denique in mortem transeunt. Alias Hyoscyamus hominem in stuporem conjicit. Sed & sopores facit, & vertigines, convulsiones, risusque sardonios, & inflationes, strangulationes, ardorem faucium, frigus extremorum. Si alvum duxit, a resolutione aliqua toni id videtur factum fuisse. *Haller l. c.*

[c] *Lib. 4. c. 69.* [d] *Lib. 5. c. 25.* [e] *Prax. Med. p. 635.* [f] *Observat. lib. 16.* [g] *Usefulness of Nat. Phil. part 2.* [h] *Lib. de Stram. Hyoscyam. &c.*

of the extract, which in several disorders was often found to produce sleep more powerfully than opium. The success of Hyoscyamus in these cases, (many of which were said to be of long duration, and to have resisted the effects of other remedies) is also confirmed by Collin, who extended the dose of the Extract. Hyoscyami, to twenty-four or thirty grains per diem.[i] But from the experiments made of this medicine by Greeding, who tried it in forty cases of melancholia, mania, and epilepsia, the result was very different:[k] yet while his practice shews that no benefit is to be expected in these three diseases, it tends to prove that this medicine is a useful anodyne; and as it usually opens the body, it may be advantageously substituted for opium, where the astringency of the latter becomes an objection to its use. Dr. Cullen says, "that in "epilepsy, and various convulsive affections, for which Baron "Storck particularly recommends the extract of Henbane, we have "very frequently employed it, but have never found it of any great "virtue, nor of more than what we have found in opium. We "have indeed found the Hyoscyamus to be often an agreeable ano-"dyne and soporiferous medicine; and we have frequently found "it such in persons, who from particular circumstances did not "agree with opium, and particularly because it was less binding to "the belly than opium. We judge however that it is more ready "in full doses to give delirium than opium is, and therefore we "found it in many cases to give turbulent and unrefreshing sleep; "and notwithstanding its laxative qualities, for which we had em-"ployed it, we have been obliged to lay it aside."[l] Dr. Withering[m] found it of great advantage in a case of difficult deglutition. Stoerck and some others recommend this extract in the dose of one grain or two; but Dr. Cullen observes, that he seldom discovered its anodyne effects till he had proceeded to doses of eight or ten grains, and sometimes to fifteen, and even to twenty.

[i] *Observ. Tom. 2. p.* 142. [k] Vide *Ludw. Advers. Med. pr. Vol. i. P. i. p.* 71. *& sq.*
[l] *Mat. Med. vol. ii. p.* 271.

The leaves of Henbane are said to have been applied externally with advantage in the way of poultice, to resolve scirrhous tumours, and to remove some pains of the rheumatic and arthritic kind.

NICOTIANA TABACUM. VIRGINIAN TOBACCO.

SYNONYMA. Nicotiana. *Pharm. Lond. & Edinb.* Nicotiana. major latifolia. *Bauh. Pin. p.* 169. Nicotiana major sive Tabacum majus. *J. Bauh. Hist. iii. p.* 629. Tabacco latifolium. *Park. Parad. p.* 363. *Raii Hist. p.* 713. Hyoscyamus Peruvianus. *Gerard. Emac. p.* 357. Petum latifolium. *Clusius. Exot. p.* 309. Herba sancta. *Lobel. Advers. p.* 251. Nicotiana *(Tabacum)* foliis lanceolatis, ovatis, decurrentibus. *Miller. Dict.*

α Nicotiana major latifolia. *C. B. l. c.*
Broad-leaved Virginian Tobacco.

β Nicotiana foliis lanceolatis acutis sessilibus, calycibus acutis, tubo floris longissimo. *Miller. Dict.*
Narrow-leaved Virginian Tobacco.*

Class Pentandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 248.

Ess. Gen. Ch. Cor. infundibul. limbo plicato. *Stamina* inclinata. *Caps.* 2-valvis, 2-locularis.

Sp. Ch. N. foliis lanceolato-ovatis sessilibus decurrentibus, floribus acutis.

THE root is annual, large, long, and fibrous: the stalk is erect, strong, round, hairy, branched towards the top, and rises five or six feet in height: the leaves are numerous, large, oblong, pointed, entire, veined, viscous, of a pale green colour, without footstalks,

* The figure here presented seems to accord very well with this variety.



Nicotiana Tabacum

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and follow the stem downwards: the bracteæ are long, linear, and pointed: the flowers terminate the stem and branches in loose clusters or panicles: the corolla is monopetalous, funnel-shaped, with a long hairy tube, which gradually swells towards the limb, where it divides into five folding acute segments of a reddish colour: the calyx is hairy, about half the length of the corolla, and is cut into five narrow segments: the five filaments are bent inwards, tapering, and crowned with oblong antheræ: the germen is oval, and supports a long slender style, terminated by a round cleft stigma: the capsule is oval, and divided into two cells, which contain many small roundish seeds.—It is a native of America, and flowers in July and August.

Tobacco was first imported into Europe about the middle of the sixteenth century by Hernandez de Toledo, who sent it to Spain and Portugal; at that time the Ambassador of Francis II. resided at the court of Lisbon, and in the year 1560, he carried the Tobacco into France, when it was presented to Catharine de Medicis as a plant from the new world, possessing extraordinary virtues. The Ambassador's name was Nicot, and hence the appellation Nicotiana. It appears from Lobel, that this plant was cultivated in Britain previous to the year 1570;[a] and the introduction of the custom of smoking it in England is ascribed to Sir Walter Raleigh. The cultivation of Tobacco* is now common in various parts of the globe, and though prohibited by the laws of this country, still the manufacture of it forms no inconsiderable branch of commerce.

[a] Vide l. c.

* Long, in his History of Jamaica, describes the method of its cultivation to be as follows:—"When a regular plantation of Tobacco is intended, several beds are prepared, well turned up with the hoe. The seed, on account of its smallness, is mixed with ashes, and sown upon them a little before the rainy season. The beds are then raked, or trampled with the feet, to make the seed take the sooner. The plants appear in two or three weeks. So soon as they have acquired four leaves, the strongest are drawn up carefully and planted in the Tobacco field by a line, at the distance of about three feet from each plant: this is done either with a stick or the finger. If no rain falls, it should be watered two or three times, to make it strike root. Every morning and evening the plants must be surveyed, in order to destroy a worm which

The different sorts of Tobacco and Snuffs prepared from it which are now in use, are to be attributed to the difference of the climate and soil in which it grows, and the peculiar mode of managing and manufacturing the plant, rather than to any essential difference in its qualities; we shall therefore proceed to the consideration of the effects of Tobacco upon the body, which from its general employment deserves particular attention; and no apology will be thought necessary for transcribing the whole of what has been lately advanced upon this subject by Dr. Cullen.—"Tobacco is a well-known "drug, of a narcotic quality, which it discovers in all persons, even "in small quantity, when first applied to them. I have known a "small quantity of it, snuffed up the nose, produce giddiness, "stupor, and vomiting; and when applied in different ways, in "larger quantity, there are many instances of its more violent "effects, even of its proving a mortal poison. In all these instances "it operates in the manner of other narcotics: but along with its "narcotic qualities it possesses also a strongly stimulant power, "perhaps with respect to the whole system, but especially with "respect to the stomach and intestines; so as readily, even in no "great doses, to prove emetic and purgative.

sometimes invades the bud. When they are grown about four or five inches high they are to be cleaned from weeds, and moulded up; and as soon as they have eight or nine leaves, and are ready to put forth a stalk, the top is nipped off, in order to make the leaves longer and thicker. After this, the buds which sprout at the joints of the leaves are all plucked, and not a day suffered to pass without examining the leaves, to destroy a large caterpillar which is sometimes very destructive to them. When they are fit for cutting, which is known by the brittleness of the leaves, they are cut with a knife close to the ground; and after being left to lie there some little time, are carried to the drying-shed or house, where the plants are hung up, by pairs, upon lines or ropes stretched across, leaving a space between, that they may not touch one another. In this state they remain to sweat and dry. When they become perfectly dry, the leaves are stripped from the stalks, and made into small bundles, tied with another leaf. These bundles are laid in heaps, and covered with blankets. Care is taken not to overheat them; for which reason the heaps are laid open to the air from time to time, and spread abroad. This operation is repeated till no more heat is perceived in the heaps, and the Tobacco is then stowed in casks for exportation.—Vol. 3. p. 719.

"By this combination of qualities, all the effects of tobacco may "be explained; but I shall begin with considering its effects as they "appear in the use of it as an article of living.

"As such it has been employed by snuffing, smoking, and chew- "ing; practices which, as having been for two hundred years past "common to all Europe, need not be described here. Like other "narcotics, the use of it may be introduced by degrees; so that its "peculiar effects, even from large quantities employed, may not, "or may hardly at all appear: but this does not at all contradict "the account I have given of its quality with respect to persons "unaccustomed to it, and even of its tendency to show its power in "those much accustomed to it: for even in these, the power of habit "has its limits; so that in persons going but a little beyond the "dose to which they have been accustomed, very violent effects are "sometimes produced.

"On this subject it is to be remarked, that the power of habit is "often unequal; so that in persons accustomed to the use of tobacco, "a lesser quantity than what they had been accustomed to, will "often have stronger effects than had before commonly appeared. "I knew a lady who had been for more than twenty years accus- "tomed to take snuff, and that at every time of day; but she came "at length to observe, that snuffing a good deal before dinner took "away her appetite: and she came at length to find, that a single "pinch, taken any time before dinner, took away almost entirely "her appetite for that meal. When, however, she abstained en- "tirely from snuff before dinner, her appetite continued as usual; "and after dinner, for the rest of the day, she took snuff pretty "freely without any inconvenience.

"This is an instance of the inequality of the power of habit in "exerting its effects: but in what cases this may take place, we "cannot determine, and must now go on in marking its usual and "ordinary powers. When snuff, that is, tobacco in powder, is first "applied to the nose, it proves a stimulus, and excites sneezing; "but by repetition that effect entirely ceases.

" When snuff is first employed, if it be not both in small quantity " and be not thrown out immediately by sneezing, it occasions some " giddiness and confusion of head; but by repetition these effects " cease to be produced, and no other effect of it appears in the " accustomed, when not taken beyond the accustomed quantity. " But even in the accustomed, when it is taken beyond the usual " quantity, it produces somewhat of the same giddiness and con- " fusion of head that it did when first employed; and in several " cases, these effects in the accustomed, depending on a larger dose, " are not only more considerable, as they act on the sensorium, but " as they appear also in other parts of the system, particularly in " the stomach, occasioning a loss of appetite, and other symptoms " of a weakened tone in that organ.

" With respect to this, it is to be observed, that persons who take " a great deal of snuff, though they seem, from the power of habit, " to escape its narcotic effects; yet as they are often liable to go to " excess in the quantity taken, so they are still in danger from these " effects operating in an insensible manner; and I have observed " several instances of their being affected in the same manner as " persons are from the long continued use of other narcotics, such " as wine and opium; that is, by a loss of memory, by a fatuity, " and other symptoms of the weakened or senile state of the nervous " system, induced before the usual period.

" Among other effects of excess in snuffing, I have found all the " symptoms of dyspepsia produced by it, and particularly pains of " the stomach, occurring every day. The dependance of these upon " the use of snuff became very evident from hence, that upon an " accidental interruption of snuffing for some days, these pains did " not occur; but upon a return to snuffing, the pains also recurred; " and this alternation of pains of the stomach and of snuffing having " occurred again, the snuff was entirely laid aside, and the pains " did not occur for many months after, nor, so far as I know, for " the rest of life.

" A special effect of snuffing is its exciting a considerable dis-

" charge of mucus from the nose; and there have been several in-
" stances of headachs, toothachs, and ophthalmias relieved by this
" means: and this is to be particularly remarked, that when this
" discharge of mucus is considerable, the ceasing or suppression of
" it by abstaining from snuff, is ready to occasion the very disorders
" of headach, toothach, and ophthalmia, which it had formerly re-
" lieved.

" Another effect of snuffing to be taken notice of is, that as a part
" of the snuff is often carried back into the fauces, so a part of this
" is often carried down into the stomach, and then more certainly
" produces the dyspeptic symptoms mentioned. These are the con-
" siderations that relate to snuffing; and some of them will readily
" apply to the other modes of using this drug.

" Smoking, when first practised, shows very strongly the narcotic,
" vomiting, and even purging powers of tobacco, and it is very
" often useful as an anodyne; but by repetition these effects dis-
" appear, or only show themselves when the quantity smoked is
" beyond what habit had before admitted of; and even in persons
" much accustomed to it, it may be carried so far as to prove a
" mortal poison. From much smoking all the same effects may
" arise which we said might arise from the excess in snuffing.

" With respect to the evacuation of mucus which is produced by
" snuffing, there are analogous effects produced by smoking, which
" commonly stimulates the mucous follicles of the mouth and fauces,
" and particularly the excretories of the salivary glands. By the
" evacuation from both sources, with the concurrence of the nar-
" cotic power, the toothach is often greatly relieved by it; but we
" have not found the smoking relieve headachs and ophthalmias so
" much as snuffing often does. Sometimes smoking dries the mouth
" and fauces, and occasions a demand for drink; but, as commonly
" the stimulus it applies to the mucous follicles and salivary glands
" draws forth their liquids, it occasions on the other hand a frequent
" spitting.

" So far as this is of the proper saliva, it occasions a waste of that

" liquid so necessary in the business of digestion; and both by this " waste and by the narcotic power at the same time applied, the " tone of the stomach is often weakened, and every kind of dys- " peptic symptoms are produced. Though in smoking a great part " of the smoke is again blown out of the mouth, still a part of it " must necessarily pass into the lungs, and its narcotic power applied " there often relieves spasmodic asthma; and by its stimulant power " it there also sometimes promotes expectoration, and proves useful " in the catarrhal or pituitous difficulty of breathing.

" Smoking has been frequently mentioned as a means of guarding " men against contagion. In the case of the plague, the testimony " of Diemerbroek is very strong; but Rivinus and others give us " many facts which contradict this: and Chenot gives a remarkable " instance of its inutility. We cannot indeed suppose that tobacco " contains an antidote of any contagion, or that in general it has any " antiseptic power; and therefore we cannot allow that it has any " special use in this case: but it is very probable that this and other " narcotics, by diminishing sensibility, may render men less liable " to contagion; and by rendering the mind less active and anxious, " it may also render men less liable to fear, which has so often the " power of exciting the activity of the contagion. The antiloimic " powers of tobacco are therefore on the same footing with those " of wine, brandy, and opium.

" The third mode of using tobacco is that of chewing it, when it " shows its narcotic qualities as strongly as in any other way of ap- " plying it; though the nauseous taste of it commonly prevents its " being carried far in the first practice. When the practice, how- " ever, is continued, as it is very difficult to avoid some part of it " dissolved in the saliva from going down into the stomach, so this, " with the nausea excited by the taste, makes vomiting more readily " occasioned by this than the other modes of applying it. They are " the strong, and even disagreeable impressions repeated, that give " the most durable and tenacious habits; and therefore the chewing " of tobacco is apt to become one of these: and it is therefore in this

" way that it is ready to be carried to the greatest excess, and to " show all the effects of the frequent and large use of narcotics. " As it commonly produces a considerable evacuation from the " mouth and fauces, so it is the most powerful in relieving the " rheumatic affection of toothach. This practice is also the occa- " sion of the greatest waste of saliva; and the effects of this in " weakening digestion, and perhaps from thence especially, its " noted effect of producing emaciation may appear.

" These are the effects of the different modes of employing to- " bacco, when it comes to be of habitual use and an article of living. " These effects depend especially upon its narcotic power, and cer- " tain circumstances accidentally attending its application to the " nose and mouth: but as we have observed before, that beside its " narcotic, it possesses also a stimulant power, particularly with " respect to the alimentary canal: by this it is frequently employ- " ed as a medicine for exciting either vomiting or purging, which " it does as it happens to be more immediately applied to the " stomach or to the intestines.

" An infusion of from half a dram to a dram of the dried leaves, " or of these as they are commonly prepared for chewing, for an " hour or two, in four ounces of boiling water, affords an emetic " which has been employed by some practitioners, but more com- " monly by the vulgar only. As it has no peculiar qualities as an " emetic, and its operation is commonly attended with severe sick- " ness, it has not been, nor is it likely ever to come into common " practice with physicians.

" It is more commonly employed as a purgative in glysters; and, " as generally very effectual, it is employed in all cases of more " obstinate costiveness; and its powers have been celebrated by " many authors. I have known it to be in frequent use with some " practitioners; and it is indeed a very effectual medicine, but at- " tended with this inconvenience, that when the dose happens to be " in any excess, it occasions severe sickness at stomach; and I have " known it frequently occasion vomiting.

"It is well known, that in cases of obstinate costiveness, in ileus "and incarcerated hernia, the smoke of burning tobacco has been "thrown into the anus with great advantage. The smoke operates "here by the same qualities that are in the infusions of it above "mentioned; but as the smoke reaches much further into the intes- "tines than injections can commonly do, it is thereby applied to a "larger surface, and may therefore be a more powerful medicine "than the infusions. In several instances, however, I have been "disappointed of its effects, and have been obliged to have recourse "to other means.

"The infusion of tobacco, when it is carried into the blood-ves- "sels, has sometimes shown its stimulant powers exerted in the kid- "neys; and very lately we have had it recommended to us as a "powerful diuretic of great service in dropsy. Upon the faith of "these recommendations we have now employed this remedy in "various cases of dropsy, but with very little success. From the "small doses that are proper to begin with, we have hardly observed "any diuretic effects; and though from larger doses they have in "some measure appeared, we have seldom found them consider- "able: and when, to obtain these in a greater degree, we have "gone on increasing the doses, we have been constantly restrained "by the severe sickness at stomach, and even vomiting, which they "occasioned: so that we have not yet learned the administration of "this remedy so as to render it a certain or convenient remedy in "any cases of dropsy.

"The same circumstances have occurred to several other practi- "tioners of this city and neighbourhood; and of late the trials of it "have been very generally omitted, owing perhaps to our practi- "tioners being directed at the same time to the use of the digitalis, "with which they have had some more success.

"From some experiments we are certain that tobacco contains a "quantity of volatile parts that may be dissipated by long boiling "in water; and that by such a practice its emetic, purgative, and "narcotic qualities may be greatly diminished; and we are of

"opinion that the preparation in extract, as prescribed in the "Wirtenberg dispensatory, is upon a good foundation, and may "be employed in pectoral cases with more advantage and safety "than the simple infusion or decoction made by a short boiling "only.

"When we were restrained in employing the infusion of tobacco "as a diuretic, as mentioned, we expected to succeed better with "the decoction; and I have found, that by long boiling this might "be given in much larger doses than the infusion: but we still "found it retaining so much of the emetic quality, that we could "not employ it as a diuretic without being interrupted in its use "by the same emetic quality that had interrupted the use of the "infusion.

"Besides the internal uses of tobacco mentioned, I must now "remark, that it has likewise been commended for its virtues as "externally employed. I have known the infusion employed with "advantage as a lotion for some obstinate ulcers: but the many in-"stances of its being absorbed, and proving thereby a violent "poison, dissuade from such a practice; especially as there are "other medicines, of as much efficacy, that may be employed with "much more safety. Bergius recommends it to be employed as a "fomentation in the paraphymosis; but we have had no opportu-"nity of employing it."*

* The preceding quotation has completely anticipated what we have to offer upon the subject of Tobacco. Respecting its poisonous or narcotic effects we shall subjoin the following references:—*Ephem. Nat. Cur. Dec.* 2. *Ann.* 10. *Obs.* 131. *p.* 222. we are told, that by the immoderate use of snuff, somnolency, and at length fatal apoplexy, was induced. *Hellwig Obs. Phys. Med. p.* 45. gives two instances of the same kind, occasioned by smoaking 17 or 18 pipes of Tobacco. For the effects of Tobacco, by absorption from its external use, see *Eph. cit. Ann.* 4. *p.* 46. *et Ann.* 2. *Obs.* 108. *p.* 262. *Alston's M. M. vol. ii. p.* 190. The oil of Tobacco applied to a wound, is said by Redi to be as fatal as the poison of a viper. See *Experim. Nat. p.* 8. 50. 315. Albinus however did not find that this was the case with the different animals on which he tried the experiment. *Diss. de Tobac. p.* 11. This oil, given to pigeons, produced fatal effects, and was constantly attended with vomiting. *Abbé*

Fontana. Vide Phil. Trans. vol. lxx. Tobacco, taken by dogs, also produces vomiting. *Gesner. Epist. lib. ii. p.* 79. The smoke of Tobacco has been successfully used in the way of injection, by means of a proper instrument, for obstructions and inveterate constipations of the belly, ever since the time of Sydenham; and Haen, in his Rat. Med. gives several instances of its good effects: it is also recommended in cases of asyphxia, or, what has been termed, suspended animation.

DIGITALIS PURPUREA. COMMON FOX-GLOVE.

SYNONYMA. Digitalis. *Pharm. Lond. & Edinb.* Digitalis foliis calycinis ovatis, galea simplice. *Hal. Stirp. Helv.* no. 330. Virga regia major, flore purpureo. *Cæsalp.* 348. Aralda Bononiensibus. *Gesner.* Digitalis purpurea vulgaris. *Park.* 1653. Digitalis Purpurea. *Gerard. Herb.* 790. *J. Bauh.* II. 811. *Raii Hist.* 767. *Synop.* p. 283. *Flor. Dan.* 774. *Curtis Flor. Lond. Withering's Account of the Fox-glove.*

Varietates. α Digitalis purpurea, folio aspero. *Bauh. Pin.* 243.
β Digitalis alba, folio aspero. *Bauh. Pin.* 244. *Hort. Kew.*

Class Didynamia. *Ord.* Angiospermia. *L. Gen. Plant.* 758.

Ess. Gen. Ch. *Cal.* 5-partitus. *Cor.* campanulata, 5-fida ventricosa. *Caps.* ovata, 2-locularis.

Sp. Ch. D. calycinis foliolis ovatis acutis, corollis obtusis: labio superiore integro.

THE root is biennial, branched, and fibrous; the stalk is erect, simple, tapering, covered with fine hairs or down, and rises commonly to the height of four or five feet; the leaves are large, oval, narrowed towards their points, obtusely serrated, veined, * downy, and stand upon short winged footstalks; the floral leaves or bracteæ

* On the under side these veins form a kind of net-work.



Digitalis purpurea

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spear-shaped, sessile, purplish towards the point; the calyx consists of five segments, which are elliptical, pointed, nerved, or ribbed, and the uppermost segment is narrower than the others; the flowers grow in a long terminal spike, chiefly on one side, they are large, monopetalous, pendulous, bell-shaped,[a] purple, and marked on the inside with little eyes, or dark coloured dots, placed in whitish rings; the tubular part appears inflated, and almost cylindrical, but swelling towards the base, and opening at the limb into four irregular, short, obtuse segments, of these the uppermost is the shortest, appearing truncated or cut off transversely; the peduncles are round, short, villous, and bend downwards by the weight of the flowers; the filaments are two long and two short, white, crooked, inserted in the bottom of the tube, and crowned with large oval yellow antheræ; the style is simple, and thickening towards the stigma, which is bifid; the germen is oval, and surrounded at the bottom by a small nectarious gland; the capsule is bilocular, and contains many blackish seeds. It grows commonly about road sides and hedges, especially in dry gravelly soils, and flowers in June and July.

The leaves of Fox-glove have a bitter nauseous taste, but no remarkable smell; they have been long used externally to sores and scrophulous tumours with considerable advantage. Respecting the internal use of this plant we are told of its good effects in epilepsy, scrophula, and phthisis; but the incautious manner in which it was employed rendered it a dangerous remedy: thus we find Ray (after reciting the case of epilepsy cured by it, as mentioned by Parkinson,) says, "Verum medicamentum hoc robustioribus tantum convenit, siquidem violenter admodum purgat & vomitiones immanes excitat:"[b] and others, speaking of its successful exhibition in scrophula, remark, "Sed ob nimiam remedii vehementiam, continuationem ejus necessariam detrectavit."[c] Yet while Digitalis was generally known to possess such medicinal activity, its diuretic

[a] The flowers bear some resemblance to the finger of a glove; hence the name Digitalis.

[b] Raii Hist. p. 767. [c] Vide Murray's Ap. Med. vol. 1. p. 192.

effects, for which it is now deservedly received in the Materia Medica, were wholly overlooked; that to this discovery Dr. Withering has an undoubted claim, and the numerous cases of dropsy, related by him and other practitioners of established reputation, afford incontestible evidence of its diuretic powers, and of its practical importance in the cure of those diseases.[d] From Dr. Withering's extensive experience of the use of the Digitalis in dropsies, he has been enabled to judge of its success by the following circumstances:—"It seldom succeeds in men of great natural strength, of tense fibre, of warm skin, of florid complexion, or in those with a tight and cordy pulse. If the belly in ascites be tense, hard, and circumscribed, or the limbs in anasarca solid and resisting, we have but little hope. On the contrary, if the pulse be feeble, or intermitting, the countenance pale, the lips livid, the skin cold, the swollen belly soft and fluctuating, the anasarcous limbs readily pitting under the pressure of the finger, we may expect the diuretic effects to follow in a kindly manner."[e] Of the inferences which he deduces, the fourth is, "that if it (Digitalis) fails, there is but little chance of any other medicine succeeding." Thus we are to infer, that men of great natural strength, and under the other circumstances just mentioned, when affected with dropsy, have little to hope for from the use of this diuretic, and still less from any other medicine.[f] As this observation is the result of experience, and of considerable practical consequence, we wish particularly to press it on the attention of the medical reader. Although the Digitalis is now generally admitted to be a very powerful diuretic, and many cases may be adduced of its successful use[g] in addition to those

[d] See his account of the Fox-glove, published 1785; a book, which, in the opinion of Dr. Cullen, "should be in the hands of every practitioner of physic." (M. M.)

[e] l. c. p. 189. & seq. [f] In such cases Dr. W. attempts to induce a change in the constitution, and thereby to fit it for the action of the Digitalis. Would not repeated purging, according to Sydenham's plan, succeed best in these cases?

[g] The author could bring many instances were it necessary, of the good effects of the Digitalis: a clinical patient at Guy's Hospital, treated by Dr. Relph last winter, afforded a striking proof of the efficacy of this medicine in hydrothorax.

already published, yet it is but justice to acknowledge that this medicine has more frequently failed than could have been reasonably expected, from a comparison of the facts stated by Dr. W.[h]—"The dose of the dried leaves, in powder, is from one grain to three twice a day. But if a liquid medicine be preferred, a dram of the dried leaves is to be infused for four hours in half a pint of boiling water, adding to the strained liquor an ounce of any spirituous water. One ounce of this infusion, given twice a day, is a medium dose. It is to be continued in these doses till it either acts upon the kidneys, the stomach, the pulse, (which it has a remarkable power of lowering) or the bowels."

[h] Among the principal of the unsuccessful cases we may notice the eight fatal ones related in the Medical Memoirs by Dr. Lettsom. In reply to these cases, Dr. Withering sent me the following Letter, * which is published by the permission of Dr. Lettsom, who authorizes me to say, that as his only object in this business is the investigation of truth, he willingly appeals to the justice and candour of the public, how far his practice is fairly represented in Dr. Withering's letter:

SIR, * Please to accept my thanks for your offer of inserting any thing new which I might have to say respecting the Digitalis; but I really have nothing new to observe, nor have I any thing to retract of what I have said before. Under my own management, under that of the medical practitioners in this part of England, and I may add, also in the hands of some worthy and respectable Clergymen in village situations, it continues to be the most certain, and the least offensive diuretic we know; in such cases, and in such constitutions, as I have advised its exhibition. I have also the satisfaction to find, by letters from some of the most eminent Physicians in different parts of England, that it is equally useful and safe in their hands. But I complain of the treatment this medicine has had in London. Its ill success there cannot be altogether owing to difference of constitutions. Dr. Lettsom has related his unsuccessful attempts with a degree of courage, and of candour, which do the highest honour to his integrity;* but no one can compare his choice of patients, with my declarations of the fit and the unfit, or the doses he prescribed, and the perseverance he enjoined, with my doses, rules, and cautions,‖ without being astonished that he could suppose he had been giving this medicine "in the manner prescribed "by me." †——I am fully satisfied, that, had I prescribed it in such cases, such forms, such doses, and such repetitions as he has done, the effects would, in my hands, have been equally useless, and equally deleterious. I must therefore suppose,

* Memoirs of the Med. Society of London, vol. II. p. 145. ‖ Account of the Fox-glove p. 181, 184, et seq.
† Memoirs of the Medical Society of London, vol. II. page 169.

that he had forgotten what I had written, without being conscious that his memory had deceived him. Had it been otherwise, after perusing the cases I had published at pages xx. and pages 151, &c of my ACCOUNT, &c. he would hardly have thought it necessary to have published more instances of what I had stigmatized as *bad practice*; or to have sought for further proofs, that an active and useful medicine might be employed so as to prove a deleterious poison.

STRYCHNOS NUX VOMICA. VOMIC NUT, or POISON NUT.

SYNONYMA. Nux vomica. *Pharm. Dale.* 327. *Alston. ii.* 37. *Lewis.* 453. *Bergius.* 144. *Murray. i.* 477. *Edinb. New Dis.* 239. Nux vomica officinarum. *Bauh. Pin.* 511. *Ger. Emac.* 1546. *Park. Theat.* 1601. *Raii. Hist.* 1661. & 1814. Caniram. *Hort. Malab. T. i. t.* 37. *p.* 67. *Burm. Thes. Zeyl.* 171.

Pentandria Monogynia. *Lin. Gen. Plant.* 253.

Gen. Ch. *Cor.* 5-fida. *Bacca* 1-locularis, cortice lignoso.

Sp. Ch. S. foliis ovatis, caule inermi.

THIS large tree sends off numerous strong branches, covered with dark grey smooth bark. The young branches have swelled articulations, or a knotty jointed appearance, scandent, and covered with bark of a dark green colour. The leaves arise at the joints in pairs, upon short footstalks, and are ovate, broad, pointed, entire, with three or five ribs, and on the upper side of a shining green colour. The flowers terminate the branches in a kind of fasciculated umbel. Calyx small, tubular, five toothed. Corolla monopetalous: tube cylindrical, or rather inflated at the middle, very long, and at the limb cut into five small ovate segments. Filaments five, short, fixed at the mouth of the tube, and furnished with simple antheræ. Germen roundish, supporting a simple style, terminated by a blunt stigma. Fruit a round smooth large pulpy berry, externally yellow, and containing round depressed seeds, covered with downy radiated hairs.



Strychnos Nux vomica

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It is a native of the East Indies, and, according to the Hortus Kewensis was introduced into England in 1778, by Dr. Partrick Russel; but it has not yet been cultivated with success in this country. The plate prefixed is taken from a very perfect specimen in the possession of Sir Joseph Banks, to whose liberality every branch of natural knowledge is much indebted, and this work for some of its most valuable figures.

The *nux vomica, lignum colubrinum,* and *faba sancti Ignatii,* have been long known in the Materia Medica as narcotic poisons, brought from the East Indies, while the vegetables which produced them were unknown, or at least not botanically ascertained.

By the judicious discrimination of Linnæus, the Nux vomica was found to be the fruit of the tree described and figured in the Hortus Malabaricus under the name Caniram, now called Strychnos. To this genus also, but upon evidence less conclusive, he likewise justly referred the colubrinum.[a] But the faba sancti Ignatii he merely conjectured might belong to this family, as appears by the query *an Strychni species?*[b] which subsequent discoveries have enabled us to decide in the negative; for in the Supp. plant. it constitutes the new genus Ignatia, which Loureiro has lately confirmed, changing the specific name amara to that of philippinica.[c] The Strychnos and Ignatia are however nearly allied, and both rank under the order Solanaceæ.

We have thought it necessary to inquire thus far into the botanical origin of these productions, from finding that by medical writers they are generally treated of under the same head, and in a very confused and indiscriminate manner.

The seed of the fruit or berry of this tree is the officinal nux vomica: it is flat, round, about an inch broad, and near a quarter of an inch thick, with a prominence in the middle on both sides, of a grey colour, covered with a kind of woolly matter, and internally hard and tough like horn; to the taste it is extremely bitter, but has no remarkable smell. It consists chiefly of a gummy matter, which

[a] Contendunt Indiæ Botanici hanc a S. Nuce vomica non esse diversam. *Supp. Plant.* 149. [b] Vide *Mat. Med. Lin.* [c] *Flor. Cochin.* 125.

is moderately bitter; the resinous part is very inconsiderable in quantity, but intensely bitter; hence rectified spirit has been considered its best menstruum.[d]

Nux vomica is reckoned amongst the most powerful poisons of the narcotic kind, especially to brute animals, nor are instances wanting of its deleterious effects upon the human species. It proves fatal to dogs in a very short time, as appears by various authorities.[e] Hillefeld and others found that it also poisoned hares, foxes, wolves, cats, rabbits, and even some birds, as crows and ducks;[f] and Loureiro relates that a horse died in four hours after taking a dram of the seed in an half-roasted state. The effects of this baneful drug upon different animals, and even upon those of the same species, appear to be rather uncertain, and not always in proportion to the quantity of the poison given.[g] With some animals it produces its effects almost instantaneously; with others not till after several hours, when laborious respiration, followed by torpor, tremblings, coma, and convulsions, usually precede the fatal spasms, or tetanus, with which this drug commonly extinguishes life.

From four cases related of its mortal effects upon human subjects,* we find the symptoms corresponded nearly with those which we have here mentioned of brutes; and these, as well as the dissections of dogs, killed by this poison, nor shewing any injury done to the stomach, or intestines, prove that the Nux vomica acts immediately upon the nervous system, and destroys life by the virulence of its narcotic influence.

The quantity of the seed necessary to produce this effect upon a strong dog, as appears by experiments, need not be more than a scruple:[h] a rabbit was killed by five and a cat by four grains: and of

[d] Junghanns *diss. de Nuce vom. &c.*

[e] Heyde. *Observ.* 50 *p.* 116. Seutter. *Diss. de Nuce vomica.* Courten. *Phil. Trans.* Wepfer. *De Cicuta.* 194. Brunner. ibd. Loss. *Diss. de Nuce vomica.* Hillefeld. *Diss. Experim. circa venena.* Gesner. *Epist.* 33.—[f] *Hillef. l. c. Loss. l. c. Brunner. l. c.*

[g] It was given in a large quantity to a swine without producing any effect. *Loss. l. c.*

* Vide *Matthiol. in Dioscor. Lib.* 4. *Fred. Hoffman. Phil. corp. human. morbos. P. c. viii. §.* 8. *Seutter. l. c. Linn. & Tillæus de feb. intermit. cur. p.* 40. [h] Hillef.

the four persons to whom we have alluded, and who unfortunately perished by this deleterious drug, one was a girl ten years of age, to whom 15 grains were exhibited at twice for the cure of an ague. Loss, however, tells us that he took one or two grains of it in substance without discovering any bad effect; and that a friend of his swallowed a whole seed without injury.

In Britain, where physicians seem to observe the rule *saltem non nocere,* more strictly than in many other countries, the Nux vomica has been rarely if ever employed as a medicine. On the Continent, however, and especially in Germany, they have certainly been guided more by the axiom "what is incapable of doing much harm, is equally unable to do much good." The truth of this remark was lately very fully exemplified by the practice of Baron Stoerck; and is farther illustrated by the medicinal character given of Nux vomica, which, from the time of Gesner till that of a modern date, has been recommended by a succession of authors, as an antidote to the plague,[i] as a febrifuge,[k] as a vermifuge,[l] and as a remedy in mania,[m] hypochondriasis,[n] hysteria,[o] rheumatism,[p] gout,[q] and canine madness.[r]

In Sweden it has of late years been successfully used in dysentery;[s] but Bergius,[t] who tried its effects in this disease, says, that it suppressed the flux for twelve hours, which afterwards returned again. A woman, who took a scruple of this drug night and morning, two successive days, is said to have been seized with convulsions and vertigo, notwithstanding which the dysenteric symptoms returned, and the disorder was cured by other medicines; but a pain in the stomach, the effect of the Nux vomica, continued afterwards for a long time. Bergius therefore thinks it should only be administered in the character of a tonic and anodyne in small doses,

[i] *Gesner. Epist. p.* 144. [k] *Wedel. Amœn. Mat. Med. p.* 337. *Buchner. Ph. Brand.* 61. *Hartman. De icuta. &c. p.* 17. [l] *Schulz. M. M.* 404. [m] *Albinus, cited by Alston. l. c.* [n] *Buchner. l. c.* [o] *Ibid.* [p] *Wiel. Diss. de usu Nuce vom. et vitr. alb. p.* 17. [q] *Ibid.* [r] *Schultz. l. c.* [s] By Hagstrom, Odhelius, Dahlberg. [t] *L. c.*

(from 5 to 10 grains) and not till after proper laxatives have been employed.

Loureiro recommends it as a valuable internal medicine in fluor albus, for which purpose he roasts it till it becomes perfectly black and friable, which renders its medicinal use safe without imparing its efficacy.

CAPSICUM ANNUUM. ANNUAL CAPSICUM, Or, GUINEA PEPPER.

SYNONYMA. Piper indicum. *Pharm. Lond. & Edinb.* Piper Indicum vulgatissimum. *Bauh. Pin. p.* 102. *Raii Hist. p.* 676. Piper Calecutium sive Capsicum oblongius. *J. Bauh. Hist. vol. ii. p.* 943. Capsicum longioribus siliquis. *Gerard. Emac. p.* 364. Capsicum majus vulgatius, oblongis siliquis. *Park. Theat. p.* 355. Capsicum indicum. *Burm. Thes. Zeyl. p.* 53.

α Capsicum siliquis longis propendentibus. *Tourn. Inst.* 152. *Long-Podded Capsicum.*

β Capsicum caule herbaceo, fructu rotundo glabro. *Mill. Dict. Cherry Capsicum.*

γ Capsicum caule herbaceo, fructu ovato. *Mill. Dict. Olive Capsicum.* *Aiton. Hort. Kew. vol. i. p.* 253.

Class Pentandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 252.

Ess. Gen. Ch. *Cor.* rotata. *Bacca.* exsucca.

Sp. Ch. C. caule herbaceo, pedunculis solitariis.

THE root is annual: the stem is thick, roundish, smooth, crooked, branched, and rises four or five feet in height: the leaves are elliptical or egg-shaped, pointed, veined, smooth, and placed in no regular order upon long footstalks: the flowers are solitary, white,



Capsicum annuum

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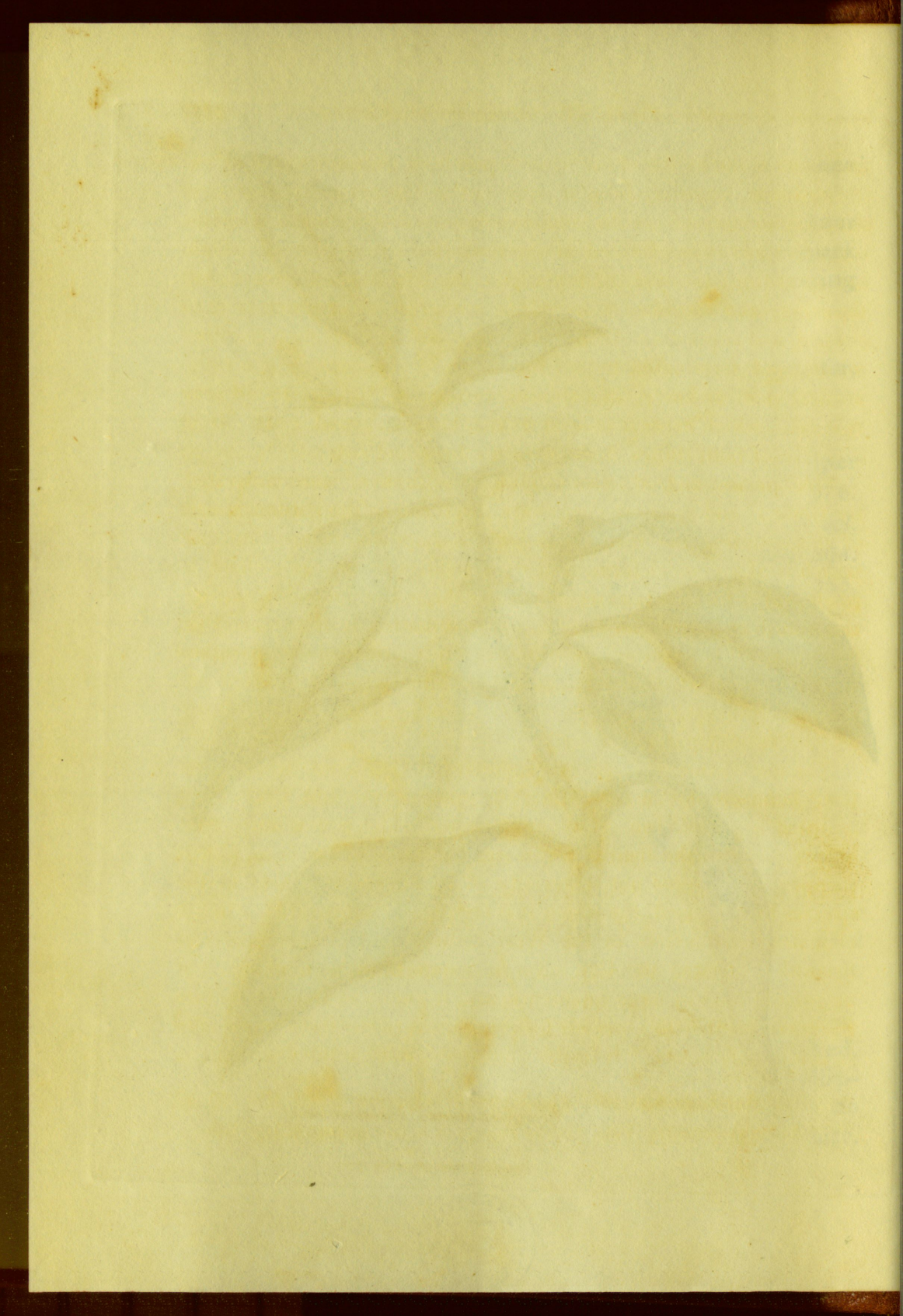

and stand at the axillæ of the leaves upon long peduncles: the calyx is persistent, angular, tubular, and cut at the extremity into five short segments: the corolla is monopetalous, wheel-shaped, consisting of a short tube, divided at the limb into five segments, which are spreading, pointed, and plaited: the five filaments are short, tapering, and furnished with oblong antheræ: the germen is egg-shaped, and supports a slender style, which is longer than the filaments, and terminated by a blunt stigma: the capsule is a long conical pod, or berry, of a shining reddish colour, separated into two cells, which contain several flattish kidney-shaped seeds. It is a native of both Indies, and flowers in June and July.

This species, and all its varieties noticed above, were cultivated by Gerard, and are now commonly produced in the garden stoves of this country: the fruit varies both in shape and colour, but that which is of a conical form, and of a reddish or orange colour, is preferred. Its taste is extremely pungent and acrimonious, setting the mouth as it were on fire, and this sensation is of considerable duration. "It gives out its pungency to rectified spirit, together with a pale yellowish red tincture: the spirit, gently distilled off, has no considerable impregnation from the capsicum: the remaining extract is insupportably fiery."[a]

The use of this and the other species of Capsicum, which have long been employed for culinary purposes, have but lately been adopted as a medicine. Cayenne pepper, which is now much used at our tables, is the fruit of Capsicum baccatum of Linnæus, (Bird-pepper) and differs not materially in its effects from that of the species here figured, for which it is frequently substituted. In hot climates, particularly in the West Indies,[b] and in some parts of Spanish America, the Capsicum is eaten both with animal and vegetable food in large quantities, and it enters so abundantly into their sauces, that to a person unaccustomed to eat them, their taste is intolerably hot.[c] But in the climates of which the Capsicum is

[a] *Kewis, M. M. p.* 508. [b] Vide *Browne's Jamaica, p.* 176.

[c] At Peru especially. Vide, *Frezier Voyage de la Mer du Sud. t.* 1. *p.* 262.

a native, we are told that the free use of it is a salutary practice, being found to strengthen the stomach, assist digestion, and correct that putrescent colliquation of the humours so common in hot climates. As an aromatic of the most acrid and stimulant kind it certainly may be found efficacious in some paralytic and gouty cases, or to promote excitement, where the bodily organs are languid and torpid.

It has been successfully exhibited in cynanche maligna, and in what by Dr. Mackitrick calls cachexia africana,[d] which he considers as the most frequent and fatal predisposition to disease among negroes. The dose he directs is from six to eight grains.

Bergius gave the seeds of Capsicum with great success in inveterate intermittents.[e]

[d] *Duncan's Ed. Dispens. p.* 257.

[e] He prescribes them as follows:

℞ sem. pip ind g^{r} vi. bacc. lauri scrup. ii. f. pulvis, divedendus in tres partes æquales; quarum prima portio sumenda incipiente primo rigore; secunda postridie eadem hora; tertia vero tertio die. *M. M. p.* 144.

PHYSALIS ALKEKENGI. COMMON WINTER CHERRY.

SYNONYMA. Alkekengi seu Halicacabum. *Pharm. Geoff. iii.* 55. *Dale.* 172. *Alston. ii.* 254. *Rutty.* 13. *Cullen. ii.* 553. *Bergius.* 130. *Marray. i.* 463. *Lewis.* 30. *Ed. New Dispens.* 120. *Gerard. Emac.* 342. *Ray. Hist.* 681. *Hall. Stirp. Helv. n.* 597. Solanum vesicarium. *Bauh. Pin.* 166. *Park. Theat.* 462.

Pentandria Monogynia. *Lin. Gen. Pl.* 250.

Gen. Ch. *Cor.* rotata. *Stam.* conniventia. *Bacca* intra calycem inflatum, bilocularis.

Sp. Ch. P. foliis geminis integris acutis, caule herbaceo inferne subramoso.



Physalis Alkekengi

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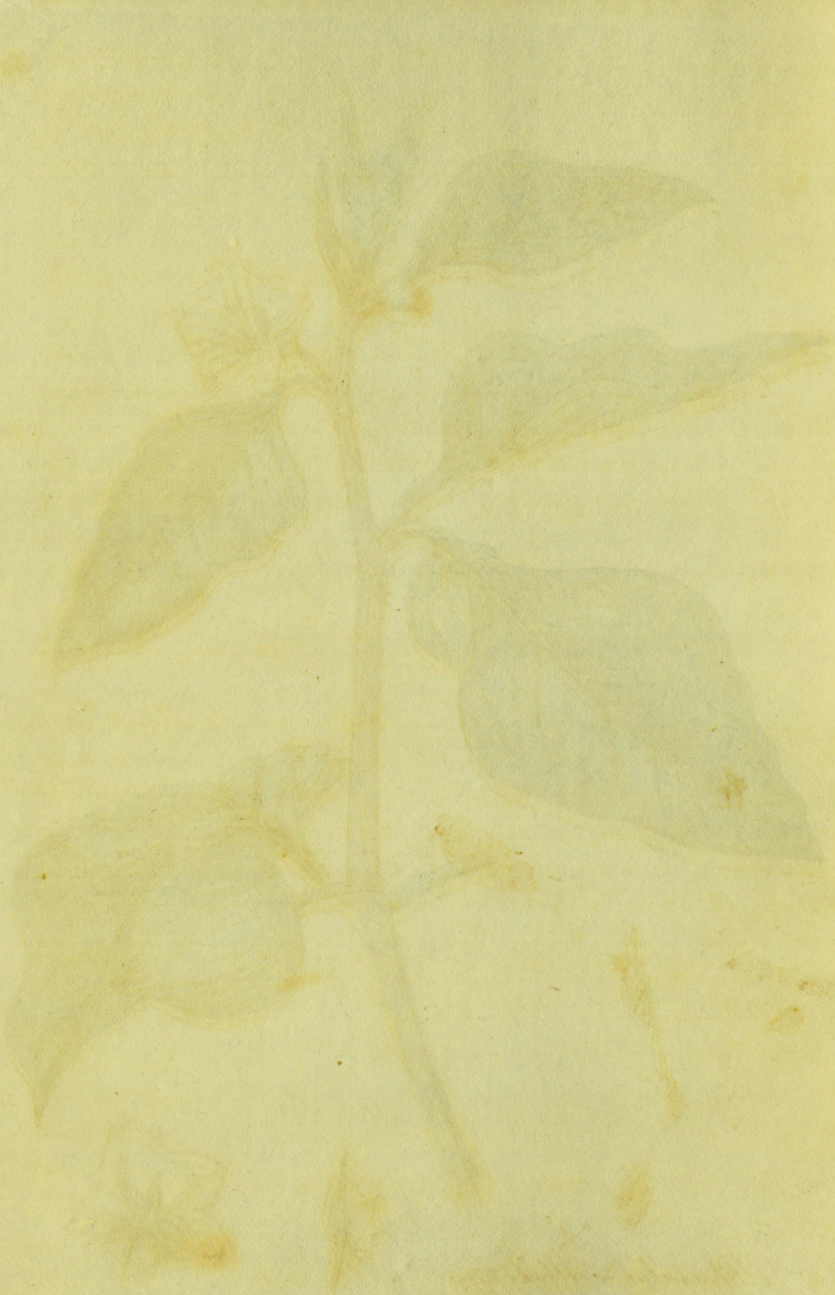

THE root is perennial, long, creeping, fibrous. Stalks annual, round, crooked, smooth, simple, about a foot high. Leaves in pairs, upon footstalks, of an irregular shape, undulated, pointed, veined, entire. Calyx persistent, becoming a large orbicular inflated pentangular membrane inclosing the fruit; segments five, pointed. Corolla monopetalous, wheel-shaped; tube very short; limb five-parted; segments five, broad, short, pointed. Filaments five, small, tapering, approaching together: antheræ erect: germen roundish: style filiform, longer than the filaments, terminated by a blunt stigma. Fruit a red round two-celled berry, inclosed in the calyx, and containing numerous flat kidney-shaped seeds.

This plant, which is a native of the South of Europe, is not unfrequently found in the gardens of this country, in which it has been cultivated ever since the days of Gerard, in 1597. It flowers from July till September, and ripens its fruit in October.

The berries of the Alkekengi, commonly called Winter Cherries, were well known to the ancients, and are characteristically described by Dioscorides.*

They have an acidulous and not unpleasant taste, followed by a slight bitterness, which they are said to derive in a considerable degree from the investing calyx, if not gathered with great care.[a]

Winter Cherries, though esteemed to be detergent and aperient, have been chiefly recommended in the character of a diuretic in suppressions of urine, and for removing obstructions occasioned by gravel or mucous. With this intention, from six to twelve cherris, or an ounce of their expressed juice, have been the dose usually employed: there seems, however, to be no danger from a much larger quantity; for in some parts of Germany we are told that the country people eat them by handfuls with much benefit:[b] and in Spain and Switzerland [c] they frequently supply the place

* See Στρυχνον αλικακαβον.

[a] *Lewis. l. c.* [b] *C. Hoffman. De Medicam. off. L. 2. c. 217.*

[c] *Quer. Flor. Espann. Tom. ii. p. 224. Hall. l. c.*

of other eatable fruits. Ray informs us, that a gouty person prevented the returns of the disorder by taking eight of these cherries at each change of the moon:[c] we find also instances related of their good effects in dropsical and calculous complaints,[c] but at present they are wholly disregarded.

[c] *L. c.* [c] See *Löseke, Arnold. de Villa Nova, & Lister,* as cited by Murr. l. c.

ATROPA BELLADONNA. DEADLY NIGHTSHADE.

SYNONYMA. Belladonna, *Pharm. Edinb.* Belladonna trichotoma, *Socop. Carn.* 1. p. 160. Belladonna caule herbaceo, brachiato, foliis ovato-lanceolatis, integerrimis. *Hal. Stirp. Helv.* N. 579. Solanum Lethale, *Clus. Hist.* p. 86. *Dod. purg.* p. 360. Solanum Melanocerasus, *Bauh. Pin.* 166. Solanum majus, *Cam. epit.* p. 817.

Class Pentandria. *Order* Monogynia. L. *Gen. Plant.* 249.

Ess. Gen. Ch. *Cor.* campanulata. *Stam.* distantia. *Bacca,* globosa, 2-locularis.

Sp. Ch. Atropa Belladonna, caule herbaceo, fol. ovatis integris.

THE Belladonna has a thick whitish root, which is perennial, and sends forth strong, branched, annual, purple-coloured stems, from three to five feet high. The leaves are of unequal size, entire, oval, pointed, and stand in pairs upon short footstalks. The flowers are of a dark or brownish purple colour, large, pendent, bell-shaped, furrowed, and the limb cut into five segments. The whole plant is covered with fine hairs or down: the flowers appear in June or July, but the berries are not ripe till September, when they acquire a shining black colour. It grows in shady and stony waste grounds, but it is not very common near London.



Atropa Belladonna.

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Whether this plant is the Στρυχνος μανικος of Dioscorides or not, botanists have not yet ascertained, but it has certainly been long known as a strong poison of the narcotic kind; and the berries, though less powerful than the leaves, furnish us with many instances of [a] their fatal effects, particularly upon children, who are readily

[a] Sennert. lib. vi. par. 7. cap. 9. Lobel Stirpium Adversa. p. 103. Matthiolus Oper. Omn. p. 754. Oetinger de Belladonna. Aug. Vindel. Strychnomania, &c. Bodaeus à Stapel. Comment. in Theophrast. 586. Simon Pauli Quad. Botan. p. 488. Gerard's Herbal, 341. Wepfer's Cicut. Aquat. Histor. et Noxæ, p. 228. Boulduc. Histoire de l'Acad. a. 1703. Rossi Plant. Venen. p. 11. Boerhaave's Hist. Plant. Lugd. Bat. Hort. p. 510. Journ. de Med. ann. 1759. Gent. Magaz. 1747. & 1748. Hill's British Herbal, p. 329. Spielman's Diss. Veget. Venen. p. 16. Mapp. Pl. Alsat. p. 36. Murray's Apparat. Medicam. p. 431. Many other recent facts of the same kind might be adduced from various periodical publications. Ray found by applying the leaves of the Belladonna near the eye, a remarkable relaxation of the uvea was produced. Sauvages *(Nosol)* supposes that the Belladonna was the plant which produced such strange and dreadful effects upon the Roman soldiers, during their retreat (under the command of Anthony) from the Parthians; they are said to have "suffered "great distress for want of provisions, and were urged to eat unknown plants: "among others they met with an herb that was mortal; he that had eaten of it, lost "his memory and his senses, and employed himself wholly in turning about all the "stones he could find, and after vomiting up bile, fell down dead." Plutarch Life of Anthony.——The Scotch historian, Buchanan, relates that the Scots mixed a quantity of the juice of the Belladonna (Solanum Somniferum) with the bread and drink, which by their truce they were to supply the Danes with, which so intoxicated them, that the Scots killed the greatest part of Sweno's army while asleep. Lib. vii.

Ray relates a curious instance of the effects of this plant in the following words: Hist. Plant. p. 680. Accidit, ni fallor, tempore Pontificis Maximi Urbani ultimi, ut quidam de famulitio Cardinalis magni nominis (ut mihi hîc Augustæ retulit ejus hortulanus) infunderet in vino Malvatico herbam illam quam Bellam Donnam vocant, daturam aliàs per noctem ut ejus herbæ effectus discerent; infusum hoc propinarunt cuidam fratri mendicanti ex conventu S. Hieronymi, qui Patavii Fratrum ignorantiæ dicitur, à primo breve delirium, cachinni, gesticulationes variæ; dein insania vera, post stupor mentis qualis est ebriorum vigilantium. Cardinalis pro ebrio in carcere includit; deinde à medico qui rem subolfecerat innocens pronuntiatur, qui aceti cyatho propinato, a dementia quam Bella Donna causavit eum liberat. Hachstellerus Decad. 7. Ob.

And Shakespeare in his Mackbeth makes Banquo say,

Or have we eaten of the insane root
That takes the reason prisoner.

tempted to eat this fruit by its alluring appearance and sweet taste. The number of these berries necessary to produce deleterious effects, may probably depend upon the state of maturity in which they are eaten: if not more than three or four be swallowed, according to Haller's account, no bad consequence ensues;— "Baccæ sapore fatuo dulci possunt absque noxa edi [b] si numerus "tres quatuorve non excesserit: plures etiam a studioso medicinæ "Coloniensi nomine Simonis vidi deglutiri." Hal. Stirp. Helv. No. 579.

But when a greater number of the berries are taken into the stomach, scarcely half an hour elapses before violent symptoms supervene; viz. vertigo, delirium, great thirst, painful deglution, and retching, followed by furor, stridor dentium, and convulsions; the eye-lids are drawn down, the uvea dilated and immovable; the face becomes red and tumid, and spasms affect the mouth and jaw; the general sensibility and irritability of the body suffer such great diminution, that the stomach often bears large and repeated does of tart. emet. (gr. 14.) without being brought into action; the pulse is small, hard, quick, and subsultus tendinum, risus sardonius & coma, generally precede death. The body being opened, inflammation has been discovered in the intestines, mesentery, and liver, Comm. Nor. 1743. p. 61. And Boulduc, Hist. de l'Acad. des Sc. de Paris, 1703, p. 56. found the stomach of a child eroded in three places. It may be necessary to remark, that vinegar, liberally drunk, has been found very efficacious in obviating the effects of this poison; evacuations should however be always first promoted.

The leaves of the Belladonna were first used externally to discuss scirrhous and cancerous tumours, and also as an application to ill conditioned ulcers: their good effects in this way at length induced physicians to employ them internally for the same disorders, and we have a considerable number of well authenticated facts which

[b] Hort, Florent. p. 62.

prove them a very serviceable and important remedy.[c] But it must likewise be confessed, that many cases of this sort have occurred in which the Belladonna has been employed without success:[d] this, however, may be said of every medicine; and though Dr. Cullen repeatedly experienced its inefficacy, yet the facts he adduces in confirmation of the utility of this plant, are clear and decisive: "I have had a cancer of the lip entirely cured by it; a scirrhosity "in a woman's breast, of such a kind as frequently proceeds to "cancer, I have found entirely discussed by the use of it; a sore "a little below the eye, which had put on a cancerous appearance, "was much mended by the internal use of the Belladonna: but "the patient having learned somewhat of the poisonous nature "of the medicine, refused to continue the use of it, upon which "the sore again spread, and was painful; but upon a return to the "use of the Belladonna, was again mended to a considerable de- "gree: when the same fears again returning, the use of it was "again laid aside, and with the same consequence of the sore be- "coming worse. Of these alternate states, connected with the "alternate use of, and abstinence from, the Belladonna, there "were several of these alternations which fell under my own ob- "servation."

[c] Junker's Conspect. Ther. Gen. Ed. 1725. p. 491. Journ. de Med. ann. 1766. Timmermann's Progr. Mich. Albertus de Belladonna. Tib. Lambergen, stated in the Phil. Trans. vol. 50. by Mr. Pultney. Comment. de Rebus, tom. 8. p. 654. Durlac Journ. de Med. t. 11. p. 449. Amoureux, l. c. tom. 13. p. 47. Marteau. l. c. tom. 14. p. 11. van den. Block. l. c. tom. 14. p. 108. Ludw. Advers. Pract. vol. 1. P. 4. p. 637. and vol. 2. 314. To which we may add the later authorities of Bergius, (Mat. Med. p. 128. vol. 1.) and Murray, App. Med. vol. 1. p. 440. who used them successfully in convulsions and epilepsy. The good effects of the berries may be learned from Gesner, Epist. p. 34. Eph. N. C. ann. 3. Obs. 64. Smetius, lib. 4. p. 238. Mayerne Prax. Med. Syntagm. Alt. p. 136.

[d] Heister Chirurgie, p. 328. Van. Der. Harr. *over de Knierknoest-en Kanker Gezwellen*, p. 85. Van. Dovern. in litt. ad. Timmermann *Progr.* Timmermann junr. ibid. Acrel. *Chir. Händelser.* p. 40. De Haen Rat. Med. tom. 2. p. 45. Schmuckero Chirurg. Wahrnehmungen, tom. 2. p. 150. And some accounts given of this plant by our own countrymen Gataker and Bromfield.

The sensible effects produced by the leaves of this plant taken in medicinal doses, are usually by the skin, the urinary passages, and sometimes by stool; in larger doses troublesome dryness of the mouth and throat, giddiness, and dimness of sight are experienced.

That the advantages derived from the internal use of Belladonna are only in proportion to the evacuations effected by it, is a conclusion we cannot admit as sufficiently warranted by the facts adduced upon this point.

As this plant is very uncertain in its operation, the proper dose is with difficulty ascertained; the most prudent manner of administering it is by beginning with one grain or less, which may be gradually increased according to its effects. Six grains are considered as a very large dose.—With respect to the berries, so successfully employed as an anodyne, by Gesner and others, in dysenteries, a small spoonful (coch. parvum) of a syrup of the juice was the dose given.

The root seems to partake of the same qualities as the leaves, but is less virulent.

ATROPA MANDRAGORA. MANDRAKE.

SYNONYMA. Mandragora. *Pharm. Geoff. iii.* 808. *Dale.* 170. *Alston. i.* 478. *Rutty.* 306. *Bergius.* 126. *Murray. i.* 441. *Edinb. New Disp.* 225. Mandragora fructu rotundo. *Bauh. Pin.* 169. *Ray. Hist.* 668. M. fructu majore. *Hist. Oxon. iii.* 531. Mandragoras mas. *Ger. Emac.* 352. *Park. Theat.* 343. Conf. *Miller's Figures, t.* 173.

Sp. Ch. A. acaulis, scapis unifloris.

ROOT perennial, large, fusiform, three or four feet long, externally brown, internally whitish. Leaves radical, sessile, ovate, entire, veined, pointed, waved, smooth, at first erect, but on attaining their full size resting upon the ground. There is no stem.



Atropa Mandragora

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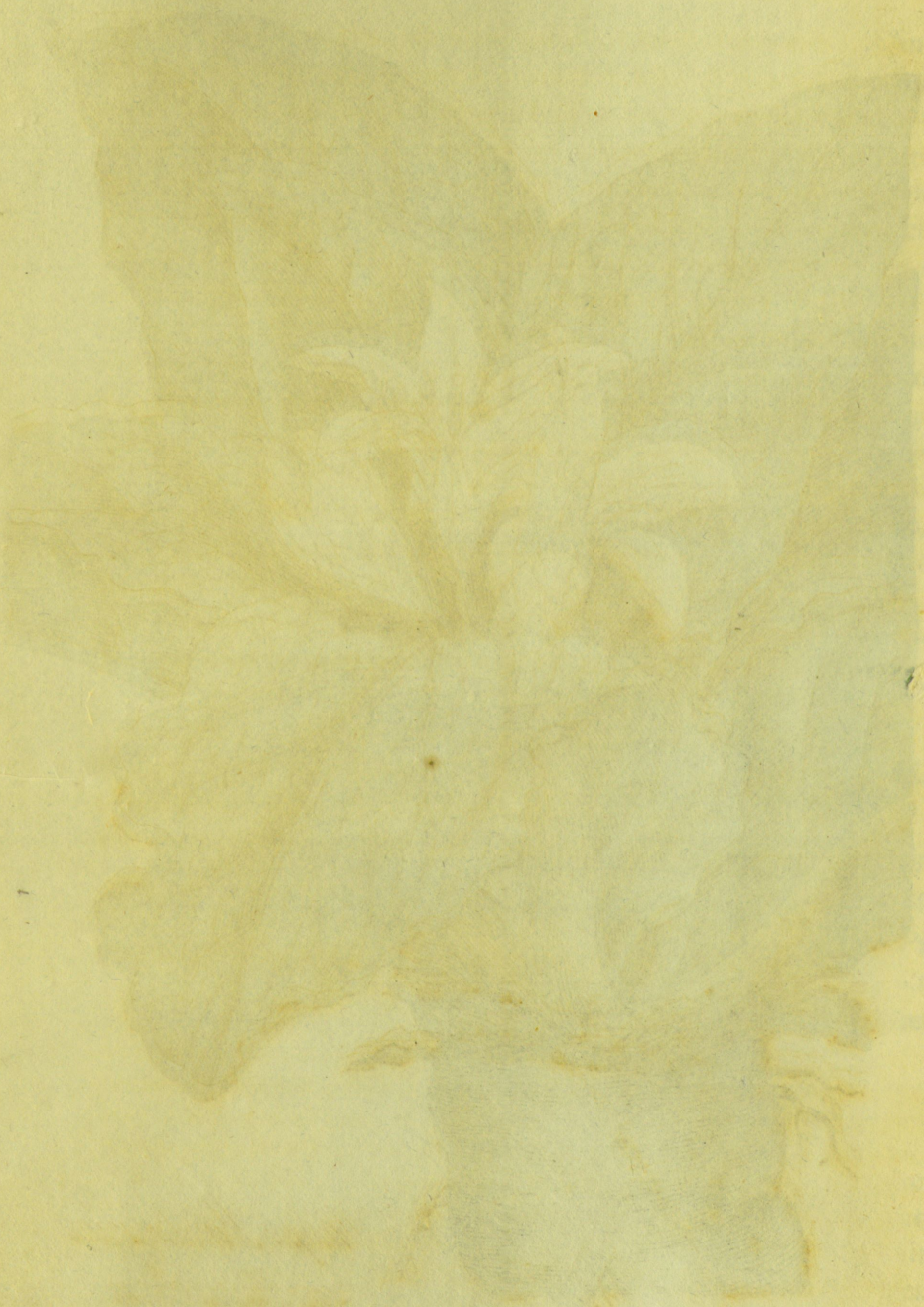


Flowers whitish, each standing upon a simple stalk, or scapus, which rises from the crown of the root. Calyx quinquifid; segments pointed, persistent. Corolla bell-shaped; tube very short; limb divided into five acute spreading segments. Filaments five, tapering, hairy, inserted at the base of the corolla, at the top diverging, and furnished with erect yellow antheræ. Germen round: style filiform, of the length of the filaments, and crowned with a round stigma. Fruit a large round two-celled berry, of an orange colour, containing many kidney-shaped seeds.

Its flowers appear in March and April.

This plant is a native of the southern parts of Europe: it is not a stranger to our English gardens, in which it was cultivated by Turner in 1562.[a]

The superstitious and absurd stories formerly told of the Mandrake would not now for a moment impose upon the most credulous and ignorant: the great resemblance of some of the roots to the human form, the danger of taking them out of the ground, and their surprising effects, were all the invention of charlatanical knavery and imposture.[b]

The roots of Mandrake vary both in form and colour, being either divided or entire, and externally brown or black; hence they have been distinguished into male and female: the internal substance is white, and to the taste somewhat viscid, bitter, and nauseous.

All the ancient writers on Mandrake represent this root to be an anodyne and soporific, but in large doses it is said to excite maniacal

[a] *Hort. Kew.*

[b] Ferunt has præstantissimas radices ex urina suspensi hominis sub partibulo morientis irrigatas tales efformari, & ideo adeo raras esse, easdem non sine vitæ periculo manu effodi, quapropter eas primum circumfodiendas esse, ita ut minimum ex radice terra sit conditum, deinde ab ea religandum canem, a quo postea fugiente radix extrahitur & sequitur, sed non adeo longe, quandoquidem statim atque effossa est, canis moritur: nullum postea accipientibus amplius metum esse, imo summe proficuas esse, maleficia & infortunia quæcunque avertendo, & felicitates quascunque desiderabiles afferendo. *Geoff. l. c.* See also Matthiol. and others.

fury.[c] They employed it principally in continued watchings, and in those more painful and obstinate affections which were found to resist less powerful medicines.[d]

It was also used in melancholia, convulsions, rheumatic pains, scrophulous tumours, &c. and to answer these purposes, either the expressed juice of the cortical part of the root, inspissated, or a vinous decoction, or infusion of the root, was directed.[e]

The leaves of Mandrake, boiled in milk, and used as a cataplasm, are, according to Boerhaave, likewise to be considered as an useful application to indurated tumours.[f]

The root also, employed externally, from the later and less equivocal experience of Hoffberg,[g] was found extremely efficacious in discussing various glandular tumefactions. And in some cases of gout this author tried its effects internally; from which we find that in a dose of three grains it mitigated the pains, which afterwards returned. A similar effect was produced in other cases by a proportionate quantity of the root in the form of a tincture.

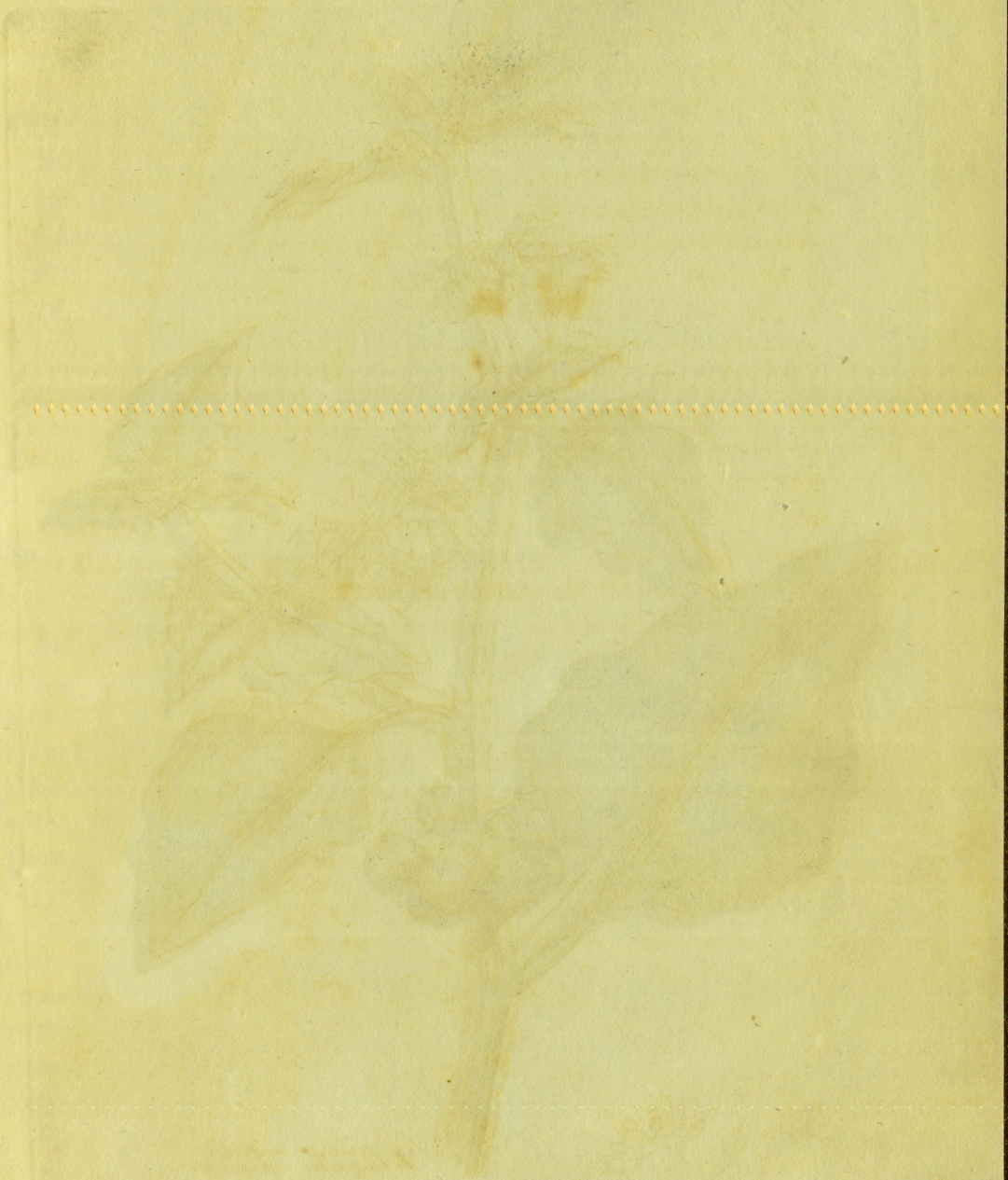
These experiments shew that the Mandrake acts as an opiate, which confirms the opinion entertained of it by the ancients; and hence it may be concluded, that, if not administered with great care, it may prove a deleterious and mortal narcotic. This caution is the more necessary, as the berries of Mandrake are said to have been eaten without producing any bad effect.[h]

[c] *Hippocr. de locis in hom. Ed. Foes. p.* 240. *Aretæus. Acut. curat. L. i. cap.* 6. *Cel. Aurel. L. i. c.* 4. [d] *Dioscord. M. M. l.* 4. *c.* 76. [e] *Dios. l. c.*

[f] *Hort. Lugd. Bat. Tom.* 2. 512.

[g] *Vet. Acad. Handl.* 1763. *vol.* 24. *p.* 229. Pallas also mentions it as of frequent use for chronic diseases in some parts of Russia. See *Reise d. Russ.* 1. *Th. p.* 49.

[h] See *Ray. l. c.*





Solanum nigrum

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SOLANUM NIGRUM. GARDEN NIGHTSHADE.

SYNONYMA. Solanum. *Pharm. Dale.* 170. *Rutty.* 489. *Bergius.* 140. *Murray. v. i.* 427. *Lewis.* 608. Solanum officinarum. *Bauh. Pin.* 166. Solanum vulgare. *Park. Theat.* 346. Solanum hortense. *Gerard. Emac.* 339. *Ray. Syn.* 254. *Hist.* 672. Solanum nigrum. *Hall. Helv. n.* 579. *Hudson. Flor. Ang.* 78. *With. Bot. Arr.* 236. *Flor. Dan.* 460. *Curt. Flor. Lond. ii.* 16.

Pentandria Monogynia. *Lin. Gen. Pl.* 251.

Ess. Gen. Ch. *Cor.* rotata. *Antheræ* subcoalitæ, apice poro gemino dehiscentes. *Bacca* 2-locularis.

Sp. Ch. S. caule inermi herbaceo, fol. ovatis dentato-angulatis, racemis distichis nutantibus.

ROOT annual, branched, whitish, hung with numerous small fibres. Stalk above a foot in height, alternately branched, formed into angles by a foliaceous membrane, swelled at the base of each branch, rough, and of a dingy purple colour. Leaves on footstalks, alternate, irregularly ovate, sinuated, or indentated, and clothed with soft hairs. Flowers in a species of umbel, upon a common lateral flower stalk. Calyx divided into five small short permanent segments. Corolla separated into five segments, which are oval, pointed, spreading, and of a whitish colour. Filaments five, short, downy, terminated by yellow oblong contiguous antheræ. Germen roundish, supporting a tapering downy style, furnished with a round stigma. Fruit a round two-celled berry, changing from a green to a black colour, and containing several kidney-shaped yellowish seeds.

It is common about rubbish, dunghills, and in neglected gardens, producing its flowers during all the summer months.

The smell of this plant is faint and disagreeable; to the taste it manifests no peculiar flavour, being simply herbaceous. It appears to possess the deleterious qualities of the other Nightshades, in a very considerable degree; even the odour of the plant is said to be so powerfully narcotic as to cause sleep.[a]

The berries are equally poisonous with the leaves. Three children, upon eating them, were suddenly seized with cardialgia and delirium, accompanied with spasms, and remarkable distortions of the limbs:[b] and to poultry they proved fatal in a short time.[c]

The plant, or rather the leaves which were boiled and eaten by a mother and four children, produced swellings of the face and limbs, followed by inflammation and gangrene; but the husband, who likewise ate of this vegetable at the same time, found no consequent disorder.[d]

Its deleterious effects appear still more certain from the experiments of Messrs. Gataker and Bromfield; the latter asserts that in doses of one grain it had a mortal effect upon one of his patients.[e]

As this species of Nightshade is thought to be the Στρυχνος κηπαιος of Dioscorides,[f] its external use was resorted to in ancient times as a discutient and anodyne in various affections of the skin, tumefactions of the glands, ulcers, and disorders of the eyes; nor does the utility of this practice want the confirmation of later experience.[g]

[a] *Boccone. Museo di fis. p.* 284. [b] Vide *Wepfer De cicut. p.* 226.

[c] *Haller. l. c.* [d] *Rucker. Commerc. Noric.* 1731. *p.* 372.

[e] It ought to be remarked, however, that Dioscorides and Theophrastus mention it as an esculent plant; and Guerin (*de vegetat. venen. Alsatiæ.* 1766. *p.* 66.) relates that he drank an infusion of fifteen grains of the Solanum nigrum without suffering any consequent complaint; and that an epileptic patient took from half a dram to two drams of the expressed juice of the plant without perceiving any narcotic symptom to follow; nor with some soldiers, to whom a still larger dose was given, together with two drams of the juice of the berries, was any other effect produced than that of an increased quantity of urine. See *Murray. l. c.*

[f] *Mat. Med. Lib.* 4. *c.* 71.

[g] With the Arabians it is a common application to burns and ulcers. See *Forskal. Descript. plant. c.* 2. *p.* 46. Ray also speaks highly of its effects in indurations of the breast. See *Hist. l.* 6.

Of its internal use we find very little evidence in the writings of the ancients; though, according to Cæsalpinus,[h] it appears not to have been wholly neglected.

In the year 1757, Mr. Gataker, surgeon to the Westminster Hospital, called the attention of the faculty to this plant, by a publication[i] recommending its internal use in old sores, scrophulous, and cancerous ulcers, cutaneous eruptions, and even in dropsies; all of which were much relieved, or completely cured, by the Solanum. It appears from his experiments, that one grain of the dried leaves of the plant, infused in an ounce of water, sometimes produced a considerable effect; that in the dose of two or three grains it seldom failed to evacuate the first passages, or to increase very sensibly either the discharge by the skin, or that by the kidneys, and it not unfrequently occasioned head-ach, giddiness, dimness, and drowsiness. Mr. Gataker's pamphlet was soon followed by another, published on the same subject by Mr. Bromfield,[k] who declares that the cases in which he tried the Solanum were much aggravated by it, and therefore he contends that its use is prejudicial and dangerous.

Which of these contradictory accounts may be most worthy of credit it is not for us to determine; but if we judge from the disuse of the Solanum, the opinion of Mr. Bromfield seems to have been tacitly confirmed. However, in the year 1764, Mr. Gataker again renewed his assertion of the efficacy of Nightshade,[l] which he does not attribute to any specific power, but to the evacuation it produces.

[h] *De plant.* 213.

[i] *Observations on the internal use of Solanum.*

[k] See his *Account of the English Nightshades.*

[l] *Essays on Medical Subjects.* See Introduction, and p. 38.

SOLANUM DULCAMARA. WOODY NIGHTSHADE.

SYNONYMA. Dulcamara. *Pharm Edinb.* Solanum scandens seu Dulcamara. *Bauh. Pin.* 176. Glycypicros, sive Amara-dulcis. *J. Bauh.* ii. 109. Amara Dulcis. *Gerard. emac.* 350. Solanum lignosum sive Dulcamara. *Park. Theat.* 350. *Raii. Synopsis,* 265. *Raii Hist.* 672. Solanum caule flexuoso frutescente, foliis supremis tripartitis & cordato lanceolatis. *Hall. Stirp. Helv.* n. 575. *Hudson Flor. Ang. p.* 78. *Withering. Bot. Arrang.* 255. *Flor. Dan. tab.* 607. *Curtis Flor. Lond.* Στρυχνος *Theophrast.*

Varietates,

α Solanum scandens seu Dulcamara. l. c.

β Solanum dulcamarum africanum foliis crassis hirsutis. *Hort. Elt.* Vide *Hort. Kew.*

Sp. Ch. S. caule inermi frutescente flexuoso, foliis superioribus hastatis, racemis cymosis.

THE stalk is slender, climbing, alternately branched, somewhat angular, brittle, hollow, and frequently rises above six feet in height: it is covered with bark of an ash-colour, and that of the young branches is of a purple hue: the leaves are long, oval, pointed, veined, and many of those near the top are halbert-shaped, but the lower leaves are entire, and of a deep green colour: the flowers hang in loose clusters or cymæ; the corolla is monopetalous, wheel-shaped, divided into five pointed segments, which are bent backwards, of a purple colour, and the base of each marked with two round green spots: the tube is short, and the faux or mouth is of a shining black colour: the calyx is small, and divides into five blunt persistent segments, of a purple colour: the five filaments are short, black, and inserted in the tube of the corolla; the antheræ are yellow, erect, and unite at their points; the style is



Solanum Dulcamara

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somewhat longer than the stamina, and terminated by a simple obtuse stigma; the germen is oval, and becomes a roundish bilocular berry, which finally acquires a red colour, and contains many flat yellowish seeds. It grows plentifully in hedges well supplied with water, and the flowers appear about the latter end of June.

The roots and stalks of this Nightshade, upon being chewed, first cause a sensation of bitterness, which is soon followed by a considerable degree of sweetness; and hence the plant obtained the name of Bittersweet. The berries have not yet been applied to medical use; they seem to act powerfully upon the primæ viæ, exciting violent vomiting and purging: thirty of them were given to a dog, which soon became mad, and died in the space of three hours, and upon opening his stomach, the berries were discovered to have undergone no change by the powers of digestion;[a] there can therefore be little doubt of the deleterious effects of these berries; and as they are very common in the hedges, and may be easily mistaken by children for red currents, which they somewhat resemble, this circumstance is the more worthy of notice. The stipites, or younger branches, are directed for use, in the Edinburgh Pharm. and they may be employed either fresh or dried, making a proportionate allowance in the dose of the latter for some diminution of its powers by drying. In autumn, when the leaves are fallen, the sensible qualities of the plant are said to be the strongest,[b] and on this account it should be gathered in autumn rather than in spring.

Dulcamara does not manifest those narcotic qualities, which are common to many of the nightshades; it is however very generally admitted to be a medicine of considerable efficacy. Murray says that it promotes all the secretions:[c] Haller observes that it partakes of the milder powers of the Nightshade, joined to a resolvent and saponaceous quality;[d] and the opinion of Bergius seems to coincide

[a] Floyer Pharmac. p. 86.

[b] Colliguntur stipites vel primo vere vel autumni fine, foliis destituti, tumque et odor saporque insignior. Murray Ap. Med. vol. i. p. 424.

[c] Per omnia colatoria corporis efficaciam exercent. l. c.

[d] Vis partim solanacea, mitis, partim resolvens, quasi saponacea. l. c.

with that of Murray: "*Virtus:* pellens urinam, sudorem, menses, lochia, sputa; mundificans."[e] The diseases in which we find it recommended by different authors are extremely various;[f] but Bergius confines its use to "rheumatismus, retentio, mensium & lochiorum." Dulcamara appears also, by the experiments of Razoux and others, to have been used with advantage in some obstinate cutaneous affections.[g] Dr. Cullen says, "We have employed only the stipites or "slender twigs of this shrub; but as we have collected them they "come out very unequal, some parcels of them being very mild "and inert, and others of them considerably acrid. In the latter "state we have employed a decoction of them in the cure of rheu-"matism, sometimes with advantage, but at other times without "any effect. Though the Dulcamara is here inserted in the cata-"logue of diuretics, it has never appeared to us as powerful in this "way; for in all the trials made here, it has hardly ever been ob-"served to be in any measure diuretic.[h]" This plant is generally given in decoction or infusion, and to prevent its exciting nausea, it is ordered to be diluted with milk, and to begin with small doses, as large doses have been found to produce very dangerous symptoms.[i] Razoux directs the following: ℞ Stipitum Dulcam. rec. drac. ss. in aquæ font. unc. 16 coquatur ad unc. 8. This was taken in the dose of three or four drams, diluted with an equal quantity of milk every four hours.[k]

[e] Mat. Med. 131.

[f] See the instances adduced by Haller and Murray. l. c. Of the chief of these we may mention Phthisis, Lues venerea, Peripneumonia notha, Scorbutus, Icterus, Asthma, &c. on the authority of Boerhaave, Sauvages, Sager, and others.

[g] Journ. de Medecine. t. 22. p. 236.

[h] Mat. Med. ii. 354.

[i] Vide Linnæus Diss. de Dulcamara, p. 9. Haen. rat. med. Tom. iv. p. 247. "Largior Dulcamaræ usus initio et antequam ventriculus illi assueverit, nauseam et vomitum excitat, quin convulsiones et deliria, et notante cl. Govan, protractus paralysin linguæ." Vide Murray l. c.

[k] Linnæus directs two drams or half an ounce of the dried stipites, to be infused half an hour in boiling water, and then to be boiled ten minutes; and of this decoction he gave two tea-cups full morning and evening. l. c.



Convolvulus Scammonia.

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PRESTON INSTITUTION 1828

ORD. XIII. CAMPANACEÆ.

(From Campana a bell)—Plants with bell-shaped flowers.

CONVOLVULUS SCAMMONIA. SCAMMONY BIND-WEED.

SYNONYMA. Convolvulus, foliis sagittatis, postice truncatis. pedunculis bifloris. *Roy Lugdb.* 427. Convolvulus Syriacus. *Morris Hist.* 2. p. 12. Scammonium Syriacum. *Gerard.* 866. *Lobel Icon,* 620. Gummi-Resina. Scammonium. *Pharm. Lond. & Edinb.* Σκαμμωνια *Diosc.* Δακρυδιον *Trallian et quorund. Græcor.*

Class Pentandria. *Ord.* Monogynia. L. *Gen. Plant.* 215.

Ess. Gen. Ch. Cor. Campanulata, plicata. *Stigmata* 2. *Caps.* 2-locularis: loculis dispermis.

Sp. Ch. C. fol. sagittatis postice truncatis, pedunc. teretibus subtrifloris.

THIS plant grows plentifully about Maraash, Antioch, Edlib, and towards Tripoly in Syria: it was first cultivated in England by Mr. Gerard, in 1597. The root is from three to four feet long, and from nine to twelve inches in circumference, covered with bark of a light grey colour; it is perennial, tapering, branched towards the bottom, and contains a milky juice: the stalks are numerous, slender, twining, and spread themselves upon the

ground, or neighbouring trees, to the extent of fifteen or twenty feet: the leaves are arrow-shaped, smooth, of a bright green colour, and stand upon long footstalks: the flowers are funnel-shaped, yellowish, plicated, and, according to Dr. Russel, placed in pairs upon the pedicles: the calyx is double, consisting of four emarginated leaflets in each row: the capsule is three and sometimes four locular,* containing seeds of a pyramidical shape. No part of the dried plant possesses any medicinal quality but the root, which Dr. Russel administered in decoction, and found it to be a pleasant and mild cathartic.

It is from the milky juice of the root that we obtain the officinal Scammony, which is procured in the following manner by the pheasants, who collect it in the beginning of June: "[a] Having "cleared away the earth from about the root, they cut off the top, "in an oblique direction, about two inches below where the stalks "spring from it. Under the most depending part of the slope they "fix a shell, or some other convenient receptacle, into which the "milky juice gradually flows. It is left there about twelve hours, "which time is sufficient for draining off the whole juice: this, "however, is in small quantity, each root affording but a very "few drams. This juice from the several roots is put together, "often into the leg of an old boot, for want of some more proper "vessel, where in a little time it grows hard, and is the genuine "Scammony." This concrete is a gummy-resin, generally of a light, shining, grey colour, and friable texture. It is brought from Aleppo and Smyrna;[b] that which comes from the latter place is less valued than the former, and is supposed to be more ponderous and

* The *Capsa 2-locularis* of Linnæus, ought to be corrected.

[a] Dr. Russel's Description of this plant in the Medical Observations and Inquiries, v. 1. p. 18.

[b] The Jews make it their business to go to the places where the Scammony is collected, and there buying it while yet soft, have an opportunity of mixing it with such things as best answers their purpose; as wheat-flower, ashes, fine sand, with all of which Dr. Russel found it adulterated. The purest Scammony is therefore the most active and most soluble.

of a deeper colour; but the colour affords no test of the goodness of this drug, which seems to depend entirely upon the purity of the concrete. The smell of Scammony is rather unpleasant, and the taste bitterish and slightly acrid. The different proportions of gum and resin of which it consists, have been variously stated, [e] but as proof spirit is the best menstruum for it, these substances are supposed to be nearly in equal parts.

Scammony appears to have been well known to the Greek and Arabian physicians,[d] and was not only employed internally as a purgative, but also as an external remedy for tumours, scabies, tinea, fixed pains, &c.—Although this Drug was seldom given alone, yet we find it was very generally used,[e] and an ingredient in many [f] compounds which were formerly held in very great repute.—Hoffman, however, entertained an opinion, that Scammony was a dangerous medicine; "Ego nunquam in praxi mea in usu "habui, nec in posterum habebo; me semper ab istiusmodi venenis "colliquativis abstinens. *Hoff. in Schrod. p.* 543." But since Boerhaave's time it has been considered as a safe though stimulating cathartic, and frequently prescribed uncombined with any other substance, yet neither producing tormina nor hypercatharsis. Like other resinous purgatives it is uncertain in its operation, which may be occasioned by the intestines being more or less defended from the action of these stimulants, by the quantity of natural mucus with which they are covered.

[e] Boulduc Mem. de l'Ac. 1702. Geoffroy Mat. Med.

[d] Hippocrates, Dioscorides, Aëtius, Mesue, &c.

[e] As Diagrydium. Scam defœcatum per succum citroniorum. Extractum spt vin. Extract. diagridii aromaticum. Extract. scam. glycyrrhizatum. Elixir Scammon. Scam. vitriolatum, Scam. sulphuratum, Scam. rosatum, Infusum scammonii, Diacydonium lucidum scammoniatum. Gelatina cydoniorum laxativa, &c.

[f] Among these were the Pulvis de Tribus, or Pulvis trium Diabolorum, Pulvis Basilicus, Pulvis Comitis de Warwick, which was afterwasds called Pulvis Cornachini, because Marcus Cornachini, professor of medicine at Pisa, recommended it as a panacea, in a book, the title of which is, "*Methodus qua omnes humani corporis* "*affectiones ab humoribus copiâ aut qualitate peccantibus genitæ, tuto, cito, et* "*iucunde curantur.*"

The dose of Scammony is generally from three to twelve grains. It is commonly triturated with sugar, almonds, &c. or with a decoction of liquorice, as recommended by the college of Wirtemberg. In the London Pharmacopœia it is ordered in the following compounds;—Pulvis e scammonio compositus. Pulvis e scammonio compositus cum aloë. Pulvis e scammonio cum calomelane. Pulvis e senna compositus. Extractum colocynthidis compositum. And in the Pilulæ ex colocynthide cum aloe of the Edinburgh Pharm.

CONVOLVULUS JALAPA. JALAP BIND-WEED.

SYNONYMA. Jalapium. *Pharm. Lond.* Jalappa. *Pharm. Edin.* Convolvulus Jalapa, fol. difformibus cordatis angulatis oblongis lanceolatis, caule volubili, pedunculis unifloris. *Lin. Syst. Veg. & Mant.* 43. Convolvulus foliis variis, pedunculis unifloris, radice tuberosâ cathartica. *Mill. Dict.* Convolvulus Americanus Jalapium dictus. *Raii. Hist.* vol. 1. 724. Mechoacanna nigricans, sive Jalapium. *Park.* 180. Bryonia Mechoacanna nigricans. *Bauh. Pin.* 298.

Sp. Ch. C. caule volubili, foliis ovatis subcordatis obtusis obsolete repandis subtus villosis, pedunculis unifloris. *Hort. Kew.* vol. 1. 211.

THE root is perennial, large, ponderous, abounding with a milky juice, of an irregular oval form, and blackish colour; the stalks are numerous, shrubby, slender, twisted, striated, rising above ten feet high, and twining for support round the neighbouring plants; the leaves are various, generally more or less heart-shaped, but often angular, or oblong and pointed; they are smooth, of a bright green colour, and stand alternately upon long footstalks; the flowers are produced from short branches, sending off two peduncles each of



Convolvulus Jalapa.

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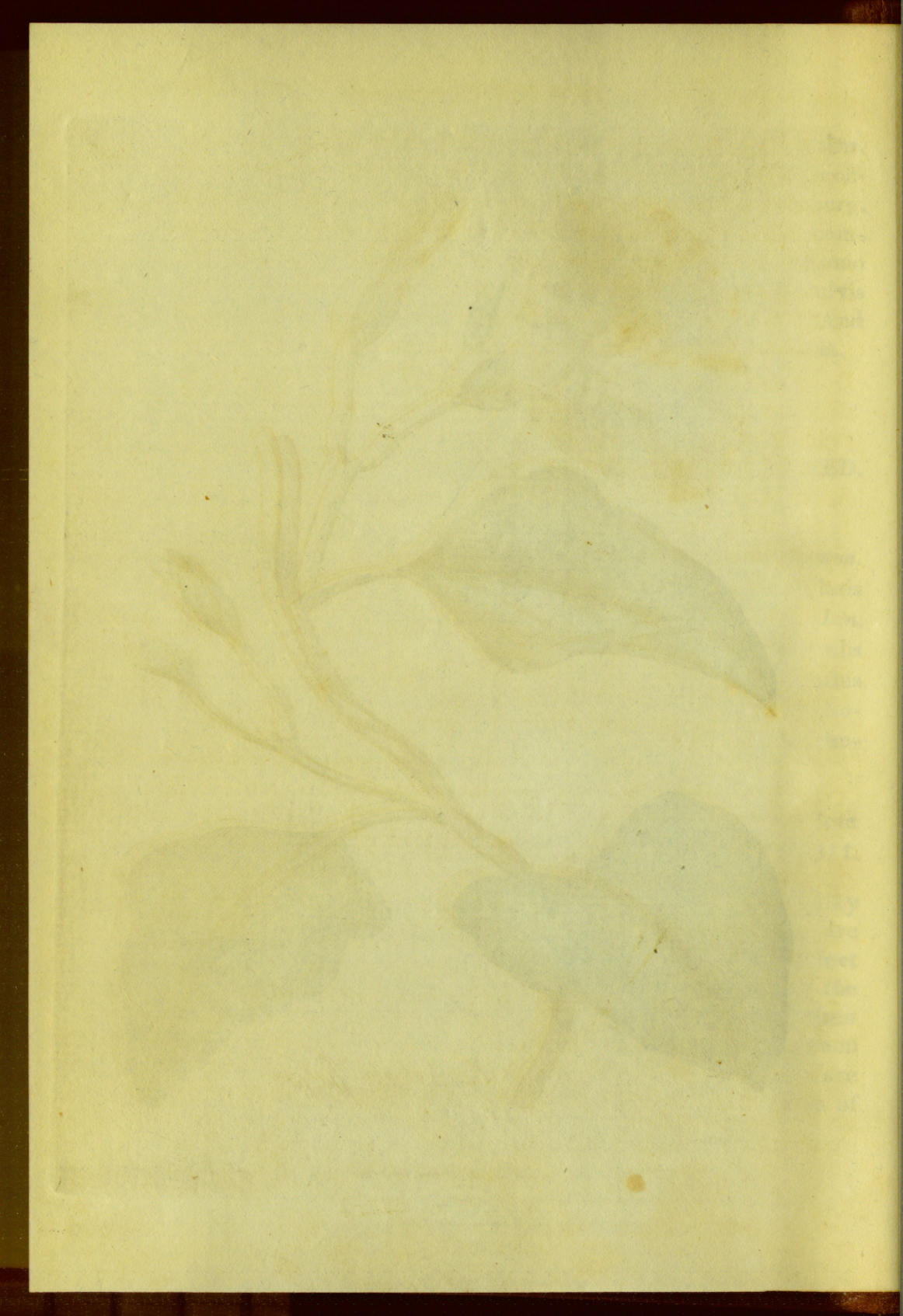

which supports a single flower; this is large, bell-shaped, entire, plicated, externally of a reddish colour, but of a dark purple within;* the calyx consists of five oval leaves, these are concave, somewhat indented at their points, and of a pale green colour; the filaments are five, slender, short, and the antheræ large, and yellow; the style is shorter than the stamina; the stigma is round, and the germen oval. It is a native of South America, and flowers in August and September.[a] The plant we have figured was introduced into the Royal garden at Kew in 1778, by Mons. Thouin, and under the direction of Mr. Aiton it acquired great vigour and luxuriance, extending its stalks fifteen feet in length; and, by means of slips obtained from it, two healthy young plants have since been produced: this circumstance is the more fortunate, as the parent plant lately died. Botanists have differed much respecting the officinal Jalap plant; Linnæus following Clusius, Plumier, Tournefort, and others, first referred it to the Mirabilis, but in the second edition of his Materia Medica he adopts the opinions of Ray and Miller, in considering it a Convolvulus; and indeed after the account of this plant given by Dr. Houston,[b] we are surprized that any doubt should still remain upon this subjuct.[c]

It is said that the root of Jalap was first brought to Europe about

* The colour will no doubt vary. This plant, at Kew, produced yellowish flowers; but the plants obtained by Houston from the Spanish West Indies answers to the description we have given.

[a] Hort. Kew. [b] See Linnæus's Observ. in Mat. Med. 1772. p. 7.

[c] The London College have not referred to the Linnæan name of this plant.—Bergius found that neither the dried root of the Mirabilis Jalapa, nor of the M. longiflora, given in the dose of half a dram, produced any cathartic effects, but he says that of the M. dichotoma satis bene purgat; and as its root also bears some resemblance to the true exotic jalap, he hence infers that it is the same. However, with great deference to the learned professor, we think these reasons insufficient to warrant his conclusion, more especially as they are repugnant to establish facts. We may also observe, that all the three species of the Mirabilis are in some degree purgative; but even when fostered in the warm climate of Jamaica, so congenial to their native soil, their roots, both in appearance and medicinal power, essentially differ from those of jalap.

the year 1610, and took its name from Xalapa, a province or town in New Spain. In the shops we find this root both cut into slices, and whole, of an oval shape, solid, ponderous, blackish on the outside, but grey within, and marked with several dark veins, by the number of which, and by its hardness, heaviness, and dark colour, the goodness of the root is to be estimated. It has scarcely any smell, and very little taste, but to the tongue and to the throat manifests a slight degree of pungency. The medicinal activity of Jalap resides principally, if not wholly, in the resin, which though given in small doses, occasions violent tormina. The gummy part bears an inconsiderable proportion to the resinous, and is found to have little or no cathartic power, but as a diuretic it is extremely active.—That Jalap is an efficacious and safe purgative daily experience must evince, but according as the root contains more or less resin, its effects must of course vary. Hoffman thought it particularly improper and unsafe to administer this medicine to children; but Dr. Cullen observes, that if Jalap "be well triturated before exhibition with a hard powder, and the crystals of tartar are the fittest for the purpose, it will operate in lesser doses than when taken by itself, and at the same time very moderately and without griping. Except when given in very large doses, I have not found it to be heating to the system; and if it be triturated with a hard sugar, it becomes, in moderate doses, a safe medicine for children, which in this form they will readily receive, as the jalap itself has very little taste."†——Jalap, in large doses, or when joined with calomel, is recommended as an anthelmintic and a hydragogue, and from its general efficacy in dropsies was called Panacea Hydropicorum.[d] For the different constitutions and conditions of body in which it is more especially indicated, or its use forbidden, we may cite the opinion of Geoffroy: "Observandum tamen Jalapam non convenire in febribus acutis, neque calidis & siccis constitutionibus. In his enim, sicut cætera purgantia acria & irritantia, calorem intensum & sæpe inflammatorium in visceribus accendit, parcioremque imo sæpe

† Cullen's Mat. Med. vol. 2. p. 540. [d] Marcgrave M. M.



Lobelia siphilitica

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nullam evacuationem promovet. Sed iis convenit, qui frigidæ sunt temperiei & sero scatentes, speciatim in hydrope, anasarca, & cachexia." M. M. In the Pharmacopœias, we have Jalap in the form of tincture and of extract; and the Edinburgh College direct it also in powder, with twice its weight of the crystals of tartar. The dose of the simple powder is commonly from one scruple to two; of the compound powder it may be double this quantity, which is nearly equal to 10 or 15 grains of the extract, or about two drams of the tincture.

LOBELIA SIPHILITICA. BLUE LOBELIA; Or, CARDINAL-FLOWER.

SYNONYMA. Lobelia. *Pharm. Edinb.* Rapunculus Americanus, flore dilute cæruleo. *D. Dodart Memoires, &c. p.* 297. Rapunculus galeatus virginianus, flore violaceo majore. *Morrison Hist. t. ii. p.* 466. Lobelia siphilitica caule erecto lævi, foliis lato lanceolatis serratis *incisis* utrinque acuminatis, floribus cæruleis. *Walter Flora Carolin. p.* 218. Conf. Kalmii descriptio largior in *K. Vet. Acad. Handl. p.* 284. *and Bartram's Appendix, containing descriptions, virtues, and uses of sundry plants, &c.*

Class Syngenesia. *Ord.* Monogamia. *Lin. Gen. Plant.* 1006.

Ess. Gen. Ch. Cal. 5-fidus. *Corolla* 1-petala, irregularis. *Capsula* infera, 2—s. 3-locularis.

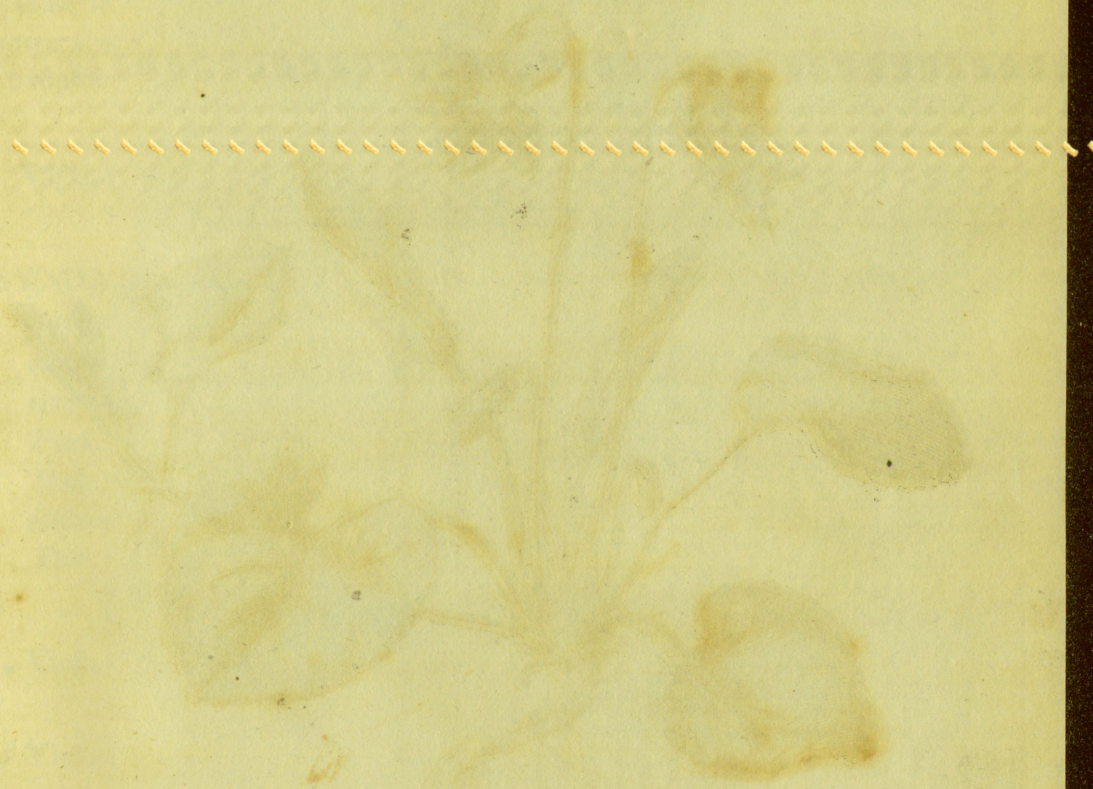
Sp. Ch. Caule erecto, foliis ovato-lanceolatis subserratis, calycum sinubus reflexis.

THE root is perennial, and furnished with many white fibres: the stem is upright, strong, simple, smooth, and rises upwards of two feet in height: the leaves, placed towards the top of the stem, are oval and pointed; those at the bottom are elliptical, and obtusely lance-shaped; they are both minutely serrated, veined, smooth, and without footstalks: the flowers are numerous, large, blue, and grow in a long spike, upon short peduncles: the corolla consists of a long tube, which is nearly cylindrical, and divided at the limb into five pointed oval segments, of a rich blue colour: the calyx is composed of five halberd-shaped leaves, which are fringed at the margin, and reflected at each side: the filaments are five, tapering, equal in length to the tube of the corolla, and closely connected at the top by the antheræ: the germen is short and conical: the style is of the length of the stamina, and terminated by a blunt hairy stigma: the capsule is oval, and divided into two cells, which contain many small seeds. It is a native of Virginia, and flowers from August till October.

Ray is the first English botanist to whom Mr. Aiton ascribes the cultivation of this species of the Lobelia, and, as a handsome plant, it is now in the possession of many of our gardeners. Every part of the plant abounds with a milky juice, and has a rank smell. The root, which is the part directed for medicinal use, in taste resembles tobacco, and is apt to excite vomiting. It derived the name siphilitica from its efficacy in the cure of syphilis, as experienced by the North American Indians, who considered it a specific in that disease, and with whom it was long an important secret. This secret was purchased by Sir William Johnson, and since published by different authors.[a]

The method of employing this medicine is stated as follows: A decoction is made of a handful of the roots in three measures of water. Of this, half a measure is taken in the morning fasting, and repeated in the evening; and the dose is gradually increased till its purgative effects become too violent, when the decoction is to

[a] Klam. l. c. Bartram. l. c.





Viola odorata

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be intermitted for a day or two, and then renewed till a perfect cure is effected. During the use of this medicine, a proper regimen is to be enjoined, and the ulcers are also to be frequently washed with the decoction, or if deep and foul, to be sprinkled with the powder of the inner bark of the New Jersey Tea-tree (Ceanothus Americanus.) Although the plant thus used is said to cure the disease in a very short time, yet we do not find that the antisyphilitic powers of the Lobelia have been confirmed by any instances of European practice.

VIOLA ODORATA. SWEET VIOLET.

SYNONYMA. Viola. *Pharm. Lond. & Edinb.* Viola martia purpurea, flore simplice odoro. *Bauh. Pin. p.* 199. *J. Bauh. Hist. ii. p.* 542. *Raii Hist. p.* 1049. *Synop.* 364. Viola nigra sive purpurea. *Gerard. Emac. p.* 550. Viola simplex martia. *Park. Parad. p.* 282. Viola acaulis stolonifera, foliis cordatis. *Hall. Stirp. Helv. n.* 558. Viola odorata acaulis, foliis cordatis, stolonibus reptantibus, bractæis supra medium pedunculi. *Curtis. Flor. Lond.*

Varietates sunt,

α Viola martia purpurea, flore simplice odoro. *C. Bauh. l. c. p.* 199.
Purple Flowered Sweet Violet.

β Viola martia alba. *C. Bauh. l. c. p.* 199.
White Flowered Sweet Violet.

γ Viola martia multiplici flore. *C. Bauh. l. c. p.* 199.
Double Flowered Sweet Violet.[a]

Class Syngenesia. *Ord.* Monogamia. *Lin. Gen. Plant.* 1007.

[a] Vide Aiton's Hort. Kew.

Ess. Gen. Ch. *Cal.* 5-phyllus. *Cor.* 5-petala, irregularis, postice cornuta. *Caps.* supera, 3-valvis, 1-locularis.

Sp. Ch. V. acaulis, fol. cordatis: stolonibus reptantibus.

THE root is perennial, knobbed, whitish, and furnished with long fibres: the leaves are heart-shaped, veined, crenated, or slightly scolloped at the edges, on the upper side smooth, and of a shining green colour, underneath paler, somewhat hairy, and stand upon long smooth footstalks: the stipulæ are membranous, lance-shaped, minutely serrated, and chiefly produced from the root: the peduncles are usually about four inches long, and somewhat above the middle furnished with two pointed bracteæ, below which the peduncle is quadrangular, but above it is grooved on the back, bent downwards at the top, and supports a single flower: the calyx is composed of five leafits, persistent, oval, obtuse, protuberant at the base, and tinged with a dark purplish colour: the corolla consists of five irregular petals, of a bluish purple colour; the two lateral petals are bearded towards the base, and the claw of the undermost formed into a horn-shaped nectarium: the five filaments are very short: the antheræ are bilocular, slightly joined together, yellowish, and terminated by an oval membrane of an orange colour: from behind two of the antheræ there arises a flat greenish appendage, which is inserted in the nectarium: the germen is orbicular: the style twisted, and supplied with a hooked stigma: the capsule is roundish, compressed, separated by three valves, and contains several roundish light-coloured seeds. It is common near warm hedges, and on ditch banks, and flowers in March and April.

This species of violet may be distinguished from the Viola hirta, to which it bears a great resemblance, by the latter having its leaves and footstalks beset with small hairs; by not sending off creeping shoots which strike root; by its flowers being inodorous, and of a fainter blue colour; and by the bracteæ being placed somewhat below the middle of the scapus or peduncle.[b]

[b] This last circumstance was first noticed by Mr. Curtis, who introduced it into the specific character.

The Viola odorata is evidently the Ιον μελαν of Theophrastus, and the Ιον πορφυρεν of Dioscorides; it was also well known to the Arabian physicians, as Mesue commends its use highly in various inflammatory diseases. Viola is likewise frequently mentioned by the Latin poets, who allude to its effects as a vulnerary.[d] The recent flowers only are now received in the catalogues of the Materia Medica; they have an agreeable sweet smell, and a mucilaginous bitterish taste; to water they readily give out both their virtue and their fine flavour, but scarcely impart any tincture to rectified spirit, though they impregnate the spirit with their flavour. These flowers taken in the quantity of a dram or two are said to be gently purgative or laxative, and according to Bergius, and some others, they possess an anodyne and pectoral quality. The officinal preparation of these flowers is a syrup,[f] which to young children answers the purpose of a purgative. This syrup is also found useful in many chemical inquiries to detect an acid or an alkali, the former changing the blue colour to a red, the latter to a green. The seeds of Violets are reported to be strongly diuretic, and useful in gravelly complaints.[g] The root powdered, in the dose of a dram, proves both emetic and cathartic.[h]

[d] Vide *Lewis's Mat. Med. p.* 664. [e] Vide Ovid *Metamorph. lib. x. v.* 190.

[f] This syrup is usually prepared from the petals of the cultivated Violet; and Dr. Withering tells us, that at Stratford upon Avon large quantities of the Violet are cultivated for this purpose. l. c.

[g] See the authorities cited by Murray, *App. Med. v. i. p.* 519.

[h] Tournefort *Hist. des Plant. de Paris, t. i. p.* 291. Henninger *Diss. de Viola purpur.*

VIOLA TRICOLOR. PANSIE, Or THREE-COLOURED VIOLET.

SYNONYMA. Viola tricolor. *Pharm. Dale.* 239. *Bergius.* 708. *Murray. vi.* 33. Viola tricolor arvensis. *Bauh. Pin.* 200. V. tricolor sylvestris. *Park.* 755. *Ger. Emac.* 854. Jacea tricolor sive Trinitatis flos. *J. Bauh. iii.* 546. *Ray. Synop.* 336. *Hall. Hist. Stirp. Helv.* 569. *Huds. Flor. Ang.* 331. *Withering. Bot. Arr.* 957. *Curt. Flor. Lond. Flor. Dan.* 623. β Viola tricolor hortensis repens. *C. B.*

Syngenesia Monogamia. *Lin. Gen. Plant.* 1007.

Gen. Ch. *Cal.* 5-phyllus. *Cor.* 5-petala, irregularis, postice cornuta. *Caps.* supera, 3-valvis, 1-locularis.

Sp. Ch. V. caule triquetro diffuso, fol. oblongis incisis, stipulis pinnatifidis.

ROOT annual, simple, tapering, fibrous. Stalks from four to six inches high, branched, thick, angular, succulent. Leaves various shaped, ovate, or elliptical, crenated, narrowest at the upper part of the plant, often three together, on long footstalks. Stipulæ compound, cut into linear segments. Flowers solitary, tricoloured, placed on long angular footstalks furnished with a pair of membranous stipulæ near the flower. Calyx of five pointed leaves, of which the three uppermost are somewhat smaller than the others. Corolla pentapetalous, irregular. The two uppermost petals roundish, erect, dark purple; the two lateral petals elliptical, obtuse, yellowish, rough at the base, and marked with purple lines; lower petal broad, notched in the middle, yellow, tinged with dark radiated lines, forming behind a spur-like process or nectarium. Filaments five, very short. Antheræ scaly, lax, united, two-celled, terminated by an orange-coloured membrane. Germen conical. Style



Viola tricolor

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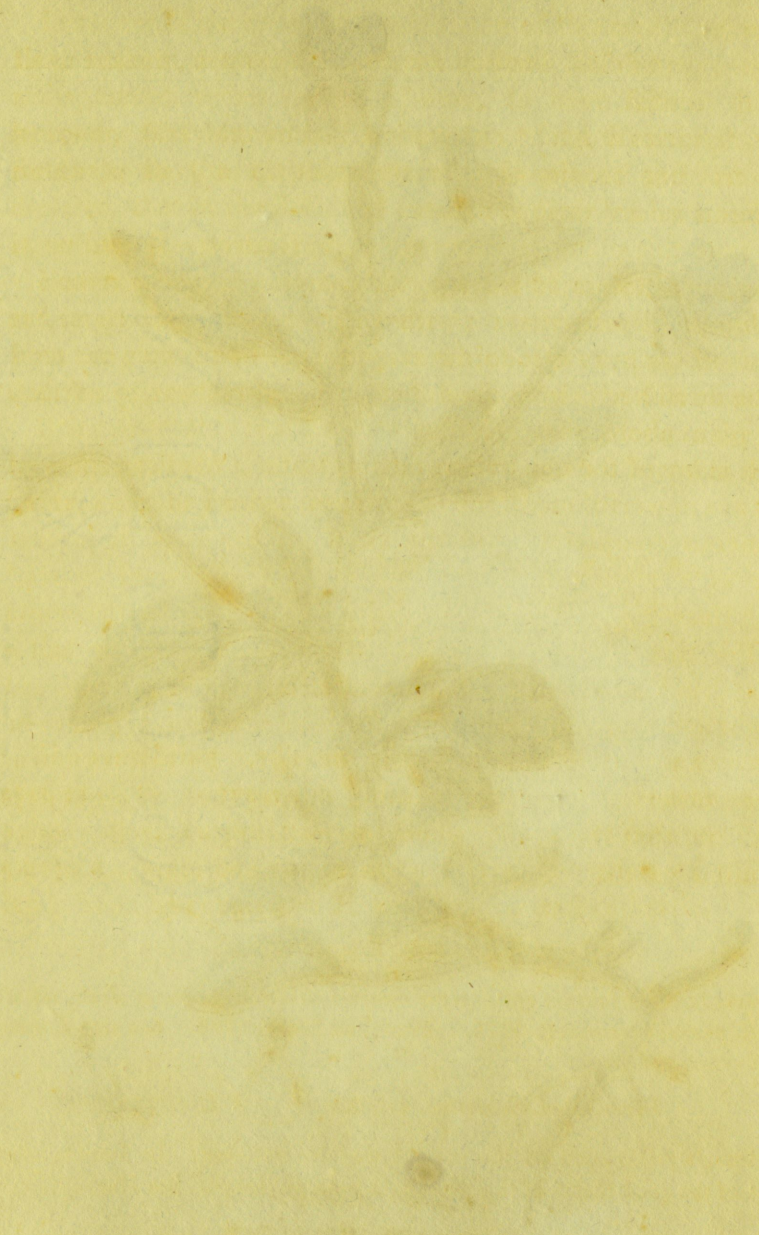

twisted at the base. Stigma round, obliquely perforated, permanent. Capsule one-celled, three-valved, containing numerous oval shining seeds.

It grows in corn fields, waste and cultivated grounds, flowering all the summer months.

This plant varies much by cultivation, and by the vivid colouring of its flowers often becomes extremely beautiful in gardens, where it is distinguished by various names.

To the taste this plant, in its recent state, is extremely glutinous, or mucilaginous, accompanied with the common herbaceous flavour and roughness. By distillation with water, according to Haase,[a] it affords a small quantity of odorous essential oil, of a somewhat acrid taste. The dried herb yields about half its weight of watery extract, the fresh plant about one-eighth.

Though many of the old writers on the Materia Medica represent this plant as a powerful medicine in epilepsy, asthma, ulcers, scabies, and cutaneous complaints, yet the viola tricolor owes its present character as a medicine to the modern authorities of Starck,[b] Metzger,[c] Haase,[d] and others,[e] especially as a remedy for the crusta lactea. For this purpose, a handful of the fresh herb, or half a dram of it dried, and boiled two hours in milk, is to be strained and taken night and morning. Bread, with this decoction, is also to be formed into a poultice, and applied to the part. By this treatment it has been observed, that the eruption during the first eight days increases, and that the urine, when the medicine succeeds, has an odour similar to that of cats; but on continuing the use of the

[a] *De viola tricolore.* Erlang. 1782.

[b] *De crusta lactea infantum ejusdemque remedio dissertatio, quam Acad. scient. Lugd. Gall. præmio coronavit.* 1776. Franç. ad Moen. 1779. See also *London Medical Journal. vol. ii.*

[c] *Verm. Med. Schriften. vol.* 2. [d] *L. c.*

[e] Armstrong's publication on this subject we have not seen. In Sweden many testimonies of the good effects of this plant have been published. See *Murray. l. c.*

plant a sufficient time, this smell goes off, the scabs disappear, and the skin recovers its natural purity.

Instances of the successful exhibition of this medicine, as cited by these authors, are very numerous; indeed this remedy, under their management, seems rarely, if ever, to have failed. It appears, however, that Mursinna,[f] Ackermann,[g] and Henning,[h] were less fortunate in the employment of this plant; the last of whom declares, that in the different cutaneous disorders in which he used it, no benefit was derived.

Haase, who administered this species of violet in various forms, and large doses, extended its use to many chronic disorders; and from the great number of cases in which it proved successful, we are desirous of recommending it to a further trial in this country.

It is remarkable that Bergius speaks of this plant as a useful mucilaginous purgative, and takes no notice of its efficacy in the crusta lactea, or in any other disease.

[f] *Med. chirurg. Beobacht.* 2. *Samml. p.* 107. &c.

[g] See *Comment. de rebus, &c. vol.* 27. *p.* 170.

[h] See *Beob. über einige Arzneymittel. p.* 65.

The remaining medicinal plants, belonging to this order, are the species of the convolvulus, officinally called Mechoacanna, convolvulus major, Turpethum and Soldanella; Dentaria or Plumbago europæa: Viola canina, or dog's violet, the roots of which have lately been discovered to be both emetic and cathartic.



Cinchona officinalis

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PRESTON INSTITUTION 1828

ORD. XIV. CONTORTÆ.

(From con, and torqueo, to twist together.)

Plants which have a single petal, that is, twisted or bent to one side.

CINCHONA OFFICINALIS. OFFICINAL CINCHONA; Or PERUVIAN BARK TREE.

Cinchona, Peruvianus cortex. *Pharm. Lond. & Edinb.*

SYNONYMA. Quinquina. *De La Condamine,* in *Mem. de L'Acad. des Scien. de Paris.* 1738. *p.* 226. *cum icone tab.* 5. 6. recusa in *Rosén. Diss. de Cort. peruv. Lursen. Diss. de Cort. peruv. et Pultney. Diss. de Cinchona off.*

Class Pentandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 228.

Ess. Gen. Ch. *Cor.* infundibulif. apice lanata. *Caps.* infera, 2-locularis, dissepimento parallelo.—*Sem.* imbricata. *Jacq.*

Sp. Ch. C. foliis ellipticis subtus pubescentibus corollæ, limbo lanato.

THIS tree is very lofty, sending off large branches, covered with rough brown bark: the leaves vary from an ovate to an elliptical shape, the larger approaching more to the former, and the smaller to the latter figure; they are all entire, nerved, smooth on the upper side, on the under tomentose, and stand in pairs upon footstalks: the flowers are produced in panicles, and stand upon slender pedi-

cles: the calyx is small, bell-shaped, and cut at the margin into five minute segments: the corolla is funnel-shaped, consisting of a long cylindrical tube, divided at the limb into five segments, which are ovate, or oblong, spreading, on the upper side red, on the under woolly, and fringed at the edges: the five filaments are bristly, placed in the middle of the tube, and furnished with oblong antheræ, twisted in a spiral manner: the germen is ovate: the style is filiform, somewhat longer than the stamina, and furnished with a round stigma: the capsule divides into two parts, the cells of which are separated by a parallel partition: the seeds are small and numerous.

This figure we have not scrupled to copy from that given by Mons. de la Condamine,[a] whose description of this tree, though published more than fifty years ago, being the result of a careful examination of the living tree in its native soil, is still the only one on which we can with confidence rely.

It is a native of Peru, growing most abundantly on a long chain of mountains extending to the north and south of Loxa, where its trunk frequently exceeds in bulk the body of a man. According to Mr. Arrot, the soil in which these trees thrive best, is generally a red clayey or rocky ground, and especially on the banks of small rivers descending from the high mountains.[b] This author also informs us, that the properest season for cutting off the bark is from September to November, and the manner of conducting this we have related in Mr. Arrot's own words.* On the trees being en-

[a] *L. c.* [b] *Phil. Trans. vol.* 40. *p.* 83.

* "The properest season for cutting the bark is from September to November, "the only time in the whole year of some intermission from the rain in the moun- "tains. Having discovered a spot where the trees most abound, they first build "huts for the workmen, and then a large hut wherein to put the bark in order to "preserve it from the wet; but they let it lie there as short a time as possible, "having beforehand cut a road from the place where the trees grow, through the "woods, sometimes three or four leagues, to the nearest plantation or farm-house "in the low country, whither, if the rain permits them, they carry the bark forth- with to ry. These preparations being made, they provide each Indian (they

tirely stripped of their bark they soon perish; and as the number of these trees to which access could be had, was said to be not very considerable, it has been supposed that a sufficient quantity of bark to supply the demand, could not long be procured. Condamine, however, asserts that the young trees do not die by losing their bark, but send out fresh shoots from the base, and as those which are suffered to become old have time to disseminate and propagate, we trust the fear of exhausting this valuable medicine is wholly groundless.

We seem to have no satisfactory account at what time, or by what means, the medicinal efficacy of the Peruvian Bark which is now so well established, was first discovered. Some contend that its use in intermittent fevers was known to the Americans long before the Spaniards possessed Peru, but that they concealed this knowledge from the Europeans; and, on the contrary, it is asserted by others, that the Peruvians never supposed it to be fit for any medicinal use, but thought that the large quantities exported thence was for the purpose of dyeing, and they actually made some trials of its effects in this way.[c] Condamine says, that according to an ancient tradition, the Americans owe the discovery of this remedy to the

" being the cutters) with a large knife, and a bag that will hold about fifty pounds " of green bark: every two Indians take one tree, whence they cut or slice down " the bark, as far as they can reach from the ground; they then take sticks about " half a yard long each, which they tie to the tree with tough withs at proper " distances, like the steps of a ladder, always slicing off the bark as far as they " can reach before they fix a new step, and thus mount to the top, the Indian " below gathering what the other cuts: this they do by turns, and go from tree to " tree until the bag is full, which, when they have plenty of trees, is generally a " day's work for one Indian. As much care as possible must be taken that the " bark is not cut wet; should it so happen, it is to be carried directly down to " the low country to dry; for otherwise it loses its colour, turns black, and rots; " and if it lie any time in the hut without being spread, it runs the same risk: so " that while the Indians are cutting, the mules if the weather permits ought to be " carrying it down to the place appointed for drying it, which is done by spread- " ing it in the open air, and frequently turning it." l. c.

[c] Ulloa *Voyage de l'Amerique meridionale. T. i.* 271.

lions, which some naturalists pretend are subject to a kind of intermitting fever, of which they were observed to be cured by instinctively eating the bark of the Cinchona. But Geoffroy states, that the use of the bark was first learned from the following circumstance:—Some cinchona trees being thrown by the winds into a pool of water, lay there till the water became so bitter that every body refused to drink it. However, one of the neighbouring inhabitants being seized with a violent paroxysm of fever, and finding no other water to quench his thirst, was forced to drink this, by which he was perfectly cured. He afterwards related the circumstance to others, and prevailed upon some of his friends who were ill of fevers to make use of the same remedy, with whom it proved equally successful.[d] The use of this excellent medicine, however, was very little known till about the year 1638, when a signal cure having been performed by it on the Spanish viceroy's lady, the Countess del Cinchon, at Lima, it came into general use, and hence was distinguished by the appellation pulvis comitissæ, or the Countess's powder; also called, cortex china china, or chinchina; kina kina, or kinkina; and quina quina, or quinquina. On the recovery of the Countess she distributed a large quantity of the bark to the Jesuits, in whose hands it acquired still greater reputation, and by them it was first introduced into Europe,[e] and thence called cortex, or pulvis jesuiticus, pulvis patrum; and also Cardinal de Lugo's powder, because that charitable prelate bought a large quantity of it at a great expense for the use of the religious poor of Rome.

"This bark is brought to us in pieces of different sizes, some rolled up into short thick quills, and others flat: the outside is brownish, and generally covered in part with a whitish moss: the inside is of a yellowish reddish or rusty iron colour. The best sort breaks close and smooth, and proves friable between the teeth: the

[d] *Mat. Med. Traité, p.* 78.

[e] Louis the fourteenth, when Dauphin, was said to be one of the first in Europe who experienced its efficacy.

inferior kinds appear when broken of a woody texture, and in chewing separate into fibres. The former pulverizes more easily than the latter, and looks, when powdered, of a light brownish colour, resembling that of cinnamon, or somewhat paler. It has a slight smell, approaching as it were to mustiness, yet so much of the aromatic kind as not to be disagreeable. Its taste is considerably bitter, astringent, very durable in the mouth, and accompanied with some degree of aromatic warmth, but not sufficient to prevent its being ungrateful." *

Besides this bark, that of several other species of Cinchona have been recommended for medical use by different authors, especially the cortex peruvianus ruber, or red bark; also that of the cinchona caribæa, or the Jamaica bark; that of cinchona floribunda produced at St. Lucie; and that of two or three other species discovered at Santa Fé. The first of these " is in much larger and thicker pieces than the common, most of the pieces are concave, though not rolled together like the quilled bark. They break short, like the best common bark, and appear evidently composed of three layers. The outer is thin, rugged, frequently covered with a mossy substance, and of a reddish brown colour. The middle is thicker, more compact, and of a darker colour: it is very brittle and resinous. The innermost layer is more woody and fibrous, and of a brighter red. In powdering this bark, the middle layer which seems to contain the greatest proportion of resinous matter, does not break so readily as the rest; a circumstance to be attended to, lest the most active part should be left out of the fine powder. This red bark to the taste discovers all the peculiar flavour of the Peruvian Bark, but much stronger than the common officinal sort. An infusion in cold water is intensely bitter, more so than the strongest decoction of common bark. Its astringency is in an equal degree greater than that of the infusion of common bark, as is shewn by the addition of martial vitriol. The spirituous tincture of the red bark is also proportionally stronger than that of the pale. The quantity of matter

* *Lewis, M. M. p.* 485.

extracted by rectified spirit from the powder of the former, was to that from the latter as 3 to 2 in one experiment, and as 229 to 130 in another; and yet on infusing the two residuums of the first experiment in boiling water, that of the red bark gave a liquor considerably bitter, and which struck a black with martial vitriol; while that yielded by the other, was nearly tasteless and void of astringency."*

Respecting the medicinal properties we have several respectable authorities, shewing, that as the red bark possesses the same virtues with the common, in a much higher degree,‡ so it has been found of more efficacy in the cure of intermittents: and hence it is thought to be that which, according to Arrot, the Spaniards called Cascarilla colorada, and was probably the kind originally brought to Europe, and which proved so successful in the hands of Sydenham, Morton, and Lister; for it appears from the testimony of the oldest practitioners, that the bark first employed here was of a much deeper colour than the common bark.[f] The red bark was first imagined by Dr. Saunders[g] to be that of the trunk of full grown trees, the branches or young trees of which yield the pale or common bark; but this opinion the Doctor seems afterwards to have abandoned, for in the third edition of his pamphlet on this subject he says, "that he has lately seen some exceedingly good red bark imported by a Spanish merchant, a considerable part of which was as small as the quilled bark in common use, &c. It was extremely resinous, and gave evident proofs of its being the quill of the larger red bark which was in the same chest." If the pale and red bark were really the produce of the same species of Cinchona, the latter differing from the former only by acquiring greater maturity, we should find the deepness of the colour of the pale bark to correspond proportionably with its thickness or the size of the quill, which is certainly not the case. The Cinchona Caribæa is described and

* Lewis, l. c. ‡ *Irving's and Skeete's Experiments.*

[f] Baker. *Med. Trans. Vol. iii. p.* 161. [g] *Observations on the superior efficacy of the red Peruvian Bark in the cure of fevers.*

figured by Jacquin[h] and Dr. Wright;[i] it grows in Jamaica, where it is called the Sea Side Beech. According to Dr. Wright, the bark of this tree is not less efficacious than that of the Cinchona of Peru, for which it will prove an useful substitute; but by the experiments of Dr. Skeete it appears to have less astringent power.[k] The Cinchona floribunda, or bark tree of St. Lucie, a figure of which we find in Phil. Trans. also in Rozier's Observations sur la Physique, affords a bark which is likewise said to have been used with advantage; but notwithstanding all that has been written to establish its medicinal character,[l] it seems to us greatly inferior to that of the other species of this genus. In its recent state it is considerably emetic and cathartic; properties, which in some degree it retains on being dried; so that the stomach does not bear this bark in large doses, and in small ones its effects are not such as to give it any peculiar recommendation. Several species of Cinchona have lately been discovered at Santa Fé, yielding barks both of the pale and red kind; and which, from their sensible qualities, are likely upon trial to become equally useful with those produced in the kingdom of Peru.[m]

At present, the use of the bark is chiefly confined to the pale and red kind; and the nearer the former resembles the latter, the more it is esteemed.

"The Peruvian Bark yields its virtues both to cold and boiling water; but the decoction is thicker, gives out its taste more readily, and forms an ink with a chalybeate more suddenly than the fresh cold infusion. This infusion, however, contains at least as much extractive matter, but more in a state of solution; and its colour on standing with the chalybeate becomes darker, while that of the decoction becomes more faint. When they are of a certain age, the

[h] *Amer. pict. tab.* 23. [i] *Phil. Trans. Vol.* 67. [k] *Exper. p.* 339.

[l] See *Kentish. Exp. and Observ. on the Peruvian Bark.* Davidson in *Phil. Trans. Vol.* 74. *and Trans. of the American Phil. Soc. Vol.* 2. Mallet in *Mem. sur le Quinquina de la Martinique, &c.*

[m] See *Memoria o Dissertazione sopra la nuova China del regno de St. Fé, &c.*

addition of a chalybeate renders them green; and when this is the case, they are found to be in a state of fermentation, and effete. Mild or caustic alkalies, or lime, precipitate the extractive matter, which in the case of the caustic alkali is re-dissolved by a farther addition of the alkali. Lime-water precipitates less from a fresh infusion than from a fresh decoction; and in the precipitate of this last, some mild earth is perceptible. The infusion is by age reduced to the same state with the fresh decoction, and then they deposit nearly an equal quantity of mild earth and extractive matter; so that lime-water as well as chalybeate, may be used as a test of the relative strength and perishable nature of the different preparations, and of different barks. Accordingly, cold infusions are found by experiments to be less perishable than decoctions; infusions and decoctions of the red bark, than those of the pale: those of the red bark, however, are found by length of time to separate more mild earth with the lime-water, and more extracted matter. Lime-water as precipitating the extracted matter appears an equally improper and disagreeable menstruum. Water has been found to suspend the resin by means of much less gum than has been supposed. Rectified spirit of wine extracts a bitterness, but no astringency, from a residuum of twenty affusions of cold water; and water extracts astringency, but no bitterness, from the residuum of as many affusions of rectified spirit. The residua of both are insipid."*

From many ingenious experiments made on the Peruvian Bark by Dr. Irving, published in a Dissertation which gained the prize-medal given by the Harveian Society of Edinburgh in 1783, the power of different menstrua upon Peruvian Bark, is ascertained with greater accuracy than had before been done: and it appears, that with respect to comparative power, the following fluids act in the order in which they are placed: Dulcified spirit of vitriol: Caustic ley: French brandy: Rhenish wine: Soft water: Vinegar and water: Dulcified spirit of nitre: Mild volatile alkali: Rectified

* *Ed. New Dispens. p.* 251.

spirit of wine: Mild vegetable alkali: Lime-water. The antiseptic powers of vinegar and bark united are double their sum taken separately. The astringent power of the bark is increased by acid of vitriol; the bitter taste is destroyed by it.

Though the bark on its first introduction, and even some time afterwards, was reprobated by some eminent physicians as a dangerous remedy; yet these prejudices are entirely done away, and its character is now universally established: so that the disputes which at present subsist are confined to its mode of operation, or the manner in which it is most efficaciously administered. To detail these, however, or even to give a circumstantial relation of the various states of disease in which the bark might be advantageously employed, would far exceed our limits: we are therefore confined to state briefly those diseases to which this medicine is more especially adapted.

The bark first acquired its reputation for the cure of intermittent fevers, and in these, when properly exhibited, it rarely fails of success. For this purpose, some practitioners prefer giving it just before the fit, some during the fit, and others immediately after. Dr. Cullen, who is of the first opinion, says, "I am satisfied that giving a large dose of the bark immediately before the time of accession, is the most proper practice: but as that dose must not be under two drams of pale bark, so there are some stomachs which will not bear even that quantity, or a larger that might be necessary. It is commonly, therefore, convenient to give small doses, but to give them every hour for some hours near to the times of accession."[n] Some again order it in the quantity of an ounce between the fits; the dose being more frequent and larger, according to the frequency of the fits; and this mode of procedure, although it may perhaps lead to the employment of more bark than is necessary, is considered by Dr. Duncan[o] as upon the whole preferable, from being best suited to most stomachs. When the bark pukes, or purges, or oppresses the stomach, it is to be coun-

[n] *Mat. Med. p.* 97. [o] See *New Edinburgh Dispensatory.*

teracted by remedies particularly appropriated to them. Thus, vomiting, is often restrained by exhibiting it in wine; looseness, by combining it with opium; and oppression at the stomach, by the addition of an aromatic. But unless for obviating particular occurrences, it is more successful when exhibited in its simple state than with any addition.

It may be given from the very commencement of the disease without any previous evacuations, though it commonly answers better after emptying the alimentary canal, particularly the stomach; and it is to be continued not only till the paroxysms cease, but till the natural appetite, strength, and complection return.

In remittent fevers, especially during the times of remission, the bark may also be employed with great success; for as both these and intermittents arise from the same cause, prevail at the same seasons, and assume mutually the form of each other, they show a strict affinity, and found a presumption which is confirmed by experience, that they may be cured by the same remedy. In continued fevers, or typhus of the nervous and putrid kind, the bark is very generally used, as well suited to counteract the debility or putrescency which marks the progress of the disorder. There is, however, one state not unfrequently present in these epidemic fevers, in which the bark is found to be hurtful; i. e. symptoms of conjestion, or topical inflammation of the head, manifested by headach, redness of the eyes, and phrenitic delirium. And whenever delirium is accompanied with much subsultus tendinum, or frequent convulsive twitchings of the limbs, Dr. Cullen thinks opium in large doses is the only remedy to which we can trust.

Of late the bark has been much employed in acute rheumatism, particularly after the violence of the disease has been in some measure moderated by the antiphlogistic treatment, or when evident remissions take place. Many, however, have recourse to this medicine in the first stage of the disease, and we have witnessed its success in some of the London Hospitals, even while the inflammatory symptoms prevailed to a very considerable degree. This seems



Cinchona Cortex peruvianus ruber

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contrary to the experience of Dr. Cullen, who says, "As I consider this disease as especially consisting in a phlogistic diathesis, I hold the bark to be absolutely improper, and have found it manifestly hurtful, especially in its beginning, and in its truly inflammatory state."

In the confluent small-pox the bark has been recommended to promote the rising of the pustules; this opinion our own experience teaches us to reject; but after the maturition of the pustules is completed, or where symptoms of putrescency, or a dissolved state of the blood supervenes, the bark cannot be too liberally employed. The other diseases in which the bark is recommended, are gangrenous sore throats, and indeed every species of gangrene; scarletina, dysentery, all hemorrhages of the passive kind; likewise other increased discharges; some cases of dropsy, especially when unattended with any particular local affection, scrophula, ill conditioned ulcers, rickets, scurvy, states of convalescence, certain stages of phthisis pulmonalis, &c.

The officinal preparations of the bark are the powder, the extract, the tincture, and the decoction. This last, though frequently employed, is in many respects inferior even to a simple watery infusion; but the best form is that of powder, in which the constituent parts are in the most effectual proportion.

CINCHONA.—CORTEX PERUVIANUS RUBER. RED PERUVIAN BARK TREE.

Cortex Peruvianus ruber officinarum.

THOUGH the specific character of this species has not yet been botanically determined, yet upon the testimony of Combe and Groschke[a] a drawing of it was sent to Linnæus from Peru, which was found in the Linnean Herbarium purchased by Dr. Smith, to

[a] See *Blumenbach Med. Biblioth. V.* 2. *p.* 486.

whom we are obliged for the annexed figure. In the original drawing two specimens of the branches are given, one in its floral and the other in its capsular state; to which is also added, a sketch of the bark. On these authorities, and on that of Murray, who, in his sixth vol. of the *App. Medicam.*[d] refers to this figure, we consider ourselves sufficiently warranted to present it to the publick, not doubting of its being peculiarly acceptable to our medical readers.

It has evidently the essential characters of the Cinchona, while it differs specifically from all the others which we have seen of this genus. From that of the C. officinalis, the disparity is so obvious, that on comparing the two figures, it does not require to be pointed out.

The medicinal qualities of the bark have been considered already with that of the preceding.

[d] See p. 45.

ASCLEPIAS VINCETOXICUM. OFFICINAL SWALLOW-WORT.

SYNONYMA. Vincetoxicum, Asclepias, Hirundinaria. *Pharm. Dale.* 179. *Alston. v. i.* 536. *Bergius.* 172. *Murray. i.* 543. *Lewis.* 661. *Ed. New Dispens.* 301. Asclepias albo flore. *Bauh. Pin.* 303. *Gerard. Emac.* 898. *Park. Theat.* 387. *Ray. Hist.* 1091. *Flor. Dan.* 849. β Asclepias foliis ovatis acutis, caule infirmo, umbellis simplicibus. *Mill. Dict. Hort. Kew.*

Pentandria Digynia. *Lin. Gen. Plant.* 306.

Gen. Ch. Contorta. *Nectara* 5, ovata, concava, corniculum exserentia.

Sp. Ch. A. foliis ovatis basi barbatis, caule erecto, umbellis proliferis.



Asclepias Vincetoxicum.

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ROOT perennial, large, knobbed, from which issue a number of small, slender, yellowish fibres. Stalks above a foot in height, erect, round, simple, somewhat downy, jointed, at the base purplish, above green. Leaves on short footstalks, opposite, ovate, long, pointed, and bearded with short hairs at the base. Flowers white, arising in clusters at the axillæ of the leaves. Calyx downy, divided into five narrow pointed segments. Corolla monopetalous, divided into five ovate, obtuse, spreading segments. Nectaria five, fleshy, adhering to the filaments; from the bottom horn-shaped, and bent inwards. Filaments five, of a tubular appearance. Antheræ oblong, erect, within the scales of the nectary. Germina two, oblong, tapering. Styles two, short, tapering. Stigmata simple. Follicles two, large, oblong, pointed, ventricose, one-celled, one-valved. Seeds numerous, crowned with pappus.

This plant, which is not uncommon in the northern parts of Europe, has been cultivated in Britain since the time of Parkinson, in 1640. Its root, which is the part medicinally employed, has, "when fresh, a moderately strong not agreeable smell, approaching to that of wild valerian, which, in drying, is in great part dissipated; chewed, it impresses first a considerable sweetness, which is soon succeeded by an unpleasant subacrid bitterishness."[a]

Bergius states the virtues of this root to be pullens, diuretica, sudorifica, emmenagoga, alexipharmica.

By F. Hoffman it was found to possess an anodyne quality;[b] but we are told by others that it sometimes excites nausea and vomiting.[c] It has been chiefly used in dropsical disorders; and several cases are related in which it was given with great success;[d] but as other medicines were at the same time employed, the good effects of the Vincetoxicum may not be yet thought sufficiently established. The same observation will apply to Stahl's pulvis anti-

[a] *Lewis. l. c.* [b] *Med. Syst. T. 4. P. 3. p.* 305.

[c] *Durr. Eph. Nat. Cur. Dec.* 2. *A.* 7. *p.* 105. See also *Geoff.*

[d] Vide *Bauh. hist. ii. p.* 139. *Durr. l. c.*

hydropicus, a composition in which the Vincetoxicum is an ingredient.*

This root has also been recommended in malignant fevers, and even in the plague,[e] especially by some German authors; hence it has been called *Contrayerva Germanorum.* Other disorders, in which it is said to be useful, are small-pox,[f] scrophula, and uterine obstructions.

The dose, in powder, is from a scruple to a dram, or an infusion of three or four drams.

Vinca minor, (Vinca peruinca, or Periwinkle) Nerium antidysentericum, (Profluvii cortex, or Tili-cherry bark) if we except the cinchona already noticed, are the only two remaining medicinal plants belonging to the order Contortæ. The former is a native of Britain, and has been used in the character of an astringent, especially in hemorrhagic disorders. The latter is a native of the East Indies.

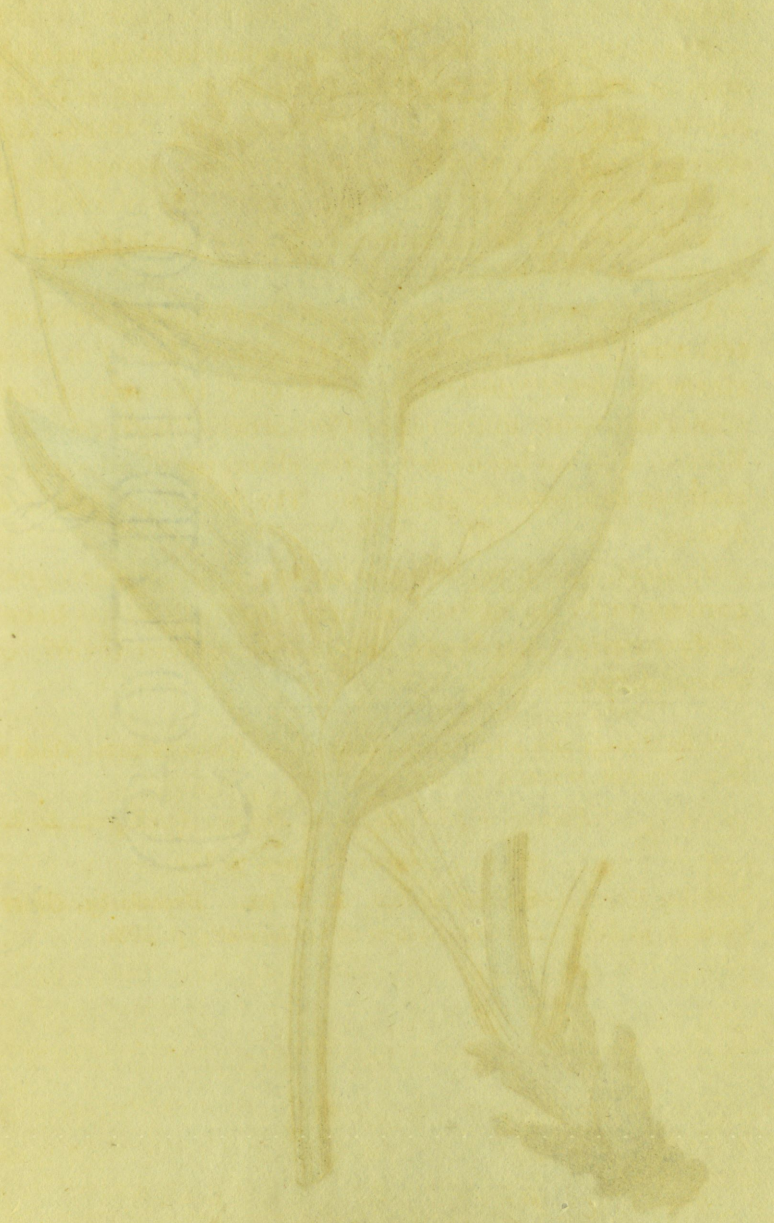
Its bark, which possesses an aromatic bitter astringent, and, according to Dr. Brocklesby, an anodyne quality, has been employed in dysenteries, diarrhœas, and in intermittent fevers, occuring in warm climates.†

* Stahl made also other compositions of the Vincetoxicum, which were received in the *Pharm. Wurt. & Brand.*

[e] *Palmar. de feb. pest. c.* 18. *Antzer. Antid. pest. L.* 2.

[f] *Linn. Fl. Suec. p.* 77.

† See *Monro, sen. Med. Essays.* 3. *p.* 32. *Brocklesby, Observ. on camp. diseases. p.* 194. *Lind. on diseases in hot climates. p.* 308.





Gentiana purpurea

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PRESTON
1828

ORD. XV. ROTACEÆ.

(From Rota, a Wheel.)

Plants with wheel-shaped flowers, or expanded horizontally, and without a tubular base.

GENTIANA PURPUREA. PURPLE GENTIAN.

SYNONYMA. Cursuta. *Pharm. Edinb.* Gentiana major purpurea. *Bauh. Pin.* 187. Gentiana major flore purpureo. *Flor. Dan. t.* 50. Gentiana corollis campaniformibus verticillatis, foliis imis petiolatis ellipticis. *Hall. Helv.* Gentiana purpurea. *Ait. Hort. Kew.* *Jacquin. Obs.* 2. *t.* 39.

Pentandria Digynia. *Lin. Gen. Plant.* 322.

Gen. Ch. *Cor.* monopetala. *Caps.* 2-valvis, 1-locularis: *Receptaculis.* 2, longitudinalibus.

Sp. Ch. G. corollis subquinquefidis campanulatis verticillatis, calycibus truncatis.

ROOT perennial, cylindrical, slender, branched; externally brown, internally yellowish. Stem erect, simple, smooth, strong, succulent, rising to a foot in height. Lower leaves nearly elliptical, ribbed, entire. Upper leaves in pairs, sheath-like, concave, embracing the stem, pointed, ribbed, enclosing the flowers. Flowers

large, purple, standing in whorls, upon short peduncles. Calyx a deciduous spatha. Corolla bell-shaped, purplish, plicated, divided at the limb into five ovate dotted segments. Filaments commonly five, of the length of the germen, and furnished with conical antheræ. Germen oblong. Style cleft, points reflexed, furnished with blunt stigmata. Capsule ovate, two-celled, containing numerous small seeds.

It is a native of the Alps, and was first introduced for cultivation in this country by Professor de Saussure in 1768.[a]

The annexed plate is given on the authority of the Edinburgh Pharmacopœia, in which the Cursuta, or root of this plant, has been lately received into the Materia Medica.

This root, both in appearance and taste, so exactly resembles that of the yellow or common officinal Gentian, that they are not to be distinguished from each other; and in some northern countries, where the latter is scarce, the former is usually employed in its stead.[b]

Its medical character is therefore to be regarded as the same with that of the gentiana lutea, of which an account is given in the following pages.

[a] See *Hort. Kew. i. p.* 322.

[b] See *Linn. Flor. Suec. & Haller. l. c.*

The remaining medicinal plants of the order Rotaceæ, are,

Systematic Names.	Officinal.	English.
Anagallis arvensis	Anagallis	Pimpernel
Lysimachia Nummularia	Nummularia	Money-wort
Primula veris	Paralysis	Cowslip
Cyclamen europæum	Cyclamen	Common Cyclamen



Gentiana lutea

Published by Phillips & Fardon, July 2nd 1807.

PRESTON INSTITUTION 1828

GENTIANA LUTEA. YELLOW GENTIAN.

SYNONYMA. Gentiana. *Pharm. Lond. & Edinb.* Gentiana major. *Gerard. Emac. p.* 432. *Raii Hist. p.* 716. Gentiana major lutea. *Bauh. Pin. p.* 187. *Park. Parad. p.* 350. *Tournf. Inst. p.* 80. Gentiana vulgaris major, Ellebori albi folio. *J. Bauh. Hist. vol. iii. p.* 520. Gentiana caule folioso, foliis ovatis nervosis, floribus rotatis verticillatis. *Hall. Stirp. Helv. n.* 637. Icon, *Miller's Figures, tab.* 139. *fig.* 2.

Sp. Ch. G. corollis subquinquefidis rotatis verticillatis, calycibus spathaceis.

THE root is perennial, long, cylindrical, externally brown, internally yellowish: the flower stem is strong, smooth, erect, tapering, and rises two or three feet in height: the leaves, which proceed from the lower part of the stem, are spear-shaped, large, entire, ribbed, sessile, and pointed; those on the upper part are concave, smooth, egg-shaped, and of a pale or yellowish green colour: the flowers are large, yellow, produced in whorls, and stand upon strong peduncles: the calyx is a membranous deciduous spatha: the corolla is divided to its base into five or more long narrow spreading elliptical segments: the filaments vary in number from five to eight; they are shorter than the corolla, and furnished with long erect antheræ: the germen is long, conical, without a style, and supplied with two reflexed stigmata: the capsule is conical, of one cell, divided into two valves, and contains numerous small seeds. It flowers in June and July.

This plant is a native of the Alps, and according to the Hortus Kewensis was first cultivated in Britain in the time of Gerard. But

the Gentian with which our shops are supplied, is imported from the mountainous parts of Switzerland, Germany, &c. *

The root, which is the only medicinal part of the plant, has little or no smell, but to the taste it manifests great bitterness, a quality which is extracted by aqueous, spirituous, and vinous menstrua, though not in so great a degree by water as by spirit; and the extract of this root, prepared from the watery infusion, is less bitter than that made from the spirituous tincture.[a]

Gentian† is the principal bitter now employed by physicians;‡ and as the intense bitters are generally admitted to be not only tonic and stomachic, but also anthelmintic, antiseptic, emmenagogue, antiarthritic, and febrifuge, this root has a better claim to the possession of these powers than most of this kind.

Many dyspeptic complaints, though arising from debility of the stomach, are more effectually relieved by bitters than by Peruvian bark; and hence may be inferred their superior tonic power on the organs of digestion. And the Gentian, joined with equal parts of tormentil or galls, we are told by Dr. Cullen[b] constantly succeeded in curing intermittents, if given in sufficient quantity.

As a simple bitter the Gentian is rendered more grateful to the stomach by the addition of an aromatic, and for this purpose orange peel is commonly employed. The officinal preparations of this root are, the infusum gentianæ compositum, & tinctura gentianæ com-

* In pratis montanis & subalpinis, post horæ adscensum ex planitie ubique, ut super *Neuenstatt* versus *Nodz*, sub *Panex*, in pratis *Jorogne*. Latos tractus occupat, quæ a pecore non taugatur. *Haller*, *l. c.*

[a] *Lewis*, *M. M. p.* 320.

† The name Gentian is supposed to be taken form Gentius, King of Illyria, who first discovered its uses.

‡ The roots of other species of Gentian are reported to be equally bitter, and are preferred by some to that of the lutea viz. G. purpurea, asclepiadea, Pneumonanthe, campestris, Amarella.

[b] *M. M. v. ii. p.* 72.



Chironia Centaurium

Published by Phillips & Fardon. August 2nd 1807.

PRESTON INSTITUTION 1828

posita, ph. L. and the infusum amarum, vinum amarum, tinctura amara, sive elixir stomachicum,* ph. E. and by both pharmacopœias the extract is directed.

* Dr. Cullen observes, that this is the same as Stoughton's elixir.

About forty-five years ago, a poisonous root was discovered in some of the parcels of Gentian brought to London, not however before its fatal effects had been experienced. (See *Dr. Brocklesky's accouut, Phil. Trans. vol.* 45. *p.* 240.) This root was probably that of the Aconitum Thora, which is known to grow along with the Gentian. The former is to be distinguished from the latter by having a strong smell, and being without bitterness, and of a whitish colour.

CHIRONIA CENTAURIUM. CENTAURY.

SYNONYMA. Centaurium minus. *Pharm. Lond. & Edinb. Raii Hist. p.* 1092. *Synop. p.* 286. *Bauh. Pin. p.* 278. Centaurium minus vulgare. *Park. Theat. p.* 272. Centaurium parvum. *Gerard Emac. p.* 547. Gentiana caule dichotomo; floribus infundibuliformibus, striatis, quinquefidis. *Hall. Stirp. Helv. n.* 648. Gentiana Centaurium. *Lin. Sp. Plant. p.* 332. *Huds. Flor. Ang. p.* 102. *Lightf. Flor. Scot. p.* 152. *Flor. Dan. Icon.* 617. Chironia Centaurium. *Withering Bot. Arrang. p* 237. *Curtis Flor. Lond. Ic.* 247.

Class Pentandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 255.

Ess. Gen. Ch. *Cor.* rotata. *Pistillum* declinatum. *Stam.* tubo corollæ insidentia. *Antheræ* demum spirales. *Pericarp.* 2-loculare.

Sp. Ch. Gentiana corollis quinquefidis infundibuliformibus, caule dichotomo, pistillo simplici. *L. Syst. Veg.* 268.

THE root is annual, woody, fibrous, and of a yellowish colour: the stalk is erect, with few branches, smooth, angular, and usually rises from six to ten inches in height: the leaves are opposite, sessile, smooth, oblong, ribbed, obtusely pointed: the flowers are terminal, produced in a corymbus or bunch, and are of a pink or rose colour: the calyx is divided into five narrow erect permanent segments: the corolla is funnel-shaped, the *tube* of which is cylindrical, longer than the calyx, and divided at the *limb* into five egg-shaped segments: the filaments are five, white, slender, shorter than the corolla, and furnished with yellow oblong antheræ, which finally become twisted: the germen is oblong, green, supplied with a simple style, which is crowned with a clubbed stigma. It grows in woods and pastures, and flowers in July.

As the botanical description of this plant corresponds exactly with that of the genus chironia,[a] we have followed several respectable botanists, and separated it from the gentians, with which it was originally classed by Linnæus.

"The active parts of this plant are dissolved readily both by water and rectified spirit: the herb, after infusion in sufficient quantities of either menstruum, remaining insipid. Water takes up along with the bitter a large quantity of an insipid mucilaginous substance, whereas rectified spirit seems to dissolve little more than the pure bitter part. Hence on inspissating the two solutions to the same consistences, the watery extract proves much less bitter than the spirituous, and its quantity above four times greater."*

Centaury is justly esteemed to be the most efficacious bitter of all the medicinal plants indigenous to this country. It has been recommended as a substitute for gentian,[b] and, by several, thought

[a] It is aptly observed by Mr. Curtis, that Centaurium thus assumes its proper name κενταυριον, from Chiron the Centaur. See *Plin. L.* 25. *c.* 6. *p.* 635.

* Lewis, *M. M.*

[b] "It is said that the extract of this plant is less agreeable than that of gentian; but I find no difference between them, and think it should be constantly substituted for that of gentian, as it may be more cheaply prepared." *Cullen, M. M. vol. ii. p.* 74.



Menyanthes trifoliata.

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PRESTON INSTITUTION 1828

to be a more useful medicine: experiments out of the body also shew it to possess an equal degree of antiseptic power.[c] To it therefore are to be ascribed all those medical effects noticed of the preceding article. Many authors have observed, that along with the tonic and stomachic qualities of a bitter, Centaury frequently proves cathartic; but it is probable, that this seldom happens, unless it be taken in very large doses. The use of this, as well as of the other bitters, was formerly common in febrile disorders, previous to the knowledge of peruvian bark, which now supersedes them perhaps too generally; for many cases of fever occur, which are found to be aggravated by the Cinchona, yet afterwards readily yield to simple bitters.

The tops[d] of Centaury plant are directed for use by the Colleges, and are most commonly given in infusion, but they may also be taken in powder, or prepared into an extract.

[c] See Pringle, *Diss. of the Army, App. p.* 66.

[d] Lewis asserts, that no bitterness resides in the petals, but from tasting the recent flowers we discover this quality in a very considerable degree.

MENYANTHES TRIFOLIATA. WATER TREFOIL, or BUCKBEAN.

SYNONYMA. Trifolium Paludosum, Pharm. Lond. & Edinb. Menyanthes Palustre Triphillum, Tourn. Boerh. Ray. Trifolium Fibrinum, Off. Germ. Acopa, Dioscor. Hist. Oxon.

Class Pentandria. *Order* Monogynia. L. *Gen. Plant.* 202.

Ess. Gen. Ch. Cor. hirsuta. *Stigma* 2-fidum. *Caps.* 1-locularis.

Sp. Ch. M. fol. ternatis.

THIS plant is common in every part of England; it grows in marshes and ponds, producing its flowers in an open terminal spike about the latter end of June. The scapus, or stalk, rises from six to twelve inches in height. The petals are sometimes entirely white, but more commonly rose-coloured on the outside, and within they are finely fringed, so as to have a hairy or fibrous appearance, hence named Trifolium Fibrinum: the root is perennial, creeping, and jointed, sending forth many long slender filaments. The trifoliata is easily distinguished from the other species of Menyanthes by its ternate leaves, which have been thought to resemble those of the common garden bean, and have given it the English name, Buckbean.

The whole plant is so extremely bitter, that in some countries it is used as a substitute for hops in the preparation of malt liquor[a]; yet Linnæus observes, that the poorer people in Lapland make a bread of the powdered roots mixed with meal, but at the same time he acknowledges it is a very unpalatable food.[b]

The blackness manifested by adding a solution of green vitriol to the juice, or to a strong infusion of the leaves of Buckbean, is a sufficient test of its astringency; while a dram of the powdered leaves seldom fails to open the body, or produce vomiting; so that in common with the tonic properties of a bitter, it seems farther to possess a considerable share of medicinal activity: we can therefore more easily credit the reports of its success in a great number of chronic diseases mentioned by various authors,[c] as scurvy, dropsy,

[a] Flor. Lappon. p. 50. [b] Ibid.

[c] Trifolii Fibrini Historia, selectis observationibus et perspicuis exemplis, illustrata a Jo. Franco, anno 1701.

Recte observavit D. Tancredus Robinson herbam hanc Germanis, aliisque gentibus septentrionalibus nunc dierum unicè charam et in magno pretio esse, et assiduo usu frequentari in omnibus fere morbis, ut certissimam panaceam ad quam etiam in deploratis affectibus, velut ad sacram anchoram, confugiunt (Raii Histor. Plant. p. 1099.) See also Willius Act. Hafn. vol. 3. Sim. Pauli, Quadrip. Bot. p. 173. et seq. Tilling Misc. N. curios. Dec. 2. Gulbrand Diss. de Sanguifluxu Uterino. Du Clos Anc. Mem. p. 329. Schulz Mat. Med. p. 445.

jaundice, asthma, periodical head-achs, intermittents, hypochondriasis, cachexia, obstructio mensium, rheumatism, scrophula, worms, gout. Dr. Boerhaave was relieved in the last mentioned complaint by drinking the juice mixed with whey;[d] and Dr. Alston tells us, that "this plant had remarkable effects in the gout, in keeping off "the paroxysms;" but adds, "though not to the patient's advantage."[e]

In confirmation of the good effects of Water Trefoil in dropsies, we are told that sheep, when forced to eat it, are[f] cured of the rot; (oves tabidæ) yet as we have but few and imperfect proofs of its diuretic powers, this fact will be considered of little weight.

Bergius confines the uses of this plant to scorbutus, leucophlegmatia, arthritis, rheumatismus, cacoethes,[g] and this specification is still farther contracted by later writers on the Materia Medica. In Lewis's Mat. Med. *(by Mr. Aikin)* it is said, that the leaves of buckbean "have of late years come into common use as an alterative "and aperient, in impurities of the humours, and some hydropic "and rheumatic cases;" and as an active and eccoprotic bitter, we should suppose them not ill adapted to supply the want of bile in the *primæ viæ*, and thus infer their use in protracted jaundice, and other biliary obstructions. Dr. Cullen has "had several in-"stances of their good effects in some cutaneous diseases of the "herpatic and seemingly cancerous kind."[h]

The leaves may be given in powder from ℈i to ℈ij for a dose two or three times a day, but a strong infusion of them is perhaps preferable, and with delicate stomachs it may be necessary to conjoin a grateful aromatick: they impart their properties both to watery and spirituous menstrua, and an extract is ordered to be prepared from them in the Ph. Dan. p. 171. Efficax et frequentis commodique usus. *Murray.*

[d] Eph. Nat. Cur. Dec. I. ann. III. Obs. 123. (this answers Dr. Alston's query, who asks, "Where is this related?" Alston. Mat. Med. vol 2. p. 240.

[e] l. c. [f] Dr. T. Robinson. [g] Mat. Med. vol 1. p. 91.

[h] Mat. Med. vol. 2. p. 75.

ORD. XVI. SEPEARIÆ.

(From *Sepes*, a hedge)

Woody Plants, which, from their size and beauty are proper ornaments for hedges.

OLEA EUROPÆA. EUROPEAN OLIVE.

SYNONYMA. Oliva. *Pharm. Lond. & Edinb.* Olea. *Dod. Pempt. p.* 821. Olea sativa. *Bauh. Pin. p.* 472. *Gerard. Emac. p.* 1392. *Park. Theat. p.* 1436. *Raii Hist. p.* 1541. *Conf. Du Hamel, Traité des Arbres, T.* 2. *p.* 54. *Tab.* 14. *Zait. Hebræorum,* Ελαια, *Græcorum.*

Varietates sunt, *(α Common)* foliis lanceolatis planis subtus incanis.

β *(Long-leav'd)* foliis lineari-lanceolatis planis subtus argenteis.

γ *(Broad-leav'd)* foliis oblongis planis subtus incanis.

δ *(Iron-coloured)* foliis lanceolatis subtus ferrugineis.

ε *(Twisted-leav'd)* foliis oblongis oblique flexis subtus pallidis.

ζ *(Box-leav'd)* foliis oblongo-ovalibus, ramis patentibus divaricatis. *Aiton. Hort. Kew.*

Class Diandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 20.

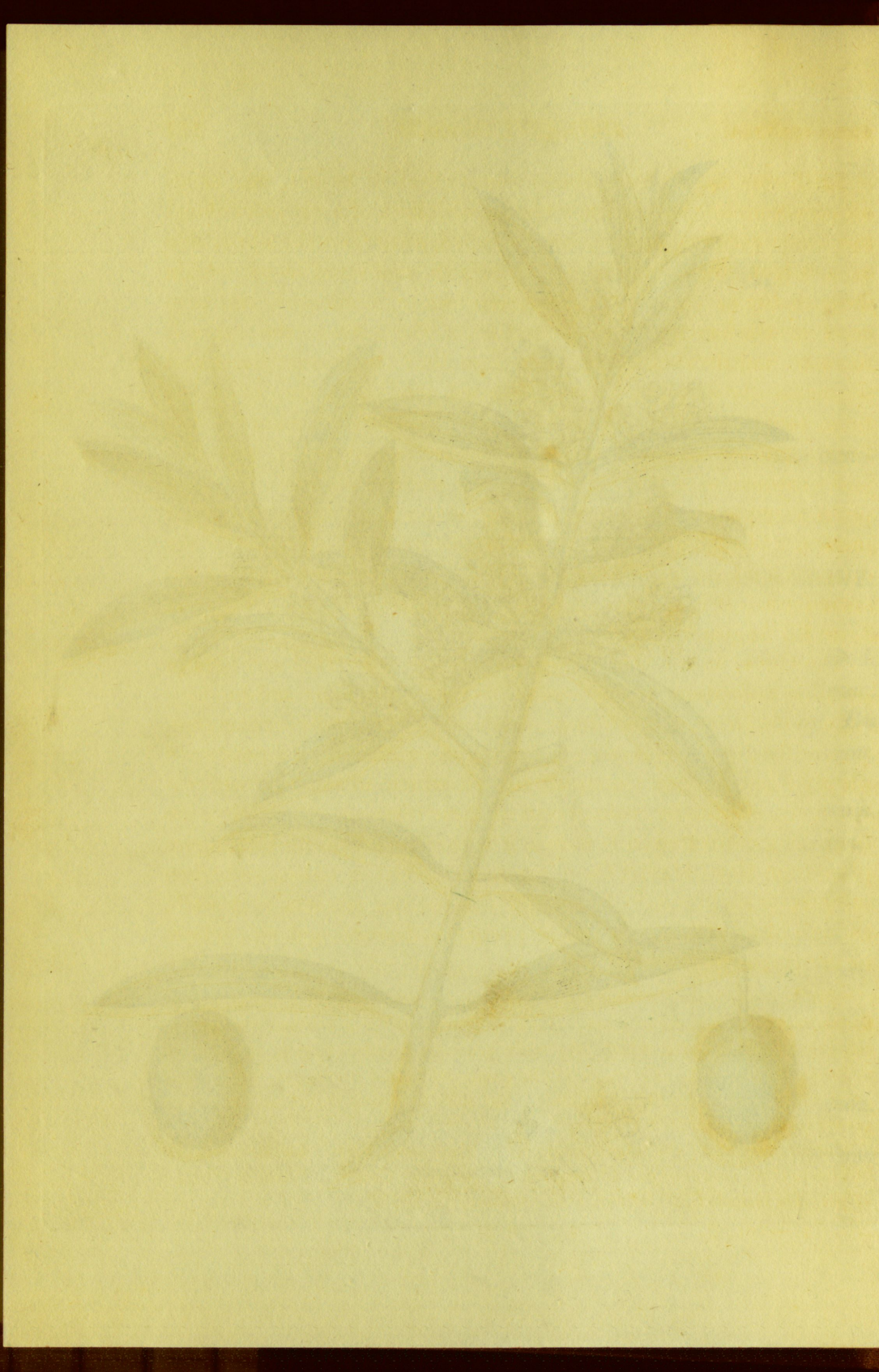
Ess. Gen. Ch. *Cor.* 4-fida: laciniis subovatis. *Drupa* monosperma.

Sp. Ch. O. foliis lanceolatis integerrimis, racemis axillaribus coarctatis. *Hort. Kew.*



Olea europæa

Published by Phillips & Fordon, August 1st 1807.



THIS tree usually rises about twenty feet in height, and sends off numerous long branches, covered with bark of a greyish colour: the leaves are firm, narrow, lance-shaped, entire, on the upper side of a bright green, on the under whitish, and stand in pairs upon short footstalks: the flowers are small, white, numerous, and proceed in clusters near the footstalks of the leaves: the calyx is tubular, and divided at the brim into four small erect deciduous segments: the corolla is a funnel-shaped petal, consisting of a short tube, about the length of the calyx, and divided at the border into four semiovate segments: the filaments are two, tapering, opposite, and crowned with erect antheræ: the germen is round, and supports a simple short style, furnished with a stigma, which is cleft in two, and each division notched at the apex: the fruit is of the drupous kind, of an oblong or oval shape, containing a nut of the same form. It is a native of the south of Europe, and flowers from June till August.

The Olive, in all ages, has been greatly celebrated and held in peculiar estimation, as the bounteous gift of Heaven; and in gratitude to the Deity, it was formerly exhibited in the religious ceremonies of the Jews. It is still considered as emblematic of peace and plenty; and the great quantity of oil which in some countries it produces, effectually realizes one of these blessings. The Olive has been long cultivated in Britain; it is mentioned in the Catalogues plantarum Horti Medici Oxoniensis, published in 1648; and when sufficiently sheltered, it bears the cold of our winters very well; though in this country it rarely produces flowers, and we believe never ripens its fruit.[a]

[a] Miller says, that "several Olive trees were planted against a warm wall at Cambden-house, near Kensington, which succeeded very well till their tops advanced above the wall; after which they were generally killed in winter, so far down as the top of the wall. These, in 1719, produced a good number of fruit, which grew so large as to be fit for pickling; but since that time their fruit has seldom grown to any size." *Dict.*

For an account of the management and cultivation of Olives, see Bernard, *De l'Olivier*, 1788, *couronné par L'Academie de Marseille.* Couture, *Traité de l'Olivier* 1786. Du Hamel, *l. c.* Sieuve, *Observations, &c.* 1769.

The varieties of this tree are numerous, distinguished not only by the form of their leaves, as already noticed, but also by the shape, size, and colour of the fruit; as the large Spanish Olive, the small oblong Provence Olive, the oblong dark green Olive, the small roundish white Olive,[b] (Aglandau) the large fleshy or Royal Olive, the large round Olive, (Ampoulan) the small round reddish black Olive, and the small fragrant, or Lucca Olive. Of these, the two first sorts, when pickled, are well known to us by the names of Spanish and French Olives, which to many are extremely grateful, and have been supposed to excite appetite and to promote digestion. Pickled Olives are prepared from the green unripe fruit, which is repeatedly steeped in water, to which some add alkaline salt or quick lime, in order to shorten the operation; for when macerated in water only, the Olives require a long time before their bitterness is sufficiently extracted; after this they are washed and preserved in a pickle of common salt and water, to which an aromatic is sometimes added.

The principal consumption of Olives is in the preparation of the common sallad oil, or oleum olivarum of the pharmacopœias, which is obtained by grinding and pressing them when thoroughly ripe: the finer and purer oils issues first by gentle pressure, and inferior sorts on heating the residuum, and pressing it more strongly. The best Olive oil is of a bright pale amber colour, bland to the taste, and without any smell: it becomes rancid by age, and the sooner, if kept in a warm situation: by cold, at the 38 degree of Fahr. therm. it congeals, and does not become rancid if kept in a degree of cold equal to the freezing point of water.[c] All the mild expressed oils of vegetables are nearly of the same nature; a preference however, in the opinion of Dr. Cullen, should be given to the most fluid, and hence the oil of olives, and that of almonds, are most commonly directed for internal use. Oil, in some shape, forms a considerable part of our food, both animal and vegetable,

[b] This variety affords the best oil.

[c] *Muschenbroeck, Phil. Nat. tom. ii. p.* 616.

and affords much nourishment: with some, however, oily substances do not unite with the contents of the stomach, and are frequently brought up by eructation; this happens more especially to those whose stomachs abound with acid to an uncommon degree.[d] Oil considered as a medicine is supposed to correct acrimony, and to lubricate and relax the fibres; and therefore has been recommended internally to obviate the effects of various stimuli, which produce irritation, and consequent inflammation; on this ground it has generally been prescribed in coughs, catarrhal affections, and erosions. This oil has likewise been successfully used in worm cases, and in nephritic pains, spasms, colics, constipations of the bowels, &c. Externally it has been found an useful application to bites and stings of various poisonous animals,[e] burns, tumours, and other affections, both by itself or as mixed in liniments or poultices. Oil rubbed over the body has been found by many of great service in dropsies, particularly in ascites, in which three instances of its success are related in the Philosophical Transactions by Dr. Oliver.[f] Boenniken* has mentioned the successful use of oil in

[d] *Cullen, M. M. vol. i. p.* 302.

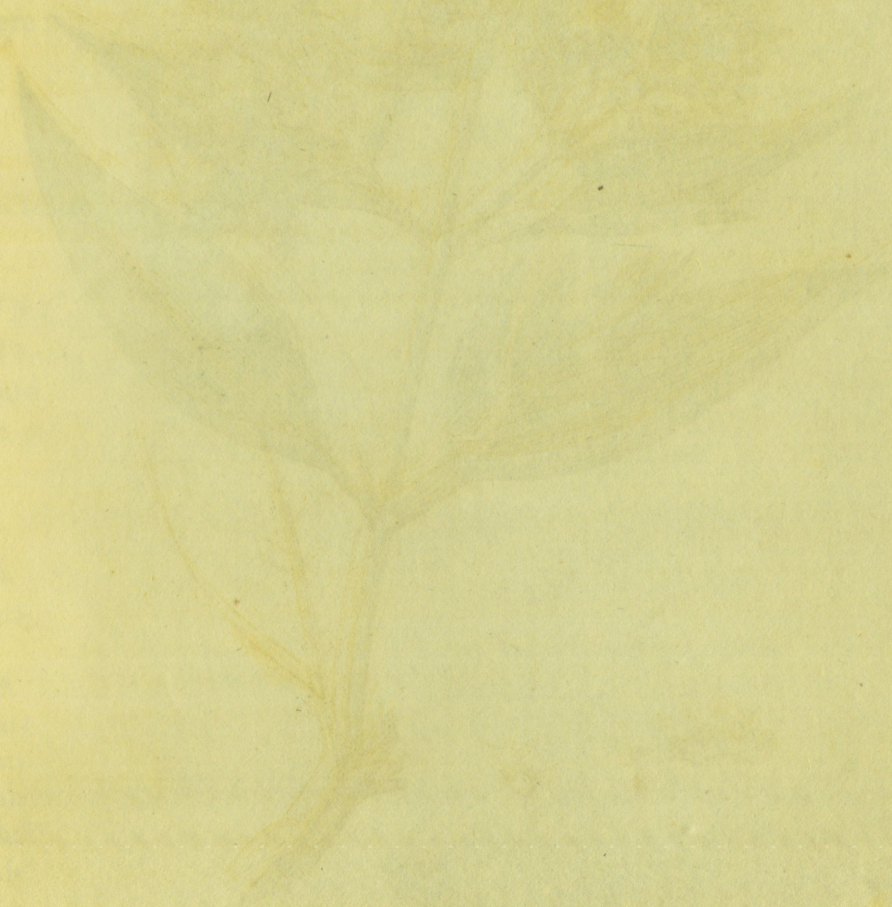
[e] See the experiments of William Oliver, related in the Philosophical Transactions, vol. 39. p. 310. by which it appears that this man suffered his arm to be bitten by serpents, and waited till most violent symptoms ensued, when they were soon removed by applying warm oil of Olives to the affected part. Similar experiments were made upon pigeons, dogs, &c. with equal success. It failed however at Oxford, where these trials were made upon poultry, &c. See *l. c. p.* 394. Numerous experiments of this kind were repeated with various success, and published in the Mem. de L'Acad. de Sc. 1737. It is to be regretted, that the particular species of serpent, by which the bites were given, was not ascertained in any of the cases alluded to. Linnæus was much disappointed in the use of the oil, and says, that a woman, bitten by the Coluber Chersea, died in great agony, though the oil was liberally administered both externally and internally. *Amœn. Acad. vol. vi. p.* 213. *& vol ii. p.* 407.

[f] *Philosophical Trans. vol.* 49. *p.* 46. For other instances, see *Ann. Med.* 1. *p.* 90. *Beobacht. a. d. Arzneyw. p.* 569. *sqq.* And *Gardane, Gazette de Santé* 1773. *&* 1774. *p.* 29, 254, 267, 279.

* Fränk. Samml. T. B. 399. sq.

rabies canina; and a farther account of its efficacy in that disease was lately read before the Medical Society of London: but though Boenniken attributes the cure of his patient to the oil, yet we find other means were employed, and the bitten part was scarified and blistered. Respecting the trial of this remedy here in hydrophobia, we can only observe, that it has been since used in a similar case without success, therefore at best little confidence is to be placed on a solitary instance. In regard to the general effects of oil, taken internally, we may remark, that though its effects as a medicine extend over the primæ viæ, yet it may be very rationally doubted if it produces any medicinal effect after passing into the sanguiferous system.

This oil enters several officinal compositions, and when united with water, by the intervention of alkali, is usually given in coughs and hoarseness, &c. The effects of soap will be noticed under the plant Salsola Kali.





Santalum album

Published by Phillips & Fardon, August 2nd 1807.

PRESTON INSTITUTION 1828

ORD. XVII. BICORNES.

(From *Bis & Cornu,* a horn)

Where the anthers have the appearance of two horns. The whole Order consists entirely of shrubs.

SANTALUM ALBUM. WHITE or YELLOW SAUNDERS.

SYNONYMA. Santalum citrinum. *Pharm. Edinb. Park. Theat.* 1604. *Raii Hist.* 1804. Santalum pallidum. *Bauh. Pin.* 392. *Ger. Emac.* 1586. Sandalum. *Rumph. Herb. Amb. Tom.* 2. *p.* 42. *t.* 11. *Breyn. Icon. et. Descript. p.* 19. *t.* 5. *f.* 1.

Tetrandria Monogynia. *Schr. Gen. Plant.* 215.

Gen. Ch. Cor. subinfundibulif. 4-fida staminifera: glandulis 4, staminibus alternantibus. *Drupa* rotunda monosperma. *Woodv.*

A LARGE tree, covered with reddish brown bark. Leaves ovate, somewhat lanceolate, entire, pointed, smooth, opposite, on footstalks. Flowers numerous, purple, terminating the younger branches in compound spikes. Calyx small, four-toothed deciduous. Corolla monopetalous, consisting of a short ovate tube, divided at the limb into four sharp teeth. Filaments four, short, hairy, placed at the mouth of the tube, and furnished with large

antheræ: between each filament stands a glandular nectarium, crenated at the top. Germen ovate. Style tapering, of the length of the tube of the corolla. Stigma four-parted. Fruit drupaceous, round, containing a hard seed or stone.

It is a native of the East Indies, especially in the Island of Timor, and has not yet been cultivated in this country. The plate of it here prefixed is taken from a specimen in the possession of Sir Joseph Banks.

From the structure of the flower of the Santalum, as here delineated, and from the description of it which is given above, it does not appear to have been sufficiently understood by any of the botanists, who have hitherto described it; so that we have been under the necessity of assigning to this genus a new essential character.[a]

The four glands, placed within the corolla, were probably mistaken for stamina, which induced Linnæus at first to class the Santalum among the octandria.

In the last edition of the *Systema Vegetabilium* this error is corrected, and had nothing more been done, the character would have remained tolerably complete; but unfortunately Cor. 1-petala was changed to 4-petala; and thus a new error was introduced, which we hope will in future be adjusted.

White Saunders wood is of a pale white, often with a yellowish tinge; and being destitute of taste or odour, it is superseded by the Santalum trinum, which is of a brownish yellow colour, of a bitterish aromatic taste, and of a pleasant smell, approaching to that of the rose.

Both kinds are brought from the East Indies in billets, consisting of large thick pieces, which, according to Rumphius, are sometimes taken from the same, and sometimes from different trees. For though the white and the yellow Saunders are the wood of the same species of tree, yet the latter, which forms the central part of the tree, is not always to be found in sufficient quantity to re-

[a] Respecting the calyx we are unable to speak decidedly from our own observation.



Arbutus Uva ursi

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PRESTON INSTITUTION 1828

pay the trouble and expence of procuring it, especially unless the trees be old; while the white, which is the exterior part of the wood, is always more abundant, and is consequently much cheaper.

"Yellow Saunders, distilled with water, yields a fragrant essential oil, which thickens in the cold into the consistence of a balsam, approaching in smell to ambergris, or a mixture of ambergris and roses: the remaining decoction, inspissated to the consistence of an extract, is bitterish and slightly pungent. Rectified spirit extracts by digestion considerably more than water: the colour of the tincture is a rich yellow. The spirit, distilled off, is slightly impregnated with the fine flavour of the wood; the remaining brownish extract has a weak smell, and a moderate balsamic pungency."[b]

The wood is chiefly valued on account of its fragrance; hence the Chinese are said to fumigate their clothes with it, and to burn it in their temples in honour of their gods. Though still retained in the Materia Medica of the Edinburgh Pharmacopœia, it cannot be thought to possess any considerable share of medicinal power. Hoffman considers its virtues as similar to those of ambergris; and some others have esteemed it in the character of a corroborant and restorative.

[b] *Lewis, M. M. p.* 578.

ARBUTUS UVA URSI. TRAILING ARBUTUS; Or BEAR-BERRY.

SYNONYMA. Uva ursi. *Pharm. Lond. & Edinb.* Uva ursi. *Clus. Rarior. Plant. Hist. p.* 62. Vaccinia ursi sive Uva ursi apud Clusium. *Gerard. Emac. p.* 1416. *J. Bauh. Hist. vol. i. p.* 523. *Bauh. Pin. p.* 470. *Park. Theat. p.* 1457. *Raii Synopsis, n.* 457. *Hist. p.* 1489. *sp.* 5. *Flor. Dan.* 33. *Murr. Comment. de Arbuto uva ursi. Gotting.* 1764. *Girardi Novæ Animadver. Patavii* 1764. *Sandifort Dis. tab.* 8. *Withering. Bot. Arr. p.* 498.

Class Decandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 220.

Ess. Gen. Ch. Cal. 5-partitus. *Cor.* ovata: ore basi pellucida. *Bacca* 5-locularis.

Sp. Ch. A. caulibus procumbentibus, foliis integerrimis.

THE root is perennial, long, branched, and fibrous: the stems are numerous, procumbent, spreading, woody, scarcely a foot in length, and seldom divided into branches: the leaves are oblong, obtuse, narrowed towards the base, entire, thick or fleshy, smooth, without footstalks, of a dingy green colour, and closely surround the upper part of the stalk: the flowers are whitish or flesh-coloured, and terminate the stems in small clusters upon short slender pedicles: the calyx is very small, and divided into five obtuse teeth: the corolla consists of a single petal, which is tubular, oval, contracted,[a] and divided at the margin into five minute reflexed segments: the filaments are ten, short, downy, tapering, and crowned with erect reddish antheræ: the germen is oval, and placed above the insertion of the corolla: the style is tapering, longer than the filaments, and terminated with a simple stigma: the fruit is a pulpy, round, red berry. It is a native of the Northern parts of Britain, and flowers in June.

Professor Murray has not been able to determine whether this plant is the ἄρκου σταφυλη, which is much commended by Galen [b] in cases of hæmoptysis, or the ἴδαιας ριζη used as a general astringent by Dioscorides.[c] It grows in great abundance in different parts of Europe and America, particularly in barren sandy soils; and that which is found in dry, lofty, and exposed situations, is preferred [d] for medical use to that which is collected in valleys and shady

[a] Our artist, by supposing the contracted state of the corolla to be merely the effect of drying, has made it appear too inflated in the annexed figure.

[b] *De comp. med. sec. loc. L.* 7. *c.* 4. *p.* 548. *Ed. Chart.* [c] *Mat. Med. L.* 4. *c.* 42. *p.* 482. *Ed. Vergil.* [d] Girardi *l. c. p.* 454.

grounds. The leaves of this plant, in a dried state, have no remarkable smell, but a bitterish astringent taste, and by some are used for the purpose of dying an ash-colour, and for tanning leather. The sapid matter of these leaves has been attributed rather to the presence of gummy than of resinous particles, as watery menstrua extract their virtues more completely than spirituous.[e]

The Uva Ursi, though employed by the ancients in several diseases requiring astringent medicines, had almost entirely fallen into disuse till about the middle of the present century, when it first drew the attention of physicians as a useful remedy in calculous and nephritic affections; and in the years 1763 and 1764, by the concurrent testimonies of different authors,[f] it acquired remarkable celebrity not only for its efficacy in gravelly complaints, but in almost every other to which the urinary organs are liable, as ulcers of the kidneys and bladder, cystirrhœa, diabetes, &c. and its utility was then thought to be so fully established, that a Spanish writer[g] made it his boast that the man, to whom these important discoveries of the effects of this plant ought first to be referred, was his countryman. He was however superseded in this claim by the physicians at Montpelier, who had been in the habit of prescribing Uva Ursi in these diseases for many years before.[h] But the cases published successively by De Haen tended more to raise the medical character of Uva Ursi over Europe than all the other books professedly written on the virtues of this plant: and encouraged by his success, many practitioners in this country have been induced to try its effects; and though the use of this plant has been frequently observed to mitigate the pains in calculous cases, yet in no instances do we find that it has produced that essential or

[e] Murray *App. Med. vol. ii. p.* 58.

[f] *De Haen, Gerhard, Quer, Girardi, Murray, Buchoz,* and others.

[g] Quer. See the French version of his book, viz. *Dissertation sur la maladie nephritique, et sur son veritable specifique le Raisin d'ours, p.* 84.

[h] Vide Barbeirac *form. Med. p.* 163.

permanent relief, which is said to have been experienced by the German physicians.[i]

From the experiments of Dr. Alexander,[k] the leaves of Uva Ursi seem to possess very little diuretic power, and those made by Murray[l] show that they have no material effect upon the urinary calculi: the efficacy they may therefore have in relieving the calculous diseases, we are disposed to ascribe to their astringency; and in confirmation of this opinion we may cite the observation of Dr. Cullen, who, in his chapter on Astringents,[m] notices the dissertation of De Heucher, under the title of *Calculus per adstringentia pellendus:* and though he does not think with this author that astringents are lithontriptics, yet from his own experience, and that of others, he believes they often have a powerful effect in relieving calculous symptoms; and in proof of this he refers to the exhibition of the Uva Ursi. The leaves may be employed either in powder or decoction; the former is most commonly preferred, and given in doses from a scruple to a dram two or three times a day.

[i] "The trials of the Uva Ursi made in this country, have by no means answered expectation: in all the cases that have come to my knowledge it produced great sickness and uneasiness, without any apparent benefit, though continued for a month." *Lewis M. M. p.* 683. And in a case of Incontinence of urine, Dr. Fothergill observes, "The Uva Ursi, so much extolled of late in ulcers of the urinary passages, seemed but to aggravate the symptoms." *Med. Obs. & Inquir. vol. iii. p.* 144. But in the preface to this volume we are told, "that the Uva Ursi had been frequently prescribed successfully by many of the Members of the *Society of Physicians in London.*"

[k] See his *Exp. Essays, p.* 154.

[l] The calculi were macerated in a strong decoction of the Uva Ursi. *Vide l. c.*

[m] *Mat. Med. vol. ii. p.* 12. *& seq.* And Dr. Withering, speaking of the effects of this plant, says, "Perhaps, upon the whole, we shall find it no better than other vegetable astringents; some of which have long been used by the country people in gravelly complaints, and with very great advantage; though hitherto unnoticed by the regular practitioners." *l. c.*



Styrax officinale

Published by W. Phillips, September 1. 1807.

PRESTON INSTITUTION 1828

STYRAX OFFICINALE. OFFICINAL STORAX.

Styrax. *Pharm. Lond. & Edinb.* ab hac arbore effluit.

SYNONYMA. Styrax folio mali cotonei. *Bauh. Pin. p.* 452. Styrax arbor. *J. Bauh. Hist. vol. i. p.* 341. *Gerard. Emac. p.* 1526. *Raii Hist. p.* 1680. Styrax arbor vulgaris. *Park. Theat. p.* 1530. *Lin. Spec. Plant. p.* 635. *Miller's Figures, p.* 260.

Class Decandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 595.

Ess. Gen. Ch. Cal. inferus. *Cor.* infundibuliformis. *Drupa* 2-sperma.

Sp. Ch. S. foliis ovatis subtus villosis, racemis simplicibus folio brevioribus. *Ait. Hort. Kew.*

THE Storax-tree usually rises above twenty feet in height; it sends off many strong branches, which are covered with a roughish bark of a grey colour: the leaves are broad, elliptical, entire, somewhat pointed, on the upper surface smooth, and of a light green colour, on the under surface covered with a whitish down; they are placed alternately, and stand upon short footstalks: the flowers are large, white, and disposed in clusters upon short peduncles, which terminate the branches: the corolla is monopetalous, funnel-shaped, and divided at the limb into five lance-shaped segments: the filaments are ten, placed in a regular circle, and seem to adhere towards the base: the antheræ are erect and oblong: the germen is oval, and supports a slender style, with a simple stigma: the fruit is a pulpy pericarpium, which contains one or two nuts of an oval compressed figure. It is a native of Italy and the Levant, and flowers in July.

Gerard appears to be the first who cultivated the Storax-tree in England; and although it is indigenous to many of the southern

parts of Europe, yet the resinous drug which it produces is only to be obtained in perfection from these trees growing in Asiatic Turkey.[a] The Storax issues in a fluid state from incisions made in the bark of the trunk, or branches, of the tree; and as it was formerly the custom to collect and export this gum-resin in reeds, it obtained the name of Styrax calamita. But the only two kinds of Storax[b] now to be met with in the shops may be divided into the pure and the common Storax; the first is usually in irregular compact masses, free from impurities, of a yellowish or reddish brown appearance, and interspersed with whitish tears, somewhat like Gum ammoniac or Benzoin; it is extremely fragrant, and, upon the application of heat, readily melts. This has been called Storax in the lump, red Storax, and the separate tears, Storax in the tear. The common Storax is in large masses, very light, and bears no external resemblance whatever to the former Storax, as it seems almost wholly composed of dirty saw-dust merely caked together by the resinous matter; and though much less esteemed than the purer kinds of Storax, yet when freed from the woody part, we are told that it possesses more fragrance, and is superior to the other kind. Rectified spirit, the common menstruum of resins, readily dissolves the Storax, which may be inspissated to a solid consistence, as directed for the *Styracis purificatio* in the London Pharm. without sustaining any considerable loss of its sensible qualities.

[a] "Copia ejus effluit ex arboribus procerioribus in Gallo-Provinciæ sylvis (de la Chartreuse de Montrieu, Du Hamel *Traité des arbres tom. ii. p.* 288), item incisione promanat in planitie quadam agri Tiburtini montium catena septentrionem versus cincta. (Mazeás, *Journal des Sçavans* 1769, *p.* 105. *Ed. in* 4to). Sed quæ in officinis servatur, orientalis originis est, transferturque ad nos ex Turcia per Massiliam." *Murray App. Med. vol. ii. p.* 80.

[b] It is necessary to observe, that no reference is here made to the *Styrax liquida*, which is produced from a very different tree, viz. the *Liquidamber styraciflua*; and, according to Monardes, is obtained by boiling the branches in water, which occasions the drug to separate, and rise to the surface, when it is skimmed off for use.

" Common Storax, infused in water, imparts to the menstruum " a good yellow colour, some share of its smell, and a slight bal- " samic taste. It gives a considerable impregnation to water by " distillation, and strongly diffuses its fragrance when heated, " though it scarcely yields any essential oil. The spirituous solu- " tion, gently distilled off from the filtered reddish liquor, brings " over with it very little of the fragrance of the Storax; and the " remaining resin is more fragrant than the finest Storax in the " tear, which I have met with. The pure resin distilled without " addition, yields along with an empyreumatic oil, a portion of " saline matter, similar to the flowers of Benzoine: I have some- " times also extracted from it a substance of the same nature by " coction in water,"[c]

Storax, with some of the ancients, was a familiar remedy as a resolvent, and particularly used in catarrhal complaints, coughs, asthmas, menstrual obstructions, &c. and from its affinity to the balsams it was also prescribed in ulcerations of the lungs, and other states of pulmonary consumption. And our pharmacopœias formerly directed the *pilulæ e styrace;* but this odoriferous drug has now no place in any of the officinal compounds; and though a medicine which might seem to promise some efficacy in nervous debilities, yet by modern practitioners it is almost totally disregarded.

[c] Lewis Mat. Med. p. 621.

STYRAX BENZOIN. BENJAMIN TREE.

Benzoë. *Pharm. Lond. & Edinb.* ex hac arbore exsudat.

SYNONYMA. Benjui. *Garcias ab Horto* in *Clusii Exoticis, p.* 155. Arbor Benzoini. *Grimm.* in *Ephemer. Acad. Nat. Curios. Dec.* 2. *Ann. I. p.* 370. *fig.* 31. *Sylvius* in *Valentini Historia Simplicium, p.* 487.

Benzuin. *Radermacher* in *Act. Societ. Bataviæ, vol. iii. p.* 44.

Benjamin *or* Benzoin. *Marsden's Hist. of Sumatra, p.* 123.

Laurus Benzoin. *Houttuyn* in *Act. Harlem. vol. xxi. p.* 265. *tab.* 7. See Dryander's *Botanical Description of the Benjamin Tree of Sumatra. Phil. Trans. vol. lxxvii. p.* 307.

Sp. Ch. S. foliis oblongis acuminatis subtus tomentosis, racemis compositis longitudine foliorum. *Dryander. l. c.*

THIS tree is of quick growth, and rises to a considerable height: it sends off many strong round branches, which are covered with a tomentose or whitish downy bark: the leaves are oblong, entire, veined, tapering to a long point, on the upper surface smooth, on the under downy; they stand alternately upon short footstalks, which are round, scored, and downy: the flowers are produced in bunches, and usually hang all on the same side upon short slender pedicles: the racemi, or common peduncles, are nearly of the length of the leaves, compound or branched, downy, and arise from the axillæ of the leaves: the calyx is short, bell-shaped, downy, and divided at the extremity into five obscure imperfect teeth: the corolla is monopetalous, externally of a cineritious colour, downy, and cut into five obtuse parallel segments growing close



Styrax Benzoin

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PRESTON
1828

together: the filaments are ten, of the length of the calyx, adhering at the base, bearded towards the top, forming a circle upon the receptacle in which they are inserted, and crowned with linear erect antheræ: the germen is oval, downy, and placed above the insertion of the corolla: the style is filiform, longer than the stamina, and teminated with a simple stigma: the fruit is similar to that of the Styrax officinale.*

The botanical character of this tree was entirely mistaken by modern botanists, even till the year 1787, when that excellent naturalist, Mr. Dryander, fully ascertained it to be a styrax.[a] This was done at the request of Sir Joseph Banks, who obtained a proper specimen for the purpose from Mr. Marsden at Sumatra: and as we have copied the figure given by Mr. Dryander, we shall also transcribe the following observations with which it is introduced. "Though Garcias ab Horto, Grim, and Sylvius,[b] were acquainted with the real tree from which Benjamin, or Benzoin, is collected,

* Descriptio botanica a cl. Dryander.

Rami teretes, tomentosi.

Folia alterna, petiolata, oblonga, integerrima, acuminata, venosa, supra glabra, subtus tomentosa, palmaria. *Petioli* teretes, striati, canaliculati, tomentosi, brevissimi.

Racemi axillares, compositi, longitudine fere foliorum. *Pedunculi communes* tomentosi; *partiales* alterni, patentes, tomentosi. *Pedicelli* brevissimi. *Flores* secundi.

Calyx campanulatus, obsoletissime quinquedentatus, extus tomentosus, linea longior.

Petala quinque, (basi forte connata) linearia, obtusa, extus tomento tenuissimo cinerea, calyce quadruplo longiora.

Filamenta decem, receptaculo inserta, petalis paulo breviora, inferne connata in cylindrum longitudine calycis, superne infra antheras cliata. *Antheræ* lineares, filamentis longitudinaliter adnatæ, iisque dimidio breviores.

Germen superum, ovatum, tomentosum. *Stylus* filiformis, staminibus longior. *Stigma.* simplex.

[a] L. c. Before this time however Sir Joseph Banks seemed to have no doubt that the Benjamin-tree was a styrax. Vide Loder in Balding. *Med. Journ. P. 5. p.* 50.

[b] *Vide lib. in Synon. cit.*

their descriptions of it are so imperfect and insufficient for its botanical determination, that succeeding botanists have fallen into many errors concerning it; and it is remarkable, that although this drug was always imported from the East-Indies, most of the later writers on the Materia Medica have conceived it to be collected from a species of Laurus, native of Virginia, to which, from this erroneous supposition, they have given the trivial name of Benzoin. This mistake seems to have originated with Mr. Ray, who in his Historia Plantarum, vol. ii. p. 1845, at the end of his account of the Arbor Benivifera of Garcias, says, "Ad nos scripsit D. *Tancredus* "*Robinson* Arborem resiniferam odoratam foliis citrinis prædictæ "haud absimilem transmissam fuisse e Virginia a D. Banister, ad "illustrissimum Præsulem D. Henr. Compton, in cujus instruc-"tissimo horto culta est.—Arbor ista Virginiana Citrii, vel Limonii "foliis Benzoinum fundens, in horto reverendissimi Episcopi "culta." This error was detected by Linnæus, but another was substituted by him in its place;[c] for in his Mantissa Plantarum Altera he tells us, that Benjamin is furnished by a shrub described there under the name of Croton Benzoë, and afterwards, in the Supplementum Plantarum, describes again the same plant, under the name of Terminalia Benzoin. M. Jacquin, who had been informed that this shrub was called by the French *Bienjoint*, supposes, with reason, that the similar sound of that word with Benjoin, the French name for Benjamin, may have occasioned this mistake.[d] Since that period, Dr. Houttuyn has described the Benjamin tree of Sumatra; but for want of good specimens has been so unfortunate as to mistake the genus to which it belongs."[e]

This tree, which is a native of Sumatra, is deemed, in six years, of sufficient age for affording the Benzoine, or when its trunk, ac-

[c] This discovery was not made till after the publication of his *Spec. Plant.* where it stands as a laurus.

[d] *Hort. Vindob. vol. iii. p.* 51.

[e] Houttuyn had the specimens from Rademacher, from which he determined the tree to be a laurus.

quires about seven or eight inches in diameter; the bark is then cut through longitudinally, or somewhat obliquely, at the origin of the principal lower branches,[f] from which the drug exudes in a liquid state, and by exposure to the sun and air soon concretes, when it is scraped off from the bark with a knife, or chissel. The quantity of Benzoine which one tree affords never exceeds three pounds,[g] nor are the trees found to sustain the effects of these annual incisions longer than ten or twelve years.[h] The Benzoine which issues first from the wounded bark is the purest, being soft, extremely fragrant, and very white; that, which is less esteemed, is of a brownish colour, very hard, and mixed with various impurities, which it acquires during its long continuance upon the trees.[i] Eschelskron [k] distinguishes Benzoine into three kinds, viz. *Camayan poeti,* or white Benjamin, which, upon being melted in a bladder by the heat of the sun, appears marked with red streaks, or veins. *Camayan bamatta* is less white than the former, and often spotted with white circles, called eyes, from the number of which its goodness is estimated: it likewise melts by the heat of the sun. *Camayan itam,* or black Benjamin, which requires to be melted in hot water for its preservation in bladders. In Arabia, Persia, and other parts of the East the coarser kinds of Benjamin are consumed for fumigating and perfuming the temples, and for destroying insects.

The Benzoine which we find here in the shops " is in large brittle masses, composed partly of white, partly of yellowish or light brown, and often also of darker coloured pieces: that which is clearest, and contains most white matter, called by authors *benzoe amygdaloides,* is accounted the best." " This resin has very little taste, impressing on the palate only a slight sweetness: its smell, especially when rubbed or heated, is extremely fragrant and agreeable. It totally dissolves in rectified spirit, the impurities excepted,

[f] Vide *Grimm & Marsden, l. c. p.* 124.

[g] *Grimm. l. c.* [h] *Marsden. l. c.*

[i] *Grimm. l. c.* [k] Cfr. Eschelskron *Beschreib. von Sumatra. p.* 62.

which are generally in a very small quantity, into a deep yellowish red liquor, and in this state discovers a degree of warmth and pungency, as well as sweetness. It imparts, by digestion, to water also a considerable share of its fragrance, and a slight pungency: the filtered liquor, gently exhaled, leaves, not a resinous or mucilaginous extract, but a crystalline matter, seemingly of a saline nature, amounting to one-tenth, or one-eighth, of the weight of the Benzoine."[l] Exposed to the fire in proper vessels, it yields a quantity of a white saline concrete, called flores benzëos, of an acidulous taste, and grateful odour, soluble in rectified spirit, and in water by the assistance of heat.

As the trees, which afford the drugs benzoine and styrax, are congeners, and as their resinous products are very similar in their external appearances, and not widely different in their sensible qualities, it is reasonable to suppose them analogous in their medicinal effects. Benzoine, however, though rarely employed in a simple state, has been frequently prescribed as a pectoral; and we find it recommended for inveterate coughs, asthmas, obstructions of the lungs, and phthisical complaints, unattended with much fever: it has also been used as a cosmetic, and in the way of fumigation for the resolution of indolent tumours. Dr. Cullen, who classes Benzoine with the stimulants, says, "The flowers, which is the only preparation employed, are manifestly a saline substance of the acid kind, of considerable acrimony and stimulant power, as I have found in every trial of them I have made. It has been recommended as a pectoral, and I have employed it in some asthmatic cases without finding it of use; and in a dose of half a dram it appeared to be heating and hurtful."[m] In the pharmacopœias the flowers are directed in the tinctura opii camphorata, and it is ordered in substance in the tinctura benzoës composita.

[l] *Lewis M. M. p.* 142.

[m] *Mat. Med. vol. ii. p.* 192. We may also notice, that Dr. Cullen thinks "the benzoine is a singular composition of an acid salt with an oily and resinous substance; but as a saline matter of the same kind is found in most of the turpentines and balsams—it appears to me, that the benzoin affords an analogy for explaining the composition of all these."



Rhododendron Chrysanthum

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RHODODENDRON CHRYSANANTHUM. YELLOW FLOWERED RHODODENDRON.

SYNONYMA. Rhododendron. *Pharm. Edinb.* Andromeda foliis ovatis, utrinque venosis corollis campanulatis obliquis. *Gmelin, Flor. Sib. iv. p.* 121. *tab.* 54. Rhod. Chrys. *Pallas, It. vol. iii. p.* 369. *App. p.* 792. *n.* 87. *tab. N. fig.* 1. 2. *Kolpin. monogr. cum figura Pallasii.* R. foliis ovatis scabris, margine reflexis, subtus glabris, umbellis terminalibus, corollis flavis irregularibus. *Flora Rossica, tom. i. p.* 44. *tab.* 30.

Class Decandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 548.

Ess. Gen. Ch. *Cal.* 5-partitus. *Cor.* infundibulif. *Stam.* declinata. *Caps.* 5-locularis.

Sp. Ch. R. foliis oblongis impunctatis supra scabris venosissimis, corolla rotata irregulari, gemma florifera ferrugineo-tomentosa. *Supp. Plant.* 237.

THIS beautiful shrub sends off spreading branches, which are covered with brown bark, and rise about a foot in height: the leaves are oblong, obtuse, thick, veined, reflexed at the margin, on the upper side of a deep green, beneath ferruginous, or glaucous, and surrounding the branches upon strong footstalks, which arise from between the imbricated stipular squamæ: the flowers are large, yellow, and terminate the branches upon long peduncles, forming umbels: the calyx is persistent, divided into five teeth: the corolla is monopetalous, wheel-shaped, inclining, irregularly divided at the limb into five roundish spreading segments: the ten

filaments are slender, spreading, nearly of the length of the corolla, and furnished with oval antheræ: the germen is pentagonal, indented, and supports a style, which is longer than the filaments, and terminated by an obtuse stigma: the capsule is egg-shaped, somewhat angular, and divided into five cells, which contain numerous small seeds.

This species of Rhododendron has not yet been introduced into Britain: it is a native of Siberia, affecting mountainous situations, and flowering in June and July.

This plant, and its medicinal effects, were first described in the year 1747, by Gmelin and Steller,[a] who mention it as frequently and successfully used in Siberia and other northern situations of which it is a native, for the cure of rheumatism, and other painful affections of the joints. Little attention however was paid to this remedy till the year 1779, when it was strongly recommended by Koelpin as an efficacious medicine not only in rheumatism and gout, but even in venereal cases;[b] and it is now very generally employed in chronic rheumatisms in various parts of Europe.[c] The leaves, which are the part directed for medicinal use, have a bitterish subastringent taste, and, as well as the bark and young branches, manifest a degree of acrimony. Taken in large doses

[a] It is said, "Venatores et Glaciei mariæ fossores ad Lenam habitantes—dum primis laborum suorum diebus facile lassantur et a perpetuo præruptorum montium adscensu genuum graves dolores patiuntur, lassitudini et dolori, decocto hujus foliorum, biduum triduumve continuato efficaciter mederi, nullum inter dormire et quasi inebriari, brevi vero ad solidiores labores sustinendos inde appissimos evadere." See *Gmelin. l. c.*

[b] *Praktische Bemerkungen über den Gebrauch der Sibirischen Schneerose in Gichtkrankheilen von D. A. B. Koeplin.* Berlin u Stettin. 1779.

[c] *Procopius a Demidof* of Moscow, employed a tincture of the leaves also in hæmorrhoidal complaints. *Neue nordische Beyträge, vol. 3. p.* 399. In Siberia it was given in a case of cancer of the breast, by *Butzow*, with great success. It is in common use in Germany. See Pallas Flor. Rossica. c. and J. H. Zahn *Diss. Med. inaug. de Rhodod. Chrysantho.* 1783.

they prove a narcotic poison, producing those symptoms which we have described as occasioned by many of the order Solanaceæ.[d]

As a powerful and active medicine this shrub may probably be found an important addition to the Materia Medica. Dr. Home, who tried it unsuccessfully in some cases of acute rheumatism, says, "it appears to be one of the most powerful sedatives which we have, as in most of the trials it made the pulse remarkably slow, and in one patient reduced it 38 beats."[e] And in other cases in which the Rhododendron has been used at Edinburgh, it has been productive of good effects, and accordingly it is now introduced into the Edinburgh Pharmacopœia.[f] The manner of using this plant by the Siberians, was by putting two drams of the dried leaves in an earthen pot, with about ten ounces of boiling water, keeping it near a boiling heat for a night, and this they took in the morning, and by repeating it three or four times generally effected a cure. It is said to occasion heat, thirst, a degree of delirium, and a peculiar sensation of the parts affected.

[d] These effects were produced on a goat, which, by eating ten leaves of the plant, was seized in a few minutes with tremblings, sopor, &c. See *Steller* in *Gmelin*, *l. c.*

It has also been remarked by Steller, that the effects of this plant have been found to vary according to its solum natale: thus, that produced in a certain place, has been found uniformly narcotic, that of another cathartic, and a sense of suffocation was the only symptom occasioned by a third. Vide *Gmelin*, *l. c.*

[e] *Clin. Exper. p.* 140. [f] See *Duncan's Edinb. Dispens. p.* 264.

Other medicinal plants of the order Bicornes, which have not been noticed in this work, are,

Systematic Names.	Officinal.	English.
Vaccinium Vitis Idæa	Vitis idæa	Red Bilberry
——————Oxycoccos	Oxycoccos	Cranberry
——————Myrtillus	Myrtillus	Blea-berry
Ledum palustre	Rosmarinius sylvestris	Wild Rosemary
Pyrola rotundifolia	Pyrola	Winter-green
Lawsonia inermis	Alkanna vera	Smooth Lawsonia
Tamarix gallica	Tamariscus	French Tamarisk

ORD. XVIII. ASPERIFOLIÆ.

(From *asper* rough, and *folium* a leaf) rough or hairy leaved plants.

PULMONARIA OFFICINALIS. COMMON LUNGWORT

SYNONYMA. Pulmonaria, seu Pulmonaria maculosa. *Pharm. Geoff. M. M. Dale,* 135. *Lewis,* 525. *Edinb. New. Disp.* 261. *Bergius,* 83. *Murray, vol.* 2. *p.* 97. *Gerard, Emac.* 808. *Raii Syn.* 226. *Park. Parad.* 448. Symphytum maculosum sive pulmonaria latifolia. *Bauh. Pin.* 259. Pulmonaria officinalis. *Huds. Flor. Ang.* 81. *With. Bot. Arr.* 193. *Sowerby, Eng. Bot.* 118. *t.* 118. *Flor. Dan.* 482.

Pentandria Monogynia. *Lin. Gen. Plant.* 184.

Gen. Ch. *Cor.* infundibulif. fauce pervia, *Cal.* prismatico 5-gonus.

Sp. Ch. P. foliis radicalibus ovato-cordatis scabris.

THE root is perennial: the stems simple, erect, angular, rough, and frequently rise above a foot in height: the stem-leaves are somewhat ovate, or rather lanceolate, broad pointed, hairy, alternate, and on the upper side speckled with whitish maculæ: the radical leaves are broader, and more elongated towards the base: the flowers appear in terminal fasciculi, and are reddish and pur-



Pulmonaria officinalis.

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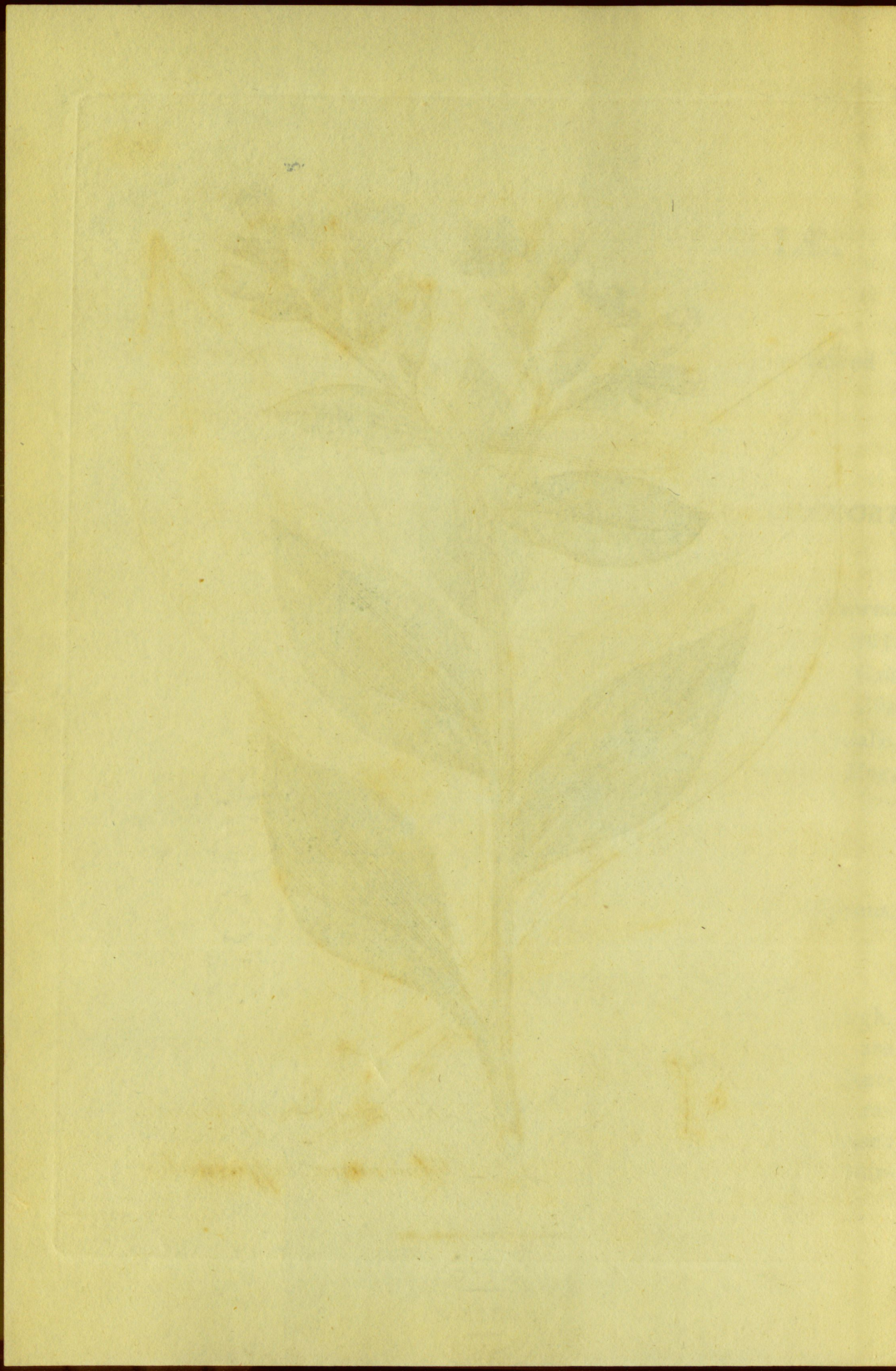

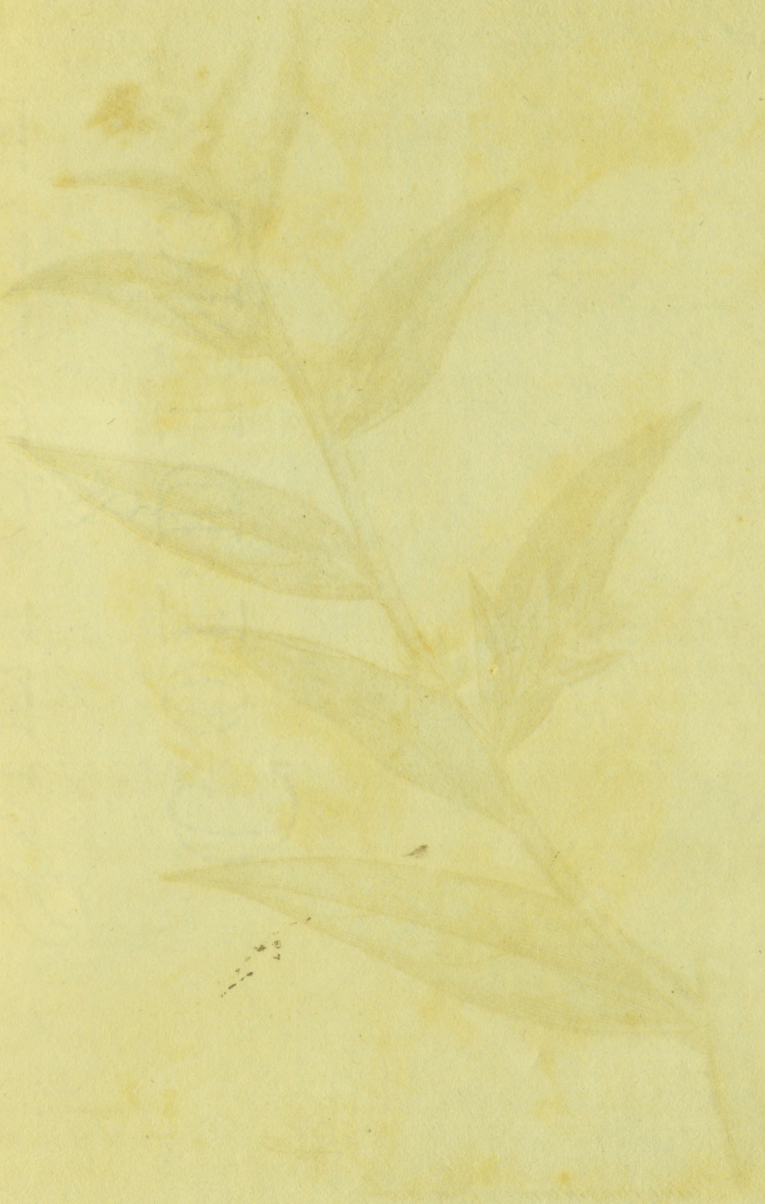



Lithospermum officinale

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ple: the calyx is a prism of five sides, rough, and divided at the mouth into five short pointed segments: the corolla is funnel-shaped, consisting of a cylindrical tube, open at the mouth, and a spreading limb, cut at the margin into five obtuse segments: the five filaments are very short, placed at the mouth of the tube, and furnished with simple yellow antheræ: the germen is quadrifid, supporting a tapering style of the length of the calyx, and crowned with a blunt notched stigma: the seeds are four, roundish, and lodged at the base of the calyx.

This plant is rarely found to grow wild in England, but is very commonly cultivated in gardens, where its leaves become broader, and approach more to a cordate shape, as appears by the detached leaves represented in the plate. The figure itself, however, exhibits a specimen of the spontaneous growth of this country.

The leaves, which are the part medicinally used, have no peculiar smell, but in their recent state manifest a slightly astringent and mucilaginous taste; hence it seems not wholly without foundation, that they have been supposed to be demulcent and pectoral.

They have been recommended in hemoptoës, tickling coughs, and catarrhal defluctions upon the lungs. The name Pulmonaria, however, seems to have arisen rather from the speckled appearance of these leaves, resembling that of the lungs, than from any intrinsic quality which experience discovered to be useful in pulmonary complaints.

LITHOSPERMUM OFFICINALE. COMMON GROMWELL.

SYNONYMA. Lithospermum, seu Milium Solis. *Pharm.* Vide *Geoffroy. Tract. de M. M. vol.* 3. *p.* 742. *Dale. Pharmacol.* 139. *Alston. M. M. vol. ii. p.* 361. *Lewis, M. M.* 399. *Edinb. New Dispens.* 223. *Murray, App. Med. vol. ii. p.* 98. *Ray, Synop.* 228. Lithospermum majus erectum. *Bauh. Pin.* 258. L.

minus. *Gerard. Emac.* 609. L. vulgare minus. *Park. Theat.* 432. L. officinale. *Hudson Flor. Ang.* 79. *With. Bot. Arr.* 189. *Relh. Fl. Cant.* 76. *Sowerby. Eng. Bot.* 134. *t.* 134.

Pentandria Monogynia. *Lin. Gen. Plant.* 181.

Gen. Ch. *Cor.* infundib. fauce perforata, nuda. *Cal.* 5-partitus.

Sp. Ch. L. seminibus lævibus, corollis vix calycem superantibus, foliis lanceolatis.

THE root is perennial, sending forth a long stalk, which is erect, strong, round, branched, and beset with short bristly hairs: the leaves are alternate, sessile, lanceolate, entire, pointed, hairy beneath, above closely studded with minute cartilaginous tubercles, which render them rough to the touch: the flowers are small, of a pale yellow colour, and are placed irregularly near the ends of the branches, which are recurved, but become straight on the maturation of the seeds: the calyx is divided into five segments, which are tapering, narrow, pointed, and permanent: the corolla is monopetalous, funnel-shaped, mouth naked and nearly closed: the tube is short, cylindrical; the limb is divided at the border into five blunt teeth: the filaments are short, and furnished with oblong antheræ: the germen is quadrifid: style filiform, of the length of the tube, terminated by a blunt cloven stigma: the seeds are four, but seldom more than two arrive at perfection, when they are egg-shaped, shining, extremely hard, and of a grey or yellowish hue.

It is found in various parts of England, affecting a dry gravelly soil. Its flowers appear in May and June.

This plant, according to Haller,[a] possesses narcotic powers; but its seeds only have been employed for medical purposes. These seeds, which we have described above, by their exquisitely polished surface, and stony hardness, (from which latter circumstance the name Lithospermum is taken,) have long excited the attention of

[a] *Hist. Stirp. Helv. n.* 595.

naturalists. Pliny considered them as the greatest curiosity in the vegetable world: "Nec quicquam inter herbas majore quidem miraculo aspexi. Tantus est decor, velut aurificum arte alternis inter folia candicantibus margaritis: tam exquisita difficultas lapidis ex herba nascentis."[b]

Grew relates, that the hard crustaceous part effervesces with acids;[c] but the experiment has been since tried by others without effect: the internal substance of the seed is softer, and seems to consist of a farinaceous, sweet, and oily matter, becoming rancid on being long kept.

Formerly when medicine was under the dominion of superstition and absurd conceits, a notion prevailed, that nature pointed out remedies for different complaints, by bearing a certain resemblance and sign of the disease or part affected: hence the stony appearance of these seeds was deemed a certain indication of their efficacy in calculous and gravelly disorders. And though modern writers on the Materia Medica give no credit to the lithontriptic character of sem. milii solis, yet they generally ascribe to them a diuretic quality, a power of cleansing the urinary passages, and of obviating stranguary, especially when employed in the form of an emulsion;[d] but probably the free use of any bland diluent would answer these purposes equally well.

The absorbent virtue attributed to these seeds is wholly without foundation, being irreconcileable to the principles of chemistry.

[b] *Plin. lib.* 27. *c.* 11. [c] *Grew. Mixt. corp. p.* 22.

[d] Lotum movere hisce quidem credo, et in stranguria efficere aliquid posse, quum ob nucleum emulsivæ naturæ sit. *Murray, l. c.* See others also of this opinion.

ANCHUSA OFFICINALIS. OFFICINAL BUGLOSS, Or ALKANET.

SYNONYMA. Buglossum. *Pharm. Park. Parad.* 249. *Geoff. v. iii.* 226. *Dale.* 136. *Alston. vol. ii.* 91. *Lewis.* 167. *Bergius.* 79. *Murray. vol.* 2. 98. *New Edinb. Dispens.* 152. Buglossum angustifolium majus. *Bauh. Pin.* 256. Buglossa vulgaris. *Ger. Emac.* 798. *Flor. Dan. t.* 572.

Pentandria Monogynia. *Lin. Gen. Plant.* 182.

Gen. Ch. *Cor.* infundibulif. fauce clausa fornicibus. *Sem.* basi insculpta.

Sp. Ch. A. foliis lanceolatis strigosis, spicis secundis imbricatis, calycibus quinquepartitis. *Hort. Kew.*

ROOT perennial, large, tapering. Stem about two feet high, erect, angular, strong, rough, hairy, branched towards the top. Leaves alternate, narrow, lanceolate, pointed, rough, hairy, edges eroded, and somewhat undulated. Flowers purple, produced in corymbi, both lateral and terminal. Calyx rough, cut into five acute erect segments. Corolla funnel-shaped, tube long, cylindrical: limb divided into five obtuse segments: mouth of the tube closed by five nectarious scales. Filaments five, short, placed in the upper part of the tube, and furnished with simple brownish antheræ. Germen quadrifid: style nearly as long as the tube, tapering, and terminated by an emarginated stigma. Seeds four, hollowed out at the base. The flowers appear in succession from June till October.

It is a native of the Continent of Europe, but not indigenous to this Island. Mr. P. Miller cultivated it here in 1748, and we now find it in most gardens where variety of herbaceous ornamental plants is an object of attention.



Anchusa officinalis

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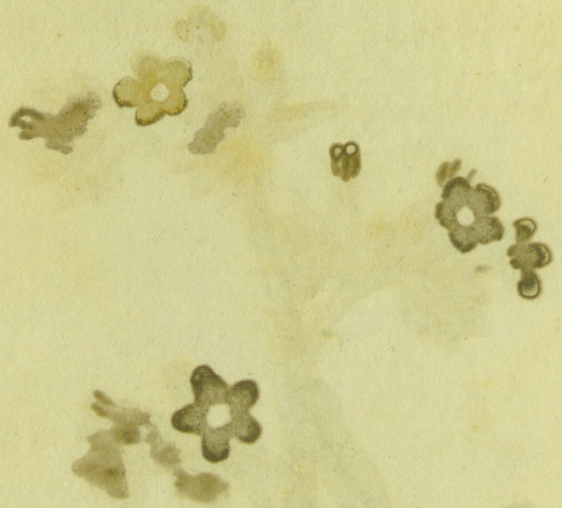

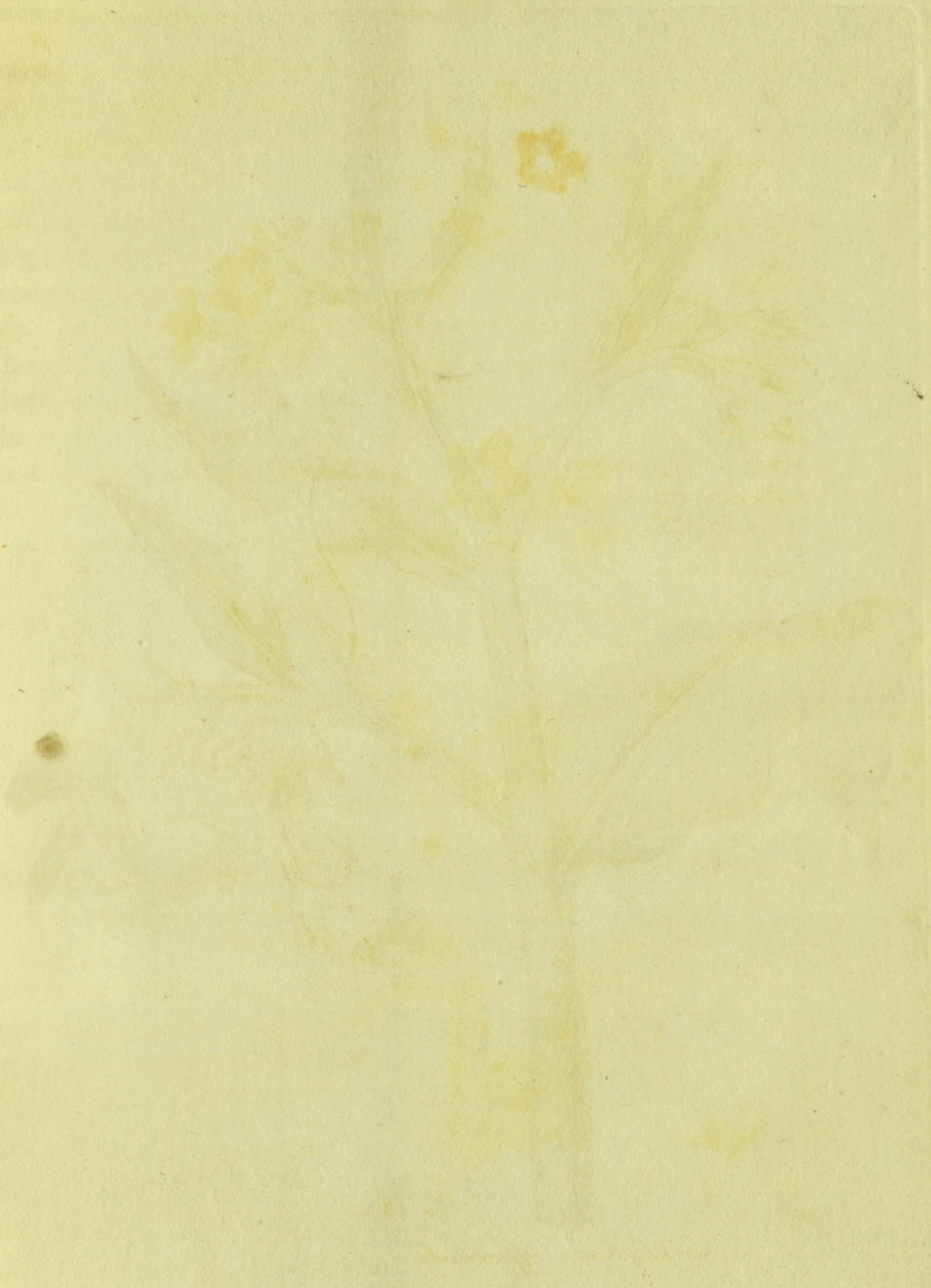



Symphytum officinale.

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The root, leaves, and flowers of this plant have all been admitted of the Materia Medica, though it would seem without any just claim to that distinction. To the taste they discover no other quality than that of being sweetish and glutinous, excepting only a slight bitterness of the flowers.

Bergius ascribes an aperient and refrigerant virtue to this plant, and states its use to be in "ardor viscerum," and also in hypochondriasis. However, as all the common oloraceous plants are cooling and laxative, these properties are no peculiar recommendation of Bugloss.

The utility of this herb in melancholic and hypochondriacal disorders has been asserted ever since the time of Dioscorides;* and when it is considered that wine was generally the vehicle in which the plant was administered, we are not surprised that it so long maintained the character of exhilerating the spirits. In this way likewise may be explained why the flowers of Bugloss have been reckoned one of the *four cordial flowers.*

* ——— "quo vino inditum animi voluptatis augere, hilaritatemque offerre creditur," &c. *Dios. l. iv. c.* 128.

SYMPHYTUM OFFICINALE. COMMON COMFREY.

SYNONYMA. Consolida. Pharm. Geoff. vol. iii. 353. *Dale.* 138. *Alston. vol. i.* 525. *Lewis.* 248. *Edin. New Disp.* 176. *Bergius.* 85. *Murray. vol. ii.* 92. *Cullen. v. ii.* 413. Symphytum. *Hall. Stirp. Helv. No.* 600. *Scop. Flor. Carn. No.* 195. Symphytum Consolida major. *Bauh. Pin.* 259. *Gerard. Emac.* 806. Symphytum majus vulgare. *Park. Theat.* 523. *Raii. Synop.* 230. S. officinale. *Huds. Ang. p.* 81. *With. Bot. Arr.* 195. *Curt. Flor. Lond. Flor. Dan.* 664.

Pentandria Monogynia. *Lin. Gen. Plant.* 185.

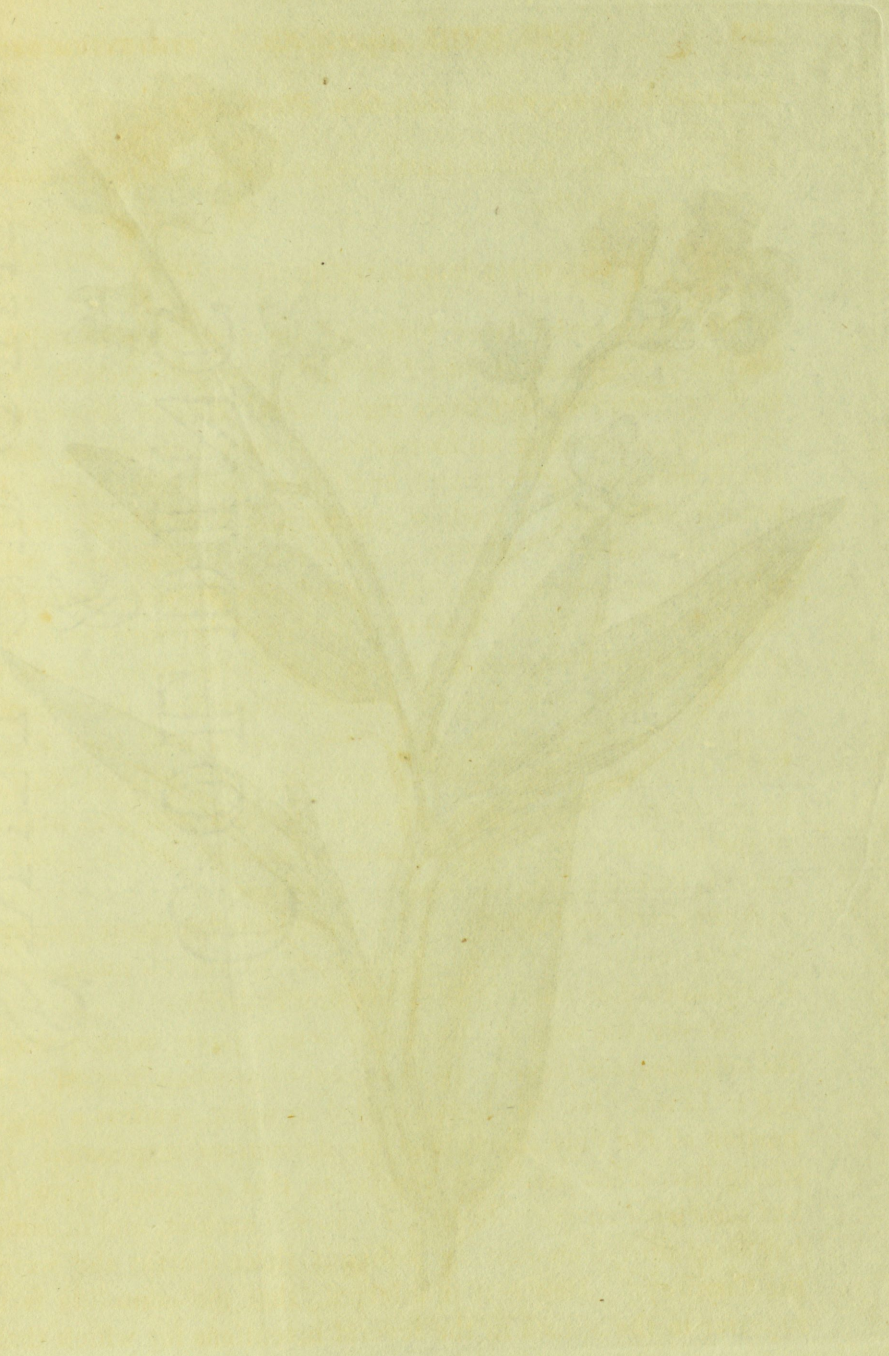
Gen. Ch. *Cor.* limbus tubulato-ventricosus: fauce clausa radiis subulatis.

Sp. Ch. S. foliis ovato-lanceolatis decurrentibus.

ROOT perennial, large, branched, on the outside blackish, within whitish. Stalk about two feet high, erect, branched, somewhat angular, covered with short rigid hairs. Leaves large, alternate, those below standing on footstalks; those above sessile, decurrent, ovate, pointed, entire, rough, and fringed with short hairs. Flowers tubular, of a yellowish white, placed in spikes, which turn inwards in a spiral manner. Calyx divided into five segments, which are rough, erect, and pointed. Corolla funnel-shaped, consisting of a short thick tube, and a limb slightly cut at the edges into five short obtuse reflexed segments; the mouth of the tube closed by five narrow pointed nectarious teeth. Filaments five, short, terminated by yellow erect bifid antheræ. Germen divided into four parts. Style tapering, longer than the corolla, and furnished with a small blunt stigma. Seeds four, angular, blackish, shining, and lodged in the bottom of the calyx. It is a common British plant about ditches, flowering from June till September.

A supposed vulnerary efficacy, for which this plant was formerly in great repute, and to which it seems to owe its name, will now be considered as nothing in its recommendation.

However, the root of Comfrey, though rarely used, promises all the advantages to be derived from that of marshmallow; for according to Lewis "the dried root, boiled in water, renders a large proportion of the fluid slimy; and the decoctions inspissated, yield a strong flavourless mucilage, similar to that obtained from althæa, but somewhat stronger-bodied, or more tenacious, and in somewhat larger quantity, amounting to about three-fourths the weight of the Comfrey." Hence it it inferred, that the consolida is rather superior to the althæa in the several intentions for which that root





Cynoglossum officinale.

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is employed; the mucilaginous matter being in both roots the only medicinal principle. Therefore, as the root of this plant is easily obtained, it may be conveniently substituted for that of althæa in all the compositions in which the latter is officinally directed, or extemporaneously, for the general purposes of an emollient and demulcent. This opinion seems also to have the authority of Dr. Cullen, who says, "While mucilaginous matters are retained in our lists, I do not perceive why both the British Colleges have entirely omitted the Symphytum. It may be of service as alleged in diarrhœas and dysenteries."

CYNOGLOSSUM OFFICINALE. COMMON HOUND'S-TONGUE.

SYNONYMA. Cynoglossum. *Pharm. Geoff. v.* 3. 394. *Dale.* 135. *Alston. v.* 1. 48. *Lewis.* 268. *Ed. New Dispens.* 181. *Bergius.* 82. *Murr. V.* 2. 102. *Cullen. v. ii.* 413. Cynoglossum majus vulgare. *Bauh. Pin.* 257. *Ger. Emac.* 804. *Park. Theat.* 511. *Raii. Hist.* 489. *Synop.* 226. Cynoglossum foliis ellipticis lanceolatis, hirsutis, caule folioso. *Hall. Hist. Stirp. Helv. n.* 587. C. officinale. *Scop. Flor. Carn.* 191. *Hudson. Fl. Ang.* 80. *With. Arr.* 192. *Curt. Flor. Lond.*

Pentandria Monogynia. *Lin. Gen. Pl.* 183.

Gen. Ch. *Cor.* infundibuliformis, fauce clausa fornicibus. *Semina* depressa, interiora tantum latere stylo affixa.

Sp. Ch. C. staminibus corolla brevioribus, foliis lato-lanceolatis basi attenuatis tomentosis sessilibus, laciniis calycinis oblongis. *Hort. K*

ROOT perennial, long, tapering, blackish on the outside, whitish within. Stalk two or three feet in height, erect, grooved, villous, leafy, branched. Radical leaves large, on long footstalks, exceeding a foot in length, ovate, pointed, covered with a short shining greyish down; cauline leaves sessile, numerous, lanceolate, broad towards the base. Flowers of a dull red, changing to a bluish colour, and placed on slender peduncles, in spikes. Segments of the calyx five, deeply divided. Corolla monopetalous, funnel-shaped: tube cylindrical, thick, half the length of the calyx: limb concave, cut into five roundish segments: nectary consisting of five purple scales, closing together, and inserted at the mouth of the tube. Filaments five, very short. Antheræ oblong, green. Germens four, smooth, of a yellowish green colour, supporting a tapering style, terminated by a blunt emarginated stigma. Capsules four, roundish, rough. Seeds solitary, ovate, gibbous, pointed, smooth.

It is common in this country, and usually found in waste grounds, or sides of roads, and flowers in June and July.

Hounds-tongue, thus named from the shape of the leaves, like most of the other plants of this natural order, is succulent, and somewhat mucilaginous, especially its root, which, for medicinal purposes, has been generally preferred to the leaves. The taste of the plant is bitterish, and its smell disagreeable, resembling that of mice. Cynoglossum is reported to be deleterious, and the dingy lurid appearance of its leaves, peculiar to poisonous herbs of the narcotic kind, seems to favour the opinion; nor are facts wanting to confirm it. A relation is given of whole family at Oxford, who, by mistake, ate the boiled leaves of this plant for those of comfrey: soon afterwards they were all seized with vomiting, stupor, sleepiness, &c. which symptoms continued alternately for almost forty hours, and with such severity, that one person died.[a] But

[a] Vide Morrison *Hist. Oxon. iii. p.* 450. Haller also, (*Hist. Stirp. Helv. n.* 587.) cites a similar instance, mentioned by Dr. Blair; but the plant used does not appear to have been the cynoglossum. Blair's *Miscellaneous Observations, p.* 55.



Borago officinalis

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what degree of narcotic power Hounds-tongue possesses, or to what quantity it may be safely employed as a medicine, experience has not yet determined. The pil. de cynoglosso of the Wirtemburg and Danish Pharmacopœias contain so small a proportion of this root, that their common use cannot be considered as affording sufficient proof of its innocence. Ray however informs us, that Dr. Hulce frequently prescribed a decoction of the roots of Hounds-tongue for internal use, and at the same time applied the roots as a poultice to scrophulous tumours with safety and advantage.[b] Hence it appears that this part of the plant at least cannot be considered as an active poison.

The leaves and roots of Cynoglossum have been employed with the same intention, and principally with a view to their mucilaginous, astringent, and sedative qualities, as in coughs, hæmoptysis, diarrhœas, dysenteries, &c.[c] Their external use is also recommended in ill-conditioned ulcers and tumours.

[b] Vide *l. c.*

[c] Vide Schreckius *Diss de Cynoglosso.*

BORAGO OFFICINALIS. COMMON BORAGE.

SYNONYMA. Borago. *Pharm. Geoff. v.* 3. 201. *Dale.* 136. *Alston. v. ii.* 91. *Lewis.* 158. *Ed. New Dispens.* 150. *Bergius.* 86. *Murray. v. ii.* 95. Buglossum latifolium, Borrago, *Bauh. Pin.* 256. Borrago hortensis. *Gerard. Emac.* 797. Borago floribus cæruleis & albis. *Raii. Hist.* 493. *Synop.* 228. B. officinalis. *Hudson. Flor. Ang.* 82. *With. Bot. Arr.* 196. *Ic. Hort. Roman. T.* 2. *t.* 20. 21. *Eng. Bot.* 36.

Pentandria Monogynia. *Lin. Gen. Pl.* 188.

Gen. Ch. *Cor.* rotata: fauce radiis clausa.

Sp. Ch. B. foliis omnibus alternis, calycibus patentibus.

ROOT divided, fibrous, and in Britain scarcely more than biennial. Stalks branched, round, succulent, hairy, erect, rising to the height of two feet. Leaves ovate, alternate, undulated, hairy, ciliated, irregularly defined at the edges, and at their bases embracing the stem. Flowers large, blue, placed in loose panicles, upon rough peduncles turning downwards. Calyx divided into five narrow ovate rough permanent segments. Corolla monopetalous, wheel-shaped: tube short: limb deeply cut into five spreading pointed divisions, which are longer than the calyx; faux or mouth of the tube closed by five prominences, which are blunt, and notched at the end. Filaments five, tapering, converging: antheræ oblong, approaching, and fixed to the middle and inner side of the filaments. Germens four: style filiform, longer than the stamina, and furnished with a simple stigma: the calyx supplies the office of capsule, containing the seeds, which are four, of an irregular roundish shape.

The Borage, although commonly found growing about rubbish, and in waste grounds, is however not originally a native of this Island, but has now been long enough naturalized here to be considered as a British plant. Its flowers, which appear from June till September, are of a beautiful blue colour: hence this plant, in many gardens, is cultivated for ornament, as well as for its popular use as an ingredient in that grateful summer-beverage, known by the name of Cool Tankard.

This plant appears to be the buglossum of the ancients;* and its reputed medicinal character seems also to correspond most exactly with that of our common bugloss, or anchusa officinalis L. The flowers of both have been termed cordial, and hence, formerly, much recommended in melancholia, and other affections of the

* The following lines therefore apply to this plant:

Vinum potatum quo sit macerata buglossa,
Mærorem cerebri dicunt auferre periti.
Fertur convivas decoctio reddere lætos.—*Schol. Salern. c.* 21.

nervous system;[b] and as these flowers were found to possess neither warmth, pungency, nor fragrance, their cordial efficacy has been ascribed to a saline quality, which, by abating inordinate heat, was said to be peculiarly grateful and refreshing. But though the herbaceous substance of Borage has been discovered to contain a saline matter, there is no evidence of its existence in the flowers; so that the advantages supposed to be derived by a vinous infusion of these, like those of bugloss, can only be imputed to the menstruum.

The leaves of Borage manifest nothing remarkable either to the smell or to the taste; but they abound with a juice, which, in its expressed state, is said to be saltish, and which, on being boiled a sufficient time, forms crystals of nitre:[c] similar crystals have also been obtained from a decoction of the leaves;[d] and hence it may be inferred, that this plant has a peculiar claim to the possession of refrigerating and aperient virtues. Dr. Withering observes, that the young and tender leaves are good in sallads, or as a pot-herb.

Cordia Myxa, whose fruit is of the drupaceous or plumb kind, and was formerly known in the shops by the name *sebesten,* is the only remaining medicinal plant placed by botanists in this natural order which we have not figured. The leaves of the Myxa, however, unlike those of the other species of Cordia, are smooth and naked; it therefore cannot properly belong to the asperifoliæ.

[b] Hence the trite remark, "Borago, gaudia semper ago."

[c] Marcgraf *in Mem. de L'Acad. des Sc. de Berlin.* 1747. *p.* 79.

[d] Boulduc *Mem. de L'Acad. des Sc. de Paris,* 1734. *p.* 101.

ANCHUSA TINCTORIA. DIERS BUGLOSS, or ALKANET.

SYNONYMA. Anchusa. *Pharm. Edinb.* Anchusa puniceis floribus. *Bauh. Pin. p.* 255. Anchusa Monspeliana. *J. Bauh. Hist. vol. iii. p.* 583. *Raii Hist. p.* 496. Anchusa Alcibiadion. *Gerard. Emac. p.* 800. Anchusa minor purpurea. *Park. Theat. p.* 517. Alkanna. *Pharm. Suic. Wert. &c.*

Class Pentandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 182.

Ess. Gen. Ch. *Cor.* infundibulif. fauce clausa fornicibus. *Sem.* basi insculpta.

Sp. Ch. A. tomentosa, fol. lanceolatis obtusis, stamin. corolla brevioribus.

THE root is perennial, long, round, fibrous, and externally of a dark purplish red colour: the stalk is thick, round, rough, hairy, branched, and rises about two feet in height: the leaves are long, lance-shaped, obtuse, hairy, and without footstalks: the flowers vary from a purplish to reddish colour, and terminate the branches in close clusters: the calyx is divided into five oblong erect rough persistent segments: the corolla is monopetalous, and funnel-shaped, consisting of a cylindrical tube, equal in length to the calyx, divided at the limb into five blunt teeth, and closed at the faux or centre by five small prominent scaly leafits: the five filaments are short, included in the tube of the corolla, and furnished with simple antheræ: the germens are four: the style is filiform, about the length of the stamina, and supplied with an obtuse notched stigma: the seeds are four, of an irregular shape, and lodged within the calyx. It flowers from June till October.



Anchusa tinctoria

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This species of Anchusa* is a native of Montpellier, and was cultivated in Britain by Mr. James Sutherland, in the year 1683.[a] It is propagated by our gardeners for the beauty of its flowers, but in this climate its roots never acquire that deep colour on which its utility depends. The red cortical part of the root of this plant, as imported here from the southern parts of Europe, when separated from the interior white part, imparts a fine deep red to oils, wax, and all unctuous substances, and to rectified spirit of wine; on this account the Edinburgh College introduces it into their catalogue of the Materia Medica. "To water this root gives only a dull brownish hue. The spirituous tincture, on being inspissated to the consistence of an extract, changes its fine red to a dark brown. In these general properties the deep and pale roots agree one with another, and differ from all the rest of the red drugs we know of: it is not therefore probable, that the deep colour of the foreign roots is owing, as some have supposed, to the introduction of an extraneous tincture."[b] Formerly the Alkanet root was recommended in several diseases, particularly as an astringent, and it manifests this quality in some degree to the taste;[c] but it is now used in no other way than for colouring oils,[d] ointments, and plasters, which receive a fine deep red from one fortieth their weight of the root.

* Anchusa ab αγχω strangulo, suffico quod serpentes strangulet necetque. Hac vi pollere est auctor Nicander, Dioscorides, Plinius, Galenus, &c. *Bod. in Theoph. p.* 835.

[a] Sutherland. *Hort. Edin.* 24. *no.* 7. See Aiton's Hort. Kew.

[b] Lewis *Mat. Med. p.* 56.

[c] Alston could not discover this quality in the Anchusa. *M. M. vol. i. p.* 365.

[d] It is also used with oil by the cabinet makers to stain mahogany and other woods.

ORD. XIX. VERTICILLATÆ.

(From *vertex*, a whirlpool.)

Herbaceous plants producing their flowers in whirls or whorls, encircling the upper part of the stem.

GLECOMA HEDERACEA. GROUND-IVY, or GILL.

SYNONYMA. Hedera terrestris. *Pharm. Edin. Gerard.* 856. *Raii. Hist.* vol. 1. 567. *Synop.* 243. Hedera terrestris vulgaris. *Bauh. Pin.* 306. *Park. Theat.* 676. Chamæcissus sive Hedera terrestris. *J. Bauh.* vol. 3. 855. Chamæclema caule procumbente radicato, foliis reniformibus, rotunde crenatis. *Hall. Stirp. Helv.* No. 245. Glecoma hederacea. *With. Bot. Arrang.* 603. *Relhan Flor. Cant.* 225. *Curtis Flor. Lond. Flor. Dan.* t. 789.

Class Didynamia. *Ord.* Gymnospermia. *L. Gen. Plant.* 714.

Ess. Gen. Ch. Antherarum singulum par in formam crucis connivens. *Calyx* 5-fidus.

Sp. Ch. G. foliis reniformibus crenatis.

THIS plant has a small, perennial, creeping, fibrous root, which puts forth stalks from six inches to a foot and a half in height; these are square, procumbent, and at the knots or joints woolly; the leaves are of a roundish kidney-shape, scolloped, hairy, and stand in opposite pairs upon channelled footstalks; the flowers



Glecoma hederacea.

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grow in verticilla, or whorls of three, four, or five together, on short peduncles, placed about the footstalks of the leaves; the calyx is tubular, permanent, striated, rough, and divided into five unequal pointed segments; the flower is blue, monopetalous, bilabiated, with a slender compressed tube; the upper lip is cleft, erect, blunt, the lower lip is expanded, large, divided into three lobes, of which the middle one is the largest, and is notched at the end; the bracteæ are small, tapering, and grow from the peduncles; the filaments are four, two long and two short, covered by the upper lip, and the antheræ of each pair approach so as to form a cross; the style is filiform, the stigma is bifid, and pointed; the seeds are four, oval, naked, and lodged in the calyx. It is a well known plant, growing commonly under hedges, and flowering in April.

Ground-ivy has a peculiar strong smell,[a] and its taste is bitterish, and somewhat aromatic. It is one of those plants which was formerly in considerable estimation, and supposed to possess great medicinal powers, but which later experience has been unable to discover; in proof of this, its name is omitted in the catalogue of the Materia Medica by the London College. The qualities of this plant have been described by different authors, as pectoral, detergent, aperient, diuretic, vulnerary, corroborant, errhine, &c.—and it has been variously recommended for the cure of those diseases to which these powers seemed most adapted, but chiefly in pulmonary[b] and nephritic[c] complaints. In obstinate coughs, it is a

[a] Dr. Withering has observed, that the leaves are "beset underneath with hollow dots, in which are glands secreting an essential oil, and above with little eminences, but which do not secrete any odoriferous oil; for this surface being rubbed gives out no peculiar scent, whereas the under surface affords a pleasant reviving scent." l. c.

[b] Willis, Pharm. rat. sect. 1. c. 6. Morton, Phthisiologia, lib. 3. Cap. 5. Sauvages Nosol. Tom. 3. P. 2. cap de phthisi. Ettmuller, Oper. T. p. 639. Scardona Aphoris. lib. 2. p. 69. River. Prax. P. 1. p. 397. See also Ray, Gerard, Miller, and others.

[c] Paulli Quadrip. bot. p. 74. Sennertus. Oper. T. 3. p. 576. Plater. Prax. Tom. 2. p. 499. Reusn. Observ. Med. p. 90. apud Welch. Mead Mon. et præc. med. p. 97.

favourite remedy with the poor, who probably experience its good effects by still persevering in its use. Ray, Mead, and some others, speak of its being usefully joined with fermenting ale;* but Dr. Cullen observes, "it appears to me frivolous. In short, in many cases where I have seen it employed, I have had no evidence either of its diuretic or of its pectoral effects. In common with many other of the verticillatæ, it may be employed as an errhine, and in that way cure a head-ach,[d] but no otherways by any specific quality." It is usually taken in the way of infusion, or drunk as tea.

* From the general use of Ground-ivy, mixed with ale, &c. it acquired the name of Ale-hoof and Tun-hoof.

[d] Ray gives a remarkable instance of its efficacy in this way, in the case of Mr. Oldacres, and says, "Succus hujus plantæ naribus attractus cephalalgiam etiam vehementissimam & inveteratam non lenit tantùm sed & penitus aufert—Medicamentum hoc non satis potest laudari, si res ex usu æstimarentur, auro æquiparandum." l. c.

HYSSOPUS OFFICINALIS. COMMON HYSSOP.

SYNONYMA. Hyssopus. *Pharm. Edinb.* Hyssopus Officinarum cærulea sive spicata. *Bauh. Pin. p.* 217. Hyssopus vulgaris. *Park. Theat.* Hyssopus Arabum. *Gerard. Emac. p.* 576. Hyssopus vulgaris spicatus angustifolius. *J. Bauh. Hist. iii. p.* 274. *Raii Hist. p.* 516. Hyssopus foliis linearibus punctatis, verticillis in spica continuatis. *Hal. Stirp. Helv. n.* 249. *Jacquin Flor. Aust. t.* 254.

Varietates sunt, α foliis glabris, floribus cæruleis: β foliis glabris, floribus rubris: γ foliis glabris, floribus albis: δ foliis pilosis. *Aiton's Hort. Kew.*

Class Didynamia. *Ord.* Gymnospermia. *Lin. Gen. Plant,* 709.



Hyssopus officinalis.

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Ess. Gen. Ch. *Corollæ* labium inferius lacinula intermedia crenata. *Stamina* recta, distantia.

Sp. Ch. H. spicis secundis, foliis lanceolatis.

THE root is perennial, knobbed, woody, and furnished with many long fibres: the stalk is shrubby, somewhat square, upright, much branched, and rises about two feet in height: the leaves are long, narrow, elliptical, entire, obtusely pointed, of a deep green colour, and stand in pairs without footstalks: the flowers are produced chiefly on one side, in short verticillated spikes, terminating the branches, and are of a blue colour: the calyx is tubular, striated, and divided at the extremity into five pointed segments: the corolla is monopetalous, and consists of a narrow tube, which divides at the limb into two expanded lips; the uppermost is short, roundish, and notched at the apex; the lowermost is separated into three segments, of which the undermost is very large, and inversely heart-shaped: the filaments are four, two long, and two short, and crowned with simple antheræ: the style is slender, and divided at the top into a double stigma: the germen is separated into four parts or seeds, which are lodged at the bottom of the calyx. It is a native of Siberia, and the mountainous parts of Austria, and flowers from June till September.

The Hyssop, mentioned in the Old Testament, is not supposed to be the plant here described, which is neither the *Esof* of the Hebrews, nor the ὑσσωπος of the Greeks.[a] It was first cultivated in England by Gerard,* in 1596, and is now extremely common in our gardens. The leaves of Hyssop have an aromatic smell, and a bitterish moderately warm taste. They give out their active

[a] Vide Le Clerc's Hist. p. 626. cited by Alston, who says, I shall only take notice that καλαμος in St. Matthew's Gospel, chap. xxvii. ver. 48. is ὑσσωπος in St. John's, chap. xix. ver. 29. Probably it is the *Zufe* or *cyfe*, i. e. Hyssop of the Arabians. Lect. on the M. M. v. ii. p. 152.

* Vide *Hort. Kew.*

matter both to water and to rectified spirit; to the last most perfectly. On inspissating the spirituous tincture, very little of the flavour of the herb exhales or distills with the menstruum: the remaining extract is bitterish, and very warm, and discovers a penetrating pungency, somewhat like that of camphor. Water, distilled from the fresh herb, is found pretty strongly impregnated with its flavour: an essential oil separates and rises to the surface, which is very pungent, and in smell exactly resembles the Hyssop."[b]

Dr. Cullen classes this and all the verticillated plants as stimulants, and this quality is to be ascribed to the quantity of essential oil which they contain; the Hyssop therefore may be esteemed aromatic and stimulant; and with a view to these effects, Bergius recommends it as an emmenagogue and antihysteric;[c] but it is chiefly employed as a pectoral, and has been long thought an useful medicine in humeral asthmas, coughs, and catarrhal affections; for this purpose, an infusion of the leaves, sweetened with honey or sugar, and drank as tea, is recommended by Lewis. The external application of Hyssop is said to be particularly efficacious in the way of fomentation and poultice, in contusions, and for removing the blackness occasioned by the extravassated fluids.[d]

[b] Lewis M. M. p. 348. [c] M. M. p. 512.

[d] All the old writers praise it highly in this respect: Nec excluduntur sugillationes oculorum quibus herba intra sacculum aqua vel vino decocta clausis palpebris subvenit. *Riolan.* and *Sim. Pauli.*

It is also recommended as a vermifuge by Rosenstein. *Barns jukd. p.* 358.





Lavendula Spica

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LAVANDULA SPICA. COMMON LAVENDER.

SYNONYMA. Lavendula. *Pharm. Lond. & Edinb.* Lavendula angustifolia flore cæruleo. *Bauh. Pin. p.* 216. Lavendula minor sive spica. *Gerard. Emac. p.* 584. *Raii. Hist. p.* 513. *Park. Theat. p.* 73. Pseudo-nardus quæ Lavendula vulgo. *J. Bauh. Hist. vol. iii. p.* 282. Lavandula foliis lineribus, spicis nudis. *Hal. Stirp. Helv. n.* 232.

Varietates sunt.

α Lavandula angustifolia flore cæruleo. *Bauh. Pin. p.* 216.
Narrow-leaved blue flowered common Lavender.

β Lavandula angustifolia flore albo. *Bauh. l. c.*
Narrow-leaved white flowered common Lavender.

γ Lavandula latifolia. *Bauh. l. c.*
Broad-leaved common Lavender. Vide *Aiton. Hort. Kew.*

Class Didynamia. *Ord.* Gymnospermia. *Lin. Gen. Plant.* 711.

Ess. Gen. Ch. *Calyx* ovatus, subdentatus, bractea suffultus. *Corolla* resupinata. *Stamina* intra tubum.

Sp. Ch. L. foliis sessilibus lanceolato-linearibus margine revolutis, spica interrupta nuda.

THE root is perennial, thick, fibrous, and woody: the stalk is shrubby, much branched, and often rises to the height of five or six feet: the bark of the younger shoots is of a pale-green colour, but of the old woody part of the stem rough and brown: the leaves are numerous, long, narrow, entire, without footstalks, of a whitish green colour: the flowers are produced in terminal spikes upon the young shoots, and are of a bright blue colour: the corolla consists

of a long cylindrical tube, divided at the mouth into two lips, the uppermost of which is largest, and cut into two segments; the lower expands downwards, and separates into three: the filaments are four, two long, and two short, inclosed within the tubular part of the corolla, and support small simple antheræ: in the place of a germen we find four naked seeds, from the centre of which proceeds the style, which is slender, and furnished with a bilobated stigma. It is a native of the south of Europe, and flowers from July till September. This plant was formerly considered as a species of Nardus, and appears to be the Pseudo-nardus of Matthiolus and Pliny.

Lavender grows spontaneously in many of the southern parts of Europe; it appears from Turner to have been cultivated in England previous to the year 1568,[a] and on account of the fragrance of its flowers, it is now so commonly cultivated, that we can scarcely enter a garden in which this plant is not to be found. The fragrant smell of the flowers is well known, and to most people agreeable; to the taste they are bitterish, warm, and somewhat pungent; the leaves are weaker and less grateful. "Water extracts by infusion nearly all the virtue both of the leaves and flowers. In distillation with water the leaves yield a very small portion of essential oil; the flowers a much larger, amounting in their perfectly mature state[b] to about one ounce from sixty. The oil is of a bright yellow colour, of a very pungent taste, and possesses, if carefully distilled, the fragrance of the Lavender in perfection.[c] Rectified spirit ex-

[a] Vide Aiton's *Hort. Kew.*

[b] In order to obtain the largest quantity of essential oil from these and most other flowers of this kind, they should be allowed to grow to their full maturity, and be dried for some time.

[c] Hence it is frequently employed as a perfume. This oil has been used for stimulating paralytic limbs, and for other external purposes. We are also told that it effectually destroys cutaneous insects, and that if soft spongy paper be dipped in this oil, and applied to the parts, it immediately kills the *pediculi inguinales*.—This oil, distilled from the broad-leaved Lavender, and mixed with three-fourths of rectified spirit, or oil of turpentine, was the Oleum spicæ, formerly high celebrated as an application to indolent tumours, old sprains, diseased joints, &c.

tracts the virtue of Lavender more completely than water. The spirit elevates also in distillation a considerable part of the odoriferous matter of the leaves, and greatest part of that of the flowers; leaving in the inspissated extracts a moderate pungency and bitterness, with very little smell."[d]

Lavender has been an officinal plant for a considerable time, though we have no certain accounts of it given by the ancients: its medicinal virtue resides in the essential oil, which is supposed to be a gentle corroberant and stimulant of the aromatic kind,[e] and is recommended in nervous debilities and various affections proceeding from a want of energy in the animal functions. According to Dr. Cullen, it is, "whether externally applied or given internally, "a powerful stimulant to the nervous system; and among the "others of this order, named Cephalics, the Lavender has a very "good and perhaps the best title to it." And he further says, "it "appears to me probable, that it will seldom go further than ex- "citing the energy of the brain to a fuller impulse of the nervous "power into the nerves of the animal functions, and seldom into "those of the vital. It may however be with great propriety, "that Professor Murray has dissuaded its use where there is any "danger from a stimulus applied to the sanguiferous system. It is "however still probable, that Lavender commonly stimulates the "nervous system only, and therefore may be more safe in palsy "than the warmer aromatics, especially if the Lavender be not "given in a spirituous menstruum, or along with heating aromatics, "which however is commonly done in the case of the spiritus "lavendulæ compositus."[f] The officinal preparations of Lavender, are the essential oil, a simple spirit, and a compound tincture.

[d] Lewis's Mat. Med. p. 371.

[e] Bergius says, *Virtus:* nervina, resolvens, tonica, emmenagoga. *Usus:* externus. M. M. p. 513.

[f] Mat. Med. vol. ii. p. 148.

TEUCRIUM MARUM. MARUM GERMANDER, Or, SYRIAN HERB MASTICH.

SYNONYMA. Marum Syriacum. *Pharm. Lond.* Marum Cortusi. *J. Bauh. Hist. v. iii. p.* 242. Marjorana Syriaca vel Cretica. *Bauh. Pin. p.* 224. Marum Syriacum vel Creticum. *Park Theat. p.* 13. *Raii Hist. p.* 527. Chamædrys incana maritima frutescens, foliis lanceolatis. *Tourn. Inst. p.* 205. Tragoriganum Thymi latioribus foliis, subtus incanis; flore magno suave-rubente. *Pluk. Alm. p.* 374. Thymum Creticum, &c. *Breyn Prod. ii. p.* 99. C. Schreberi *verticill. unilab. n.* 28. *et.* Linn. *Diss. de Maro resp.* Dahlgren. p. 7.

Class Didynamia. *Ord.* Gymnospermia. *Lin. Gen. Plant.* 706.

Ess. Gen. Ch. *Corollæ* labium superius (nullum) ultra basin 2-partitum, divaricatum ubi stamina.

Sp. Ch. T. foliis integerrimis ovatis acutis petiolatis, subtus tomentosis, flor. racemosis secundis.

THE root is perennial, long, ligneous, and divides into many fibrous branches: the stalks are numerous, slender, shrubby, woolly, somewhat branched, and rise above a foot in height: the leaves are oblong, pointed, entire, and near the bottom obscurely lobed: the upper pagina is of a pale green colour; the under, white and downy; they are placed in pairs upon slender footstalks, which become gradually elongated towards the lower part of the stems: the flowers are produced in spikes, and all stand on the same side in pairs, upon short peduncles: the corolla consists of a short curved cylindrical tube, which divides at the limb into two lips; the upper lip is short, erect, and divided to the base, by which it seems lost in the upper lip, which is long, of a pale purple colour,



Teucrium Marum

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and separated into six lobes, of these the outermost is the largest: the calyx is tubular, whitish, woolly, and cut into five short pointed segments: the filaments are two long and two short, slender, white, and furnished with simple antheræ: the germen is quadrifid, and supports a slender style, with a bifid stigma: the seeds are four, of a brown colour, and lodged in the calyx, which serves the purpose of a capsule.

This little shrub flowers from July till September. It is a native of Spain, and is said to grow plentifully also in Greece, Ægypt, Crete, and Syria.

Whether this plant was known to the ancients or not, does not appear from the descriptions of Theophrastus and Dioscorides.—Cortusus [a] discovered that cats are remarkably fond of Marum;* and from this circumstance we are enabled with certainty to trace back its history to his time, for ever since it has been known by the name of Cat-thyme: there occurs however considerable difficulty in ascertaining its synonyma; and probably some of those to which we have referred, are not sufficiently identified. It was first cultivated in England by Parkinson [b] in 1640, and is now to be found in many of our gardens.

The leaves and younger branches of Marum, when recent, on being rubbed between the fingers, emit a volatile aromatic [c] smell, which readily excites sneezing, but to the taste they are bitterish, accompanied with a sensation of heat and acrimony. Lewis observes, that "the Marum loses but little of its pungency on being dried, and in this respect it differs remarkably from many other acrid herbs, as those called antiscorbutic. It gives out its active matter

[a] See Jac. Antonii Cortusi Catalogus Horti Patavini, *anno* 1591, & J. Bauh. l. c.

* Cats are also known to have a similar fondness for the Nepeta Cataria, and the roots of Valeriana off.

[b] Vide Aiton's *Hort. Kew.*

[c] Murray says,—Ut sal volatile olfactum grato suo et camphoraceo fere aromate nares vellicant, in sternutationem usque, et per momentum temporis animum eximie erigunt. App. Med. vol. 2. p. 108.

partially to water, and completely to rectified spirit.—Distilled with the former, it yields a highly pungent, subtile, volatile essential oil, similar to that of scurvy grass, but stronger, and of less perishable pungency. Rectified spirit carries off likewise, in the inspissation of the spirituous tincture, a considerable share of the smell and pungency of the Marum, but leaves much the greatest part concentrated in the extract; which, on being tasted, fills the mouth with a durable, penetrating, glowing warmth."[d]

Judging from the sensible qualities of this plant, it may be supposed to possess very active powers, and on this consideration it is strongly recommended by Wedelius [e] as an important remedy in many diseases requiring medicines of a stimulant, aromatic, and deobstruent quality; and his opinion seems in some measure to have been since verified by actual experience of its efficacy, as appears from the instances of its successful employment by Linnæus,[f] Rosenstein,[g] and Bergius.[h] The last mentioned writer says of it, *Virtus:* nervina, tonica, resolvens, emmenagoga, diuretica, errhina. *Usus:* Cachexia, Hysteria, Debilitas nervorum.

At present, however, Marum is here chiefly used as an errhine, and is an ingredient in the pulvis asari compositus of the London Pharmacopœia. The dose of the powdered leaves is from a scruple to half a dram, which Murray advises to be given in wine.

[d] Lewis Mat. Med. p. 412.

[e] *Diss. de Maro resp.* Hermanno 1703.—Its cephalic efficacy is highly commended by Hermann *(Cynos. Mat. Med. tom. 2. p. 349.)* and Boerhaave *(Hist. Plant. hort. L. B. p. 262.)*

[f] Of these we may mention Menstrua suppressa, Apoplexy, Asthma, and various other pulmonary affections. Vide l. c.

[g] Murray says, "Litteris vero ad me datis, vir. illustris perscripsit, se eadem medela b. Rosensteinio, dirissima et pertinacissima tussi cum difficillima respiratione in ultimo morbo conflictato, levamen attulisse exoptatissimum." l. c.

[h] He mentions the case of a lady who received a blow upon the head by falling from a carriage, which brought on a species of apoplexy, and was cured by this plant, after several other means had been tried ineffectually. M. M. p. 504.



Teucrium Scordium

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TEUCRIUM SCORDIUM. WATER GERMANDER.

SYNONYMA. Scordium. *Pharm. Lond. & Edinb. Gerard. Emac. p.* 661. *Bauh. Pin.. p.* 274. *J. Bauh. Hist. iii. p.* 292. *Raii Hist. p.* 576. *Synop. p.* 245. Scordium legitimum. *Park. Theat. p.* 111. Chamædrys foliis mollibus, hirsutis, ellipticis, crenatis, verticillis paucifloris. *Hal. Stirp. Helv. n.* 288. Teucrium Scordium. *Withering. Bot. Arrang. p.* 591. *Flor. Dan.* 593.

Class Didynamia. *Ord.* Gymnospermia. *Lin. Gen. Plant.* 706.

Ess. Gen. Ch. *Corollæ* labium superius (nullum) ultra basin 2-partitum, divaricatum ubi stamina.

Sp. Ch. T. foliis oblongis sessilibus dentato-serratis, floribus geminis axillaribus pedunculatis, caule diffuso.

THE root is perennial, fibrous, creeping: the stems are branched, trailing, square, hairy, and more than a foot in length: the leaves are serrated, hairy, oblong, veined, of a dusky-green colour, without footstalks, and placed in pairs: the flowers stand in verticilli or whorls of two, three, or four together, upon short peduncles, placed at the base of the leaves: the corolla is monopetalous, consisting of a short tube, which divides at the mouth into two lips, but the upper is extremely short, and cleft in the middle, and therefore appears to be wanting: the under lip is long, of a purple colour, dentated at the sides, and terminated by a large roundish expanded segment: the calyx is tubular, hairy, and cut at the extremity into five short teeth: the filaments are four, two long and two short, slender, bent, and crowned with simple antheræ: the germen divides into four parts, from the centre of which rises a slender style, furnished with a bifid stigma: the seeds

are four, naked, of an irregular shape, and lodged in the bottom of the calyx. It is a native of England, in marshy situations, and flowers in July and August.

The leaves of Scordium have a smell somewhat of the garlick kind.[a] and to the taste they are bitterish, and slightly pungent. "When moderately and newly dried they give out their smell and taste both to water and to rectified spirit. In distillation their peculiar flavour arises with water, but the impregnation of the distilled fluid is not strong, nor could any essential oil be obtained on submitting to the operation several pounds of the herb."[b]

The ancients, to whom Scordium was well known,[c] attributed to it a peculiar antiseptic[d] and alexipharmic power, and for many ages it had the character of being remarkably efficacious in all pestilential and putrid diseases; with a view to this, it was afterwards directed in the composition of several officinal medicines,[e] supposed to be antidotes to various kinds of poisons and infections; and we are told, even at a date not very remote from the present, of its successful use in the plague, which raged in Turkey.[f] But notwithstanding the Scordium was formerly considered such a cele-

[a] From this smell it is supposed to take the name Scordium, or Σκορδον, which signifies Garlick; and the milk of animals, which feed upon this plant, is said to acquire a similar flavour. [b] Lewis *Mat. Med. p.* 596.

[c] We are far from being certain that the plant we have figured is really the Scordium of the ancients, and on this account we have not referred it to the Greek writers.

[d] Of the fabulous accounts of its antiseptic powers, we may mention the following from Galen: Scriptum autem est a quibusdam viris gravissimis, cùm in bello interemptorum cadavera multos dies insepulta jacuissent, quæcunque supra scordium fortè fortuna ceciderant, multo minus aliis computruisse, ea præsertim ex parte quæ herbam contigerat. *Lib. de Antidot.* 6. *cap.* 12.

[e] The Mithridate and Theriaca have but lately been expunged from our dispensatories; and though often experienced to be useful remedies, yet with Haller we may say, "Sed cæ farragines sunt medicamentorum, in quibus non dignoscas, cui tribuas eventa." l. c.

[f] Vide *Lettres par De Foy. t.* 1. *p.* 198. and Chenot *de peste, p.* 132.



Rosmarinus officinalis

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brated remedy, and still has place in both the Pharmacopœias, yet it appears to be a very insignificant article of the Materia Medica, and is therefore very justly fallen into disuse; and in this opinion we have the authority of Dr. Cullen, who says, " this plant has a bitter, joined with some volatile parts; but neither of these qualities is considerable enough to retain it in the present practice."[g] Bergius however states *virtus* to be antiputredinosa, tonica, diaphoretica, diuretica, resolvens;[h] and some others recommend it to be employed externally in antiseptic cataplasms and fomentations.

[g] *Mat. Med. vol.* 2. *p.* 82. [h] *Mat. Med. p.* 505.

ROSMARINUS OFFICINALIS. COMMON ROSEMARY.

SYNONYMA. Rosmarinus. *Pharm. Lond. & Edinb.* Rosmarinum coronarium. *Gerard. Emac. p.* 1292. Rosmarinus hortensis angustiore folio. *Bauh. Pin. p.* 217. Rosmarinus coronarius fructicosus. *J. Bauh. Hist. v. ii. p.* 25. *Raii Hist. p.* 515. Libanotis coronaria sive rosmarinum vulgare. *Park. Theat. p.* 71.

Class Diandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 38.

Ess. Gen. Ch. Cor. inæqualis: labio superiore bipartito. *Filamenta.* longa, curva, simplicia cum dente.

THE root is strong, woody, and fibrous: the stalk is shrubby, covered with a rough grey bark, divided into many branches, and rises frequently to the height of six or eight feet: the leaves are sessile, or without footstalks, numerous, long, narrow, entire, obtusely pointed, on the upper side of a dark green, on the under of a greyish or silvery colour, and placed in whorls upon the branches: the flowers are large, of a pale blue colour, and arise

from the axillæ of the leaves: the calyx is divided into two lips, of these the uppermost is entire, but the undermost is cloven into two pointed segments: the corolla is monopetalous, consisting of a cylindrical tube, longer than the calyx, and divided at the brim into two lips; the upper lip is erect and bifid, the under lip is separated into three segments; of these the middle segment is larger than both the others: the two filaments are long, curved, tapering, towards the base furnished with a small tooth, and supplied with simple antheræ: the germen is separated into four parts, which support a slender style, terminated by a cleft pointed stigma: the seeds are four, of an oblong shape, and lodged in the bottom of the calyx. Rosemary [a] is a native of the South of Europe and the Levant. It is commonly cultivated in our gardens, where it usually flowers in April and May.

The ancients were well acquainted with this plant, as it is mentioned by Dioscorides, Galen, and Pliny.[b] It grows wild in some of the southern parts of France, but more abundantly in Spain and Italy. Its cultivation in this country, like many other plants which we have had occasion to mention, is probably of ancient date, but now cannot be traced beyond the time of Gerard.

Rosemary has a fragrant aromatic smell, and a bitterish pungent taste. The leaves and tops of this plant are the strongest in their sensible qualities: the flowers, which are also directed for use by the College, are not to be separated from their cups or calyces, as the active matter principally, if not wholly, resides in the latter.[c]

[a] Ros dici putatur quia roscidæ sit naturæ, vel quia roris instar aspergatur, vel quia ejus usus in aspergillis, *quod nobis verisimilius videtur:* marinus autem vel quia in marinis locis feliciter proveniat, vel quia saporis marini, hoc est, amari. Voss. Etymolog. Vide Ray, l. c.

[b] It is called Λιβανωτις by the Greeks, (Dioscor. *Lib.* 3. *cap.* 89.) Pliny, *Lib.* 24. *cap.* 11. *de rore marino.* Hence it may have been alluded to by Virgil in the following lines:

Nam jejuna quidem clivosi glarea ruris
Vix humiles apibus casias roremque ministrat. GEORG. *ii. v.* 212.

[c] *Lewis M. M. p.* 544.

" Rosemary gives out its virtues completely to rectified spirit, but only partially to water, The leaves and tops, distilled with water, yield a thin light pale-coloured essential oil of great fragrancy, though not quite so agreeable as the Rosemary itself: from one hundred pounds of the herb in flower were obtained eight ounces of oil: the decoction thus divested of the aromatic part of the plant yields, on being inspissated, an unpleasant bitterish extract. Rectified spirit likewise, distilled from Rosemary leaves, becomes considerably impregnated with their fragrance, leaving however in the extract the greatest share both of their flavour and pungency. The active matter of the flowers is somewhat more volatile than that of the leaves, the greatest part of it arising with spirit."[d]

Rosemary is reckoned one of the most powerful of those plants, which stimulate and corroborate the nervous system; it has therefore been recommended in various affections, supposed to proceed from debilities, or defective excitement of the brain and nerves; as in certain headachs, deafnesses, giddinesses, palsies, &c. and in some hysterical and dyspeptic symptoms. Dr. Cullen supposes the stimulant power of Rosemary insufficient to reach the sanguiferous system;[e] it has however the character of being an emmenagogue, and the only disease in which Bergius states it to be useful is the chlorosis.[f] The officinal preparations of this plant are the oleum essentiale roris marini, and the spiritus roris marini. It is also a principal ingredient in what is known by the name of Hungary water.

[d] *Lewis, l. c.*

[e] " It has justly had the reputation of a cephalic, or as a medicine that gently stimulates the nervous system, but hardly so strongly as to affect the sanguiferous." *M. M. vol. ii. p.* 151.

By many people Rosemary is drunk as tea for breakfast.

[f] " *Virtus:* resolvens, nervina corroborans, emmenagoga. *Usus.* Chlorosis."—M. M. p. 21.

MARRUBIUM VULGARE. COMMON WHITE HOREHOUND.

SYNONYMA. Marrubium. *Pharm. Lond. & Edinb.* Marrubium album vulgare. *Bauh. Pin. p.* 230. *Park. Theat. p.* 44. Marrubium album. *Gerard Emac. p.* 693. *Raii Hist. p.* 556. *Synop. p.* 239. Marrubium dentibus calycinis denis, recurvis. *Hal. Stirp. Helv. n.* 258. *Hudson. Flor. Ang. p.* 260. *Withering. Bot. Arr. p.* 617.

Class Didynamia. *Ord.* Gymnospermia. *Lin. Gen. Plant.* 721.

Ess. Gen. Ch. *Cal.* hypocateriformis, rigidus 10-striatus. *Corollæ.* lab. sup. 2-fidum, lineare, rectum.

Sp. Ch. M. dentibus calycinis setaceis uncinatis.

THE root is perennial, and furnished with numerous fibres: the stalks are upright, strong, square, hairy, or downy, and rise about a foot and a half in height: the leaves are roundish or oblong, deeply serrated, veined, wrinkled, hoary, and stand in pairs upon thick broad footstalks: the flowers are white, and produced in whorls at the footstalks of the leaves: the calyx is tubular, scored, and divided at the mouth into ten narrow segments, which are hooked at the end: the corolla is monopetalous, gaping, compressed, consisting of a cylindrical tube, opening at the mouth into two lips: the upper lip is narrow, and cloven or notched; the under lip is broader, reflected, and divided into three segments, the middlemost of which is broad, and slightly scolloped at the end; the lateral segments are spear-shaped and short: the filaments are two long and two short, supplied with simple antheræ, which are concealed in the tube: the germen is divided into four parts, from which issues a slender style, furnished with a cloven stigma: the seeds are four, of an oblong shape. It grows near the sides of roads and rubbish, and flowers in June.



Marrubium vulgare

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PRESTON INSTITUTION 1828



"The leaves of Horehound have a moderately strong smell of the aromatic kind, but not agreeable, which by drying is improved, and in keeping for some months is in great part dissipated: their taste is very bitter, penetrating, diffusive, and durable in the mouth." "The dry herb gives out its virtue both to watery and spirituous menstrua: on inspissating the watery infusion, the smell of the Horehound wholly exhales, and the remaining extract proves a strong and almost flavourless bitter: rectified spirit carries off likewise greatest part of the flavour of the herb, leaving an extract in less quantity than that obtained by water, and of more penetrating bitterness."[a]

This plant is the πρασιον of the ancients, by whom it is greatly extolled for its efficacy in removing obstructions of the lungs and other viscera.[b] It has chiefly been employed in humoural asthmas,[c] obstinate coughs, and pulmonary consumptions;[d] instances are also mentioned of its successful use in scirrhous affections of the liver,[e] jaundice,[f] cachexies, and menstrual suppressions.[g]

That Horehound possesses some share of medicinal power may be inferred from its sensible qualities, * but its virtues do not appear

[a] *Lewis. M. M. p.* 411.

[b] *Dioscorides, Lib. iii. c.* 119. See also *Pliny, Lib. xx. c.* 22.

[c] *Rhazes ad Mansor.* 3. *n.* 42. Particularly, infarctions of the lungs and difficulty of breathing from viscid mucous.

Lösecke, Arzneym. p. 382. *Lange, Miscell. verit. med. p.* 57.

[d] *Alex. Trallian. Lib. v.* Vide *Celsus, Lib. iii. cap.* 22. *Caeliūs Aurelianus, Morb. chron. Lib. ii. p.* 423. *De Haen Rat. Medend. P. iv. p.* 252. But he and *Haller* often found it fail; the latter says, Ego quidem in morbis similibus cum difficili sputorum excreatione infusum aquosum utiliter dedi: & in phthisi satis profecta semel vidi utile fuisse, non autem in aliis exemplis: potius vero mihi movere videtur, quam reprimere. l. c.

[e] *Zacutus Lusitanus, Prax. admir. Lib.* 2. *Obs.* 48. *Chomel, Usuell. T. i. p.* 232.

[f] *Forrest. Op. Lib.* 19. *Obs.* 19. & 40. [g] *Borellus, Hist. et Observ. Cent. iv. p.* 14.

* Taken in considerable quantities it is said to loosen the body.

to be clearly ascertained,[h] and the character it formerly obtained is so far depreciated, that it is now rarely prescribed by physicians. A dram of the dry leaves in powder, or two or three ounces of the expressed juice, or an infusion of half a handful of the fresh leaves have been directed for a dose. This last mode is usually practised by the common people, with whom it is still a favourite remedy in coughs and asthmas.[i]

[h] Bergius says, *Virtus:* tonica, emmenagoga, diuretica. *Usus:* Cachexia, ob. mensium, Hysteria, Asthma pituitosum.

[i] "It has had the reputation of a pectoral: but in many trials, its virtues in that way have not been observed; and in several cases it has been judged hurtful. For its use in Asthma and Phthisis, and for its power in resolving indurations of the liver, I consider the authorities of Forrestus, Zacutus Lusitanus, and Chomel, to be very insufficient; and the events they have ascribed to it seem to be very improbable." *Cullen Mat. Med. vol. ii. p.* 155.

MELISSA OFFICINALIS. COMMON BALM.

SYNONYMA. Melissa. *Pharm. Lond. & Edinb. Gerard. Emac. p.* 689. *Raii Hist. p.* 570. Melissa hortensis. *Bauh. Pin. p.* 229. *Tourn. Inst.* 193. Melissa vulgaris. *Park. Theat. p.* 40. Melissa vulgaris odore Citri. *J. Bauh. Hist. iii. p.* 232. Melissa petiolis unifloris, folio brevioribus, foliis cordatis serratis. *Hall. Stirp. Helv. n.* 242.

α Melissa *romana,* floribus verticillatis sessilibus, foliis hirsutis.
Roman Balm. *Mill. Dict.*

Class Didynamia. *Ord.* Gymnospermia. *Lin. Gen. Plant.* 728.

Ess. Gen. Ch. *Cal.* aridus, supra planiusculus: lab. superiore subfastigiato. *Corollæ* lab. super. subfornicatum, 2-fidum; lab. inf. lobo medio cordato.

Sp. Ch. M. racemis axillaribus verticillatis: pedicellis simplicibus.



Melissa officinalis

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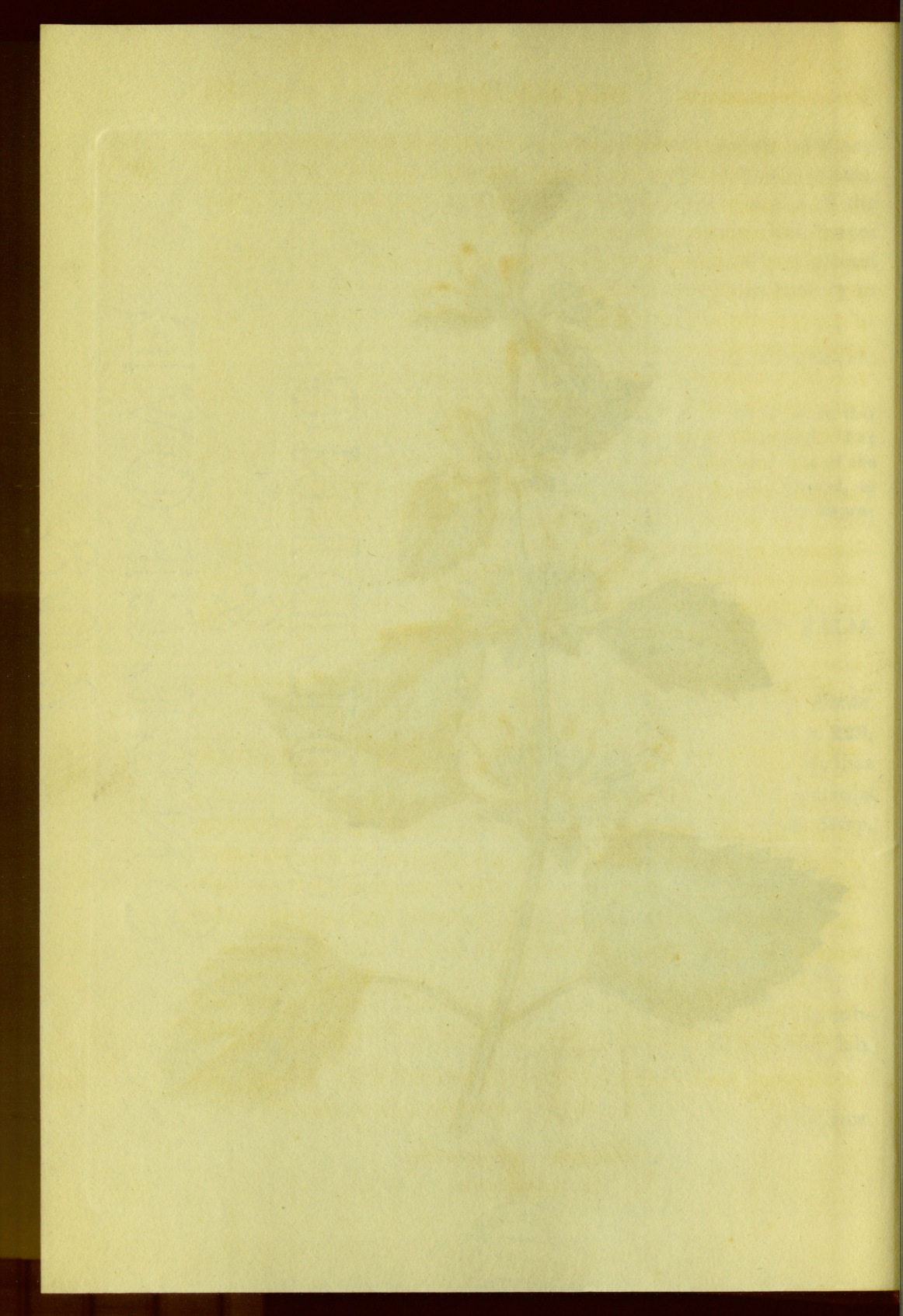
PRESTON INSTITUTE 1828



THE root is perennial, fibrous: the stems are erect, quadrangular, smooth, branched towards the bottom, and usually rise two or three feet in height: the leaves are heart or egg-shaped, spreading, rough, ribbed, veined, deeply serrated, of a bright green colour, and placed in pairs upon footstalks, which of the lower leaves are very long: the flowers are white or yellowish, placed in whorls or clusters at the alæ of the leaves, and appear in June and July: the bracteæ are oblong, notched, hairy, and placed at the peduncles: the calyx consists of one tubular pentangular leaf, divided at the brim into two lips, of these the upper is larger, and divided at the extremity into three segments; the under is shorter at the margin, and cut into two teeth: the corolla is monopetalous, bilabiated, tubular: the upper lip is the shorter, with a notch at the apex; the lower is cleft into three parts, of which the middlemost is the largest: the filaments are four, two long and two short, and furnished with oblong antheræ: the germen divides into four parts, from the centre of which issues a long slender style, crowned with a cleft stigma: the seeds are four, egg-shaped, and lodged at the bottom of the calyx.

Schultz, who has professedly written on this plant,* was unable to say by what name it was known to the ancients. The Μελισσοφυλλον seu Μελιτταινα, of Dioscorides, which has been by some supposed to be our Melissa, is by Nicander referred to the Marrubium.‖

The Balm is a native of the southern parts of Europe, especially in mountainous situations, but it is very common in our gardens, and was cultivated in that of Gerard previous to the year 1596. The herb, in its recent state, has a weak roughish aromatic taste, and a pleasant smell, somewhat of the lemon kind, and hence this species has been named Melissa odore citri.

"On distilling the fresh herb with water, it impregnates the first runnings pretty strongly with its grateful flavour: when large quantities are subjected to the operation at once, there separates

* J. Hen. Schultz, *De Melissa, anno* 1739.

‖ *Theriac v.* 554. 555.

and rises to the surface of the aqueous fluid a small portion of essential oil, in colour yellowish, and of a very fragrant smell."[a]

Balm was formerly esteemed of great use in all complaints thought to proceed from a disordered state of the nervous system: thus it was very generally recommended in melancholic and hypochondriacal affections, and in the opinion of Paracelsus, the *primum ens Melissæ* promised a complete renovation of man: even Hoffman and Boerhaave, who were probably biassed by the Arabian physicians, deemed it an efficacious remedy.[b] Simon Paulli[c] and others speak of its effects as an emmenagogue; but neither this, nor indeed any other medicinal power, is now attributed to Balm. Prepared as tea, however, it makes a grateful diluent drink in fevers, and in this way it is commonly used either by itself or acidulated with the juice of lemons.

The essential oil, which Hoffman supposes to be a powerful corroberant of the nervous system, probably possesses no qualities peculiarly different from many other aromatics and cordials.

[a] *Lewis, M. M. p.* 417. [b] *Quad. bot. p.* 436.

[c] Fr. Hoffman, *Diss. de remed. domest.* §. 26. Boerh. *Chem. T. ii. p.* 67.

MENTHA PIPERITA. PEPPER-MINT.

SYNONYMA. Mentha piperitis. *Pharm. Lond. & Edinb.* Mentha spicis brevioribus & habitioribus, foliis menthæ fuscæ, sapore fervido piperis. *Raii Synop. p.* 234. *Hist. v. iii. p.* 284. Mentha piperita. *Hudson Flor. Ang. p.* 251. *Withering Bot. Arrang. p.* 599. *Relhan Flor. Cantab. p.* 223. *Icon. V. Knigge Diss. de mentha piperitide.*

Class Didynamia. *Ord.* Gymnospermia. *Lin. Gen. Plant.* 713.

Ess. Gen. Ch. Corolla subæqualis, 4-fida, lacinia latiore emarginata. *Stamina* erecta, distantia.



Mentha piperita

Published by W. Phillips Dec.r 5.th 1809.

PRESTON INSTITUTION 1828

Sp. Ch. M. flor. capitatis, fol. ovatis petiolatis, staminibus corolla brevioribus.

THE root is perennial, creeping, and furnished with many small fibres: the stems are erect, square, jointed, striated, somewhat branched towards the top, and rise about two feet in height: the leaves are egg-shaped, serrated, pointed, nerved, of a dark green colour, and stand in pairs upon footstalks: the flowers are small, purple, and produced in terminal spikes, separated into clusters: the calyx is tubular, permanent, reddish, striated, hairy, and divided at the brim into five small pointed segments: the corolla is tubular, divided at the limb into four segments, of which the uppermost is the broadest, and notched at the apex: the filaments are two long and two short, tapering, and furnished with roundish antheræ: the germen is divided into four parts, supporting a slender erect style, which is longer than the corolla, and terminated by a cloven expanding stigma: the seeds are four, small, and lodged in the calyx. It is a native of England, affecting watery situations and banks of rivers, and flowers in August.

The spontaneous growth of this plant is said to be peculiar to Britain; but as it is generally preferred to the other species of Mint, its cultivation has long been extended over Europe, and that employed here is commonly raised in gardens. This species has a more penetrating smell than any of the other mints, and a much stronger and warmer taste, pungent and glowing like pepper, sinking as it were into the tongue, and followed by a sensation of coldness.

"By maceration, or infusion, it readily and strongly impregnates both water and spirit with its virtue.—In distillation with water it yields a considerable quantity of essential oil of a pale greenish yellow colour, growing darker coloured by age, very light, subtile, possessing in a high degree the specific smell and

penetrating pungency of pepper-mint.*——Rectified spirit, drawn off with a gentle heat from the tincture made in that menstruum, brings over little of the virtue of the herb, nearly all its pungency and warmth remaining concentrated in the extract."[a]——

Its stomachic, antispasmodic, and carminative qualities renders it useful in flatulent colics, hysterical affections, retchings, and other dyspeptic symptoms, acting as a cordial, and often producing immediate relief. Its officinal preparations are an essential oil, a simple water, and a spirit.

* Dr. Cullen observes, that "rectification is particularly necessary and proper for this essential oil. What has been called essence of pepper-mint, seems to me to be no other than the rectified oil dissolved in spirit of wine." Vide *M. M. vol. ii. p.* 150.

[a] *Lewis, M. M. p.* 422.

We have already noticed that this plant yields camphor. See *Gaub. Advers. p.* 99. *sqq.*

MENTHA VIRIDIS. SPEAR MINT.

SYNONYMA. Mentha sativa. *Pharm. Lond. & Edinb.* Mentha angustifolia spicata. *Bauh. Pin. p.* 227. *Raii Hist. p.* 532. Mentha angustifolia spicata, glabra folio rugosiore, odore graviore. *Raii Synop. p.* 233. Mentha romana. *Gerard. Emac. p.* 680. Mentha romana angustifolia, sive Cardiaca. *Park. Theat. p.* 31. Mentha foliis elliptico-lanceolatis, spicis cylindricis glaberrimis. *Hall. Stirp. Helv. n.* 229. Mentha spicata. *Hudson. Flor. Ang. p.* 221. Mentha viridis. *Withering. Bot. Arrang. p.* 597.

Class Didynamia. *Ord.* Gymnospermia. *Lin. Gen. Plant.* 713.

Ess. Gen. Ch. *Cor.* Subæqualis, 4-fida: lacinia latiore emarginata. *Stamina* erecta distantia.

Sp. Ch. M. spicis oblongis, foliis lanceolatis nudis serratis sessilibus, staminibus corolla longioribus.



Mentha viridis

Published by W. Phillips, Jan.ry 1.st 1808.

PRESTON INSTITUTION 1828

THE root is perennial, creeping, and beset with numerous small fibres: the stems are square, hollow, erect, branched, and rise above two feet in height: the leaves are large, elliptical, serrated, pointed, of a bright green colour, and placed in pairs close to the stem, or upon very short footstalks: the flowers are small, purplish, and produced in terminal spikes: the filaments are longer than the corolla. In other respects the different parts of the flower correspond with the description given of the pepper-mint. It flowers in August.

This plant grows wild in many parts of England, and was found on the banks of the Thames by Mr. Hudson; * but it is more rarely met with in this state than the preceding species. It is not so warm to the taste as pepper-mint, but has a more agreeable flavour, and is therefore preferred for culinary uses, and more generally cultivated in our gardens. Many virtues are ascribed to mint by the ancients, but to what species the Ἡδυοσμος & Μινθη of the Greeks [a] is to be referred, must ever remain uncertain: even at this time the different species of this extensive family are not satisfactorily ascertained; but, in a medical sense, this is of little importance, as the virtues of all reside in the aromatic flavour, which is common to the whole genus.

" On drying, the leaves lose about three-fourths of their weight without suffering much loss of their smell or taste; nor is the smell soon dissipated by moderate warmth, or impaired on keeping. Cold water, by maceration for six or eight hours on the dry herb, and warm water in a shorter time, become richly impregnated with its flavour.—By distillation, a pound and a half of the dry leaves communicate a strong impregnation to a gallon of water: the

* See *Withering*, l. c.

[a] Mint has not escaped the notice of the Latin poets:

——, —— —— An tibi quondam
Fœmineos artus in olentes vertere menthas
Persephone, licuit? OVID. MET. L. x. v. 728

By Martial it is called " ructatrix Mentha." *Epigr. L.* 10. 48.

distilled water proves rather more elegant if drawn from the fresh plant in the proportion of ten pints from three pounds. Along with the aqueous fluid an essential oil distils, of a pale yellowish colour, changing to a red, in quantity near one ounce from ten pounds of the fresh herb in flower, smelling and tasting strongly of the mint, but somewhat less agreeable than the herb itself. Dry mint, digested in rectified spirit, either in the cold or with a gentle warmth, gives out readily its peculiar taste and smell, without imparting the grosser and more ungrateful matter, though the digestion be long continued. The tincture appears by day-light of a fine dark green, by candle-light of a dark red colour:* a tincture extracted from the remaining mint by fresh spirit, appears in both lights green: the colour of both tinctures changes in keeping, to a brown. On gentle distillation, with proof spirit, the spirituous portion which rises at first, discovers little flavour of the mint; but as soon as the watery part begins to distil, the virtues of the mint come over plentifully with it. Hence the spiritus menthæ sativæ. P. L. which is prepared by drawing off a gallon of proof spirit from a pound and a half of the dried plant, proves strongly impregnated with the mint."[b]

To spear-mint are to be ascribed the same medicinal qualities which we have noticed of Pepper-mint;† but the different preparations of the former, though more pleasant, are perhaps less efficacious. "It contains much essential oil, but of an odour somewhat less agreeable than that of lavender or marjoram. It is there-

* Dr. Withering says, "the fact is, that a small quantity of this tincture is green either by day-light or by candle-light, but a large quantity of it seems impervious to common day-light: however, when held between the eye and a candle, or between the eye and the sun, it appears red; so that if put into a flat bottle it appears green, but when viewed edgeways, red. *L. c.*

† In proof of the emmenagogue power of mint, Linnæus informs us, that a woman, by the frequent use of it, became subject to menorrhagia. Vide *Diss. de Menthæ usu, p.* 9.

[b] *Lewis, M. M. p.* 419.

fore less employed as a cephalic; but it acts very powerfully on the parts to which it is immediately applied, and therefore considerably on the stomach, invigorating all its functions. It acts especially as an antispasmodic, and therefore relieves pains and cholic depending upon spasm. It will also stop vomiting, depending upon such a cause; but there are many cases of vomiting in which it is of no service: and in these cases, anywise depending upon inflammatory irritation in the stomach itself, or in other parts of the body, it aggravates the disease, and increases the vomiting. Practitioners have thought, and I think justly, that the infusion of mint in warm water, agrees better with the stomach than the distilled water, which is often somewhat empyreumatic."[c]

Lewis observes,[d] " that it is said by some to prevent the coagulation of milk; and hence it has been recommended to be used along with milk diets, and even in cataplasms and fomentations for resolving coagulated milk in the breasts: upon experiment, the curd of milk, digested in a strong infusion of mint, could not be perceived to be any otherwise affected than by common water; but milk, in which mint leaves were set to macerate, did not coagulate near so soon as an equal quantity of the same milk kept by itself."[e]

The officinal preparations of Spear-mint are an essential oil, a conserve, a simple water, and a spirit.

[c] *Cullen, M. M. vol. ii. p.* 149. [d] *L. c.*

[e] We are told, that " when cows have eaten the mentha arvensis, as they will do largely at the end of summer, when the pastures are bare, and hunger distresses them, their milk can hardly be made to yield cheese; a circumstance which sometimes puzzles the dairy-maids." *With. l. c.*

MENTHA PULEGIUM. PENNYROYAL MINT.

SYNONYMA. Pulegium. *Pharm. Lond. & Edinb. Raii Hist. p.* 533. *Synop. p.* 235. Pulegium latifolium. *Bauh. Pin. p.* 222. Pulegium regium. *Gerard. Emac. p.* 671. Pulegium vulgare. *Park. Theat. p.* 29. Mentha caule prostrato, foliis subrotundis obiter dentatis, staminibus exsertis. *Hall. Stirp. Helv. n.* 221. Mentha Pulegium. *Hudson. Flor. Ang. p.* 254. *Withering. Bot. Arr. p.* 602. *Lightfoot. Flor. Scot. p.* 306. *Relhan. Flor. Cantab. p.* 224.

Class Didynamia. *Ord.* Gymnospermia. *Lin. Gen. Plant.* 713.

Ess. Gen. Ch. *Cor.* subæqualis, 4-fida: lacinia latiore emarginata. *Stamina* erecta distantia.

Sp. Ch. M. floribus verticillatis, foliis ovatis obtusis subcrenatis, caulibus subteretibus repentibus.

THE root is perennial, creeping, fibrous: the stems are slender, procumbent, obtusely quadrangular, branched, and about a foot in length: the leaves are ovate, obtuse, somewhat indented, smooth, of a bright green colour, and stand upon short footstalks at the joints of the stem: the flowers are small, of a pale purple colour, and surround the stem at the joints in whorls: the calyx is tubular, striated, ventricose, and divided into five bearded segments; of these the two uppermost are the largest; the undermost one the least. The other parts of inflorescence agree with the preceding species of Mentha already described. It flowers in August and September.

Pennyroyal, like the other mints, is a native of Britain, affecting heaths and moist situations; but that used for medicinal purposes is commonly the produce of cultivation. It has a warm pungent



Mentha Pulegium

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flavour, somewhat similar to mint, but more acrid, and less agreeable both in smell and taste. Its "active principle is an essential oil, of a more volatile nature than that of mint, coming over hastily with water at the beginning of the distillation, and rising also in great part with highly-rectified spirit; in taste very pungent, and of a strong smell; when newly drawn, of a yellowish colour, with a cast of green; by age turning brownish."[a]

The Pulegium certainly possesses the general properties of the other mints: it is supposed, however, to be of less efficacy as a stomachic, but more useful as a carminative, and emmenagogue, and is more commonly employed in hysterical affections. We are told by Boyle,[b] and others, that it has been successfully used in the hooping-cough; but the chief purpose to which it has long been administered is promoting the uterine evacuation. With this intention, Haller recommends an infusion of the herb with steel, in white wine, which he never knew to fail of success.[c] However, in the opinion of Dr. Cullen, mint is in every respect a more effectual remedy than Pennyroyal; and "nothing but the neglect of all attempts to establish principles could have made physicians think of this as a peculiar medicine different from the other species:"[d] and conformably to this remark, it may be observed, that this plant is less frequently used now than formerly.

Its officinal preparations are a simple water, a spirit, and an essential oil.

[a] *Lewis, M. M. p.* 524.

[b] See his Works, Vol. iv. p. 475. Sauvages *Nosol. T.* 2. *P.* 2. *p.* 157.

[c] *He says,* —— quod me nunquam fefellet. *Vide, l. c.*

[d] *Mat. Med. vol. ii. p.* 150.

ORIGANUM VULGARE. WILD MARJORAM.

SYNONYMA. Origanum. *Pharm. Lond.* Origanum sylvestre. *Bauh. Pin. p.* 223. Origanum anglicum. *Gerard. Emac. p.* 666. Origanum vulgare spontaneum. *J. Bauh. Hist. iii. p.* 236. *Raii Hist. p.* 539. *Synop. p.* 236. Origanum foliis ovatis, umbellis coloratis, staminibus exsertis. *Hall. Hist. Stirp. Helv. n.* 233. Origanum vulgare. *Huds. Flor. Ang. p.* 262. *ed.* 2*d. Lightf. Flor. Scot. p.* 317. *Withering Bot. Arr. p.* 621. *Curtis Flor. Lond.* 338.

Class Didynamia. *Ord.* Gymnospermia. *Lin. Gen. Plant.* 726.

Ess. Gen. Ch. *Strobilus* tetragonus, spicatus, calyces colligens.

Sp. Ch. O. spicis subrotundis paniculatis conglomeratis, bracteis calyce longioribus ovatis

THE root is perennial, creeping, and beset with numerous slender fibres: the stem is erect, square, purplish, downy, producing opposite branches, and rises about a foot and a half in height: the leaves stand upon footstalks in pairs at the joints; and are ovate, pointed, somewhat indented at the edges, above smooth, beneath downy, and of a deep yellowish green colour: the flowers are numerous, terminal, of a pale purplish colour, and stand in pannicles or clusters: the bracteæ, or floral leaves, are ovalish, sessile, and of a brownish red colour: the calyx is tubular, and divided at the brim into five segments, which are fringed at the edges: the corolla consists of a funnel-shaped tube, longer than the calyx, divided at the limb into two lips, of which the upper is erect, bifid, obtuse; the lower trifid, blunt, and spreading: the filaments are four, two long and two short, of a purple colour, and furnished with double



Origanum vulgare

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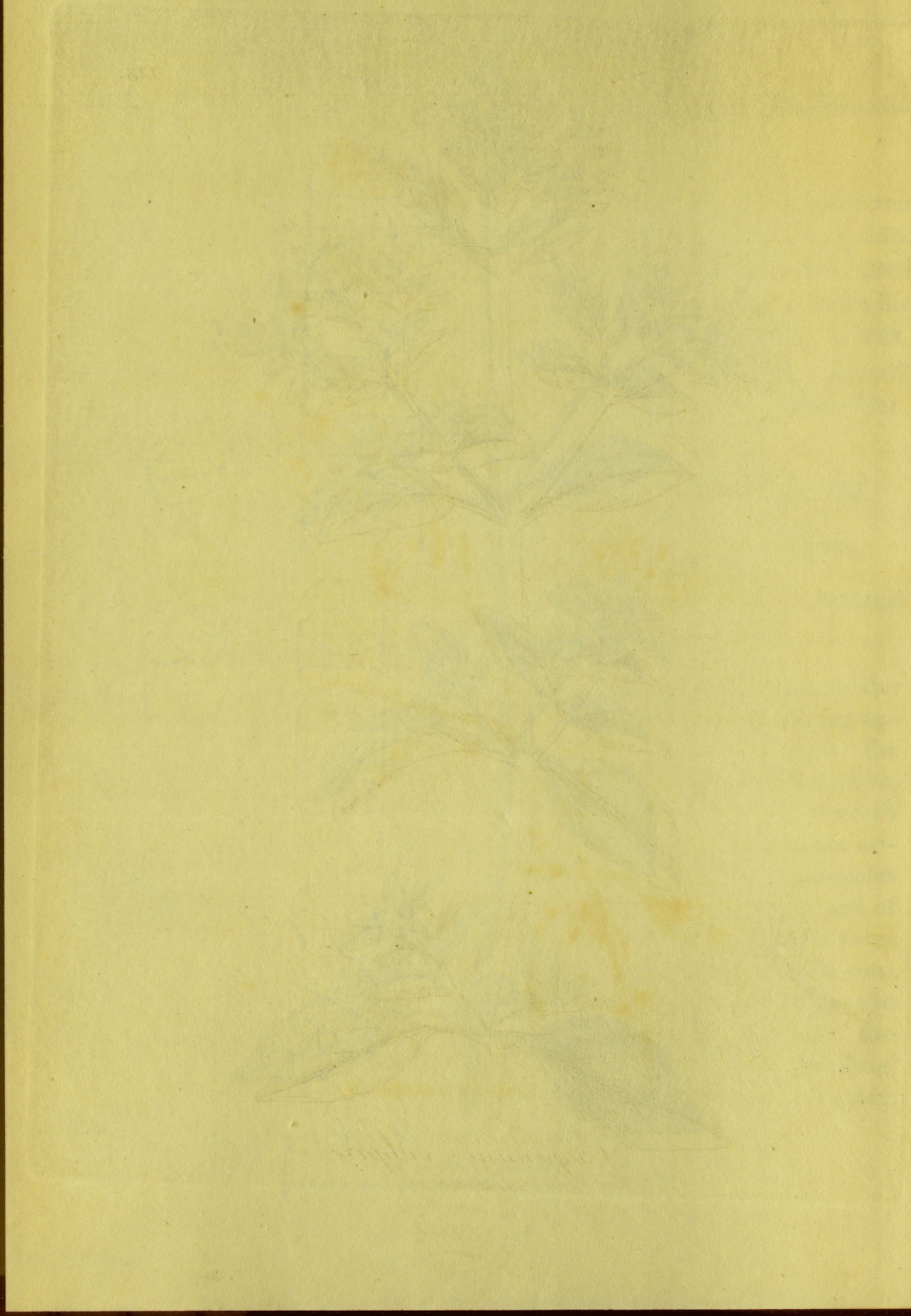
PRESTON INSTITUTION 1828





Origanum Majorana

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PRESTON INSTITUTION 1828

antheræ: the germen is divided into four parts, from the centre of which rises a filiform style, crowned with a stigma, which is bifid, and reflexed: the seeds are four, egg-shaped, and lodged in the bottom of the calyx.

This plant grows wild in many parts of Britain, especially on dry chalky hills,[a] or gravelly soils, and produces its flowers in July and August. It has an agreeable aromatic smell, approaching to that of marjoram, and a pungent taste, much resembling thyme, to which it is likewise thought to be more nearly allied in its medicinal qualities than to any of the other verticillatæ, and therefore deemed to be emmenagogue, tonic, stomachic, &c. These effects, however, can only be ascribed to the aromatic and stimulant powers which all the herbs of this natural order seem to possess in common. Distilled with water it yields a moderate quantity of very acrid penetrating essential oil, which has been much used for easing the pain of carious teeth, by dropping it on cotton, and inserting it in the cavity of the aching tooth. The dried leaves used instead of tea, are said to be exceedingly grateful. They are also employed in medicated baths and fomentations.

[a] Hence the derivation Origanum, ὄρος γάνος montis gaudium, quod locis montanis delectetur. Vide *Bod. in Theoph. p.* 562.

The country people use the tops of the plant to dye purple. *Withering, l. c.*

ORIGANUM MAJORANA. SWEET MARJORAM.

SYNONYMA. Majorana. *Pharm. Lond. & Edinb.* Majorana vulgaris. *Bauh. Pin. p.* 224. *Raii Hist. p.* 538. Majorana vulgaris æstiva. *Park. Theat. p.* 11. Majorana major. *Gerard Emac. p.* 664.

Class Didynamia. *Ord.* Gymnospermia. *Lin. Gen. Plant.* 726.

Ess. Gen. Ch. *Strobilus* tetragonus, spicatus, calyces colligens.

Sp. Ch. O. foliis ovatis obtusis, spicis subrotundis compactis pubescentibus.

THE root is perennial, brown, and furnished with many long tough fibres: the stalks are numerous, woody, branched, square, and rise a foot and an half in height: the leaves are egg-shaped, obtuse, downy, entire, of a pale green colour, and stand in pairs upon footstalks: the flowers are small, white, and appear successively between the bracteal leaves, which are numerous, and form round compact terminal spikes: the calyx is tubular, and divided at the brim into five pointed segments: the corolla consists of a funnel-shaped tube, divided at the limb into two lips, of which the uppermost is erect and roundish; the undermost is cut into three pointed segments: the other parts of fructification resemble those of O. vulgare. The flowers appear in August.

This plant is thought to be the Σαμψυχον or Amaracus of the ancients:[a] it has been long cultivated in our gardens, and in frequent use for culinary purposes; but the place of which it is a native has not yet been made known.

The leaves and tops of Marjoram have a pleasant smell, and a moderately warm aromatic bitterish taste. They yield their virtues both to aqueous and spirituous liquors by infusion, and to water in distillation, affording also a considerable quantity of essential oil, amounting, according to Beaumé, to fifteen ounces from one hundred and fifty pounds of the recent plant. This oil, on being long kept, assumes a solid form.

[a] The Amaracus is noticed both by Virgil and Catullus:

——— ubi mollis amaracus illum
Floribus et dulci aspirans complectitur umbrâ. ÆN. *lib. i. v.* 698.

Cinge tempora floribus
Suave olentis amaraci. *Juliæ et Manlii Epithal.*



Thymus vulgaris.

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PRESTON INSTITUTION 1828

The medicinal qualities of this plant agree with those of its congener, Wild Marjoram; but being much more fragrant it is deemed to be more cephalic, and better adapted to those complaints known by the name of nervous; and may be therefore employed with the same intentions as lavender. It is directed in the composition of the pulvis sternutatorius by both Pharmacopœias, with a view to the agreeable odour which it diffuses to the asarabacca rather than to its errhine power, which is very considerable.

In its recent state, we are told, that it has been successfully applied to scirrhous tumours of the breasts.[b]

[b] Cohausen in *Comm. Nor. a.* 1742. p. 151.

THYMUS VULGARIS. COMMON GARDEN THYME.

SYNONYMA. Thymus. *Pharm. Edinb.* Thymus vulgaris folio tenuiore. *Bauh. Pin. p.* 219. *Tourn. Inst. p.* 196. Thymum durius. *Dod. Pempt. p.* 275. *Gerard Emac. p.* 573. *Raii Hist. p.* 521. *Park. Theat. p.* 7.

α Thymus vulgaris folio tenuiore. *C. B.*
Narrow-leav'd Garden Thyme.

β Thymus vulgaris folio latiore.* *C. B.*
Broad-leav'd Garden Thyme. *Hort. Kew.*

Class Didynamia. *Ord.* Gymnospermia. *Lin. Gen. Plant.* 727.

Ess. Gen. Ch. *Calycis* bilabiati faux villis clausa.

Sp. Ch. T. erectus, foliis revolutis ovatis, floribus verticillato spicatis.

* This is the variety to which the figure and description here given apply.

THE root is perennial, woody, and subdivided into small fibres: the stems are numerous, round, hard, branched, and usually rise about a foot in height: the leaves are small, narrow, elliptical, and stand in pairs upon very short footstalks: the flowers terminate the branches in whorls or round clusters: the calyx is tubular, striated, closed at the mouth with small hairs, and divided into two lips; of these the uppermost is cut into three teeth, the lowermost into two: the corolla is monopetalous, consisting of a tube, which is about the length of the calyx, and divided at the brim into two lips, of a pale purple colour; the *upper lip* is erect, or turned back, and notched at the end; the *under lip* is longer, expanding, and divided into three segments; of these the middle segment is the broadest: the filaments are two long, and two short: the antheræ small and round: the germen is divided into four parts, from the centre of which issues the style, which is thread-shaped, and furnished with a bifid stigma: the seeds are four, small, roundish, and lodged at the bottom of the calyx. It is a native of the South of Europe, and flowers from May till August.

According to C. Bauhin, this plant is the Θυμος of Dioscorides and Theophrastus.[a] It grows wild abundantly in the mountainous parts of Italy and Spain; we are therefore the more induced to suppose it to be the plant of this name so frequently mentioned by the Latin poet.[b] It was cultivated by Gerard, and usually finds place in our gardens with the other pot-herbs.

This herb has an agreeable aromatic smell, and a warm pungent taste. "To water it imparts, by infusion, its aromatic odour, but only a weak taste: in distillation, it gives over an essential oil, in quantity about an ounce, from thirty pounds of the herb in flower;

[a] "Dioscorid. L. 3. c. 44. Theophrast. 4. hist. 7. & 6. hist. 2. 1. caus. 5. απο τη θυμω, quod iis qui animi deliquium patiuntur adhibeatur: alii απο της θυμασεος και της θυης deducunt, quod hoc veteres in sacris, quæ igne accenso fiebant, primum usi sint, ut apud Rhodiginum, L. 3. c. 23. legere est."

[b] 'Nerine Galatea, thymo mihi dulcior Hyblæ.' Both this species and the Serpyllum are probably alluded to; they are equally fragrant, and coveted by bees.

of a gold yellow colour if distilled by a gentle fire, of a deep brownish red if by a strong one, of a penetrating smell, resembling that of the Thyme itself, in taste excessively hot and fiery: the remaining decoction inspissated, leaves a bitterish, roughish, subsaline extract. The active matter, which by water is only partially dissolved, is by rectified spirit dissolved completely, though the tincture discovers less of the smell of the Thyme than the watery infusion: the spirit brings over, in distillation, a part of its flavour, leaving an extract of a weak smell, and of a penetrating camphorated† pungency."[c]

By Bergius the virtues of Thyme are said to be resolvent, emmenagogue, diuretic, tonic, and stomachic;[d] but we find no disease mentioned in which its use is particularly recommended either by him or other writers on the Materia Medica. As agreeing in common with the natural order of verticillatæ, its aromatic qualities may be found equally useful in some of those complaints for which lavender, sage, rosemary, &c. are usually employed.

[c] Lewis, *M. M. p.* 650.

† This plant seems actually to contain a species of camphor, thus noticed by Murray: Camphoræ speciem continet herba, quæ sese declaruit mox post destillationem ejus cum aqua, dum oleum ab ea separaretur, tam in gossypio quam orificio vitri, crystallis exiguis, dein post aliquot dierum moram in fundo vitri crystallis, avellanæ nucis adeo magnitudinis, cubicis, saccharo candi similibus." *App. Med. vol. ii. p.* 125. These with the odour of Thyme, had in every other respect the qualities of camphor. See *Phil. Trans. vol. xxxiii. p.* 321. *sqq. & p.* 361.

[d] *M. M. p.* 536.

THYMUS SERPYLLUM. WILD, or MOTHER of THYME.

SYNONYMA. Serpyllum. *Pharm. Edinb.* Serpyllum vulgare minus *Bauh. Pin. p.* 220. *Park. Theat. p.* 8. Serpyllum vulgare. *Gerard Emac. p.* 570. *Raii Hist. p.* 521. *Synop. p.* 230. Thymus foliis ovatis ad basin ciliatis. *Hal. Stirp. Helv. n.* 235. Thymus Serpyllum. *Hudson. Flor. Ang. p.* 229. *Withering. Bot. Arrang. p.* 623. *Curt. Flor. Lond.*

α Serpyllum vulgare minus. *C. B.*
Common smooth Mother of Thyme.

β Serpyllum foliis citri odore. *C. B.*
Lemon Thyme.

γ Serpyllum villosum fruticosius, floribus dilute rubentibus. *Ray Synop.* *Hoary Mother of Thyme.*

δ Serpyllum angustifolium hirsutum. *C. B.*
Hairy Mother of Thyme. See *Hort. Kew.*

Class Didynamia. *Ord.* Gymnospermia. *Lin. Gen. Plant.* 727.

Ess. Gen. Ch. *Calycis* bilabiati faux villis clausa.

Sp. Ch. T. floribus capitatis, caulibus repentibus, foliis planis obtusis basi ciliatis.

THE root is perennial, woody, fibrous, and of a brown colour: the stems are numerous, hard, square, branched, procumbent, and rise from four inches to a foot in height: the flowers are of a purplish colour, and stand in whorls towards the top of the stem and branches: the leaves are ovate, entire, smooth, beset with



Thymus Serpyllum.

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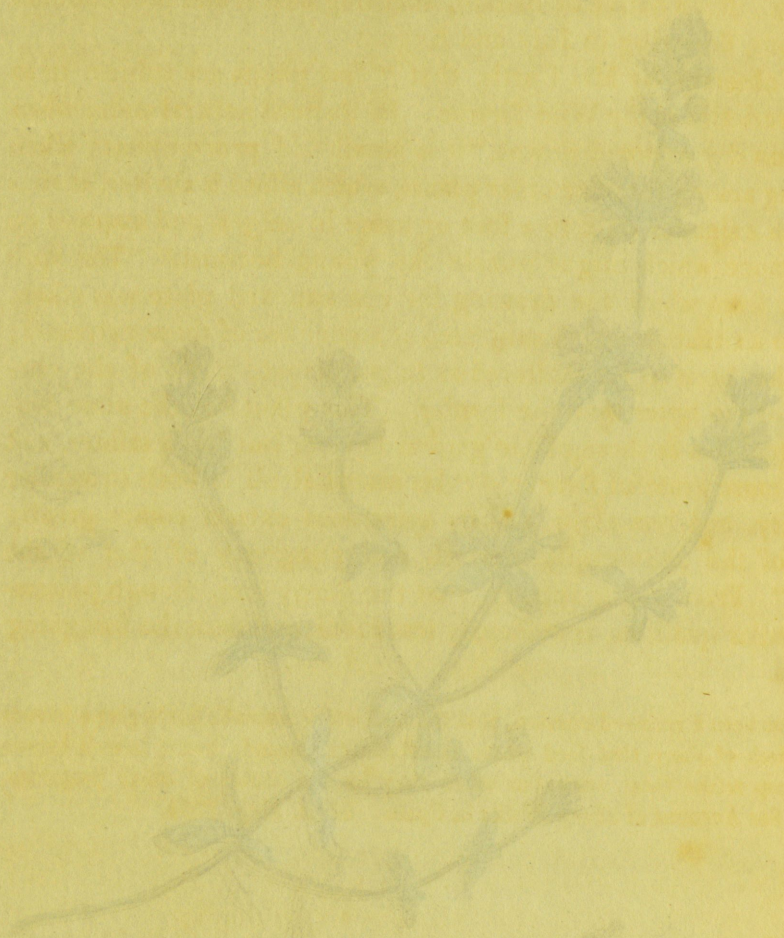

numerous small glands, fringed with hairs towards the base, and stand in pairs upon very short footstalks: the calyx, the corolla, and sexual parts, correspond with those mentioned of the Thymus vulgaris. It is a native of Britain, affecting heaths and mountainous situations, flowering in July and August.

It is observed by Mr. Curtis, that "few plants are subject to so many varieties as the Wild Thyme. In its most natural state, when found on dry exposed downs,[a] it is small and procumbent: when growing among furze or other plants, which afford it shelter, it runs up with a slender stalk to a foot or more in height, and assumes an appearance which might puzzle the young botanist." The specimen, from which the drawing for the annexed plate was taken, grew in a situation which subjected it to neither of these extremes; but it has been so far sheltered as to participate more of the character of the latter than the former. This plant has the same sensible qualities as those of the garden thyme, but has a milder, and rather more grateful flavour. "Its essential oil is both in smaller quantity, and less acrid, and its spirituous extract comes greatly short of the penetrating warmth and pungency of that of the other." From this it appears, that the Serpyllum, though possessing similar qualities, is evidently less medicinal than the foregoing species.

[a] It has been a received opinion, that this and other aromatic herbs give a flavour to the flesh of sheep that feed where these plants abound: but it is well known that sheep refuse these aromatics when they have a choice of other pasturage. *Curt.* See Account of Sheep Walks in Spain. *Gent. Mag.* 1764.

SALVIA OFFICINALIS. GARDEN SAGE.

SYNONYMA. Salvia. *Pharm. Lond & Edinb.* Salvia major. *Gerard Emac. p.* 764. *Dodon. Pempt. p.* 288. *Bauh. Pin. p.* 237. Salvia major vulgaris. *Park. Theat. p.* 49. Salvia latifolia. *Bauh. Hist. iii. p.* 304. *Raii Hist. p.* 509. Σφακελος *Theophrast. &* Ελελισφακον *Dioscoridis* existimatur esse.

Varietates,

α Salvia major. *C. Bauh. Aliorumque,* s. c.
Common, or Greater Garden Sage.

β Salvia minor, aurita et non aurita. *Bauh. Pin.* 237. Salvia minor, seu angustifolia, *Auctorum.*
*Small Sage, or Sage of Virtue.**

Class Diandria. *Ord.* Monogynia. *L. Gen. Plant.* 37.

Ess. Gen. Ch. Cor. inæqualis. *Filamenta* transverse pedicello affixa.

Sp. Ch. S. foliis lanceolato-ovatis integris crenulatis, floribus spicatis, calycibus acutis.

THE root is perennial, long, and fibrous; the stalk is shrubby, square, firm, divided into many branches, and rises above two feet in height: the leaves are oblong, rough, crenulated, or finely notched at the edges, generally of a reddish or purplish tinge, and stand in pairs upon long footstalks: the flowers appear in June, and terminate the branches in long spikes, they are of a blue colour, monopetalous, tubular, and separate at the extremity into two lips; the upper lip is entire and concave, the lower divides

* Both these varieties are used medicinally; and the narrow leaved sage is by many preferred to the broad.



Salvia officinalis

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into three roundish lobes, of which the middle one is the largest: the calyx is tubular, large, reddish, striated, bilabiated, and cut into acute segments; the two filaments are short, and crossed transversely by two others affixed to them; the antheræ are large and yellow; the style is long, filiform, of a blue colour, and the stigma is bifid; the seeds are four, roundish, naked, and placed at the bottom of the calyx.

Sage is indiginous to the southern parts of Europe, and was cultivated in this country by Gerard, who first published a figure of this plant in the year 1597, and it is now a constant inhabitant of the kitchen garden: it has a fragrant strong smell, and a warm bitterish aromatic taste, like other plants containing an essential oil; it gives out its properties more perfectly to spirituous than to aqueous menstrua. In ancient times sage was celebrated as a remedy of great efficacy;[a] but, at present, few practitioners consider it as an article of much importance in the Materia Medica; and although frequently employed as a sudorific, it seems to have no advantage over other plants, whose aromatic flavour renders the fluid in which they are infused more acceptable to the stomach; and by some it has been successfully used even for the purpose of restraining inordinate sweating.[b] As possessing a small share of

[a] "Cur moriatur homo cui salvia crescit in horto?
Contra vim mortis non est medicamen in hortis."
— "Salvia salvatrix naturæ conciliatrix."
— "Salvia cum ruta faciunt tibi pocula tuta."

"Efficacia et nomen herbæ dedit (a salvando) et cumulum laudum attulit, in tremore artuum, paralysi, obstructione menstruorum, fluore albo, arthritide & rheumatismo, morbis contagiosis, apthis, ulceribus, aliisque multis morbis, quorum nomina colligere absque testium fide non interest."——*Murray Ap. Med.* vol. 2. p. 167.

[b] Infused in wine or spirit, Van Swieten found it remarkably efficacious in stopping night sweats. Vide *Comment.* tom. 2. p. 370.—Quarin remarks, that a strong infusion of sage in water was experienced to be equally successful. *Method. med. febr.* p. 37.—Baron Van Swieten also found it useful in restraining the improper continuing of a flow of milk from the breasts of women, after they had weaned their children. *Com.* tom. 4. p. 645.

aromatic and astringent power, it may prove a serviceable tonic in some cases of debility of the stomach and nervous system: the Chinese, who are said to have experienced the good effects of sage in this way, value it highly, and prefer it to their own tea. The power of this plant, in resisting the putrefaction of animal substances, has also been adduced in proof of its medicinal efficacy.[c]

[c] From the experiments of Etlinger, it is discovered to have a considerable share of antiseptic power. Vide *Comment. de Salvia*, p. 16.

BETONICA OFFICINALIS. WOOD BETONY.

SYNONYMA. Betonica. *Pharm. Geoff. iii.* 183. *Dale.* 151. *Alston. ii.* 88. *Lewis.* 146. *Edinb. New. Disp.* 146. *Murray. ii.* 158. *Bergius.* 524. *Cullen. ii.* 145. Betonica purpurea. *Bauh. Pin.* 235. *Gerard. Emac.* 714. *Raii. Synop.* 238. *Hall. Stirp. Helv.* 264. *Park. Theat.* 238. B. officinalis. *Hudson. Flor. Ang.* 258. *Withering. Bot. Arr.* 611. *Ic. Flor. Dan.* 726. *Flor. Lond.* 154.

Didynamia Gymnospermia. *Lin. Gen. Plant.* 718.

Gen. Ch. *Cal.* aristatus. *Corollæ* lab. super. adscendens, planiusculum. *Tubus* cylindricus.

Sp. Ch. B. spica interrupta, corollarum labii lacinia intermedia emarginata.



Betonica officinalis

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ROOT perennial, tapering, woody, brownish, furnished with long white fibres. Stalks usually more than a foot in height, erect, square, simple, channelled towards the top, nearer the base hairy. Lower leaves on footstalks, cordate, or lance-shaped, notched, obtuse, veiny, somewhat hairy, and wrinkled: upper leaves narrower, opposite, reflexed. Flowers purple, in spikes composed of several whorls. Bracteæ abundant, placed under the flowers, of the length of the calyx. Calyx permanent, tubular, divided at the edge into five narrow teeth. Corolla monopetalous; tube longer than the calyx, bending inwards, below smooth and white, above purple, downy: upper lip roundish, entire, erect; lower one divided into three segments, of which the middle one is the broadest. Filaments four, longer than the tube, two long and two short, furnished with purple antheræ. Germen divided into four parts. Style tapering, white, longer than the filaments, and terminated by a bifid stigma. Seeds four, of an irregular shape, and lodged in the calyx.

It is common in woods and heaths, flowering in August and September.

The description of the Βετονικη by Dioscorides applies equally to many of the other verticillated plants: he also states it to be purgative, so that it seems very doubtful if by that name he meant the plant here figured.

The leaves and tops of the Betony have an agreeable but weak smell: to the taste they discover a slight warmth, accompanied with some degree of astringency and bitterness. They yield very little essential oil, insomuch that only a few drops can be obtained from a large quantity of the herb.

Betony, like many other plants formerly in great medical estimation, is at this time almost entirely disregarded. Antonius Musa, physician to the Emperor Augustus, filled a whole volume with enumerating its virtues, stating it as a remedy for no less than forty-seven disorders; and hence in Italy arose this proverbial compliment *You have more virtues than Betony.*[a]

[a] The Italians also introduced the maxim *Vende la tonica et compra la Betonica*

Simon Paulli also ascribes to it powers, which may be considered as rather miraculous than natural, and which did not seem to require contradiction from the experiments of Alston.[b]

Modern writers do not allow the Betony to possess any considerable efficacy: Scopoli indeed says that he experienced its cephalic and corroborant effects; but its sensible qualities show it to be more inert than most of the other verticillatæ. Both this plant and Eyebright enter into the composition of Rowley's British herb tobacco and snuff.

[b] See *Alston. l. c.*

[c] *Flor. Carn. Ed.* 1. *p.* 460.

ORIGANUM DICTAMNUS. DITTANY of CRETE.

SYNONYMA. Dictamnus creticus. *Pharm. Geoff. ii.* 272. *Dale.* 148. *Alston. ii.* 129. *Lewis.* 274. *Edinb. New Dispens.* 183. *Murray. ii.* 139. *Bergius.* 529. *Bauh. Pin.* 222. *Park. Theat.* 27. *Ray. Hist.* 537. *Ger. Emac.* 795.

Didynamia. Gymnospermia. *Lin. Gen. Plant.* 762.

Gen. Ch. *Strobilus* tetragonus, spicatus, calyces colligens.

Sp. Ch. O. foliis inferioribus tomentosis, spicis nutantibus.

ROOT fibrous, perennial. Stalk about a foot in height, branched, downy, ligneous. Leaves ovate, blunt, opposite, on short footstalks, thick, covered with soft white hairs. Flowers purple, in spikes. Bracteæ roundish, smooth, coloured, numerous, forming quadrangular spikes. Calyx small, five-toothed, concealed by the bracteæ. Corolla monopetalous, consisting of a long tube, divided at the limb into two lips, of which the upper is straight, and en-



Origanum Dictamnus.

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closes the filaments: the under lip is cut into three obtuse lobes, of which the middle one is the largest. Filaments two long and two short, filiform, longer than the corolla, and furnished with simple antheræ. Germen divided into four parts. Style slender. Stigma bifid. Seeds four, of an irregular ovate shape, and lodged at the bottom of the calyx.

It flowers from June till August.

This plant, which is a native of the Island of Candia, appears from Turner to have been cultivated in Britain previous to the year 1568, by Mr. Riche. The specimen here delineated grew in the Royal garden at Kew.

The leaves of this plant are apparently very warm and aromatic; of an agreeable smell, and hot biting taste. They impart their virtues both to water and rectified spirit. Distilled with water, they give over a moderately strong impregnation to the aqueous fluid; from which, if the quantity of Dittany be large, there separates, as Neuman observes, a small portion of a yellowish essential oil, of a highly pungent aromatic taste and smell, and which congeals in the cold into the appearance of camphor.[a]

Both the Greek and Roman writers have fabled this plant into great celebrity; of which a single instance, related by the Latin Poet, affords a beautiful illustration.[b]

Though rarely used at this day, it certainly possesses, in a very considerable degree, the stimulant and aromatic qualities which characterize this class of plants; and has at least an equal share of emmenagogue, carminative, and stomachic virtue.

[a] *Lewis. l. c.*

[b] Hic Venus, indigno nati concussa dolore,
Dictamnum genitrix Cretæâ carpit ab Idâ,
Puberibus caulem foliis, et flore comantem
Purpureo: non illa feris incognita capris
Gramina, cùm tergo volucres hæsêre sagittæ.
Æn. L. xii. 411.

TEUCRIUM CHAMÆDRYS. COMMON GERMANDER.

SYNONYMA. Chamædrys. *Pharm. Geoff. iii.* 296. *Dale.* 145. *Alston. ii.* 105. *Lewis.* 219. *Cullen. ii.* 8. *Ed. New. Dispens.* 169. *Murray. ii.* 119. *Bergius.* 506. Chamædrys minor repens. *Bauh. Pin.* 148. *Ger. Emac.* 656. Chamædrys vulgaris. *Park. Theat.* 104. *Ray. Hist.* 527. *Synop.* 231. *Hudson. Flor. Ang.* 248. *With. Bot. Arr.* 592. *Ic. Flor. Dan. p.* 448.

Didynamia Gymnospermia. *Lin. Gen. Plant.* 706.

Gen. Ch. *Corollæ* labium superius (nullum) ultra basin 2-partitum, divaricatum ubi stamina.

Sp. Ch. T. foliis cuneiformi-ovatis incisis crenatis petiolatis, floribus ternis, caulibus procumbentibus subpilosis.

ROOT perennial, branched, fibrous. Stalk about a foot in height, decumbent, roundish, branched, rough. Leaves in pairs, on footstalks, ovate, narrow, irregularly toothed, veined, hairy. Flowers purple, placed in whorls at the alæ of the leaves. Calyx rough, quinquifid. Segments pointed. Corolla consists of a short curved tube, at the limb divided into two lips, of which the upper is short, and cut in the middle in such a manner as to disapper: the lower lip separates into spreading lobes, of which the middlemost is large, and of a roundish form. Filaments two long and two short, slender, white, and furnished with simple antheræ. Germen four, parted. Style filiform. Stigma bifid. Seeds four, enclosed in the calyx.

It is a native of England, flowering in June and July. The annexed figure is taken from a garden specimen.

The leaves and tops of Germander have a moderately bitter taste, accompanied with a weak aromatic flavour, which is diminished but not totally dissipated when the plant is dried. They give out their virtues both to watery and spirituous menstrua. Water seems to



Teucrium Chamædrys

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dissolve the bitter matter more perfectly than pure spirit, the watery extract being stronger in taste than the spirituous;[a] though the quantity of both extracts, according to Cartheuser's experiments, is very nearly alike.

The Chamædrys has been esteemed chiefly in the character of a mild aperient and corroborant: it is recommended in uterine obstructions,[b] intermitting fevers,[c] and in the rheumatism and gout. Of the last mentioned complaint, Charles the Vth is said to have been cured by a vinous decoction of this, with some other herbs, taken daily for sixty successive days.[d]

Other and less equivocal evidence of the good effects of the Chamædrys, in this disorder, are recorded by different authors, who appear to have employed it in various forms and combinations, of which the celebrated antiarthritic, or Portland powder, is an instance.

According to Murray the virtues of this plant should be nearly allied to those of the Marrubium, and therefore promises to be equally useful in asthmatic affections, coughs, and infarctions of the lungs. However, while we admit this conclusion, we consider the virtues of both as somewhat problematical.

[a] *Lewis. l. c.* [b] See *Ray. l. c.*

[c] *Alpinus. Med. Ægypt. p.* 316. *Riverius. Observ. Cent.* 4.—82. *Chomel. Us. ii.* 139. *Seguier. Pl. Veron. T. i. p.* 319. [d] *Vesal. Rad. Chin.* 111.

Many other medicinal plants of the order VERTICILLATÆ still remain unnoticed: but considering the great number of this class here figured, it has been thought that the medical reader will not regret the suppression of the following:

LIN. NAME.	OFFICINAL.	ENGLISH.
Ajuga pyramidalis	Consolida media	Mountain Bugle
Teucrium creticum	Polium creticum	Poley of Candia
..... Chamæpitys	Chamæpitys	Ground pine
..... Montanum	Polium montanum	Mountain poley
Melittis Melissophyllum	Melissophyllum	Bastard balm
Melissa Calamintha	Calamintha	Calamint
Lavendula Stoechas	Stoechas	French Lavender
Satureja hortensis	Satureja	Summer Savory
Nepeta Cataria	Nepeta	Catmint
Origanum creticum	Origanum creticum	Marjoram of Candia
Salvia Sclarea	Sclarea	Clary
Leonurus Cardiaca	Cardiaca	Mother-wort
Prunella vulgaris	Prunella	Self-heal
Lamium album	Lamium album	Dead-nettle

ORD. XX. PERSONATÆ.

(From *Persona*, a masque.)

Plants having irregular monopetalous flowers, assuming a gaping or grinning appearance.

GRATIOLA OFFICINALIS. HEDGE-HYSSOP.

SYNONYMA. Gratiola. *Pharm. Lond. & Edinb. Gerard. Emac. p.* 518. *Raii Hist. p.* 1885. *Dodon. Pempt. p.* 358. *Hal. Stirp. Helv. n.* 329. Gratiola, Gratia Dei. *Lob. Hist. p.* 238. *Chab. p.* 475. Gratiola centauroides. *Bauh. Pin. p.* 279. Gratiola vulgaris. *Park. Theat. p.* 220. Gratiola officinalis. *Flor. Dan. t.* 363.

Class Diandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 29.

Ess. Gen. Ch. Cor. irregularis, resupinata. *Stamina* 2-sterilia. *Caps.* 2-locularis. *Cal.* 7-phyllus: 2 exterioribus patulis.

Sp. Ch. G. foliis lanceolatis serratis, floribus pedunculatis.

THE root is perennial, cylindrical, white, jointed, and furnished with many slender fibres: the stalk is simple, erect, round, thick, and rises nearly a foot in height: the leaves are lance-shaped, long, pointed, serrated towards the extremities, and stand in pairs, without footstalks: the flowers proceed from the base of the leaves,



Gratiola officinalis

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and appear in June and August; they are tubular, and divided at the limb into four obtuse irregular segments, of a pale purple colour: the tube is yellow, and intermixed with reddish streaks: the peduncles are slender, of a red colour, and support a single flower: the calyx consists of five or six elliptical pointed segments: the filaments are four, two of which only are furnished with antheræ: the style is tapering, straight, with a divided stigma: the germen becomes an oval pointed capsule, separated into two cells, which contain many small seeds. It is a native of the South of Europe, and grows usually in wet meadows.

Kostrzewski, who wrote professedly upon the virtues of this plant,[a] supposes Matthiolus to be the first botanist by whom it is mentioned; and the first account of its cultivation in Britain is that given by Turner in 1568:[b] and it now has a place in most of our botanical gardens. It has a strong bitter nauseous taste, but little or no odour; and its virtues are extracted more perfectly by aqueous than by spirituous menstrua.

It has been observed, that Gratiola resembles Digitalis both in the shape of its flowers, and in its medicinal effects; and hence it has been called Digitalis minima. It is certainly a powerful and active cathartic, and operates with such violence upon the stomach, as generally to induce vomiting;[c] and on this account it is thought by Chomel to be a medicine adapted only to the more vigorous and robust constitutions.[d] Many others, however, recommend the

[a] Diss. de Gratiola, *Viennæ*, 1775. Vide page 8.

[b] Turn. Herb. *cited in the Hort. Kew.*

[c] Vide Conr. Gesner. *Epist. Med. Lib.* 3. Dodon. *Pempt. p.* 361. Boerhaave *Hist. Pl. Hort. L. B.* Bergius *Mat. Med. p.* 26. These observations apply to this plant both in its recent and dried state.

[d] *Usuell. t.* 1. *p.* 48. [e] Succus nimirum expressus et inspissatus ad dosin 24 vel 30 granorum blande purgat absque vomitu, sed lotium efficaciter pellit. Extractum verò ex residuo post expressionem aqua erutum et amarius est, et eadem dosi violentius purgat Boulduc. *Mem. de l'Acad. R. d. sc.* 1705. *p.* 189. Vide Murray, *Ap. Med. vol.* 2. *p.* 200.

Gratiola as a perfectly safe and useful purgative, declaring their repeated experience of its efficacy, without ever observing any bad consequence to follow its use. But as it is very uncertain in its effects, the employment of this medicine requires the precaution of a gradual increase of its dose. This plant has commonly been used in hydropical diseases; and in moderate doses it is said not only to act as a hydragogue, but also to manifest a diuretic character;[e] and instances of its good effects in ascites and anasarca, are related by many respectable practical writers.[f] Gesner and Bergius found a scruple of the powder a sufficient dose, as in this quantity it frequently excited nausea or vomiting; others have given it to half a dram, two scruples, a dram, and even more.[g]

An extract of the root of this plant is said to be more efficacious than the plant itself, and exhibited in the dose of half a dram or a dram in dysenteries, produces the best effects.[h] We are likewise told by Kostrzewski,[i] that in the Hospitals at Vienna, three maniacal patients were perfectly recovered by its use; and in the most confirmed cases of lues venerea it effected a compleat cure: it usually acted by increasing the urinary, cutaneous, or salivary discharges.

[f] Heurn. *Prax. Med. p.* 332. Camerar. *Hort. Med. &c. p.* 69. Ettmul. *Oper. tom.* 1. *p.* 716. Heluicb. *Misc. Nat. Cur.* Dec. 3. A. 5. et 6 obs. 67. *p.* 133. Joel. *Oper. Med. tom.* 4. *lib.* 4. Hartm. *Oper. Med. Chym. p.* 60.

[g] Chomel gave half a dram, Hermann two scruples. Many employed the fresh plant in decoction with the addition of cinnamon, mace, ginger, aniseeds, liquorice, &c. See Geoffroy (M. M.) and others.

[h] Boulduc l. c. Kramer *Tent. Bot. p.* 18. where it is said to have similar effects to those of ipecacuanha.

[i] *Diss. cit. p.* 64.



Veronica Beccabunga.

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VERONICA BECCABUNGA. BROOKLIME SPEEDWELL.

SYNONYMA. Becabunga, *Pharm. Lond. Curt. Flor. Lond.* Veronica foliis ovatis serratis glabris ex alis racemosa, *Hal. Stirp. Helv.* n. 534. Anagallis Aquatica vulgaris sive Becabunga, *Park. Theat.* 1236. Anagallis Aquatica minor, folio subrotundo. *Bauh. Pin.* 252. Anagallis seu Becabunga. *Gerard,* 620.

Class Diandria. *Ord.* Monogynia. L. *Gen. Plant.* 25.

Ess. Gen. Ch. Cor. Limbo 4-partito, lacinia infima augustiore. *Capsula* bilocularis.

** *Corymboso-racemosæ.*

Sp. Ch. V. racemis lateralibus, fol. ovatis planis, caule repente.

THE root is perennial, creeping, jointed, and from each joint sends forth many long slender fibres; the leaves are thick, oval, smooth, obtusely serrated, of a pale-green colour, and stand upon the stem in pairs, either sessily, or upon very short footstalks; the stem is round, jointed, creeping, smooth, succulent, often of a reddish brown colour, and from eight to twelve inches high; the racemi or flower spikes, are lateral, opposite, bracteated, and terminated by the flowers, which are of a faint blue colour, and divided into four small roundish leaves; the calyx is quadripartite. This plant is very common in ditches and shallow streams.

The leaves and stem of Brooklime have a bitterish subastringent taste, but manifest little or no acrimony, nor any peculiar odour: by chemical experiments they appear to be subacid, and possess some degree of astringency; these qualities, however, are common to almost all fresh vegetables, and afford no proof of their medical powers.

This plant was formerly considered of much use in several diseases, and was applied externally to wounds and ulcers; but if it have any peculiar efficacy, it is to be derived from its antiscorbutic virtue. As a mild refrigerant juice it is preferred where an acrimonious state of the fluids prevails, indicated by purient eruptions upon the skin, or in what has been called the hot scurvy; it is ordered in the London Pharmacopœia as an ingredient in the succus cochliariæ compositus, probably with a view to correct the pungency of the cress. Rutty says, "Succus ejus saponaceus est, "aperiens, & majori copia sumptus, alvum movet commodissime." We must, however, acknowledge, that we should expect equal benefit from the same quantity of any other bland fresh vegetable matter taken into the system. To derive any advantage from it, the juice ought to be used in large quantities, or the fresh plant eaten as food.

VERBENA OFFICINALIS. COMMON VERVAIN.

SYNONYMA. Verbena. *Pharm. Dale.* 148. *Alston. vol. ii.* 242. *Lewis.* 660. *Murray. ii.* 209. Verbena communis cæruleo flore. *Bauh. Pin.* 269. V. mas seu recta et vulgaris. *Park. Theat.* 674. V. communis. *Gerard. Emac.* 718. *Raii. Hist.* 535. *Synop.* 236. V. officinalis. *Hudson. Flor. Ang.* 505. *With. Bot. Arr.* 595. *Flor. Dan.* 628. *Flor. Lond. i.* 5.

Didynamia Gymnospermia.*

Gen. Ch. Cor. infundib. subæqualis, curva. *Calycis* unico dente truncato. *Semina* 2. s. 4. nuda. *Stam.* 2. s. 4.

* Linnæus places the Verbena in the class of diandria, dividing the different species into the *diandrous* and *tetrandrous;* but our English species, included among the latter, has also the characters of the fourteenth class, and is arranged accordingly by British botanists.



Verbena officinalis

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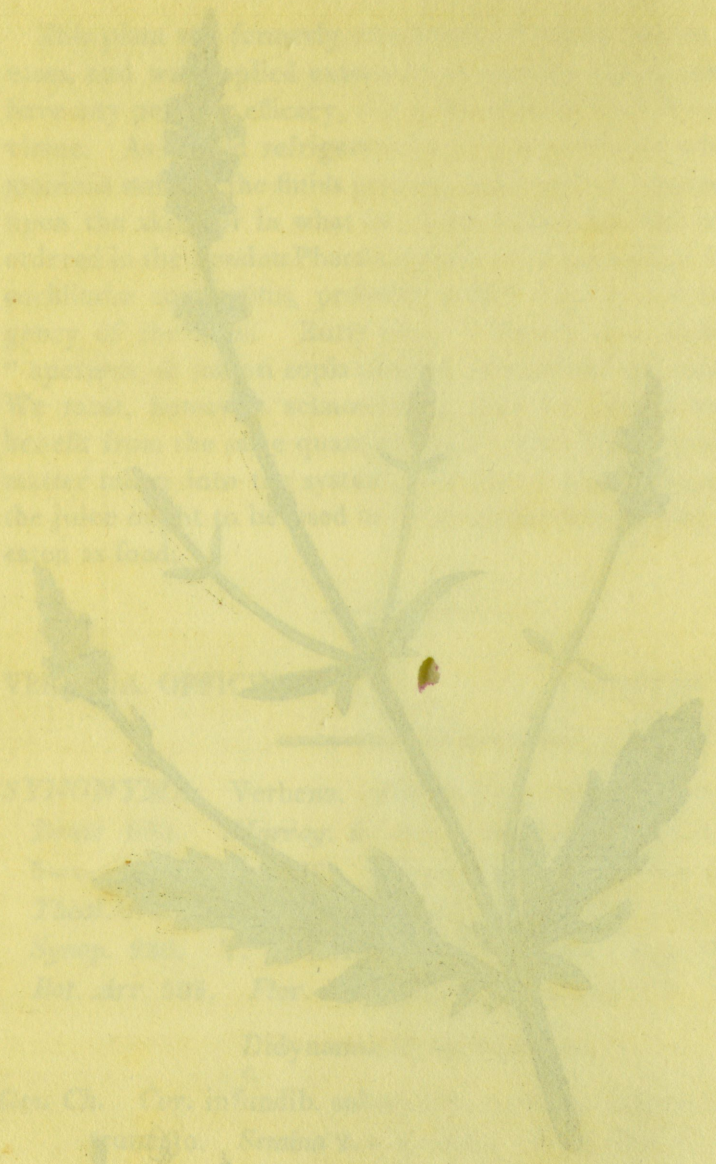

Sp. Ch. V. tetrandra, spicis filiformibus paniculatis, foliis multifido-laciniatis, caule solitario.

ROOT perennial, tapering, fibrous, of a yellowish colour. Stalks above a foot high, erect, tapering, obtusely quadrangular, beset with short prickles: the branches are opposite, slender, and simple. Leaves opposite, sessile, pinnatifid, or deeply and irregularly indented. Flowers numerous, purplish, placed in long slender spikes. Calyx small, tubular, five-toothed, angular, permanent. Corolla monopetalous, unequal: tube cylindrical, towards the top bent inward; limb expanding, divided into five segments, which are rounded, and nearly equal. Filaments extremely short: antheræ commonly four, two of which are placed above the others. Germen square: style thread-shaped, terminated by an obtuse stigma. Seeds usually four, oblong, obtuse, on the inside flattish, and white, and on the outside brown, convex, grooved, and reticulated.

Mr. Curtis observes that "the Vervain may be considered as a kind of domestic plant, not confined to any particular soil, but growing by the road sides, pretty universally at the entrance into towns and villages;" and Miller declares that it is never found more than a quarter of a mile from a house: hence it has been also called Simpler's Joy.

Ancient writers have distinguished this plant by the names Verbena, Verbenaca, and Peristerium.[a] It is destitute of odour, and to the taste manifests but a slight degree of bitterness and astringency.

In former times the Verbena seems to have been held sacred, and was employed in celebrating the sacrificial rites;[b] and with a view

[a] Vide *Plin. l.* 25. *c.* 9.

[b] It appears to be the Ιερα βοτανη, or περιστερεωνα of Dioscorides. Alston says, Verbena quasi herbena, because all herbs used in sacred rites were so called. Hence Virgil, Verbenasque adole pingues & mascula thura. *Ecl. viii. v.* 65. And Terence in Andria, Ex ara hac sume Verbenas tibi. But Virgil also uses the word to denote a particular plant. Vide *Georg. iv.* 131.

to this more than the natural power of the plant, it was worn suspended about the neck as an amulet. This practice, thus founded in superstition, was, however, in process of time, adopted in medicine; and therefore to obtain its virtues more effectually, the Vervain was directed to be bruised before it was appended to the neck; and of its good effects thus used for inveterate headachs, Forestus relates a remarkable instance.[c] In still later times it has been employed in the way of cataplasm, by which we are told the most severe and obstinate cases of cephalalgia have been cured; for which we have the authorities of Etmuller, Hartmann, and more especially De Haen.[d]

Notwithstanding these testimonies in favour of Vervain, it has deservedly fallen into disuse in Britain; nor has the pamphlet of Mr. Morley,[e] written professedly to recommend its use in scrophulous affections, had the effect of restoring its medical character. This gentleman directs the root of Vervain to be tied with a *yard of white sattin ribband* round the neck, where it is to remain till the patient recovers. He also has recourse to infusions and ointments prepared from the leaves of the plant; and occasionally calls in aid the most active medicines of the Materia Medica.

[c] *Oper. Omn. L.* 9. *Obs.* 52. [d] *De Haen Rat. Med. P.* 6. *p.* 304.

[e] See his Essay on Schrophula.

VERONICA OFFICINALIS. OFFICINAL VERONICA; Or, MALE SPEEDWELL.

SYNONYMA. Veronica. *Pharm. Dale.* 186. *Alston. ii.* 244. *Bergius.* 17. *Murray. ii.* 205. *Rutty.* 535. *Lewis.* 660. *Edinb. New Dispens.* 301. Veronica mas supina et vulgatissima. *Bauh. Pin.* 246. V. vera et major. *Gerard. Emac.* 626. V. mas vulgaris supina. *Park. Theat.* 550. *Raii. Hist.* 851. *Synop.* 281. *Hall. n.* 540. V. officinalis. *Hudson. Ang.* 4. *Lightf. Scot.* 27. *Withering. Bot. Arr.* 9. *Flor. Dan.* 248. *Flor. Lond. n.* 33.



Veronica officinalis

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Diandria Monogynia. *Lin. Gen. Plant.* 25.

Gen. Ch. *Cor.* Limbo 4-partito: lacinia infima angustiore. *Capsula* bilocularis.

Sp. Ch. V. spicis lateralibus pedunculatis, foliis oppositis, caule procumbente.

ROOT perennial, small, fibrous. Stalks about six inches in length, procumbent, creeping, firm, hairy, or woolly. Leaves oblong, obtuse, slightly serrated, or toothed, rough, placed in pairs, sessile, or on very short footstalks. Flowers purplish, in spikes, either terminal or axillary, each flower standing upon a short peduncle, supported by a linear bracteal leaf. Calyx divided into four segments, which are ovate, obtuse, and beset with glandular hairs. Corolla monopetalous, wheel-shaped, consisting of a short tube, terminated by a spreading limb, of a pale blue colour, and divided into four unequal portions. Filaments two, white, furnished with blue heart-shaped antheræ. Germen roundish, depressed, viscous, and at the base glandular, Style filiform, purplish, and furnished with a stigma, of a truncated appearance. Capsule irregularly heart-shaped, divided into two valves, containing numerous small brown compressed seeds.

It is not unfrequent on dry barren grounds, and heaths, as that of Hampstead, flowering in June and July.

" The leaves of Veronica have a weak not disagreeable smell, which in drying is dissipated, and which they give over in distillation with water, but without yielding any separable oil. To the taste they are bitterish, and roughish: an extract made from them by rectified spirit is moderately bitter and astringent."[a]

This plant, a century ago, was much recommended, especially in Germany, as a substitute for tea; and the French still distinguish it by the name of *Thé d'Europe.* But though this European tea has a roughness and a slight bitterness which is not ungrateful

[a] *Lewis. l. c.*

to the taste, yet these qualities are so unlike those which we discover in the foreign tea, that the extremely high price of the latter, at that time, must have been the chief reason for causing a contrary opinion, and of reconciling Europeans to a substitute so imperfect as the leaves of Veronica.

As a medicine also this plant has had a considerable share of fame. Francus[b] and Hoffmann[c] ascribe to it numerous virtues, the former calling it *Polychresta herba Veronica.* The disorders in which it has been esteemed most useful are those of the lungs, as coughs, asthmas, consumptions, &c. in which it is said not only to prove expectorant, but by its extraordinary vulnerary power to heal internal ulcers.

Its use has likewise been recommended by several authors in various other complaints requiring medicines of very different characters; but if we judge of the utility of the Veronica by its sensible qualities, it is only to be recognized as an astringent; and not sufficiently powerful as such to produce any considerable effect, and is therefore now disregarded by medical practitioners.

[b] Vide *Polychresta herba Veronica*, published in 1690.

[c] Vide Fr. Hoffmann in *Diss. de infusi Veronicæ efficacia præferenda herbæ Theæ.* Also *Haller. l. c.*

EUPHRASIA OFFICINALIS. COMMON EYEBRIGHT.

SYNONYMA. Euphrasia. *Pharm. Geoff. iii.* 454. *Dale.* 196. *Alston. ii.* 138. *Rutty.* 189. *Bergius.* 543. *Murray. ii.* 186. *Lewis.* 292. *Cullen. i.* 42. *Edinb. New Disp.* 187. Euphrasia officinarum. *Bauh. Pin.* 233. *Ger. Emac.* 663. *Park. Theat.* 1329. *Raii Hist.* 771. *Synop.* 284. Euphrasia officinalis. *Huds. Ang.* 268. *With. Bot. Arr.* 635. *Curt. Flor. Lond.* 335.

Didynamia Angiospermia. *Lin. Gen. Plant.* 741.



Euphrasia officinalis.

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

Sp. Ch. E. foliis ovatis lineatis argute dentatis.

ROOT annual, slender, divided, furnished with numerous minute fibres: stalk about three or four inches high, branched, round, somewhat hoary, reddish. Leaves sessile, opposite, ovate, deeply serrated, concave, rather hairy, and on the upper side marked with linear impressions. Flowers without peduncles, in racemi, arising at the alæ of the leaves. Calyx pentagonal, permanent, divided at the brim into four segments, which are unequal, of a dingy purplish colour, and beset with small glands. Corolla monopetalous, bilabiated, white: tube cylindrical, crooked, somewhat hairy, at the mouth yellowish: limb separated into two lips: upper lip erect, bifid, toothed, streaked with three purple lines: lower lip largest, divided into three emarginated lobes, of which those placed laterally are painted with purple streaks, and that in the middle tinged with yellow. Filaments four, tapering, purplish. Antheræ brown, bilobed, bearded with a few white hairs at the bottom. Germen egg-shaped, hairy. Style filiform, downy. Stigma blunt, fringed with minute glands. Capsule egg-shaped, notched at the end, divided into two cells, containing several whitish striated seeds.

It is common on barren meadows, heaths, and pastures, producing its flowers from July till September.

Eyebright, without any sensible odour, is somewhat bitterish and astringent, communicating a black colour to a solution of ferrum vitriolatum. It derives its name from its reputed efficacy in various disorders of the eyes, for which it was used both externally[a] and internally, and has long[b] been so much celebrated as to be con-

[a] The usual way of employing it as an external application was by mixing its juice with wine, and then adding a small quantity of honey.

[b] It is mentioned in this character by Gordon, (*Lilium Medicinæ. Fol.* 146. *ed.* 1305) Also by Arnoldus de Villa Nova, Sylvaticus, and others.

sidered almost in the character of a specific, the "*verum oculorum solamen.*"—But as there cannot possibly be a general remedy for all diseases of the eyes, the absurd and indiscriminate recommendation of Euphrasia as such, must receive but little credit from those who practice medicine on rational principles. It must be acknowledged however, that some authors have stated peculiar complaints of the eyes, in which the use of this plant was thought more remarkably evident; and, judging by these, we should say, that eyes weakened by a long continued exertion, and those that are dim and watery, as in a senile state, are the cases in which Euphrasia promises most advantage; nor are old people to despair, for according to Hildanus[c] and Lanzonus[d] several, at the age of seventy and eighty years, were recovered almost from entire blindness.

But though the great reputation which Eyebright formerly supported for several ages, must have induced some practitioners of later days to have tried its opthalmic power; yet we do not find a single instance of its efficacy recorded in modern times. How far this remark ought to invalidate the positive testimonies in its favour, we leave others to determine.[e]

The Icelanders are said to be in the constant habit of using the juice of Euphrasia in all affections of the eyes.[f]

In common with many other plants, the Euphrasia has also been recommended in the jaundice.

[c] *V. cent. epist. n.* 59.

[d] *Oper. Omn. ed.* 1738. *Tom.* 2. *p.* 394.

The character of Euphrasia was not unknown to Milton:

——— "then purged with euphrasy and rue,
The visual nerve, for he had much to see.

[e] Bergius says, "Ego ex propria experientia nihil certi de hac herba adhuc scio, sed tamen non spernenda arbitror testimonia priscorum."

[f] *Eggert Olafsen. Reise, &c. vol. i. p.* 433.



Antirrhinum Linaria

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ANTIRRHINUM LINARIA. COMMON TOAD-FLAX.

SYNONYMA. Linaria. *Pharm. Geoff. iii.* 730. *Dale.* 193. *Rutty.* 289. *Bergius.* 545. *Murray. ii.* 183. *Lewis.* 395. *Ed. New. Dispens.* 222. Linaria vulgaris lutea, flore majore. *Bauh. Pin.* 212. Linaria lutea vulgaris. *Gerard. Emac.* 550. L. vulgaris nostras. *Park.* 458. *Raii. Hist.* 752. *Synop.* 281. Antirrhinum Linaria. *Huds. Ang.* 238. *Withering. Bot. Arr.* 648. *Curt. Flor. Lond. i.* 5.

Didynamia Angiospermia. *Lin. Gen. Plant.* 750.

Gen. Ch. *Cal.* 5-phyllus. *Cor.* basis deorsum prominens, nectarifera. *Caps.* 2-locularis.

Sp. Ch. A. foliis lanceolato-linearibus confertis, caule erecto, spicis terminalibus sessilibus, floribus imbricatis.

ROOT perennial, woody, crooked, creeping, white, fibrous. Stalks round, erect, simple, tapering, smooth, from one to two feet in height. Leaves nearly linear, pointed, smooth, entire, thickly scattered over the stalk. Flowers large, yellow, and partly orange, crouded over each other in a terminal spike. Calyx divided into five small oval segments, of which the uppermost is the largest. Corolla monopetalous, bilabiated, or ringent, yellow, consisting of a short tube, and a limb composed of two lips; upper lip bifid, having its segments bending down, afterwards turned back, and closing together; lower lip divided into three segments, of which that in the middle is the least; the mouth is closed by a palate, which is bifid, prominent, villous at the bottom, and of a saffron colour. Filaments four, white, two long and two short, glandular at the base: antheræ yellow, bifid, joined in pairs. Germen round. Style filiform. Stigma clubbed. Capsule of a cylindrical form, opening by several divisions at the top, divided into two cells, containing numerous black irregularly shaped seeds.

It is frequent in barren pastures, hedges, and sides of roads, flowering from July till September.

The leaves of Linaria have a bitterish and somewhat saline taste, and when rubbed betwixt the fingers yield a faint smell, resembling that of elder. They are reported to be diuretic and cathartic, and in both characters to act so powerfully as to give names to this plant expressive of these qualities.[a] Hence they have been recommended internally in dropsies, and other disorders requiring copious evacuations. The Linaria has also been used as a resolvent in jaundice, and in such diseases as have been supposed to proceed from visceral obstructions. But the plant has been chiefly valued for its effects when externally applied, especially in hemorrhoidal affections;[b] for which both the leaves and flowers have been employed in the various forms of ointment, fomentation, and cataplasm.*

An infusion of the flowers is said to be very efficacious in cutaneous disorders; and Hammerin[c] gives an instance in which these flowers, with those of verbascum, used as tea, cured an exanthematous disorder, which had resisted various other remedies tried during the course of three years.

An Unguentum de linaria is to be found in the Wirtemburg, Brandenburg, and Danish Pharmacopœias.[d]

[a] Viz. *Urinalis, Harnkrout, Kreutterbuch.* [b] Vide *Horst. Obs. et. epist. med. lib.* 4. *obs.* 50. *Sim. Paulli. Bot.* 415. *Chesnau. Obs.* 360.

* See *Chomel. Pl. Usuell. Tom.* 3. 34. *Geoff. l. c.*

[c] Cited by *Murr. l. c.*

[d] The inventor of this ointment, for the piles, was a Dr. Wolph, who at that time was physician to the Landgrave of Hesse, by whom the doctor was continually interrogated to discover the composition of this ointment; but Wolph obstinately refused, till the prince promised to give him a fat ox annually for the discovery. Hence to the following verse, which was made to distinguish the Linaria from the Esula, viz.

"Esula lactescit, sine lacte Linaria crescit,"

The Hereditary Marshal of Hesse, added:

"Esula nil nobis, sed dat Linaria taurum." *Horst. l. c. a. Murr. cit.*

Linnæus (Flor. Suec.) says this plant is used as a poison for flies.





Vitex Agnus castus

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VITEX AGNUS CASTUS. CHASTE-TREE.

SYNONYMA. Agnus Castus. *Pharm. Geoff. iii.* 44. *Dale.* 297. *Alston. ii.* 321. *Bergius.* 550. *Murray. ii.* 195. *Lewis.* 27. *Edinb. New Dispens.* 119. Vitex foliis angustioribus cannabis modo dispositis. *Bauh. Pin.* 475. Vitex sive Agnus castus. *Ger. Emac.* 1387. Vitex folio angusto. *Park. Theat.* 1437. Agnus folio non serrato. *Raii. Hist.* 1696.

Didynamia Angiospermia. *Lin. Gen. Plant.* 790.

Gen. Ch. *Cal.* 5-dentatus. *Cor.* limbus 6-fidus. *Becca* 4-sperma.

Sp. Ch. V. foliis digitatis serratis, spicis verticillatis.

THIS small tree or shrub divides into numerous branches; is covered with a greyish bark, and the young shoots are clothed with a downy substance. Leaves digitated, opposite, on long footstalks, separating into five or seven portions, which are long, narrow, elliptical, entire, pointed, on the upper side smooth, under side downy. Flowers purplish, on short peduncles, in whorled spikes. Calyx short, tubular, downy: margin irregular, toothed. Corolla monopetalous, ringent: tube short, cylindrical: limb divided into four segments, of which the undermost is the largest. Filaments four, two long, and two short, of the length of the tube, capillary. Antheræ vesatile. Germen roundish. Style filiform, about the length of the tube. Stigmata two, tapering, spreading. Capsule a roundish berry, divided into four parts, each containing a solitary ovate seed, of a blackish grey colour.

The Chaste-tree is a native of Sicily, affecting humid and shady places. It has long been introduced into the gardens of this country,* where it is found to brave the cold of winter in the open ground.

* It was cultivated here in 1570. *Lobel. Advers.* 423.

Miller says that he has seen it in full flower in October, when it made a beautiful appearance; but we have not been fortunate enough to meet with it in that state, and therefore had the annexed figure taken from a dried specimen in the Herbarium of Sir Joseph Banks.

The seeds, which have long been medicinally used, and were formerly received as an article of the Materia Medica, have a pungent acrid taste, and an unpleasant aromatic odour. These, from the days of Dioscorides, have been highly celebrated for possessing a power of subduing the inclination natural between the sexes. Hence the name Agnus castus;[a] and from being therefore thought more especially useful to those leading a monastic life, these seeds have been called Piper monachorum, or Monk's pepper. The seeds of the Chaste-tree are, however, so far from being thought antiaphrodisiac, that writers of later times have ascribed to them an opposite quality; and their aromatic pungency seems to favour this opinion, and also that of Bergius, who states them to be carminative and emmenagogue. We are aware that Lewis says, "the seeds in substance, as met with in the shops, have little taste, and scarcely any smell;" but Dr. J. E. Smith, who examined them in their recent state, observes, that "they have an unpleasant aromatic smell:"[b] it is therefore probable that on being long kept they lose much of their sensible qualities, nor is this to be regretted from any medical advantage they seem to promise in our Island; and the plant has been figured here rather with a view to illustrate this natural order, by its variety, than to serve the purposes of medicine.

We have now figured all the medicinal plants classed by Professor Murray in the order Personatæ, except Scrophularia nodosa and aquatica, Avicennia tomentosa, or Anacardium orientale, and

[a] Agnos, (i. e. castus) nominatur, quod, in Thosmophoriis (i. e. sacris Cereris) matronæ castitatem custodientes, eo ad strata uterentur: Lygos vero (quasi vimen) propter virgarum ipsius firmitatem. *Dioscor. l.* 1. *c.* 135. *Gal. Sim. vi. p.* 40. *and cited by Alston. l. c.*

[b] Sketch of a tour on the Continent. *vol. i. p.* 223.

Acanthus mollis. The two first are both natives of this country, and known by the names of Great or knobby-rooted Figwort, and Water Figwort. They have an ungrateful smell, resembling that of the Linaria, and like it also have been chiefly employed, with a view to their sedative and antiphlogistic effects, as an application to hemorrhoidal tumours. The synonyma of the Avicennia tomentosa *Syst. Veg.* are Bontia germinans *Sp. Pl.* Bontia foliis subtus tomentosis. *Jacq. Sel. Stirp. Amer.* Anacardium orientale *off.* The Malacca Bean.

Jacquin, however, contrary to the opinion of Linnæus, thinks that this tree, which is a native of both Indies, does not produce the Malacca Bean, but that the parent of this fruit is still undescribed. It may also be added, that the medicinal qualities of Anacardium orientale are not yet sufficiently ascertained.

Acanthus mollis, Smooth Acanthus, or Bear's-breech, or Branca ursina, of the foreign pharmacopœias, is a native of Italy and Sicily; and, as containing a mucilaginous matter, has been recommended in the character of an emollient and demulcent; but we do not find any instances of its efficacy recorded.

ORD. XXI. RHŒADES.

(From *Rhœas* the Red Poppy.)

Including the Poppy and other plants resembling it.

PAPAVER SOMNIFERUM. WHITE POPPY.

Opium Pharmacopœiarum plantæ capsularum succus densatus.

SYNONYMA. Papaver album. *Pharm. Lond. & Edinb.* Papaver hortense semine albo, & β Papaver hortense nigro semine. *Bauh. Pin. p.* 170. *Raii Hist. p.* 853. *Synop. p.* 308. Papaver sativum album. *Gerard. Emac. p.* 369. Papaver simplex album sativum. *Park. Theat. p.* 366. Papaver. *Hall. Stirp. Helv. n.* 1065. P. somniferum. *Hudson. Flor. Ang. p.* 231. *Withering. Bot. Arr. p.* 552. *Relhan. Flor. Cant. p.* 204. Μήκων *Græcis.*

Class Polyandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 648.

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

Sp. Ch. P. calycibus capsulisque glabris, foliis amplexicaulibus incisis.

THE root is annual, tapering, and branched: the stalk is round, smooth, erect, often branched, of a glaucous green colour, and rises two or three feet in height: the leaves are alternate, large, ovate, lobed, smooth, deeply cut into various segments, and closely em-



Papaver somniferum

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brace the stalk: the flowers are very large, terminal, and usually white or purplish: the calyx consists of two leaves, which are ovate, smooth, concave, bifid, and fall off on the opening of the flower: the corolla consists of four petals, which are large, roundish, entire, undulated: the filaments are numerous, slender, much shorter than the corolla, and furnished with oblong erect compressed antheræ: the germen is large, globular, and upon it is placed the stigma, which is large, flat, radiated, and forms a kind of crown: the capsule is one-celled, smooth, divided half way into many cells, which open by several apertures beneath the crown, and contain very numerous small white seeds. It is a native of England, usually growing in neglected gardens, or uncultivated rich grounds, and flowers in July and August.

This species is said to have been named White Poppy from the whiteness of its seeds; a variety of it however is well known to produce black seeds: the double-flowered white poppy is also another variety; but for medicinal purposes any of these may be employed indiscriminately, as we are not able to discover the least difference in their sensible qualities or effects.

The seeds, according to some authors, possess a narcotic power;[a] but there is no foundation for this opinion: they consist of a simple farinaceous matter, united with a bland oil, and in many countries are eaten as food. As a medicine, they have been usually given in the form of emulsion, in catarrhs, stranguaries, &c.

The heads or capsules of the Poppy, which are directed for use in the Pharmacopœias, like the stalks and leaves, have an unpleasant smell, somewhat like that of opium, and an acrid bitterish taste. Both the smell and taste reside in a milky juice, which more especially abounds in the cortical part of the capsules, and in its concrete state constitutes the officinal opium. These capsules are powerfully narcotic, or anodyne; boiled in water, they impart to the menstruum their narcotic juice, together with the

[a] Hermann, *Cynosur. Mat. Med. p.* 436. Junker, *Conspec. Ther. Gen. p.* 279.

other juices which they have in common with vegetable matters in general. The liquor, strongly pressed out, suffered to settle, clarified with whites of eggs, and evaporated to a due consistence, yields an extract which is about one-fifth or one-sixth of the weight of the heads. This possesses the virtues of opium, but requires to be given in double its dose to answer the same intention, which it is said to perform without occasioning a nausea and giddiness, the usual effects of opium. This extract was first recommended by Mr. Arnot;[b] and a similar one is now received in the Edinburgh Pharmacopœia. It is found very convenient to prepare the syrup from this extract, by dissolving one dram in two pounds and a half of simple syrup. The syrupus papaveris albi, as directed by both Colleges, is a useful anodyne, and often succeeds in procuring sleep, where opium fails; it is more especially adapted to children. White Poppy heads are also used externally in fomentations, either alone, or more frequently added to the decoctum pro fomento.

Opium, as we have already observed, is obtained from the heads or capsules of this species of Poppy, and is imported into Europe from Persia, Arabia, and other warm regions of Asia. The manner in which it is collected has been described long ago by Kæmpfer and others; but the most circumstantial detail of the culture of the Poppy, and the method of procuring the opium from it, is that given by Mr. Kerr, as practised in the province of Bahar: he says, "The field being well prepared by the plough and harrow, and "reduced to an exact level superficies, it is then divided into "quadrangular areas of seven feet long, and five feet in breadth, "leaving two feet of interval, which is raised five or six inches, "and excavated into an aqueduct for conveying water to every "area, for which purpose they have a well in every cultivated "field. The seeds are sown in October or November. The plants "are allowed to grow six or eight inches distant from each other, "and are plentifully supplied with water. When the young plants "are six or eight inches high, they are watered more sparingly.

[b] *Medical Essays & Obs. by a Society at Edinb. vol. 5. p. 108.*

" But the cultivator strews all over the areas a nutrient compost " of ashes, human excrements, cow dung, and a large portion of " nitrous earth, scraped from the highways and old mud walls. " When the plants are nigh flowering, they are watered profusely " to increase the juice.

" When the capsules are half grown, no more water is given, " and they begin to collect the opium.

" At sun-set they make two longitudinal double incisions* upon " each half-ripe capsule, passing from below upwards, and taking " care not to penetrate the internal cavity of the capsule. The " incisions are repeated every evening until each capsule has re- " ceived six or eight wounds; they are then allowed to ripen their " seeds. The ripe capsules afford little or no juice. If the wound " was made in the heat of the day, a cicatrix would be too soon " formed. The night-dews by their moisture favour the exstil- " lation of the juice.

" Early in the morning, old women, boys, and girls, collect the " juice by scraping it off the wounds with a small iron scoop, and " deposit the whole in an earthen pot, where it is worked by the " hand in the open sunshine, until it becomes of a considerable " spissitude. It is then formed into cakes of a globular shape, and " about four pounds in weight, and laid into little earthen basins " to be further exsiccated. These cakes are covered over with " the Poppy or tobacco leaves, and dried until they are fit for " sale. Opium is frequently adulterated with cow-dung, the ex- " tract of the Poppy plant procured by boiling, and various other " substances, which they keep in secresy."——" Opium is here " a considerable branch of commerce. There are about 600,000 " pounds of it annually exported from the Ganges."[c]

It appears to us highly probable, that the White Poppy might be cultivated for the purpose of obtaining opium to great advan-

* Kaempfer says, that in Persia, a five-pointed knife is used for making the incisions. *Amœn. Exot. Obs.* 15.

[c] See *Medical Observations and Inquiries*, *vol.* 5. *p.* 317.

tage in Britain. Alston says, "the milky juice, drawn by incision from Poppy-heads, and thickened either in the sun or shade, even in this country, has all the characters of good opium; its colour, consistence, taste, smell, faculties, phœnomena, are all the same; only, if carefully collected, it is more pure and more free of feculencies."[d]

Similar remarks have also been made by others, to which we may add those of our own; for during the last summer, we at different times made incisions in the green capsules of the White Poppy, from which we collected the juice, which soon acquired a due consistence, and was found, both by its sensible qualities and effects, to be very pure opium.

Opium, called also Opium Thebaicum, from being anciently prepared chiefly at Thebes, has been a celebrated medicine from the remotest times. It differs from the Meconium, which by the ancients was made of the expressed juice or decoction of the Poppies.[e]

Opium is imported into Europe in flat cakes, covered with leaves to prevent their sticking together: it has a reddish brown colour, and a strong peculiar smell: its taste, at first, is nauseous and bitter, but soon becomes acrid, and produces a slight warmth in the mouth: a watery tincture of it forms an ink, with a chalybeate solution. According to the experiments of Alston, it appears to consist of about five parts in twelve of gummy matter, four of resinous matter, and three of earthy, or other indissoluble impurities.[f]

The use of this celebrated medicine, though not known to Hippocrates, can be clearly traced back to Diagoras who was nearly his cotemporary, and its importance has ever since been gradually advanced by succeeding physicians of different nations. Its extensive practical utility however has not been long well understood; and in this country perhaps may be dated from the

[d] *Medical Essays & Obs. vol. 5. p.* 116.

[e] Hence the ancients justly deemed the "Meconium multum opio ignavius."

[f] Vide *l. c.*

time of Sydenham. Opium is the chief narcotic now employed; it acts directly upon the nervous power, diminishing the sensibility, irritability, and mobility of the system; and, according to a late ingenious author, in a certain manner suspending the motion of the nervous fluid, to and from the brain, and thereby inducing sleep, one of its principal effects.[g] From this sedative power of opium, by which it allays pain, inordinate action, and restlessness, it naturally follows, that it may be employed with advantage in a great variety of diseases. Indeed, there is scarcely any disorder in which, under some circumstances, its use is not found proper; and though in many cases it fails of producing sleep, yet if taken in a full dose, it occasions a pleasant tranquillity of mind, and a drowsiness, which approaches to sleep, and which always refreshes the patient. Besides the sedative power of opium, it is known to act more or less as a stimulant, exciting the motion of the blood; but this increased action has been ingeniously, and, as we think, rationally ascribed to that general law of the animal œconomy, by which any noxious influence is resisted by a consequent re-action of the system. By a certain conjoined effort of this sedative and stimulant effect, opium has been thought to produce intoxication, a quality for which it is much used in eastern countries.

We shall now proceed to consider the use of opium in particular diseases, beginning with fevers.

In most continued fevers of this climate, though originating from contagion, or certain corruptions of human effluvia, &c. there is, at the beginning, more or less of inflammatory diathesis, and while this continues, opium would generally aggravate the symptoms, and prove dangerous. Its use is likewise forbidden in the more advanced stage of this fever, whenever topical inflammation of the brain is ascertained, which sometimes exists and produces delirium, though other symptoms of the nervous and putrid kind prevail. But when irritation upon the brain is not of the inflam-

[g] See Cullen's *Mat. Med.* C. sedantia. See also what is said of opium.

matory kind, and debility has made much progress, or where delirium is accompanied with spasmodic affections, opium is a sovereign remedy, and may be employed in large doses every eight hours, unless a remission of the symptoms and sleep take place.[h]

In intermittent fevers, opium, in combination with other medicines, was much used by the ancients; but since the introduction of the Peruvian bark, opium is seldom trusted to for the cure of these disorders. This medicine however has been strongly recommended as an effectual means of stopping the recurrence of the febrile paroxysms; and has been given before the fit, in the cold stage, in the hot stage, and during the interval, with the best effects;[i] producing immediate relief, and in a short time curing the patient, without leaving those abdominal obstructions which have been ascribed to the bark. But in these fevers perhaps the best practice is to unite opium with the bark, which enables the stomach to bear the latter in larger doses, and adds considerably to its efficacy.[k]

In inflammatory diseases the use of opium has been much condemned; and Young has established a general rule, "that opium is improper in all those diseases in which bleeding is necessary:"[l] this however has been much disputed;[m] and there are certainly

[h] Vide Cullen *l. c.*

[i] Berryat, who is a strenuous advocate for the use of opium in intermittents, recommends it to be given along with an infusion of centaury an hour before the accession of the paroxysm. See *Memoires presentés à L'Acad. Royal des Scien.* 1755. *T.* 2. *p.* 254.

Lind prefers giving it half an hour after the commencement of the hot fit. Vide *Dis. in hot climates, p.* 316. See also Murray's *Med. Pract. Bib. p.* 321.—On this subject see Brandreth, *Diss. inaug. de febr. interm. Ed.* 1770. Stoerck, *A. Med.* 1. *p.* 57. Tralles, *De Opio Sect.* 2. *p* 70. And others.

[k] Cullen *l. c.* [l] *Treatise on Opium. sect.* 39.

[m] See Remmet *Diss. inaug. de opii usu in morb. inflam. Ed.* 1774. Triller, *Diss. de suspecta opii ope in pluritide, p.* 4. Also Tralles *l. c.* De Haen *Rat. Med. P. i. p.* 24. *&c.*

numerous exceptions to it, which we shall now recite in the words of Dr. Cullen. "Such are those cases in which the inflammatory "state arises from irritation in a particular part, producing "spasm, and supervening inflammation. Thus in cases of jaundice, "I have found a biliary stone, in passing the biliary ducts, give "such an irritation as to produce a considerable inflammatory "state in the system; and though I have found it necessary, for "moderating this, to employ blood-letting, yet, as I considered "the passage of the stone to be chiefly interrupted by a spasmodic "constriction of the ducts, I have employed opium for taking off "this with great advantage. Similar circumstances have fre-"quently occurred in the case of urinary calculi passing the "ureters, in which I have found it necessary to employ opium "and blood-letting at the same time.

"In like manner as opium is useful in moderating excretions, "so when the irritation occasions an increase of these excretions, "which is attended with affections which irritate the whole "system, opium becomes especially useful. Hence it becomes "so generally useful in catarrhal affections, and the cough at-"tending them; and probably it is this analogy that has brought "the use of opium to be frequently employed in pneumonic in-"flammations. It is possible that there may be cases of such "inflammations wherein the opium may be more useful in taking "off the cough, than hurtful by aggravating the inflammatory "state of the system: but I have hardly met with such cases; and "even in the recent state of catarrhs from cold, I have found the "early use of opium hurtful: and in cases of pneumonic inflam-"mation, I have always found it to be very much so, if exhibited "before the violence of the disease had been moderated by re-"peated blood-letting. When that indeed has been done, I have "found the opium very useful in quieting the cough, and I "have hardly ever found it hurtful by stopping the expectoration. "It may suspend this for some hours; but if the glands of the "bronchia have been duly relaxed by bleeding and blistering,

" the expectoration after the use of opiates always returns with " more advantage than before. The mucus which had issued " before had been poured out from the follicles in an acrid state; " but, by being made to stagnate, it becomes milder, and is dis- " charged in what the ancients called a concocted state, with more " relief to the lungs."[n]

When opium is so managed as to procure sweat, it will tend to remove an inflammatory state of the system, and may prove generally useful; a notable instance of this we observe in the cure of acute rheumatism by means of Dover's powder.

In the small-pox opium, since the time of Sydenham, has been very generally and successfully prescribed, especially after the fifth day of the disease; but during the first stage of the eruptive fever, we are told that it always does harm; an opinion which our experience at the Small-pox Hospital warrants us to contradict: for even at that period of the disorder we often find the pulse languid, and the countenance pale, though pains in the loins and head are at the same time very severe; these symptoms, with restlessness, and other signs of irritability, which appear for some days after the attack of the disease, are considerably relieved by opium; to which however we usually add camphor and vinum antimonii tartarisati, taking care always to keep the body sufficiently open by the frequent use of a proper cathartic.

In hæmorrhagic disorders the use of opium is inferred from its known effects in restraining all the excretions, except that of sweat; but unless the hæmorrhages be of the passive kind, or excited by irritation, unattended with inflammation, opium may produce considerable mischief, and therefore its use in these complaints requires great circumspection.

In dysentery opium, though not to be considered as a remedy, may however be occasionally employed to moderate the violence of the symptoms.

In diarrhœa, especially when the acrimony has been carried off

[n] Cullen *l. c.*

by a continuance of the disease, opium is a certain and efficacious remedy.

In cholera and pyrosis, opium is the remedy chiefly trusted to.

In cholic it is employed with laxatives; and no doubt often prevents ileus and inflammation, by relieving the spasm.° Even in ileus and in incarcerated hernia, it is often found to allay the vomiting, the spasms, the pain, and sometimes to diminish the inflammation, and prevent the gangrene of the strangulated gut.

Opium has been lately recommended for the cure of the venereal disease; and instances are adduced in which this medicine succeeded, where mercury had failed; yet few practitioners, we apprehend, will trust to opium alone in these complaints: it is generally allowed, however, to be an useful auxiliary, and greatly to assist the action of mercury. Its use in preventing and stopping the progress of gangrene is well established.

Opium is successfully used in different species of tetanus, and affords relief to various spasmodic and convulsive symptoms occuring in several diseases, which it would exceed our limits to describe particularly; of these we may mention asthma, epilepsy, dyspepsia, hypochondriasis, rabies canina, chorea sancti viti, mania, &c. &c.

Respecting the external application of opium authors seem not sufficiently agreed. Some alledge that when applied to the skin it allays pain and spasm, procures sleep, and produces all the salutary or dangerous effects which result from its internal use; while others assert that, thus applied, it has little or no effect whatever. But there is no doubt that, when mixed with caustic, it diminishes the pain, which would otherwise ensue, probably by decreasing the sensibility of the part. Injected up the rectum, it has all the effect of opium taken into the stomach, but to answer this purpose double the quantity is to be employed. Applied to the naked nerves of animals, it produces immediate torpor, and loss of power

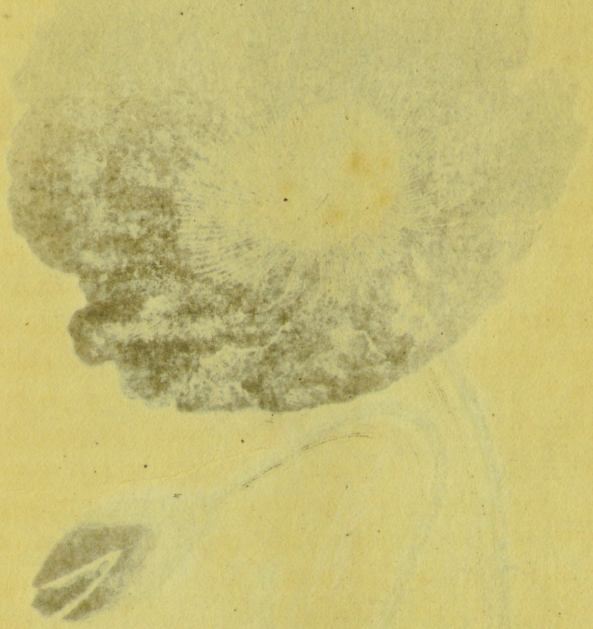
° See Mead, *Mon. et præcepta medica, p.* 64. Pringle, *Diss. of the Army. p.* 152. Haen *Rat. Med. P.* 3. *p.* 94. *P.* 9. *p.* 137.

in all the muscles with which the nerves communicate. Opium taken into the stomach, in an immoderate dose, proves a narcotic poison, producing vertigo, tremors, convulsions, delirium, stupor, stertor, and finally fatal apoplexy.

The officinal preparations of this drug are opium purificatum, pilulæ ex opio, pulvis opiatus, tinctura opii, and tinctura opii camphorata; it also enters the pulvis sudorificus, balsamum anodynum, electuarium japonicum, pulvis e creta composita, &c.

The requisite dose of opium varies in different persons, and in different states of the same person. A quarter of a grain will in one adult produce effects which ten times the quantity will not do in another; and a dose that might prove fatal in cholera or cholic, would not be perceptible in many cases of tetanus or mania. The lowest fatal dose, to those unaccustomed * to take it, seems to be about four grains; but a dangerous dose is so apt to produce vomiting, that it has seldom time to occasion death. When given in too small a dose, it often produces disturbed sleep, and other disagreeable consequences; and in some cases it seems impossible to be made to agree in any dose or form. Often, on the other hand, from a small dose, sound sleep and alleviation of pain will be produced, while a larger one occasions vertigo and delirium. Some prefer the repetition of small doses; others the giving a full dose at once: its operation is supposed to last about eight hours.

* It is well known, that by the continued use of opium the dose requires to be increased to produce the effect desired; and we are told of one instance in which it was increased to ten drams a day. See *Garcias Ab Horto Arom. vers. Clus.*





Papaver Rhœas.

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PAPAVER RHŒAS. RED, or CORN POPPY.

SYNONYMA. Papaver erraticum. *Pharm. Lond.* Papaver erraticum majus. *Bauh. Pin. p.* 171. Papaver erraticum Rhœas, sive sylvestre. *Park. Theat. p.* 367. Papaver laciniato folio, capitulo breviore glabro, annuum, Rhœas dictum. *Raii. Synop. p.* 308. Ροιας *Theoph. Diosc.* Papaver foliis semipinnatis hispidis fructu ovato glabro. *Hall. Hist. Stirp. Helv. n.* 1064. P. Rhœas. *Gerard. Emac. p.* 371. *Hudson. Flor. Ang. p.* 230. *Withering. Bot. Arr. p.* 551. *Relhan. Flor. Cantab. p.* 203. *Curtis, Flor. Lond. iii, n.* 36.

Class Polyandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 648.

Ess. Gen. Ch. *Cor.* 4-petala. *Cal.* 2-phyllus. *Caps.* 1-locularis, sub stigmate persistente poris dehiscens.

Sp. Ch. P. caps. glabris globosis, caule piloso multifloro, fol. pinnatifidis incisis.

THE root is annual, simple, fibrous: the stalk is upright, branched, having hairs standing at right angles with the stem, which rises from one to two feet in height: the leaves are pinnated, toothed, hairy on both sides, at the base sheath-like: the peduncles are slender, furnished with hairs like the stem, and each supports a single flower: the calyx consists of two leaves, which are ovate, rough, concave, and deciduous: the corolla is composed of four petals, which are large, spreading, roundish, unequal, of a bright scarlet colour, and marked at the base with a shining black spot: the filaments are numerous, slender, purplish, and furnished with roundish compressed antheræ: the germen is egg-shaped, truncated at the top: there is no style: the stigma is convex, radiated: the radii of a purple colour, and permanent: the capsule

answers the description given of the germen; it is smooth, marked with several longitudinal projecting lines, which are in number equal to the radii of the stigma; at the top it is scolloped: the radii are numerous, minute, and of a purple colour.

This plant is common in corn fields, and flowers in June and July. It may be distinguished from *P. dubium,* to which it bears a general resemblance, by its urn-shaped capsules, and by the hairs upon the peduncles standing in a horizontal direction.

The capsules of this species, like those of *somniferum,* contain a milky juice, of a narcotic quality, but the quantity is very inconsiderable, and has not been applied to any medical purpose; but an extract prepared from them has been successfully employed as a sedative.[a]

The flowers have somewhat of the smell of opium, and a mucilaginous taste, accompanied with a slight degree of bitterness. A syrup of these flowers is directed in the London Pharmacopœia, which has been thought useful as an anodyne and pectoral, and is therefore prescribed in coughs and catarrhal affections; but it seems valued rather for the beauty of its colour, than for its virtues as a medicine.

[a] *Boulduc Hist. de L'Acad. Royal des Scien. de Paris,* 1712. *p.* 52. *Chomel. Pl. usuell. T. i. p.* 125. Fouquet of Montpellier prefers this extract to opium. See Murray, *App. Med. vol. ii. p.* 213.

CHELIDONIUM MAJUS. GREATER, or COMMON CELANDINE.

SYNONYMA. Chelidonium majus. *Pharm. Geoff. iii.* 309. *Dale.* 210. *Alston. i.* 407. *Lewis.* 224. *Edinb. New. Dispens.* 170. *Murray. ii.* 300. *Bergius.* 451. *Ger. Emac.* 1069. *Raii. Hist.* 858. *Synop.* 309. *Hall. Helv. n.* 1059. Chelidonium majus vulgare. *Bauh. Pin.* 144. *Park. Theat.* 616. C. majus. *Huds. Ang.* 228. *Withering. Bot. Arr.* 547. *Flor. Dan. t.* 542.



Chelidonium majus

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Polyandria Monogynia. *Lin. Gen. Plant.* 647.

Gen. Ch. *Cor.* 4-petala. *Cal.* 2-phyllus. *Siliqua* 1-locularis, linearis.

Sp. Ch. C. pedunculis umbellatis.

ROOT perennial, tapering, branched, externally brown, internally yellow. Stalks erect, cylindrical, branched, somewhat hairy, from one to two feet in height. Leaves pinnated, terminal leafit large, and often lobed; pinnæ roundish, with deeply scolloped edges. Flowers yellow, in small umbels, upon long hairy footstalks. Calyx consisting of two ovate, entire, hairy, deciduous leaves. Corolla of four petals, which are circular, large, spreading, narrow at the base. Filaments from twenty to thirty, compressed, tapering, shorter than the corolla. Antheræ double, oblong, flattish. Germen cylindrical, long, bent. Stigma blunt. Pod long, valved, somewhat tapering at each end, containing several oval shining seeds attached to the receptacle, which is placed at the junction of the valves.

It grows in hedges, or rough uncultivated places, flowering in most of the summer months.

"The leaves and roots of Celandine have a faint unpleasant smell, and a bitterish very acrid and very durable taste, which is considerably stronger in the roots than in the leaves. Both water and rectified spirit extract nearly the whole of their pungent matter: the leaves, notwithstanding the yellow juice which issues so plentifully from a slight wound, and in which their activity seems to reside, give to rectified spirit a green tincture: the roots, which yield a copious saffron red juice, tinge the same menstruum of a brownish yellow."

"The pungency of this plant is not of the volatile kind, little or nothing of it rising in distillation with water any more than with spirit: it is nevertheless greatly abated by drying the plant itself, or by inspissating with a gentle heat the spirituous or watery infusions."[a]

[a] *Lewis. l. c.*

This acrid plant has been much recommended in the general character of an aperient and attenuant. In jaundice it was long considered as the most effectual remedy that could be employed, as appears from the writings of Dioscorides, Galen, Forestus, and other authors of more recent date; hence it was a principal ingredient in the *decoctum ad ictericos* in the Edinburgh Pharmacopœia. Nor has its use been confined to hepatic obstructions; in those of the other viscera, as well as in the mesenteric and lymphatic glands, it is said to have been equally efficacious.[b]

It has also been successfully employed as an expectorant; and several writers found it of great efficacy in curing intermittents.[c] It has been administered in various forms and doses. Half a dram, or a dram of the dry root in powder, or an infusion in wine or water of a dram, or a dram and an half, of the fresh root, or three or four drops of its yellow juice in any convenient vehicle, are directed for a dose. We have little doubt but that the virtues of Celandine have been greatly exaggerated, and its general employment in jaundice seems to have originated in the absurd doctrine of signatures: in certain cases however we should expect to find it an useful remedy, for it evidently possesses active powers; and thus it is externally used to destroy warts, clean foul ulcers, and remove opacities of the cornea.

[b] *Lange. De Med. Bruns. p.* 124. [c] See *Murray. l. c.*



Capparis spinosa

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ORD. XXII. PUTAMINEÆ.

(From *Putamen*, a shell)

Certain plants of a similar habit, whose seed-vessel or fruit is commonly covered with a woody shell.

CAPPARIS SPINOSA. COMMON CAPER-BUSH.*

SYNONYMA. Capparis. *Pharm. Geoff. iii.* 250. *Dale.* 324. *Alston. i.* 370. *Bergius.* 449. *Murray. ii.* 305. *Edinb. New Disp.* 160. Καππαρις. *Dioscor.* Capparis spinosa fructu minori, folio rotundo. *Bauh. Pin.* 480. Capparis rotundiore folio. *Ger. Emac.* 895. *Park. Theat.* 1023. *Ray. Hist.* 1629. *Ic. Smith. Specileg. Bot. t.* 20.

Polyandria Monogynia. *Lin. Gen. Plant.* 643.

Gen. Ch. *Cal.* 4-phyllus, coriaceus. *Petala* 4. *Stam.* longa. *Bacca* corticosa, unilocularis, pedunculata.

Sp. Ch. C. pedunculis solitariis unifloris, stipulis spinosis, foliis annuis, capsulis ovalibus.

ROOT woody, crooked. Stem trailing, much branched, round, smooth: branches alternate, spreading, often downy, leafy, many flowered. Leaves alternate, on short footstalks, spreading, oval, or roundish, in the wild plant often terminated by a little sharp point, which disappears by culture, entire, veiny, succulent, bright green, deciduous. Stipulæ none: but in their stead are two spines at the base of the footstalks, acute, somewhat recurved, yellowish, which are nearly obliterated in the cultivated plant. Flowers numerous, axillary, solitary, on footstalks, without bracteæ,

* The only medicinal plant of this order.

large, handsome, inodorous. Flower-stalks round, longer than the leaves. Calyx of four unequal concave leaves, tipped with purple. Petals much larger than the calyx, spreading, obovate, waved, white, with a faint tincture of red. Stamina very numerous, the length of the petals, spreading, slender in the upper part, pale purple like the antheræ. Germen oval, small, green, standing on a round purplish footstalk, which is longer than the stamina. Stigma small, blunt. Capsule oblong, oval, coriaceous.

It is a native of the south of France, Italy, and the Levant.

Dr. Smith, of whose figure and description of the Caper-bush we have here availed ourselves, says, "it is surprising that this beautiful shrub, which is as common in the south of France as the bramble with us, and which grows luxuriantly in the open air, when trained against a wall, even at Paris, should be almost unknown in the English gardens, where it can scarcely be made to flower, except in a stove, with all possible care."[a]

The buds, or unexpanded flowers of this plant, are in common use as a pickle; and for this purpose the smaller or younger buds are most esteemed.

This grateful pickle has the character of an antiscorbutic, and of removing hepatic and other visceral obstructions; but the part of the plant which has been chiefly recommended for medicinal purposes, is the bark of the root. This is of considerable thickness, externally of an ash colour, and transversely wrinkled; on drying it rolls up into quills of about a third of an inch in diameter; its taste is somewhat aromatic, bitterish, and acrid.

By Dioscorides, and other ancient writers, it was thought of great efficacy as a deobstruent, and was generally employed in obstructions of the liver and spleen, menstrual suppressions, and sciatica; in this view it has also been used by Forestus[b] and Sennertus;[c] and on the presumption of its deobstruent power, it is reckoned one of the five less aperient roots: at present, however, its use is wholly laid aside.

[a] *Specil. Bot. t.* 20. [b] *Oper. Lib.* 20. *Obs.* 2. & 3. [c] *Pract. Lib.* 3. *P.* 4. *c.* 2. & 3.