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

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SECOND EDITION.

VOL. III.

——————— *abrotonum ægro*

Non audet, nisi qui didicit, dare. ——— Hor. Epist.

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PRESTON INSTITUTION 1828

Dedication to the first edition.

TO THE

PRESIDENT

AND

FELLOWS

OF THE

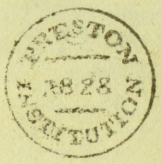
ROYAL COLLEGE OF PHYSICIANS,

EDINBURGH:

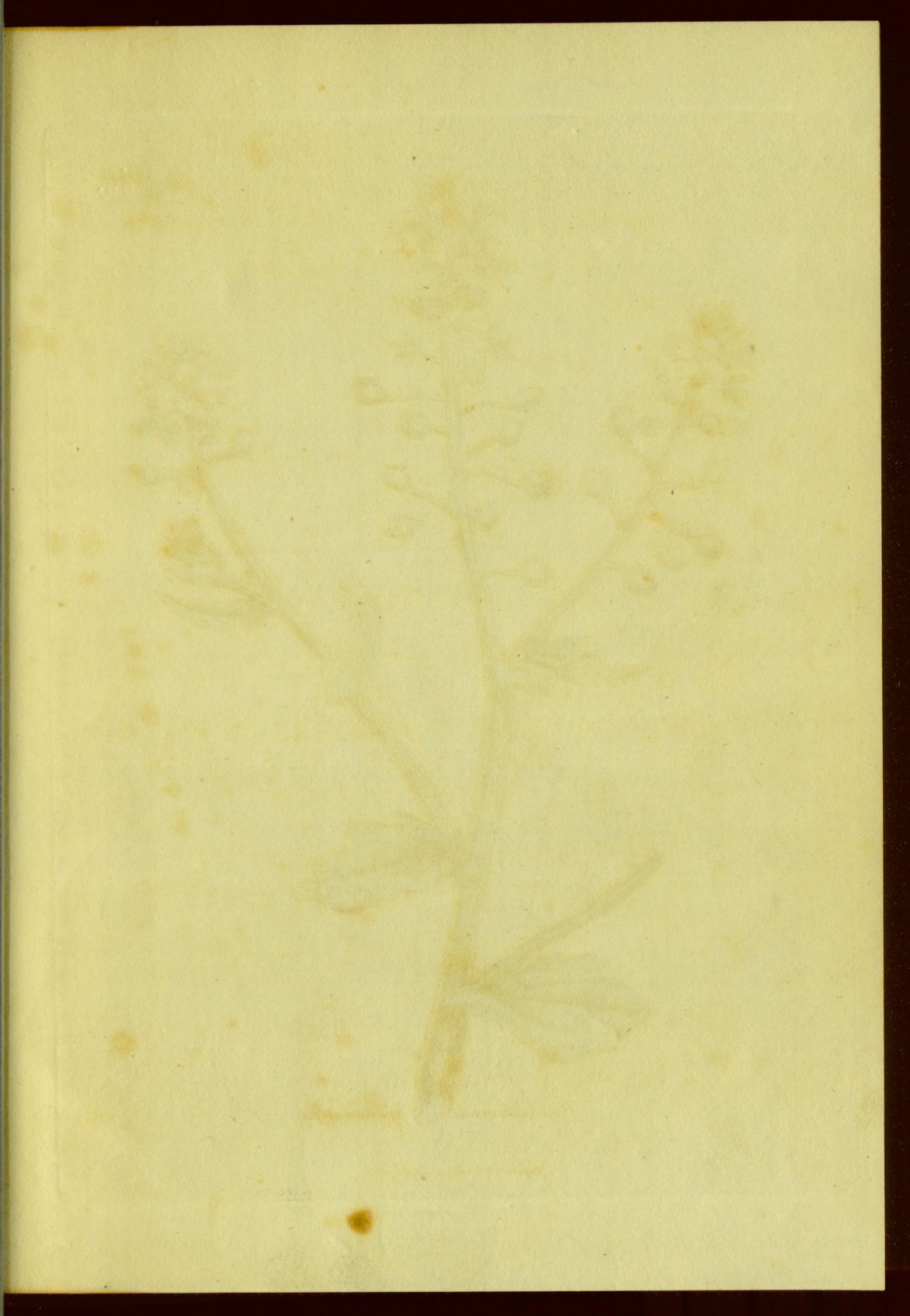
THIS THIRD VOLUME OF MEDICAL BOTANY,

IS, WITH GREAT RESPECT,

INSCRIBED BY



THE AUTHOR.





Cochlearia officinalis.

Published by W. Phillips, November 1.1807.

BRENTON INSTITUTION 1828

ORD. XXIII. SILIQUOSÆ.

(From *Siliqua*, a pod)

Plants having a pod for their seed-vessel.

COCHLEARIA OFFICINALIS. COMMON SCURVY-GRASS.

SYNONYMA. Cochlearia hortensis. *Pharm. Lond. & Edin.* Cochlearia. *J. Bauh.* 2. 942. Cochlearia rotundifolia. *Gerard.* 324. Cochlearia folio subrotundo. *Bauh. Pin.* 110. Cochlearia major rotundifolia sive Batavorum. *Park.* 285. Cochlearia. *Raii. Hist. Spec.* 1. p. 822. *Synop.* 302. Nasturtium foliis radicalibus subrotundis, caulinis oblongis, subsinuatis. *Hal. Stirp. Helv.* No. 503. Cochlearia officinalis. *With. Bot. Arrang.* 677. *Flor. Dan.* t. 135.

Class Tetradynamia. *Ord.* Siliculosa. *L. Gen. Plant.* 803.

Ess. Gen. Ch. *Silicula* emarginata, turgida, scabra; volvulis gibbis, obtusis.

Sp. Ch. C. foliis radicalibus cordato-subrotundis; caulinis oblongis subsinuatis. *Caulis ramosus.*

THE root is perennial, fibrous, and usually produces several upright branched angular stems, about a span high; the radical leaves are heart or kidney-shaped, fleshy, succulent, and stand upon long footstalks; the stem-leaves alternate, rhomboidal, blunt, and dentated on each side; towards the top the leaves are

sessile, or embracing the stem, but towards the bottom they are frequently upon short broad footstalks; the flowers are cruciform, and stand upon short peduncles, terminating the branches in thick clusters; the calyx consists of four leafits, which are oval, blunt, concave, gaping, deciduous, and whitish at the margin; the petals are four, white, oval, spreading, and twice the length of the calyx; the filaments are six, four long and two short, greenish, tapering, and crowned with yellow antheræ; it has no style, and the germen becomes a small roundish compressed pod, containing rough seeds. It is found on the mountains of Scotland, Cumberland, and Wales, but more commonly about the Sea shores: it flowers in April and May.

We have figured this plant from a specimen obtained from Mr. Curtis's botanic garden at Brompton, where it differs in no respect from the same plants growing in their native soil, a circumstance which induces many to cultivate Scurvy-grass in gardens for medical use. It has an unpleasant smell, and a warm acrid bitter taste. "Its active matter is extracted by maceration both in watery and in spirituous menstrua, and accompanies the juice obtained by expression. The most considerable part of it is of a very volatile kind; the peculiar penetrating pungency totally exhaling in the exsiccation of the herb, and in the evaporation of the liquors. Its principle virtue resides in an essential oil, separable in a very small quantity, by distillation with water."[a]—Scurvy-grass[b] is antiseptic,[c] attenuant, aperient, and diuretic, and is said to open obstructions of the viscera and remoter glands, without heating or irritating the system; it has been long considered as the most

[a] Lewis M. M. 242. "The oil is so ponderous as to sink in the aqueous fluid, but of great volatility, subtility, and penetration. One drop dissolved in spirit, or received on sugar, communicates to a quart of wine, or other liquors, the smell and taste of Scurvy-grass." Lewis l. c.

[b] This species is now preferred to all the other species of Cochlearia for its medical use.

[c] See the experiments of Sir John Pringle.

effectual of all the antiscorbutic plants,* and its sensible qualities are sufficiently powerful to confirm this opinion. In the rheumatismus vagus, called by Sydenham Rheumatismus scorbuticus, consisting of wandering pains of long continuance, accompanied with fever, this plant, combined with Arum and wood-sorrel, is highly commended both by Sydenham and Lewis.[d]—A remarkably volatile and pungent spirit, prepared from this herb, and known by the name of *Spiritus antiscorbuticus s. mixtura simplex antiscorbutica Drawizii.*‡ *(Pharm. Wert.)* was found by Werlhof[e] to be a useful remedy in paralysis and other diseases requiring an active and powerful stimulant, given in the dose of thirty drops several times a day. But as an antiscorbutic, neither this, nor the conserve promises so much benefit as the fresh plant, eaten as sallad, or the expressed juice, as directed in the Pharmacopœias.

* We have testimony of its great use in scurvy, not only from physicians, but navigators, as Anson, Linschoten, Maartens, Egede, and others. And it has been justly noticed, that this plant grows most plentifully in those high latitudes, where the scurvy is most obnoxious: Forster found it in great abundance in the islands of the South Sea. In Islandia parant incolæ hanc herbam cum lacte acidulato vel ejus sero; condiunt eam etiam sale culinari in magnis doliis, & per hiemem servant. Cum oves in locis, ubi Cochlearia crescit, pascuntur, avide quidem illam edunt & valde pinguescunt, sed caro nauseoso sapore inficitur. Olafsen. *Reise durch Island.* T. 1. p. 257. Vide Berg. M. M. 557.

[d] Opera 278. M. M. 241.

‡ Fit ex spiritu tartari et spiritu cochleariæ, quibus vitriolum ad rubidinem calcinatum irroratur, succedente digestione et distillatione. Murray Ap. Med. vol. 2. p. 347.

[e] Obs. de febr. p. 145. Dr. Cullen observes, that "several foreign dispensatories have ordered it to be treated by distillation with spirit of wine, and have thereby obtained a volatile poignant spirit, that may prove a useful stimulus in several cases. It may probably be improved by a combination with the volatile acid of tartar, as in the spiritus antiscorbuticus *Drawitzii*, and in this state may be a useful stimulant in paralytic cases; it may also be employed as a diuretic, and in this way also be useful in scurvy." M. M. vol. 2. 165.

CARDAMINE PRATENSIS. COMMON LADIES-SMOCK, Or, CUCKOW-FLOWER.

SYNONYMA. Cardamine. *Pharm. Lond. & Edin.* Nasturtium pratense magno flore. *Bauh. Pin.* 104. Nasturtium pratense majus seu Cardamine latifolia. *Park.* 825. Iberis Fuchsii seu Nasturtium pratense sylvestre. *J. B.* 2. 889. Cardamine. *Ger. Raii. Hist. Sp.* 2. p. 814. *Synop.* 299. Cardamine foliis pinnatis radicalibus subrotundis, caulinis linearibus. *Hal.* No. 473. Cardamine pratensis. *With. Bot. Arrang.* 688. *Relhan. Flor. Cant.* 255. *Curt. Flor. Lond.* α Floribus simplicibus. β Floribus plenis. *H. Kew.* Σισυμβριον ἕτερον. *Dioscor.*

Class Tetradynamia. *Ord.* Siliquosa. *L. Gen. Plant.* 812.

Ess. Gen. Ch. *Siliqua* elastice dissiliens valvulis revolutis. *Stigma* integrum. *Cal.* subhians.

Sp. Ch. C. foliis pinnatis: foliolis radicalibus subrotundis; caulinis lanceolatis.

THE root is perennial, branched, and sends off many long round fibres; the stalk is erect, round, smooth, sometimes branched towards the top, and rises about nine inches high: the leaves are pinnated, radical leaves frequently wanting, otherwise spreading in an orbicular shape, with roundish pinnæ, which are dentated, or cut into several irregular unequal angles; the leaves upon the stalk are erect, and consist of four or five pair of pinnæ, which are narrow, spear-shaped, concave, pointed, and the odd or terminal leafits are the largest: the flowers terminate the stem in a cluster or racemus, and stand upon smooth naked peduncles; the calyx is composed of four scaly leaves, which are oblong, obtuse, concave, deciduous, and alternately protuberant at the base; the corolla is



Cardamine pratensis

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this remedy has been generally found unsuccessful. Greeding, who tried it in a great number of cases, and in large doses, experienced but one instance of its good effects.[d] The dose of the powdered flowers is from half a dram to two drams.

[d] Ludwig. Advers. Medico-pract. Vol. 3. P. 3. p. 564.

SISYMBRIUM NASTURTIUM. WATER-CRESSES.

SYNONYMA. Nasturtium aquaticum. *Pharm. Lond. & Edinb.* Nasturtium aquaticum supinum. *Bauh. Pin. p.* 105. Nasturtium aquaticum, sive Cratevæ Sium. *Gerard. Emac. p.* 257. Sisymbrium Cardamine sive N. aquaticum. *J. Bauh. Hist. vol. 2. p.* 884. N. aquaticum vulgare. *Raii Hist.* 816. *Synop. p.* 300. *Park. Theat. p.* 1239. Sisymbrium foliis pinnatis, pinnis subrotundis, brevibus racemis. *Hal. Stirp. Helv. n.* 482. Sisymbrium Nasturtium. *Withering. Bot. Arrang. p.* 690. *Flor. Dan. t.* 690. *Curt. Flor. Lond.* Καρδάμινη s. Σιον *Dioscorid.*

Class Tetradynamia. *Ord.* Siliquosa. *Lin. Gen. Plant.* 813.

Ess. Gen. Ch. *Siliqua* dehiscens valvulis rectiusculis. *Calyx* patens. *Corolla* patens.

Sp. Ch. S. siliquis declinatis, foliis pinnatis: foliolis subcordatis.

THE root is biennial, long, creeping, and beset with several close tufts of long slender fibres: the stalks are thick, branched, and frequently rise above a foot high: the leaves are pinnated, and consist of two or three pair of irregular oblong pinnæ, terminated by an odd one, which is the largest: the flowers are disposed in short terminal spikes, and appear in June and July: the corolla consists of four petals, which at their extremities are roundish, spreading, and of a white colour: the calyx is of four



Sisymbrium Nasturtium

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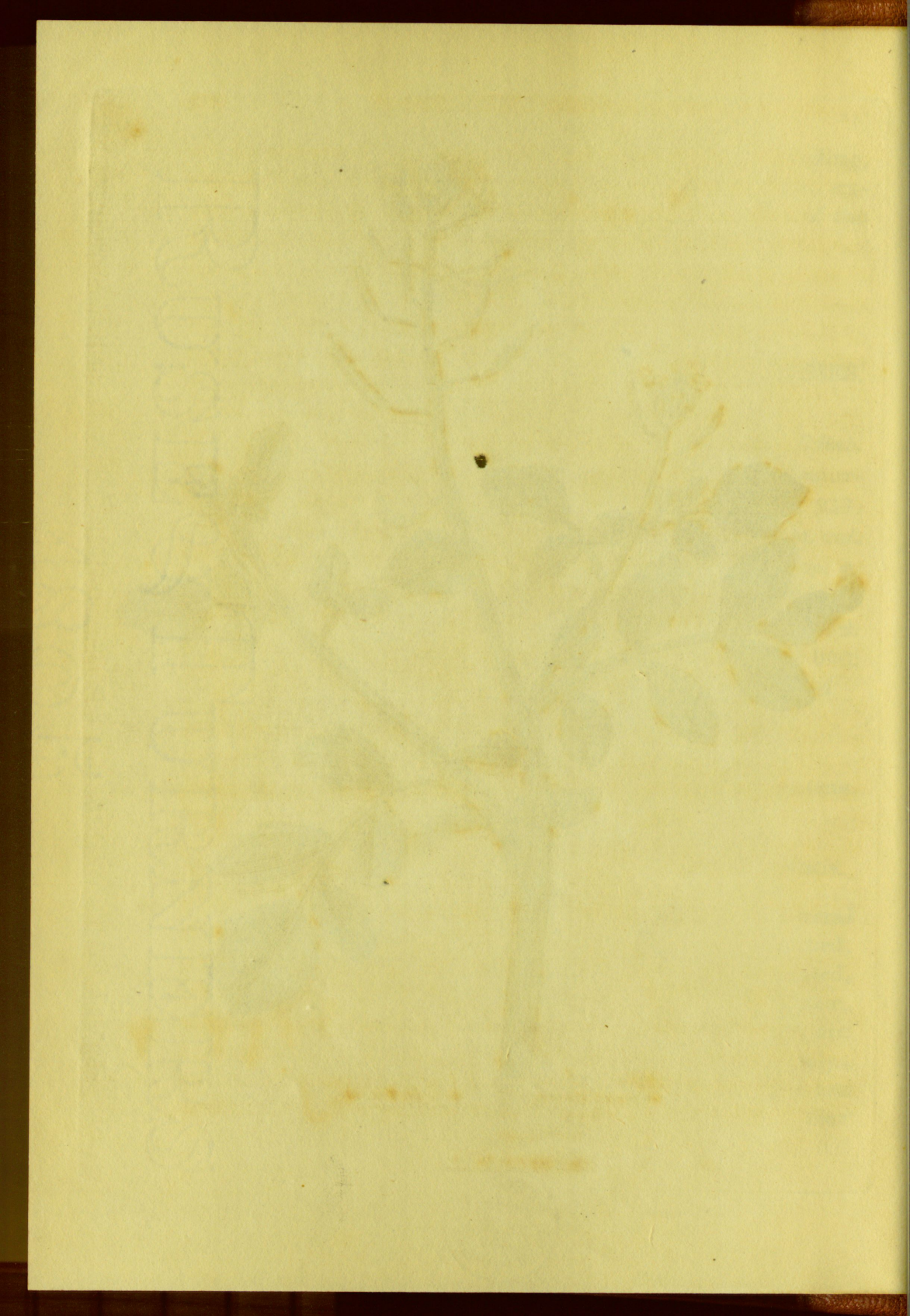

oval leafits, which commonly fall off by the expansion of the flower: the stamina are six, four long and two short, and furnished with simple antheræ: the style is short, with an obtuse stigma, the germen is long, slender, and becomes a crooked pod, which contains small round seeds. It is a native of Britain, and grows commonly in brooks and stagnant waters.

"The leaves of the Water-cresses have a moderately pungent taste, emit a quick penetrating smell, like that of mustard-seed, but much weaker. Their pungent matter is taken up both by watery and spirituous menstrua, and accompanies the aqueous juice, which issues copiously upon expression: it is very volatile so as to arise,[a] in great part, in distillation, with rectified spirit, as well as with water, and almost totally to exhale in drying the leaves, or inspissating by the gentlest heat to the consistence of an extract, either the expressed juice, or the watery or spirituous tinctures. Both the inspissated juice, and the watery extract, discover to the taste a saline impregnation, and in keeping throw up crystalline efflorescences to the surface. On distilling considerable quantities of the herb with water, a small proportion of a subtile volatile very pungent oil is obtained."[b]

Water-cresses obtain a place in the Materia Medica for their anti-scorbutic qualities, which have been long very generally acknowledged by physicians. They are also supposed to purify the blood and humours, and to open visceral obstructions;[c] they are nearly allied to scurvy-grass, but are more mild and pleasant, and for this reason are frequently eaten as sallad. In the pharmacopœias the juice of this plant is directed with that of scurvy-grass and Seville oranges; and Dr. Cullen has remarked, that the addition of acids renders the juices of the plantæ siliquosæ more certainly effectual, by determining them more powerfully to an acescent fermentation.[d]

[a] This volatile matter has been erroneously attributed to an alkaline or alkalescent quality of the plant.

[b] Lewis Mat. Med.

[c] Hoffman and Haller thought highly of its powers in this way. [d] Mat. Med.

COCHLEARIA ARMORACIA. HORSE-RADISH.

SYNONYMA. Raphanus rusticanus. *Pharm. Lond. & Edinb. Bauh. Pin. p.* 96. *Gerard. Emac. p.* 241. *Park. Theat. p.* 860. *Raii Hist. p.* 818. *Synop. p.* 301. *Hist. Ox. iii. t.* 7. *f.* 2. Nasturtium foliis radicalibus lanceolatis crenatis, caulinis incisis. *Hal. Stirp. Helv. n.* 504. Cochlearia Armoracia. *Huds. Ang. p.* 284. *Withering Bot. Arr. p.* 681. *Relhan Flor. Cant. p.* 249.

Class Tetradynamia. *Ord.* Siliculosa. *Lin. Gen. Plant.* 803.

Ess. Gen. Ch. *Silicula* emarginata, turgida, scabra: valvulis gibbis, obtusis.

Sp. Ch. C. foliis radicalibus lanceolatis crenatis; caulinis incisis.

THE root is perennial, long, tapering, white: the stalk is round, erect, branched, smooth, and rises two or three feet in height: the radical leaves are very large, lance-shaped, scolloped at the edges, and stand on strong footstalks; those of the stalk are much smaller, narrow, and often divided at the edges: the flowers are white, numerous, and terminate the branches in thick clusters: the calyx is composed of four leaves, which are egg-shaped, concave, opening, and deciduous: the corolla consists of four inversely egg-shaped petals, which expand in opposite directions, and form a cross; they are twice the size of the calyx, and are inserted by narrow claws: the filaments are six, tapering, the two opposite ones shorter than the other four, and all furnished with blunt compressed antheræ: the germen is heart shaped, supporting a simple style, which is short, permanent, and furnished with an obtuse stigma: the capsule is heart-shaped, turgid, slightly notched at the end, and furnished with the style; it is divided into two cells, each containing about four seeds. It is found growing wild in many parts of England, particularly about rubbish and the sides of ditches; but it is commonly cultivated in gardens, and flowers in May.



Cochlearia Armoracia

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The root of this plant, which has long been received into the Materia Medica, is also well known at our tables; "it affects the organs both of taste and smell with a quick penetrating pungency; nevertheless it contains in certain vessels a sweet juice, which sometimes exudes in little drops upon the surface. Its pungent matter is of a very volatile kind, being totally dissipated in drying, and carried off in evaporation or distillation by water and rectified spirit: as the pungency exhales, the sweet matter of the root becomes more sensible, though this also is in a great measure dissipated or destroyed. It impregnates both water and spirit, by infusion or distillation, very richly with its active matter: in distillation with water it yields a small quantity of essential oil, exceedingly penetrating and pungent."[a]

Dr. Cullen having, in our opinion, mentioned every thing necessary to be known respecting the medical virtues of Horse-radish, we shall here transcribe all that the ingenious Professor has written on this subject:

"The root of this only is employed, and it affords one of the "most acrid substances of this order, (siliquosa) and therefore "proves a powerful stimulant, whether externally or internally "employed. Externally it readily inflames the skin, and proves a "rubifacient that may be employed with advantage in palsy and "rheumatism; and if its application be long continued it pro-"duces blisters."—"Taken internally, I have said in what manner "its stimulant power in the fauces may be managed for the cure "of hoarseness.[b] Received into the stomach, it stimulates this, "and promotes digestion, and therefore is properly employed as a "condiment with our animal food. If it be infused in water, and

[a] *Lewis, M. M. p.* 534.

[b] The Doctor here refers to the article Erysimum, the juice of which mixed with an equal part of honey or sugar, is strongly recommended for the cure of hoarseness which proceeds from an interrupted secretion of mucus, and which stimulants of the acrid kind are found most efficacious in restoring. When the Erysimum was not at hand, the Dr. substituted a syrup of Horse-radish. He says, "I have found

" a portion of this infusion be taken with a large draught of warm " water, it readily proves emetic, and may either be employed by " itself to excite vomiting, or to assist the operation of other " emetics. Infused in water, and taken into the stomach, it proves " stimulant to the nervous system, and is thereby useful in palsy; " and if employed in large quantity it proves heating to the whole " body: and hereby it proves often useful in chronic rheumatism, " whether arising from scurvy, or other causes. Burgius[c] has " given us a particular method of exhibiting this root, which is " by cutting it down, without bruising, into very small pieces; " and these, if swallowed without chewing, may be taken down " in large quantity, to that of a table spoonful: and the author " alleges, that in this way, taken every morning for a month " together, this root has been extremely useful in arthritic cases; " which however I suppose to have been of the rheumatic kind. " It would seem that in this manner employed, analagous to the " use of unbruised mustard-seed, it gives out in the stomach its " subtle volatile parts, that stimulate considerably without in- " flaming. The matter of Horse-radish, like the same matter of " the other siliquose plants, carried into the blood vessels, passes " readily into the kidneys, and proves a powerful diuretic, and is " therefore useful in dropsy; and we need not say, that in this " manner, by promoting both urine and perspiration, it has been " long known as one of the most powerful antiscorbutics."[d]

that one dram of the root, fresh, scraped down, was enough for four ounces of water, to be infused in a close vessel for two hours, and made into a syrup, with double its weight of sugar. A tea-spoonful or two of this syrup, swallowed leisurely, or at least repeated two or three times, we have found often very suddenly effectual in relieving hoarseness." *Mat. Med. v. ii. p.* 167.

[c] See *Berg. Mat. Med. p.* 559. where he adds, " Agit secure, ventriculum vix calefacit, nisi sub fine curæ. Multos scorbuticos hoc etiam regimine perquam levatos vidi."

[d] *Mat. Med. vol. ii. p.* 169.

We are told by Dr. Withering, that an infusion of Horse-radish in milk makes one of the safest and best cosmetics. *l. c.*



Sinapis nigra

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SINAPIS NIGRA. COMMON BLACK MUSTARD.

SYNONYMA. Sinapi. *Pharm. Lond. & Edinb.* Sinapi rapi folio. *Bauh. Pin. p.* 99. Sinapi sativum alterum. *Gerard. Emac. p.* 244. Sinapi sativum rapi folio. *Park. Theat. p.* 831. Sinapi sativum secundum. *Raii Hist. p.* 803. *Synop. p.* 295. Sinapi siliquis tetragonis glabris. *Hall. Stirp. Helv. n.* 465. Sinapis nigra. *Huds. Flor. Ang. p.* 297. *Lightf. Flor. Scot. p.* 361. *Withering Bot. Arrang. p.* 713.

Class Tetradynamia. *Ord.* Siliquosa. *Lin. Gen. Plant.* 821.

Ess. Gen. Ch. *Cal.* patens. *Cor.* ungues recti. *Glandula* inter stamina breviora et pistillum, interque longiora et calycem.

Sp. Ch. S. siliquis glabris racemo appressis.

THE root is annual: the stem erect, smooth towards the top, channelled at the bottom, about three feet in height, divided and subdivided in numerous distant spreading branches: the leaves are variously shaped: those near the root are large, irregularly heart-shaped, and pinnatifid or lobed at the base; those on the upper branches are narrow, and more entire: the flowers are yellow, and terminate the branches in close spikes: the calyx consists of four expanding strap-shaped deciduous leaves: the corolla is composed of four petals, which at their extremities are roundish, flat, spreading, and stand in opposite directions upon upright narrow claws: the filaments are six, four long and two short; they are all erect, tapering, and furnished with simple antheræ: the germen is cylindrical, terminated by a style, which is crowned with a knobbed stigma: a small gland is placed between each of the short filaments and the germen, and between each pair of the long filaments and the calyx, the seed vessels or pods stand nearly parallel with the

branches, and are long, smooth, protuberant at the base, two-celled, two-valved, and contain many globular shining dark seeds. It is common in corn fields, and banks of ditches; but it is cultivated for use, and flowers in June.

The seeds of this species of Mustard, which are directed by the London College, and those of the S. alba, which are preferred by that of Edinburgh, manifest no remarkable difference to the taste, nor in their general effects, and therefore answer equally well for the uses of the table, and for the purposes of medicine. They have an acrid pungent taste, and when bruised this pungency shews its volatility by powerfully affecting the organs of smell; they readily impart these qualities to aqueous liquors, and by distillation with water yield an essential oil of great acrimony. To rectified spirit these seeds give out very little either of their smell or taste. Subjected to the press, they yield a considerable quantity of mild insipid oil, which is as free from acrimony as that of almonds.

By writers on the Materia Medica, Mustard is considered to promote appetite, assist digestion, attenuate viscid juices, and by stimulating the fibres, to prove a general remedy in paralytic and rheumatic affections. Joined to its stimulant qualities, it frequently, if taken in considerable quantity, opens the body,[a] and increases the urinary discharge, and hence has been found useful in dropsical complaints.[b] In its medicinal character it is nearly allied to the last mentioned plant, and, like all the other Siliquosæ, has been recommended as an antiscorbutic;[c] though we are told

[a] As much of the unbruised seeds as an ordinary table-spoon will contain does not prove heating to the stomach, but stimulates the intestinal canal, and commonly proves laxative. Cullen, *M. M. vol. ii. p.* 171.

[b] See Mead and others.

[c] "Semen Sinapeos in mortario tritum & cum vino albo mixtum, multas centurias Scorbuticorum & languentium hominum in obsidione Rupellensi sanitati restituit. Plerique enim obsessorum & urbe inclusorum fame & inedia pressi, multa sordida & quæ natura abhorret esitare coacti, respirandi difficultatem, gingivarum putredi-

by Haller, that the use of Mustard disposes the humours to putrescency;[d] an opinion which he was probably led to entertain from a supposition that it contained volatile alkali: for it is well known that some of these pungent plants, when in a state of putrefaction, give out this alkali by distillation, and hence have been termed alkalescent plants; but the fermentation of these vegetable substances may be so directed as to be of the acescent kind,[e] and the alkali obtained from them seems not to have existed in the vegetable in a separate state.† The great pungency of these plants is not therefore to be ascribed to the volatile alkali, but to the essential oil which they contain. Bergius informs us, that he found Mustard of great efficacy in curing vernal intermittents; for this purpose he directed a spoonful of the whole seeds to be taken three or four times a day, during the apyrexia; and when the disease was obstinate, he added flower of Mustard to the bark.[f] Externally these seeds are frequently used as a stimulant or sinapism.[g] Mustard seed may be most conveniently given entire or unbruised, and to the quantity of a spoonful or half an ounce for a dose.

nem, dentium nigritiem & vacillationem, aliaque Scorbuti symptomata contraxerant, unde multi moriebantur, donec tandem Sinapi in fossis circa urbem copiosè inventum, & quo dictum est modo adhibitum omnes liberavit." Vide *Raii Hist. p.* 803.

[d] "Ut denique dicam quæ sentio, & ipse vidi, frequentem Sinapi usum credo humores ad naturam putredinosam disponere, morbos que acutos redere perniciosiores, si in mustardæ amantes hominens inciderint. Neque ventriculo mustardam prodesse putem, quæ vix ipsa coquatur, & plusculis horis ructus putridos cieat." *Hist. Stirp. Helv. n.* 465.

[e] *Cullen, l. c.*

[f] *Mat. Med. vol. ii. p.* 581.

[g] "The fresh powder of Mustard shews little pungency and much bitterness; but when it has been moistened with vinegar, and kept for a day, the essential oil is evolved, and it becomes considerably more acrid, as is well known to those who prepare Mustard for the table; a circumstance which should be attended to when designed for external use." *Cullen, l. c.*

† We have good reason to suppose, that Boerhaave was mistaken in asserting, "Semen optimum Sinapis, solum contritum affuso acerrimo aceto efervescere memini," Chem. vol. ii. p. 142. as it has since been denied by the most respectable authorities.

ERYSIMUM OFFICINALE. HEDGE MUSTARD.

SYNONYMA. Erysimum. *Pharm. Geoff. iii.* 444. *Dale.* 203. *Alston. ii.* 135. *Lewis.* 289. *Cullen. ii.* 166. *Edinb. New Disp.* 186. *Murray. ii.* 315. *Bergius.* 561. *Hall.* 478. Erysimum vulgare. *Bauh. Pin.* 100. Erysimum Dioscorides Lobelii. *Ger. Emac.* 254. Irio sive Erysimum vulgare. *Park. Theat.* 833. Eruca siliqua cauli appressa, Erysimum dicta. *Ray. Hist.* 810. *Synop.* 298. Erysimum officinale. *Hudson. Ang.* 286. *Wither. Bot. Arr.* 695. *Ic. Flor. Dan.* 560. *Curt. Flor. Lond.*

Tetradynamia Siliquosa. *Lin. Gen. Plant.* 814.

Gen. Ch. *Siliqua* columnaris, exactè tetraëdra. *Cal.* clausus.

Sp. Ch. E. siliquis spicæ adpressis, foliis runcinatis.

ROOT annual, tapering, furnished with long fibres. Stalk from one to two feet in height, erect, round, branched, hairy. Leaves on footstalks, rough, downy, pinnatifid segments, opposite, ovate, toothed, terminal one the largest. Flowers yellow, small, placed in long racemi or spikes. Calyx of four leafits, which are ovate, narrow, blunt, hairy. Corolla composed of four petals, placed oppositely, inversely ovate, standing upon long claws. Filaments six, tapering, two of which are shorter than the others, and having at the base two nectarious glands. Antheræ heart-shaped. Germen cylindrical, striated. Stigma roundish, compressed, notched. Pods nearly conical, obscurely quadrangular, hairy, pressed to the stalk. Seeds of a dingy yellow colour, obliquely truncated at each end.

It is common on dry banks and waste places, and flowers from June till September.



Erysimum officinale

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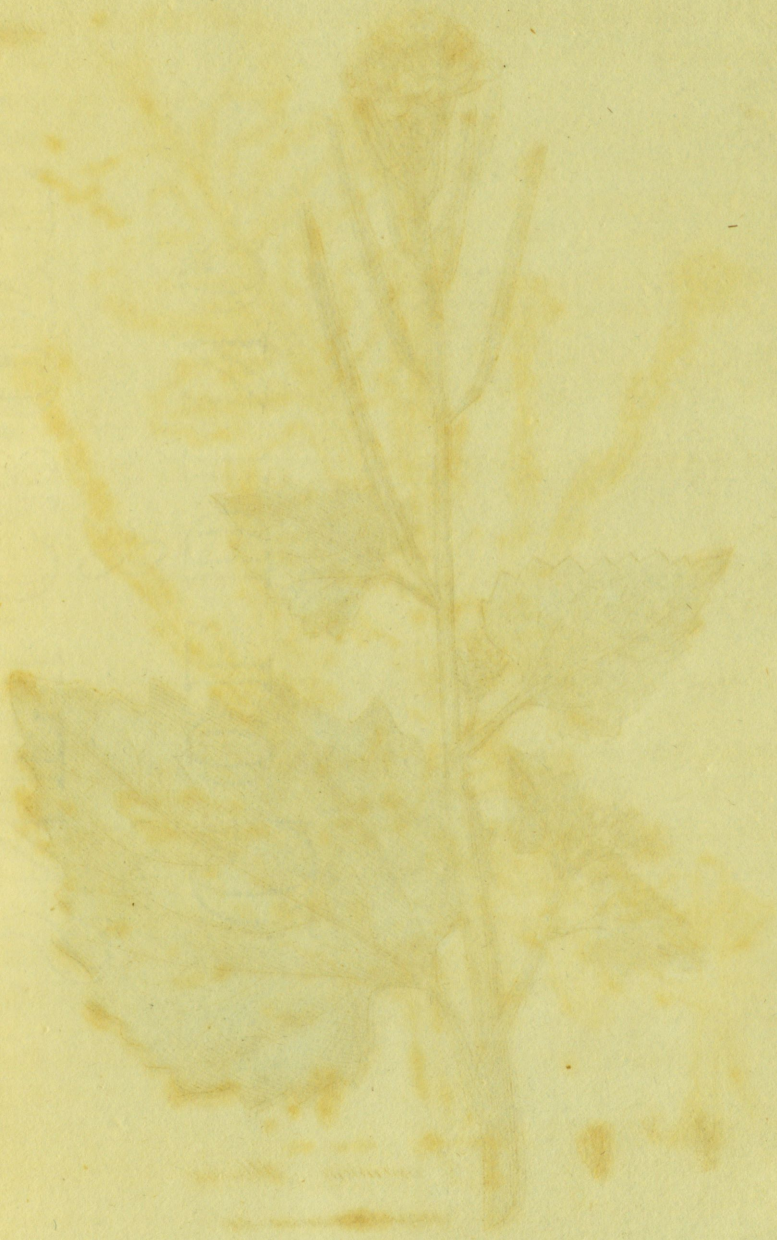



Erysimum Alliaria

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The taste of this herb is somewhat acrid, especially the tops of the flower spikes. Its seeds are considerably pungent, and appear to be nearly of the same quality with those of mustard, but weaker.

The Erysimum is said to be attenuant, expectorant, and diuretic, and has been strongly recommended in chronical coughs and hoarseness. Rondeletius informs us, that the last mentioned complaint, occasioned by loud speaking, was cured by this plant in three days. Other testimonies of its good effects in this disorder are recorded by writers on the Materia Medica, of whom we may mention Dr. Cullen, who, for this purpose recommends the juice of the Erysimum to be mixed with an equal quantity of honey or sugar. In this way also it is said to be a useful remedy in ulcerations of the mouth and throat.

In most cases of disease, perhaps the seeds of Erysimum, as more pungent, should be preferred to its leaves.

ERYSIMUM ALLIARIA. SAUCE-ALONE, Or, STINKING HEDGE-MUSTARD.

SYNONYMA. Alliaria. *Pharm. Geoff. iii.* 58. *Dale.* 200. *Alston. ii.* 79. *Lewis* 31. *Edinb. New Dispens.* 120. *Murray. ii.* 317. *Bergius.* 564. *Bauh. Pin.* 110. *Gerard. Emac.* 794. *Park. Theat.* 112. *Ray. Hist.* 792. *Synop.* 293. *Hall. Hist. Stirp. Helv.* 480. Erysimum Alliaria. *Huds. Ang.* 268. *With. Bot. Arr.* 696. *Ic. Curt. Flor. Lond.* 144.

Tetradynamia Siliquosa. *Lin. Gen. Plant.* 814.

Gen. Ch. Siliqua columnaris, exactè tetraëdra. *Cal.* clausus.

Sp. Ch. E. foliis cordatis.

ROOT biennial, whitish, tapering, fibrous. Stalk erect, two or three feet in height, round, smooth, channelled, sparingly branched. Leaves alternate, heart-shaped, on footstalks, unequally toothed, veiny; on the upper part of the stalk they are pointed, and narrower; at the root kidney-shaped, and standing on long footstalks. Flowers white, in terminal spikes. Calyx of four leafits, which are ovate, concave, of a pale green. Corolla consists of four petals, which are inversely ovate, and placed in opposite directions upon erect claws. Filaments six, tapering, four of which are long and erect, two short and bent inwards. Antheræ yellow, oblong, incumbent. Germen long, quadrangular. Style very short. Stigma roundish. Pod two inches long, obscurely quadrangular, marked with a prominent line between each angle; the cavity divided into two cells, containing oblong shining brown seeds, which appear obliquely truncated at each end.

It is common on hedge banks, and flowers in May and June.

The leaves of this plant have a moderate acrimony, and a strong flavour, resembling that of garlic or onions; they give the same kind of taint to the breath as those roots, and have been used for the same culinary purposes: hence the name Alliaria. On drying, however, their sensible qualities are considerably diminished, or entirely lost.

"The juice, expressed from the fresh leaves, is strongly impregnated with their active matter, but loses the greatest part of it on being inspissated to an extract with the gentlest warmth: in its liquid state, duly secured from the air, it may be kept uninjured for many months. On distilling the fresh herb with water, there arises a small portion of essential oil, which tastes and smells exceeding strongly."[a]

The medicinal character of Alliaria is that of a powerful diaphoretic, diuretic, and antiscorbutic; and as partaking of the qualities of garlick it has been deemed useful as an expectorant and deobstruent, in humoral asthmas, and other cases of dyspnœa. It has

[a] *Lewis. l. c.*

also been much esteemed as an external application, to promote suppuration; and Boerhaave informs us, that he cured a gangrene of the leg, arising from a neglected fracture and contusion, by applying the bruised leaves of Alliaria with wine.[b]

It has been thought unavailing to publish figures of the remaining medical plants of this order, not only because they appear unimportant, but because they are nearly allied to each other both in their medicinal and botanical characters, and are sufficiently exemplified in this work.—See Cochlearia, Sinapi, Cardamine, Raphanus rusticanus, Nasturtium aquaticum.

[b] *Hist. Plant. Lugd. Bat.* 437.

Those omitted are

Lin. Name.	Officinal.	English.
Sisymbrium Sophia	Sophia chrurgorum	Flix-weed
Erysimum Barbaræa	Barbaræa	Winter Hedge-mustard
Raphanus sativus	Raphanus	Garden-Radish
Brassica oleracea	Brassica	Cabbage
------Rapa	Rapa	Turnep
------Napus	Nepus	Rape, or Wild-Cabbage
------Eruca	Eruca	Garden-Rocket
Cheiranthus Cheiri	Cheiri	Wall-Flower
Lepidium sativum	Nasturtium hortense	Garden-Cress
Thlaspi arvense	Thlaspi	Bastard-Cress
------Bursa pastoris	Bursa pastoras	Shepherd's-Purse

ORD. XXIV. PAPILIONACEÆ.

(From *Papilio*, a Butterfly)

Plants whose flowers somewhat resemble a Butterfly. This Order includes all the leguminous plants.

ASTRAGALUS TRAGACANTHA. GOAT'S THORN MILK VETCH.

Ex hac planta exudat Gummi Tragacantha. *Pharm. Lond. & Edinb.*

SYNONYMA. Astragalus aculeatus fruticosus Massiliensis. *Pluk. Alm. p.* 60. Tragacantha. *Bauh. Pin. p.* 388. Tragacantha, sive spina hirci. *Gerard. Emac. p.* 1328. Tragacantha vera. *Park. Theat. p.* 995. Tragacantha Massiliensis. *J. Bauh. Hist. i. p.* 407. *Raii Hist. p.* 933. *Du Hamel, Traité des Arbres, t. ii. p.* 343. *Tournefort, Voyage du Levant, t. i. p.* 21.

Class Diadelphia. *Ord.* Decandria. *Lin. Gen. Plant.* 892.

Ess. Gen. Ch. *Legumen* biloculare, gibbum.

Sp. Ch. A. caudice arborescente, petiolis spinescentibus.

THE root is perennial, long, tapering, and fibrous: the stems are shrubby, short, thick, branched, procumbent, clothed with brown rigid fibres, and beset with long sharp spines: the leaves are pinnated, consisting of about eight pairs of small oblong pinnulæ, or leafits, which are attached to a strong spinous persistent



Astragalus Tragacantha

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PRESTON INSTITUTION 1878

footstalk, or midrib: the flowers are large, of a pale yellow colour, and terminate the branches in close clusters: the calyx is tubular, and divided at the rim into five sharp teeth: the corolla is of the papilionaceous kind, consisting of a *vexillum* or upper petal, which is longer than the others, straight, blunt, reflected at the sides, and notched at the end; two *alæ* or lateral petals, which are of an oblong form, and a *carina* or keel-shaped under-petal: the filaments are ten, nine of which are united, and one separate: the antheræ are small and round: the germen is long and roundish: the style tapering, and furnished with a blunt stigma: the seeds are kidney-shaped, and contained in a two-celled pod. It flowers from May till July.

This plant was cultivated in England in the time of Parkinson, (1640): it is a native of Asiatic Turkey, and the Southern parts of Europe, particularly of Italy, Sicily, and Crete. Tournefort discovered it growing plentifully about Mount Ida,[a] where he examined the plant in the month of July, when both the bark and wood were found distended with gum Tragacanth, which by the intensity of the sun's heat forces its way through the bark, and concretes into irregular lumps, or long vermicular pieces, bent into a variety of shapes, and larger or smaller in proportion to its quantity, and the size of the wounds from whence it issues. This gum is imported here chiefly from Turkey: it varies in its colour; but that most esteemed it white, semitransparent, dry, yet somewhat soft to the touch.

M. de la Billardière's late account[b] of the production of this gum differs in some respects from that of Tournefort's. He says, that he visited Mount Lebanon in August, 1786, the season when the gum Tragacanth is collected: he then found the species of Astragalus which afforded it, to be different from that figured and

[a] *Voyage, T. i. p.* 21.

[b] See Description d'une nouvelle espece d'astragale, qui produit au Liban la gomme adragant, *Hist. de l'Acad. R. des Scien. du* 16 *Dec.* 1788. *et Rozier, Obs. sur la physique, pour Janvier,* 1790.

described by Tournefort, and consequently not the Tragacantha of Linnæus.[c] He also contradicts the opinion of Tournefort, who attributes the flowing of the gum to the contraction of the fibres of the bark, occasioned by the intensity of the solar heat; observing that it is only during the night, or when the sun is obscured by clouds, that the gum issues from the plant, and that the same has been remarked at Crete.

" Gum Tragacanth differs from all other known gums, in giving a thick consistence to a much larger quantity of water;* and in being much more difficultly dissoluble, or rather dissolving only imperfectly.[d] Put into water, it slowly imbibes a great quantity of the liquid, swells into a large volume, and forms a soft but not fluid mucilage: if more water be added, a fluid solution may be obtained by agitation, but the liquor looks turbid and wheyish; and on standing the mucilage subsides, the limpid water on the surface retaining little of the gum:"† nor does the mixture of gum arabic promote their union.

The demulcent qualities of this gum are to be considered as similar to those of gum arabic:[e] it is seldom given alone, but frequently in combination with more powerful medicines, especially in the form of troches, for which it is peculiarly well adapted. It gives name to an officinal powder, and is an ingredient in the compound powder of ceruss.

[c] He makes the following distinctions: The stem of the Cretan Astragalus is blackish, that of Lebanon is yellow; the leaves of the first are downy, of the second they are smooth. The flowers of one are red, those of the other are of a pale yellow. From hence he infers that there are various species of Astragalus which produce gum tragacanth.

* Multo fortius est hoc gummi, quam G. arabicum, sc. ut 1 ad 24. Etenim dum G. Tragac. scrup. 8 aquæ puræ libr. 2 in consistentiam Syrupi redigunt, requiruntur G. Arab. unc. 8 ad eundem effectum præstandum. *Berg. M. M. p.* 622.

[d] Rutty asserts, that in five or six hours it will dissolve in cold water. *Observ. on the Lond. & Edinb. Dispen. p.* 179. † *Lewis's M. M.*

[e] See p. 189. Bergius says, *Virtus:* demulcens, obtundens, incrassans. *Usus:* Dysenteria, Diarrhœa, Stranguria. *l. c. p.* 621.



Spartium scoparium

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PRESTON INSTITUTION 1828

SPARTIUM SCOPARIUM. COMMON BROOM.

SYNONYMA. Genista. *Pharm. Lond. & Edinb. Gerard. Emac. p.* 1311. Genista angulosa & scoparia. *Bauh. Pin. p.* 395. Genista vulgaris & scoparia. *Park. Theat. p.* 228. Genista angulosa trifolia. *J. Bauh. Hist. vol. i. p.* 388. *Ray Hist. p.* 1723. *Synop. p.* 474. Spartium foliis inferioribus ternatis hirsutis superioribus simplicibus. *Hall. Stirp. Helv. n.* 354. Spartium scoparium. *Hudson. Flor. Ang. p.* 310. *Withering. Bot. Arrang. p.* 756. *Flor. Dan. p.* 313.

Class Diadelphia. *Ord.* Decandria. *Lin. Gen. Plant.* 858.

Ess. Gen. Ch. Stigma longitudinale, supra villosum. *Filamenta* germini adhærentia. *Cal.* deorsum productus.

Sp. Ch. S. foliis ternatis solitariisque, ramis inermibus angulatis.

THE root is woody, tough, and extends to a considerable length: the stalk is shrubby, branched, and covered with light brown bark: it usually rises from four to six feet in height, and sends forth a great number of slender angular green shoots: the leaves are small, downy, divided into three oval leafits, and standing upon footstalks of different lengths: the flowers are large, numerous, of the papilionaceous shape, and of a bright yellow colour: the calyx is tubular, divided transversely at the margin into two lips, of these the uppermost is entire, the undermost slightly notched: the corolla is composed of five petals: the superior, or standard petal, is inversely heart-shaped, and bent backwards: the two lateral petals, or wings, are oblong, convex, less than the standard, and united to the filaments: the keel is composed of the two undermost petals, which are connected together by soft hairs at the margin, so as to appear keel-shaped: the filaments are ten, nine of which are united

at the base, of unequal length, curled inwards, and furnished with oblong antheræ: the germen is flat, oblong, hairy, and supports a slender style, with an oblong stigma: the seeds are round, or somewhat kidney-shaped, and contained in a long cylindrical pod, like that of the garden pea. It is common in dry sandy pastures, and flowers in April and May.

Linnæus, Bergius,[a] and several other writers, seem to have confounded the medicinal qualities of this plant with those of Genista tinctoria: the officinal Genista is however by the British Pharmacopœias considered to be the common Broom, of which the tops and seeds are directed for use. The tops and leaves of Broom have a nauseous bitter taste, which they impart by infusion both to water and spirit. They are commended for their purgative and diuretic qualities, and have therefore been successfully employed in hydropic cases, of which particular instances are related by Mead[b] and others, to which we may add the following from Dr. Cullen: "Genista, though very little in use, I have inserted in my catalogue (of cathartics) from my own experience of it. I found it first in use among our common people; but I have since prescribed it to some of my patients in the manner following: I order half an ounce of fresh Broom tops to be boiled in a pound of water till one half of this is consumed, and of this decoction I give two table-spoonfuls every hour till it operates by stool, or till the whole is taken. It seldom fails to operate both by stool and urine, and by repeating this exhibition every day, or every second day, some dropsies have been cured."[c] The ashes of Broom have also been much used in dropsies, and principally on the authority of

[a] They both say of G. tinctoria, "*Virtus:* pellens, purgans, *Usus:* Hydrops;" while the common broom is passed unnoticed. See *M. M. Lin. p.* 170. *Berg. p.* 598.

[b] *Mon. & Præc. p.* 138. where we are told that a patient by taking half a pint of a decoction of green Broom tops, with a spoonful of whole mustard seed, every morning and evening, was cured, after being tapped three times, and trying the usual remedies given in dropsies. See also *Möhring Act. N. C. vol. v. p.* 32.

[c] *Mat. Med. vol. ii. p.* 534.

Sydenham,[d] whose account of their good effects has been since confirmed by the testimony of Dr. Monro,[e] and other writers.[f] We may observe however that the efficacy of this medicine must depend entirely upon the alkaline salt, and not in the least upon the vegetable from which it is obtained. The seeds and flowers of Broom are said to be emetic and cathartic; but the evidence upon which this assertion rests is not wholly to be relied upon, as the former when roasted have been used as a substitute for coffee, and the latter employed as a pickle.[g]

[d] *Opera, p.* 497.

[e] He gave a dram divided into three doses every day. *On Dropsy, p.* 64.

[f] See Odhelius in *Vet. Acad. Handl.* 1762. *p.* 82.

[g] Purgat genistæ semen non minùs potenter fere quàm Spartium aut Helleborus, &c. Idem confirmat Lobelius, semine Genistæ scopariæ vomitum non secus ac Spartio Diosc. sæpius ℥ii decocto propinato citra magnam contentionem se movisse scribens. Verùm flores recèns decerptos sæpissimè quamplurimos & per se acetariis inditos vorat, (inquit) plebecula Arverna & Aquitaniæ maxima copiâ innocuos non modò sed etiam admodum gustui suaves; nec quicquam vomitionis nauseæve, aut commotionis movere solent. Quin apud Brabantos, & Anglos non minùs, gemmantes dum adhuc virides sunt condiuntur sale & aceto flores, menisque inferuntur, Capparum Olearumve pari commendatione. *Ray l. c.* Ray also informs us, that from the MS. of Dr. Hulse, he learned that the flor. genist. given in the form of electuary, with honey of roses, were found of great efficacy in scrophulous affections.

GEOFFROYA INERMIS. SMOOTH GEOFFROYA, Or, BASTARD CABBAGE-TREE.

SYNONYMA. Geoffræa. *Pharm. Edinb.* Geoffræa jamaicencis inermis. *Wright's Description and Use of the Cabbage-bark Tree of Jamaica. Phil. Trans. vol.* 67. *p.* 507. Geoffroya inermis, foliolis lanceolatis. *Swartz. Prodr.* 106.

Class Diadelphia. *Ord.* Decandria. *Lin. Gen. Plant.* 876.

Ess. Gen. Ch. Cal. 5-fidus. *Drupa* ovata. *Nucleus* compressus.

Sp. Ch. G. inermis, foliolis lanceolatis. *Swartz. l. c.*

THIS tree rises to a considerable height, and towards the top sends off several branches: the wood is hard enough to admit of being polished: the external bark is smooth and grey, internally it is black and furrowed: the leaves are pinnated, consisting of several pairs of pinnæ, which are lance-shaped, pointed, veined, smooth, standing in pairs upon short footstalks, but with an odd one at the end: the flowers appear in clusters upon large branched spikes: the calyx is bell-shaped, and divided into five short obtuse segments: the corolla is of the papilionaceous kind, of a pale rose colour, consisting of a *vexillum,* which is roundish, concave, and notched at the apex; two *alæ,* which are oblong, obtuse, concave, and somewhat shorter than the vexillum, and an obtuse divided *carina:* the filaments are ten, nine of which are united at the base: the antheræ are simple, and roundish: the germen is oval, and furnished with a tapering curved style, which is terminated by a hooked stigma: the fruit is pulpy, resembling a small plum, and containing a hard nut or seed, separated into two valves, and marked on each side with a longitudinal furrow.



Geoffroya inermis.

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This tree is a native of Jamaica, where it is distinguished by the name of Cabbage-bark tree, or Worm-bark tree: the bark, which has a mucilaginous and sweetish taste, and a disagreeable smell, was first noticed as a vermifuge by Mr. Peter Duguid.[a] Since that time several accounts of its anthelmintic virtues have been given in the Medical Commentaries by different authors: but Dr. Wright, who resided a long time at Jamaica, has communicated the fullest information concerning this tree, both in respect to its medical and botanical characters. Linnæus enumerates only one species of this genus, which is called after Geoffroy, viz. G. spinosa; and, in contradistinction to this, Dr. Wright, on discovering that the plant here figured belonged to the same family, and was destitute of spines, very properly gave it the trivial name of *inermis*, and it has since been recognized and confirmed in this name upon the authorities of Swartz and Aiton, though, it is not yet admitted into any of the editions of the Systema Vegetabilium of Linnæus. This species was first introduced into this country by Messrs. Kennedy and Lee, who cultivated it at Hammersmith about the year 1778. According to Dr. Wright, the bark of this tree is powerfully medicinal, and its anthelmintic effects have been established at Jamaica by long experience.

It may be given in different forms, as in decoction, syrup, powder, and extract; and the manner of preparing and exhibiting these are thus stated by Dr. Wright:

" The decoction. Take fresh-dried or well-preserved cabbage-bark, one ounce. Boil it in a quart of water, over a slow fire, till the water is of an amber colour, or rather of deep coloured

[a] This author thinks that the inhabitants of Jamaica are more subject to worms, " on account of their *sweet viscid bread-kind*, to wit, plaintains, yams, bananos, sweetish potatoes, &c." and considers it particularly fortunate, that the island supplies them with this bark, which " appears to be the most powerful vermifuge yet known, for it frequently brings away as many worms by stool as would fill a large hat." See *Essays and Observations Physical and Literary, vol. ii. p.* 264.

Madeira wine; strain it off, sweeten it with sugar, and let it be used immediately, as it does not keep many days.

" Syrup of Cabbage-bark. To any quantity of the above decoction add a double portion of sugar, and make a syrup. This will retain its virtues for years.

" The extract of Cabbage-bark is made by evaporating the strong decoction in *balneo mariæ* to the proper consistence; it must be continually stirred, as otherwise the resinous part rises to the top, and on this probably its efficacy depends.

" The powder of well-dried bark is easily made, and looks like jallap, though not of equal specific gravity.

" This bark, like most other powerful anthelmintics, has a narcotic effect; and on this account it is always proper to begin with small doses, which may be gradually increased till a nausea is excited, when the dose for that patient is ascertained. But by frequent use we can in common determine the dose, though we chuse to err rather on the safe side.

" A strong healthy grown person may, at first, take four table spoonfuls of the decoction or syrup, three grains of the extract, or thirty grains of the powder for a dose.

" A youth, three table spoonfuls of the decoction or syrup, two grains of extract, or twenty grains of powder.

" A person of ten years of age, two table spoonfuls of the decoction or syrup, one grain and a half of extract, or fifteen grains of the powder.

" Children of two or three years old, a table spoonful of the decoction or syrup, one grain of extract, or ten grains of the powder. Children of a year old, half the quantity.

" These may be increased, as above observed, till a nausea is excited, which will depend on the strength, sex, and habit of body of the patient.

" Care must be taken that cold water be not drank during the operation of this medicine, as it is in this case apt to occasion

sickness, vomiting, fever, and delirium. When this happens, or when an over large dose has been given, the stomach must be washed with warm water: the patient must speedily be purged with Castor-oil, and use plenty of lime-juice beverage for common drink; vegetable acid being a powerful antidote in this case, as well as in an over dose of opium.

" The decoction is what is mostly given here, and seldom fails to perform every thing that can be expected from an anthelmintic medicine, by destroying worms in the intestines, and bringing them away in great quantities. By frequent use, however, these animals become familiarized, and we find it necessary to intermit it, or have recourse to others of inferior merit.

" The writers of the Edinburgh Medical Commentaries take notice, that the decoction of cabbage-bark always excites vomiting. We find no such effect from it here, and may account for it by their receiving it in a mouldy state. A syrup, therefore, is given there with better effect. They observe also that it has a diuretic virtue, which we have not taken notice of here.

" This bark purges pretty briskly, especially in powder, thirty or forty grains working as well as jallap by stool; but in this way it does not seem to kill worms so well as in decoction.

" Five grains of the extract made a strong man sick, and purged him several times; but, by frequent use, he took ten grains to produce at length the same effect.

" It must not be concealed that fatal accidents have happened from the imprudent administration of this bark, chiefly from over-dosing the medicine. But this cannot detract from the merit of the cabbage-bark, since the best medicines, when abused, become deleterious; and even our best aliments, in too great quantity, prove destructive. Upon the whole, the cabbage-bark is a most valuable remedy, and I hope will become an addition to the *Materia Medica*."

GLYCYRRHIZA GLABRA. COMMON LIQUORICE.

SYNONYMA. Glycyrrhiza. *Pharm. Lond. & Edinb.* Glycyrrhiza vulgaris. *Gerard. Emac. p.* 1302. *Raii. Hist. p.* 910. *Synop. p.* 324. Glycyrrhiza siliquosa vulgaris. *Park. Theat. p.* 1098. Glycyrrhiza radice repente, &c. *J. Bauh. Hist. ii. p.* 328. Glycyrrhiza siliquosa vel germanica. *Bauh. Pin. p.* 352. *Hist. Oxon. v. ii. p.* 89. Conf. Pallas. *Reise durchs Russ. Reich. T. i. p.* 498. *n.* 120. Γλυκυρριζα et Γλυκυρριξα *Græcorum.*

Class Diadelphia. *Ord.* Decandria. *Lin. Gen. Plant.* 882.

Ess. Gen. Ch. *Cal.* 2-labiatus: $\frac{1}{3}$. *Legumen* ovatum, compressum.

Sp. Ch. G. leguminibus glabris, stipulis nullis, foliolo impari petiolato.

THE root is perennial, long, round, succulent, tough, running to a considerable extent, externally brown, internally yellow, and of a sweet taste: the stalks are erect, strong, herbaceous, striated, garnished with few branches, and usually rise four or five feet in height: the leaves are pinnated, alternate, composed of several pairs of pinnæ, with an odd one at the end: the leafits are ovate, blunt, veined, of a pale green colour, and stand upon short footstalks: the flowers are of the papilionaceous kind, of a purplish colour, and appear in long spikes arising from the axillæ of the leaves: the calyx is persistent, tubular, cut obliquely into two lips, and divided into narrow pointed segments: the corolla consists of a *vexillum,* which is erect, lance-shaped, concave, obtuse; two *alæ,* which are oblong, obtuse, and larger than the *carina,* which is about the length of the calyx: the filaments are ten, nine of which are joined at the base, and all furnished with simple roundish antheræ: the germen is shorter than the calyx, and is



Glycyrrhiza glabra

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supplied with a tapering style, terminated by a blunt stigma: the seeds are small, kidney-shaped, and produced in a pod, which is oblong, compressed, pointed, one-celled. The flowers appear in August.

Liquorice is a native of the South of Europe: it appears to have been cultivated in Britain in the time of Turner.[a] The chief places at which it has long been propagated for sale, are Pontefract in Yorkshire, Worksop in Nottinghamshire, and Godalming in Surry; but it is now planted by many gardeners in the vicinity of London, by whom the metropolis is supplied with the roots, which, after three years growth, are dug up for use, and are found to be in no respects inferior for medical purposes to those produced in their native climate.

Liquorice root, lightly boiled in a little water, gives out nearly all its sweetness: the decoction, pressed through a strainer, and inspissated with a gentle heat till it will no longer stick to the fingers, affords a better extract than that brought from abroad, and its quantity amounts to near half the weight of the root.[b] Rectified spirit takes up the sweet matter of the Liquorice equally with water; and as it dissolves much less of the insipid mucilaginous substance of the root, the spirituous tinctures and extracts are proportionably sweeter than the watery.[c]

This root contains a great quantity of saccharine matter,* joined with some proportion of mucilage; and hence has a viscid sweet taste. From the time of Theophrastus[d] it has been a received

[a] Vide *Tourn. Herb. part.* 2. *fol.* 12. published in 1562.

[b] If the Liquorice be long boiled, its sweetness is greatly impaired, and the preparation contracts an ungrateful bitterness and black colour.

[c] *Lewis, M. M.*

* This matter, according to Lewis, differs from that of other vegetables, "in being far less disposed to run into fermentation." *L. c.*

[d] Hence it was named ἀδίψον, and the root directed to be chewed in dropsies and other disorders where great thirst prevailed. Vide *Theoph. L.* 9. *cap.* 13. Also noticed by *Pliny*, *Lib.* 22. *c.* 9.

opinion that it very powerfully extinguishes thirst: this, if true, is the more remarkable, as sweet substances in general have a contrary effect.[e] It is in common use as a pectoral or emollient in catarrhal defluctions on the breast, coughs, hoarsenesses, &c. "Infusions or extracts made from it afford likewise very commodious vehicles or intermedia for the exhibition of other medicines: the Liquorice taste concealing that of unpalatable drugs more effectually than syrups or any of the sweets of the saccharine kind."[f]

[e] Dr. Cullen says, "to explain this, I observe that in the sweet of Liquorice, separated from the root, I do not find that it quenches thirst more than other sweets; and I take the mistaken notion to have arisen from this, that if a piece of the root is chewed till the whole of the sweetness is extracted, that further chewing brings out the acrid and bitterish matter, which stimulates the mouth and fauces, so as to produce an excretion of fluid, and thereby takes off the thirst which the sweetness had produced." *M. M. vol. ii. p.* 407. [f] *Lewis, l. c.*

DOLICHOS PRURIENS. COWHAGE DOLICHOS.

SYNONYMA. Dolichos. *Pharm. Edinb.* Phaseolus Zurratensis siliqua hirsuta, Couhage dicta. *Raii Hist. p.* 887. Phaseolus americanus, foliis molli lanugine obsitis, siliquis pungentibus, semine fusco punctato. *Pluk. Phyt. p.* 214. *f.* 1. Phaseolus utriusque Indiæ, lobis villosis pungentibus minor. *Sloane Jam. vol.* 1. *p.* 37. Phaseolus virgatus hirsutus prurigineus. *Plum. Spec.* 8. Stizolobium spicis multifloris pendulis alaribus, floribus ternatis. *Browne Jam. p.* 290. Cacara pruritus. *Rumph. Amb. vol.* 5. *p.* 393. *t.* 142. Nai-corana. *Hort. Mal. vol.* 8. *p.* 61. *t.* 35. Dâu ngûa. *Flor. Cochin. p.* 438. *Conf. Jacquin. Amer. pict. p.* 99. *t.* 188. Kerr. *Med. Comment. vol. ii. p.* 202.

Class Diadelphia. *Ord.* Decandria. *Lin. Gen. Plant.* 867.



Dolichos pruriens

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1628

Ess. Gen. Ch. *Vexilli* basis callis 2, parallelis, oblongis, alas subtus comprimentibus.

Sp. Ch. D. volubilis, legum. racemosis: valvulis subcarinatis hirtis, pedunculis ternis.

THE root is perennial, fibrous: the stem is herbaceous, climbing, cylindrical, hairy, divided into many branches, which twist round the neighbouring trees, and rise to a considerable height: the leaves are ternate, and stand upon long footstalks, placed alternately at the distance of a foot from each other: each pinna, or lobe, is entire, ovate, pointed, smooth on the upper side, on the under hirsute; the lateral lobes are oblique, and somewhat larger than that in the middle, which is of a rhomboidal shape: the proper footstalks are short, and furnished with small stipulæ: the flowers are large, of a purplish or violet colour, and placed mostly in ternaries upon short peduncles, and form pendant spikes, which arise from the axillæ of the leaves, and are about a foot in length: the calyx is bell-shaped, gibbous at the base, lax, downy, divided into two lips, of which the upper is semi-ovate; the under separates into three lance-shaped segments: the corolla is of the papilionaceous order, consisting of a *vexillum* (standard) which is roundish, entire, concave, obtuse, and double the length of the calyx: two *alæ* (wings) which are oblong, obtuse, concave, and twice the length of the vexillum; a *carina* (keel) which is scythe-shaped, of the length of the alæ, compressed, and at the apex furnished on each side with a short concave spur: the filaments are ten, nine of which are united at the base; they are alternately longer and shorter; the former are four times the breadth of the others, and supplied with incumbent antheræ; but the antheræ of the latter are placed vertically: the germen is oblong, villous, and supports a slender style about the length of the filaments, terminated by a small orbicular stigma: the fruit is an oblong pod, in the form of the letter *f*, four or five inches in length, covered with

brown bristly hairs, and containing four, five, or six seeds, of a brownish colour. The flowers appear in September and October.

The plant, known by the name of Cow-itch, Couhage, and Cowhage, is referred by Bergius and Miller to the Dolichos urens of Linnæus; and this error is also to be found in Aiton's Hortus Kewensis.

The pods of both D. urens and D. pruriens are beset with setaceous hairs, but of the former these are shorter, and very thinly scattered over the pod, which is keel-shaped, much longer, and more than twice the breadth of that of the latter, and marked transversely with deep furrows. These circumstances show, that the D. urens is widely different from the officinal Cowhage here figured, which is a native of both Indies, and appears to have been cultivated in England in the time of Ray by Mr. Charles Hatton;[a] and the plant is now growing in the apothecaries garden at Chelsea; but we cannot learn that it has ever been known to produce perfect flowers in our garden stoves: so that for the very correct figure subjoined to this sheet we are indebted to the liberality of Sir Joseph Banks, in whose herbarium we found an excellent specimen of the plant.

The sharp hairs of the pod readily penetrate the skin, and cause a very troublesome itching, a mischievous purpose to which in this country they have been long chiefly converted. But the violent irritation which these hairs produce upon the external skin has not deterred practitioners from administering them internally, especially in the West Indies, where they have been generally employed for many years as a safe and efficacious anthelmintic; and with a view to this effect they are now admitted into the Materia Medica of the Edinburgh Pharmacopœia.

Sir Hans Sloane, who has noticed the diuretic qualities of the

[a] Terræ commissa in horto *D. Caroli Hatton* plantas produxere. Vide *Raii. Hist. p.* 887. In the *Hort. Kew.* D. pruriens is said to have been first introduced here by Mr. Gilbert Alexander: this mistake was probably caused by confounding the D. pruriens with the D. urens.

roots and pods of this plant, observes, that an infusion of the latter "is a certain remedy for the dropsie;"[b] but he takes no notice of the vermifuge effects of Cowhage: Browne however has informed us, that "in the Windward Islands some of the inhabitants make "a syrup of the pods, which is said to be very effectual against "worms." But as little attention would be paid to an observation so vague and unsatisfactory as this, we are to consider Mr. Bancroft as the first person whose writings tended to establish the anthelmintic character of Cowhage in Europe. He tells us, "the part used is "the setaceous hairy substance growing on the outside of the pod, "which is scraped off, and mixed with common syrup or molasses, "to the consistence of a thin electuary, of which a tea-spoonful "to a child of two or three years old, and double the quantity to "an adult, is given in the morning fasting, and repeated the two "succeeding mornings; after which a dose of rhubarb is usually "subjoined. This is the empyrical practice of the planters, who "usually once in three or four months exhibit the Cow-itch in "this manner to their slaves in general, but especially to all their "children without distinction; and in this manner I have seen it "given to hundreds from one year old and upwards with the most "happy success. The patients, after the second dose, usually "discharged an incredible number of worms, even to the amount "of more than twenty at a time, so that the stools consisted of "little else than these animals." He concludes by saying, "It is "to be observed, that this remedy is particularly designed against "the long round worm; whether it is equally deleterious to the "ascarides, or whether it has ever been used against them, I am "uncertain."[c] Farther accounts, shewing the efficacy of this medicine, have since appeared in the Medical Commentaries,[d] and in a treatise, professedly written on the subject by Mr.

[b] He also informs, that this remedy was successfully used in the East Indies by Mr. Buckley. *L. c.*

[c] Vide his Essay on the natural history of Guiana in South America.

[d] See *Vol. ii.*

Chamberlaine,[e] to which a number of cases is subjoined, and to which great additions lately have been made on various and indubitable authorities, proving the Cowhage to be not less successful here than in the warmer climates of which it is a native; and that all the different kinds of worms, known to infest the primæ viæ, have been expelled by this anthelmintic.

The manner in which these hairy spiculæ act as a vermifuge, seems to be purely mechanical; for neither the tincture, nor the decoction, possesses the least anthelmintic power.[f]

[e] Practical treatise on the efficacy of Stizolobium or Cowhage, published in 1785. As the Cowhage is seldom to be met with at the druggists, Mr. C. informs those who wish to give it a trial, that it is to be had at his house in Aylesbury street, Clerkenwell.

[f] The following experiment, made by Mr. Chamberlaine, illustrates this opinion: "A calabash, full of very large worms of the *teres* kind, in full vigour, voided by a poor emaciated patient, was brought to me. Among these, I sprinkled some of the setæ. For a minute or two no visible effect was produced; but in a little time they began to writhe and twist themselves in an unusual manner, and exhibited evident signs of extreme torture. I took one of the worms, and viewing it through a magnifying glass, perceived that several of the setæ had pierced very deep, and others were sticking loosely in various parts of its body, but that none of the spiculæ, which had once entered into the skin, dropped off." *L. c.*

TRIGONELLA FŒNUM GRÆCUM. FENUGREEK.

SYNONYMA. Fœnum græcum. *Pharm. Lond. & Edinb. Gerard. Emac. p.* 1196. *Raii. Hist. p.* 954. Fœnum Græcum sativum. *Bauh. Pin. p.* 348. Medicago leguminibus subsolitariis sessilibus erectis reflexo-falcatis acuminatis. *Hort. Cliff. p.* 376.

Class Diadelphia. *Ord.* Decandria. *Lin. Gen. Plant.* 898.

Ess. Gen. Ch. *Vexillum* et *Alæ* subæquales, patentes, forma corollæ 3-petalæ.



Trigonella Fœnum græcum

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Sp. Ch. T. leguminibus sessilibus strictis erectiusculis subfalcatis acuminatis, caule erecto.

THE root is annual, long, tapering, whitish, and fibrous: the stalk is erect, round, smooth, beset with soft hairs, often branched, and rises about two feet in height: the leaves are oblong, obtuse, slightly serrated, of a disagreeable smell, and stand in ternaries upon the common footstalks, which are placed alternately: the flowers are white, and appear in pairs at the alæ of the leaves: the calyx is funnel-shaped, striated, covered with white hairs, and divided at the brim into five narrow pointed segments: the corolla is of the papilionaceous kind, consisting of a vexillum or upper petal, which is oblong, erect, concave at the base, and indented at the apex: two alæ or lateral petals, which are entire, oval, reflexed, and elongated at the base; a carina or under petal, which is small, and of an orbicular form: the filaments are ten, nine of which are united, and all furnished with simple antheræ: the germen is sword-shaped, terminated by a short tapering style, which is furnished with a simple stigma: the pericarpium is a long compressed falcated pod, containing numerous rhomboidal seeds, of a brownish yellow colour. It flowers from June till August.

This plant is said to be a native of Montpelier, and to have been first cultivated in Britain by Gerard.[a] In dry seasons it maturates its seeds here very well, and, judging by our own experience, we think it might be cultivated to great advantage in this country.‡ The seeds of Fenugreek are brought to us from the southern parts of France and Germany, where they are annually sown for the purpose of exportation to different places.

" Fenugreek seeds have a strong disagreeable smell, and an unctuous farinaceous taste, accompanied with a slight bitterishness. An ounce renders a pint of water thick and slimy. To rectified

[a] *Hort. Kew.*

‡ Miller has given directions for cultivating this plant. See *Dict.*

spirit they give out the whole of their distinguishing smell and taste, and afterwards to water a strong flavourless mucilage."[b]

These seeds are never given internally, their principal use being in cataplasms and fomentations, for softening, maturating, and discussing tumours; and in emollient glysters. They were also an ingredient in the *oleum e mucilaginibus* of the shops: but this has no longer a place in the pharmacopœia.

[b] *Lewis, M. M. p.* 304.

ASTRAGALUS EXSCAPUS. STEMLESS MILK VETCH.

SYNONYMA. Astragalus exscapus. *Off. Murray. vi.* 83. *Jacquin Collect. ad bot. vol.* 2. *p.* 269. *Icon, ejusd. Plant. rar. vol.* 2. *fasc.* 1. *t.* 17. *Cf. Winterl. Ind. Hort. bot. Pestin. p.* 14. Astragalus perennis supinus, foliis et siliquis hispidis, flore luteo. *Knauth. Fl. Hal. p.* 41. *Buxbaum. Pl. Hal. p.* 32. Cicer montanum ακαυλον. *Bauh. Pin.* 341. Glaux lanuginosa montana acaulos. *Rupp. Fl. Jen. ed. Hall.* 270. *Ic. Girtanner. l. c. inf.*

Diadelphia Decandria. *Lin. Gen. Plant.* 892.

Gen. Ch. *Legumen* biloculare, gibbum.

Sp. Ch. A. acaulis exscapus, leguminibus lanatis, foliis villosis.

ROOT perennial, simple, or generally branched towards the extremity; very long, slender, running deeply in the ground. Leaves all radical, long, pinnated, consisting of numerous pinnæ, which are regular, ovate, opposite, villous, entire, gradually smaller towards the top of the leaf, at which stands a single leafit. The flowers are large, of a pale yellow colour, and placed at the crown of the root. Calyx tubular, deeply cut into five long



Astragalus exscapus

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PRESTON INSTITUTION 1828

pointed teeth. Corolla papilionaceous, consisting of the vexillum, which is large, straight, closing, emarginated at the apex, two alæ or oblong lateral petals, and a short blunt carina or keel-shaped under-petal. Filaments ten, nine of which are united, and all furnished with small roundish antheræ. Germen oblong. Style tapering, bent upwards, and supplied with a blunt stigma. Pod oblong, hairy, two-valved, containing kidney-shaped seeds.

This species of Astragalus is a native of Hungary, growing in mountainous situations. It was first introduced into the Royal Garden at Kew by Jacquin in 1787.[a]

The root, which is the medicinal part of the plant, is, in its dried state, rough, and wrinkled, in long slender pieces, externally brown, internally white, and easily dividing longitudinally into filamentous fibres. It is destitute of odour, but to the taste it is bitterish, and somewhat astringent. In decoction its taste approaches to that of liquorice; some however compare its flavour to that of bitter almonds.[b] It yields about a third part of its weight of extract by means of water, but by spirit a very inconsiderable quantity is obtained.

Since the year 1786 this plant has been much celebrated as a remedy in syphilitic complaints. It was first brought into notice by Professor Winterl, at Pest, who wrote to his friends in Vienna, that on the borders of Hungary it was in common use as a remedy for the venereal disease; in consequence of this information it was tried with success at the General Hospital by Quarin.* From Vienna its reputation spread over all Germany; nor does its character rest wholly on the testimony of foreigners, as Dr. Crighton,‡ during his residence at Vienna had occasion to witness its efficacy. This root is employed in decoction in the proportion

[a] See *Hort. Kew.*

[b] Endter. *Diss. de Astrag. exscapo. p.* 12.

* Vide *Animadv. pract.*

‡ Dr. C's letter is published by Girtanner, and in the London Med. Journ. v. 9. 405.

of half an ounce to a pint of water, and taken warm night and morning: it is also occasionally to be used externally. By persevering a few weeks in the use of this decoction, we are told that, without mercury, the various symptoms of the most inveterate syphilis, as nodes, exostoses, tophi, scabies, venereal blotches, buboes, ulcers, &c. have been effectually cured. Besides the authors above noticed, we may remark, that the subsequent publications of Endter,[d] Wegerich,[e] Girtanner,[f] Werner,[g] Tietz,[h] Carmanti,[i] all tend in some measure to confirm the efficacy of this root.

Its use is perfectly safe; and Carmanti and others found it necessary to make the decoction much stronger than that before mentioned. Professor Hunczowsky, though unable to discover its anti-venereal powers, admits it to be an useful remedy in rheumatism.

Its sensible effects are an increase of the cutaneous and urinary discharges.

[d] *L. c.* [e] *Diss. de Astragali exscapi radice. Erf.* 1789.

[f] *Abh. über d. vener. krankh. vol. i. p.* 406. *& seq.*

[g] See *Diss. de virtute Saponariæ off.* 1789.

[h] Vide *Diss. de virtute Astrag. &c.* 1790. [i] Vide *Opusc. therapeut. v.* 2.

PTEROCARPUS SANTALINUS. RED SAUNDERS TREE.

SYNONYMA. Santalum rubrum. *Pharm. Lond. & Edinb.* Sandalum rubrum. *Rumph. Amb. vol.* 2. *p.* 47. Moutouchi suberosa. *Aublet. Guian. vol.* 2. *p.* 742. *t.* 200. Conf. *Supp. Plant.* 318.

Diadelphia Decandria. *Lin. Gen. Plant.* 854.

Gen. Ch. Cal. 5-dentatus. *Caps.* falcata, foliacea, varicosa. *Sem.* aliquot solitaria.



Pterocarpus santalinus

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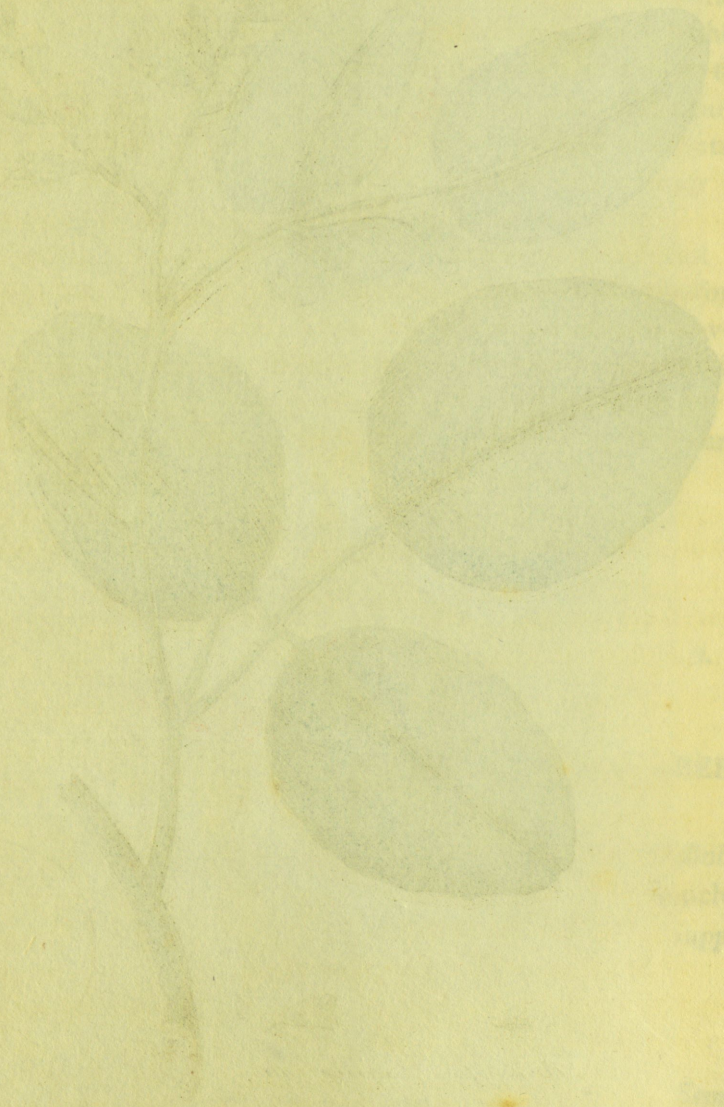

Sp. Ch. P. foliis ternatis subrotundis retusis glaberrimis, petalis crenatis undulatis.

A LARGE tree, sending off lofty alternate branches, and covered with rough bark, resembling that of common alder. Leaves alternate, on footstalks, in our specimen placed in pairs, and divided into three simple leaves, but according to the *Supp. plant.* the leaves are three together, and each separating into four or five alternate pinnæ: simple leaves roundish or ovate, blunt, retuse, or somewhat notched at the apex, entire, veined, above smooth, beneath hoary. Flowers yellow, in axillary spikes. Stipulæ none. Bracteæ none. Calyx rough, cut at the brim into five short segments. Corolla papilionaceous; vexillum obcordate, erect, somewhat reflexed at the sides, dentated, waved, yellow, striated with red; alæ spreading, edges appearing toothed; carina oblong, a little inflated, short. Filaments ten, diadelphous, furnished with white round antheræ. Germen on a footstalk, oblong, compressed, hairy. Style curved. Stigma obtuse. Pod roundish, compressed, smooth, falcated upwards, lower margin keel-shaped, containing a round compressed seed.

This tree is a native of India, affecting mountainous situations.

Its characters were first ascertained by König, who sent a specimen and description of it to the younger Linnæus, by whom it is published in the Species plantarum.

The annexed figure is taken from a very perfect specimen in the Herbarium of Sir Joseph Banks.[a]

There is reason to believe, that several red woods, capable of communicating this colour to spirituous liquors, are sold as Red Saunders; but the true officinal kind appears, on the best authority, to be of this tree, which is extremely hard, of a bright garnet red colour, and bears a fine polish. It is only the inner substance of the wood that is used as a colouring matter, and the more florid

[a] The specimen is accompanied with a piece of the wood, which answers to the description here given.

red is most esteemed. On being cut it is said to manifest a fragrant odour, which is more especially perceptible in old trees.

According to Lewis, this wood "is of a dull red almost blackish colour on the outside, and a deep brighter red within; its fibres are now and then curled, as in knots. It has no manifest smell, and little or no taste: even of extracts made from it with water, or with spirit, the taste is inconsiderable. To watery liquors it communicates only a yellowish tinge, but to rectified spirit a fine deep red: a small quantity of an extract, made with this menstruum, tinges a large one of fresh spirit of the same elegant colour; though it does not, like most other resinous bodies, dissolve in expressed oils: of distilled oils, there are some, as that of lavender, which receive a red tincture from the wood itself, and from its resinous extract, but the greater number does not."[b]

Red Saunders has been esteemed as a medicine; but its only use attaches to its colouring property.

The juice of this tree, like that of some others, affords a species of sanguis draconis.

[b] *M. M.* 579.

The medicinal plants of this order, which remain unnoticed, are

Systematic Names.	Officinal.	English.
Lupinus albus	Lupinus	White Lupine
Genista canariensis	Rhodium Lignum	Rhodium Wood
Ononis arvensis	Ononis	Rest-Harrow
Vicia Faba	Faba	Garden-bean
Ervum Lens	Lentes	Lentil, or flat Tare
Ervum Ervilia	Ervum	Officinal Tare
Cicer arietinum	Cicer	Chick Pea
Galega officinalis	Galega	Goat's-rue
Trifolium melilotus off.	Melilotus	Melilot Trefoil



Mimosa Catechu.

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PRESTON

ORD. XXV. LOMENTACEÆ.

(From *Lomentum*, a colour used for painting)

As many of the plants of this order afford beautifully coloured tinctures, and some of them much used in dyeing.

MIMOSA CATECHU. CATECHU MIMOSA.

Ex hujus plantæ lingo paratur *Catechu*, vulgo *Terra Japonica*. *Pharm. Lond. & Edinb.*

SYNONYMA. Mimosa Cate; spinis duabus stipularibus, foliis bipinnatis 15-30 jugis, foliolis 40 jugis, spicis elongatis axillaribus. Vide *Murray App. Med. vol. ii. p.* 415. *Coira* vel *Caira* in Provincia Bahar dicitur. See *Kerr's* "Description of the Plant from which the *Terra Japonica* is extracted. *Med. Obs. & Inquir. vol. v. p.* 151. *Suppl. Plant. p* 439.

Class Polygamia. *Ord.* Monoecia. *Lin. Gen. Plant.* 1158.

Ess. Gen. Ch. Hermaph. Cal. 5-dentatus. *Cor.* 5-fida. *Stam.* 5 s. plura. *Pist.* 1 Legumen.

Masc. Cal. 5-dentatus. *Cor.* 5-fida. *Stam.* 5, 10, plura.

Sp. Ch. M. spinus stipularibus, foliis bipinnatis multijugis: glandulis partialium singulis, spicis axillaribus geminis s. ternis pedunculatis. *Syst. Veg. ed.* 14.

ACCORDING to Mr. Kerr, this small tree grows to twelve feet in height, and to one foot in diameter; it is covered with a thick rough brown bark, and towards the top divides into many close branches: the leaves are bipinnated, or doubly winged, and are placed alternately upon the younger branches: the partial pinnæ are nearly two inches long, and are commonly from fifteen to thirty pair, having small glands inserted between the pinnæ: each wing is usually furnished with about forty pair of pinnulæ or linear lobes, beset with short hairs: the spines are short, recurved, and placed in pairs at the bases of each leaf: the flowers are hermaphrodite and male, and stand in close spikes, which arise from the axillæ of the leaves, and are four or five inches long: the calyx is tubular, hairy, and divides at the limb into five oval pointed segments; the corolla is monopetalous, whitish, and of the same form as the calyx, but twice its length: the filaments are numerous, capillary, double the length of the corolla, adhering at the base of the germen, and crowned with roundish antheræ: the germen is oval, and supports a slender style, which is of the length of the filaments, and terminated by a simple stigma: the fruit, or pod, is lance-shaped, brown, smooth, compressed, with an undulated thin margin; it contains six or eight roundish flattened seeds, which produce a nauseous odour when chewed. This tree grows plentifully on the mountainous parts of Indostan, where it flowers in June.

An Indian drug, known by the name of Terra Japonica, and now more properly called Catechu, has long been an officinal medicine in Europe; and though soon discovered by chemical analysis to be of vegetable origin, yet neither was the plant from which it is produced, nor the process by which it is prepared, sufficiently ascertained for near a century afterwards. Writers on the Materia Medica very generally, from the time of Clusius, considered the Catechu to be extracted from the seeds of a nut, the produce of a species of palm; (Areca, or Beetle-nut) and conformably to this opinion, Linnæus, in both the editions of his Mat. Med. refers this

drug to the "Areca *Catechu* frondibus pinnatis, foliolis replicatis oppositis præmorsis." We are told however by Mr. Kerr, that in the Province of Bahar, where the Terra Joponica is manufactured, the price of the Areca-nut far exceeds that of the Catechu.[a] But he thinks it probable that where this nut is in great plenty, "they may perhaps join some of the fruit in making the extract, to answer a double purpose, for the most frequent use of both is in chewing them together, as Europeans do tobacco; to these two substances they add a little shell lime, and a leaf called *Pauw*."[b] Cleyerus and Herbert de Jager,[c] more especially the latter, have asserted, that the Catechu is not extracted from one tree only, but from almost all the species of Acacia, whose bark is astringent and reddish, and from many other plants, which by boiling yield a juice of the like sort; and though these extracts differ considerably, yet in India they are all denominated Khaath or Catechu.‡ But the tree which affords the best extract, according to his description appears evidently to be a Mimosa.[d]

In this uncertainty our knowledge concerning the production of Terra Japonica still remained, till Mr. Kerr (assistant surgeon to the civil hospital at Bengal) transmitted an account of this substance, which completely removed every doubt respecting its origin. In this account we are told, that he not only carefully

[a] Mr. Kerr says, if the Terra Japonica were extracted from this nut, it would be twenty times dearer than in the present sales. Vide l. c.

[b] Hence the following lines:

Quis foliis credat commixta calce tenellis,
Cum fructu hoc Indos vesci, unde ore cruento
Purpureum ejiciunt succum, tam dentibus atris
Horrendum arringunt, & dentibus ore minantur?

[c] Vide *Misc. Nat. Cur. Dec.* 2. *Ann.* 4. *Obs.* 3. *& Dec.* 2. *Ann.* 3. *p.* 8.

‡ The derivation of the word Catechu seems to favour this opinion; *Cate*, in the oriental language, signifies a tree, and *Chu*, juice.

[d] According to the Linnæan nomenclature we have no genus under the name *Acacia*. But the Mimosas are very numerous, and that most known in Europe is the M. pudica, or humble *sensitive plant*, and the remarkable contractions which

attended to the process of the manufacturer in the preparation of Catechu, but that he actually repeated it himself; and upon the faith of the figure and description of the plant which he has given, and from which he prepared the Catechu, the younger Linnæus has admitted it into the Supp. Plant. under the name of Mimosa Catechu; and we have accordingly figured the plant. The preparation of the extract is stated by Mr. Kerr to be as follows: "After felling the trees, the manufacturer carefully cuts off all the exterior white part of the wood. The interior coloured wood is cut into chips, with which he fills a narrow-mouthed unglazed earthen pot, pouring water upon them until he sees it among the upper chips; when this is half evaporated by boiling, the decoction, without straining, is poured into a flat earthen pot, and boiled to one third part; this is set in a cool place for one day, and afterward sevaporated by the heat of the sun, stirring it several times in the day; when it is reduced to a considerable thickness, it is spread upon a mat or cloth, which has previously been covered with the ashes of cow dung; this mass is divided into square or quadrangular pieces by a string, and completely dried by turning them frequently in the sun, until they are fit for sale."[e]

it manifests upon being touched, or even approached, induced my ingenious friend Dr. Marshal, to dissect the moving fibres. In his letter to me, he says, "I have made two or three dissections (more to gratify the curiosity of the "moment than to ascertain any discovery) of the fleshy joints of the Mimosa "pudica: branch is articulated with stem, petiolus with branch, and petiolus of "the leafit with the common petiolus. Within the fleshy substance of the joint "are found numerous white threads, which go from one articulated body to "the other, inserted into both. These it would appear, are the irritable fibres, "by which the motions are performed."

[e] "In making the extract, the pale brown wood is preferred, as it produces the fine whitish extract: the darker the wood is, the blacker the extract, and of less value. They are very careful in drying their pots upon the fire, before they are used; but very negligent in cutting their chips upon the ground, and not straining the decoction, by which, and the dirty ashes they use, there must be a considerable quantity of earth in the extract, besides what avarice may prompt them to put into it." *Kerr l. c.*

This extract is called *Cutt* by the natives, by the English *Cutch*, and by different authors Terra Japonica, Catechu, Khaath, Cate, Cachou, &c. "In its purest state it is a dry pulverable substance, outwardly of a reddish colour, internally of a shining dark brown, tinged with a reddish hue; in the mouth it discovers considerable astringency, succeeded by a sweetish mucilaginous taste. According to Lewis, "it dissolves almost totally in water, excepting the impurities; which are usually of the sandy kind, and amounting in the specimens I examined to about one-eighth of the mass. Of the pure matter, rectified spirit dissolves about seven-eighths into a deep red liquor: the part which it leaves undissolved, is an almost insipid mucilaginous substance."[f] "Catechu may be usefully employed for most purposes where an astringent is indicated, provided the most powerful be not required. But it is particularly useful in alvine fluxes; and where these require the use of astringents, we are acquainted with no one equally beneficial. Besides this, it is employed also in uterine profluvia, in laxity and debility of the viscera in general, in catarrhal affections, and various other diseases where astringents are necessary. It is often suffered to dissolve leisurely in the mouth, as a topical astringent for laxities and exulcerations of the gums, for apthous ulcers in the mouth, and similar affections."[g] "This extract is the basis of several fixed formulæ in our pharmacopœias, par-

[f] Lewis's M. M. p. 642.

[g] See Duncan's *Edinb. New Dispens.* p. 167.

The antiseptic quality of Catechu appears from the experiments made by Sir John Pringle. (*Vide Diss. of the Army, App. Exp.* 10.) Huxham employed it successfully in cases where a putrid dissolved state of the blood prevailed. This extract is the principal ingredient in an ointment of great repute in India, composed of Catechu four ounces, alum nine drams, white resin four ounces; these are reduced to a fine powder, and mixed with the hand, adding olive oil ten ounces, and a sufficient quantity of water, to bring the mass to the consistence of an ointment. To all sores and ulcers in warm climates astringent applications of this kind are found to be peculiarly useful. See *Kerr l. c.*

ticularly of a tincture and an electuary: but one of the best forms under which it can be exhibited, is that of a simple infusion in warm water, with a proportion of cinnamon or cassia; for by this means it is at once freed from its impurities, and improved by the addition of the aromatic."

MIMOSA NILOTICA. EGYPTIAN MIMOSA, ACACIA, EGYPTIAN THORN.

Gummi Arabicum, *Pharm. Lond. & Edinb. sponte ex hac planta fluit.*

SYNONYMA. Acacia vera. *J. Bauh. Hist. vol. i. p.* 429. Acacia foliis scorpioides leguminosæ. *Bauh. Pin.* 392. Acanthus Theophrasti. *Raii Hist. p.* 976. Acacia vera sive spini Ægyptiaca. *Park. Theat. p.* 1547. Acacia vera s. Spina Ægyptiaca, subrotundis foliis flore luteo; siliqua paucioribus isthmis glabris nigricantibus. *Pluk. Alm. 3. t.* 123. *f.* 1. Acacia Ægyptiaca siliquis Lupini, floribus luteis. *Herm. Parad. Bat. Prod.* 303. Conf. *Hasselq. it. p.* 475. Ακακια *Dioscorid. L.* 1. *cap.* 133.

Class Polygamia. *Ord.* Monoecia. *Lin. Gen. Plant.* 1158.

Ess. Gen. Ch. Hermaph. Cal. 5-dentatus. *Cor.* 5-fida. *Stam.* 5 s. plura. *Pist.* 1. *Legumen.*

Masc. Cal. 5-dentatus. *Cor.* 5-fida. *Stam.* 5, 10, plura.

Sp. Ch. M. spinis stipularibus patentibus, foliis bipinnatis: partialibus extimis glandula interstinctis, spicis globosis pedunculatis.

THIS, like the preceding species of Mimosa, rises several feet in height: it is covered with smooth bark of a grey colour, and that of the branches has commonly a purplish tinge: the leaves are bipinnated, and placed alternately: the partial pinnæ are oppo-



Mimosa nilotica

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PRESTON INSTITUTION 1828

site, furnished with a small gland between the outermost pair, and beset with numerous pairs of narrow elliptical pinnulæ, or leafits: the spines are long, white, spreading, and proceed from each side of the base of the leaves: the flowers are hermaphrodite and male, they assume a globular shape, and stand four or five together upon slender peduncles, which arise from the axillæ of the leaves: the calyx is small, bell-shaped, and divided at the mouth into five minute teeth: the corolla consists of five narrow yellowish segments: the filaments are numerous, capillary, and furnished with roundish yellow antheræ: the germen is conical, and supports a slender style, crowned with a simple stigma: the fruit is a long pod, resembling that of the Lupine, and contains many flattish brown seeds. It is a native of Arabia and Egypt, and flowers in July.[a]

Dioscorides was certainly well acquainted with this tree, as he not only mentions the gum which it produces, but also the renowned *Acaciæ veræ succus*,[b] obtained from its pods; since his time, however, it has been thought that gum arabic is not the production of the Acacia or Mimosa, as it is now called; but the accounts given by Alpinus, and those of subsequent naturalists, leave no doubt upon this subject.[c]

Although the Mimosa nilotica grows in great abundance over the vast extent of Africa, yet gum arabic is produced chiefly by

[a] The M. nilotica was cultivated in England by Evelyn in 1664. Kalend. h. p. 75. A plant of this species is now in the Royal Garden at Kew, about four feet in height: and in Dr. Lettsom's garden at Grove Hill, where it flowers annually.

[b] The pod, and manner of preparing the juice, are thus mentioned by Murray: "Ex fructu elicitur, qui ipse legumen est complanatum viridi brunum, quatuor vel quinque pollices longum et octies vel decies angustius, compositum ex sex vel decem partibus vel articulis discoideis et intra utramque cuticulam parenchyma gummosum rubicundum continens. In quovis articulo latet semem ellipticum sulco utrinque pariter elliptico notatum. Succus exprimitur ex fructu immaturo in mortario contuso, et calore in spissitudinem extracti densatur," &c. *Vide App. Med. vol. ii. p.* 412.

[c] Hasselquist, Adanson, Sparrman, and others.

those trees, which are situated near the equatorial regions; and we are told that in Lower Egypt the solar heat is never sufficiently intense for this purpose.[d] The gum exudes in a liquid state from the bark of the trunk and branches of the tree, in a similar manner to the gum which is often produced upon the cherry trees, &c. in this country; and by exposure to the air it soon acquires solidity and hardness. In Senegal the gum begins to flow when the tree first opens its flowers,[e] and continues during the rainy season till the month of December, when it is collected for the first time. Another collection of the gum is made in the month of March, from incisions in the bark, which the extreme dryness of the air at that time is said to render necessary.[f]

Gum arabic is now usually imported into England from Barbary, not packed up in skins, which was the practice in Egypt and Arabia, but in large casks or hogsheads. The common appearance of this gum is so well known as not to require any description of it here; and the various figures which it assumes seem to depend upon a variety of accidental circumstances attending its transudation and concretion.

Gum Arabic of a pale yellowish colour is most esteemed; on the contrary, those pieces which are large, rough, of a roundish figure, and of a brownish or reddish hue, are found to be less pure, and are said to be produced from a different species of Mimosa: (M. Senegal) but the Arabian and Egyptian gum is commonly intermixed with pieces of this kind, similar to that which comes from the coast of Africa, near the river Senegal. Gum Arabic does not admit of solution by spirit or oil, but in twice its quantity of water it dissolves into a mucilaginous fluid, of the consistence of a thick syrup, and in this state answers many useful pharmaceutical purposes, by rendering oily, resinous, and pinguious substances, miscible with water.[g]

[d] Niebuhr Reisebesch. Arab. 1. B. p. 143.

[e] Adanson Mem. de l'Ac. d Sc. d. Paris, 177. 3. p. 8.

[f] Demanet Nouvelle Hist. de l'Afrique Françoise, t. 1. p. 56.

[g] See Mr. French's Experiments in Lond. Med. Observ. vol. 1. p. 413, &c.

The glutinous quality of gum arabic is preferred to most other gums and mucilaginous substances as a demulcent, in coughs, hoarsenesses, and other catarrhal affections, in order to obtund irritating acrimonious humours, and to supply the loss of abraded mucus. It has been very generally employed in cases of ardor urinæ, and stranguary: but it is the opinion of Dr. Cullen, "that even this mucilage, as an internal demulcent, can be of no service beyond the alimentary canal. In common practice hardly more than a few ounces are given in one day; and what that can give of a mucilaginous quality to many pounds of serosity, I leave my intelligent reader to judge. Still, however, it may not be thought enough to reason *a priori*, and I should say, what experience has actually taught. What others may have observed, I cannot determine; but, for myself I can assert, that, in innumerable trials, I have never observed the effects of gum arabic in the mass of blood, or in the excretions derived from it. The most frequent occasion for its use is in the ardor urinæ; and in that I have been often disappointed, and have often found that two pounds of water or watery liquors added to the drink, would be of more service than four ounces of gum arabic taken in without such addition."[h]

This gum is an ingredient in the Hartshorn decoction, the chalk Julep, the common emulsion, and some of the troches as directed in our Pharmacopœias.

[h] Mat. Med. p. 415. vol. 2.

Gum Arabic has been found a good substitute for food; and Dr. Sparrman tells us, that he pointed out this gum to the Hottentots, "which they might gather in many spots thereabouts from the Mimosa nilotica; but this was a species of food very well known to them, and which they had often tried.—When in want of other provisions, the Boshies-men are said to live upon this for many days together."—Voyage to the Cape, vol. ii. p. 23.

CASSIA SENNA. SENNA, Or, EGYPTIAN CASSIA.

SYNONYMA. Senna. *Pharm. Lond. & Edinb.* Senna Alexandrina, sive foliis acutis. *Bauh. Pin. p.* 397. *Morris Hist. t. ii. p.* 201. *sect.* 2. *tab.* 24. *f.* 1. *Raii Hist. p.* 1742. Senna (Alexandrina) foliolis quadrijugatis lanceolatis acutis. *Miller's Dict.* Le Sené. Regnault Bot. p. 388. Ic. opt.

Senna italica, sive foliis obtusis. *Bauh. l. c. Park. Theat. p.* 225.

Class Decandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 514.

Ess. Gen. Ch. Cal. 5-phyllus. *Petala* 5. *Antheræ* supremæ 3 steriles; infimæ. 3 rostratæ. *Legumen.*

Sp. Ch. C. foliis sejugis subovatis, petiolis eglandulatis.

THE root is annual: the stalk is strong, smooth, branched, erect, and rises about two feet in height: the leaves stand in alternate order, and at their base are placed narrow pointed stipulæ: each leaf is composed of several pairs of oval or elliptical pointed nerved sessile pinnæ, of a yellowish green colour: the flowers are yellow, and produced successively in long axillary spikes: the calyx consists of five leafits, which are narrow, obtuse, concave, unequal, and deciduous: the corolla is composed of five petals, which are roundish, concave, entire, and of unequal size: the filaments are ten, of which the three undermost are longer than the others, and furnished with large beaked curved antheræ: the germen stands upon a short pedicle, and is long, compressed, and supplied with a short style, which is turned inwards, and terminated by an obtuse stigma: the seeds are brown, roundish, flat, and produced in a short compressed curved pod, divided by transverse partitions. The flowers appear in July and August.



Cassia Senna

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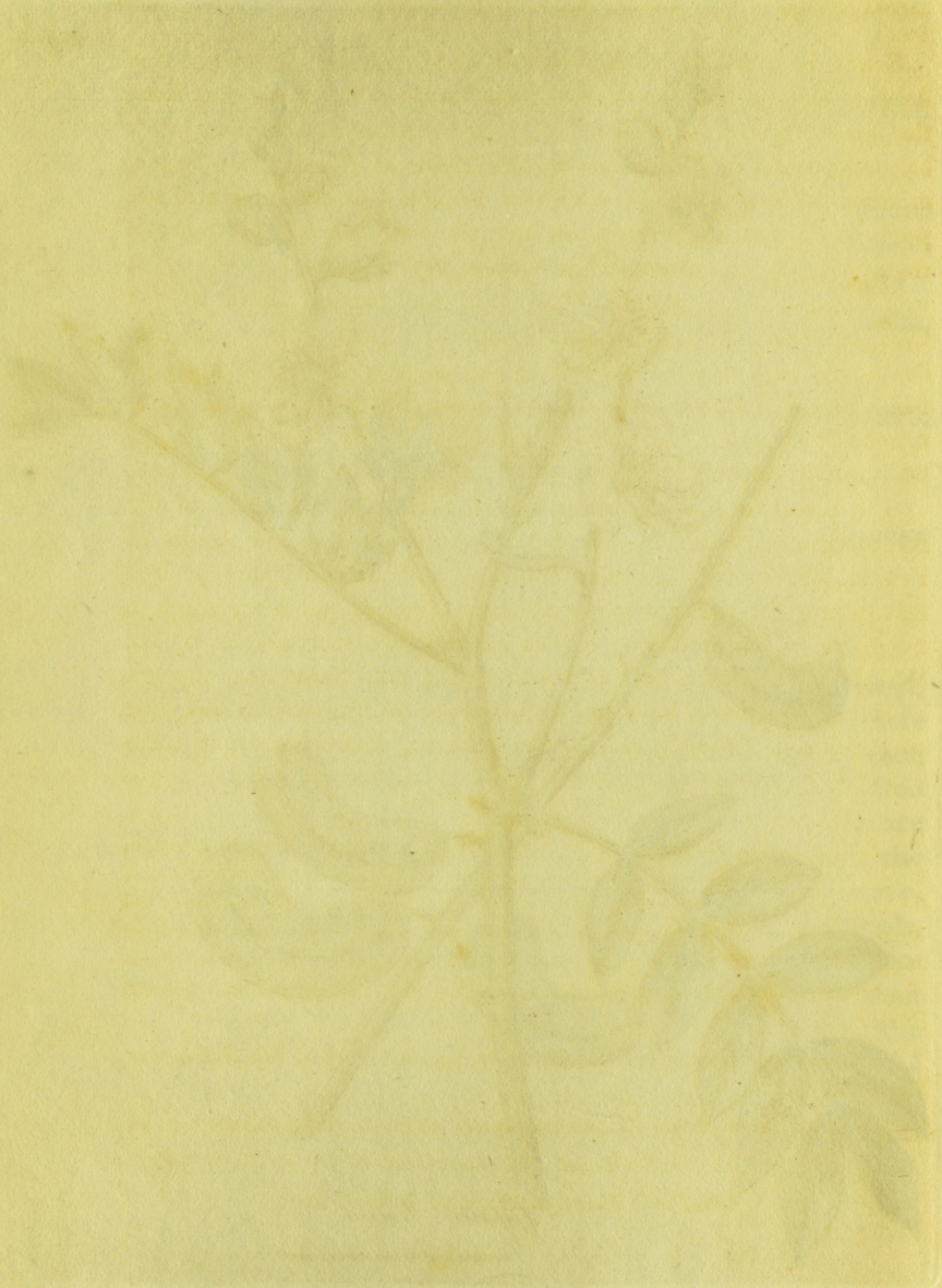
PRESTON 1828



Senna is a native of Egypt: it also grows in some parts of Arabia, especially about Mocha; but as Alexandria has ever been the great mart from which it has been exported into Europe, it has long been distinguished by the name of Alexandrian Senna, or Sena.—Mons. Blondel, who was French Consul at several sea ports of the Levant, informs us, that the true Senna grows only in the woods of Ethiopia and in Arabia; for that the Senna, which was brought from Saide and Tripoli was carried there by the Caravans,[a] and the negative testimony of Alpinus, who in his Lib. de plantis Ægypti does not notice Senna, may seem to strengthen this opinion. But as Hasselquist found this plant growing spontaneously in upper Egypt,[b] the assertion of Mr. Blondel is not to be implicitly received.

The Senna italica, or blunt-leaved Senna, is a variety of the Alexandrian species, which by its cultivation in the south of France, (Provence) has been found to assume this change;[c] it is less purgative[d] than the pointed-leaved Senna, and is therefore to be given in larger doses; it was employed as a cathartic by Dr. Wright at Jamaica, where it grows on the sand banks near the sea.

Senna appears to have been cultivated in England in the time of Parkinson[f] (1640); and Miller tells us, that by keeping these

[a] Savary, *Dict. ii.* 1537.

[b] *Resa, p.* 532. Bergius says, "Senna sponte provenit in Ægypto superiori, & colliguntur folia a rusticis Arabibus, postquam semina matura produxit planta foliaque penitus fere exaruerunt. Hi Sennam vendunt principi (Schek) suo, qui illam Cairum mittit, emendam ab illo, in quem monopolium derivavit cohors Janizarorum. Hic vero Sennam postea vendit Europæis. Sic demum Senna Ægyptiaca, revera optima, ad officinas nostras migrat.' *M. M. p.* 338. See also Hasselquist, l. c.

[c] Vide Gouan's Letters to Salvador Soliva in *Dis. Sobre el Sen de Espanna.* Madrid. 1774.

[d] Coste and Willemet *Essais sur quelque plantes indigenes Medic.* a Nancy. p. 25.

[e] See *Lond. Med. Journ. vol.* 8.

[f] Vide *Park. Theat. p.* 225. *cited in Hort. Kew.*

plants in a hot bed all the summer, he frequently had them in flower, but adds, it is very rarely that they perfect their seeds in England.[g] There can be little doubt however but that some of the British possessions may be found well enough adapted to the growth of this vegetable, and that the patriotic views of the Society for encouraging Arts, &c. which has offered a reward to those who succeed in the attempt, will be ultimately accomplished.

The leaves of Senna, which are imported here for medicinal use, have a rather disagreeable smell, and a subacrid bitterish nauseous taste: they give out their virtue both to watery and spirituous menstrua, communicating to water and proof spirit a brownish colour, more or less deep according to the proportions; to rectified spirit a fine green.[h]

Senna, which is in common use as a purgative, was first known to the Arabian physicians, Serapion and Mesue; and the first of the Greeks by whom it is noticed is Actuarius, who does not mention the leaves, but speaks of the fruit. Mesue likewise seems to prefer the pod to the leaves, as being a more efficacious cathartic;[i] but the fact is contrary, for it purges less powerfully than the leaf, though it has the advantage of seldom griping the bowels, and of being without that nauseous bitterness which the leaves are known to possess.* How bitterness aids the operation of Senna is not easily to be understood; but it is observed by Dr. Cullen, that "when Senna was infused in the infusum amarum, a less quantity of the Senna was necessary for the dose than the simple infusions of it."[k] The same author has remarked, "that

[g] See *Dict.* [h] *Lewis, M. M.*

[i] Folliculo quam foliis est efficacior, præsertim si is ex viridi nigricat, modice amarus, subadstringit absolutus, recens, in quo semen amplum, compressum; vetustate enim exanimatur. *Mesue D. Simp. l. 2. c. 15. p. 65.*

* It has been an opinion generally received, that the footstalks of the leaves and twigs occasioned severe griping; but this Bergius denies, as in a number of instances he found their effects uniformly similar to those of the leaves. *L. c.*

[k] *M. M. v. ii. p. 521.*



Cassia Fistula

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PRESTON INSTITUTION 1828

as Senna seldom operates without much griping, its frequent use is a proof how much most part of practitioners are guided by imitation and habit."[1] Senna however, when infused in a large proportion of water, as a dram of the leaves to four ounces of water, rarely occasions much pain of the bowels, and to those who do not object to the bulkiness of the dose, may be found to answer all the purposes of a common cathartic. For covering the taste of Senna, Dr. Cullen recommends coriander seeds; but for preventing its griping, he thinks the warmer aromatics, as cardamoms or ginger, would be more effectual. The formulæ given of the Senna by the Colleges, are those of an infusion, a powder, a tincture, and an electuary. Its dose in substance is from a scruple to a dram.

[1] *L. c. p.* 537.

The leaves of Colutea arborescens, (Common Bladder Senna) are purgative, and may be substituted for those of Senna, according to Bartholin. *Med. Dan. Domest. p.* 126. *Ed.* 4. This is the more worthy of notice, as it is usually cultivated for ornament in this country.

CASSIA FISTULA. PURGING CASSIA.

SYNONYMA. Cassia fistularis. *Pharm. Lond. & Edinb.* Cassia Fistula Alexandrina. *Bauh. Pin. p.* 403. *Raii Hist. p.* 1746. Commel. Hort. Amstel. t. 1. p. 215. tab. 110. Cassia Fistula. *Rumph. Herb. Amb. t.* 2. *p.* 83. *tab.* 21. Cassia Fistula Chaiarx-ambar vocata. *Alpinus de plant. Ægypti. p.* 3. *ic. p.* 7. Conna. *Hort. Malab. T. i. p.* 37. *tab.* 21. Cassia solutiva. *Grac. Arom. l.* 1. *c.* 29. Tlái Xiem. *Flor. Cochin.*

Class Decandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 514.

Ess. Gen. Ch. Cal. 5-phyllus. *Petala* 5. *Antheræ* supremæ 3 steriles; infimæ 3 rostratæ. *Legumen.*

Sp. Ch. C. foliis quinquejugis ovatis acuminatis glabris, petiolis eglandulatis.

THIS tree frequently rises forty feet in height, producing many spreading branches towards the top, and covered with brownish bark, intersected with many cracks and furrows: the leaves are pinnated, composed of four to six pairs of pinnæ, which are ovate, pointed, undulated, nerved, of a pale green colour, and stand upon shortish footstalks: the flowers are large, yellow, and placed in spikes upon long peduncles: the calyx consists of five oblong blunt greenish crenulated leaves: the corollæ is divided into five petals, which are unequal, spreading, and undulated: the filaments are ten; of these the three undermost are very long and curled inwards; the remaining seven exhibit only the large antheræ, which are all rostrated, or open at the end like a bird's beak: the germen is round, curved inwardly, without any apparent style, and terminated by a simple stigma: the fruit is a cylindrical pendulous pod, from one to two feet in length; at first soft and green, afterwards it becomes brown, and lastly black and shining, divided transversely into numerous cells, in each of which is contained a hard round compressed seed, surrounded with a black pulpy matter. The flowers appear in June and July.

This tree, which is a native of both the Indies, and of Egypt, was first cultivated in England by Mr. Philip Miller in 1731.[a] The pods of the East India Cassia are of less diameter, smoother, and afford a blacker, sweeter, and more grateful pulp than those which are brought from the West Indies, South America, or Egypt, and are universally preferred. In Egypt it is the practice to pluck the Cassia pods before they arrive at a state of maturity, and to place them in a house, from which the external air is excluded as much as possible: the pods are then laid in strata of half a foot in depth, between which palm leaves are interposed: the two following days the whole is sprinkled with water, in order to pro-

[a] Hort. Kew.

mote its fermentation; and the fruit is suffered to remain in this situation forty days, when it is sufficiently prepared for keeping.[b]

Those pods, or canes, which are the heaviest, and in which the seeds do not rattle on being shaken, are commonly the best, and contain the most pulp, which is the part medicinally employed, and to be obtained in the manner described in the pharmacopœias.[c]

The best pulp is of a bright shining black colour, and of a sweet taste, with a slight degree of acidity. "It dissolves both in water and in rectified spirit; readily in the former, slowly and difficultly in the latter, and not totally in either: the part which remains undissolved appears to be of little or no activity."[d]

We are told by C. Bauhin, that some have supposed the Siliqua Ægyptiaca of Theophrastus to be our Cassia Fistula;[e] but there seems no evidence of its being known to the ancient Greeks; so that it is with more probability thought that the use of this, as well as of Senna, was first discovered by the Arabian physicians.[f]

The pulp of Cassia has been long used as a laxative medicine, and being gentle in its operation, and seldom occasioning griping or uneasiness of the bowels, has been thought well adapted to children, and to delicate or pregnant women. Adults, however, find it of little effect, unless taken in a very large dose, as an ounce or more, and therefore to them this pulp is rarely given alone, but usually conjoined with some of the brisker purgatives. It has been observed by Vallisnieri, that its purgative quality is remarkably promoted by manna; but this effect was never discovered in the trials made by Dr. Cullen, in whose opinion the Cassia pulp is much of the same nature as the fructus acido dulces; and he says, "it would certainly be proper for our country

[b] Vide Hasselquist and Alpinus.

[c] See Pulparum extractio. [d] Lewis, M. M. p. 207.

[e] Siliquam Ægyptiacam Theophrasti (1 hist. 18.) nonnulli censent. *Pinax. p.* 403.

[f] Therefore to be considered the Eiarxamber of Serapion, and the Chaiarlander of Avicenna, from whom Actuarius seems to have his Κασσια μελαινα.

apothecaries to know that the pulp of prunes might be employed in the place of the more expensive and precarious Cassia."[g]

By the use of Cassia, it has been remarked, that the urine becomes of a green or blackish colour;[h] but Bergius relates, that a young man took an ounce three successive mornings without producing the least change in the colour of his urine.[i]

The officinal preparation of this drug is the electuarium e cassia: it is also an ingredient in the electuarium e senna, or e. lenitivum.

[g] *M. M. vol. ii. p.* 506.

[h] By Sennertus, Lösecke, Boerhaave, Lewis, &c.

[i] M. M. p. 341. Gmelin also denies this effect of Cassia. *Diss. de Rhab. p.* 30.

TAMARINDUS INDICA. TAMARIND TREE.

SYNONYMA. Tamarindus. *Pharm. Lond. & Edinb. Gerard Emac. p.* 1607. *Park. Theat. p.* 217. *Pluck. tab.* 64. *fig.* 4. *Rumph. Herb. Amb. p.* 90. *tab.* 23. Siliqua arabica, quæ Tamarindus. *Bauh. Pin. p.* 403. Balam Pulli. *Hort. Malab. tom. i. p.* 39. *tab.* 23. Tamarindus indica. *Jacquin, Pl. Americ. p.* 10. *tab.* 10. *ed.* 2. *pict. p.* 11. *t.* 13. Conf. *Sloane's Jamaica, vol. ii. p.* 45. *Browne's Jamaica, p.* 125. *Hughes's Barbad. p.* 189. *Long's Jamaica, vol. iii. p.* 729. *Swartz. Obs. Botan. p.* 25. *Cáy Me.* Flor. Cochin. p. 403.

Class Monadelphia. *Ord.* Triandria. *Schreb. Gen. Plant. p.* 450.

Ess. Gen. Ch. Cal. 4-partitus. *Petala* 3. *Nectarium* setis 2 brevibus sub filamentis. *Legumen* pulposum.

THIS tree rises to a great height, sending off numerous large branches, which spread to a considerable extent, and have a beautiful appearance: the trunk is erect, thick, and covered with rough bark of a greyish or ash-colour: the leaves are pinnated,



Tamarindus indica

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alternate, consisting of several parts (about 14) of small pinnæ, which are opposite, oblong, obtuse, entire, smooth, of a yellowish green colour, and stand upon very short footstalks: the flowers approach to the papilionaceous kind, and are produced in racemi or lateral clusters: the calyx consists of four deciduous leaves, which are patent or reflexed, oblong, or rather ovate, entire, smooth, nearly equal in size, and straw-coloured or yellowish: the petals are three, ovate, concave, acute, indented, and plaited at the edges, about the length of the calyx, and of a yellowish colour, beautifully variegated with red veins: the peduncles are about half an inch long, and each furnished with a joint, at which the flower turns inwards: the filaments are commonly three, but in some flowers we have found four, in others only two; they are purple, united at the base, and furnished with incumbent brownish antheræ: the germen is oblong, compressed, incurved, standing upon a short pedicle: the style is tapering, somewhat longer than the filaments, and terminated by an obtuse stigma: the fruit is a pod of a roundish compressed form, from three to five inches long, containing two, three, or four flattish angular shining seeds, lodged in a dark pulpy matter, and covered by several rough longitudinal fibres. The flowers, according to Jacquin, appear in October and November.

The generic character of Tamarindus is wholly founded upon this species, as no other of the same family has hitherto been discovered.[a] Though Linnæus in his last edition of the Genera plantarum has followed Jacquin's description of the Tamarindus, in observing that the filaments are united at the base, a circumstance which ought to have placed it in the class Monadelphia, yet notwithstanding this, they neither thought proper to remove it from the class Triandria, where it also has been since retained in Murray's edition of the System Vegetabilium; and is consequently thus classed by us in the systematic arrangement prefixed

[a] Considerable difference in the shape of the pod and sweetness of the pulp has been observed; but this variety depends upon the locality of the tree.

to the first volume in the first edition of this work. Since that time however, we have had an opportunity of examining the recent flower of the Tamarind, from which we have no doubt of its having the true character of the monadelphia class, in which we have now placed it, and for which we have lately had the authority of Schreber,‖ and that of De Loureiro.†

This tree, which appears upon various authorities, to be a native of both Indies,[b] America, Egypt, and Arabia, was cultivated in Britain previous to the year 1633; for in Johnson's edition of Gerard we are told, that the figure of the Tamarind "*is of a plant some six months old, arisen of a seed: and such by sowing of seeds I have seene growing in the garden of my deceased friend Mr. Tuggy.*"[c] Miller informs us, that Tamarind plants, "if rightly managed, will grow very fast;" adding, "for I have had them upwards of three feet high in one summer, from seed, and have had two plants, which produced flowers the same season they were sown; but this was accidental, for none of the older plants have produced any flowers, although I have several plants of different ages, some of which are sixteen or eighteen years old, and about twelve feet high, with large spreading tops."[d] To this it may be added, that a healthy tree of this species, now in the Royal Botanic Garden at Kew, much larger and older than those mentioned by Miller, has not been known to flower for several years before the present summer; this fortunately enables us to publish a perfect specimen of it represented by the annexed plate, which will be

‖ V. Genera plant. Class Monadelph. Ord. Triand. p. 450.

† He says, A Classe Triandria ad Monadelphiam transtuli hoc genus non solum propriâ observatione fretus, sed etiam ab ipso Linnæo monitus filamenta habere infernè connata. *Flor. Cochin. p.* 403.

In order to make this more evident, we have displayed the filaments as they appeared in our specimen. The rudiments of other filaments probably constituted that part of the generic character which has not been noticed in our description.

[b] Sir Hans Sloane however says, "these trees were strangers in the West Indies, and planted first at Acapulco." *L. c.* [c] *L. c. p.* 1608. [d] See *Dict.*

found to correct the figure of the Tamarind, given by the justly celebrated botanist Jacquin.

The pulp of the Tamarind, with the seeds, connected together by numerous tough strings or fibres, are brought to us freed from the outer shell, and commonly preserved in syrup. According to Long, Tamarinds are prepared for exportation at Jamaica, in the following manner. "The fruit or pods are gathered (in June, July, and August) when full ripe, which is known by their fragility or easy breaking on small pressure between the finger and thumb. The fruit, taken out of the pod, and cleared from the shelly fragments, is placed in layers in a cask, and boiling syrup, just before it begins to granulate, is poured in, till the cask is filled: the syrup pervades every part quite down to the bottom, and when cool the cask is headed for sale."[e] He observes, that the better mode of preserving this fruit is with sugar, well clarified with eggs, till a transparent syrup is formed, which gives the fruit a much pleasanter flavour: but as a principal medicinal purpose of the pulp depends upon its acidity, which is thus counteracted by the admixture of sugar, it would therefore be of more utility if always imported here in the pods.[f] The fruit produced in the East Indies is more esteemed than that of the West, and easily to be distinguished by the greater length of the pods, and the pulp being dryer, and of a darker colour.

This fruit, the use of which was first learned of the Arabians, contains a larger proportion of acid, with the saccharine matter, than is usually found in the *fructus acido-dulces*, and is therefore not only employed as a laxative, but also for abating thirst and heat in various inflammatory complaints, and for correcting putrid disorders, especially those of a bilious kind; in which the cathartic, antiseptic, and refrigerant qualities of the fruit have been found equally useful. When intended merely as a laxative it may be of advantage to join it with manna, or purgatives of a sweet kind, by which its use is rendered safer and more effectual. Three

[e] *L. c.* [f] *Cullen, M. M. vol. ii. p.* 507.

drams of the pulp are usually sufficient to open the body; but to prove moderately cathartic, one or two ounces are required. It is an ingredient in electuarium e cassia, and el. e senna, or lenitive electuary.

"Tournefort relates, that an essential salt may be obtained from Tamarinds, by dissolving the pulp in water, and setting the filtered solution, with some oil upon the surface, in a cellar for several months; that the salt is of a sourish taste, and difficultly dissoluble in water; and that a like salt is sometimes found also naturally concreted on the branches of the tree. The salt, as Beaumé observes, may be obtained more expeditiously, by clarifying the decoction of the Tamarinds with whites of eggs, then filtering it, and evaporating it to a proper consistence, and setting it to cool: the salt shoots into crystals of a brown colour, and very acid taste; but in dissolving and crystallizing them again, or barely washing them with water, they lose almost all their acidity, the acid principle of the Tamarinds seeming not to be truly crystallizable." Vide *Lewis, M. M. p.* 633.

POLYGALA SENEGA. RATTLESNAKE-ROOT MILK WORT.

SYNONYMA. Seneka. *Pharm. Lond. & Edinb.* Polygala marilandica, caule non ramoso, spica in fastigio singulari gracili e flosculis albis composita. *Raii App. vel. Hist. tom. iii. p.* 670. Polygala caule simplici erecto, foliis ovato-lanceolatis alternis integerrimis, racemo terminali erecto. *Gron. Flor. Virgin. i. p.* 80. Polygala Senega. *Amœn Acad. Tom. iii. p.* 124. *Miller's Dict. Fig. Ed.* 7. Senegau. *Trew. Comm. Litt. Nor.* 1741. *Tab.* 4.

Class Diadelphia. *Ord.* Octandria. *Lin. Gen. Plant.* 851.

Ess. Gen. Ch. Cal. 5-phyllus: foliolis alæformibus, coloratis. *Legumen* obcordatum, biloculare.

Sp. Ch. P. floribus imberbibus spicatis, caule erecto herbaceo simplicissimo, foliis lato-lanceolatis.



Polygala Senega

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PRESTON
1828
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THE root is perennial, woody, branched, contorted, about the thickness of a finger, and covered with ash-coloured bark: it sends up several stems, which are simple, erect, slender, round, smooth, of a dark reddish colour, and rise nearly a foot in height: the leaves are oblong, or lance-shaped, acutely pointed, of a pale green colour, and stand alternately upon short footstalks: the flowers appear in June, they are white, of the papilionaceous kind, and grow in a close terminal spike: the calyx is divided into three narrow persistent segments, two of which are placed beneath and one above the corolla: the corolla is composed of two exterior petals, or *wings*, which are flat, and of an oval shape; a short tubular *standard*, undivided at the mouth; and a flattened *keel* distended towards the end, from whence proceeds a pencil-shaped appendage: the filaments are eight, united at the base into two portions, and supplied with simple antheræ: the germen is oblong, and supports a simple erect style, furnished with a cloven stigma: the capsule is inversely heart-shaped, and contains several small oblong seeds.

This plant is a native of Virginia, and other parts of North America. It was first cultivated in England in 1759, by Mr. P. Miller,[a] who has published a figure of it, which will be found to accord very accurately with the icon here annexed, which was drawn from the plant now in flower at the Royal garden at Kew. "This root, of no remarkable smell, has a peculiar kind of subtile pungent penetrating taste.[b] Its virtue is extracted both by water and spirit, though the powder in substance is supposed to be more effectual than either the decoction or tincture. The watery decoction, on first tasting, seems not unpleasant, but the peculiar pungency of the root quickly discovers itself, spreading through the fauces, or exciting a copious discharge of saliva, and frequently, as Linnæus observes, a short cough: those to whom I

[a] *Dict. Ed.* 7. *n.* 5. *See Hort. Kew.*

[b] Bergius says, "Sapor primum calidiusculus, deinde acidulus in faucibus sentitur cum specie acrimoniæ, inhærens cum siccitate." M. M. p. 596.

have directed this medicine, have generally found a little Madeira most effectual for removing its taste from the mouth, and making it sit easy on the stomach. A tincture of the root, in rectified spirit, is of more fiery pungency, extremely durable in the mouth and throat, and apt to promote vomiting or reaching."[c] Rattlesnake-root was first introduced to the attention of physicians about sixty years ago, by Dr. John Tennent,[d] whose intercourse with the Indian nations led him to discover that they possessed a specific medicine against the poison of the rattlesnake,‖ which, in consequence of a suitable reward, was revealed to him, and found to be the root of this plant, which the Indians employed both internally and externally.[e] Cases afterwards occured, by which he was fully convinced of the efficacy of this medicine from his own experience. And as the Doctor observed, that pleuretic or peripneumonic symptoms† were generally produced by the action of this poison, he hence inferred, that the Rattlesnake-root might also be an useful remedy in diseases of this kind. It was accordingly tried in pleurisies not only by Tennent himself,[f] but by several of the French academicians and others,[g] who all unite in testimony of its good effects. However, in many of these cases, recourse was had to the lancet, and even the warmest advocates for the Seneka say, that in the true pleurisy repeated bleeding is at the same time

[c] Lewis, *M. M. p.* 518. [d] See his *Physical Disquisitions, P.* 2. *Lond.* 1735.

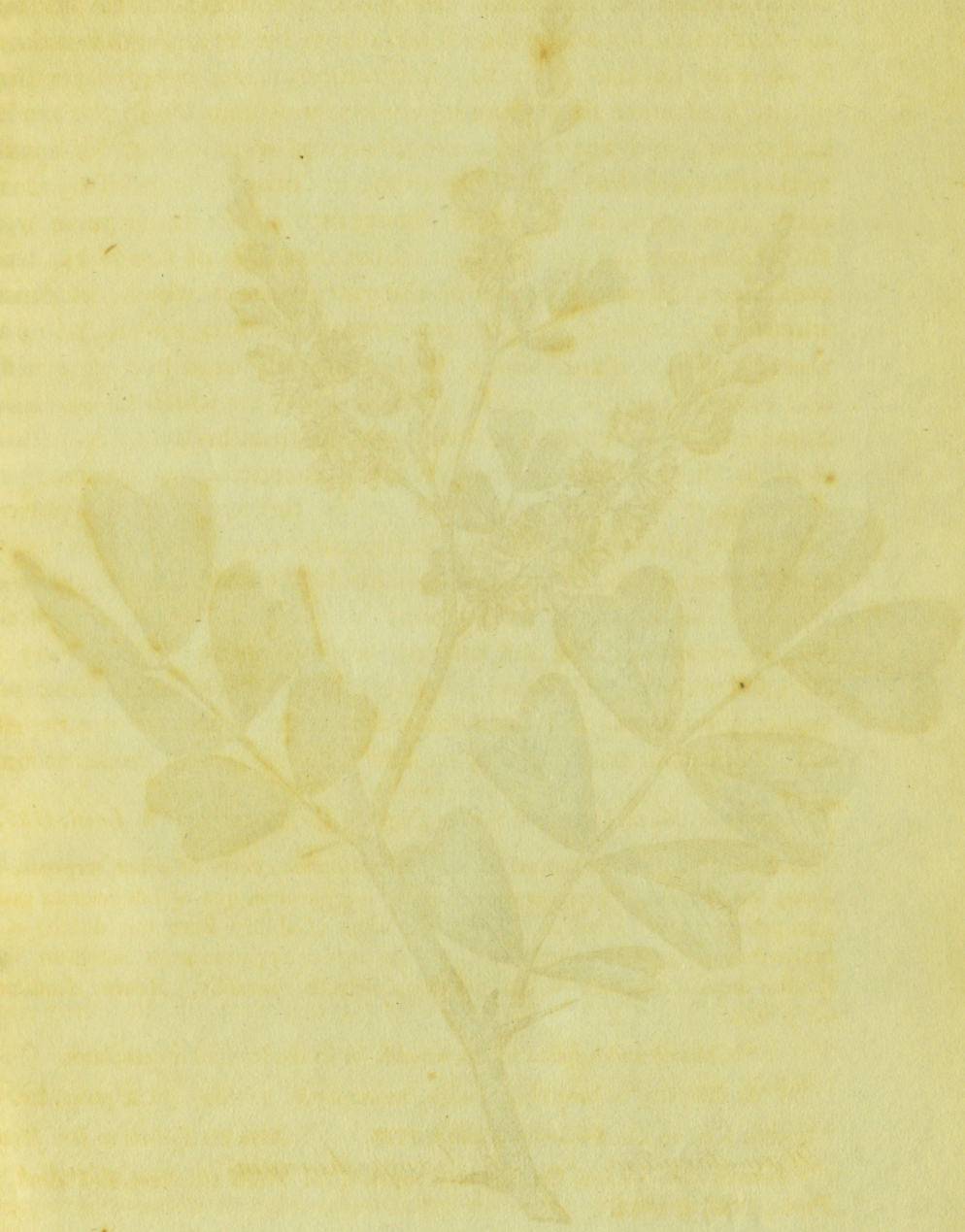
‖ A fortiori, it is presumed to cure the poisonous effects of other serpents, as being less virulent. Testatur exemplum ancillæ Suecicæ, quæ alvi dejiciendæ causa ruri pone fruticem secedens a serpente quodam (Colubro Bero sine dubio) et in mulieribus ipsis vulnerabatur sub gravissimorum sypmtomatum satellitio, sed duabus unice dosibus ab ill. a Linné subministratis convaluit. *Amœn. Acad. vol. vi. p.* 214.

[e] Chewed and applied to the wound, or in the form of a cataplasm.

† As difficulty of breathing, cough, hæmoptysis, a strong quick pulse, &c.

[f] See his *Ess. on the Pleurisy. Philad.* 1736. Also his *Epistle to Dr. Mead.*

[g] Lemery, De Jessieu, Du Hamel, Bouuvart, for which see *Mem. de l'Acad. de Paris*, 1739, & 1744.





Hæmatoxylum *Campechianum*

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not to be neglected. The repute which this root obtained in peripneumonic affections, induced some to employ it in other inflammatory disorders, in which it proved serviceable, particularly in rheumatism.[h] It has also been prescribed with much success in dropsies,[i] and this we can the more easily credit from its effects in increasing the different secretions, for it is remarked that it produces a plentiful spitting, increases perspiration and urine, and frequently purges or vomits. It is likewise reported to be a medicine of great power, in rendering the siziness of the blood more fluid; De Haen however brings a strong fact to contradict this opinion.[k] The usual dose is from one scruple to two of the powder, or two or three spoonfuls of a decoction, prepared by boiling an ounce of the root in a pint and a half of water till it is reduced to one pint.

[h] *Comm. Noric.* 1741. *p.* 362. Sarcone *Geschichte d. Krankh. in Neapel, tom. i. p.* 108, 169, 173, 199. And Dr. Cullen says, "We have had some instances of its being useful, especially where it operated by producing sweat." *M. M. vol. ii. p.* 533.

[i] Bouvart. l. c. Mackenzie, *Med. Obs. & Inq. vol. ii. p.* 288. See also Percival, *Essays, vol. ii.* 178.

[k] *Ratio Medend. P.* 4. *p.* 252.

HÆMATOXYLUM CAMPECHIANUM. LOGWOOD.

SYNONYMA. Lignum Campechense. Pharm. Lond. & Edinb. Hæmatoxylum spinosum, foliis pinnatis, racemis terminalibus. *Browne's Jam.* 221. Lignum Campechianum, species quædam Brasil. Vide *Sloane's Jam.* vol. 2. p. 183. Crista pavonis Coronillæ folio secunda, sive tinctoria Indica, flore luteo racemoso minore, siliqua latissima glabra, lignum rubrum, *Sappan* dictum ferens. *Breyn. Prodr.* 2. 37. Erythroxylum, sive

lignum rubrum Indicum spinosissimum, coluteæ foliis, floribus luteis, siliquis maximis. *Herm. Par. Bat.* 333. Hæmatoxylum. *Long's Jam.* vol. 3. p. 754. *Miller's Dict. Jacquin, Ob. Bot.* 1. p. 20.

Class Decandria. *Order* Monogynia. *L. Gen. Plant.* 525.

Ess. Gen. Ch. Cal. 5-partitus. *Petala* 5. *Caps.* lanceolata, 1-locularis, 2-valvis: valvis navicularibus.

THE Campechianum is the only species of the Hæmatoxylum hitherto discovered; it is a much smaller tree than the Guaiacum, and both the trunk and the branches are extremely crooked, and covered with dark-coloured rough bark; the smaller ramifications are numerous, close, prickly, or beset with strong sharp spines; the leaves are pinnated, generally composed of four or five pair of pinnæ, of an irregular oval shape, obliquely nerved, and obtusely situated at the top; the flowers grow in racemi, or in close regular terminal spikes, and appear in March; the calyx divides into five oblong obtuse segments, of a brownish purple colour; the petals are five, patent, obtusely lance-shaped, and of a reddish yellow colour; the stamina are somewhat hairy, tapering, of unequal length, shorter than the corolla, and the antheræ are small and oval; the style is nearly the length of the stamina, and the germen becomes a long double valved pod, which contains many oblong compressed, or somewhat kidney-shaped seeds.

This tree is a native of South America, and grows to the highest perfection at Campeachy, in the Bay of Honduras, whence the seeds were brought to Jamaica, in 1715, with a view of propagating it as an article of commercial export. And though it does not appear to have answered this purpose so fully as could have been wished, yet we are told that in some parts of the island, especially where the ground is swampy, this tree, in the course of three years, will rise to the height of ten feet, and by this quick and luxuriant growth, soon overrun and destroy the neighbouring

plants.[a] The Logwood tree was first cultivated in Britain by Mr. P. Miller in 1739,[b] who says, "there are some of these plants now in England which are upwards of six feet high, and as thriving as those in their native soil;"[c] but this observation will not apply to the present time, for we have searched in vain for this plant through most of the principal garden stoves in the neighbourhood of London.

The wood of this tree is of a solid texture, and of a dark red colour; it is imported into Europe principally as a dying drug, cut into junks or logs of about three feet in length; of these pieces, the largest and thickest are preferred, as being of the deepest colour. This wood has a sweetish subastringent taste, and no remarkable smell; it gives a purplish red tincture both to watery and spirituous infusions, and tinges the stools, and sometimes the urine, of the same colour; but from the experiments of Du Hamel and others, it does not appear to colour the bones of animals, as observed of madder and some other plants of that class. It is used medicinally as an astringent and corroborant. In diarrhœas it has been found peculiarly efficacious, and has the recommendation of some of the first medical authorities:[d] also in the latter stages of dysentery, when the obstructing causes are removed, to obviate that extreme laxity of the intestines usually superinduced by the repeated dejections. Extractum ligni campechensis is ordered in the pharmacopœias, and may be given in the dose of one scruple or two, repeated according to the urgency of the symptoms.

[a] In some parts of Jamaica "are such quantities of it growing wild, as to incommode the land-holders extremely." Long's l. c. 754. He also observes, that "it makes an excellent and beautiful fence, which, if kept properly trimmed, grows so strong and thick, that nothing can break through."

[b] Hort. Kew. [c] Dictionary abridged, sixth edition. [d] Baker, Clark, Pringle, Duncan, Zimmerman, Baldinger, and others.

FUMARIA OFFICINALIS. COMMON FUMITORY.

SYNONYMA. Fumaria. *Pharm. Edinb.* Fumaria officinarum et Dioscoridis. *Bauh. Pin. p.* 143. Fumaria purpurea. *Gerard. Emac. p.* 1088. Fumaria vulgaris. *Park. Theat. p.* 287. *Raii Hist. p.* 405. *Synop. p.* 284. Fumaria foliis multifidis lobis subrotunde lanceolatis; fructibus monospermis. *Hal. Stirp. Helv. n.* 346. *Hudson Flor. Ang. p.* 270. *Lightfoot Flor. Scot. p.* 379. *Curtis Flor. Lond. n.* 112. *Withering. Bot. Arrang. p.* 751.

Class Diadelphia. *Ord.* Hexandria. *Lin. Gen. Plant.* 849.

Ess. Gen. Ch. *Cal.* dyphyllus. *Cor.* ringens. *Filamenta* 2. membranacea, singula *Antheris* 3.

Sp. Ch. F. pericarpiis monospermis racemosis, caule diffuso.

THE root is annual, slender, and fibrous: the stalk is spreading, smooth, somewhat angular, bending, much branched, and usually rises above a foot in height: the leaves are compound, doubly pinnated, pinnulæ trilobed, of a pale green colour, and standing upon slender footstalks: the flowers are of a reddish purple colour, and grow in spikes, which arise from the axillæ of the leaves: the bracteæ are linear, purplish, and placed at the base of the peduncles: the calyx is composed of two deciduous equal leafits, slightly indented at the edges: the corolla is oblong, tubular, gaping, or ringent, the palate projecting so as to fill up the mouth; the *upper lip* dilated at the tip, keel-shaped, hollow beneath, turned a little upwards at the margin, and at the base obtuse, and curled inward; the *lower lip* is nearly similar to the upper; the *lateral petals* cohere at the top, and form a quadrangular mouth, in which there are three divisions on the upper and lower part: the filaments are two, membranous, broad at the base, and each furnished with



Fumaria officinalis

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three yellowish antheræ: the germen is oval: the style is filiform, about the length of the filaments, and crowned with a flattish downy stigma: the seed is roundish, and contained in a small heart-shaped pod. Fumitory is common in corn fields, and usually flowers in May.

By the Ancients this plant was named Capnos,[a] from being thought to be peculiarly useful in dimness of sight, and other diseases of the eyes. The leaves, which are the part of the plant directed for medicinal use by the Edinburgh College, are extremely succulent, and have no remarkable smell, but a bitter somewhat saline taste. "The expressed juice, and a decoction of the leaves in water, inspissated to the consistence of extracts, are very bitter, and considerably saline; on standing for some time they throw up to the surface copious saline efflorescences, in figure somewhat resembling the crystals of nitre, to the taste bitterish and slightly pungent. A tincture of the dry leaves, in rectified spirit, yields, on inspissation, an extract less in quantity and bitterer in taste than either the watery extract or inspissated juice."[b] Fumitory has been supposed by several Physicians of great authority,[c] both ancient and modern, to be very efficacious in opening obstructions and infarctions of the viscera, particularly those of the hepatic system: it is also highly commended for its power of correcting a scorbutic and acrimonious state of the fluids; and has therefore been employed in various cutaneous diseases; when taken in pretty large doses it proves diuretic and laxative, especially the juice, which may be mixed with whey, and used as

[a] Καπνος Dioscor. Καπνιος Gal. i. e. fumus—"Claritatem facit inunctis oculis, delachrymationemque, ceu fumus; unde nomen." *Plin. L.* 25. *cap.* 13. See also Galen. Simp. *Lib.* 7. *p.* 49.

[b] *Lewis M. M. p.* 315.

[c] Aetius, Boerhaave, F. Hoffman, and many others.

The juice of Dandelion and Fumitory is greatly commended by Leidenfrost in obstinate diseases of the skin. See *Diss. de succis herb. &c.*

An infusion of the leaves is used as a cosmetic to remove freckles and clear the skin.

a common drink. Dr. Cullen classes this plant among the tonics; he says, "it is omitted in the London dispensatory, but retained in ours, and in every other that I know of. I have found it useful in many cases in which bitters are prescribed; but its remarkable virtues are those of clearing the skin of many disorders. For this it has been much commended; and I have myself experienced its good effects in many instances of cutaneous affections, which I would call Lepra. I have commonly used it by expressing the juice, and giving that to two ounces twice a day: but I find the virtues remain in the dried plant, so that they may be extracted by infusion or decoction in water; and the foreign dispensatories have prepared an extract of it, to which they ascribe all the virtues of the fresh plant."[a]

[a] *M. M. vol. ii. p. 77.*



Aconitum Napellus

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ORD. XXVI. MULTISILIQUÆ.

(From *Multus*, many, and *Siliqua*, a Pod.)
Plants which have more seed vessels than one.

ACONITUM NAPELLUS. COMMON WOLF's-BANE, Or MONK's HOOD.

SYNONYMA. Aconitum, Pharm. Lond. & Edinb. Stoerck tab. 3. *Aconitum* cæruleum seu Napellus, *Bauh. Pin.* 183. *Aconitum* caule simplici, spica densa, petiolis unifloris, casside breviter mucronata, *Hal. Stirp. Helv.* No. 1197, *vires autem*, No. 1198. *Aconitum* verus cæruleus, *Gerard. Aconitum, Spec.* 1, *Raii. Napellus, Matth. Camerar. Dodon. &c.*

Class Polyandria. *Order* Trigynia. L. *Gen. Plant.* 682.

Ess. Gen. Ch. Cal. 0. *Petala* 5: supremo fornicato. *Nectaria* 2, pedunculata, recurva. *Siliquæ*, 3 s. 5.

Sp. Ch. A. foliorum laciniis linearibus superne latioribus linea exaratis.

THE root is perennial, turnip-shaped, or more commonly fusiform; the stalk is simple, erect, strong, beset with many leaves, and grows from two to five feet high: the leaves are lobed, deeply laciniated, and stand alternately upon long footstalks, but the upper leaves are almost sessile, and the laciniæ much broader

than those towards the bottom of the stem; the superior pagina of the leaf is of a dark green colour, but the under pagina is whitish; the peduncles are generally unifloral, erect, and villous; the flowers terminate the stalk, are without calyces, and grow in a long racemus or spike; each flower consists of five petals, which include two nectaries, the uppermost petal is arched over the lateral ones, so as to appear helmet-shaped, or hooded; they are all of a purplish or deep violet colour: the pistilla, (according to Jacquin) are three, four, and sometimes five. The Aconitum is a native of the mountainous and woody parts of Germany, France, and Switzerland; but since the time of Gerard, it has been cultivated for ornament in most of the flower-gardens in this country.

The figure of this plant given by Stoerck, is supposed, by Haller and Bergius to be the Aconitum Cammarum of Linnæus: Murray, however, is of a different opinion; and upon comparing Stoerck's Aconitum with the Cammarum and Napellus, as delineated by Jacquin, (Flor. Aust.) we have no hesitation in referring it to the latter.*

Every part of the fresh plant is strongly poisonous, but the root is unquestionably the most powerful, and when first chewed imparts a slight sensation of acrimony, but afterwards, an insensibility, or stupor at the apex of the tongue, and a pungent heat of the lips, gums, palate, and fauces, are perceived, followed with a general tremor and sensation of chilliness. Though the plant loses much of its power by drying, yet Stoerck observes that, when powdered and put upon the tongue, it excites a durable sense of heat, and sharp wandering[a] pains, but without redness or inflammation. The juice applied to a wound, seemed to affect the

* In the Cammarum the top of the flower rises much higher, and forms a more acute angle; the flowers are of a fainter blue colour, and the racemus is always shorter than that of the Napellus.

[a] Reinhold, however, describes the leaves of this plant, when dry, as almost insipid. Diss. de Aconit. Napello.

whole nervous system;[b] even by keeping it long in the hand, or on the bosom, we are told unpleasant symptoms have been produced.[c] That the ancients considered the Aconitum to be the most destructive of vegetable productions, appears from their fanciful derivation of its origin: "ut ab Hecate inventum aut ex Cerberi "spuma enatum pronunciarent;" and Ray says, "Napellus ve- "nenorum praesentaneorum facilè princeps."[d] The deleterious effects of this plant, like those of most vegetable poisons, are produced by its immediate action upon the nervous energy; for of the different animals[e] which have been destroyed by it, we find but one instance, wherein upon dissection, marks of organic disease[f] were discovered, and this, as well as those mentioned respecting the Belladonna, we attribute to the action of secondary causes.

The fatal symptoms brought on by this poison, are thus stated by Haller: "Intus adsumtus Napellus vomitum movet, convul- "siones, rigorem, vertiginem, maniam, hypercatharses, sursum

[b] The juice was applied to a wound of the finger, which not only produced pains in the hand and arm, but cardialgia, great anxiety, a sense of suffocation, syncope, &c. and the wounded part sphacelated before it came to suppuration. Rödder in Alberti Jurisp. Med. t. 6. p. 724.

[c] If this be admitted, it must be referred to a peculiar idiosyncrasy of the body rather than to the power of the plant. Murray, Apparat. Med. vol. 3. p. 12.

[d] Ray observes that the Napellus loses much of its virulency by being transplanted from the mountains into our gardens; and this observation has been confirmed by the experiment of D. Martinus Bernhardus a Berniz, in Ephem. Germ. ann. 2. Observ. 22. (Ray, Hist. Plant. p. 702.) and for farther confirmation see Pet. Joh. Faber in Pauth. l. 1. cap. 43.

[e] The root of the Napellus is an immediate poison to almost all animals, but actual experiments with it have been made upon wolves, cats, dogs, mice, &c. See Wepfer, Hist. de Cicut. p. 176. de Napello. Phil. Transact. vol. 27. p. 488. Sprögel Diss. Exper. circa venena, p. 6. Hallefeld, p. 23. Ehrhart, vide Reinhold, Diss. cit. Cows and Goats, by being forced to eat this plant, perished. Moraeus Fil. in K. Vet. Acad. Handl. 1745. p. 217.

[f] This was a wolf, wherein marks of inflammation of the stomach were discovered. Wepfer, l. c. p. 180.

" & deorsum erumpentes, tum ventris tumores, & alia gravissima " symptomata, sudorem frigidum, asphyxiam."[g] Stoerck appears to be the first who gave the Wolf's-bane internally, as a medicine; and since his experiments were published, in 1702, it has been generally and often successfully employed in Germany, and the northern parts of Europe, particularly as a remedy for obstinate rheumatisms: and many cases are related where this disease was of several years duration, and had withstood the efficacy of other powerful medicines, as mercury, opium, antimony, cicuta, &c. yet, in a short time, were entirely cured by the Aconitum.[h] Instances are also given us of its good effects in gout, scrophulous swellings, venereal nodes, amaurosis, intermittent fevers, &c.[i] Bergius describes its *Virtus* to be pellens, sudorifera, diuretica, subvertiginosa; *recens* venenata: *Usus,* rheumatismus, arthritis, malum ischiadicum.

[g] N. 1198. l. c. These symptoms are collected from a number of fatal instances of its poisonous effects, some of which we shall mention. The root was given by way of experiment to four condemned criminals, two at Rome, in the year 1524, and two at Prague, in 1561, of whom two soon perished, the other two, with great difficulty, recovered. Matthiol. in Dioscorid. p. 768. It has frequently been eaten by mistake for other plants, and proved fatal. Willis de Anima brutor. p. 289. Dodon. Stirp. Pempt. L. 4. p. 442. Bacon, Philos. Trans. vol. 38. p. 284. And the following remarkable fact is said to have happened at Sweden:—A person having eaten some of the fresh leaves of the Napellus, became maniacal, and the surgeon who was called to his assistance declared, that the plant was not the cause of the disorder; and, to convince the company that it was perfectly innocent, he eat freely of its leaves; but he suffered by his temerity, for soon after he died in great agony. Moraeus, l. c. 1739. p. 41.

[h] Stoerck libell. de stramon, &c. Contin. Exper. Libell. de Pulsatill. Nig. p. 58. Rosenstein, Hall Epist. vol. 5. p. 174. Collin Observ. pars. 2. Blom Vet. Acad. Handl. 1773. p. 258. Odhelius, ibid. 1776. p. 68. Hast, Med. Virkets tilstand, p. 307. Ribe, vide Reinhold Diss. p. 37. Comment. de rebus, vol. 2. p. 240. Diss. de usu salutari Extr. Acon. in Arthritide pres. Böhmer Hal. 1768. a pag 10 ad 13. Aug. Phil. Gesner. Beobacht a. d. Arzn. vol. 1. p. 196. Tode, Med. chir. Bib. vol. 2. P. 1. p. 120. Tritze Mediz. Annalen. vol. 1. p. 327. Stöller, Beob. u. Erf. p. 146. Stoll Rat. Medend. P. 3. p. 167.

[i] See the authors referred to above.





Dictamnus albus

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PRESTON INSTITUTION 1828

This plant has been generally prepared as an extract or inspissated juice, after the manner directed in the Edinburgh and many of the foreign pharmacopœias,[k] and like all virulent medicines, it should be first administered in small doses. Stoerck recommends two grains of the extract to be rubbed into a powder, with two drams of sugar, and to begin with ten grains of this powder two or three times a day. We find however, that the extract is often given from one grain to ten for a dose, and Stoll, Schenckbecher, and others, increased this quantity very considerably. Instead of the extract, a tincture has been made of the dried leaves, macerated in six times their weight of spirits of wine, and forty drops given for a dose.

[k] Its efficacy is much diminished on being long kept.

DICTAMNUS ALBUS. WHITE FRAXINELLA, Or, BASTARD DITTANY.

SYNONYMA. Dictamnus albus. *Pharm. Edinb.* Dictamnus albus sive Fraxinella. *Bauh. Pin. p.* 222. Fraxinella. *Gerard Emac. p.* 1245. *Morris, Hist. iii. p.* 456. *Tourn. Inst. p.* 430. Fraxinella flore purpureo & albo. *Park. Parad. p.* 333. Fraxinella, &c. *Raii Hist. p.* 698. *J. Bauh. iii. p.* 494. *Hal. Stirp. Helv. n.* 1029. *Miller's Figures, tab.* 123. *Jacquin, Flor. Aust. tab.* 428. α Flore niveo. β Flore rubro.

Class Decandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 522.

Ess. Gen. Ch. Cal. 5-phyllus. *Petala* 5, patula. *Filamenta* punctis glandulosis adspersa. *Caps.* 5, coalitæ.

Sp. Ch. C. foliis pinnatis caule simplici. *Supp. p.* 232.

THE root is perennial, and sends off many long spreading fibres: the leaves are pinnated and large; pinnæ elliptical, veined, pointed, slightly serrated, stand in pairs, and are terminated by an odd one, which is the largest: the stalk is round, smooth, erect, and rises about a foot and a half in height: the bracteæ are stipular, and placed singly at the base of the peduncles: the flowers appear from May till July; they are numerous, large, white, terminate the stem, and stand alternately upon long peduncles, which towards the top are bent downwards, and beset with small glands; the corolla is composed of five white petals, of an obversely oval shape, and inserted into the calyx by long claws: the calyx is rough, and divided into five short segments: the filaments are ten, about the length of the corolla, marked with minute glands, and furnished with large antheræ: the germen is pentangular: the style short, tapering, and supplied with a pointed stigma: the seed vessels are five united capsules, each of which contains two small oval seeds.

This plant, which is commonly called Fraxinella,* is a native of France, Germany, and Italy. It was cultivated here by Gerard, and frequently adorns the borders of our flower gardens, especially the red variety, which is the handsomer plant. It emits a fragrant bituminous odour, which seems to be the essential oil of the herb, secreted by numerous small glands, with which the peduncles and filaments are abundantly furnished. These odorous effluvia are so very inflammable, that on the application of flame, they take fire, especially on the evening of a hot dry day.[a]

The root, which is the part directed for medicinal use, "when fresh, has a moderately strong, not disagreeable smell, but as met with in the shops it has scarcely any. To the taste it discovers a pretty strong and very durable bitterness, which is taken up both by watery and spirituous menstrua, and on inspissating the filtered

* From the resemblance its leaves have to those of the ash.

[a] Vide Du Hamel, *Phys. des arbres, tom. i. p.* 150. Nollet, *Cours. de Phys. vol. i. p.* 300.

tinctures, remains entire in the extracts: the aqueous extract is in much larger quantity than the spirituous, and proportionably weaker in taste."[b]

Formerly this root was used as a stomachic, tonic, and alexipharmic, and was supposed to be a medicine of much efficacy in removing uterine obstructions, and destroying worms;[c] but its medicinal powers became so little regarded by modern physicians, that it had fallen almost entirely into disuse, till Baron Stoerck brought it into notice by publishing several cases of its success,[d] viz. in tertian intermittents, worms, (lumbrici) and menstrual suppressions. In all these cases he employed the powdered root to the extent of a scruple twice a day. He also made use of a tincture, prepared of two ounces of the fresh root digested in fourteen ounces of spirit of wine; of this twenty to fifty drops, two or three times a day, were successfully prescribed in epilepsies, &c. and when joined with steel, this root, we are told, was of great service to chlorotic patients.

The Dictamnus undoubtedly is a medicine of considerable power; but, notwithstanding the account of it given by Stoerck, who seems to have paid little attention to its modus operandi, we may still say with Haller, "Nodum autem vires pro dignitate exploratus est." l. c.

[b] *Lewis, M. M. p.* 274.

[c] See Geier, *Dictamnographia. Buchner Diss. de Fraxinella.* Matthiolus says, "ad multa utilis est." *p.* 523.

[d] Vide *libell. de Flammula Jovis, Dictamno albo, &c.*

ANEMONE PRATENSIS. MEADOW ANEMONE; Or, PASQUE FLOWER.

SYNONYMA. Pulsatilla nigricans. *Pharm. Edinb.* Pulsatilla flore minore nigricante. *Bauh. Pin. p.* 177. Pulsatilla flore minore. *Gerard. Emac. p.* 886. Pulsatilla vulgaris, saturatiore flore. *Clus. Hist. i. p.* 246. Pulsatilla flore clauso obsoleto, petalis reflexis. *Helw. puls. p.* 65. *t.* 11. Pulsatilla foliis decompositis pinnatis, flore pendulo, limbo reflexo. *Hort. Cliff.* 223. A pratensis. *Flor. Dan.* 611.

Class Polyandria. *Ord.* Polygynia. *Lin. Gen. Plant.* 694.

Ess. Gen. Ch. *Cal.* 0. *Petala* 6-9. *Sem.* plura.

Sp. Ch. A pedunculo involucrato, petalis apice reflexis, foliis bipinnatis.

THE root is perennial, thick, short, and sends off several strong fibres: the flower stem is smooth, beset with soft hairs, near the top furnished with a laciniated involucrum, and rises about six or eight inches in height: the leaves are radical, bipinnated; segments narrow, short, linear, and of a glaucous green colour: it has no calyx: the petals are six, oblong, hairy, of a blackish purple colour, and their apices are turned backwards; the filaments are numerous, slender, about half the length of the petals, and furnished with yellow antheræ: the germens are numerous, collected into a bundle, and supplied with long styles, terminated by tapering blunt stigmata: the seeds are placed on the common receptacle, and retain their styles, which, when the seeds go off, resemble long downy tails.

This Anemone is a native of Germany, where it grows in open fields, and flowers in May. It was first cultivated in England by Mr. Miller in 1731, and as we now find it in our gardens, it very



Anemone pratensis

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PRESTON INSTITUTION 1828



much resembles the Anemone Pulsatilla,[a] which grows wild in this country, and would doubtlessly prove a good substitute for the A. pratensis: the principal distinctions between these species, as they grow naturally, are taken from the flower, which in the A. pratensis is more pendulous, smaller, of a darker colour, and has the apices of the petals reflexed, the stem also is said to be less hairy, and shorter than that of the Pulsatilla.[b]

This plant, in its recent state, has scarcely any smell, but its taste is extremely acrid, and when chewed, corrodes the tongue and fauces; and the dried plant likewise still retains a considerable share of acrimony. It also appears from some experiments to contain a camphoraceous matter, which was obtained in the form of crystals, of an unctuous taste, and very inflammable.[c]

This plant, like several others of great activity, has been received into the Materia Medica of the Edinburgh Pharmacopœia, upon the authority of Baron Stoerck, who recommends it as an effectual remedy for most of the chronic diseases affecting the eye, particularly amaurosis, cataract, and opacity of the cornea, proceeding from various causes.[d] He likewise found it of great use in venereal nodes, nocturnal pains, ulcers, caries, indurated glands, suppressed menses, serpiginous eruptions, melancholy, and palsy. The Baron himself, who had for two years suffered much from a violent contusion of his eye, took this remedy, which he soon found occasioned a severe lancinating pain in the part affected: this he considered as a favourable omen of the specific action of the plant; an opinion which was afterwards confirmed in a great

[a] An elegant specimen of this plant is correctly figured in *English Botany*, fig. 51. from which it may be seen how closely it resembles that here annexed, which we obtained through the favour of Mr. Curtis.

[b] We might also add, upon the authority of the *Flor. Dan.* that the leaves of the *pratensis* are somewhat tomentose, while those of the Pulsatilla are of a bright green. See plates 153. and 611.

[c] See *Hann. Mag.* 1779. *n.* 105.

[d] *Lib. de Pulsatilla nigric.*

number of patients. Six cases of amaurosis, three of cataract, and seven of affections of the cornea, we are told were either entirely cured, or greatly benefited, by the exhibition of this remedy. Several cases proving its success in the other disorders which we have noticed above, especially those of syphilis, are also related by the Baron. Many German physicians have since tried the effects of this medicine in diseases of the eyes, and with success; of these we may mention Guildbrand,[e] Hotz,[f] Mohrenheim:[g] several others however bear testimony of its inefficacy in these diseases, as Schmucker,[h] Bergius,[i] Richter,[k] who increased the dose of this vegetable even beyond that directed by Stoerck. Notwithstanding this, Dr. Cullen says, "I would still recommend "it to the attention of my countrymen, and particularly to a "repetition of trials in that disease, so frequently otherwise "incurable, the amaurosis. The negative experiments of Bergius "and others, are not sufficient to discourage all trials, considering "that the disease may depend upon different causes; some of "which may yield to remedies, though others do not."[l]

Every part of the plant, except its root, is ordered for medicinal use, and was by Baron Stoerck prepared for this purpose into an extract, a distilled water, and an infusion; but the first form seems to have been preferred, and was given from seven grains to three or four times that quantity, twice or thrice a day. In large doses it frequently excited nausea and vomiting, or produced griping pains of the bowels, and looseness, and very generally proved diuretic. The fluid preparations of the plant are likewise recommended for external use in ulcers and complaints of the skin. The manner of preparing the extract is given in the Edinburgh Pharmacopœia.

[e] Tode and Nielsen *Diss. de præstantiss. ratione illustrandi Mat. Med. p.* 11.

[f] Jo. Iac. Zimmermann. *Diss. obs. circa Mercur. Ext. Cicut. et Pulsatill.* §. 14. Argent. 1779. [g] *Chirurg. Beob. T.* 1. & 11.

[h] In *verm. chir. Schrift. t. ii. p.* 26. [i] *Mat. Med. p.* 491.

[k] Aug. Gottl. Richter *Chir. Bibl. vol.* 6. *p.* 584. [l] *Mat. Med. vol. ii. p.* 216.



Delphinium Staphisagria

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PRESTON INSTITUTION 1828

DELPHINIUM STAPHISAGRIA.

PALMATED LARKSPUR, Or, STAVESACRE.

SYNONYMA. Staphisagria. *Pharm. Lond. & Edinb. Bauh. Pin. p.* 324. *Dod. Pempt. p.* 366. *Gerard. Emac. p,* 495. *Raii Hist. p.* 705. *Park. Theat. p.* 222. *J. Bauh. Hist. iii. p.* 641. Delphinium Platani folio, Staphis agria dictum. *Tourn. Inst. p.* 428. Aconitum urens Ricini fere foliis, flore cæruleo magno, Staphis agria dictum. *Pluk. Almag. p.* 357.

Class Polyandria. *Ord.* Trigynia. *Lin. Gen. Plant.* 681.

Ess. Gen. Ch.. Cal. 0. *Petala* 5. *Nectarium* bifidum, postice cornutum. *Siliquæ* 3. s. 1.

Sp. Ch. D. nectariis tetraphyllis petalo brevioribus, foliis palmatis: lobis obtusis.

THE root is biennial: the stem is downy, smooth, erect, simple, purplish, and rises from one to two feet in height: the leaves are palmated, dividing into five or seven lobes, which are ovate or lance-shaped, veined, downy, and of a pale green colour: the leaf stalks are long, strong, downy, of the colour of the stem, from which they arise alternately, and are gradually shorter towards the top of the plant, so as to give the whole a regular conical shape: the flowers appear in June; they are large, bluish or purplish, stand upon long footstalks, and terminate the stalk in an open spike: there is no calyx: the corolla is composed of five egg-shaped spreading petals, of which the uppermost is extended backwards, so as to form a hollow spur or horn-like projection:[a] the nectarium is commonly divided into four leaves, which are less

[a] In some flowers we observed two spurs, in others but one, and the nectarium varied accordingly.

than those of the corolla; the two superior are narrow, small, erect, and at the base drawn out into spurs like that of the petal, in which they are both inclosed; the other two are roundish, and plaited at the edges: the filaments are about twenty, short, tapering, and crowned with large yellow antheræ: the germens are three, closely compressing each other, tapering, very downy, and supplied with filiform short styles, terminated by simple stigmata: the three capsules are straight, oblong, tapering, and contain many rough, brown, triangular seeds.

Stavesacre, which is a native of the southern parts of Europe, was cultivated here in the time of Gerard:[b] it is a handsome plant, though less beautiful than many of the other species of Larkspur.

The seeds, which are the only part of the plant directed for medicinal use, are usually imported here from Italy; they are large, rough, of an irregular triangular figure, and of a blackish colour on the outside, but yellowish within; their smell is disagreeable, and somewhat fetid; to the taste they are very bitter, acrid, and nauseous. Their virtues are extracted partially by water, and completely by rectified spirit.

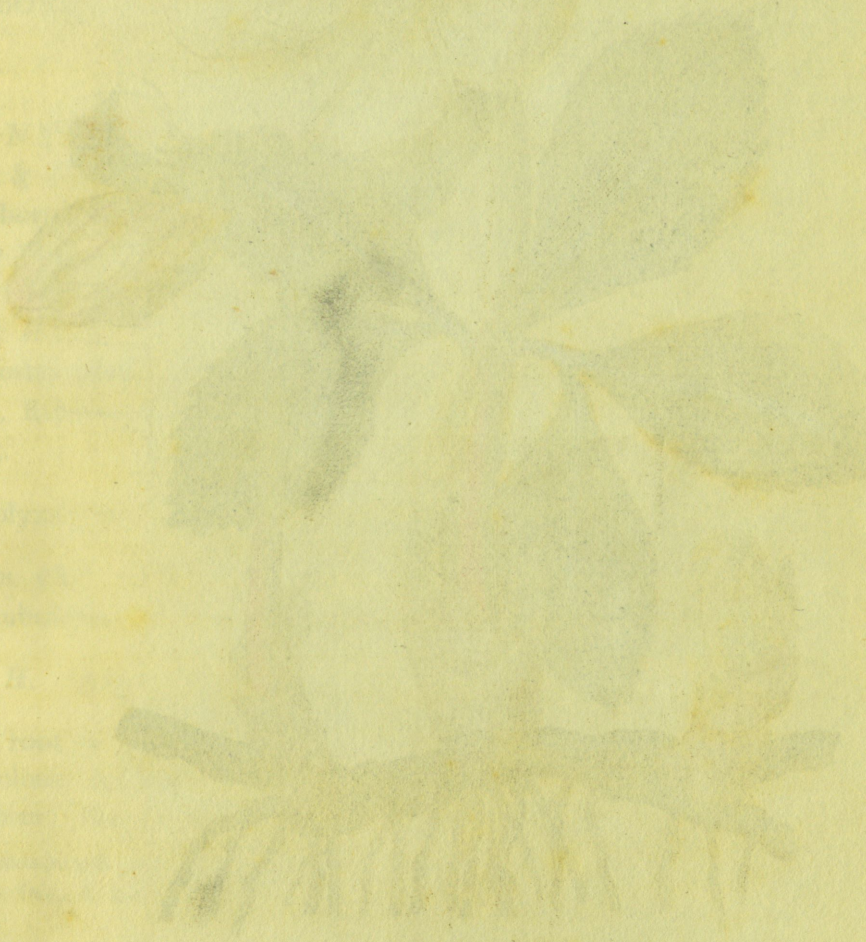
These seeds seem to have been known to the ancients,[c] by whom they were employed as a masticatory, for on being chewed they excite a copious flow of saliva, and on this account were recommended in tooth-achs, and other painful affections of the face and gums. The ancients also prescribed them with a view to their emetic and cathartic effects in doses of ten or fifteen grains:[d] but the deleterious narcotic qualities of Stavesacre were discovered to be so powerful as to forbid its internal use. Schultz, only by keeping it some time in his mouth, to relieve a tooth-ach, was for a time deprived of his senses;[e] and Hillefeld has related, that a dog, by taking five scruples of these seeds, became convulsed, and

[b] In 1596. Vide *Aiton's Hort. Kew.*

[c] Σταφις ἀγρια Dios. eadem videtur, licet Glasti flores adscribat. *Murr. App. Med. vol. iii. p.* 32.

[d] Vide *Dioscor. & De la Boe Sylvius. De purg. &c.*

[e] See his *Mat. Med. p.* 435.





Helleborus niger.

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PRESTON INSTITUTION 1828

soon died.[f] Stavesacre is now therefore confined to external use in some kinds of cutaneous eruption, but more especially for destroying lice and other insects; and by its efficacy in this way, this plant, in most of the European languages, is distinguished by the mame of Louse-wort.

[f] *Diss. de Venen. p.* 20.

HELLEBORUS NIGER. BLACK HELLEBORE, Or, CHRISTMAS ROSE.

SYNONYMA. Helleborus Niger, seu Melampodium.[a] *Pharm. Lond. & Edin.* Helleborus Niger legitimus. *Clus. Hist.* 274. Helleborus Niger flore roseo. *Bauh. Pin.* 186. Helleborus Niger flore albo; interdum etiam valde rubente. *J. Bauh.* 3. 635. Helleborus Niger verus. *Gerard's Herb.* 975. *True Black Hellebore,* or Christmas Flower. *Raii Hist. Plant.* 697. An nostra planta sit Ελλεβορος μελας et Μελαμποδιον Græcor. et Helleborus, Elleborus, Veratrum, Latinorum, nihil certi pronunciari possit.

Class Polyandria. *Order* Polygynia. *L. Gen. Plant.* 702.

Ess. Gen. Ch. Cal. 0. *Petala* 5 s. plura. *Nectaria* bilabiata, tubulata. *Caps.* polyspermæ, erectiusculæ.

Sp. Ch. H. Scapo subbiflore subnudo, foliis pedatis.

THE root is perennial, rough, knotted, and externally of a black colour, internally whitish, sending off many strong round long fibres; the flower stalks are erect, round, tapering, and

[a] A Melampo qui primus purgationem instituit: unde καθαρτης, id est purgator nominatus fuit, & hocce medicamento Prœti filias in furorem actas persanavit. Geoff.

towards the bottom reddish; the bracteal leaves supply the place of the calyx, and are oval, concave, and generally indented at the top; the petals are five, large, roundish, spreading, at first of a white colour, succeeded by reddish tints, but finally putting on a greenish appearance; the nectaria are about eight in number, tubulated, somewhat compressed, bilabiated, and of a greenish yellow colour; the filaments are white, the antheræ yellow; the germina vary, commonly from four to eight, and the capsules, or pods, contain many oval shining blackish seeds; the leaves are compound, divided in a peculiar manner, or pedated, and stand upon long radical footstalks; the simple leaf is elliptical, smooth, thick, and serrated towards the top. This plant is a native of Austria and Italy, and was unknown to the gardens in this country till cultivated by Mr. John Gerard in 1596. If the weather be sufficiently mild, it flowers in January, and hence the name of Christmas Flower.

If any arguments were required to evince the necessity of botanical accuracy in discriminating medicinal plants, the Helleborus Niger would furnish us with many facts from which such arguments might be deduced. For many instances are recorded of the effects of this plant, by which it since appears that other plants were mistaken for it, and actually employed; of these we may enumerate the Helleborus viridis, Adonis vernalis, Trollius europæus, Actæa spicata, Astrantia major, and Aconitum Napellus;[b] and as the roots of these plants possess very different powers, we cannot be surprised that the medical history of this root is not only confused and contradictory, but calculated to produce very mischievous and even fatal consequences.

The taste of the fresh root is bitterish, and somewhat acrid, and according to Grew, "being chewed, and for some time retained upon the tongue, after a few minuets it seemeth to be benumbed, and affected with a kind of paralytic stupor, or as when it has been

[b] Probably art, as well as ignorance, had some share in these substitutions; for the particulars of which see Murray's Ap. Med. vol. 3. from p. 44. to p. 50.

burnt with eating or supping any thing too hot."[c] It also emits a nauseous acrid smell, but being long kept, both its sensible qualities and medicinal activity suffer very considerable diminution. Bergius has very properly attended to this circumstance, for in defining its virtues he considers it under three different degrees of dryness:[d] "VIRTUS: *rec.* venenata, rubefaciens, vesicans; *recenter siccatæ:* emetica, purgans, emmenagoga, antiphthiriaca, sternutatoria; *diu conservatæ:* vix purgans, alterans, diuretica." Although many writers consider this root to be a perfectly innocent and safe medicine, yet we find several proofs of its poisonous effects,[e] from which Murray collects the following symptoms:—"Fateor, dispersas hinc inde extare observationes contrarias, querelas moveri de vomitionibus effrænis inde contractis, hypercatharsi, torminibus, anxietate, siti, singultu, animi deliquiis, sudoribus frigidis, faucium strangulatione, convulsionibus, sternutatione, torpore quodum artuum et insueta rigiditate, inflammatione ventriculi et intestinorum, quin morte pedissequa præviis variis dictis malis."

It seems to have been principally from its purgative quality that the ancients esteemed this root such a powerful remedy in maniacal disorders, with a view to evacuate the *atra bilis,* from which these mental diseases were supposed to be produced; but though evacuations be often found necessary in various cases of alienations of mind, yet as they can be procured with more certainty and safety by other medicines, this catholicon of antiquity

[c] On tastes, vide Anatomy of Plants, p. 283.

[d] Mat. Med. p. 496.

[e] Vide Doering De Medicina et Medicis, p. 242. Act. Helv. vol. 5. p. 326. Buchner Diss. de salut. et noxio Ellebori Nigri usu. p. 22. Hildanus Obs. Med. chir. cent. 4. obs. 12. Scopoli Fl. carn. ed. 1. p. 557. Morgagni de sed. & caus. morb. Epist. 59. art. 15. et Act. Helv. l. c. Hartman Vet. Acad. Handl. a 1762. p. 276. Schultz Mat. Med. p. 152.

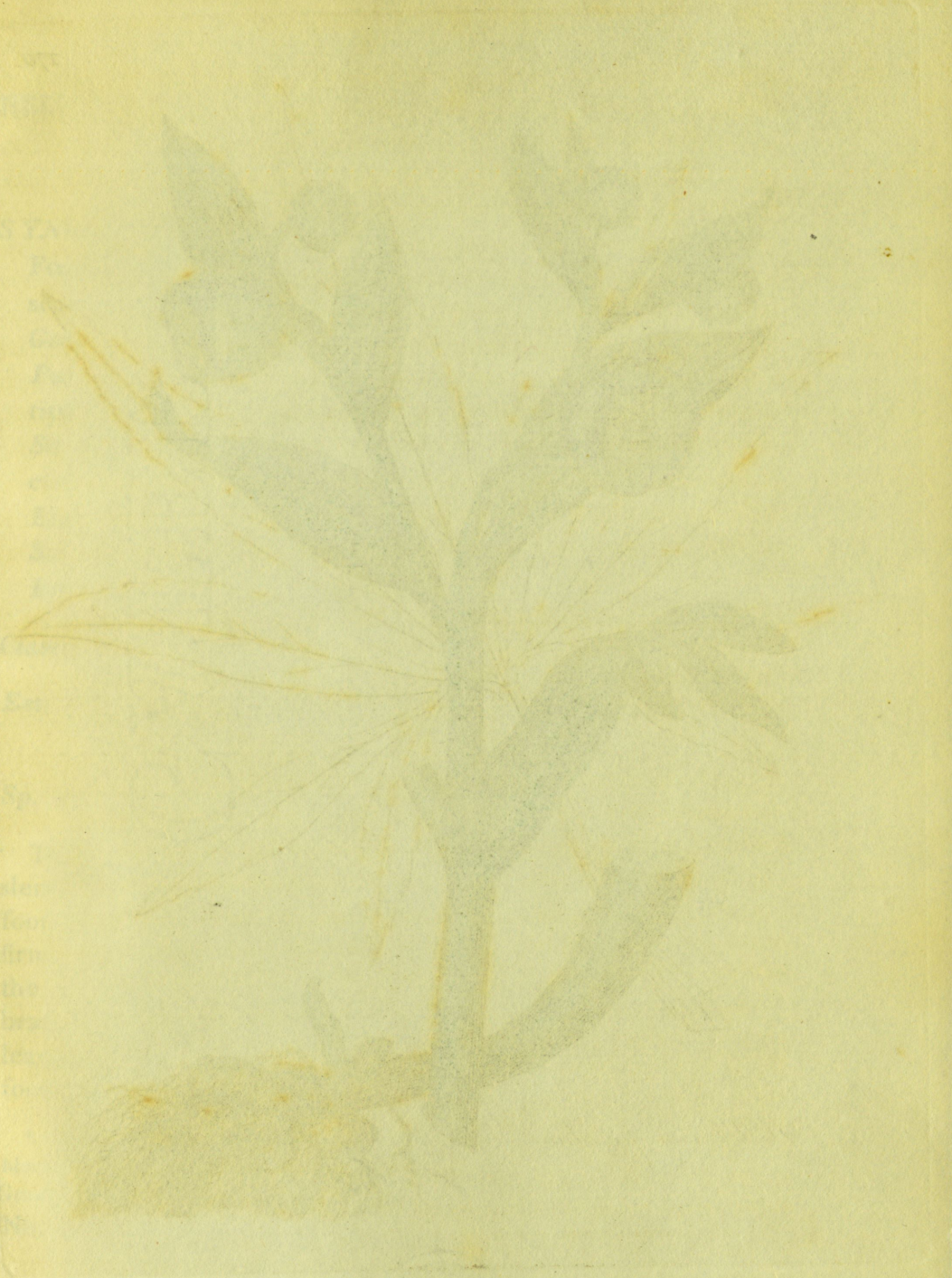
is now almost entirely abandoned.[f] At present it is looked upon chiefly as an alterative, and in this light is frequently employed in small doses for attenuating viscid humours, promoting the uterine and urinary discharges, and opening inveterate obstructions of the remoter glands:[g] it often proves a very powerful emmenagogue in plethoric habits, where steel is ineffectual, or improper.[h] It is also recommended in dropsies,[i] and some cutaneous diseases.[k] The watery extract of this root, made after the manner directed in the pharmacopœias, is one of the best and safest preparations of it,[l] when designed for a cathartic, as it contains both the purgative and diuretic parts of the Hellebore; it may be given in a dose from ten grains to a scruple, or more. A tincture of this drug is also ordered in the pharmacopœias, which is preferred for the purposes of an alterative and deobstruent; of which a tea-spoonful twice a day may be considered as a common dose.

[f] Whether our Hellebore be the same species as that said to grow in the island of Anticyra, and about Mount Olympus, so frequently alluded to by the Latin poets, is no easy matter to determine. From the accounts of Tournefort and Bellonius, who botanized these places, a species of this plant was found in great plenty, which the former supposes to be the Hellebore of Hippocrates; it differs from the species here figured, by having a large branched stem, and also by its effects, for he found that a scruple of the extract brought on violent spasms and convulsions. Many plants however are known to vary as much by a removal from their native soil and climate.

[g] Duncan's Ed. New Dispensatory. Lewis's Mat. Med.

[h] Mead, (mon. et præc. med. p. 138) speaks of it as the most potent of all emmenagogues; but Home (clin. exper. & hist. p. 836) and Pasta (Dissertaz. mediche sopra i mestrui delle Donne, p. 192 found it often successful.

[i] By Avicenna, Gesner, Klein, Milman, and Bacher whose famous *tonic pills* are thus prepared: ℞ Ext. Helleb. Nig. Myrrhæ Solutæ aa ʒj pulv. Card. bened. ʒiij M. F. s. a. Massa aëre sicco exsiccanda, donec formandis pilulis apta sit, singul. ad gran. semiss. [k] In the lepra Græcorum. Vide Aretæus Oper. ed. Boerh. p. 136. Schmidel Diss. de lepra in Haller's collect. Disp. pract. T. 6. p. 83. And Hildanus mentions the case of a girl who was cured of an obstinate scabies of the face by this extract. l. c. [l] The irritating power of its active matter being considerably abated by the boiling. Lewis's M. M.





Helleborus fœtidus

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PRESTON INSTITUTION 1828

HELLEBORUS FOETIDUS. FETID HELLEBORE, Or, BEAR'S-FOOT.

SYNONYMA. Helleboraster. Pharm. Lond. Helleborus Niger Fœtidus. *Bauh. Pin.* 185. Helleboraster maximus flore & semine prægnans. *Lobel.* p. 679. Helleboraster maximus. *Gerard. Herb.* p. 977. Helleborus maximus sive Consiligo. *Park.* t. 212. Helleborus caule ramoso, multifloro, foliis multipartitis, serratis, stipulis ovato-lanceolatis, coloratis. *Haller's Stirp. Helv.* p. 1193. Elleborus niger sylvestris adulterinus etiam hyeme virens. *J. Bauh.* 3. p. 880. Veratrum nigrum 3. *Dodon. Pempt.* 382. *Great Black Hellebore,* or Bear's Foot. *Setterwort, Raii Synopsis,* p. 271. *Withering's Bot. Arrang.* 582. *Relhan's Flor. Cant.* p. 218.

Class Polyandria. *Ord.* Polygynia. *L. Gen. Plant.* 702.

Ess. Gen. Ch. Cal. 0. *Petala* 5 s. plura. *Nectaria* bilabiata, tubulata. *Caps.* polyspermæ, erectiusculæ.

Sp. Ch. H. caule multifloro folioso, foliis pedatis.

THE root is small, but beset with a prodigious number of slender dark coloured fibres;[a] the stem rises to the height of a foot and a half, or more, towards the bottom it is round, strong, firm, naked, and marked with alternate cicatrices, the vestiges of the former leaves; at the top it divides and subdivides into branches, producing many flowers, and is garnished with scaly leaves, or bracteæ; the leaves are numerous, and stand upon long footstalks, surrounding the middle of the stem; they are divided

[a] Gerard's description we find very just. "The root consisteth of many small black strings, involved or wrapped one within another very intricately." Johnson's Gerard, 977.

like the Helleborus niger into simple leaves, which are commonly eight or nine, long, narrow, lanceolated, serrated, and of a dark green colour; the scaly leaves, placed at the ramifications of the flower stem, are smooth, trifid, alternate, and often purplish, but those near the flowers are oval and pointed; the flowers are numerous, terminal, pendent, of a roundish shape, and stand upon peduncles, forming a sort of umbel; the petals are five, oval, concave, persistent, of a pale green colour, and their margins are usually tinged with purple; the stamina are the length of the petals; the antheræ are white; the germina three, hairy, and shaped similarly to those of the Helleborus niger. This plant grows wild in many parts of England, and flowers about February.

The Helleborus niger, though constantly used in medicine since the time of Hippocrates, was the only species of Hellebore[b] known in the Materia Medica of our pharmacopœias, till the late introduction of this plant by the London College, probably upon the authority of Dr. Bisset, who recommends the leaves as possessing extraordinary anthelminthic powers. The smell of the recent plant is extremely fetid, and the taste is bitter, and remarkably acrid, insomuch, that when chewed, it excoriates the mouth and fauces; it commonly operates as a cathartic, sometimes as an emetic, and in large doses proves highly deleterious.[c] The leaves, the only part noticed by the College, have been long domestically employed in this country for their vermifuge effects, and are thus spoken of by Gerard:—"The leaves of bastard Hellebor, dried in an oven, after the bread is drawne out, and the pouder thereof taken in a figge or raisin, or strawed upon a piece of bread spread with honey, and eaten, killeth worms in children exceedingly."[d] Bisset says, "The great bastard black Hellebore, or Bear's-Foot,

[b] It must be observed, that the Helleborus Albus of the shops, is a Veratrum.

[c] Vide Threlkeld's Irish Herbal; and in the Oxford Magazine for March 1769, p. 99. fatal cases are related by John Cook of Oxford.

[d] Gerard l. c.

is by far the most powerful vermifuge for long round worms of any I have yet experienced. The anthelminthic virtue of this plant is well known to the vulgar in the Dutchy of Cleveland, Yorkshire, who generally give it to their children when they suspect them to have worms. The decoction of about a dram of the green leaves, or about fifteen grains of the dried leaves in powder, is the usual dose administered to children betwixt four and seven years of age; a full or sufficient dose generally proves more or less emetic, and often loosens the belly a little. It is usually repeated on two, and sometimes three successive mornings. The second dose has commonly a greater effect than the first, and never fails to expel round worms by stool, if there be any lodged in the alimentary tube."

" The juice of the green leaves of the Bear's-Foot, made into a syrup with coarse sugar, is almost the only vermifuge I have used against round worms for three years past. Before pressing out the juice, I moisten the bruised leaves, which are a little succulent, with some vinegar, which is a corrector of this medicine, and prevents it from inducing great sickness, or much vomiting. Of this syrup I give one tea-spoonful at bed-time, and one or two in the morning, on two or three successive days, to children betwixt two and six years of age; increasing or diminishing the dose a little, according to the strength of the patient." [c] When this does not open the body, an equal quantity of tincture of rhubarb is directed to be added.

[c] An essay on the Medical Constitution of Great Britain, p. 235. and p. 339. Dr. B. speaks of this plant as useful also in some asthmatic and hypochondriacal disorders.

We have tried the anthelminthic effects of this plant upon a girl of twenty years of age, (a patient in the Middlesex Dispensary) with considerable advantage.

CLEMATIS RECTA. UPRIGHT VIRGIN's BOWER.

SYNONYMA. Flammula Jovis. *Pharm. Edinb.* Flammula recta. *Bauh. Pin. p.* 300. Clematis sive Flammula surrecta alba. *J. Bauh. Hist. vol. ii. p.* 127. Flammula Jovis surrecta. *Gerard. Emac. p.* 888. *Park. Theat. p.* 382. *Raii Hist. p.* 621. *sp.* 4. Clematis caule erecto, foliis pinnatis ovato-lanceolatis, *Hal. Stirp. Helv. n.* 1144. *Flor. Aust. tab.* 291. *Stoerck Libell. de Flam. Jovis, tab.* 1.

Class Polyandria. *Ord.* Polygynia. *Lin. Gen. Plant.* 696.

Ess. Gen. Ch. Cal. 0. *Petala* 4—6. *Sem.* caudata.

Sp. Ch. C. foliis pinnatis: foliolis ovato-lanceolatis integerrimis, caule erecto, floribus pentapetalis tetrapetalisque.

THE root is perennial, white, and fibrous: the stalk is erect, scored, round, smooth, branched towards the top, and rises about two feet in height: the leaves are opposite, and pinnated, the pinnæ are placed in pairs, and terminated by an odd one; they are all ovally lance-shaped, acute, entire, smooth, and veined. The flowers terminate the stem and branches in irregular umbels: there is no calyx: the petals are four or five, of an oval shape, and whitish colour: the filaments are numerous, erect, tapering, shorter than the petals, and terminated by the antheræ, which are scored on each side: the germina are many, roundish, hairy, and support bearded styles, of the length of the stamina, and crowned with obtuse stigmata: the seeds are roundish, compressed, and attached to the styles, which appear like long feathered tails; and hence the name, sem. *caudata.*



Clematis recta

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This plant is a native of Hungary, Austria, and France, and flowers from June till August: it was first cultivated in England by Gerard, previous to the year 1597, and is now sufficiently known to the British gardeners. This, like some other species of the clematis, is extremely acrid, and hence the name Flammula. The recent leaves, upon being chewed, excite a burning heat of the tongue and fauces, and if retained long in the mouth, produce blisters and ulceration; but, by drying, this acrimony is considerably diminished: the flowers likewise possess a share of acrimony, though in a less degree. The Flammula Jovis, although mentioned by Dale and some others as an external remedy, was first recommended to the attention of practitioners by Baron Stoerck in 1769, as an useful medicine in many obstinate complaints.‡ He published several cases of its successful exhibition, particularly in inveterate syphilitic diseases producing head-aches, pains in the bones, nodes, ulcers, cutaneous affections, &c.*

Whether this plant really deserves the character which the Baron has thus attempted to establish, by stating its uniform success in twenty-two cases out of twenty-four, in which it was tried, rests solely upon his own authority; and it is with concern we observe, that the medical facts at Vienna are not very confidently received by the physicians in this country. It was usual for Dr. Stoerck to employ the leaves and flowers, as well as an extract prepared from the former, yet the preparation which he chiefly recommends is an infusion of two or three drams of the leaves in a pint of boiling water; of which he gave four ounces three times a day, while the powdered leaves were applied as an escharotic to the ulcers.

‡ Although these were principally venereal, yet in ulcers, cancers, and severe head-aches, not proceeding from this cause, the Flammula Jovis is said to have been likewise successful; and in his Lib. de Pulsat. p. 57. we are told of its remarkable efficacy in a case of melancholia tristissima. It generally acted as a diuretic or diaphoretic.

* Vide *Libell. de Flammula Jovis.*

RANUNCULUS ACRIS — UPRIGHT MEADOW CROWFOOT.

SYNONYMA. Ranunculus pratensis. *Pharm. Murray. iii.* 75. Ranunculus foliis hirsutis semitrilobis, lobis lateralibus bipartitis, foliis caulinis semitrilobis. *Hall. Stirp. Helv. n.* 1169. Ranunculus pratensis erectus acris. *Bauh. Pin.* 178. *Ger. Emac.* 951. *Park. Theat.* 329. *Ray. Synop.* 248. R. acris. *Huds. Flor. Ang.* 211. *Withering Bot. Arr.* 576. *Scop. Flor. Carniol.* 398. *Ic. Curt. Flor. Lond.*

Polyandria Polygynia. *Lin. Gen. Plant.* 699.

Gen. Ch. *Cal.* 5-phyllus. *Petala* 5 intra ungues poro mellifero. *Sem.* nuda.

Sp. Ch. R. calycibus patulis, pedunculis teretibus, foliis tripartitomultifidis, summis linearibus.

ROOT perennial, consisting entirely of long white slender fibres. Stalk erect, branched near the top, round, hairy, about two feet in height. Leaves on long upright footstalks, trifid, subdividing into smaller laciniated lobes, marked beneath with small prominent reticulated veins: at the base of the peduncles, the leaves are simple, linear, and fringed with hairs. Flowers yellow, terminal, on long round hairy peduncles. Calyx of five leaves, which are ovate, spreading, hairy, yellowish. Corolla of five petals, yellow, shining, heart-shaped, commonly notched at the top. Filaments numerous, short, furnished with yellow inclining antheræ. Nectarium, a small scale at the base of each petal. Germina numerous, forming an orbicular head. Styles none. Stigmata reflexed. Seeds numerous, roundish, of a brown colour.



Ranunculus acris

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It is a native of meadows and moist pastures, flowering in June and July.

The great acrimony of this, and many of the other species of Ranunculus, is such, that on being applied to the skin they excite itching, redness, and inflammation, and even produce blisters, tumefaction, and ulceration of the part. On being chewed they corrode the tongue; and, if taken into the stomach, bring on all the deleterious effects of an acrid poison.

The corrosive acrimony, which this family of plants possesses was not unknown to the ancients, as appears from the writings of Dioscorides; but its nature and extent had never been investigated by experiments before those instituted by C. Krapf[a] at Vienna, by which we learn that the most virulent of the Linnean species of Ranunculus are the bulbosus, sceleratus, acris, avensis, thora, and illyricus. The effects of these were tried either upon himself, or upon dogs, and show, that the acrimony of the different species is often confined to certain parts of the plant, manifesting itself either in the roots, stalks, leaves, flowers, or buds: the expressed juice, extract, decoction, and infusion of these plants were also subjected to experiments.

In addition to these species, mentioned by Krapf, we may also notice the R. Flammula, and especially the R. Alpestris, which, according to Haller, is the most acrid of this genus. However, as the species here delineated is a common English plant, and possesses this active principle diffused in a very considerable degree throughout the whole herb, it has been judged proper to select it for this work as a sufficient example and representative of the whole tribe.

Mr. Curtis observes that even pulling up this plant, and carrying

[a] Vide *Experimenta de nonnullorum Ranunculorum venenata qualitate, horum externo et interno usu.* 1766.

The R. sceleratus seems more corrosive than the R. acris; and we are told by Dr. Withering, that "beggars are said to use it to ulcerate their feet, which they expose in that state to excite compassion."

it to some little distance, excited a considerable inflammation in the palm of the hand in which it was held.

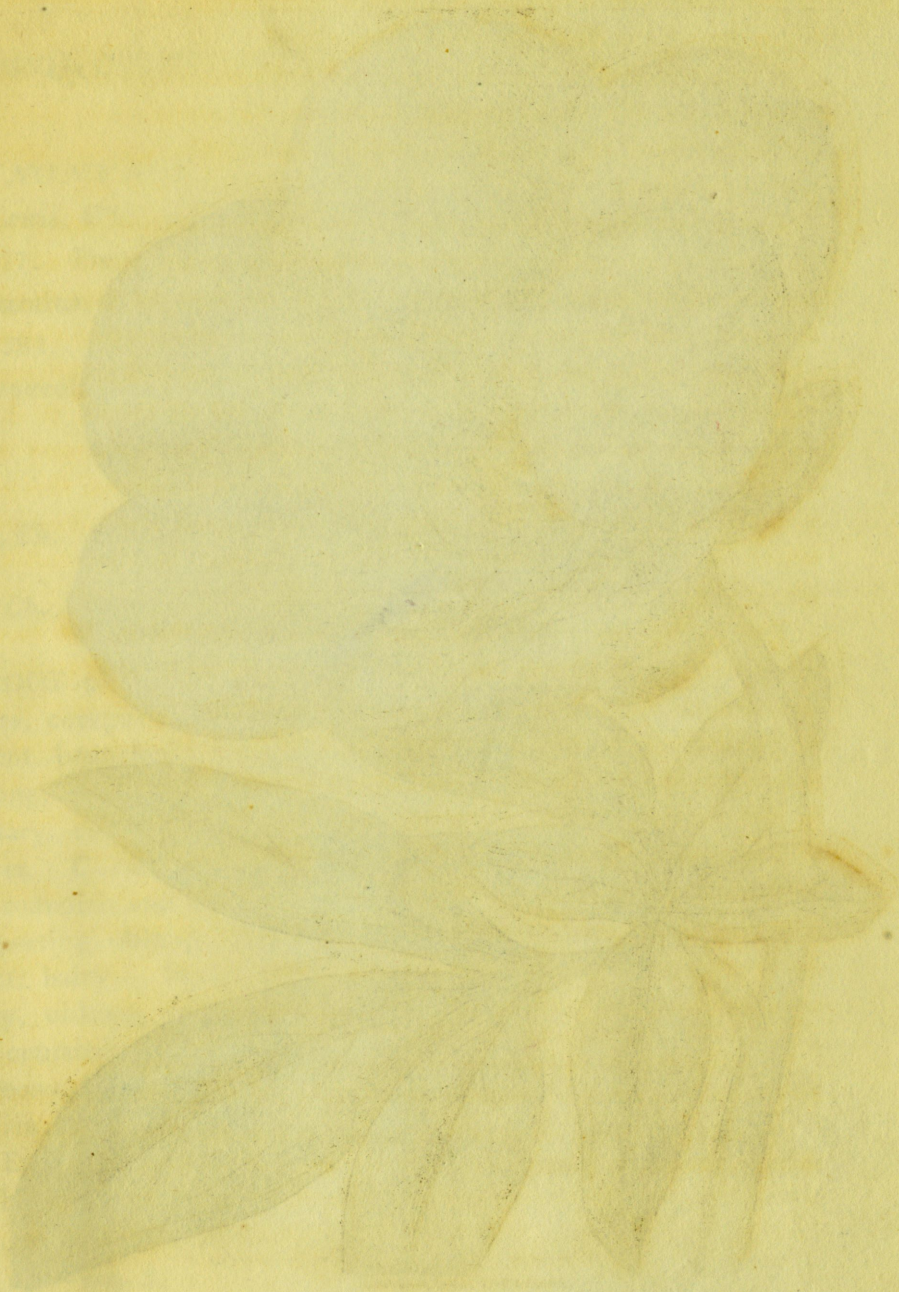
It is necessary to remark, that the acrimonious quality of these plants is not of a fixed nature; for it may be completely dissipated by heat; and the plant on being thoroughly dried, becomes perfectly bland.

Krapf attempted to counteract this venomous acrimony of the Ranunculus by means of various other vegetables, none of which was found to answer the purpose, though he thought that the juice of sorrel, and that of unripe currants, had some effect in this way; yet these were much less availing than water; while vinegar, honey, sugar, wine, spirit, mineral acids, oil of tartar, p. d. and other sapid substances manifestly rendered the acrimony more corrosive. It may be also noticed, that the virulency of this plant, as well as of most others, depends much upon the situation in which they grow, and is greatly diminished in the cultivated plant.

This and some other species of Ranunculus have, for medical purposes, been chiefly employed externally as a vesicatory, and are said to have the advantage of a common blistering plaster, in producing a quicker effect, and never causing stranguary. But, on the other hand, it has been observed, that the Ranunculus is less certain in its operation, and that it sometimes occasions ulcers, which prove very troublesome and difficult to heal. Therefore their use seems to be applicable only to certain fixed pains,[b] and such complaints as require a long continued topical stimulus, or discharge from the part, in the way of an issue, which in various cases has been found to be a powerful remedy.

[b] Cases of its success in chronic rheumatism, and other complaints, are related by Chesnau *(obs. med.)* Bagliv. *(oper. p.* 113.) Stoerck *(ann. med. ii. p.* 125.)

The manner of using the plant is to bruise it in a mortar, and to apply it to the skin as a poultice or plaster.





Paeonia officinalis.

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PÆONIA OFFICINALIS. COMMON PEONY.

SYNONYMA. Pæonia. *Pharm. Dale.* 175. *Alston. i.* 485. *Lewis.* 470. *Edinb. New Disp.* 246. *Murray. iii.* 37. *Bergius.* 477. Pæonia folio nigricante splendido, quæ mas—et. Pæonia fœmina, &c. *Bauh. Pin.* 323. *Ger. Emac.* 980. *Park. Theat.* 1381. *Ray. Hist.* 693. Pæonia foliis lobatis ex ovato-lanceolatis. *Hall. Helv. Miller. Dict. Ic. Mill. Illust.*

Polyandria Digynia. *Lin. Gen. Plant.* 678.

Gen. Ch. *Cal.* 5-phyllus. *Petala* 5. *Styli* 0. *Caps.* polyspermæ.

Sp. Ch. P. foliolis oblongis.

ROOT perennial, large, knobby, externally brown, internally white, compact. Stalks two feet in height, thick, smooth, succulent, branched. Leaves pinnated, or cut into lobes, which are oblong, few, terminated by an odd one. Flowers large, terminal, solitary, red. Calyx composed of five unequal ovate concave leaves. Corolla naturally consisting of five large petals, which are roundish and concave. Filaments about thirty, short, slender, supporting oblong quadrangular antheræ. Germina two, ovate, erect, hairy. Styles none. Stigmata hooked. Capsules two, hairy, oblong, inclining outwardly, single-celled, single-valved, and containing numerous small seeds.

Peony is a native of Switzerland: it has been cultivated in Britain since the time of Turner, and is now a common plant in the English gardens, where it flowers in May and June.

This plant has long been considered as a powerful medicine; and, till the late revision of the Pharmacopœia by the London



Ruta graveolens.

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PRESTON INSTITUTION 1828

Epileptics at the Edinburgh Infirmary, declares that one received a temporary advantage from its use.[c]

Of the good effects of this plant in other disorders we find no instances recorded.

[c] See *Clinical Experiments, &c. p.* 209.

RUTA GRAVEOLENS. COMMON RUE.

SYNONYMA. Ruta. *Pharm. Lond. & Edinb.* Ruta hortensis. *Gerard. Emac.* p. 1255. Ruta hortensis major. *Park. Theat.* p. 132. Ruta sativa vel hortensis. *Bauh. Hist.* iii. p. 197. Ruta hortensis latifolia. *Bauh. Pin.* p. 336. *Raii. Hist.* p. 874. Ruta foliis duplicato-pinnatis, lobulis ovatis. *Hal. Stirp. Helv.* No. 1003. Ρυτη *seu* Πηγανον *Græc.*

Class Decandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 523.

Ess. Gen. Ch. *Cal.* 5-partitus. *Petala* concava. *Receptac.* punctis melliferis decem cinctum. *Caps* lobata. *Quinta pars numeri in quibusdam excluditur.*

Sp. Ch. R. foliis decompositis, floribus lateralibus quadrifidis.

THE root sends forth several shrubby stalks, which towards the bottom are strong, woody, and covered with rough, grey, striated bark; the upper or young branches are smooth, and of a pale green colour: the leaves are compound, consisting of double sets of irregular pinnæ, which are minutely notched or crenulated, of an obversely oval shape, and of a glaucous or bluish green colour: the flowers are numerous, and produced in a branched corymbus on subdividing peduncles: the calyx commonly divides into four and sometimes into five pointed leaves; the corolla con-

sists of four and frequently of five petals, these are hollow or boat-shaped, dentated or fringed at the edges, and of a yellow colour; the ten filaments are yellow, tapering, spreading, and generally lodged in the cavity of the petals; the antheræ are yellow and quadrangular; the style is short; the stigma is simple; and the germen is large, oval, green, rough, and marked by four longitudinal furrows; the seeds are angular, rough, and of a blackish colour. The shrub is a native of the South of Europe, and flowers in June and September.

The first account we have of the cultivation of Rue in Britain, is given by Turner, who published his Herbal in 1562.[a] It is now extremely common in our gardens, where it retains its verdure the whole year. Rue has a strong ungrateful smell, and a bitter, hot, penetrating taste; the leaves are so acrid, that by much handling they are said to irritate and inflame the skin; and the plant, in its natural or uncultivated state, is reported to possess these sensible qualities still more powerfully. Both water and rectified spirit extract its virtues, but the latter more perfectly than the former.*

Rue was much used by the ancients, who ascribed to it many virtues. Hippocrates commends it as a resolvent and diuretic, and attributes to it the power of resisting the action of contagion, and other kinds of poisons, and with this intention it was used by Mithridates:[b] this imaginary quality ‡ of the Ruta, is now however

[a] Vide Hort. Kew.

* From the experiments of Beaumé it appears, that the recent plant contains but a very small portion of essential oil: thus from 21 lb. of the leaves he scarcely obtained a dram, while 10 lb. of the seeds yielded two ounces. Berg. M. M. p. 350.

[b] In sanctuariis Mithridatis maximi regis devicti, Cn. Pompeius invenit, in peculiari commentario ipsius manu, compositionem antidoti, e duabus nucibus siccis, item ficis totidem & rutæ foliis viginti simul tritis, addito salis grano: & qui hoc jejunus sumat, nullum venenum nociturum illo die. Plin. L. 23. c. 8. p. 604.

‡ "One virtue particularly ascribed to Rue, that of resisting contagion, or of expelling it when taken in, I hold to be absolutely without foundation."—Cullen M. M. v. ii. p. 365.

very little credited, though so highly extolled by Boerhaave.[c] According to Bergius it is "alexiteria, pellens, emmenagoga, sudorifera, rubifaciens." It is doubtless a powerful stimulant, and may be considered, like other medicines of the fetid kind, to have attenuating, deobstruent, and antispasmodic powers,[d] and to be more peculiarly adapted to phlegmatic habits, or weak and hysterical constitutions, suffering from retarded or obstructed secretions. In the London Pharm. Ruta is directed in the form of an extract, and it is also an ingredient in the Pulvis e myrrha compositus. By some it is employed in the way of tea.

[c] The opinion formerly entertained of this plant, may be collected from the Schola Salernitana, in which its virtues are thus celebrated. c. 37. p. 427.

Nobilis est ruta, quia lumina reddit acuta;
Auxilio rutæ, vir lippe videbis acute;
Cruda comesta recens, oculos caligine purgat.
Ruta viris minuit Venerem, mulieribus addit.
Ruta facit castum, dat lumen, & ingerit astum.
Cocta & facit ruta de publicibus loca tuta.

[d] "I have no doubt in asserting its antispasmodic powers." Cullen M. M. v. ii. p. 365.

The following are the remaining medicinal plants of this order which we have not thought sufficiently important to require any particular consideration:

Systematic Names.	Officinal.	English.
Aquilegia vulgaris	Aquilegia	Columbine
Aconitum Anthora	Anthora	Wholesome Woolf's-bane
Delphinium Consolida	Consolida regalis	Branched Larkspur
Nigella sativa	Nigella	Fennel-flower
Ranunculus sceleratus	R. palustris	Marsh Crowfoot
——— Flammula	Flammula	Spearwort Crowfoot
——— bulbosus	R. bulbosus	Bulbou Crowfoot
——— Ficaria	Chelidonium minus	Pilewort Crowfoot
Anemone nemorosa	Ranunculus albus	Wood Anemone
——— Hepatica	Hepatica nobilis	Blue Hepatica
Thalictrum flavum	Thalictrum	Meadow Rue

ORD. XXVII. SENTICOSÆ.

(From *Sentis*, a Briar or Bramble.)

Spinous or rough Plants.

POTENTILLA REPTANS. COMMON CINQUEFOIL.

SYNONYMA. Pentaphyllum. *Pharm. Lond.* Quinquefolium majus repens. *Bauh. Pin. p.* 325. Quinquefolium vulgare. *Gerard. Emac. p.* 987. Pentaphyllum vulgatissimum. *Park. Theat. p.* 398. *Raii Hist. p.* 611. *Synop. p.* 255. *J. Bauh. Hist. p.* 397. Fragara foliis quinatis, serratis, petiolis unifloris, caule reptante. *Hal. Stirp. Helv. n.* 1118. *Withering. Bot. Arrang. p.* 534. *Curtis Flor. Lond.*

Class Icosandria. *Ord.* Polygynia. *Lin. Gen. Plant.* 634.

Ess. Gen. Ch. *Cal.* 10-fidus. *Petala* 5. *Sem.* subrotunda, nuda, receptaculo parvo ex succo affixa.

Sp. Ch. P. foliis quinatis, caule repente, pedunculis unifloris.

THE root is perennial, long, tapering, or fusiform, furnished with but few fibres, internally reddish, and externally of a yellowish brown colour: the stalks are numerous, slender, purplish, smooth, and creeping: the leaves are quinate, or five,



Potentilla reptans

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placed together, and sometimes seven, of unequal size, elliptical, obtuse, serrated, veined, somewhat hairy, and sitting close to the common footstalk, which is of considerable length, and rises from the stoloniferous joints of the stem: the stipulæ stand in pairs, and are composed of three ovalish seeds: the flowers are yellow, and placed singly upon long slender peduncles: the corolla consists of five petals, which are inversely heart-shaped, of a bright yellow colour, and inserted into the calyx by short claws: the calyx is a perianthium of one leaf, divided into ten pointed segments, which are alternately smaller, and frequently turned back: the filaments are about twenty, short, tapering, and inserted at the glandular base of the calyx, and crowned by oblong, flattish, double-celled yellow antheræ: the germina are numerous, and form a conical head, supporting short styles, terminated by blunt stigmata: the seeds are numerous, small, and of a brown colour. It flowers from July till September, and is common on meadow banks, and on the sides of roads.

The roots of this plant have a bitterish styptic taste, and give out their astringent matter both to water and spirit. They were used by Hippocrates and Dioscorides, and by the former particularly recommended for the cure of intermittents.[a] And Ray tells us, that the peasantry still employ them with this intention.[b] The medicinal quality of Cinquefoil is confined to the external or cortical part of the root, and depends merely upon its astringent effects; it has therefore been chiefly prescribed internally in diarrhœas and other fluxes, and externally in gargles and astringent lotions: but as its efficacy is much inferior to many other plants of this class, the Cinquefoil is now rarely used. In large doses, however, it may be found no bad substitute for some of the other astringents.

[a] *De Morb. l.* 2. *p.* 473. Fëos.

[b] *Hist. Plant. p. c.* See also Senac *de recond. febr. interm. nat. p.* 185.

RUBUS IDÆUS. RASPBERRY BUSH.

SYNONYMA. Rubus idæus. *Pharm. Lond.* Rubus idæus spinosus fructu rubro. *J. Bauh. Hist. vol. ii. p.* 59. *Raii Hist. p.* 1640. *Synop. p.* 467. Rubus caule spinoso, subrecto, foliis quinatis et ternatis, subtus tomentosis, fructibus hirsutis. *Hall. Stirp. Helv. no.* 1108. Rubus idæus. *Gerard, Emac. p.* 1272. *Park. Theat. p.* 557. *Huds. Ang. p.* 219. *Lightf. Scot. p.* 263. *Withering. Bot. Arrang. p.* 525. *Flor. Dan.* 788. α Red Raspberry. β White Raspberry. γ Smooth Raspberry. *Aiton. Hort. Kew.*

Class Icosandria. *Ord.* Polygynia. *Lin. Gen. Plant.* 632.

Ess. Gen. Ch. Cal. 5-fidus. *Petala.* 5. *Bacca* composita: acinis monospermia.

Sp. Ch. R. foliis quinato-pinnatis ternatisque, caule aculeato, petiolis canaliculatis.

THE stems of the Raspberry are biennial, rough, beset with spines, and rise two or three feet in height: the leaves are rough, veined, serrated, downy on the underside, and composed of five or three pair of oval pinnæ, terminated by an odd one: the flowers terminate the branches in pannicles, and appear in succession: the calyx is divided into five oblong expanding segments: the corolla consists of five petals, which are upright, blunt, narrow, white, and inserted into the calyx: the filaments are numerous, shorter than the petals, fixed to the calyx, and terminated with roundish compressed antheræ: the germens are numerous, and each supports a short capillary style, furnished with a simple permanent stigma: the fruit is a red berry, composed of several roundish granulations, collected into a knob,



Rubus idæus

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Rosa canina

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which is convex above, concave beneath, and placed upon a conical receptacle: each granulation has one cell, containing an oblong seed. It is a native of Britain, usually growing about woods, hedges, rocky mountains, and in moist situations, producing its flowers in May and June.

The Raspberry is very commonly cultivated in our gardens, where we frequently observe the varieties noticed above. The figure, which accompanies this description, is taken from a garden specimen, and consequently appears more luxuriant than when the Raspberry is found in its natural or uncultivated state. This fruit has a pleasant sweet taste, accompanied with a peculiarly grateful flavour, on account of which it is chiefly valued. Its virtues consist in allaying heat and thirst, and in promoting the natural excretions; but it seems less adapted to answer these purposes than many of the other summer fruits, some of which we have already noticed.

A grateful syrup, prepared from the juice, is directed for officinal use by the London Pharmacopœia.

ROSA CANINA. DOG ROSE, Or, HEP TREE.

SYNONYMA. Cynosbatus. *Pharm. Lond.* Rosa sylvestris vulgaris, flore odorato incarnato. *Bauh. Pin. p.* 483. Rosa sylvestris inodorata, seu canina. *Park. Theat. p.* 1017. *Raii Hist. p.* 1470. *Synop. p.* 454. *Gerard. Emac. p.* 1270. Rosa spinis aduncis, foliis septenis, calycibus tomentosis, segmentis pinnatis & semipinnatis tubis brevissimis. *Hal. Stirp. Helv.* 1101. Rosa canina. *Huds. Ang. p.* 219. *Lightf. Scot. p.* 262. *Ed.* 1789. *Withering. Bot. Arr. p.* 523. *Curt. Flor. Lond. Flor. Dan.* 555.

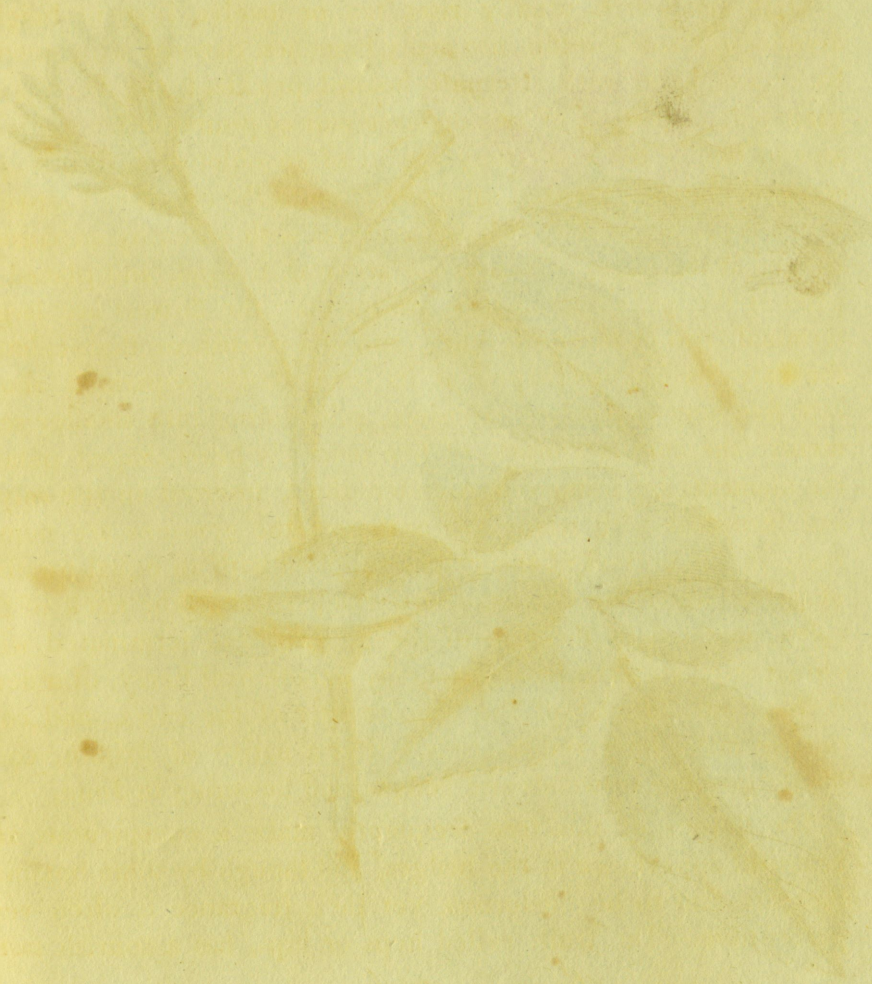
Class Icosandria. *Ord.* Polygynia. *Lin. Gen. Plant.* 631.

Ess. Gen. Ch. Petala. 5. *Cal.* urceolatus, 5-fidus, carnosus, collo coarctatus. *Sem.* plurima, hispida, calycis interiori affixa.

Sp. Ch. R. germinibus ovatis pedunculisque glabris, caule petiolisque aculeatis.

THIS small tree usually rises ten or twelve feet in height, dividing towards the top into many branches, covered with smooth bark, and beset with alternate hooked prickles: the leaves are pinnated, consisting of two or three pair of pinnæ or leafits, with an odd one at the end; they are all of an oblong or oval shape, serrated, veined, pointed, growing close to the common footstalk, which is prickly, and at its base furnished with a sheathy expansion fringed at the edges: the bracteæ are oval, fringed, and placed in pairs at the peduncles, which are smooth: the flowers are large, terminal, two or three together, and of a reddish or flesh-colour: the calyx is pitcher-shaped at its base, fleshy, separated above into five long expanding divisions, subdividing into smaller segments: the corolla consists of five inversely heart-shaped petals: the filaments are numerous, slender, short, inserted in the calyx, and furnished with triangular antheræ: the germens are numerous, in the bottom of the calyx, supplied with an equal number of styles, which are villous, short, compressed in the neck of the calyx, inserted in the side of the germen, and terminated with obtuse stigmata: the fruit is a fleshy smooth oval berry, of a deep flesh colour, formed of the tubular part of the calyx, and containing many long rough seeds. It is a native of Britain, commonly growing in woods and hedges, and flowering in June.

The flowers of this tree frequently make a conspicuous and beautiful appearance in the hedges, and though by some botanists they are said to be inodorous, yet their fragrance is often very perceptible. The fruit, called heps or hips, has a sourish taste,





Rosa centifolia

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PRESTON INSTITUTION 1828

and obtains a place in the London Pharmacopœia, in the form of a conserve; for this purpose the seeds and chaffy fibres are to be carefully removed; for if these prickly fibres are not entirely scraped off from the internal surface of the heps, the conserve is liable to produce considerable irritation on the primæ viæ. This officinal preparation of the fruit is not supposed to possess any medical virtue,[a] but it is agreeable to the taste, and well suited to give form to the more active articles of the Materia Medica.

[a] Formerly however it was esteemed useful in many disorders, as dropsies, calculous complaints, dysenteries, hæmorrhages, &c. See Herman, *Diss. de Rosa.* §. 11.

A moss-like prickly excrescence, called *Bedeguar*, *Rose sponge*, and by the French *Galle chevelue*, is frequently found upon the branches of this tree, and is the habitation of the insect *Cynips Rosæ*. This excrescence was formerly in great repute as a remedy for various diseases. See Gendornius, *Cynosbatologia*, *p.* 136. *sqq.*

ROSA CENTIFOLIA. HUNDRED-LEAVED ROSE.

SYNONYMA. Rosa damascena. *Pharm. Lond.* Rosa pallida. *Pharm. Edinb.* Rosa multiplex media. *Bauh. Pin. p.* 482. Rosa Hollandica sive Batava. *Gerard, Emac. p.* 1262. Rosa centifolia batavica. 11 *Clus. Hist. i. p.* 114.

The varieties of this species, according to Mr. Aiton, are

Dutch Hundred Leav'd Rose.
Blush Hundred Leav'd Rose.
Singleton's Hundred Leav'd Rose.
Burgundy Rose.
Single Velvet Rose.
Double Velvet Rose.
Sultan Rose.
Stepney Rose.
Garnet Rose.
Bishop Rose.
Lisbon Rose.

Class Icosandria. *Ord.* Polygynia. *Lin. Gen. Plant.* 631.

Ess. Gen. Ch. *Petala* 5. *Cal.* urceolatus, 5-fidus, carnosus, collo coarctatus. *Sem.* plurima, hispida, calycis interiori affixa.

Sp. Ch. R. germinibus ovatis pedunculisque hispidis, caule hispido aculeato, petiolis inermibus.

THIS species of Rose-bush commonly rises about five or six feet in height, and is numerously beset with short spines: the leaves are pinnated, consisting of two or three pair of pinnæ, with an odd one at the end; each pinna, or leafit, is oval, or rather egg-shaped, broad, serrated, pointed, veined, hairy, and closely attached to the common footstalk, which is rough, but without spines: the peduncles are covered with short bristly hairs: the flowers are large, commonly of a pale red colour, and the parts of inflorescence, which in their simple and natural state are similar to those described of R. canina, by the effects of cultivation, are forced into numerous petals, and are therefore to be considered as monstrosities.

Most of the Roses, though much cultivated in our gardens,* are far from being distinctly characterized. Those denominated varieties are extremely numerous, and often permanently uniform; and the specific differences, as hitherto pointed out, are in many respects so inadequate to the purpose of satisfactory discrimination, that it becomes a difficult matter to say, which are species, and which are varieties only. The London College, following Gerard and Parkinson, has still retained the name Rosa damascena; but the damask rose is another species, widely different from the centifolia, as appears from the descriptions given of it by Du Roi and Miller.

The petals are directed for medicinal use: they are of a pale red colour, and of a very fragrant odour; which to most people

* This species was cultivated by Gerard; but botanists have not been able to determine its native country.

is extremely agreeable, and therefore this and most of the other roses are much used as nosegays: we may remark however, that in some instances they have, under certain circumstances, produced alarming symptoms.[a] The petals "impart their odorous matter to watery liquors, both by infusion and distillation: six pounds of fresh roses impregnate, by distillation, a gallon or more of water strongly with their fine flavour. On distilling large quantities, there separates from the watery fluid a small portion of a fragrant butyraceous oil, which liquifies by heat and appears yellow, but concretes in the cold into a white mass: an hundred pounds of the flowers, according to the experiments of Tachenius and Hoffman, afforded scarcely half an ounce of oil."†

The smell of this oil exactly resembles that of the roses, and is therefore much used as a perfume.[b] It possesses very little pun-

[a] As sneezing, inflammation of the eyes, faintings, hysterical affections, abortion, &c. (Echtius, in *Adami vit. med. p.* 72.) Many other instances are related by Schenckius, *Obs. Med. rar. p.* 917. See also Nat. Curios. in various parts, cited by Murray, *App. Med. vol. iii. p.* 160. Persons confined in a close room, with a large quantity of roses, have been in danger of immediate extinction of life. *l. c.* From the experiments of Priestley and Ingenhousz this effect seems owing to the mephitic air, which these and most other odoriferous flowers exhale. See Exper. on Vegetables by Dr. Ingenhousz.

† *Lewis, M. M. p.* 541.

[b] The process for making Attar, or Essential Oil of Roses, so much esteemed as a perfume, is related in the *Asiatic Researches* by Colonel Polier, and is as follows:—Forty pounds of roses, with their calyces, are put into a still with 60lb. of water. The mass being well mixed, a gentle fire is put under the still; and when fumes begin to rise, the cap and pipe are properly fixed and luted. When the impregnated water begins to come over, the fire is lessened by gentle degrees, and the distillation continued until thirty pounds of water are come over, which is generally done in about four or five hours. This water is to be poured upon 40 lb. of fresh roses; and thence are to be drawn from 15 to 20lb. of distilled water, by the same process as before. It is then poured into pans of earthen ware, or of tinned metal, and left exposed to the fresh air for the night. The attar or essence will be found in the morning, congealed and swimming on the top of the water.

gency, and has been highly recommended for its cordial and analeptic qualities.[c] These flowers also contain a bitterish subsubstance, which is extracted by water along with the odorous principle, and remains entire in the decoction after the latter has been separated by distillation or evaporation.[d] This fixed sapid matter of the petals manifests a purgative quality, and it is on this account that the flowers are received in the Materia Medica.

The pharmacopœias direct a syrup to be prepared of this rose, which in doses of a spoonful is found to be pleasant and useful as a laxative for children, or to obviate costiveness in adults. The simple distilled rose-water seems to have nothing but its fragrance to recommend it.

[c] *F. Hoffman, Obs. phys. chem. p.* 21. [d] *Lewis, l. c.*

ROSA GALLICA. RED OFFICINAL ROSE.

SYNONYMA. Rosa rubra. *Pharm. Lond. & Edinb. Gerard. Emac. p.* 1261. *Raii. Hist. p.* 1470. Rosa rubra multiplex. *Bauh. Pin. p.* 481. *Du Hamel Arbr. 2. p.* 222. *t.* 53. Rosa rubra anglica. *Park. Parad. p.* 413.

Rosa caule subinermi, foliis quinis subtus villosis, calycis foliolis indivisis. *Mill. Dict.*

β Rosa Prænestina variegata plena. *Mill. ic.* 148. *t.* 221. *f.* 2.
Mundi Rose.
γ *Marbled Rose.*
δ *Virgin Rose.*

Class Icosandria. *Ord.* Polygynia. *Lin. Gen. Plant.* 631.



Rosa gallica

Published by W. Phillips, Dec.r 1st 1808.

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1828

Ess. Gen. Ch. *Petala* 5. *Cal.* urceolatus, 5-fidus, carnosus, collo coarctatus. *Sem.* plurima, hispida, calycis interiori lateri affixa.

Sp. Ch. R. germinibus ovatis pedunculisque hispidis, caule petiolisque hispido-aculeatis.

THIS species does not rise so high as the Centifolia, but much resembles it in its foliage. Linnæus rests their specific difference on the greater roughness and prickliness of the leaf-stalks of the gallica, but from the observations we have made, this circumstance is not sufficiently remarkable to found the distinction. The petals of this species, though large and spreading, are never half so numerous as in the centifolia, and are of a deep crimsom colour. It is a native of the south of Europe, and is now common in our gardens, flowering in June and July.

"The flowers give out their virtue both to watery and rectified spirit, and tinge the former of a fine red colour, but the latter of a very pale one: the extract obtained by inspissating the watery infusion is moderately austere, bitterish, and subsaline; the spirituous extract is considerably stronger both in astringency and bitterness."[a]

The flowers of this species of rose possess neither the fragrance nor the laxative power of those of the centifolia, but are chiefly valued for their astringent qualities,* which are most considerable before the petals expand, and therefore in this state they are chosen for medicinal use,[b] and ordered by the pharmacopœias in different preparations, as those of a conserve, a honey, an infusion,

[a] *Lewis, M. M. p.* 543.

* Poterius, however, relates, that he found a dram of powdered red roses occasion three or four stools, and this not in a few instances, but constantly in several. See *Lewis, l. c.*

[b] Both the astringency and the colour of the petals are best preserved by hasty exsiccation.

and a syrup. These preparations, especially the first and second, have been highly esteemed in phthisical cases, particularly by the Arabian physicians. Avicenna[c] and Mesue[d] mention some remarkable instances of this kind which were cured by the roses. Riverius also cites several others;[e] and the case of Krüger, related in the German ephemerides,[f] has been thought a still more evident proof of the efficacy of the conserve of roses in phthisis pulmonalis; but as the use of the conserve was constantly joined with that of milk and farinacea, together with proper exercise in the open air, it has been doubted if these recoveries could be wholly imputed to the roses,[g] though their mild astringent and corroborant virtues certainly contributed much.[h]

The infusion of roses is a grateful cooling subastringent, and useful in hæoptysis, and some other hæmorrhagic complaints as a gargle; its efficacy however depends chiefly on the acid. The syrup derives its use merely from its colour.

[c] *Lib. 3. Fen. 10. Tract. 5. cap. 5. p. 275.* [d] *Cap. de phthisi.*
[e] *Prax. Med. Lib. 7. cap. 7. p. 348.* [f] *Dec. 2. An. 4. obs. 9.*
[g] See *Cullen, M. M. vol. ii. p. 35.*
[h] In some of the cases alluded to, twenty or thirty pounds of the conserve were taken in the space of a month.

AGRIMONIA EUPATORIA. COMMON AGRIMONY.

SYNONYMA. Agrimonia. *Pharm. Geoff. iii.* 46. *Dale.* 112. *Alston. i.* 76. *Lewis.* 28. *Edinb. New Dispens.* 119. *Bergius.* 346. *Murray. iii.* 147. Eupatorium veterum seu Agrimonia. *Bauh. Pin.* 321. Agrimonia. *Gerard. Emac.* 712. Agrimonia vulgaris. *Park.* 594. *Ray. Syn.* 202. Agrimonia foliis pinnatis, pinnulis alterne minimis. *Hall. Hist. Stirp. Helv.* 991. A. Eupatoria. *Hudson. Flor. Ang.* 206. *Withering. Bot. Arr.* 490. *Ic. Flor. Dan.* 588. *Curt. Flor. Lond. Mill. Illustr.*



Agrimonia Eupatoria

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1828
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Dodecandria Digynia. *Lin. Gen. Plant.* 607.

Gen. Ch. *Cal.* 5-dentatus, altero obvallatus. *Petala* 5. *Sem.* 2. in fundo calycis.

Sp. Ch. A foliis caulinis pinnatis, impari petiolata, fructibus hispidis.

ROOT perennial, reddish, scaly. Stalk erect, round, hairy, reddish, varying from one to three feet in height. Leaves alternate, interruptedly pinnated, composed of five or six pair of pinnæ, with an odd one at the end: the large pinnæ are commonly sessile, opposite, ovate, deeply serrated, rough. Stipulæ two, opposite, serrated, spreading. Bracteæ trifid. Flowers yellow, on short peduncles, in long simple spikes. Calyx permanent, divided into five segments, which are ovate, pointed, externally surrounded with rigid hairs, internally closed with a yellow substance of a glandular appearance: involucrum at the base of the germen, composed of two dentated leaves. Corolla composed of five petals, which are ovate, yellow, spreading, inserted into the glandular substance of the calyx. Filaments eleven or twelve, yellowish. Antheræ two-lobed. Germen beneath the calyx, supporting two styles, with blunt stigmata. Capsule formed of the calyx, containing two roundish smooth seeds.

It is common in fields about hedges and shady places, flowering in June and July.

"The leaves of Agrimony have a slightly bitterish roughish taste, accompanied with an agreeable though very weak aromatic flavour: the flowers are in smell stronger and more agreeable than the leaves, and in taste somewhat weaker. They readily give out their virtues both to water and to rectified spirit. In distillation with water the leaves afford a small portion of a yellowish essential oil, which smells strongly and agreeably of the herb."*

* Lewis, l. c.

This plant has been principally regarded in the character of a mild astringent and corroborant, and many authors recommend it as a deobstruent, especially in hepatic and other visceral obstructions. Chomell relates two instances of its successful use in cases where the liver was much enlarged and indurated.[a] It has been used with advantage in hæmorrhagic affections, and to give tone to a lax and weak state of the solids. In cutaneous disorders, particularly in scabies, we have been lately told that it manifests great efficacy;[b] for this purpose it was given infused with liquorice in the form of tea: but according to Alston it should be always exhibited in the state of powder.

[a] Usuelles. t. 2. p. 165.

[b] Becker Diss. de Eupatorio Græcorum seu Agrimonia viribus. Erf. 1783.

GEUM URBANUM. COMMON AVENS.

SYNONYMA. Caryophyllata. *Pharm. Dale.* 160. *Geoff. iii.* 263. *Alston. i.* 404. *Lewis.* 205. *Edinb. New Dispens.* 164. *Bergus.* 445. *Murray. iii.* 122. Caryophyllata vulgaris. *Bauh. Pin.* 321. *Park. Theat.* 136. *Ray. Hist.* 606. *Synop.* 253. *Gerard. Emac. p.* 995. G. urbanum. *Hudson. Flor. Ang.* 198. *Withering. Bot. Arrang. p.* 537. *Ic. Curt. Flor. Dan. t.* 672.

Icosandria Polygynia. *Lin. Gen. Plant.* 636.

Gen. Ch. *Cal.* 10-fidus. *Petala* 5. *Sem.* arista geniculata.

Sp. Ch. G. flor. erectis, fruct. globosis villosis, aristis uncinatis nudis, foliis lyratis.

ROOT perennial, fibrous, brown. Stalks branched, somewhat angular, hairy, about two feet in height. Leaves varying, com-



Geum urbanum

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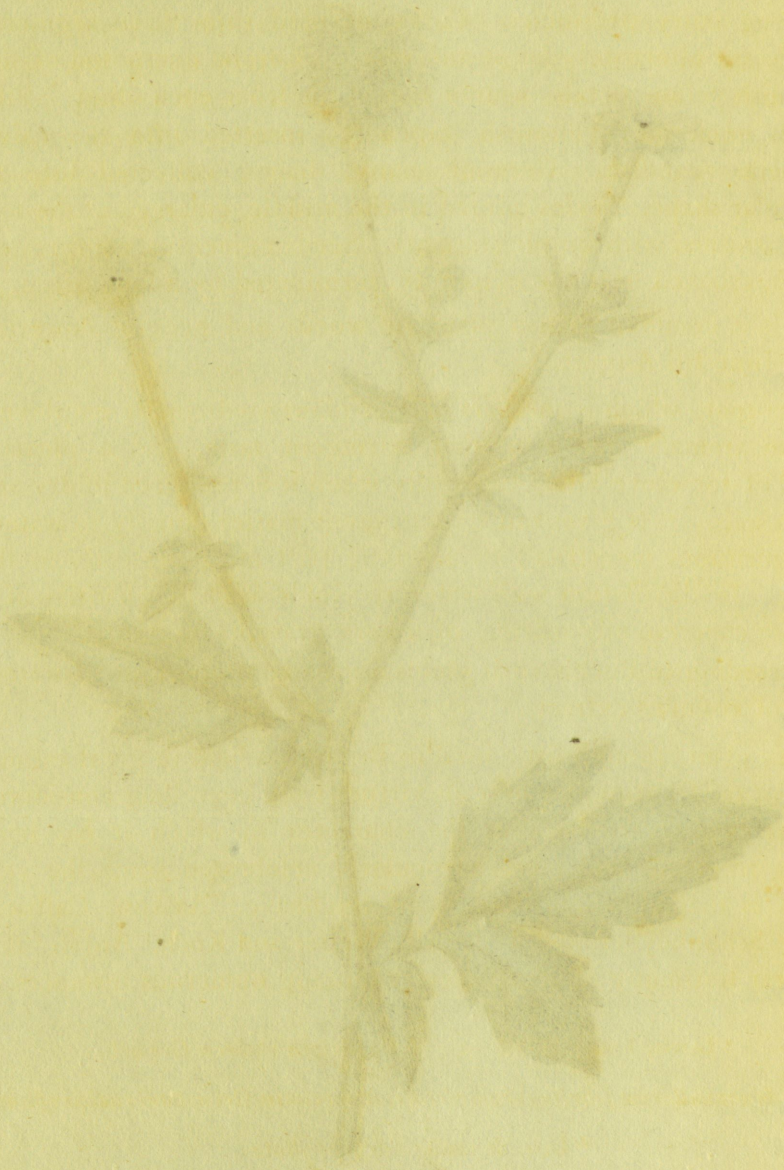

monly pinnated, hairy, toothed; pinnæ two pair, of which the lower are almost circular; the upper pair elliptical; terminal leaf the largest, and frequently cut into three lobes. Flowers terminal, on long hairy peduncles. Calyx divided into three segments, which are alternately large and small. Corolla composed of five roundish yellow petals, widely spreading from each other. Filaments numerous, yellowish, tapering, inserted into the calyx. Antheræ roundish. Germina many, hairy, collected into an orbicular shape. Styles jointed in the middle, enlarged at the top, and furnished with simple stigmata. Seeds numerous, compressed, rough, crooked near the extremity, terminated by a long arista.

It is a common British plant, in woods and hedges, flowering from June till August.

The root, which is the part of this plant medicinally employed, has an aromatic and somewhat astringent taste, and a pleasant smell of the clove kind, especially when it is produced in dry and warm soils. "It gives out its astringent matter equally to watery and spirituous menstrua; its aromatic part most perfectly to the latter. In distillation with water it yields a small quantity of a whitish concrete oily matter, of a very grateful fragrance." [a]

According to Buchhave it yields a greater proportion of watery than of resinous extract.

This plant, though little used in Britain, is held in great estimation on the Continent, where its virtues have been long considered as extremely various: but the character in which it has been lately received, and most particularly celebrated since the year 1780, is that of a febrifuge; thus Buchhave,[b] Aaskow, Callisen, Bang, Schönheyder, and Tode, also Weber and Koch,[c] Anjou,[d] &c. all bear testimony of its efficacy, adducing numerous instances of

[a] Lewis, l. c.

[b] *Obs. circa radicem Gei urb.*

[c] *Diss. de nonnullorum febrifugorum virtute, et speciatim Gei urbani radicis efficacia.*

[d] *Diss. de radice Caryophyllatæ.*

its successful exhibition in obstinate intermittents, many of which yielded to the root of this plant, after the Peruvian bark had failed.

It is said that a tincture of this root, made in the proportion of four ounces of the root digested with a quart of brandy in a sand heat, and given to the quantity of half an ounce or more, two, three, or four times a day, seldom fails to cure agues. Others gave it with equal success in decoction, powder, or electuary, in the proportion in which the Cinchona bark is commonly employed.

This root has also been found an useful medicine in several chronic disorders, as a general tonic and astringent; and experiments made by Buchhave show its antiseptic power to exceed that of Peruvian bark.

Medicinal Plants of this order, not introduced into this work, are

Systematic Names.	Officinal.	English.
Spiræa Filipendula	Filipendula	Dropwort
Spiræa Ulmaria	Ulmaria	Meadow-sweet
Geum rivale	Geum rivale	Water Avens
Potentilla Anserina	Anserina	Silvery Cinquefoil
Fragaria vesca	Fragaria	Strawberry
Alchemilla vulgaris	Alchemilla	Ladies Mantle

END OF VOL. III.



Tormentilla erecta

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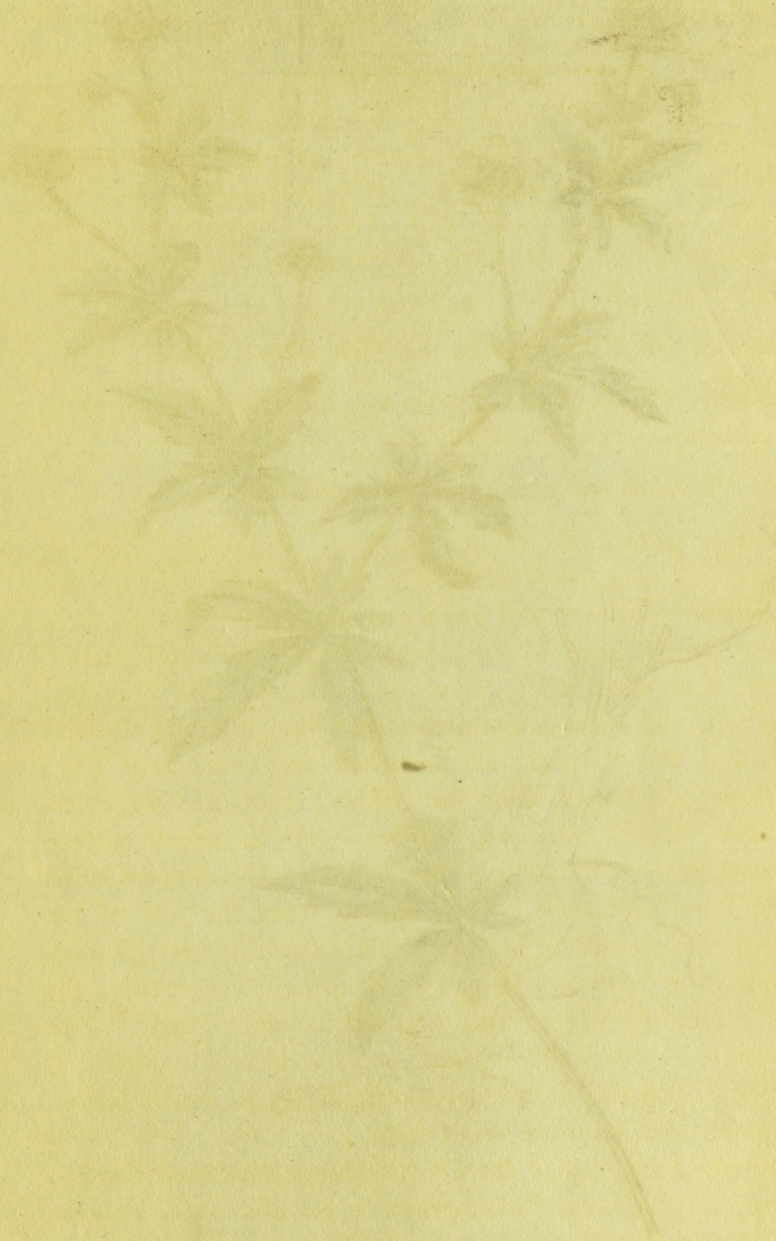


TORMENTILLA ERECTA. COMMON TORMENTIL, Or UPRIGHT SEPTFOIL.

SYNONYMA. Tormentilla, *Pharm. Lond. & Edinb.* Tormentilla Officinalis, *Curt. Flor. Lond.* Fragaria tetrapetala, foliis caulinis sessilibus quinatis. *Hal. Stirp. Helv.* n. 1117. Tormentilla sylvestris, *Bauh. Pin.* 326. Pentaphyllum aut potius Heptaphyllum, flore aureo tetrapetalo, Tormentilla dictum. *Hist. Oxon,* II. 190.

Class Icosandria. *Ord.* Polygynia. L. *Gen. Plant.* 635.

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

Spec. Char. T. caule erectiusculo, foliis sessilibus.

THE root is perennial, thick, roundish, irregularly conical, knobbed, and covered with bark of a dark brown colour; the internal substance is dense, and has a reddish tinge; it sends forth many stems, which grow about a span high; they are round, slender, firm, somewhat hairy, more or less erect, and branched towards the top. The leaves upon the stalk are generally divided into seven, but those upon the branches are commonly five; of these, three are larger than the others; they are all of an eliptical shape, deeply serrated, villous, and the upper surface is of a deeper green colour than the under. The flowers stand singly upon long peduncles, which spring from the alæ of the leaves, each flower consisting of four small, roundish, emarginated, yellow petals; the calyx is cut into eight unequal segments; the pistilla are commonly eight, and contain as many seeds. This plant is common in dry pastures, and usually flowers in June. It is distinguished from the Tormentilla reptans, by its sessile leaves, its smaller petals, and its more erect stem.

The root is the only part of the plant which is used medicinally; it has a strong styptic taste, but imparts no peculiar sapid flavour. As a proof of its powerful astringency, it has been substituted for

oak bark in the tanning of skins for leather.[a] This root has been long held in great estimation by physicians, as a very useful astringent; and as the resin[b] it contains is very inconsiderable, it seems more particularly adapted to those cases where the heating and stimulating medicines of this class are less proper, as phthisical diarrhœas, diarrhœa cruenta, &c. Dr. Cullen[c] thinks "it has been justly commended for every virtue that is competent to astringents," and says, "I myself have had several instances of its virtues in this respect; and particularly I have found it, both by itself and as joined with gentian, cure intermittent fevers; but it must be given in substance, and in large quantities." Rutty recommends it in these words: "Ulcera vetera & putrida sanat vino vel aqua decocta collutione & inspersu. In vino cocta optime deterget & roberat, in ulceribus scorbuticis oris, gutturis, & faucium ac in gingivis dissolutis, sanguinem stillantibus. Decocta ad appetitum deperditum maxime valet, tonum ventriculi restituens, & sordes ejus abstergens. Non est vegetabile quod in fluxionibus alvi efficacius sit. In dysenterea epidemica quidam in ore tenent ad præcavendum contagium. In fluxu sanguinis, fluore albo, & mictu involuntario valet."[d]

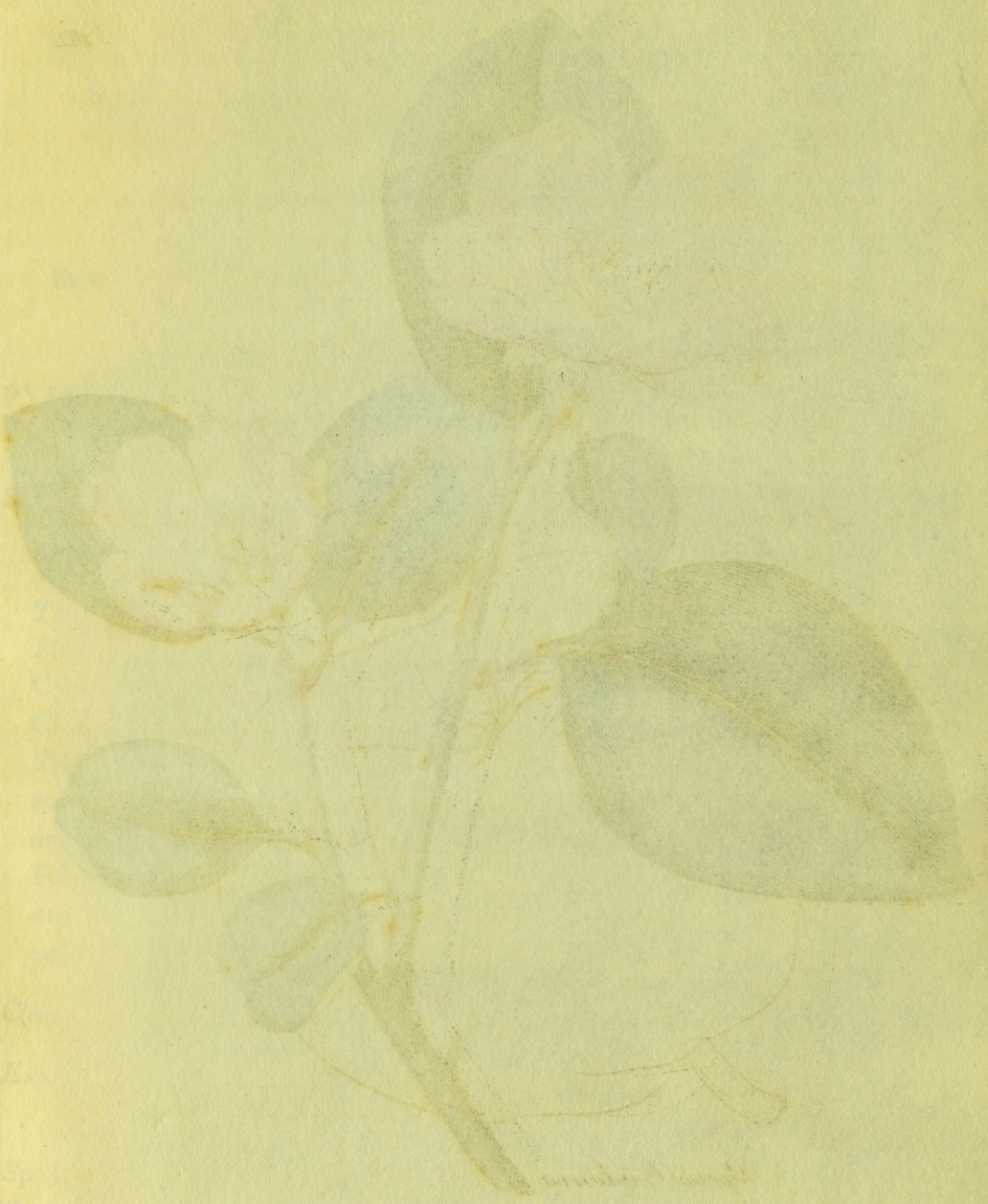
This root may be given in powder from half a dram to one dram or more for a dose, but it is more generally given in decoction, and the following form is recommended by Lewis: An ounce and an half of the powdered root is directed to be boiled in three pints of water to a quart, adding, towards the end of the boiling, a dram of cinnamon: of the strained liquor, sweetened with an ounce of any agreeable syrup, two ounces or more may be taken four or five times a day.

Tormentil is ordered in the pulvis e creta compositus of the London Pharmacopœia.

[a] Bartholini Act. Med. Hafn. v. 1. p. 88. and it has been observed, that the leather has been perfected in less time than when oak bark was used. Mus. Rust. vol. 2. n. 12. p. 51.

[b] It gives out its astringency both to water and rectified spirit, most perfectly to the latter. The extracts obtained by inspissation, are intensly styptic, the spirituous most so. Lewis's Mat. Med. 654.

[c] Cullen's Mat. Mat. vol. 2. p. 36. [d] Rutty's Mat. Med. 521.





Pyrus Cydonia

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PRESTON INSTITUTION 1828

ORD. XXVIII. POMACEÆ.

(From *Pomum*, an Apple)
Bearing Fruit of the Apple, Pear, Cherry, and Berry kind.

PYRUS CYDONIA. COMMON QUINCE TREE.

SYNONYMA. Cydonium malum. *Pharm. Lond. & Edinb.* Malus Cotonea. *Gerard. Emac. p.* 1452. *Raii Hist. p.* 1452. *J. Bauh. Hist. vol. i. p.* 35. Malus Cotonea vulgaris. *Park. Theat. p.* 1504. Mala cotonea majora. *Bauh. Pin. p.* 434. *Flor. Aust. v. iv. t.* 342. Duplex varietas in hortis colitur, scil. 1. Cydonia fructu oblongo læviori. *Tourn. Instit. p.* 632. Mala Cotonea majora. *C. Bauh. l. c.* depicta ab ill Du Hamel, in *Traité des Arb. fruit. ad p.* 206. 2 Cydonia fructu breviore et rotundiore. *Tourn. l. c.* Mala cotonea minora. *C. Bauh. l. c.* depicta in Du Hamel *Traité des Arb. et Arbustes Tab.* 83. Prostat et alia 3 varietas: Cydonia latifolia lusitanica. *Tourn.* cujus fructus oblongus succosior et minus acerbus, sed rarioris proventus. Vide *Murray App. Med. vol. iii. p.* 196.

Class Icosandria. *Ord.* Pentagynia. *Lin. Gen. Plant.* 626.

Ess. Gen. Ch. *Cal.* 5-fidus. *Petala* 5. *Pomum* inferum 5-loculare, polyspermum.

Sp. Ch. F. fol. integerrimis, flor. solitariis.

THIS tree seldom rises very high, being usually crooked and distorted: it sends off several branches, and is covered with a brown bark: the leaves are simple, roundish or oval, entire, on the upper side of a dusky green colour, on the under whitish, and stand upon short footstalks: the flowers are large, solitary, of a pale red or white colour, and placed close to the axillæ of the leaves: the calyx is composed of one leaf, and divided into five spreading oval notched segments: the corolla consists of five petals; these are large, convex, roundish, and notched at their extremities: the filaments are about twenty, tapering, shorter than the corolla, inserted into the calyx, and furnished with simple antheræ: the germen is orbicular, the styles are five, slender, nearly of the length of the filaments, and supplied with simple stigmata: the fruit is of the apple kind, and divided at the centre into five membranous cells, containing the seeds, which are oblong, angular, pointed at one end, obtuse at the other, on one side compressed, on the other flat, and covered with a brownish pellicle. It is a native of Austria,* and flowers in May and June.

It appears from Pliny,[a] that the malus Cydonia, or Μηλεα κυδωνια of the Greeks, was originally brought from Cydon in Crete, hence the name Cydonia. At present, the Quince tree is known to grow wild on the banks of the Danube, though in a much less luxuriant state than we observe it in British gardens, where it was cultivated in the time of Gerard. The form of the fruit approaches to that of the pear or apple, according to the different varieties of this species of tree from which it is produced, and which we have already noticed under the synonyms: it has a pleasant odour, and a very austere taste:‖ its expressed juice, repeatedly taken in small quantities, is said to be cooling, restringent, and stomachic,

* Vide *Aiton's Hort. Kew.*

[a] *Lib. xv. cap.* 11.

Heister *Diss. de Cydoniis, p.* 59.

‖ But upon being boiled and preserved in syrup, this fruit is well known to give a pleasant flavour to apple-pies.



Amygdalus communis

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PRESTON INSTITUTION 1828

useful in nausea, vomitings, nidorous eructations, and some kind of alvine fluxes.[b] Formerly this juice was ordered in the Lond. Pharm. to be made into a syrup; but the only preparation of the Quince which it now directs is a mucilage of the seeds, made by boiling a dram of the seeds in eight ounces of water, till it acquires a proper consistence. This has been recommended in apthous affections, and excoriations of the mouth and fauces. It may be a more pleasant mucilage, but it is certainly a less efficacious one, than that of the simple gums.

[b] *Lewis Mat. Med. p.* 267.

AMYGDALUS COMMUNIS. THE ALMOND TREE.

SYNONYMA. Amygdala (nuclei). *Pharm. Lond. & Edinb.* Amygdalus amara & dulcis. *J. Bauh. Hist. vol. i. p.* 174. *Raii Hist. p.* 1519. *Gerard. Emac. p.* 1445. *Park. Theat. p.* 1515. Amygdalus foliis glabris, ovatis, utrinque acuminatis, serratis, petiolo imisque dentibus glandulosis. *Hal. Stirp. Helv. n.* 1080.

Varietates sunt,

α Amygdalus sativa. *Bauh. Pin. p.* 441. Amygdalus dulcis, putamine molliore. *Tournef. Inst. p.* 627. Amandier à coque tendre, vel Amandier des Dames. *Du Hamel. Arbres fruit. T. i. p.* 120. *tab.* 5.

Sweet Almond Tree.

β Amygdalus amara. *Tournef. Inst. p.* 627. Amandier à fruit amer. *Du Hamel. l. c. p.* 123.

Bitter Almond Tree.

Class Icosandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 619.

Ess. Gen. Ch. *Cal.* 5-fidus, inferus. *Petala* 5. *Drupa* nuce poris perforata.

Sp. Ch. A. foliis serraturis infimis glandulosis, floribus sessilibus geminis.

THIS tree divides into many branches, covered with a dark grey bark, and usually rises from twelve to sixteen feet in height: the leaves are elliptical, narrow, pointed at each end, minutely serrated, veined, of a bright green colour, beset with small glands towards the base, and stand upon short footstalks: the flowers are large, of a pale red colour, without peduncles, commonly placed in numerous pairs upon the branches, and appear before the leaves: the calyx is tubular, and divided at the brim into five blunt segments of a reddish colour: the corolla consists of five oval convex petals, with narrow claws: the filaments are about thirty, spreading, tapering, of unequal length, and of a reddish colour, inserted into the calyx, and furnished with simple antheræ: the germen is roundish and downy: the style is short, simple, and crowned with a round stigma: the fruit is of the peach kind, the outer substance of which is hard, tough, hairy, and marked with a longitudinal furrow where it opens; under this is a thick rough shell, which contains the kernel or almond. This tree is a native of Barbary,[a] and flowers in March and April.

The Almond-tree seems to have been known in the remotest times of antiquity, being frequently mentioned by Theophrastus and Hippocrates: it is probable however that this tree was not very common in Italy, in the time of Cato, as he calls the fruit by the name of Greek nuts.[b] It was cultivated in England by Lobel previous to the year 1570,[c] and though it does not perfect its fruit in this country, yet it is here very generally propagated for the beautiful appearance of its flowers, which are the more conspicuous by showing themselves early in spring before the leaves are expanded.

The fruit or seeds of most vegetables on being planted produce varieties, differing more or less from the parent plant and from

[a] Particularly in the hedges about Tripoli. See *Bauh. l. c.*

[b] See Pliny, *Lib.* 15. *cap.* 22. [c] Vide *Hort. Kew.*

each other, and of the Almond-tree this difference is principally confined to the fruit, which is larger or smaller, the shell thicker or thinner, and the kernel bitter or sweet; hence the distinction into bitter Almonds and sweet Almonds, though the same species of tree affords both. Sweet Almonds are more used as food than medicine, but they are said to be difficult of digestion, unless extremely well comminuted;[d] their medicinal qualities depend upon the oil which they contain in the farinaceous matter, and which they afford on expression nearly in the proportion of half their weight. The oil thus obtained is more agreeable to the palate than most of the other expressed oils, and is therefore preferred for internal use, being generally employed with a view to obtund acrid juices, and to soften and relax the solids; in tickling coughs, hoarseness, costiveness, nephritic pains, &c. externally in tension and rigidity of particular parts. The milky solutions of Almonds in watery liquors, usually called emulsions, possess, in a certain degree, the emollient qualities of the oil, and have this advantage over the pure oil, that they may be given in acute or inflammatory disorders, without danger of the ill effects which the oil might sometimes produce, by turning rancid.* The officinal preparations of Almonds are the expressed oil and the emulsion; to the latter the London College directs the addition of gum arabic, which renders it a still more useful demulcent in catarrhal affections, stranguries, &c.

Bitter Almonds yield a large quantity of oil, perfectly similar to that obtained from sweet Almonds; but the matter remaining after the expression of the oil, is more powerfully bitter than the

[d] The Nuces oleosæ are not always easily digested: "but it appears that this inconvenience may be in a great measure obviated by a very diligent triture, uniting very intimately the farinaceous and the oily part." See *Cullen's Mat. Med. vol. i. p.* 298.

* Several substances of themselves, not miscible with water, may, by trituration with Almonds, be mixed with it in this form, and thus fitted for medical use, as camphor, and various resinous and unctuous substances.

Almond in its entire state. "Great part of the bitter matter dissolves by the assistance of heat both in water and in rectified spirit: and a part arises also with both menstrua in distillation."[e] Bitter Almonds have been long known to be poisonous to various brute animals,[f] and some authors have alledged that they are also deleterious to the human species, but the facts recorded upon this point appear to want further proof.[g] However, as the noxious quality seems to reside in that matter which gives it the bitterness and flavour, it is very probable that when this is separated by distillation, and taken in a sufficiently concentrated state, it may prove a poison to man,[h] as is the case with the common laurel, to which it appears extremely analagous. These Almonds are highly commended for the cure of hydrophobia by Thebesius, who experienced their good effects in twelve cases, in which a few (no particular quantity is mentioned) were eaten every morning.[i] And Bergius tells us, that bitter Almonds, in the form of emulsion, cured obstinate intermittents, after the bark had failed.[k]

[e] *Lewis Mat. Med. p.* 53.

[f] Particularly wolves, foxes, dogs, cats, and various kinds of birds. For which see Wepfer de Cicut. aquat. And many other instances are related in the Ep. Nat. Cur. See also *Daries Epist. de Amygdalis et oleo amararum æthereo.* And Lorry *de Venenis, p.* 17. From the sudden effects which this poison produces, and the convulsions and spasms which follow its exhibition, there can be no doubt of its acting directly upon the nervous energy.

[g] Formerly they were eaten to prevent the intoxicating effects of wine, as is noticed by Dioscorides, "et Plutarchus medicum filii Imperatoris Tiberii producit, qui hocce præsidio munitus inter quotidianas comessationes in bibendo reliquos omnes antecellere valuit." *Murr. Ap. Med, vol. iii. p.* 260. But from twelve of these Almonds Lorry experienced a sense of inebriation. *De Venenis, p.* 17.

[h] One drop of this essential oil killed a small bird in two minutes. See *Daries, l. c.*

[i] Vide *Nov. Act. Nat. Cur. tom. i. p.* 181. [k] *Mat. Med. p.* 413.



Amygdalus Persica

Published by W. Phillips, June 1st 1809.

PRESTON INSTITUTION 1828

AMYGDALUS PERSICA. COMMON PEACH TREE.

SYNONYMA. Persica. *Pharm. Dale.* 301. *Alston. ii.* 365. *Geoff. iii.* 798. *Lewis.* 483. *Edinb. New Dispens.* 249. *Murray. iii.* 241. *Bergius.* 413. Persica Malus. *Gerard. Emac.* 1447. *Park. Parad.* 580. *Raii. Hist.* 1515. *Du Hamel. Arb. fruit. T. ii. t.* 30.

Icosandria Monogynia. *Lin. Gen. Plant.* 619.

Gen. Ch. *Cal.* 5-fidus, inferus. *Pet.* 5. *Drupa* nuce poris perforata.

Sp. Ch. A. foliorum serraturis omnibus acutis, floribus sessilibus solitariis.

THE common Peach-tree grows to a considerable height, and sends off numerous spreading branches. Leaves long, narrow, pointed, elliptical, acutely serrated, on footstalks, alternate. Flowers sessile, purplish, solitary, large. Calyx tubular, divided at the margin into five ovate segments, and at the base beset with numerous scales. Petals five, inversely ovate, spreading, attached by short claws. Filaments numerous, tapering, inserted into the calyx, furnished with purplish antheræ. Germen roundish, downy. Style short, simple, terminated by a round stigma. Fruit too well known to require description.

The varieties of this species are α, *fructibus lanuginosis,* Common Peach. β, *fructibus glabris,* Nectarine. γ, *flore pleno,* the double-flowered Peach-tree.

It is not known of what country this tree is a native, but it was cultivated here in the time of Turner, 1562, and probably long before that period. From the name Persica, it may be supposed, to have been brought from Persia; but this is conjecture, nor is it ascertained to be the Περσικη μηλεα of Dioscorides, or Περσεα of Theophrastus.

The fruit is known to be grateful and wholesome, seldom disagreeing with the stomach, unless this organ is not in a healthy state, or the fruit has been eaten to excess, when effects similar to those of the other dulco-acid summer fruits may be produced.

The flowers, including the calyx, as well as the corolla, are the parts of the Persica used for medicinal purposes; these have an agreeable but weak smell, and a bitterish taste. Boulduc[a] observes, "that when distilled without addition by the heat of a water bath, they yield one-sixth their weight, or more, of a whitish liquor, which communicates to a considerable quantity of other liquids a flavour like that of the kernels of fruits."

These flowers have a cathartic effect, and especially to children have been successfully given in the character of a vermifuge; for this purpose an infusion of a dram of the flowers dried, or half an ounce in their recent state, is the requisite dose. The leaves of the Persica are also found to possess an anthelmintic power, and from a great number of experiments appear to have been given with invariable success both to children and adults.

However, as the leaves and flowers of the Persica manifest in some degree the quality of those of the laurocerasus, they ought to be used with caution.

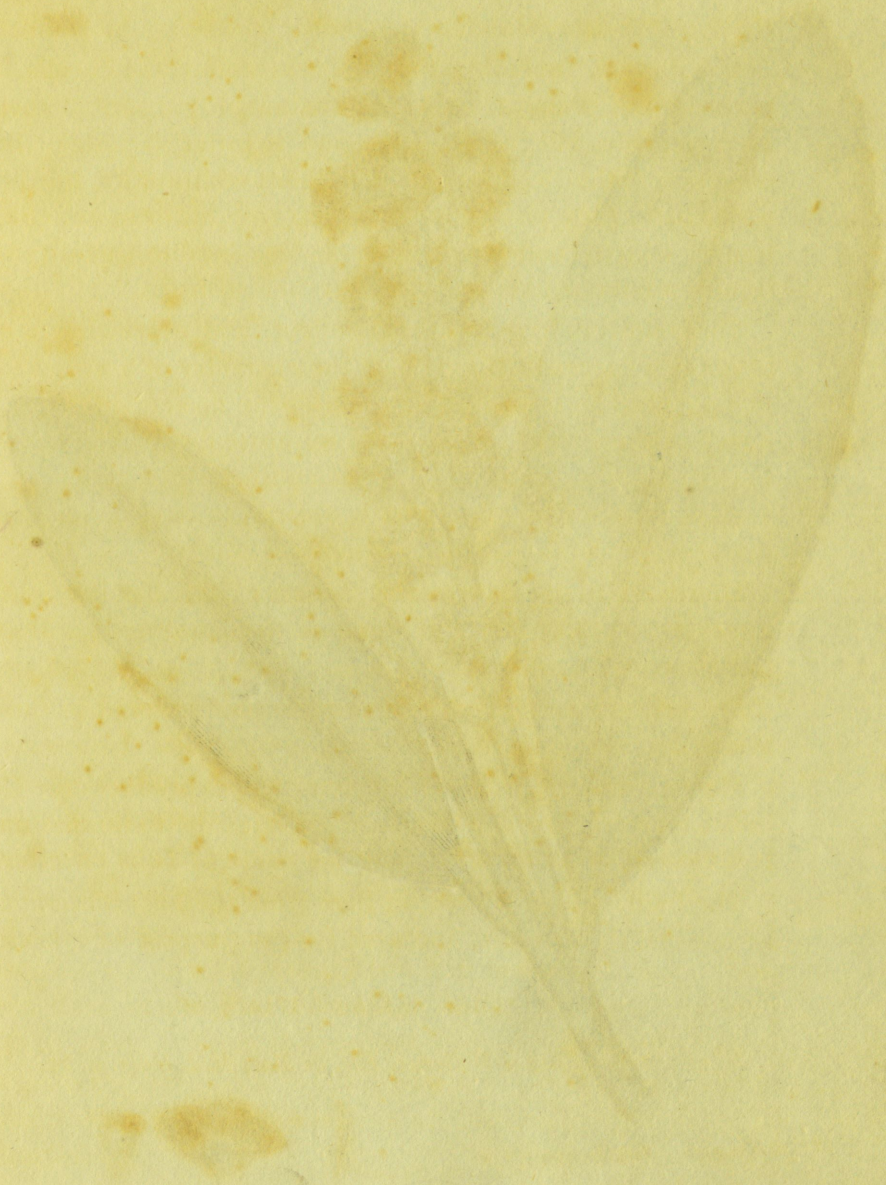
We find a "Syrupus florum persicorum," ordered in the Pharm. Wurt.

Menispermum Cocclus of Linnæus, which produces the Cocculus Indus, formerly an officinal article, belongs also to this natural order. It is figured by Rumphius under the name of Tuba baccifera.

The fruit, which is brought here from the East Indies, is said to be powerfully narcotic, and used for the purpose of intoxication.

[a] Mem. de L'Acad. 1714. p. 37.

[b] See *Coste et Willemet. Ess. de Mat. Med. indig. p.* 32.





Prunus Lauro-cerasus

Published by W. Phillips, Jan.ry 1st 1809.

PRESTON INSTITUTION 1828

PRUNUS LAUROCERASUS. COMMON, or CHERRY LAUREL.

SYNONYMA. Laurocerasus. *Pharm. Dale.* 309. *Lewis.* 380. *Bergius.* 399. *Murray. iii.* 213. *Cullen. ii.* 282. Cerasus folio laurino. *Bauh. Pin.* 410. *Ger. Emac.* 1603. *Raii Hist.* 1549. *Duhamel. Traité des Arbres. t.* 133.

Icosandria Monogynia. *Lin. Gen. Plant.* 620.

Gen. Ch. *Cal.* 5-fidus, inferus. *Petala* 5. *Drupæ* nux suturis prominulis.

Sp. Ch. P. floribus racemosis fol. sempervirentibus dorso biglandulosis.

A SHRUB or small tree, sending off long spreading branches, and covered with smooth brown bark. Leaves evergreen, elliptical, or obovate, blunt, rather serrated, furnished with yellowish glands at the base, of a shining deep green, placed alternately upon strong short footstalks. Flowers on short peduncles, in spikes, which arise at the alæ of the leaves. Calyx tubular, ovate, divided at the brim into five pointed reflexed segments. Corolla composed of five petals, which are small, white, roundish. Filaments about eighteen, tapering, inserted in the calyx, furnished with simple antheræ. Germen oblong, supporting a columnar style, terminated by a blunt stigma. Fruit drupous, resembling a small cherry both in its external and internal structure.

It is a native of the Levant, and appears to have been long cultivated in Britain, and by its polished evergreen leaves adds much to the beauty of our shrubberies.

The leaves of the Lauro Cerasus have a bitter styptic taste, accompanied with a flavour resembling that of bitter almonds,

or other kernels of the drupaceous fruits. The flowers of this plant also manifest a similar flavour. The powdered leaves, applied to the nostrils, excite sneezing, though not so strongly as tobacco.

The kernel-like flavour which these leaves impart being generally esteemed grateful, has sometimes caused them to be employed for culinary purposes, and especially in custards, puddings, blancmange, &c. and as the proportion of this sapid matter of the leaf to the quantity of the milk is commonly inconsiderable, bad effects have seldom ensued. But as the poisonous quality of this laurel is now indubitably proved, the public ought to be cautioned against its internal use.

The following communication to the Royal Society, by Dr. Madden of Dublin, contains the first and principal proofs of the deleterious effects of this vegetable upon mankind. "A very "extraordinary accident that fell out here some months ago, has "discovered to us a most dangerous poison, which was never "before known to be so, though it has been in frequent use "among us. The thing I mean is a simple water, distilled from "the leaves of the *Lauro-cerasus*.—The water is at first of a "milky colour, but the oil which comes over the helm with it, "being in a good measure separated from the phlegm, by passing "it through a flannel bag, it becomes as clear as common water. "It has the smell of bitter almond, or peach kernel, and has been "for many years in frequent use among our housewives and "cooks, to give that agreeable flavour to their creams and puddings. It has also been much in use among our drinkers of "drams; and the proportion they generally use it in, has been "one part of laurel-water to four of brandy. Nor has this "practice, (however frequent) ever been attended with any "apparent ill consequences, till some time in the month of "September, 1728, when it happened that one Martha Boyse, "a servant, who lived with a person that sold great quantities "of this water, got a bottle of it from her mistress, and gave it to

" her mother, Ann Boyse, as a very rich cordial. Ann Boyse " made a present of it to Frances Eaton, her sister, who was a " shopkeeper in town, and who she thought might oblige her " customers with it. Accordingly, in a few days, she gave about " two ounces of the water to a woman called Mary Whaley, who " drank about two-thirds of what was filled out, and went away. " Frances Eaton drank the rest. In a quarter of an hour after " Mary Whaley had drank the water, (as I am informed) she com- " plained of a violent disorder in her stomach, soon after lost her " speech, and died in about an hour, without vomiting or purging, " or any convulsion.

" The shopkeeper, F. Eaton, sent word to her sister, Ann Boyse, " of what had happened, who came to her upon the message, and " affirmed that it was not possible the cordial (as she called it) " could have occasioned the death of the woman; and to convince " her of it, she filled out about three spoonfuls, and drank it. " She continued talking with F. Eaton about two minutes longer, " and was so earnest to persuade her of the liquor's being inof- " fensive, that she drank two spoonfuls more, but was hardly " well seated in her chair when she died without the least groan " or convulsion. Frances Eaton, who, as before observed, had " drank somewhat above a spoonful, found no disorder in her " stomach or elsewhere; but to prevent any ill consequence she " took a vomit immediately, and has been well ever since."[a]

Dr. Madden mentions another case of a gentleman at Kilkenny, who " mistook a bottle of this laurel water for a bottle of ptisan; " what quantity he drank is uncertain, but he died in a few " minutes, complaining of a violent disorder in his stomach."

In addition to this, we may refer to the unfortunate case of Sir Theodosius Boughton, whose death, in 1780, an English jewry

[a] See *Phil. Trans. vol.* 37. *p.* 84. "*A Letter from T. Madden, M. D. giving an account of two women being poisoned by the simple distilled water of Laurel-leaves, and of several experiments upon dogs, by which it appears, that this laurel is one of the most dangerous poisons hitherto known.*"

declared to be occasioned by this poison. In this case the active principle of the Laurocerasus was concentrated by repeated distillations, and given to the quantity of an ounce; the suddenly fatal effects of which must be still in the recollection of the public.

To brute animals this poison is almost instantaneously mortal, as amply appears by the experiments of Madden, Mortimer,[b] Nicholls,[c] Langrish,[d] Vater,[e] Fontana, and others.

The experiments, conducted by these gentlemen, show, that the laurel-water is destructive to animal life, not only when taken into the stomach, but also on being injected into the intestines, or applied externally to different organs of the body. It is remarked by Abbé Fontana, that this poison, even "when applied in a very small quantity to the eyes, or to the inner part of the mouth, without touching the oesophagus, or being carried into the stomach, is capable of killing an animal in a few instants; whilst applied in a much greater quantity to wounds, it has so little activity, that the weakest animals, such as pigeons, resist its action."[f]

The most volatile is the most active part of the Laurocerasus; and if we judge from its sensible qualities, an analagous principle seems to pervade many other vegetable substances, especially the kernels of drupaceous fruits; and in various species of the amygdalus, this sapid principle extends to the flowers and leaves

It is of importance to notice, that this is much less powerful in its action upon human subjects than upon dogs, rabbits, pigeons, and reptiles. To poison man the essential oil of the Laurocerasus must be separated by distillation, as in the spirituous or common

[b] *Phil. Trans. v.* 37. *p.* 163.

[c] & [d] Vide Langrish. *Phil. experiments upon brutes, to which is added a course of experiments with the Laurocerasus.*

[e] *Diss. de Laurocerasi indole venenata.* Also in his *Progr. de olei animal. contra hydrop.*

[f] See *Skinner's Translation. ii. p.* 180.

laurel-water; and unless this is strongly imbued with the oil, or given in a large dose, it proves innocent.

Dr. Cullen observes, that the sedative power of the Laurocerasus acts upon the nervous system in a different manner from opium and other narcotic substances, whose primary action is upon the animal functions: for the Laurocerasus does not occasion sleep, nor does it produce local inflammation, but seems to act directly upon the vital powers. Abbé Fontana supposes that this poison destroys animal life, by exerting its effects upon the blood; but the experiments and observations from which he draws this opinion are evidently inconclusive. It may also be remarked, that many of the Abbé's experiments contradict each other.

Thus it appears, from the citation given above, that the poison of this vegetable, when applied to wounds, does not produce a fatal effect; but future experiments led the Abbé to assert, that the oil of the Laurocerasus, "whether given internally, or applied to the wounds of animals, is one of the most terrible and deadly poisons known."

Though this vegetable seems to have escaped the notice of Stoerck, yet it is not without advocates for its medicinal use. Linnæus informs us, that in Switzerland it is commonly and successfully used in pulmonary complaints. Langrish mentions its efficacy in agues; and as Bergius found bitter almonds to have this effect, we may from analogy conclude, that this power of the Laurocerasus is well established. Baylies found that it possessed a remarkable power of diluting the blood, and from experience recommended it in all cases of disease supposed to proceed from too dense a state of that fluid; adducing particular instances of its efficacy in rheumatism, asthma, and in schirrous affections. Nor does this author seem to have been much afraid of the deleterious quality of the Laurocerasus, as he directs a pound of its leaves to be macerated in a pint of water, of which he gives from thirty to sixty drops three or four times a day.

Of the other species of Prunus, or Cherry, we find nothing deserving of particular attention.

The Sorbus aucuparia, or Mountain Ash, belongs to this order. Its berries, which appear in large beautiful clusters, are by some writers esteemed for their cathartic and antiscorbutic qualities.

PRUNUS SPINOSA. SLOE TREE.

SYNONYMA. Prunum sylvestre. *Pharm. Lond.* Prunus sylvestris. *Gerard. Emac. p.* 1497. *Park. Theat. p.* 1033. *Bauh. Pin. p.* 444. *J. Bauh. Hist. vol. i. p.* 198. *Raii Hist. p.* 1527. *Synop. p.* 462. Prunus spinosa, foliis glabris serratis ovato-lanceolatis, floribus breviter petiolatis. *Hall. Stirp. Helv. n.* 1080. *Hudson. Flor. Ang. p.* 212. *Withering. Bot. Arrang. p.* 509.

Class Icosandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 620.

Ess. Gen. Ch. *Cal.* 5-fidus, inferus. *Petala* 5. *Drupæ* nux suturis prominulis.

Gen. Ch. P. pedunculis solitariis, foliis lanceolatis glabris, ramis spinosis.

THE root is woody, divided, and spreading: the stem is shrubby, crooked, rises to the height of six or eight feet, covered with a purplish black coloured bark, and sends off many irregular spinous branches: the leaves are oval, obtusely lance-shaped, smooth, minutely serrated, of a deep green colour, and stand upon short footstalks:† the stipulæ are linear, notched, and discoloured at their points: the flowers are large, white, and stand separately

† The serratures of the leaves have been observed by Linnæus to be terminated by an excretory duct.



Prunus spinosa

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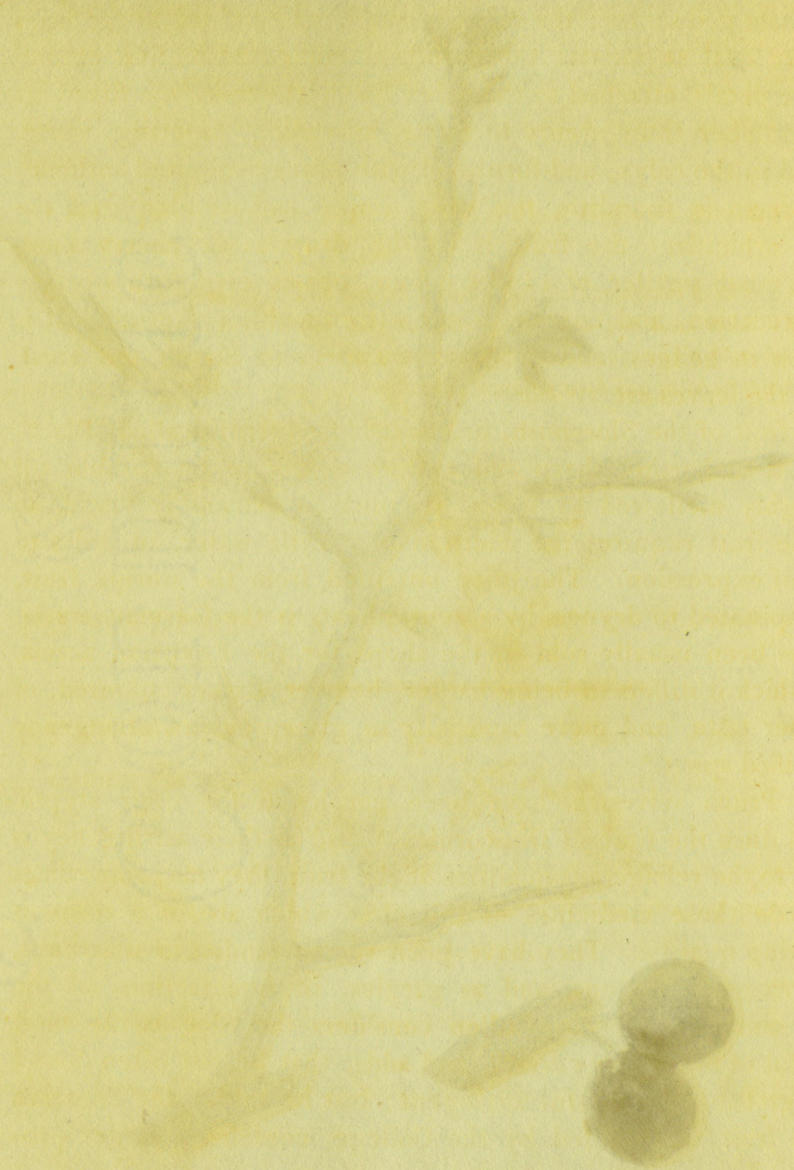
PRESTON INSTITUTION 1828



upon short peduncles: the calyx is small, and divided at the brim into five oval segments: the corolla is composed of five oblong concave petals, attached to the calyx by short claws: the filaments are in number from twenty to thirty, spreading, tapering, white, inserted in the calyx, and furnished with orange coloured antheræ: the germen is roundish, the style simple and slender, and the stigma orbicular: the fruit is of the drupous or cherry kind, though much smaller, of a black colour, but covered with a bright blue exudation, and contains a nut with an oblong kernel. It is common in hedges, and the flowers appear in March and April, before the leaves are visible.

The fruit of the Sloe-bush, or, as it is frequently called, Black-thorn, is so harshly sharp and austere as not to be eatable till thoroughly mellowed by frosts: its juice is extremely viscid, so that the fruit requires the addition of a little water, in order to admit of expression. The juice obtained from the unripe fruit, and inspissated to dryness by a gentle heat, is the German acacia, and has been usually sold in the shops for the Egyptian acacia, from which it differs in being harder, heavier, darker coloured, of a sharper taste, and more especially in giving out its astringency to rectified spirit.[a]

The Pruna sylvestria have been employed for their styptic powers since the time of Dioscorides;[b] and as their astringency is united to the refrigerant qualities of the fruit, they may sometimes supersede those medicines of this class which are of a resinous or heating quality. They have been recommended in diarrhæas, hæmorrhagic affections, and as gargles, in tumefactions of the tonsils and uvulæ. Dr. Cullen considers the Sloe as the most powerful of the *fructus acerbi*, and adds, that he has often found it an agreeable and useful astringent; but he thinks the conserve of this fruit, as directed by the College, contains a larger proportion of sugar than is necessary.[c]

[a] Lewis *Mat. Med. p.* 522. [b] Diosc. *Mat. Med. Lib. i. cap.* 173.

[c] Vide *Mat. Med. vol. ii. p.* 41.

The flowers, with their calyces, are moderately purgative, and for this purpose an ounce infused in a sufficient quantity of water, or rather whey, was experienced to be a pleasant and useful laxative.[d] The powdered bark, in doses of a dram, is said to cure agues.

[d] See J. Bauh. *Hist. tom. i. P. i. p.* 196. *& Fred. Hoffman. Diss. de præstantia remed. domest.* §. 26.

Dr. Withering says, "The tender leaves dried are sometimes used as a substitute for tea, and is I believe the best substitute that has yet been tried. The fruit bruised, and put into wine, gives it a beautiful red colour, and a pleasant subacrid roughness. Letters written upon linen or woollen with the juice of this fruit, will not wash out." *Bot. Arr. p.* 509.

PRUNUS DOMESTICA. COMMON PRUNE, Or PLUM TREE.

SYNONYMA. Prunum gallicum. *Pharm. Lond.* Prunus domestica. *Gerard. Emac. p.* 1497. Prunus vulgaris. *Park. Theat. p.* 1512. *Raii Hist. p.* 1526. Prunus foliis serratis, hirsutis, ovato-lanceolatis, floribus longe petiolatis. *Hal. Stirp. Helv. n.* 1079. Ut Linnæo videtur Prunus fructu parvo dulci atro-cæruleo. *Tournef. Inst. p.* 622.

Class Icosandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 620.

Ess. Gen. Ch. *Cal.* 5-fidus, inferus. *Petala* 5. *Drupæ* nux suturis prominulis.

Sp. Ch. P. pedunculis subsolitariis, fol. lanceolato-ovatis convolutis, ramis muticis. *Gemmæ floriferæ aphyllæ.* Mur.



Prunus domestica

Published by W. Phillips. Febr.ʸ 1ˢᵗ 1809.

PRESTON INSTITUTION 1828

THIS species of Prunus grows much higher than the former; it is without spines, and covered with smooth bark of a dark brown colour: the leaves are oval, slightly indented at the edges, pointed, veined, of a pale green colour, and stand upon very short foot-stalks: the stipulæ are oval, pointed, membranous, and placed in pairs at the base of the peduncles: the flowers are large, and surround the branches upon separate peduncles: the calyx is divided into five narrow concave segments, and beset on the inside with a number of glandular hairs:[a] the corolla consists of five roundish white petals: the filaments are more than twenty, tapering, inserted in the calyx, and furnished with reddish antheræ: the germen is round, and supports a simple style, which is shorter than the filaments, and crowned with a globular stigma: the fruit is oblong, or egg shaped, consisting of a sweet fleshy pulp, covered with a dark violet coloured pellicle, and including in the centre an almond-shaped nut, or stone. It is a native of Britain, and flowers in April and May.

Among the many varieties of plums[b] we find considerable difficulty in referring with sufficient accuracy to that called by the London College Prunum gallicum; it is therefore probable that some of the synonyma introduced above, are not in this respect so correctly applicable as they ought to be.[c] The Syrian Plums were much esteemed by the ancients, particularly a species which

[a] See Withering, l. c.

[b] Du Hamel *(Arbres fruit. T.* 2. *p.* 65. *sq.)* describes forty-eight varieties: and Mayer *(Pomona Francon. T.* 1. *p.* 110.*)* makes them still more numerous.

The original parent of these varieties is not yet satisfactorily ascertained.—J. Bauhin refers it to the Pruna cerea minora præcocia.

[c] On this subject Professor Murray says, "Hisce Pharmacopœia Londinensi duce intelligo vulgaria ista oblonga, profunde violacea, ubivis in hortis reperiunda, cui varietati non audeo in brevitate descriptionum adscribere nomen Bauhinianum vel Tournefortianum, nisi sit Pruna oblonga cœrulea C. B. vel. Pr. fructu oblongo cœruleo Tournef." App. Med. vol. iii. p. 230.

grew in the neighbourhood of Damascus,[d] and hence a variety of this fruit is still known by the name of Pruna damascena. According to Pliny,[e] the tree was brought from Syria into Greece, and from thence into Italy, where its fruit is repeatedly noticed by the Latin poet.[f]

All our garden plums are eaten at table, and when sufficiently ripe, and taken in a moderate quantity, prove a pleasant and wholesome food. But in an immature state, they are more liable to produce colicky pains, diarrhæa, or cholera, than any other fruit of this class; some attention to this circumstance is therefore always necessary. Considered medicinally, they are emollient, cooling, and laxative, especially the French prunes, which are imported here in their dried state from Marseilles; and though the laxative power of these is diminished by drying, yet it is observed by Dr. Cullen, that as they contain a great deal of the acid which they originally had, they have more effect in this way than the other dried fruits.[g] They are found to be peculiarly useful in costive habits, and are frequently ordered in decoction with senna or other purgatives. It is the pulp of this fruit which is directed in the Electuarium è Senna, or Lenitive electuary.

[d] See Dioscorides, (*Lib. i. cap.* 1. 174.) by whom the tree is called Κοκκυμηλεα, and the fruit Κοκκυμηλα.

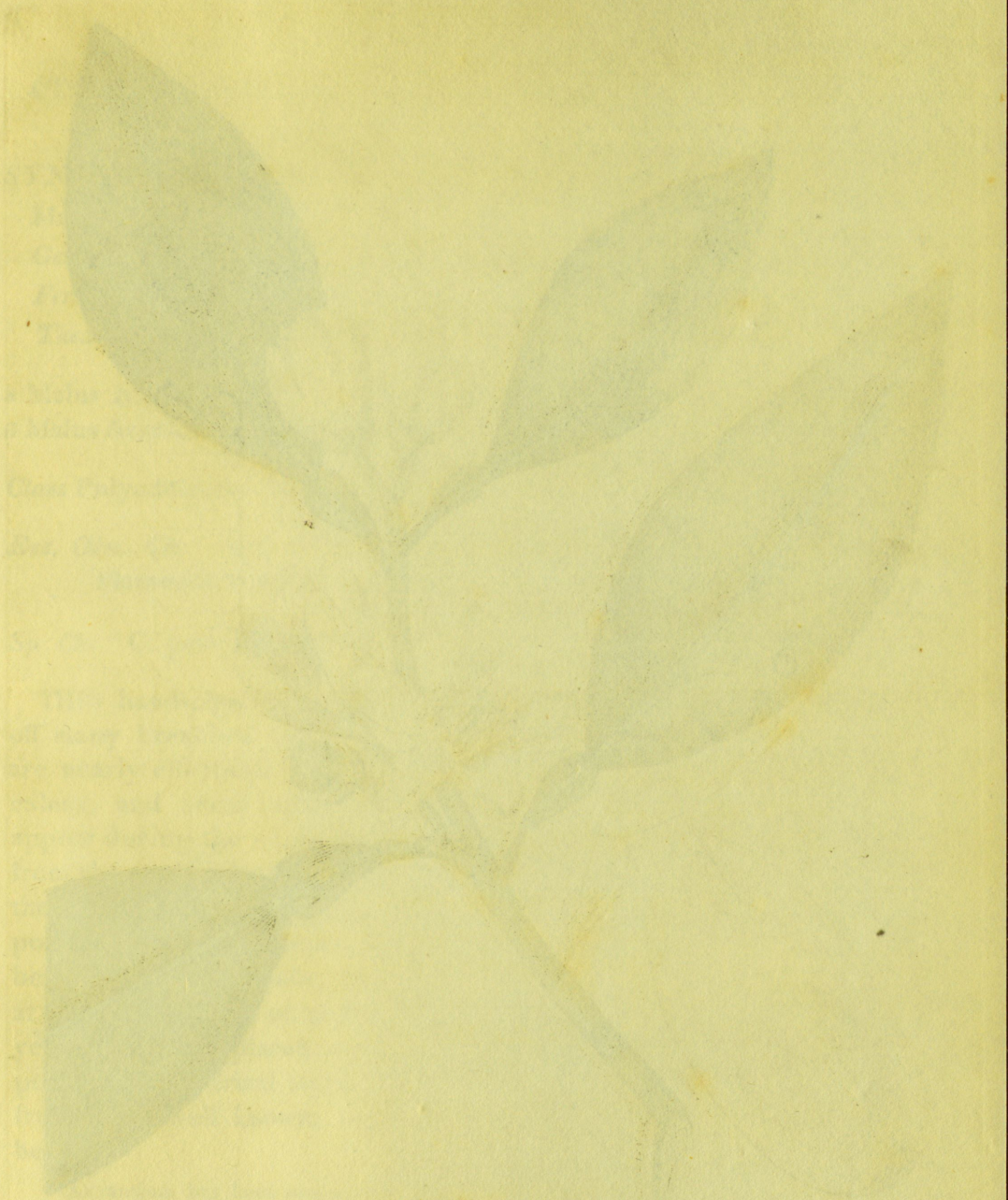
[e] *Hist. Nat. L. xv. cap.* 13.

[f] It is also thus mentioned by Ovid:

Prunaque, non solum nigro liventia succo,
Verum etiam generosa, novasque imitantia ceras.

MET. *Lib. xiii. v.* 818.

[g] *Mat. Med. vol. i. p.* 254.





Citrus Aurantium.

Published by W. Phillips, Feb.ry 1.st 1809.

PRESTON
1828

CITRUS AURANTIUM. ORANGE-TREE.

SYNONYMA. Aurantium * hispalense. *Pharm. Lond. & Edinb.* Malus Arantia major. *Bauh. Pin. p.* 436. Malus Aurantia. *Gerard. Emac. p.* 1463. *Raii Hist. p.* 1658. Aurantium vulgare. *Ferrar. Hesp. p.* 377. *t.* 369. Malus Aurantia vulgaris. *Park. Theat. p.* 1508. *Ic. Miller Illust. & Regnault Botanique,* L'Oranger.

α Malus Arantia major. *Bauh. l. c.* *Seville Orange Tree.*
β Malus Arantia, cortice dulci eduli. *Bauh. l. c.* *China Orange-Tree.*

Class Polyadelphia. *Ord.* Icosandria. *Lin. Gen. Plant.* 901.

Ess. Gen. Ch. *Cal.* 5-fidus. *Petala* 5, oblonga. *Antheræ* 20, filamentis connatis in varia corpora. *Bacca* 9-locularis.

Sp. Ch. C. petiolis alatis, foliis acuminatis.

THIS handsome evergreen rises several feet in height, sending off many branches, and covered with a greyish bark: the leaves are nearly elliptical, pointed, smooth, entire, of a shining green colour, and stand upon strong winged footstalks: the flowers appear during the whole summer, and are large, white, and arise from the smaller branches upon simple and branched peduncles: the calyx is saucer-shaped, and cut at the brim into five small pointed teeth: the petals are five, oblong, white, concave, and beset with small glands: the filaments are about twenty, united at the base in three or more distinct portions, and furnished with yellow antheræ, placed vertically: the germen is roundish, supporting a cylindrical style, terminated by a globular stigma: the fruit is so well known, as not to require our description of it here.

* Aurantium has been supposed by some to be derived ab aureo colore corticis fructus; by others, Arantium, ab oppido Achaiæ. See *C. B. l. c.* Also *Ray l. c.*

This tree, according to Mr. Aiton,[a] is a native of India; but it has been long cultivated in the warmer parts of Europe, and the fruit brought to us is chiefly the produce of Spain and Portugal. Since the time of Parkinson,[b] Orange-trees have been propagated here as ornamental green-house shrubs; but in this country the fruit rarely arrives at the perfection of that which is imported from Spain.

The China Orange, and Seville Orange, are both varieties of the same species; but it is only the latter which has a place in the Materia Medica of our Pharmacopœias, in which not only the juice and exterior yellow rind of this fruit are directed for medicinal use, but also the leaves and flowers.

The juice is a grateful acid liquor, which, by allaying heat, quenching thirst, promoting various excretions, and diminishing the action of the sanguiferous system, proves of considerable use in all febrile and inflammatory disorders. It is also a powerful antiseptic, and of great efficacy in preventing and curing the scurvy.[c] Though what is here observed relates to the juice of

[a] *Hort. Kew. vol. iii. p.* 101.

[b] 1629, See *Park. Parad. p.* 584. [c] See *Lind on Scurvy, p.* 163.

The practice of evaporating this juice, or making it into what has been called a rob, in order to preserve it a length of time on ship board, has been recommended; but Dr. Cullen says, "in many trials which I have made, I could not exhale it to such a consistence as would preserve it without addition, without my finding the acid a good deal changed. It acquires an acerbity and stipticity that does not allow it to be readily diffused in water; and I suspect it is not so readily miscible with the animal fluids as in its entire state. From Forster's observations in the voyage round the world, it was not found useful either in preventing or curing the scurvy; which perhaps may be accounted for, partly by the concentration bringing it nearer to the state of the fossile acids, or possibly by the dissipation of some volatile parts, perhaps a portion of aëriel acid; both of which circumstances may render it less fit for the cure of scurvy. I have therefore a bad opinion of the acid exhaled to a thick consistence; and judge the best way of preserving its virtues to be by a diligent depuration of it from its mucilaginous part, and putting it up in close vessels, without putting any oil on its surface, which is ready to be acted upon by the acid, and gives a disagreeable taint to it." *Mat. Med. vol. i. p.* 252.

the Seville Orange, yet that of the China, by being united with a larger proportion of saccharine matter, is more agreeable to the taste, therefore mostly preferred, and may be taken more freely. These acids, by uniting with the bile, are said to take off its bitterness; hence Dr. Cullen thinks it "probable, that acid fruits taken in are often useful in obviating the disorders that might arise from the redundancy of bile, and perhaps from the acrid quality of it. On the other hand, however, if the acids are in greater quantity than can be, or are, properly corrected by the bile present, they seem, by some union with that fluid to acquire a purgative quality, that gives a diarrhœa, and the colic pains that are ready to accompany the operation of every purgative."[d]

The outer yellow rind of the fruit is a grateful aromatic bitter, and is commonly employed as a stomachic, a character in which it is deservedly much esteemed. By the union of its aromatic and bitter qualities it warms the stomach, promotes appetite, and gives tone and strength to the viscera. It contains a considerable portion of volatile aromatic oil, very different from that of any other bitter, except what is found in the lemon; and the combination of this oil with the bitter of the orange peel, according to Dr. Cullen, gives it peculiar virtues; but the Orange-peel being commonly employed in conjunction with other bitters, these virtues have not been ascertained.[e] He adds, that he has "made several observations, which justify the opinion that Orange peel may be particularly useful in restoring the tone of the stomach when it has been much impaired; but this does not appear so often as it should, because we employ it almost only in its dried state, and in too small a proportion, as we take it dried with a part of the white inert substance that is also in the rind of the Orange."[f]

It has been justly remarked,[g] that "Orange-peel appears to be very considerably warmer than that of lemons, and to abound

[d] *L. c.* [e] *Cullen, M. M. vol. ii. p.* 87. [f] *L. c.*

[g] See *Edinburgh New Dispensatory by Dr. Duncan, p.* 139.

more with essential oil: to this circumstance, therefore, due regard ought to be had in the use of these medicines. The flavour of the first is likewise supposed to be less perishable than that of the other: hence the London College employ Orange-peel in the spirituous bitter tincture, which is designed for keeping; whilst in the bitter watery infusion, lemon-peel is preferred. A syrup, and distilled water, are for the same reason prepared from the rind of Oranges in preference to that of lemons."

Besides the use of Orange-peel as a stomachic, it has been much celebrated for the cure of intermittent fevers; and in testimony of its efficacy in most obstinate agues, we find several authorities cited by Professor Murray.[h] It has likewise been experienced to be a powerful remedy in menorrhagia, and in immoderate uterine evacuations; and for its good effects in these complaints, we have not only the assertion of foreign physicians, but also those of Doctors Whytt[i] and Hamilton.[k]

The flowers, which are extremely fragrant, and much used in perfumes, have a warm taste, accompanied with some degree of bitterness. "They yield their flavour by infusion to rectified spirit, and in distillation both to spirit and water: the bitter matter is dissolved by water, and on evaporating the decoction, remains entire in the extract. An oil, distilled from these flowers, is brought from Italy, under the name of oleum, or essentia neroli."[l]

The leaves of the Orange-tree have a bitterish taste, and, on being rubbed between the fingers and thumb, manifest considerable fragrancy; like the petals they are also beset with

[h] As Dubeus. *Medecin des pauvres. p.* 285. *sqq.* Both he and Nigrisolius declare it to be equal, if not superior in efficacy, to the Peruvian bark. See also Möhringius *Com. Noric.* 1736. *p.* 20. And Werlhof. *Com. Nor.* 1735. *p.* 98. *Murray. App. Med. vol. iii. p.* 289.

[i] See his *Works, p.* 662. [k] *De prax. reg. p.* 20.

[l] *Edinb. New Disp. p.* 139. Also called oleum distillatum florum naphæ.

minute glands, which secrete an essential oil, and are easily discovered on holding the leaf betwixt the eye and the light. Both the leaves and the flowers,[m] but especially the former, have been in great estimation as a remedy for epilepsy, and various other convulsive disorders. Westerhoef, who seems to have first made public this virtue of the leaves, about thirty years ago, transmitted an account of their efficacy to De Haen,[n] who also experienced their good effects; after which they became a favourite remedy at Vienna, and numerous instances of their success in these complaints are published by several German physicians.[o]

Their employment, however, in this country has been attended with less success; proofs of which are given by Professors Home[p] and Cullen.[q] The dose of the powdered leaves is from half a dram to a dram, two or three times a day, and proportionably in decoction.

The young unripe fruit formerly had a place in the Edinburgh Pharmacopœia, under the name of Aurantia curaslavensia, or Curasso oranges. The Limon Bergamotta of the Italians, from whom we have the essence so named, approaches more nearly to the Orange than to the lemon, as its leaves have winged footstalks.

[m] Bergius states the former to be tonic and the latter analeptic. *M. M. vol. ii. p.* 638.

[n] *Rat. Med. T.* 6. *p.* 305. *sqq.*

[o] Locher, who gave this medicine to fifteen epileptic patients, says, that nine were evidently much relieved by it, though not cured. *Obs. Pract. p.* 47.—See the authorities cited by Murray. *l. c.*

[p] *Clinical Experiments. p.* 211.

[q] *L. c.*

CITRUS MEDICA. LEMON-TREE.

SYNONYMA. Limon. *Pharm. Lond. & Edinb.* Malus medica. *Bauh. Pin. p.* 435. *Gerard. Emac. p.* 1462. Malum citreum vulgare. *Ferrar. Hesp. p.* 56. *t.* 69. Malus citria sive medica. *Raii Hist. p.* 1654. *Park. Theat. p.* 1506. Le Citronier. *Regnault. Botanique.* Μηλεα μηδικη *Theophrast. & Dioscor.* β Malus Limonia acida. *Bauh. Pin. p.* 436. Lime-Tree.

Class Polyadelphia. *Ord.* Icosandria. *Lin. Gen. Plant.* 901.

Ess. Gen. Ch. Cal. 5-fidus. *Petala* 5, oblonga. *Antheræ* 20, filamentis connatis in varia corpora. *Bacca* 9-locularis.

Sp. Ch. C. petiolis linearibus.

THIS tree is equally beautiful as that of the orange, which it much resembles, so that at a little distance they are not easily to be distinguished: the leaves however of the Lemon-tree are commonly larger, slightly indented at the edges, and are without those winged appendages at the footstalks, which constitute the specific character of the orange: the flowers, which appear most part of the summer, are large, and the outer side of the petals have usually a purplish tinge: the other parts of inflorescence resemble those of the orange: the fruit has a prominent apex, externally of a pale yellow or straw-colour, internally divided into nine cells, containing an extremely acid juice.

This tree is a native of the upper parts of Asia, from whence it was brought to Greece, and afterwards by Paladius to Italy.[a] Although it has been doubted whether Paladius was really the

[a] Etenim Citrus apud Medos et Persas imprimis frequens, dein Paladii diligentia in Italiam translata fuit: postea in Hispania in usum devenit, ut nemora & campos occuparit. *Bauh. Pin. p.* 435.



Citrus Medica

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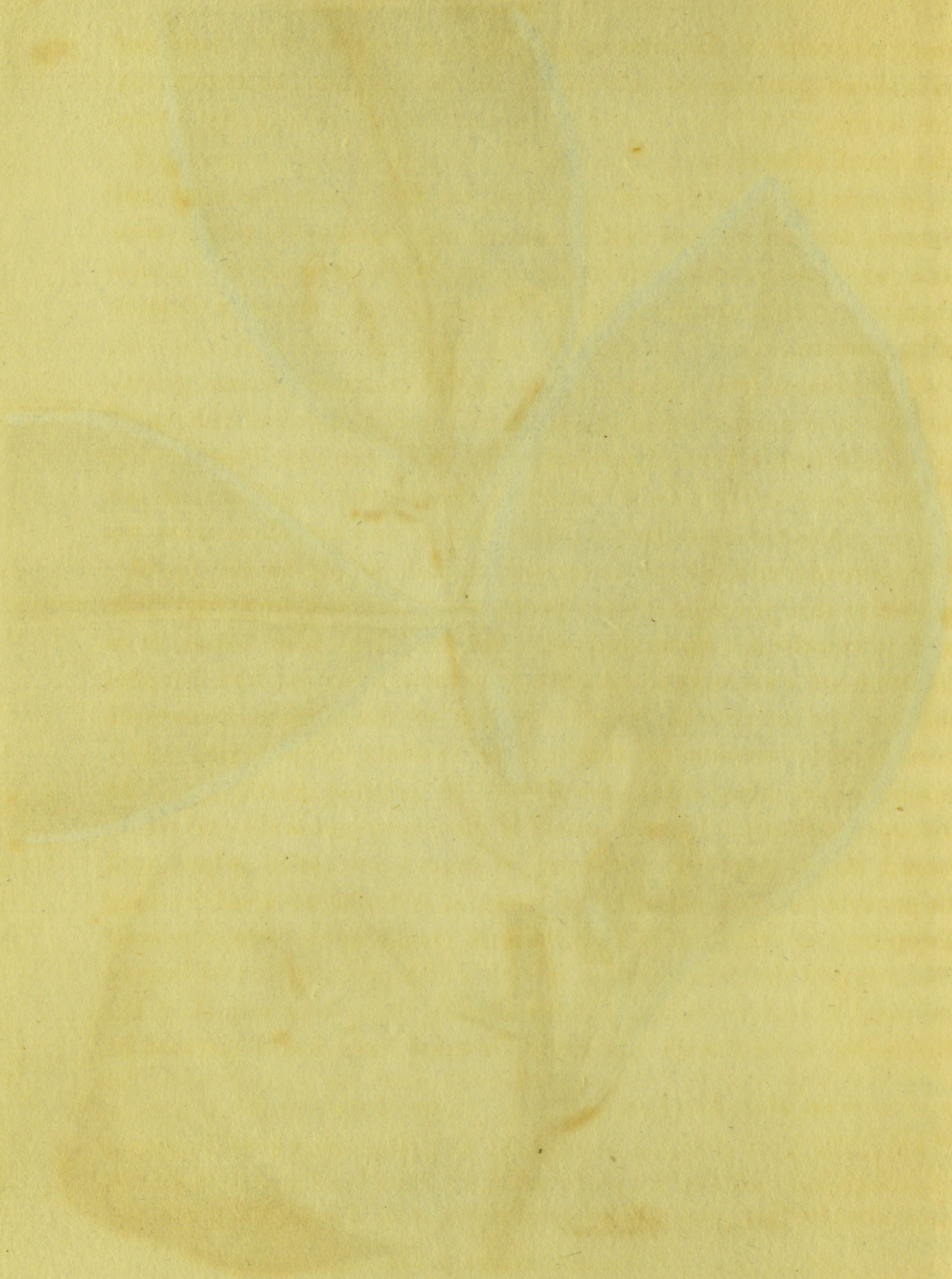


first cultivator of this tree in Italy, yet it is evident it could not have been propagated there long before his time, as appears by the writings of Pliny;[b] nor is its cultivation noticed by Varro, Cato, or Columella.

After its introduction into Europe, we find Spain, Portugal, and France, became successively possessed of this valuable plant, with its congeners; and the Hesperian fruits are now produced in such abundance, that their exportation gives rise to a lucrative branch of commerce.

The Lemon-tree, like the orange, is common in our green-houses; and according to the Hortus Kewensis, was first cultivated in Britain in the Oxford garden, previous to the year 1648.[c]

The juice of the fruit, which is more acid than that of the orange, possesses similar medical virtues, and therefore what we have already said of the latter will equally apply to the former. However this juice is always preferred where a strong vegetable acid is required. Saturated with the fixed vegetable alkali, it is in frequent extemporaneous use in febrile diseases; and by promoting the secretions, especially that of the surface, proves of considerable service in abating the violence of pyrexia. This medicine is also often employed to restrain vomiting. As an antiscorbutic, Lemon juice is also very generally taken on board ships, destined for long voyages; but even when well depurated of its mucilaginous parts, it is found to spoil by long keeping; to prevent which various means have been devised.[d] We are told that, by mixing it with a fifth or sixth part of brandy or rum, it underwent no change during thirty-two months;[e] but by being mixed with the spirit, it must have lost a part of its

[b] See *Hist. Nat. l.* 12. *c.* 3. [c] See *Hort. Oxon. ed.* 1.

[d] However, when purified as mentioned by Dr. Cullen, (which we have related of the orange juice) and kept in a proper cellar, it has been found to retain its qualities unimpaired for four years. Vide Georgii in *Vet. Acad. Handl.* 1774. *p.* 245. *sqq.*

[e] *Forster's Voyage, p.* 638.

sharpness. As to reducing it to the state of a rob, we have already noticed the objections of Dr. Cullen in treating of the orange juice.

To preserve Lemon juice in purity for a considerable length of time, it is necessary that it should be brought to a highly concentrated state, and for this purpose it has been recommended to expose the juice to a degree of cold sufficient to congeal the aqueous and mucilaginous parts. After a crust of ice is formed, the juice is poured into another vessel; and by repeating this process several times, the remaining juice, we are informed, has been concentrated to eight times its original strength, and kept without suffering any material change for several years.[f] The ice first formed is wholly void of acidity, but the subsequent congelations become more and more imbued with the acid.

Whytt found the juice of Lemons to allay hysterical palpitations of the heart, after various other medicines had been experienced ineffectual;[g] and this juice, or that of oranges, taken to the quantity of four or six ounces a-day, has sometimes been found a remedy in the jaundice.[h]

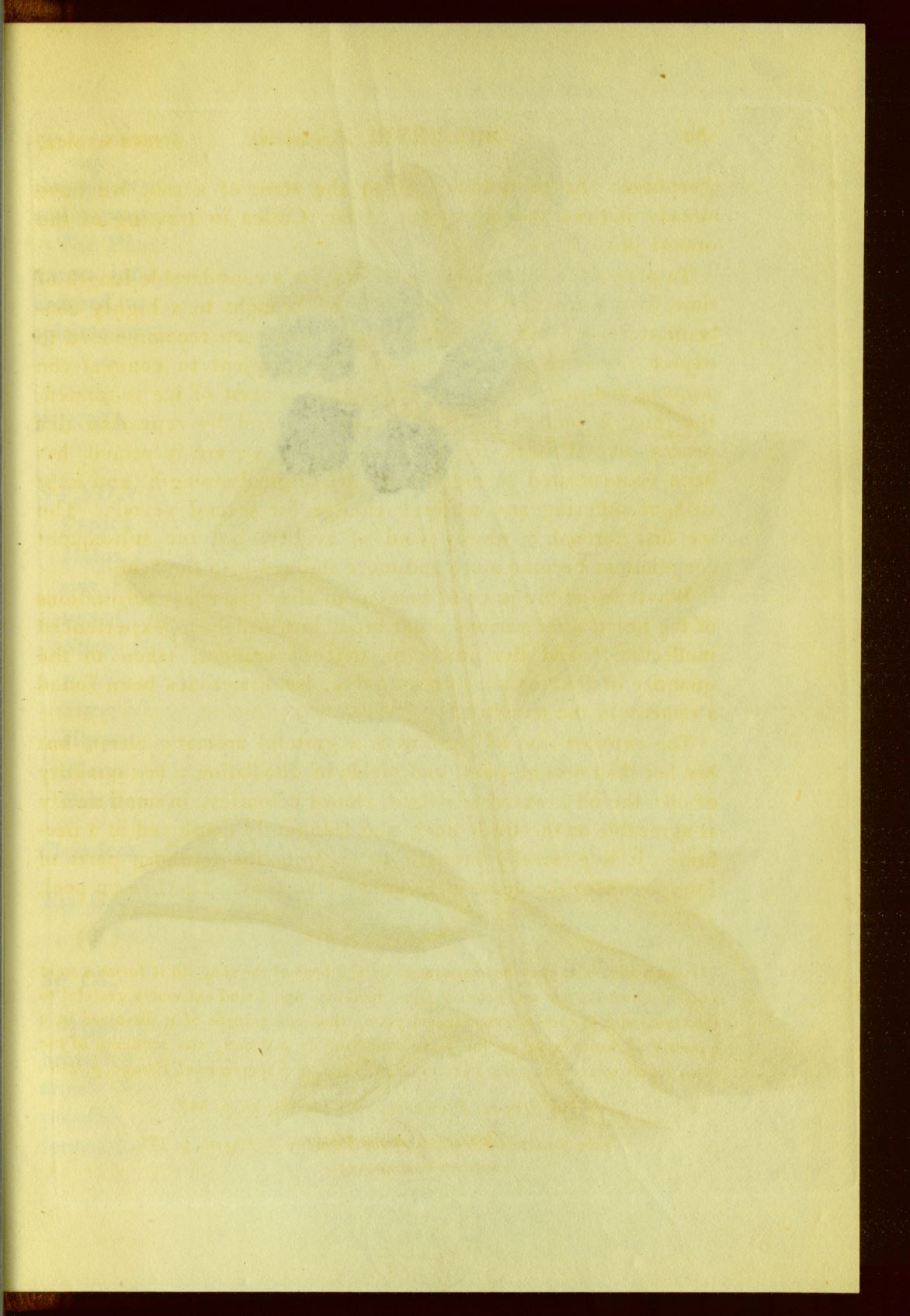
The exterior rind of Lemons is a grateful aromatic bitter, but less hot than orange-peel, and yields in distillation a less quantity of oil: the oil is extremely light, almost colourless, in smell nearly as agreeable as the fresh peel, and frequently employed as a perfume: it is generally brought to us from the southern parts of Europe, under the name of Essence of Lemons. The Lemon peel,

[f] See *Georgii, l. c.*

Lemon juice also may be evaporated by the heat of the sun, till it forms a solid salt, in which state it was brought from Jamaica, and found extremely grateful to the taste, and in such a concentrated state, that one scruple of it dissolved in a quantity of water equal to the juice contained in a lemon, was rendered of the same degree of acidity. See Percival *Phil. Med. & Experimental Essays, p.* 219.

[g] *On Nervous Disorders.* See his Works, *p.* 649.

[h] Vide Saunders *Elements of the Practice of Physic, p.* 170.





Punica Granatum

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though less warm, is similar in its qualities to that of the orange, and is employed with the same intentions.

The Pharmacopœias direct a syrup of the juice, and the peel enters into the vinous and aqueous bitter infusions: it is also ordered to be candied: the essential oil is an ingredient in the spiritus amoniæ compositus, and other formulæ.

PUNICA GRANATUM. POMEGRANATE TREE.

SYNONYMA. Granatum. *Pharm. Lond. & Edinb.* Malus Punica sativa. *Bauh. Pin. p.* 438. *Park. Theat. p.* 1510. Malus Punica. *J. Bauh. Hist. vol. i. p.* 76. Malus Granata sive Punica. *Gerard. Emac. p.* 1450. Punica spinosa, foliis nitentibus, ellipticis, integerrimis, floribus sessilibus. *Hal. Stirp. Helv. n.* 1098. *Conf.* Du Hamel *Traité des arbres, t.* 2. *p.* 193. *et* Miller *Illustr. Syst. Sex.* β Punica floribus plenis. Theophrasti *et* Dioscoridi *arbor ejusque fructus dicitur* Ροα; Hippocrati *arbor audit* Σιδη, *unde cortex fructus* Σιδιον vel Ροιης. *Flores Punicæ sativæ autem* Dioscoridi *et* Galeni Κυτινοι *hodie* Balaustiorum Flores, *vocantur.*

Class Icosandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 618.

Ess. Gen. Ch. *Cal.* 5-fidus, superus. *Petala.* 5. *Pomum* multiloculare polyspermum.

Sp. Ch. P. foliis lanceolatis, caule arboreo.

THIS small tree rises several feet in height: it is covered with a brownish bark, and divided into many small branches, which are armed with spines: the leaves are oblong, or lance-shaped, pointed, veined, of a deep green colour, and placed upon short footstalks: the flowers are large, of a rich scarlet colour, and stand

at the end of the young branches: the corolla is composed of five large roundish slender petals, with narrow claws, by which they are inserted into the calyx: the calyx is large, thick, fleshy, tubular, of a brownish red colour, and divided at the extremity into five pointed segments: the filaments are numerous, short, bent inwards, furnished with yellow antheræ, and attached to the calyx: the germen is roundish, and supports a simple style, of the length of the filaments, and terminated by a globular stigma: the fruit is about the size of an orange, and crowned with the five teeth of the calyx: the rind is thick and tough, externally reddish, internally yellowish, filled with a red succulent pulp,[a] contained in transparent cellular membranes, and included in nine cells, within which numerous oblong angular seeds are also lodged. This shrubby tree is a native of Spain, Italy, and Barbary, and flowers from June to September.

The Greek writers were well acquainted with the Pomegranate, as appears from what we have already mentioned under the *Synonyma;* and Pliny tells us that its fruit was usually sold in the neighbourhood of Carthage.[b] The cultivation of this tree in England is first to be dated from the time of Gerard, in 1596;[c] and though its fruit seldom arrives to a state of perfection in this country,[d] yet the large and beautiful scarlet flowers[e] which it produces, still render it a desirable object of ornamental gardening. The rind of the fruit, and the flowers, the calyces of which may be included, are the parts directed in the Pharmacopœias for medicinal use. The fruit has been called cortex granati, malicorium, sidium, &c. In its smell there is nothing remarkable, but to the

[a] This is gratefully acid, somewhat like that of oranges.

[b] —— Circa Carthaginem punicum malum cognomine sibi vendicat; aliqui granatum appellant. l. 13. c. 19. p. 333. [c] Vide Aiton's Hort. Kew.

[d] Miller tells us that he obtained fruit from some of these trees which were planted in a warm situation, but they had not the proper flavour.

[e] The double flowered sort, more especially, makes a very beautiful appearance.

taste it is very astringent. "With water it yields near half its own weight of a very austere extract, but gives out very little to rectified spirit; its astringent matter, like that of the fruit of the acacia tree, seeming to be indissoluble in spirituous menstrua: in this respect the astringency of the fruit differs from the latter,"[f] which are named Balaustium or Balaustine flowers; these are commonly taken from the double-flowered variety, and like the rind have little or no smell, but a mild bitterish styptic taste. They are both powerful astringents,[g] and with this effect have long been successfully employed in diseases both internally and externally. Dr. Cullen observes that "the strong styptic taste of this bark, "and the black colour it strikes with green vitriol, shew sufficiently "its astringent power; and it is commonly supposed to be among "the strongest of this kind. As at the same time, it gives out "such a large portion of its substance to water in infusion or "decoction, it seems to be particularly fit for affording a liquid "astringent, and I have frequently found it particularly useful "in gargles, in diarrhœa, and in external applications. That it "is so powerful an astringent internally used, as to be more "dangerous than others, I cannot perceive; and that it has ever "had the power of suppressing the catamenia, seems to me very "doubtful."[h] The dose, in substance, is from half a dram to a dram; in infusion or decoction, to half an ounce.

[f] Lewis Mat. Med. p. 328.

[g] Virtus *corticis:* validus adstringens, coriaria; *florum:* paullo mitior; *pulpæ* refrigerans, restringens. Berg. M. M. p. 398.

[h] M. M. vol. ii. p. 44.

[i] Usus *cort.* externus, Laxitas uvulæ, Procedentia intestini. Berg. l. c.

RIBES RUBRUM. RED CURRANT.

SYNONYMA. Ribes rubrum. *Pharm. Lond.* Ribes vulgaris fructu rubro. *Gerard. Emac. p.* 1593. *Raii Hist. p.* 1485. *Synop. p.* 456. Ribes fructu rubro. *Park. Theat. p.* 1561. Ribes vulgaris acidus ruber. *J. Bauh. Hist. ii. p.* 97. Grossularia, multiplici acino, sive non spinosa hortensis rubra. *Bauh. Pin. p.* 455. Ribes inerme floribus planiusculis stipulis minimis. *Hal. Stirp. Helv. n.* 818. *Hudson Flor. Ang. p.* 99. *Withering. Bot. Arrang. p.* 243.

α Ribes rutilum. *Red Currant.*

β Ribes album. *White Currant.*

Class Pentandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 281.

Ess. Gen. Ch. Petala 5 et *Stamina* calyci inserta. *Stylus* 2-fidus. *Bacca* polysperma, infera.

Sp. Ch. R. inerme, racemis glabris pendulis, floribus planiusculis.

THIS shrub grows five or six feet in height, is divided into many branches, and covered with a dark brown bark, except that of the young branches which is whitish or ash-coloured: the leaves are serrated, veined, divided into five, and sometimes seven lobes, of a pale green colour, and stand upon tapering footstalks, which are about the length of the leaves, and hairy towards the base: the bracteæ are small, oval, pointed, and placed at the base of the leaf stalks and peduncles: the flowers grow in lateral pendulous racemi, or clusters, and appear in April: the calyx is divided into five spreading, reflexed, pointed, oblong, concave, permanent



Ribes rubrum

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segments, which are of a yellowish green colour: the corolla is composed of five small obtuse upright petals, of a yellowish colour, and inserted in the calyx: the filaments are five, tapering, erect, and inserted in the calyx: the antheræ are compressed, gaping at the edges, and attached at their sides to the filaments: the germen is roundish, placed below the corolla, and supports a cloven style, with obtuse stigmata: the fruit is a round shining red berry, of one cell, separated into two receptacles, and containing many roundish seeds. It is a native of Britain, and usually grows in dry woodlands.

As the white Currant-tree is merely a variety of the red, the fruit of both, whether considered in a botanical or medical sense, is perfectly analogous; therefore what is observed here of the latter will apply equally to the former.

It is well known that the red Currant is abundantly cultivated in our gardens, whence we are plentifully supplied with the fruit, which, from its grateful acidity, becomes universally acceptable, either as nature presents it, or variously prepared by art[a] with the addition of sugar. By Dr. Cullen, this fruit is classed with the alimentary plants, and from being generally and exclusively considered as such, it was not received in the British catalogues of the Materia Medica till that published in the last edition of the London Pharmacopœia.

The medicinal qualities of red Currants appear to be similar to those of the other subacrid fruits, which are esteemed to be moderately refrigerant, antiseptic, attenuant,* and aperient. They may be used with considerable advantage to allay thirst in most febrile

[a] "The juice is a most agreeable acid in punch. If equal weights of picked currants and pure sugar are put over the fire, the liquor that separates spontaneously is a most agreeable jelly." *Withering. l. c.* The juice of red currants, with sugar, is a common beverage at Paris, where it is generally preferred to orgeat, or lemonade.

* Hoffman and Boerhaave had great confidence in the efficacy of these fruits in obstinate visceral obstructions.

complaints; to lessen an increased secretion of bile;[b] and to correct a putrid and scorbutic state of the fluids, especially in sanguine temperaments: but in constitutions of a contrary kind, they are apt to occasion flatulency and indigestion.

[b] See *Maclurg on the Bile*, where the effects of the vegetable acid are considered.

RIBES NIGRUM. BLACK CURRANT.

SYNONYMA. Ribes nigrum. *Pharm. Lond.* Ribes nigrum vulgo dictum folio olente. *J. Bauh. Hist. ii. p.* 98. *Raii Hist. p.* 1486. *Synop. p.* 456. Grossularia non spinosa fructu nigro. *Bauh. Pin. p.* 455. Ribes fructu nigro. *Park. Theat. p.* 1562. *Gerard. Emac. p.* 1593. Ribes inerme, olidum, calyce oblongo, petalis ovatis. *Hall. Stirp. Helv. n.* 819. *Hudson Flor. Ang. p.* 99. *Withering. Bot. Arrang. p.* 243.

Class. Pentandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 281.

Ess. Gen. Ch. Petala 5 et *stamina* calyci inserta. *Stylus* 2-fidus. *Bacca* polysperma, infera.

Sp. Ch. R. inerme, racemis pilosis, floribus oblongis.

THE Black Currant-tree usually rises six or seven feet in height: the old wood is covered with a dark brown or blackish bark, but that of the younger shoots is of a whitish colour: the leaves are commonly divided into three lobes, much veined, irregularly serrated, of a deep green colour, and on the under side beset with many yellowish glands, which secrete an odoriferous fluid, impregnating the whole leaf; the leaf-stalks are similarly shaped to those of the red currant: the bracteæ, or floral leaves, are oval, short, and woolly: the flowers are produced in pendent bunches, upon slender pedicles, placed alternately upon the common racemus, or peduncle: the calyx is divided into five oval spreading segments, of a pale green or yellowish colour: the corolla is



Ribes nigrum

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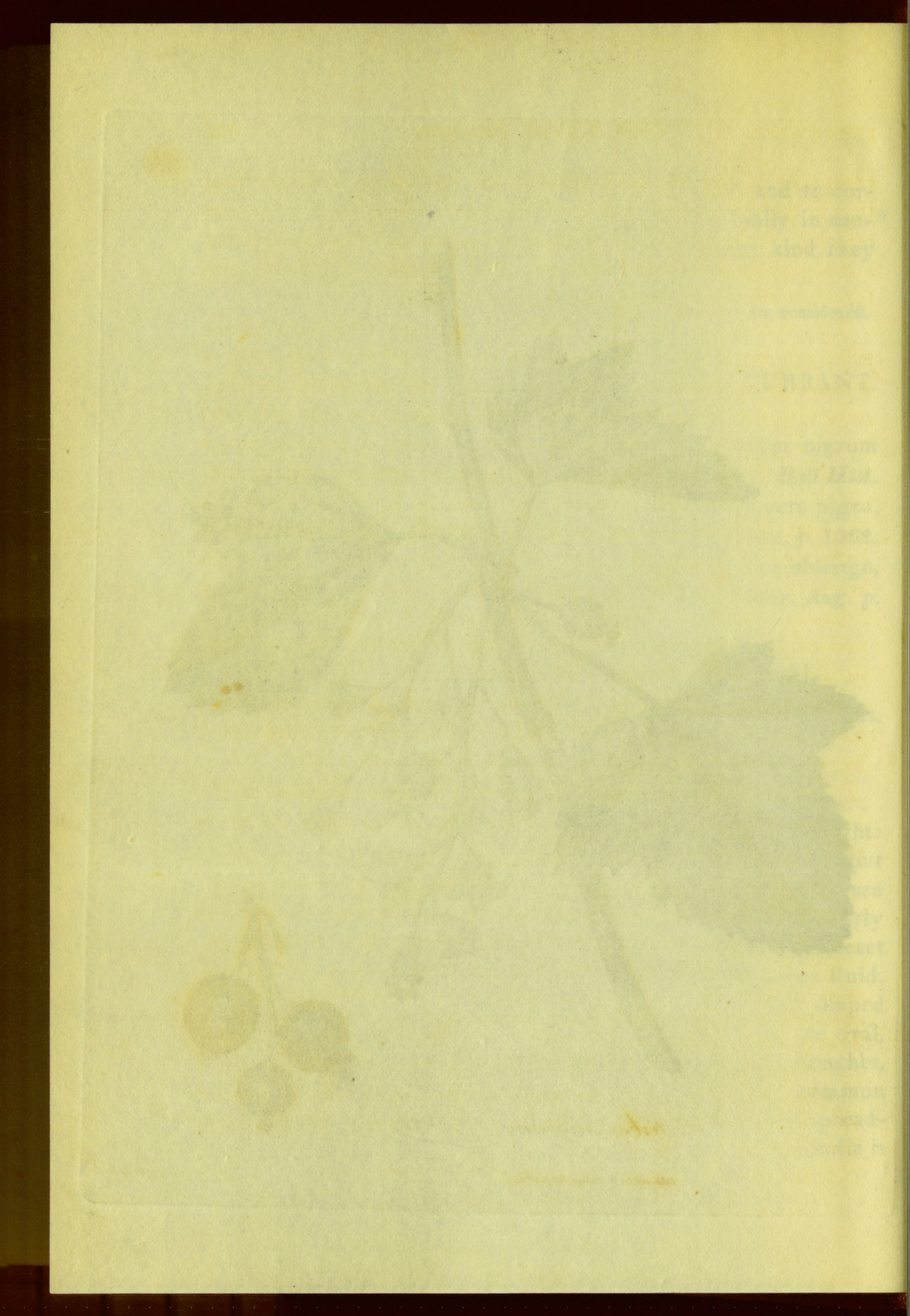

composed of five roundish petals: the nectarium is larger than that in the red currant, and the fruit or berries are black. In other respects, the parts of fructification correspond with the description already given of the red currant. It is a native of Britain, preferring a swampy ground, and flowers in May.

The berries of the black Currant are larger than those of the red; and we are told that in some parts of Siberia they grow to the size of an hazel nut. Besides having the properties in common with the *fructus acido-dulces,* these berries are also said to be peculiarly useful in sore throats, and to possess a diuretic power in a very considerable degree. From those qualities which they manifest to the organs of taste, there can be little doubt but that in cases of inflammatory angina, they may be advantageously employed to answer the same intentions as gargles:[a] the proofs however of their diuretic powers seem to want confirmation, as Forestus, on whose authority they rest, and who first noticed this property of the black currant, constantly prescribed it in combination with the seeds of wild carrot.[b]

The leaves of the black Currant are extremely fragrant, and have been likewise recommended for their medicinal virtue, which Bergius states to be mundificans, pellens, diuretica.[c]

The officinal preparations of the black currant berries, in the London Pharmacopœia, are the *syrupus ribis nigri,* and the *succus ribis nigri inspissatus.*

[a] From their efficacy in this way they acquired the name of Squinancy berries.

We may observe here, that the black currant jelly in common domestic use for this purpose, is rendered less efficacious by having too much sugar in its preparation.

Both the fruit of this, and of the red currant, afford a pleasant wine; and that made of the former is mentioned by Haller, "Ex eo optimum vinum fieri non deterius vinis verioribus viteis, quando annuum est." l. c. Smith *Nat. Hist. of Cork. p.* 359.

[b] *Opp. Lib.* 25. *Obs.* 10.

[c] *Mat. Med. vol. i. p.* 155. An infusion of these leaves is said to have the taste of green tea; and when prepared from the young leaves, is to some people peculiarly agreeable.

ORD. XXIX. HESPERIDEÆ.

(From the *Hesperides*, whose orchards are said to have produced golden apples.)

CARYOPHYLLUS AROMATICUS. CLOVE TREE.

SYNONYMA. Caryophyllum aromaticum. *Pharm. Lond. & Edinb.* Caryophyllus aromaticus, fructu oblongo. *Bauh. Pin. p.* 410. *Raii Hist. p.* 1508. Caryophylli. *Park. Theat. p.* 1577. *Gerard. Emac. p.* 1535. Caryophyllus aromaticus, Indiæ orientalis, fructu clavato monopyreno. *Pluk. Alm.* 88. *t.* 155. *f.* 1. Caryophyllum. *Rumph. Herb. Amb. vol. ii. t.* 1. 2. *sq.* Caryophyllus Kruidnagelboom. *Houttuyn natuurlyke historie, vol. ii. P.* 3. *p.* 44. *tab.* 12. *fig.* 1. Le Geroflier. *Sonnerat Voyage à la Nouvelle Guinée. p.* 196. *tab.* 119.

Class Polyandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 669.*

Ess. Gen. Ch. *Cor.* 4-petala. *Cal.* 4-phyllus, duplicatus. *Bacca* 1-sperma, infera.

Sp. Ch. C. foliis ovato-lanceolatis oppositis, floribus terminalibus, &c. *Mill. Dict.*

* The Caryophyllus evidently belongs to the class Icosandria; and modern botanists refer it to the genus Eugenia.



Caryophyllus aromaticus

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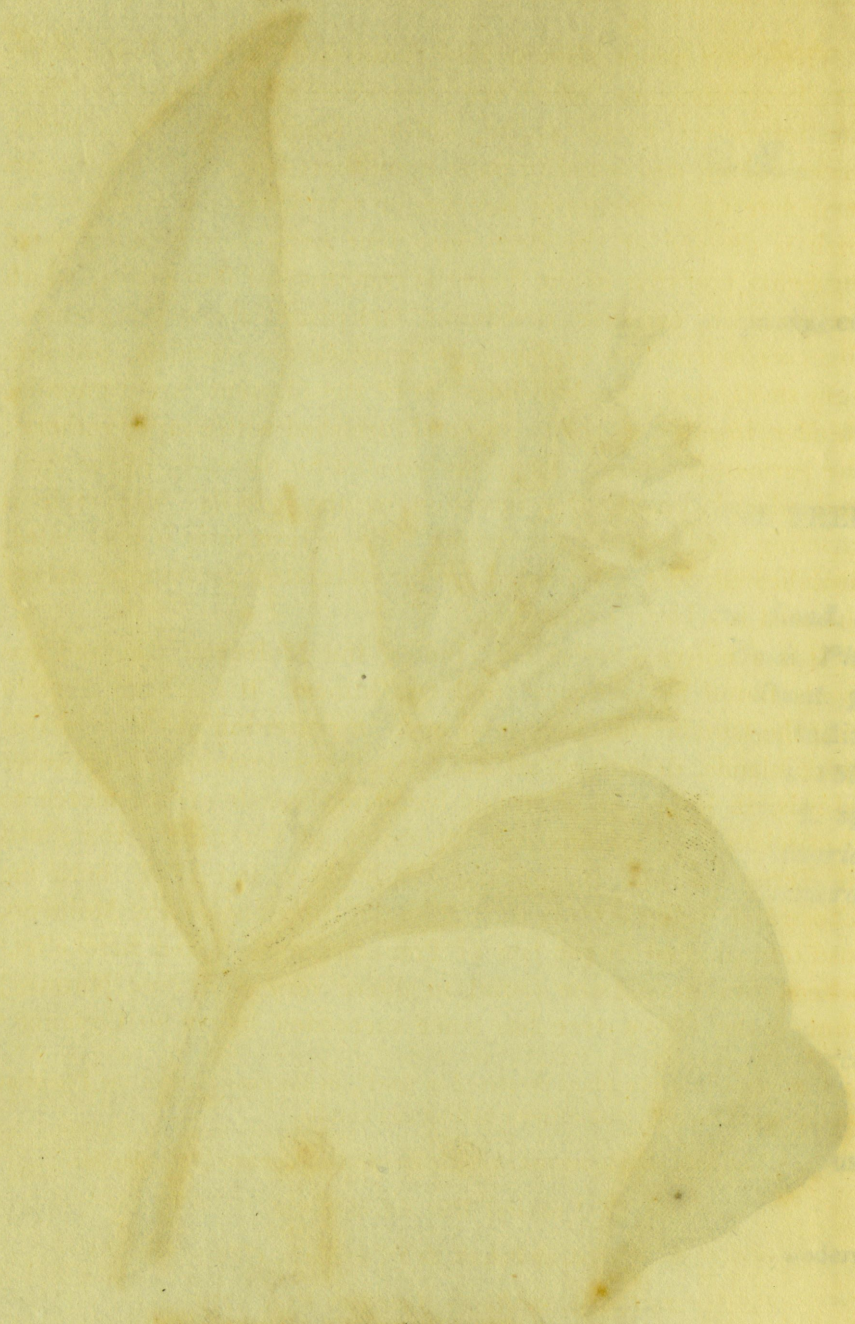
PRESTON
1828



THIS tree never rises to any considerable height, but divides into large branches, which are covered with smooth greyish bark: the leaves are large, entire, oblong, lance-shaped, of a bright green colour, and stand in pairs upon short footstalks: the flowers terminate the branches in bunches or pannicles: the calyx of the fruit is divided at the brim into four permanent small pointed segments, and that of the flower is composed of four leafits, which are roundish, concave, deciduous, and placed above the germen: the corolla consists of four petals, which are roundish, notched, very small, and of a bluish colour:† the filaments are numerous, slender, inserted in the calyx, and furnished with simple antheræ: the germen is oblong, large, terminated by the calyx of the fruit, and placed below the insertion of the corolla: the style is tapering, and the stigma simple; the pericarpium is one celled, umbilicated, and terminated by the indurated converging calyx: the seed is a large oval berry.[a]

It is a native of the East Indies, the Moluccas, &c. and was lately found by Sonnerat in New Guinea. It has been asserted that the Dutch, who have long been in possession of the principal spice islands, destroyed all the Clove trees growing in the other islands, in order to secure a lucrative branch of commerce to themselves, and confine the cultivation of this tree to the island of Ternate;[b] but it appears that in 1770 and 1772, both the Clove and Nutmeg trees were brought from one of the Moluccas, and transplanted in the Isle of France, Bourbon, and Seickelles,[c] where they have been found to thrive very well, (see Nutmeg) though the Clove tree has since succeeded better in Cayenne.[d]

† We examined this plant preserved in spirit, in the possession of the President of the Royal Society, but without finding any corolla.

[a] The fruit, in its mature state, is known by the name *Anthophyllus.*

[b] Savary, *Dict. vol. ii. p.* 653.

[c] *Hist. de l'Acad. de Sc. de Paris*, 1772.

[d] Tessier, *in Rozier Journ. de Phys.* 1779.

To bring this tree to the highest perfection, a peculiar mode of cultivation seems necessary, and is practised in Amboina by the Dutch, by whom it is kept a profound secret.[e] If the Clove was known to the Greeks, it cannot be discovered by their writings, nor is there any distinct account of it given by Pliny; but it seems in some measure applicable to the description of the Carunfel of Serapion, and the Charumfel Bellun of Avicenna,[f] so that this spice, as well as the nutmeg, was probably known to the Arabians.

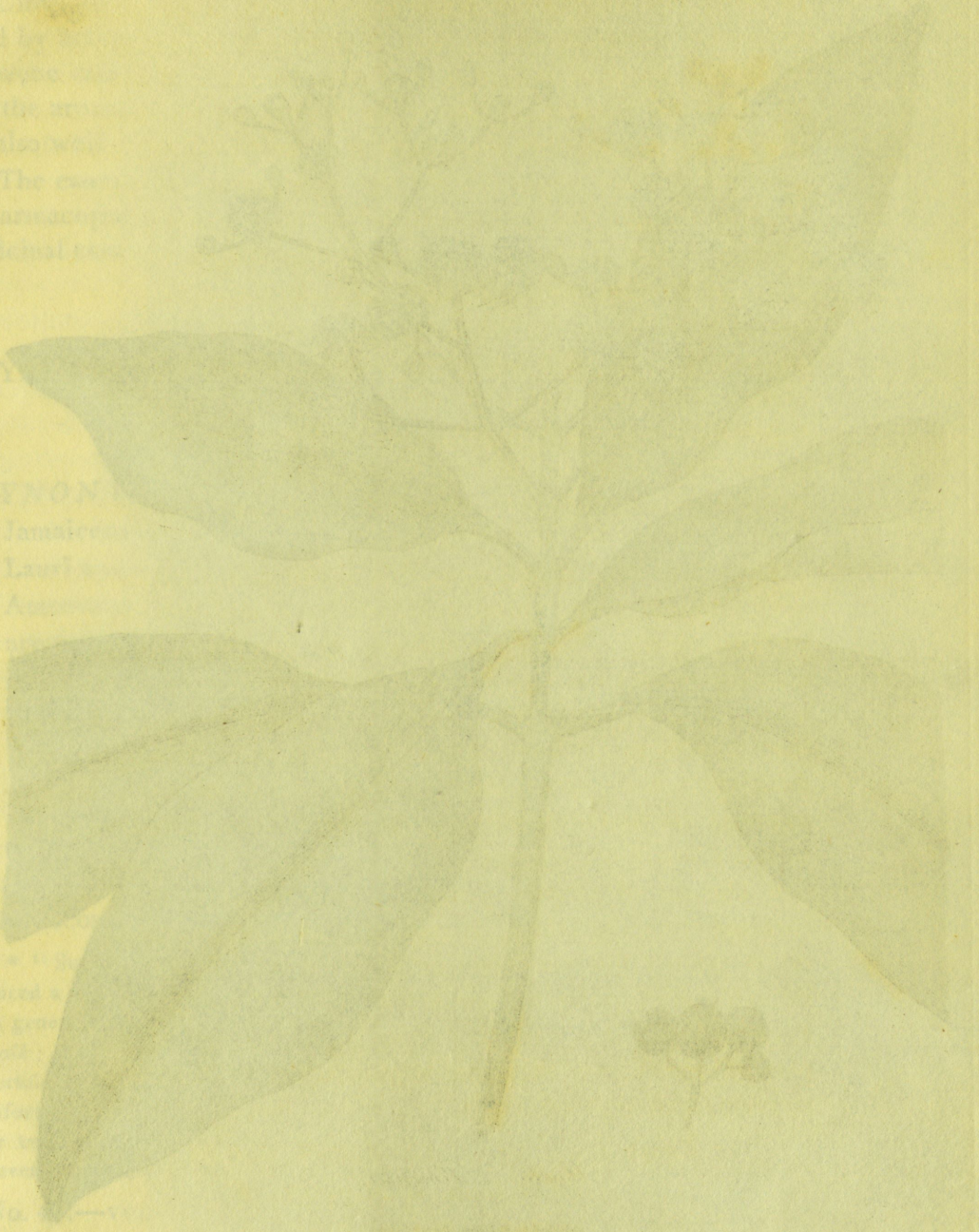
The spice used here, and known by the name of Cloves, is the unexpanded flowers or rather calyces, which are found to be more aromatic than in their advanced state; they are of a dark brown colour, which they acquire from the smoke to which they are exposed; for in order to preserve the Cloves it is customary first to immerse them in boiling water, and then subject them to fumigation, or merely to fumigate them, and afterwards expose them to the sun for further exsication.

The Clove has a strong agreeable smell, and a bitterish hot not very pungent taste: these qualities are completely extracted by rectified spirit. After inspissating the filtered tincture, the remaining extract has little smell, but its taste is excessively hot and fiery. Cloves impregnate water more strongly with their smell than they do spirit, but not near so much with their taste; and in distillation with water they yield one-sixth of their weight of essential oil, smelling strongly of the Cloves, but less pungent than the spirituous extract.

"The oil of Cloves commonly met with in the shops, and received from the Dutch, is indeed highly acrimonious: but this oil is plainly not the genuine distilled oil of Cloves, but considerably more pungent, containing half its weight of an insipid expressed oil: it is probably from an admixture of the resinous part of the Clove that this sophisticated oil receives both its acrimony and high colour."[g]

[e] *Rumph. l. c.* [f] *Vide J. Bauh. Hist. vol. i. p.* 426.

[g] *Lewis, M. M. p.* 203.





Myrtus Pimenta.

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PRESTON INSTITUTION 1828

Clove is accounted the hottest and most acrid of the aromatics, and by acting as a powerful stimulant to the muscular fibres, may in some cases of atonic gout, paralysis, &c. supersede most others of the aromatic class; and the foreign oil, by its great acrimony, is also well adapted for several external purposes.

The essential oil is the preparation of this spice directed by the pharmacopœias, which, as well as the Clove itself, enters several officinal compositions.

MYRTUS PIMENTA. PIMENTO, JAMAICA PEPPER, ALL-SPICE.

SYNONYMA. Pimento. *Pharm. Lond.* Pimenta & Piper Jamaicensis. *Pharm. Ed.* Caryophyllus aromaticus Americanus, Lauri acuminatis foliis, fructu orbiculari. *Pluk. Phyt.* 155. f. 4. Amomum quorundam odore Caryophylli, J. B. Caryophyllus aromaticus fructu rotundo, Caryophyllon Plinii. *Bauh. Pin.* Piper adoratum Jamaicense nostratibus. *Raii Hist.* 1507. Myrtus arborea aromatica foliis laurinis. *Sloane's Jam.* vol. 2. p. 76. Caryophyllus foliis oblongo-ovatis glabris alternis, racemis terminalibus et lateralibus. *Browne's Jam.* p. 247. Caryophyllus foliis lanceolatis oppositis, floribus racemosis terminalibus & axillaribus. *Miller's Dict.*

Class Icosandria.* *Ord.* Monogynia. *Lin. Gen. Plant.* 217.

* "Some of these trees are frequently observed to be barren, which has introduced a notion among the people of Jamaica of their being male and female trees in general; and that some of the male or barren trees were necessary in every *walk;* which, as they are commonly many, is a vast detriment. It is however certain, that all those I have observed were hermaphrodites: and I am credibly informed, that those they call males, when lopped and broke like the rest for one or two years, do bear very well: which I am the more apt to believe, as I have never observed a distinct male or female flower on any of them." Browne, l. c.

Ess. Gen. Ch. *Cal.* 5-fidus, superus. *Petala.* 5. *Bacca.* 2. s. 3-sperma.

Sp. Ch. M. floribus trichotomo-paniculatis foliis oblongo-lanceolatis. *Hort. Kew.*

Varietates, α foliis oblongo-lanceolatis acuminatis; acumine obtuso.
β foliis ovalibus obtusis. *Hort. Kew.*

THIS handsome myrtle grows above thirty feet in height, and two in circumference; the branches near the top are much divided, and thickly beset with leaves, which by their continual verdure always give the tree a beautiful appearance; the bark is very smooth, externally, and of a grey colour; the leaves vary in shape, and in size, but are commonly about four inches long, veined, pointed, elliptical, and of a deep shining green colour; the flowers are produced in bunches, or panicles, and stand upon subdividing or trichotomous stalks, which usually terminate the branches; the calyx is cut into four roundish segments; the petals are also four, white, small, reflex, oval, and placed opposite to each other between the segments of the calyx; the filaments are numerous, longer than the petals, spreading, of a greenish white colour, and rise from the calyx and upper part of the germen; the antheræ are roundish, and of a pale yellow colour; the style is smooth, simple, and erect; the stigma is obtuse; the germen becomes a round succulent berry, containing two kidney-shaped flattish seeds. This tree is a native of New Spain and the West-India islands. In Jamaica it grows very plentifully, and in June, July, and August puts forth its flowers, which, with every part of the tree, breathes an aromatic fragrance.[a]

The Pimento tree was first introduced and cultivated in this country by Mr. Phil. Miller in 1739, and the figure we have annexed was drawn from a recent specimen, obtained from the

[a] "The leaves and bark are full of aromatic particles, which make them (the planters) extremely cautious of fire in all *Pimento Walks;* where, if it should once catch, it runs with great fury." Browne, l. c.

garden of his Grace the Duke of Northumberland at Sion-House, where the plant is now in full bloom. Pimento, or the berries of this species of myrtle, are chiefly imported into England from Jamaica, and hence the name Jamaica Pepper. It is also named All-spice from its taste being supposed to resemble that of many different species mixed together.—When the berries arrive at their full growth, but before they begin to ripen,[b] they are picked from the branches, and exposed to the sun for several days, till they are sufficiently dried; this operation is to be conducted with great care, observing that on the first and second day's exposure they require to be turned very often, and always to be preserved from rain and the evening dews. After this process is completed, which is known by the colour and rattling of the seeds in the berries, they are put up in bags or hogsheads for the market. This spice, which was at first brought over for dietetic uses, has been long employed in the shops as a succedaneum to the more costly oriental aromatics; "it is moderately warm, of an agreeable flavour, somewhat resembling that of a mixture of cloves, cinnamon, and nutmegs. Distilled with water it yields an elegant essential oil, so ponderous as to sink in the water, in taste moderately pungent, in smell and flavour approaching to oil of cloves, or rather a mixture of cloves and nutmegs. To rectified spirit it imparts, by maceration or digestion, the whole of its virtue: in distillation it gives over very little to this menstruum, nearly all its active matter remaining concentrated in the inspissated extract.

[b] "Such of the berries as come to full maturity do, like many other seeds, lose that aromatic warmth for which they are esteemed, and acquire a taste perfectly like that of Juniper berries, which renders them a very agreeable food for the birds, the most industrious planters of these trees." Browne, l. c. "The berries when ripe are of a dark purple colour, and full of a sweet pulp, which the birds devour greedily, and muting the seeds, afterwards propagate these trees in all parts of the woods. It is thought that the seeds passing through them, in this manner, undergo some fermentation, which fits them better for vegetating than those gathered immediately from the tree; and I believe this is the fact." Long's Jamaica, vol. 3. p. 703.

Pimento can scarcely be considered as a medicine: it is, however, an agreeable aromatic, and on this account is not unfrequently employed with different drugs, requiring such a grateful adjunct. Both the Pharmacopœias direct an aqueous and spirituous distillation to be made from these berries, and the Edinburgh College order also the Oleum essentiale piperis Jamaicensis.

MELALEUCA LEUCADENDRON. CAJEPUT-TREE, Or AROMATIC MELALEUCA.

Cajeput (oleum.) *Pharm. Murray. iii.* 319. *Bergius.* 639. *Ed. New Dispens.* 153.

SYNONYMA. Arbor alba (major) Caju Puti. *Rumph. Herb. Amb. vol. 2. p. 72. t.* 16. Melaleuca Kajupoetie. *Houttuyn Natuurlyke. Historie. P. 2. Sect. 3. p. 212. t.* 15. Melal. Leucadendra. *De Loureiro Flor. Cochin. p.* 468.

α M. latifolia, fol. falcatis lanceolatis acutis majoribus.

β M. angustifolia, fol. angustioribus oblongis vix falcatis brevioribus obtusis glaucis.

Polyadelphia Polyandria. *Lin. Mant.* 14.

Gen. Ch. *Cal.* 5-partitus, superus. *Cal.* 5-petala. *Filam.* multa, connata in 5 corpora. *Stylus* 1. *Caps.* semivestita calyce baccato, 3-valvis, 3-locularis.

Sp. Ch. M. Polyadelphia, foliis alternis lanceolatis subfalcatis quinquenerviis, spica elongata.



Melaleuca Leucadendron

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THIS tree rises with a long flexible trunk, sending off irregular ascending branches, covered with a pale thick lamellated tough bark. Leaves linearly-lanceolate, entire, smooth, dense, five-nerved, ash-coloured, odorous, alternate, on short footstalks. Flowers white, sessile, in long subterminal spikes. Bracteæ floral, minute, ovate, pointed. Calyx tubular, five-parted, deciduous, of a brownish red. Corolla of five petals, roundish, concave, much longer than the calyx. Filaments about forty, united at the base in five or six bundles, long, capillary, unequal, inserted in the tube of the calyx, and furnished with small ovate incumbent antheræ. Germen below, roundish. Style filiform, somewhat swelled at the stigma. Capsule roundish, three-celled, three-valved, opening at the apex, and half inclosed by the calyx. Seeds numerous, oblong, small, compressed, angular.[a]

It is a native of India, where it commonly grows in the woods: the annexed figure was drawn from a very perfect botanical specimen of it in the herbarium of Sir Joseph Banks. The narrow leaved variety of this species was introduced into the Royal Garden at Kew, in 1775, from New Caledonia, by J. R. Forster, L L. D.[b]

The origin of Cajeput oil, or the vegetable from which it is obtained, was long unknown, and continued a matter of conjecture. As this essential oil is said to be somewhat similar in flavour and odour to the cardamom, an opinion very generally prevailed, that it was procured from a species of it. It is now however clearly proved to be derived from the Melaleuca Leucadendron, as observed by Linnæus in 1772,[c] and since confirmed by his son in the supp. plant.

That the leaves of this tree have an aromatic odour, resembling that of cardamom seed, and afford, by distillation, a fragrant

[a] This description is given on the authority of De Loureiro. l. c.

[b] *Hort. Kew.*

[c] *Diss. obs. in M. M. p. 5.*

essential oil, manifesting this aromatic principle still more strongly, is asserted by Valentynus and Rumphius; but as they called the oil by no peculiar name, it was not recognized as the Cajeput oil until some of these leaves were sent to Amsterdam, where, upon being subjected to distillation, an oil was obtained, agreeing, in every respect, with that of the best Cajeput.[d] This essential oil appears to be lodged in the minute glands or vesicles of the leaves, analogously to that noticed of the hypericum perforatum.[e]

Cajeput oil, (called also Oleum Wittnebianum, from Wittneben, who gave an account of the process for obtaining it,) though unknown in Britain, is now admitted into the Materia Medica of all the principal foreign pharmacopœias.

It is imported into Europe from the East Indies, and is distilled chiefly in the Island of Banda. Thunberg[f] says that it has the appearance of an inflammable spirit, of a green colour, and so completely volatile that it evaporates entirely, leaving no residuum; its odour is of the camphoraceous kind, with a terebinthinate admixture: when it is applied to the nostrils copiously, its smell is at first ungrateful, but in a small quantity, or at a distance, its odour is very agreeable. Goetz,[g] on the contrary, says that it is limpid, or rather yellowish, and that on being kept in a vial not closely corked, it diffuses at first a pleasant odour, which gradually changes to one somewhat like that of turpentine, and at length becomes similar to that of savine. Its taste, he says, is aromatic, and approaching to that of the oil of rosemary. A single drop, applied to the temples, produces a peculiar sensation in the interior canthus of the eyes, and excites tears, which he

[d] Vide *Nieuwe vaderlandsche Letter-Oeffningen. P. 3. n. 3. bladz.* 104.

[e] The leaves of this melaleuca, according to De Loureiro, are an useful medicine; he says, they are "attenuant, strengthening, stomachic, diuretic, emmenagogue, and of service in obstructions of the liver, dropsy, debility of the stomach, and dyspnœa.

[f] In *Vet. Acad. Handl.* 1782. *p.* 223.

[g] *Comm. Nor.* 1731. *p.* 5.

considers as the most certain criterion of the genuineness of the oil. From its exorbitant price it is frequently adulterated, and therefore is seldom found in perfect purity in Europe.

Cajeput oil appears to be a powerful medicine, and is much esteemed in Germany, as well as in India, in the character of a general remedy in chronic and painful complaints; it is used for the same purposes for which we employ the officinal æthers, to which it seems to have a considerable affinity; the Cajeput however is more potent and pungent: taken into the stomach, in the dose of five or six drops, it heats and stimulates the whole system, proving at the same time a very certain diaphoretic, by which probably the good effects it is said to have in dropsies and intermittent fevers, are to be explained. For its efficacy in various spasmodic and convulsive affections, it is highly esteemed; and numerous instances of its successful employment are published by different authors.[h] It has been also used both internally and externally with much advantage in several other obstinate disorders, as palsy, hypochondrical and hysterical affections, deafness, defective vision, tooth-ach, gout, rheumatism, menstrual obstructions, herpetic eruptions, &c. of which Thunberg gives a particular relation.[i]

The dose is from two to six and even twelve drops.

The berries and leaves of Myrtus communis, and the bark of Myrtus caryophyllata, or *cassiæ caryophyllatæ cortex*, referable to this order, have also been admitted into the Materia Medica; the former in the character of an aromatic and astringent, and the latter as a substitute for cloves.

[h] These are respectively cited by Murray, to whose work we refer those readers who wish for a fuller account of this article.

[i] *L. c.*

The odour of cajeput oil is remarkably destructive to insects: a few drops, in a cabinet or drawer, wherein animal or vegetable specimens of natural history are kept in a dried state, have on this account been found very useful.

ORD. XXX. SUCCULENTÆ.

(From *Succus,* juice.) Juicy fleshy leaved Plants.

SEDUM ACRE. WALL STONE-CROP, or WALL PEPPER.

SYNONYMA. Sedum acre seu minus. *Pharm. Murray. v. iii. p.* 344. *Bergium.* 375. *Ed. New Dispens.* 281. Sempervivum minus vermiculatum acre. *Bauh. Pin.* 283. Vermicularis seu Illecebra minor acris. *Ger. Emac.* 517. Illecebra minor seu sedum tertium Dioscoridis. *Park. Theat.* 735. *Ray. Synop.* 270. Sedum acre. *Hall. Stirp. Helv. n.* 966. *Hudson. Flor. Ang.* 171. *With. Bot. Arr.* 467. *Ic. Curt. Flor. Lond.*

Decandria Pentagynia. *Lin. Gen. Plant.* 579.

Gen. Ch. Cal. 5-fidus. *Cor.* 5-petala. *Squamae* nectariferæ 5, ad basin germinis. *Caps.* 5.

Sp. Ch. S. fol. subovatis adnato-sessilibus gibbis erectiusculis alternis, cyma trifida.

ROOT perennial, slender, creeping. Stalks several together, about three inches high, covered with leaves. Leaves oval, blunt, short, fleshy, smooth, numerous, without footstalks, closely investing the stalk, placed in an imbricated order. Flowers yellow, in subterminal trifid cymæ. Calyx permanent, divided into five segments, which are tapering, thick, blunt. Corolla composed of five pointed petals, which are more than twice the size of the segments of the calyx. Filaments ten, tapering, about the length



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Sedum acre

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of the corolla, and furnished with yellow antheræ. Germen oblong, yellow, terminating in five styles, furnished with simple stigmata. Capsules five, pointed, containing minute oval brownish seeds.

This is a common British plant, growing on houses, walls, and gravelly banks. Like many other plants of this natural order it receives its nourishment principally from the air, in proof of which it continues to grow when detached from the ground, and suspended by the root.

It resembles the Sedum sexangulare very much, so that some botanists have considered the latter as only a variety of the former. The difference however is sufficiently specific both in a botanical and medical sense;[a] the latter being devoid of the pungent biting taste which characterizes the plant here figured.

This species of Sedum, in its recent state, is extremely acrid, like the Hydropiper; hence, if taken in large doses, it acts powerfully on the primæ viæ, proving both emetic and cathartic; applied to the skin, as a cataplasm, it frequently produces vesications and erosions. Boerhaave therefore imagined that its internal employment must be unsafe; but experience has discovered that a decoction of this plant is not only safe, but of great efficacy in scorbutic complaints; for which purpose a handful of the herb is directed by Below[b] to be boiled in eight pints of beer till they are reduced to four, of which three or four ounces are to be taken every, or every other, morning. Milk has been found to answer this purpose better than beer.[c]—Not only ulcers simply scorbutic, but those of a scrophulous and even cancerous tendency, have been cured by the use of this plant, of which Marquet[d] relates

[a] Mr. Curtis has remarked, that "the leaves of S. Acre are short, broad at the base, and at a considerable distance asunder, while those of the Sexangulare are nearly of the same thickness throughout, longer, more numerous, and placed in six rows or angles."

[b] A Swedish Physician. V. *Misc. Nat. Cur. Dec.* 1. *Ann.* 6. *Obs.* 22. *p.* 49.

[c] *Lange. Remed. Bruns. Domest. p.* 121. [d] *Mem. sur L'illecebra. &c.*

several instances. He likewise found it useful as an external application in destroying fungous flesh, and in promoting a discharge in gangrenes and carbuncles.

Another effect for which this plant has been esteemed is that of stopping intermittent fevers.

SAXIFRAGA GRANULATA. WHITE SAXIFRAGE.

SYNONYMA. Saxifraga alba. *Pharm. Dale.* 235. *Lewis.* 590. *Murray. iii.* 355. *Bergius.* 367. Saxifraga rotundifolia alba. *Bauh. Pin.* 309. Saxifraga alba. *Ger. Emac.* 841. Saxifraga alba vulgaris. *Park. Theat.* 424. *Ray. Hist.* 1048. *Synop.* 354. *Haller. Stirp. Helv. n.* 976. S. granulata. *Hudson. Flor. Angl.* 159. *Wither. Bot. Arr.* 434. *Ic. Flor. Dan.* 514. *& Flor. Lond.*

Decandria Digynia. *Lin. Gen. Plant.* 559.

Gen. Ch. *Cal.* 5-partitus. *Cor.* 5-petala. *Caps.* 2-rostris, 1-locularis polysperma.

Sp. Ch. S. foliis caulinis reniformibus lobatis, caule ramoso, radice granulata.

ROOT perennial, consisting of a number of small bulbs adhering to the fibrous part. Stalk somewhat branched, about a foot high, round, hairy towards the bottom, and scantily supplied with leaves. Leaves irregularly kidney-shaped, a little hairy, slightly divided into lobes, concave, those near the root furnished with long hairy footstalks. Calyx divided into five segments, which are hairy, oval, pointed, viscous. Corolla consisting of five white spreading petals, which at the upper extremity are broad, at the base narrow, and of a yellow colour. Filaments ten, tapering, supporting yellow antheræ. Germen roundish, standing below the corolla, and surrounded by a green gland. Styles two, shorter than the



Saxifraga granulata

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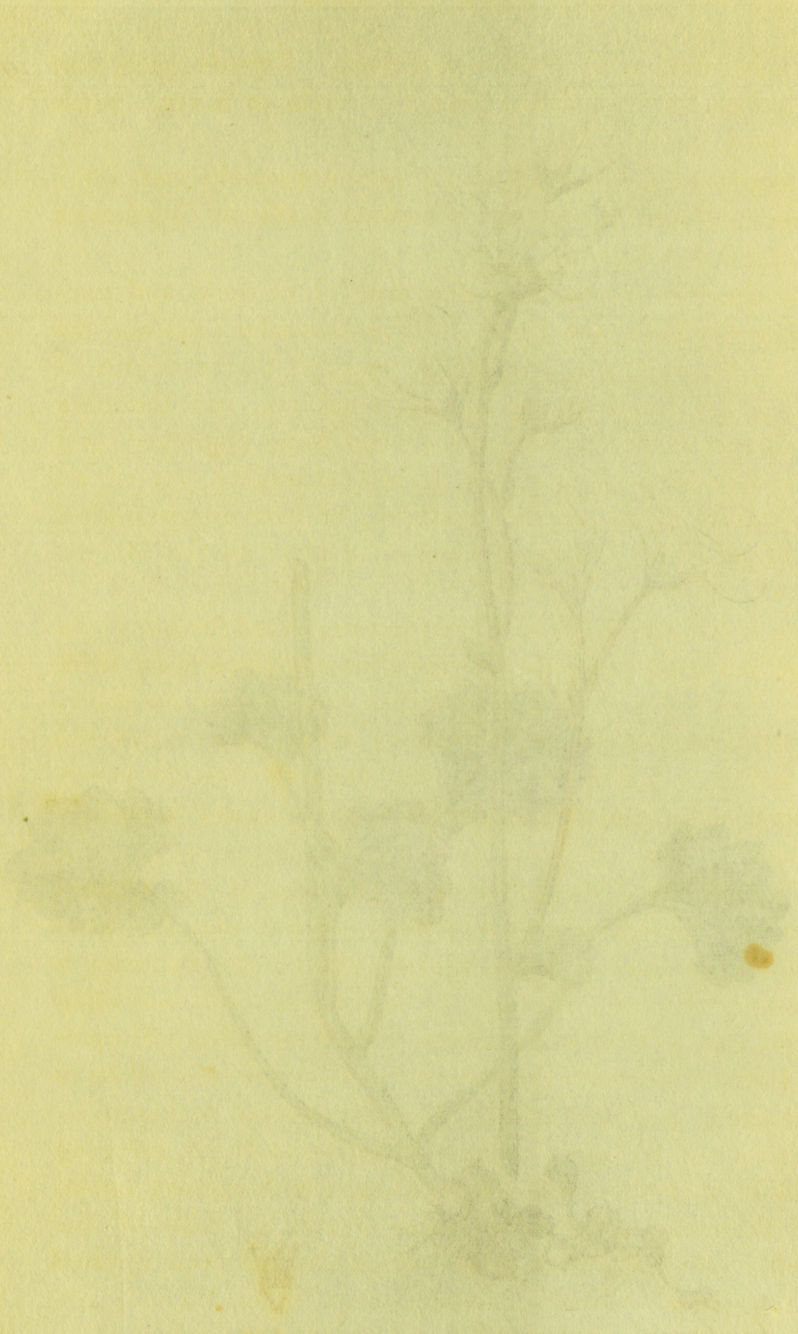

filaments, furnished with hollow stigmata. Capsule somewhat oval, two-celled, and furnished with two beaks or horns. Seeds numerous, very small, black.

It is a native of England, but not very commonly met with: dry meadows and pastures are the situations it affects. Its flowers appear in April and May.

Linnæus describes the taste of this plant to be acrid and pungent, which we have not been able to discover: neither the tubercles of the root, nor the leaves manifest to the organs of taste any quality likely to be of medicinal use, and therefore though this species of Saxifrage has been long employed as a popular remedy in nephritic and gravelly disorders, yet we do not find either from its sensible qualities, or from any published instances of its efficacy, that it deserves a place in the Materia Medica.

The superstitious doctrine of *Signatures* suggested the use of the root, which is a good example of what Linnæus has termed radix granulata. The bulbs or tubercles of such roots answer an important purpose in vegetation, by supplying the plants with nourishment and moisture, and thereby enabling them to resist the effects of that drought to which the dry soils they inhabit peculiarly expose them.

Sedum Telephium (Orpine) is also admitted of the Materia Medica in the foreign pharmacopœias; it has not the acrid characters of the species here figured, but on the contrary is bland and mucilaginous. It is said to be diuretic, and, according to Dr. Withering, is used with success to cure the piles. Sempervivum tectorum (common House-leek) which is nearly allied to the Telephium in botanical affinity, likewise abounds with a mucilaginous juice, said to be an useful application to burns, creeping ulcers, and in apthous cases. Cactus Opuntia (common Indian Fig) and Portulaca oleracea (Garden Purslane) both of this natural order, afford a similar juice, which also has been applied to medical purposes.

ORD. XXXI. COLUMNIFERÆ.

(From *columna* a pillar, and *fero* to bear.)

Plants whose stamens and pistil have the appearance of a column or pillar in the centre of the flower.

ALTHÆA OFFICINALIS. MARSH-MALLOW.

SYNONYMA. Althæa. *Pharm. Lond. & Edinb.* Althæa Dioscoridis et Plinii. *Bauh. Pin. p.* 315. Althæa vulgaris. *Park. Theat. p.* 303. *Raii Hist.* 602. *Synop.* 252. Althæa Ibiscus. *Gerard. Emac. p.* 933. Althæa sive Bismalva. *J. Bauh. Hist. vol. ii. p.* 945. Althæa tomentosa herbacea, caule erecto, foliis cordato-lanceolatis obsolete trifidis. *Hal. Stirp. Helv. n.* 1047. Althæa officinalis. *Flor. Dan. tab.* 530. *With. Bot. Arrang. p.* 735. Αλθαια f. Ιβισκος *Dioscorid.*

Class Monadelphia. *Ord.* Polyandria. *Lin. Gen. Plant.* 839.

Ess. Gen. Ch. Cal. duplex; exterior 9-fidus. *Arilli* plurimi, monospermi.

Sp. Ch. A. foliis simplicibus tomentosis.



Althæa officinalis

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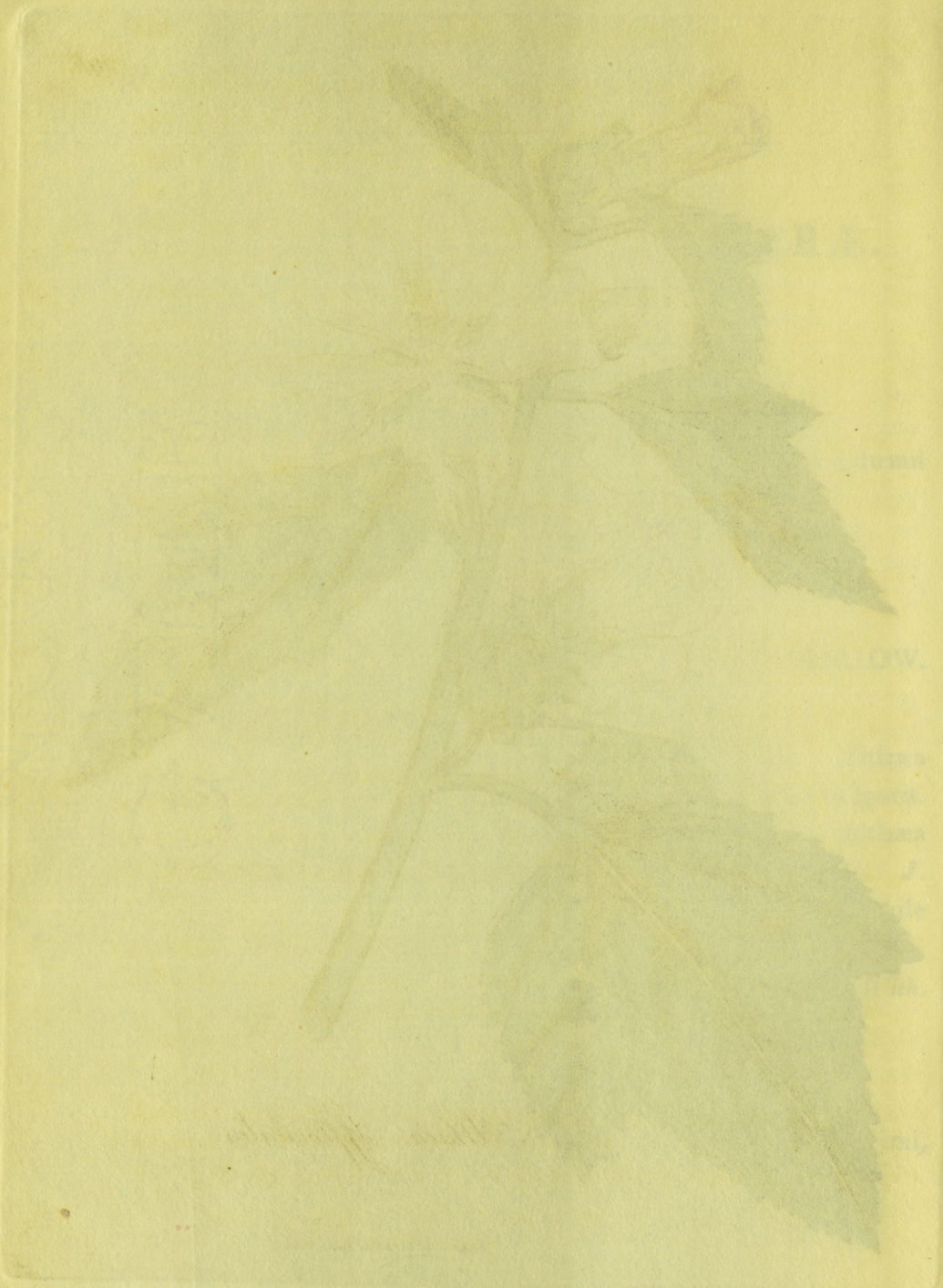

THE root is perennial, long, tough, white, and fibrous: the stalk is upright, firm, woolly, somewhat branched towards the top, and rises to the height of three or four feet: the leaves are ovalish, or heart-shaped, commonly with a lobe on each side, pointed, irregularly serrated, covered with a soft down, and stand upon long round footstalks: the stipulæ are two, narrow, and placed at the base of each leaf-stalk: the flowers are large, and consist of five petals, inversely heart-shaped, indented at the apex, and of a pale purple colour: the calyx is double, the exterior consisting of nine and the interior of five narrow pointed segments: the stamina are numerous, united at the base, and terminated by kidney-shaped antheræ: the germen is orbicular: the styli cylindrical, and furnished with many long bristly stigmata: the seeds are kidney-shaped, numerous, placed in a circle, and covered with an arillus. It is a native of England, and grows commonly near the sea shore, or about salt marshes, and flowers in August.

The Althæa seems to have been known to the ancients,[a] and has continued in very general officinal use by practitioners in every country where the science of medicine is regularly cultivated. "The dry roots of this plant, boiled in water, give out half their weight of a gummy matter,† which, on evaporating the aqueous fluid, forms a flavourless yellowish mucilage. The leaves afford scarcely one-fourth of their weight, and the flowers and seeds still less."[b] This gluten or mucilaginous matter with which the

[a] It is called Althæa, says Dioscorides, διὰ τὸ πολυαλθὲς αὐτῆς a multiplici excellentique quam in methodo præstat utilitate. l. 3. c. 163. p. 236. Hence also vismalva & bismalva, malvaviscus, malva-ibiscus, (Alston Lect. on the Mat. Med.) and therefore may be supposed to be the hibiscus of Virgil:—

Hœdorumque gregem viridi compellere hibisco.
Ec. ii. *l.* 30. et Ec. x. *l.* 71.

† This is thought to be nearly allied to Gum arabic, Tragacanth, Starch, &c. and it has been found to dissolve myrrh, and some other resinous substances, more readily than the first. Buchholz *Act. Nat. Cur. Tom. p.* 60. Expt. 32.

[b] Lewis *Mat. Med. p.* 40.

Althæa abounds, is the medicinal part of the plant, and is commonly employed for its emollient and demulcent qualities. Its use is recommended where the natural mucus of membranes becomes acrid or abraded; "for obtunding and incrassating acrimonious thin fluids, in tickling coughs from defluctions on the fauces and lungs, in hoarseness, erosions of the stomach and intestines, stranguary,‡ and for lubricating and relaxing the passages in nephritic and calculous complaints."[c] Radix Althæa formerly had a place in many of the compounds in the pharmacopœias, but now it is only directed in the form of a syrup.

‡ We may here remark however, that in the opinion of Dr. Cullen these "demulcents can have no effect as such in the mass of blood, or in passing by the various excretions." *Mat. Med. vol. ii. p.* 411.

[c] Lewis l. c.

MALVA SYLVESTRIS. COMMON MALLOW.

SYNONYMA. Malva. *Pharm. Lond. & Edinb.* Malva sylvestris folio sinuato. *Bauh, Pin. p.* 314. Malva vulgaris flore majore, folio sinuato. *J. Bauh. Hist. vol. ii. p.* 949. Malva vulgaris. *Park. Theat. p.* 299. *Raii Hist. p.* 599. *Synop. p.* 251. Malva caule erecto, foliis lobatis, lobis serratis, quinis & septenis. *Hal. Stirp. Helv. n.* 1069. Malva sylvestris. *Gerard. Emac.* 930. *Withering. Bot. Arrang. p.* 738. *Curt. Flor. Lond.*

Class Monadelphia. *Ord.* Polyandria. *Lin. Gen. Plant.* 841.

Ess. Gen. Ch. Cal.. duplex; exterior 3-phyllis. *Arilli* plurimi, monospermi.



Malva sylvestris

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PRESTON INSTITUTION 1828

Sp. Ch. M. caule erecto herbaceo, fol. septemlobatis acutis, pedunculis petiolisque pilosis.

THE root is perennial, thick, long, whitish, and furnished with many strong fibres: the stem is erect, round, strong, hairy, branched, and rises from one to three feet in height: the leaves are numerous, roundish, divided into five or seven lobes, unequally serrated or notched at the edges, and stand upon long round hairy footstalks: the two stipulæ are placed at the base of each footstalk: the flowers are large, consisting of five petals, which are inversely heart-shaped, sinuated at the apex, and of a purple colour, painted with veins of a deeper hue, and stand upon slender peduncles, which proceed from the bottom of the leaf-stalks: the calyx is double, the outer is composed of three, and the inner of five oval pointed hairy segments: the stamina are numerous, united at the base in a cylindrical shape, above separate, bending downwards, and furnished with kidney-shaped antheræ: the germen is roundish: the style cylindrical, short, and furnished with many filiform stigmata: the seeds are numerous, of a kidney-shape, and covered with a coat, or arillus, which opens inwardly. It is common under hedges and in waste grounds, and flowers from June till September.

This plant [a] has a strong affinity to the Althæa both in a botanical and in a medicinal respect; but the roots of the malva are useless, while those of althæa are of more efficacy than any other part of the plant. Accordingly we find that only the leaves and the flowers of the former are directed by the college for pharmaceutical purposes. Formerly when horticulture was little understood, and of course the choice of esculent vegetables extremely limited, the malva was admitted amongst the more common articles of

[a] "Malva quasi molva quod alvum molliat, ut inquit Festus, secundum tritum illum Scholæ Salern. versiculum, dixerunt malvam veteres quia molliat alvum. Gr. μαλαχη, απο μαλασσειν, ob eandem rationem. Utrumque etymon improbat C. Hoffman nec tamen meliora substituit." *Tournf.*

diet;[b] and we are told that the Chinese still eat the leaves of mallow either raw as sallad, or boiled as spinage.[c]

Respecting the medicinal qualities of this plant, little remains to be said after the account we have given of Althæa, as the leaves afford a similar glutinous juice, which is fitted to answer the same purposes as those of marsh-mallow, and are therefore principally used in fomentations, cataplasms, and emollient enemas; but the internal use of these leaves seems to be wholly superseded by the radix althææ.[d]

[b] ——— Me pascunt olivæ
Me cichorea levesque malvæ. *Hor. l.* 1. *Od.* 31.

Exoneraturas ventrem mihi villica malvas
Attulit, & varias, quas habet hortus, opes. *Martial.*

The laxative quality of this plant is also mentioned by Cicero. *Epistol. lib.* 7. *epist.* 26.

[c] *Melanges interessans et curieux. Tom.* 4. *p.* 28.

[d] "Althæa in omnibus supra dictis efficacior radix." Plin. Nat. Hist. vol. 2. p. 662.



Guaiacum officinale.

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ORD. XXXII. GRUINALES.

(From *Grus*, a Crane,)

Where the central part of the flower resembles a crane's bill after the petals have fallen off, as in the geranium, and some other genera where this appearance is not so evident.

GUAIACUM OFFICINALE. OFFICINAL GUAIACUM.

SYNONYMA. Guaiacum. Pharm. Lond. & Edinb. Miller's Dict. Guaiacum, foliis fere impetiolatis, bijugatis, obovatis & leniter radiatis; pinnis & ramulis dichotomis. *Browne's Jamaica*, 225. Lignum Vitæ, or Guaiacum. *Hughe's Barbadoes*, 142. Guaiacum Americanum primum, fructu aceris, sive legitimum. *Breyn. Prodr.* i. 31. Pruno vel Euonymo affinis arbor, folio alato, buxeo, subrotundo, flore pentapetalo cæruleo racemoso, fructu aceris cordato, cujus cortex luteus corrugatus, semen unicum majusculum nigricans nullo ossiculo tectum operit. *Sloane's Jam.* vol. ii. 133. & *Cat. P. Jam.* 186. Guaiacum flore cæruleo, fructo subrotundo. *Plum. Nov. Gen.* 39. Guaiacum, magna matrice. *Bauh. Pin.* 448. Lignum sanctum, Lignum Indicum, et Palus sanctus, *Quorundam.*

Class Decandria. *Order* Monogynia. *L. Gen. Plant.* 518.

Ess. Gen. Ch. Cal. 5-fidus inæqualis. *Petala* 5, calyci inserta. *Caps.* angulata 3 s 5-locularis.

Sp. Ch. G. foliolis bijugis obtusis.

THE Guaiacum tree grows to the height of forty feet, and to the circumference of four or five, sending forth several large dividing and subdividing knotted branches: the bark of the trunk is of a dark grey colour, variegated with greenish or purplish specks, but of the branches it is uniformly ash-coloured, striated, and marked with fissures; "the roots are very thick in proportion to the size of the tree, and run a great way into the ground, in a perpendicular direction:" the leaves are pinnated, consisting of two, three, and sometimes four pair of pinnæ, with very short footstalks, smooth, shining, veined, of an inversely oval shape, and dark green colour: the flowers grow in clusters, or umbels, upon long peduncles, which spring from the divisions of the smaller branches: the calyx is of five leaves; these are concave, oblong, obtuse, patent, unequal, and deciduous; the petals are five, elliptical, concave, spreading, and of a rich blue colour; the stamina are erect, villous, taper from the base, and are crowned with yellowish hooked antheræ; the germen is oval, angular, and in its capsular state assumes the figure we have separately described; the style is short and tapering; the stigma is simple, and pointed; the seeds are solitary, hard, and of an oblong shape.

Linnæus makes three species of the Guaiacum, viz. the officinale, sanctum, and afrum; the specific difference between the two former he fixes wholly on the number of the pinnæ of the leaves, defining the first foliolîs bijugîs, and the second foliolîs multijugîs; but the leaves, according to the plant we have figured, commonly consist of three, and sometimes four pair of pinnæ,[a] so that this specific description is by no means distinctly characteristic. In a medical sense, the sanctum has been generally considered synony-

[a] There can be no doubt of our plant being the true officinale, we had it with several others from Mr. Aiton, whose extensive botanical knowledge is above our praise, and only to be equalled by that liberality of mind with which he communicates it. The testimony of Sir Hans Sloane is in opposition to Linnæus, for he observes that the leaves have sometimes four pair of pinnæ.

mously with the officinale, and from the investigation we have given this subject, we believe it founded in botanical truth.[b]

This tree is a native of the West India Islands, and the warmer parts of America, and appears from the MS. of Sir Hans Sloane, in the British Museum, to have been first cultivated in this country by the Duchess of Beaufort in 1699.[c] The wood, gum, bark, fruit, and even the flowers of this tree, have been found to possess medicinal qualities.[d] The *Wood* is brought here principally from Jamaica in large pieces of four or five cwt. each, and, from its hardness and beauty, is in great demand for various articles of turnery ware.—It is extremely compact, and so heavy as to sink in water: the outer part is of a pale yellowish colour, the heart of a dark blackish brown, with a greater or less admixture of green. It scarcely discovers any smell, unless heated, or while rasping, in which circumstances it yields a light aromatic one: chewed, it impresses a slight acrimony, biting the palate and fauces. Its pungency resides in a resinous matter, which is totally extracted by digestion in rectified spirit, and partially by boiling water. The quantity of solid extract, obtained by rectified spirit, amounts to about one-fourth of the weight of the wood; with water, scarcely one-sixth is obtained.[e] The *Gum,* or rather gummy resin, is obtained by wounding the bark in different parts of the body of the tree, or by what has been called jagging. It exudes copiously from the wounds, though gradually; and when a quantity is found accumulated upon the several wounded trees, hardened

[b] Monardus divides the wood into three sorts, and C. Bauhin adopts two of these by the distinctions of Guaiacum magna matrice, and the Guaiacum propemodum sine matrice: these circumstances, however, depend upon the age, size, &c. of the tree. The icons of these species, given by Blackwell and Regnault, cannot, we presume, be considered as decisive.

[c] Vide Aiton's Hort. Kew.

[d] Long's History of Jamaica, vol. 3. p. 725.

[e] Lewis's M. M. 330.

by exposure to the sun, it is gathered and packed in small kegs for exportation. This resin is of a friable texture, of a deep greenish colour, and sometimes of a reddish hue; it has a pungent acrid taste, but little or no smell, unless heated. It contains more resin than the watery extract made from the wood; and more gummy matter than the spirituous extract.[f]—The Guaiacum tree also yields a spontaneous exudation from the bark, which is called the native gum, and is brought to us in small irregular pieces, || of a bright semipellucid appearance, and differs from the former in being much purer.[g] The *Bark* contains less resinous matter than the wood, and is consequently a less powerful medicine, though in a recent state it is strongly cathartic. The *Fruit,* (says a late author) " is purgative; and for medicinal use, far excels the bark. A decoction of it has been known to cure the venereal disease, and even the yaws in its advanced stage, without the use of mercury." The *Flowers,* or blossoms, are laxative, and in Jamaica are commonly given to children in the form of syrup, which in appearance much resembles that of violets. It is only the wood and resin of Guaiacum which are now in general medical use in Europe; and as the efficacy of the former is supposed to be derived merely from the quantity of resinous matter which it contains, they may be considered indiscriminately as the same medicine. Guaiacum

[f] Des Marchais, Voyage en Guinée & Cayenne, tom. 3. p. 246. " The Gum, or rather the resin of this plant, transudes frequently of its own accord, and may be seen concreted on many parts of it at all seasons of the year; but it is generally found in greater abundance where the bark has been cut or wounded." Browne's Jam. 226.

|| It is sometimes sophisticated by the negroes with the gum of the Manchineal tree, (a species of the Hippomane) but this is easily detected by dissolving a little in spirit of wine or rum. The true gum imparts a whitish or milky tinge; but the Manchineal gives a greenish cast. Long, l. c. 724. Möuch advises a few drops of Spirit. nitri dulc. to be added to the spirituous solution, and then to be diluted with water, by which the gum is precipitated in a blue powder; but the adulteration will appear floating in white striæ, &c. Vide Crell's Chem. Journ. P. 2. p. 78.

[g] Long, l. c.

was first introduced in the Materia Medica soon after the discovery of America,[h] and previous to the proper use of mercury in the lues venerea, it was the principal remedy employed for the cure of that disease, and its great success brought it into such repute, that it is said to have been sold for seven gold crowns a pouud;[i] but notwithstanding the very numerous testimonies in its favour ‡, it often failed in curing the patient, and was at length entirely superseded by mercury; and though it be still occasionally employed in syphilis, yet it is rather with a view to correct other vitia in the habit, than for its effects as an antivenereal.*

The general virtues of Guaiacum are stated by Bergius to be mundificans, sudorifera, diuretica, subcalefaciens, stomachica, and its use to be in syphilis, arthritis,† morbi cutis, odontalgia;[k] and

[h] Initium celebritatis dedit felix curatio, quam in insula St. Dominici Hispanus quidam superioris ordinis, qui morbum ab India muliere contraxerat, jam doloribus diris detentus, suadente famulo suo Indo, ex hoc ligno in semet experiebatur. Ejus exemplo præeunte, plures alii Hispani eodem modo contaminati ad idem auxilium fausto successu confugerunt. Quod quum post reditum Hispali ab hisce evulgaretur, hinc per totam Hispaniam, & inde per totum reliquum orbem, quem lues occupaverat, fama remedii increbuit. Monardes Simpl. Med. p. 341. Vide Murray's Ap. Med. vol. 3. 409. And according to Delgado, Guaiacum was used in Spain so early as 1508. (del modo de adoperare el Legno santo. Venet. 1529.)

[i] Vide Friend's Hist. vol. 2. p. 365. And Massa de Morb. gal. 71. says, Ligni libra una scutatis aureis undecim veniret.

‡ Vide Böhm Diss. variæ siphilidis therapiæ.

* Perhaps the opinions and facts adduced by Boerhaave, Astruc, Plenk, De Haen, Hutten, and lately by Mr. Hunter, may be considered in some measure as exceptions.—The last of these authors remarks, that the Guaiacum was first used in Europe as a remedy for the Syphilis in 1517; but from the authority we have cited above, it appears to have been employed nine years sooner.

† Though upon the authority of Mead, Pringle, and others, Guaiacum has been much employed in rheumatisms, yet it was of little estimation in the gout till Mr. Emerigon of Martinico, published his letters about thirteen years ago, (Specifique contre la goutte, &c.)

[k] Mat. Med. 346.

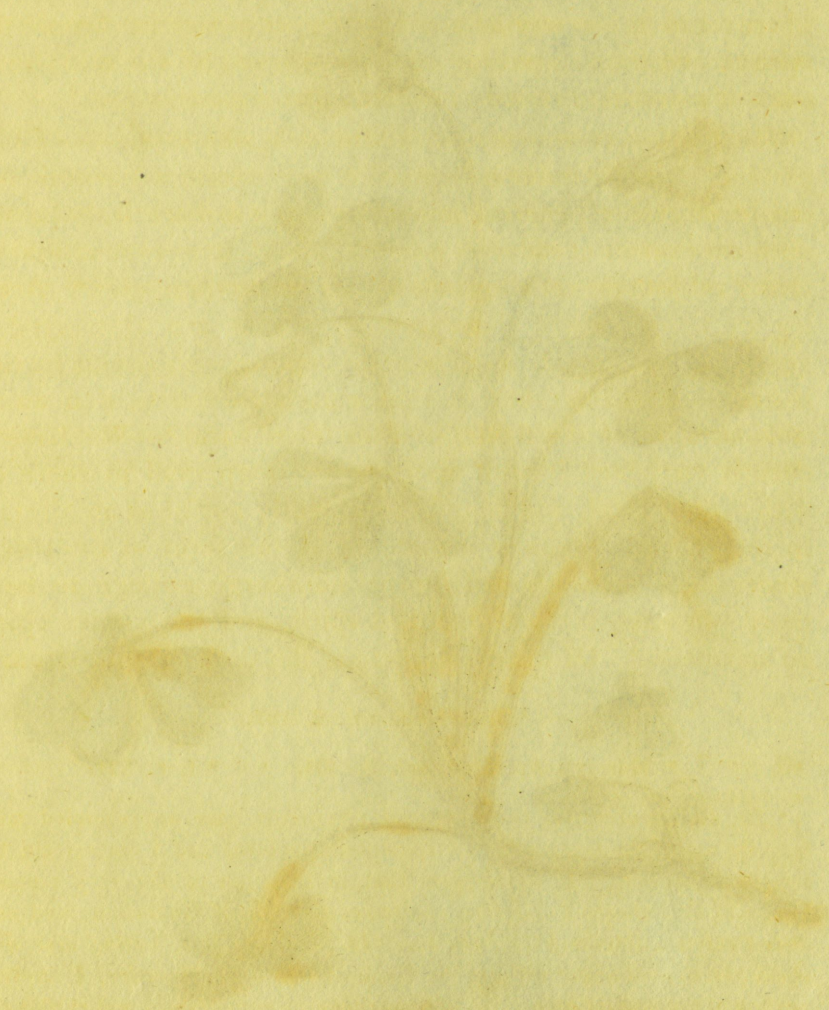
to these we may add chronic rheumatism, scrophula, and some schirrous diseases.—To Dr. Cullen Guaiacum seems analogous to the nature of the balsams and turpentines, he therefore supposes it like these to be very diffusible in the system, and thereby to have a considerable power in stimulating the extreme vessels every where; and in this way he accounts for its power in chronic rheumatism, and from its passing off by the pores of the skin, he considers it a probable remedy in some cutaneous disorders.[l]

This opinion corresponds with Murray's, who says, —— Et hisce partibus resinosis quidem Guaiacum per minimos corporis nostri canales efficaciter penetrat, impacta resolvit & discutit, balsamicam virtutem exercet et sudorem potenter pellit, item evacuationes per alvum vel lotium, vel aliquando salivæ profluvium, ciet.[m] According to Lewis, where the excretory glands are obstructed, the vessels lax and flaccid, and the habit replete with serous humours, it has good effects: but in thin emaciated habits, and an acrimonious state of the fluids, it often does harm.[n]—We have frequently conjoined it with mercury and soap, and in some cases with bark or steel, and found it eminently useful as an alterative. In the pharmacopœias it is directed in the form of tincture and elixir; the latter is ordered by the Edinburgh college to be prepared two ways, viz. with rectified spirit, and the vinous spirit of sal ammoniac.[o] Of these compounds the dose may be from two

[l] Mat. Med. vol. 2. 197.

[m] Murray's Ap. Med. vol. 3. 408. [n] l. c. 331.

[o] Dr. Cullen observes, that "several physicians have apprehended mischief from the use of the Guaiacum in a spirituous tincture, and I am certain that it sometimes happens. It is therefore that in imitation of the very respectable Berger of Copenhagen I avoid the spirituous tincture of Guaiacum, and employ almost only the diffusion of it in water. In preparing this, having first with an equal part of hard sugar reduced the Guaiacum to a fine powder, I apply some portion of the yolk of an egg, or of a mucilage of gum arabic, and rubbing these together very carefully, I form an emulsion with water, or watery liquors, as may be thought proper. This preparation I give over night in such a quantity as





Oxalis Acetosella

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scruples to two drams: the powder is generally given from 6 grains to 20, or even more, for a dose, either by itself, or in a fluid form, by means of mucilage or the yolk of egg. The Decoctum lignorum, (Pharm. Ed.) of which Guaiacum is the chief ingredient, is commonly taken in the quantity of a pint a day.

may open the belly once next day, which will happen to different persons from doses containing 15 to 30 grains of the Guaiacum." M. M. 199. Berger's formula is the following: ℞ G. guaiaci ℥fs G. arabici ℥ij. Bene trita solv. in aquæ hyssopi vel alius distill ℥ix. Add. sacchari ℥fs m. d. s. solutio, cujus duo cochlearia majora mane & vesperi capiantur, superbibito libra una decocti hordei vel avenæ. Vet. Acad. Handl. vol. 1. p. 74. Theden recommends the Guaiacum made into pills with soap of almonds, which is still more convenient (*neue Bemerk. u Ersahr, a. d. Wundarzneyk. und Arz.* P. 2. 204.)

OXALIS ACETOSELLA. WOOD-SORREL.

SYNONYMA. Lujula. Pharm. Lond. Oxalis Acetosella, scapis unifloris, fol. ternatis: foliolis obcordatis pilosis. *Thunb. Diss. de Oxal.* n. 5. *Curtis Flor. Lond. Withering's Bot. Arrang. p.* 470. *Relhan's Flor. Cant.* p. 176. Oxys scapo unifloro, foliis ternatis, radice squamoso-articulata. *Hal. Stirp. Helv.* n. 928. Oxys sive Trifolium acidum, flore albo & purpurascente. *J. Bauh.* II. 387. Trifolium acetosum vulgare. *Bauh. Pin.* 330. *Parkinson & Theat.* 746. Oxys Alba. *Gerard. Herb.* 1201. *Raii Synop.* p. 281. *Wood-Sorrel. Hist. Plant.* 1098. *Acetosella, et Alleluja, Quorundam.*

Class. Decandria. *Ord.* Pentagynia. *L. Gen. Plant.* 582.

Ess. Gen. Ch. Cal. 5-phyllus. *Petala* unguibus connexa. *Caps.* angulis dehiscens, 5-gona.

Sp. Ch. O. scapo unifloro, foliis ternatis obcordatis, radice dentata. *L. Syst. ed.* 13.

THIS delicate little plant is excellently described by Mr. Curtis, (Flor. Lond.) we shall therefore adopt his description, as far as it coincides with our plan. The root is perennial, horizontal, scaly, and of a bright red colour; the leaves grow three together, inversely heart-shaped, of a yellowish green colour, frequently purple underneath, and beset with a few hairs; the leaf stalks are about three inches long, nearly upright, tender, proceeding from little bulbs, which form a kind of sheath, at the bottom these stalks are red and round, but towards the top grooved on one side: the flowers are white or flesh-coloured, and elegantly streaked with red veins. The flower-stalk is somewhat longer than the leaf-stalk, and furnished near the top with two oval pointed bracteæ, which partly surround it; the calyx is divided into five segments; these are short, permanent, bluntish, membraneous at the edges, and often spotted with purple; the petals are five, affixed to the receptacle by the claws, which bend a little inward just above where the claws adhere together, they are blunt, slightly crenated, and tinged at the bottom with yellow; the stamina are ten, upright, white, the five exterior the shortest; the antheræ are yellow and bilocular; the germen is quadrangular and green; the styles are five, very slender, a little longer than the stamina, and the stigma is blunt; the capsule is ovalish, pentagonal, spotted, divided into five cavities, each containing three seeds, which are heart-shaped, longitudinally grooved, convex on both sides, of a bright reddish brown colour, and inclosed within a shining white elastic arillus, by the bursting of which the seeds are thrown out.‡ This plant is a native of England, it flowers about April and May, and is commonly found in woods, or in shaded situations.[a]

The Acetosella is totally inodorous, but has a grateful acid taste,[b]

‡ As a distinguishing part of the generic character, Ray says, "Quod per maturitatem levi tactu dissiliens cum impetu semina ejaculantur, (hist. 1098.)

[a] Mr. Curtis observes, that this plant continues to produce seeds during the greatest part of the summer, without any appearance of expanded blossoms.

[b] This makes it useful in sallads, in some measure supplying the place of vinegar.

which is more agreeable than the common sorrel, (Rumex Acetosa) and approaches nearly to that of the juice of lemons, or the acid of tartar, with which it also corresponds in a great measure in its medical effects, being esteemed refrigerant, antiscorbutic, and diuretic. It is recommended by Bergius in inflammatory, bilious, and putrid fevers, and from the cases adduced by Francus,[c] he concludes, "Acetossellam appetitum restaurare, vomitum consopire, alvum stringere, sitim, sedare, oris amaritiem tollere, cordis vires reparare, anginamque abigere."[d] The principal use, however, of the Acetosella, is to allay inordinate heat, and to quench thirst; for this purpose, a pleasant whey may be formed by boiling the plant in milk, which under certain circumstances may be preferable to the conserve directed by the London College, though an extremely grateful and useful medicine. Many have employed the root of Lujula, probably on account of its beautiful red colour rather than for its superior efficacy. An essential salt is prepared from this plant, known by the name of Essential Salt of Lemons, and commonly used for taking ink-stains out of linen.[e]

[c] De vera herba Antiquorum Acetosella, &c.

[d] Mat. Med. p. 379.

[e] This salt is made from the expressed juice. Vide Boerh. Chem. vol. 2. proc. 7. & Savary, Diss. de Sale Essent. Acetosellæ. p. 9. Thunberg found that the Oxalis cernua of the Cape of Good Hope, yields the salt in greater quantity than the Acetosella.—This salt, when genuine, which is seldom to be procured so,[‖] is composed of the vegetable alkali and a peculiar acid, which seems more allied to the acid of sugar than that of tartar. Vide Bergman Act. Up. Nov. vol. 2. p. 215. where the manner of separating this acid is also given, and related by Murray. Ap. Med. vol. 3. p. 497.

[‖] Vide Scheele in Görwells *nya tidningar*, 1775. n. 30. p. 237. and Savary, l. c. What is sold under the name of *Essential Salt of Lemons*, in this country, appears sometimes to consist of C. Tart. with the addition of a small quantity of vitriolic acid. MS. Lectures on Chemistry by Dr. Hamilton.

LINUM USITATISSIMUM. COMMON FLAX.

SYNONYMA. Linum. *Pharm. Lond. & Edinb.* Linum arvense. *Bauh. Pin. p.* 214. Linum sativum. *Gerard, Emac. p.* 556. *Park. Theat. p.* 1335. *Raii Hist. p.* 1072. *Synop. p.* 362. Linum. *J. Bauh. Hist. iii. p.* 451. *Hall. Stirp. Helv. n.* 836. L. usitatissimum. *Huds. Flor. Ang. p.* 133. *Withering. Bot. Arrang. p.* 328. *Curt. Flor. Lond.* Λινον *Dioscor. L.* 2. *c.* 125. *Theoph.* 8. *Hist.* 7.

Class Pentandria. *Ord.* Pentagynia. *Lin. Gen. Plant.* 389.

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

Sp. Ch. L. calycibus capsulisque mucronatis, petalis crenatis, foliis lanceolatis alternis, caule subsolitario.

THE root is annual: the stalk is erect, round, smooth, branched towards the top, and rises about a foot and a half in height:[a] the branches are simple, alternate, and terminated by the flowers, which are solitary, and of a sky-blue colour: the leaves are lance-shaped, acute, sessile, smooth, glaucous, vertical, and alternately scattered over the stalk and branches: the calyx is divided into five segments, which are semi-lance-shaped, pointed, and slightly fringed with small hairs: the corolla is funnel-shaped, consisting of five petals, which are large, obovate, striated, and minutely scolloped at their extremities: the filaments are five, tapering, upright, about the length of the calyx, united at the base, and crowned with simple antheræ: the germen is oval: the five styles are filiform, erect, of the length of the filaments, and furnished with blunt stigmata:

[a] It is remarked by Haselquist, that in Egypt this plant rises with a strong stem to the height of four feet. *Resa til hel. Landet. p.* 462.



Linum usitatiss mum.

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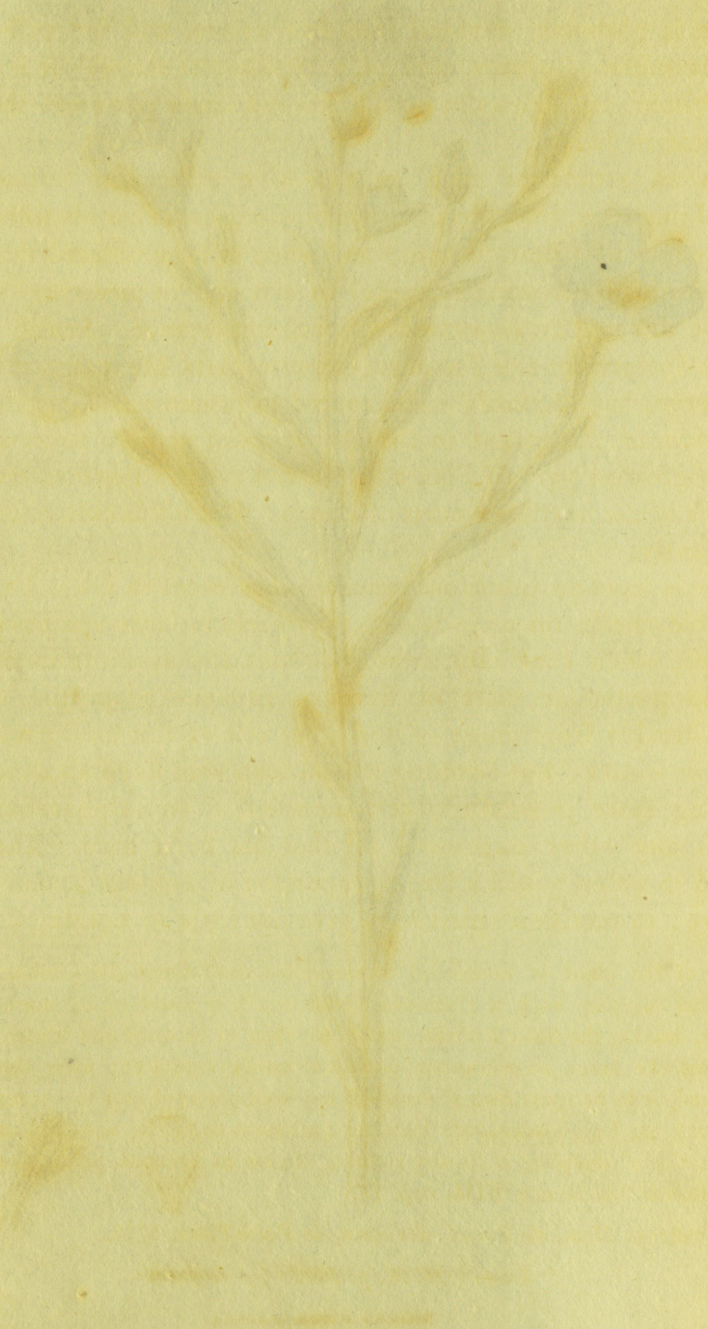


the capsule is globular, divided into five valves, and ten cells: the seeds are solitary, glossy, and of a flattish oval shape, It is a native of Britain, and grows in corn fields and sandy pastures: the flowers appear in July.

Flax [b] is an article of such an extensive utility for various œconomical purposes, that the plant which furnishes it has obtained the trivial name of usitatissimum; and when it is considered that its seeds afford an oil equally useful in arts and in medicine, it may well be deemed an object of national importance. Sensible of this, the Society for the Encouragement of Arts, Manufactures, and Commerce, has laudably endeavoured to promote and extend the cultivation of this plant in Britain, and not without success. But still the greatest part of Flax and Linseed used in this country is the growth of the northern parts of Europe, where it is cultivated most abundantly.

"The seeds have an unctuous mucilaginous sweetish taste, but no remarkable smell; on expression, they yield a large quantity of oil, which, when carefully drawn without the application of heat, has no particular taste or flavour: in some properties it differs considerably from most of the other oils of this kind; not congealing in winter; not forming a solid soap with fixed alkaline salts; * acting more powerfully as a menstruum on sulphureous bodies, than any other expressed oil that has been tried. The seeds, boiled in water, yield a large proportion of a strong flavourless mucilage: to rectified spirit they give out little or nothing." [c]

[b] The bark of the plant is composed of numerous small tough longitudinal fibres, connected together with a glutinous matter which is dissolved by maceration in water, leaving the naked fibres, which are then to be dried and beaten, by which means the inner membranous parts are easily separated; after this it is combed, and fit to be spun into thread.—It has been observed that the water in which this bark has been macerated, becomes poisonous to cattle, and on this account the practice of steeping it in any running stream or common pond, was prohibited by Statute 33d Henry VIII. cap. 17.

* Geoffroy, *Mem. de l'acad. des scien. de Paris l'ann.* 1741.

[c] Lewis, *M. M. p.* 397.

Linseed appears to afford but little nourishment, and when taken as food has been found to impair the stomach, and produce great flatulency: effects, which are noticed of these seeds by Galen,[d] and since amply confirmed by Tragus, who relates[e] that, in consequence of a scarcity of corn in Zealand, the inhabitants were urged to the necessity of eating boiled Linseed, which occasioned a remarkable distention of the hypochondria, swellings of the face and other parts, which in several instances proved fatal.

Infusions and decoctions of these seeds, like other vegetable mucilages, are used as emollients or demulcents in hoarsenesses, coughs, and pleuretic symptoms, which frequently prevail in catarrhal affections; they are also recommended in nephritic pains and stranguries: for these purposes, a spoonful of the seeds unbruised is said to be sufficient for a quart of water.[f] The seeds are also much used externally in emollient and maturating cataplasms. The expressed oil is an officinal preparation, and is supposed to be of a more healing and balsamic nature than the other oils of this class;[g] it has therefore been very generally employed in pulmonary complaints; also in colics,[h] and constipations of the bowels.[i]

[d] Simp. L. 7. de alim. fac. l. 1. c. 32.

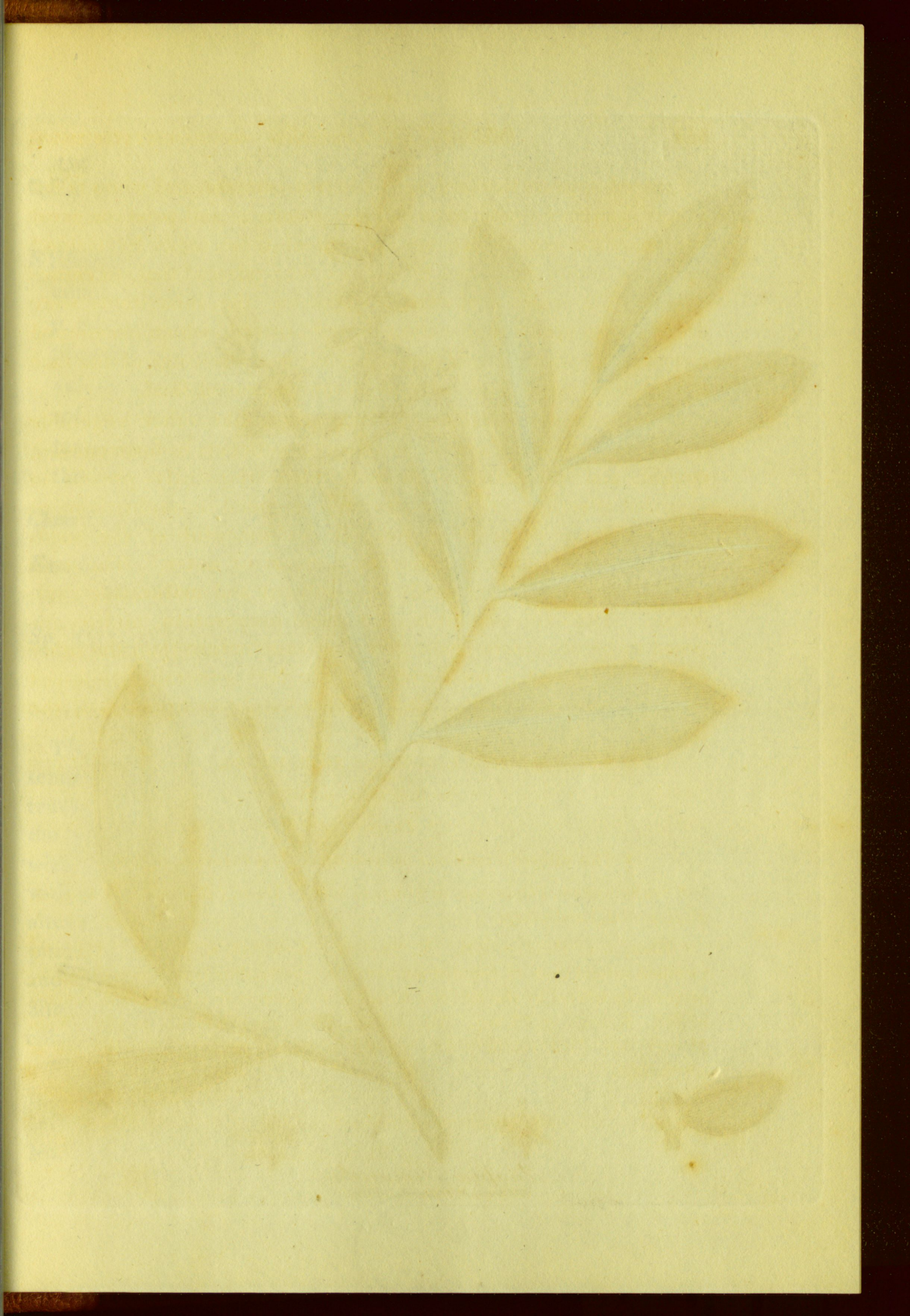
[e] See Raii *Hist. p.* 1073.

[f] *Lewis, l. c.*

[g] This subject is examined on treating of Olea europæa. p. 280.

[h] See Sydenham, *(Oper. cap. de pleur. p.* 265.*)* Haen, *(Rat. Med. P.* 1. *p.* 24. *P. ii. p.* 103.*)* and others.

[i] Haen, *l. c. P. ii. p.* 204. V. Swieten. *Com. vol. ii. p.* 143. Gallesky mentions several cases of constipation and colic, proceeding from different causes, successfully treated by this oil. See Abhandl. v. Miserere u. d. Kräften d. Leinöls in dies. Krankh. p. 75. seq. Also Lentin, Beob. einig. Krankh. p. 149. Vide Murray, App. Med. vol. iii. p. 485. seq.—It is used in common with other oils as a vermifuge.





Quaſsia Simaruba

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QUASSIA SIMARUBA. SIMARUBA QUASSIA.*

SYNONYMA. Simarouba. *Pharm. Lond. & Edinb.* Simaruba amara. *Aublet Hist. des Plantes de la Guiane Françoise. tom. ii. p.* 859. *tab.* 331, 332. Euonymus fructu nigro tetragono, vulgo Simarouba. *Barrere France equinoxiale. p.* 50. Le Simarouba vel Bois amer. *Des Marchais Voyages en Guinée et à Cayenne, vol. ii. p.* 124. *Bancroft's Nat. Hist. of Guiana, p.* 84. A Botanical and Medical account of the Quassia Simaruba. *Wright* in the *Transactions of the Royal Society of Edinb. vol. ii. p.* 73. *& seq.*

Class Decandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 529.

Ess. Gen. Ch. Cal. 5-phyllus. *Petala* 5. *Nectarium* 5-phyllum. *Pericarpia* 5, distantia, 1-sperma.

Sp. Ch. Q. floribus monoicis, foliis abrupte pinnatis: foliolis alternis subpetiolatis, petiolo nudo, floribus paniculatis. *Supp. Plant.*

THIS tree grows to a considerable height and thickness, and sends off alternate spreading branches: the bark which covers the trunks of the old trees, is black, and a little furrowed, but that of the younger trees is smooth, grey, and here and there marked with broad spots of a yellow colour: the wood is hard, white, and without any remarkable taste: the leaves are numerous, and stand alternately upon the branches; each leaf is composed of several pinnæ, nearly of an elliptical shape, on the upper side smooth, and of a deep green colour, on the under side whitish, and stand alternately upon short footstalks: the flowers are of a yellow colour, and placed on branched spikes, or long panicles: the

* "This tree is known in Jamaica by the names of Mountain Damson, Bitter Damson, and Stave-wood. The shops are supplied with this bark from Guiana; but now we may have it from our own islands at a moderate expense." Wright. l. c.

calyx is small, and cut into five obtuse erect segments: the corolla is divided into five petals, which are sessile, equal, lance-shaped, bent outwards, and tripple the length of the calyx, into which they are inserted: the nectarium is composed of ten oval hairy scales, inserted at the base of the filaments: the stamina are ten, slender, equal, about the length of the corolla, and furnished with long antheræ: the receptacle is a fleshy substance, of an orbicular shape, and marked with ten furrows. The female flower (according to Dr. Wright, whose figure of the male plant we have given) is never found at Jamaica on the same tree which produces the male flower; it is furnished with five roundish germina adhering together: the style is cylindrical, erect, about the length of the corolla, and divided at the top into five recurved persistent stigmata: the fruit is an oval, black, smooth, fleshy, soft pulp, or drupa; the number of these drupæ is five on each common receptacle, but seldom more than two or three arrive at perfect maturity, when each contains an oblong pointed nut with a flattish kernel. It is a native of South America and the West Indies, and flowers in April.

Although the medicinal bark, which the roots of this tree are known to furnish, was first imported into Europe in the year 1713, it is but a few years since the Simaruba was botanically ascertained. Linnæus at first supposed it to be the Pistacia foliis pinnatis deciduis, foliolis ovatis; but in the second edition of his Species plantarum and Mat. Med. it is recorded as the Bursera gummifera, and both these genera are referred to the Terebinthus major of Sloane, or the Birch turpentine-tree of Browne. However Jacquin, who examined the root of the Bursura, and compared its bark with that of Simaruba, found it to be very different. Linnæus therefore in his observations on the Mat. Med. published in 1772, very properly mentions it among those plants which are not sufficiently determined. About this time the Simaruba tree was discovered and investigated at Guiana by Aublet, and at Jamaica by Dr. Wright, from whose specimens it evidently appears to be a Quassia, and

under this name it has since been described by the younger Linnæus in the Supp. Plantarum. Dr. Wright, to whose botanical researches we are much indebted, says, "in 1773, specimens of the fructification were sent (from Jamaica) in spirits, accompanied with a botanical account of the tree, to my late worthy friend Dr. Hope, Professor of Botany in the University of Edinburgh; also some dried bark from the roots. The following year, specimens, with similar description, were transmitted to my late learned friend Dr. John Fothergill, of London, who sent them to the celebrated Linnæus at Upsal, as appears by Professor Murray's Apparatus Medicaminum.[a] Dr. Fothergill caused elegant drawings to be made of this plant, and these drawings I now have the honour of presenting to the Royal Society of Edinburgh."[b] By the assistance of Mr. Alexander Anderson a plant of this species has been lately introduced into the Royal garden at Kew.[c] The cortex Simarubæ of the shops is the bark of the roots of this tree, which, according to Dr. Wright, "is rough, scaly, and warted. The inside, when fresh, is a full yellow, but when dry, paler: it has but little smell: the taste is bitter, but not disagreeable." "Macerated in water, or in rectified spirit, it quickly impregnates both menstrua with its bitterness, and with a yellow tincture. It seems to give out its virtue more perfectly to cold, than to boiling, water; the cold infusion being rather stronger in taste than the decoction; which last, of a transparent yellow colour whilst hot, grows turbid and of a reddish brown, as it cools. The milky appearance, which Jussieu

[a] Qualis vera ejusdem arbor sit, jamjam *Aubletii* indagine cognoscimus; ut tamen et mihi monere incumbat, b. *Linneum*, Equitem, litteris jam a. 1776. ineunte mihi datis, antequam *Aubletii* elegantissimum opus illi innotesceret, significasse, Simarubum Quassiæ speciem a se haberi. Ille autem Simarubæ cortex, quo cl. *Wright* (Conf. *Bibl. mea med. v. iii. p.* 483) arborem in Jamaica vulgarem vestitam esse innuit, pariter in alvi profluviis efficaci, *discrepat a vulgo usitato cortice, ut specimine mihi misso reperio, quod scilicet tenue est, tenacius, longe pallidius, obtectum extrinsecus verrucis exiguis fere stipitatis, valde amarum.*" Vol. iii. p. 458.

[b] L. c. p. 74. [c] See Aiton's *Hort. Kew.*

says it communicates to boiling water, I have not observed in the decoction of any of the specimens which I have examined."[d]

The bark was first sent from Guiana to France in 1713 to the Count de Porchartrain, then Secretary of State, as a remedy of great efficacy in dysentery. In the years 1718 and 1723 an epidemic flux prevailed very generally in France, which resisted all the medicines usually employed in such cases; small doses of ipecacuanha, mild purgatives, and all astringents were found to aggravate, rather than to relieve, the disease: || under these circumstances, recourse was had to the cortex Simarubæ, which proved remarkably successful, and first established its medical character in Europe.‡ Dr. Wright says, "most authors who have written on "the Simaruba, agree, that in fluxes it restores the lost tone of "the intestines, allays their spasmodic motions, promotes the "secretions by urine and perspiration, removes that lowness of "spirits attending dysenteries, and disposes the patient to sleep; "the gripes and tenesmus are taken off, and the stools are changed "to their natural colour and consistence. In a moderate dose it "occasions no disturbance or uneasiness, but in large doses it pro-"duces sickness at the stomach and vomiting.

"Modern physicians have found from experience that this "medicine is only successful in the third stage of dysentery, "where there is no fever, where too the stomach is no way hurt, "and where the gripes and tenesmus are only continued by a

[d] Lewis *Mat. Med. p.* 606. || See Wright, l. c.

‡ Jesuitæ patri *Soleil* collegio Parisino adscripto anno 1713, quædam hujus corticis specimina miserunt, ille in dysenteria gravi, quæ anno 1718, Parisiis furebat, jussu Regio, fuit tentatus, bonos inde observatos effectus, anno 1723, reiterata experimenta uberius confirmarunt, variis itaque in locis in usum tractus efficaciam suam in sistenda dysenteria ubivis probavit Degner, Schwenk, Tissot, Grashuis, Bœnnicken, Werlhoff, testibus, efficacem quoque in alvi fluxu chronico & lienteria Schwenk, Tissot, Bœnnicken Jussieu sunt experti, in hæmorrhagia uteri Du Buisson & Jussieu: has ejus virtutes non modo a vi adstringente, qua pollet, pendere, sed illam ipsam materiem quoque horum morborum corrigere & e corpore educere, Schwenk & Jussieu ex eo probant, quod sub ejus usu excretiones aquosæ promoveri observentur. Spielman *Mat. Med. p.* 228.

" weakness of the bowels. In such cases, Dr. Monro gave two " or three ounces of the decoction every five or six hours, with " four or five drops of laudanum; and found it a very useful " remedy. The late Sir John Pringle, Dr. Huck Saunders, and " many others, prescribed the cortex Simaruba in old and obsti- " nate dysenteries and diarrhœas, especially those brought from " warm climates. Fluxes of this sort, which were brought home " from the siege of Martinico and the Havannah, were completely " and speedily cured by this bark. The urine, which in those " cases had been high coloured and scanty, was now voided in " great abundance, and perspiration restored. Dr. James Lind, " at Haslar Hospital, says, that the Simaruba produced these effects " sooner and more certainly, when given in such quantity as to " nauseate the stomach. Dr. Huck Saunders remarks, that if the " Simaruba did not give relief in three days, he expected little " benefit from its farther use; but others have found it efficacious " in fluxes, after a continued use for several weeks.——" My own " experience, and that of many living friends, are convincing " proofs to me of the efficacy of this medicine, and I hope the " Simaruba bark will soon be in more general use." [c]

Dr. Wright recommends two drams of the bark to be boiled in twenty-four ounces of water to twelve; the decoction is then to be strained and divided into three equal parts, the whole of which is to be taken in twenty-four hours, and when the stomach is reconciled to this medicine, the quantity of the bark may be increased to three drams. To this decoction some join aromatics, others a few drops of laudanum to each dose.

[c] L. c. p. 78. It may here be remarked, that Dr. Cullen says, " we can perceive nothing in this bark but that of a simple bitter, the virtues ascribed to it in dysentery have not been confirmed by my experience, or that of the practitioners in this country; and leaving what others are said to have experienced to be further examined and considered by practitioners, I can only at present say, that my account of the effect of bitters will perhaps explain the virtues ascribed to Simaruba. In dysentery I have found an infusion of chamomile flowers a more useful remedy." *Mat. Med. vol. ii. p.* 75.

QUASSIA AMARA. BITTER QUASSIA.

SYNONYMA. Quassia. *Pharm. Lond. & Edinb.* Quassia pentaphylla pediculis alatis, floribus racemosis terminalibus coccineis fructu pentaspermo. *Patris in Gazette salutaire,* 1777, *n.* 41. 42. item in *Rozier Observations sur la Physique. Tom. ix.* 1777. *p.* 140. *Supp. Plant. p.* 235.

Class Decandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 529.

Ess. Gen. Ch. Cal. 5-phyllus. *Petala* 5. *Nectarium* 5-phyllum. *Pericarpia* 5, distantia 1-sperma.

Sp. Ch. Q. floribus hermaphroditis, foliis impari-pinnatis, foliolis oppositis sessilibus, petiolo articulato alato, floribus racemosis. *Suppl. Plant.*

THIS tree rises several feet in height, and sends off many strong branches: the wood is white and light; the bark is thin, and of a grey colour: the leaves are placed alternately upon the branches, and consist of two pair of opposite pinnæ, with an odd one at the end: all the leafets are of an elliptical shape, entire, veined, smooth, pointed, sessile, on the upper pagina of a deep green colour, on the under paler: the common footstalk is articulated and winged, or edged, on each side with a leafy membrane, which gradually expands towards the base of the pinnæ: the flowers are all hermaphrodite, of a bright red colour, and terminate the branches in long spikes: the bracteæ or floral leaves are lance-shaped or linear, coloured, and placed alternately upon the peduncles: the calyx is small, persistent, and five-toothed: the



Quassia amara

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PRESTON 1828

corolla consists of five lance-shaped equal petals, at the base of which is placed the nectary, or five roundish coloured scales: the filaments are ten, slender, somewhat longer than the corolla, and crowned with simple antheræ, placed transversely: the receptacle is fleshy and orbicular: the germen is ovate, divided into five parts, and supports a slender style, longer than the filaments, and terminated by a tapering stigma: the capsules are five, two-celled, and contain globular seeds. It is a native of South America, particularly of Surinam, and also of some of the West-India Islands.

The botanical character of this species of Quassia was known long before that of the Simaruba, as it is noticed in its proper place in the Sp. Plantarum, upon the authority of Dahlberg, when it was thought peculiar to Surinam; afterwards, Linnæus, in his Materia Medica, referred it to the Nux americana, foliis alatis bifidis of *Commelin.*‖ It appears, however, that the figure given in the Amœnitates Academicæ,[a] is not a faithful representation of this species; hence the younger Linnæus has observed, "Figura floris in Dissertatione Parentis de Quassia vera est, sed ramulus cum foliis ad aliam pertinet;"[b] and consequently those copied from it, and since published by Buchoz, and others, are with respect to the leaves erroneous;* this will be evident, upon consulting the plate and description of the Quassia given by Patris, as well as the Icon here annexed, which was drawn from a specimen in the possession of that able naturalist Dr. J. E. Smith, President of the Linnæan Society.[c]

‖ *Hort. i. p.* 423. *t.* 94.

[a] See *Vol. vi. p.* 416. [b] *Suppl. Plant. p.* 235.

* On this account, we have not referred to the figure of the Quassia, lately published by Dr. Lettsom in the *Mem. of the Med. Society.*

[c] The ample and valuable collection of specimens in Natural History made by Linnæus, and to which most of his cotemporary naturalists were contributors, are now in the possession of this Gentleman, who has obligingly offered us any assistance it may afford us in the prosecution of this work.

The root, bark, and wood[d] of this tree, are all comprehended in the catalogues of the Materia Medica; but as the roots are perfectly ligneous, they may be medically considered in the same light as the wood, which is now most generally employed, and seems to differ from the bark in being less intensely bitter; the latter is therefore thought to be a more powerful medicine. Quassia has no sensible odour; its taste is that of a pure bitter, more intense and durable than that of almost any other known substance; it imparts its virtues more completely to watery than to spirituous menstrua, and its infusions are not blackened by the addition of martial vitriol. The watery extract is from a sixth to a ninth of the weight of the wood; the spirituous about a twenty-fourth. Quassia derived its name from a negro name Quassi, (by Fermin[e] written Coissi, and by Rolander Quass) who employed it with uncommon success, as a secret remedy in the malignant endemic fevers, which frequently prevailed at Surinam. In consequence of a valuable consideration, this secret was disclosed to Daniel Rolander, a Swede, who brought specimens of the Quassia-wood to Stockholm, in the year 1756; and since then the effects of this drug have been very generally tried in Europe, and numerous testimonies of its efficacy published by many respectable authors.[f] Various experiments with Quassia have likewise been made, with a view to ascertain its antiseptic powers, from which it appears to have considerable influence in retarding the tendency

[d] It may also be remarked, that the leaves, flowers, &c. likewise possess similar qualities. Toutes les parties du Cassie, écorce, bois, feuilles, fleurs, calice, enveloppes des graines, et les graines mêmes, sont d'une amertume energique, et dont n'approche aucun medicament jusqu'à present connu, &c. *Patris l. c. p.* 144.

[e] *Description de la Colonie de Surinam. Tom. i. p.* 212.

[f] Of these we may mention *Linnæus*, *Dahlberg*, *Blom*, *Fermin*, *Tissot*, *Thorstensen*, *Severius*, *Ebeling*, *Patris*, and many others, for which see *Murray App. Med. vol. iii. p.* 432. *& seq.*

to putrefaction,[g] and this Professor Murray thinks cannot be attributed to its sensible qualities, as it possesses no astringency whatever, nor can it depend upon its bitterness, as gentian is much bitterer, yet less antiseptic. The medicinal virtues ascribed to Quassia are those of a tonic, stomachic, antiseptic, and febrifuge; it has been found very effectual in restoring the tone of the stomach, producing appetite for food, assisting digestion, expelling flatulency, and removing habitual costiveness, produced from debility of the intestines, and common to a sedentary life. Dr. Lettsom, whose extensive practice gave him an opportunity of trying the effects of Quassia in a great number of cases, says, "In debility, succeeding febrile diseases, the peruvian bark is "most generally more tonic and salutary than any other vegetable "hitherto known; but in hysterical atony, to which the female "sex is so prone, the Quassia affords more vigour and relief "to the system than the other, especially when united with the "*vitriolum album*, and still more with the aid of some absorbent." In dyspepsia, arising from hard drinking, and also in diarrhœas, the Doctor exhibited the Quassia with great success. But with respect to the tonic and febrifuge qualities of Quassia, he says, "I by no means subscribe to the Linnæan opinion, where the "author declares, *me quidem judice chinchinam longe superat:* it "is very well known, that there are certain peculiarities of the "air and idiosyncrases of constitution, unfavourable to the exhibition of the peruvian bark, even in the most clear intermissions of fever, and writers have repeatedly noticed it; but "this is comparatively very rare. About midsummer, 1785, "I met with several instances of low remittent and nervous "fevers, wherein the bark uniformly aggravated the symptoms, "though given in intermissions the most favourable to its success; "and wherein Quassia, or snake-root, was successfully substituted. "In such cases, I mostly observed, that there was great con-

[g] Vide Ebeling *Diss. de Quassia, &c. p.* 14. Severius, *Comment. in quo medicatæ Quassiæ vires expenduntur. p.* 77.

" gestion in the hepatic system, and the debility at the same " time, discouraged copious evacuations."—And in many fevers without evident remissions to warrant the use of the bark, whilst at the same time increasing debility began to threaten the life of the patient, the Doctor found that Quassia, or snake-root, singly or combined, " upheld the vital powers, and promoted a critical " intermission of fever," by which an opportunity was offered for the bark to effect a cure.[h] It may be given in infusion, or in pills made from the watery extract, the former is generally preferred in the proportion of three or four drams of the wood to twelve ounces of water.

[h] See *Memoirs of the Med. Society, vol. i. p.* 150.

Dr. Cullen says, " I believe Quassia to be an excellent bitter, and that it will do all that any pure and simple bitter can do; but our experience of it in this country does not lead us to think it will do more; and the extraordinary commendations given of it are to be ascribed to the partiality so often shewn to new medicines." *Mat. Med. v. ii. p.* 74..





Dianthus Caryophyllus

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1828

ORD. XXXIII. CARYOPHYLLEÆ.

(From *Caryophyllus*, a pink or gilliflower.)

DIANTHUS CARYOPHYLLUS.‖ CLOVE PINK.

SYNONYMA. Caryophyllum rubrum. *Pharm. Lond. & Edinb.* Caryophyllus hortensis simplex flore majore. *Bauh. Pin. p.* 208. Caryophyllus simplex major. *Gerard. Emac. p.* 590. Vide *Park. Parad. p.* 306. *Raii Hist. p.* 986. *Synop. p.* 336. Dianthus Caryophyllus. *Hudson. Flor. Ang. Withering Bot. Arr. p.* 441.

α Caryophyllus hortensis simplex flore majore. *C. Bauh.* *Clove Pink.*

β Caryophyllus maximus ruber & variegatus. *C. Bauh.* *Common Carnation.**

Class Decandria. *Ord.* Digynia. *Lin. Gen. Plant.* 565.

Ess. Gen. Ch. *Cal.* cylindricus, 1-phyllus: basi squamis 4. *Petalæ* 5, unguiculata. *Caps.* cylindrica, 1-locularis.

Sp. Ch. D. floribus solitariis, squamis calycinis subovatis brevissimis, corollis crenatis.

‖ "Ut nomen traxisse ab odoris affinitate qualicunque dubium non est; ita nescio sane quæ et unde sit barbara illa vox tunica. *Bauh. Pin. p. c.*

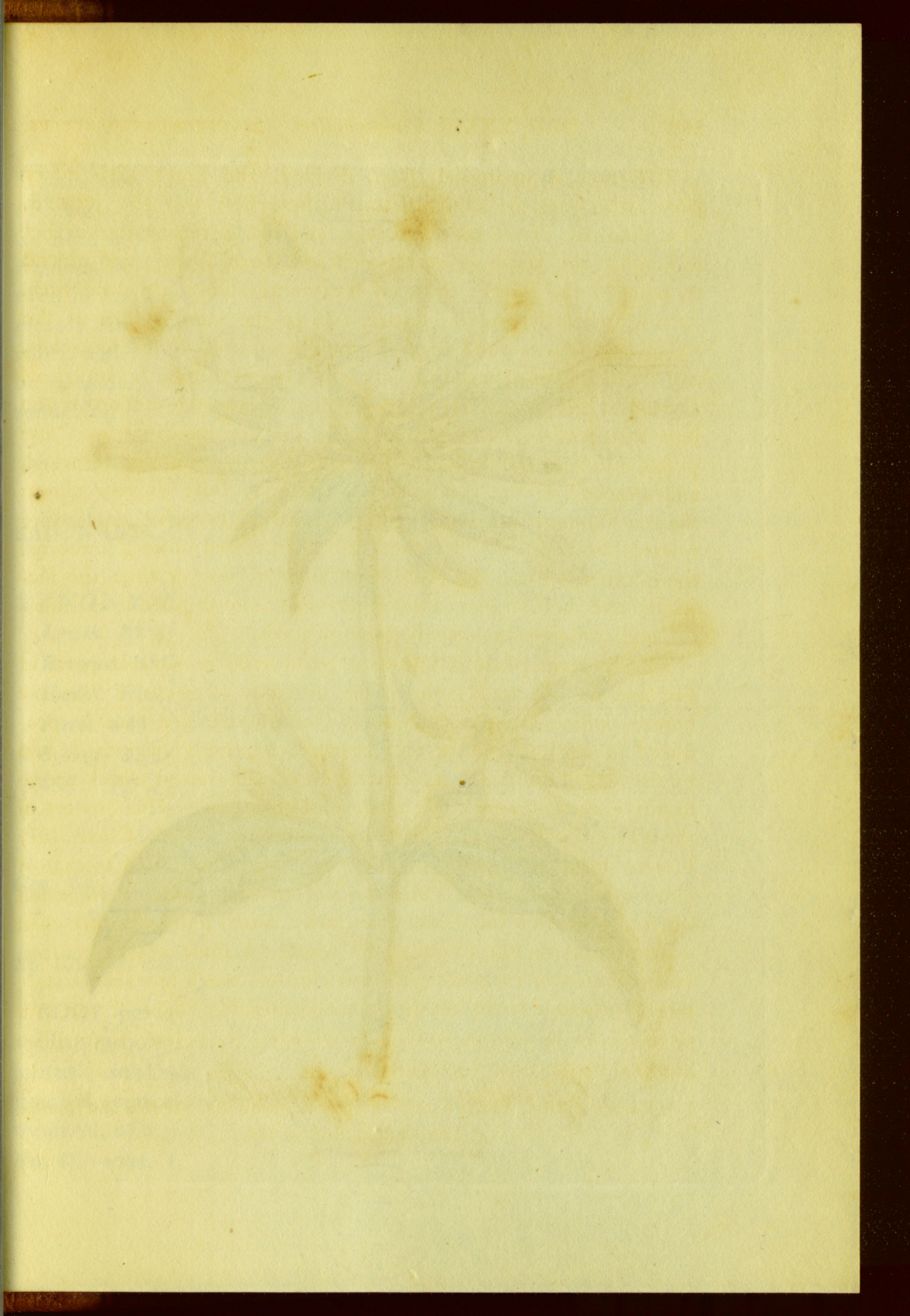
* Vide Aiton's *Hort. Kew.*

THE root is perennial, firm, divided, and beset with many fibres: the stems are slender, smooth, branched, upright, jointed, of a glaucous, or sea green, colour, and rise from one to two feet in height: the leaves upon the stem are short, linear, and placed in pairs at the joints: those of the young shoots are numerous, narrow, pointed, smooth, entire, and of the same colour as the stalk: the flowers stand singly at the extremities of the branches, and are of a deep crimson colour: the calyx is tubular, cylindrical, divided at the mouth into five segments, and surrounded at the base with four oval pointed squamæ: the corolla consists of five petals, which at the limb are roundish, patent, scolloped, fringed, and attached to the common receptacle by long narrow claws: the ten filaments are longer than the calyx, tapering, spreading towards the top, and furnished with compressed oblong antheræ: the germen is oval: the styles two, slender, longer than the filaments, and their stigmata curled outwards: the capsule is cylindrical, and contains many small roundish seeds.

This fragrant plant is known to grow wild in several parts of England on old walls and in the crevices of rocks;† but the flowers, which are pharmaceutically employed, are usually produced in gardens, where they become extremely luxuriant, and by the arts of culture those beautiful varieties raised which are so highly esteemed under the name of Carnations. The flowers of the Clove Pink, or as it is more commonly called, Clove July Flower, have a pleasant aromatic smell, somewhat allied to that of clove spice: their taste is bitterish and subastringent. "Rectified spirit, digested on the flowers, receives a much paler tincture than watery liquors, but extracts the whole of their active matter. In distillation or evaporation, spirit elevates much less than water; the spirituous extract retaining a considerable share of the fine smell of the flowers as well as their taste: its colour is purplish like that of the watery extract."[a]

† At Rochester, Deal, Sandown, and other castles, plentifully. See *Ray* and *Hudson.*

[a] Lewis's *Mat. Med. p.* 205.





Saponaria Officinalis.

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Formerly these flowers were supposed to have considerable effect upon the nervous system, and were therefore recommended in head-achs, faintings, palpitations of the heart, convulsions, tremors, &c. and S. Paulli says, that he found them of great use even in malignant fevers.[b] At present, however, they are valued merely for their sensible qualities, and the syrupus caryophylli rubri, which is the only officinal preparation of these flowers, is to be considered in this light: its pleasant flavour and fine colour rendering it an useful vehicle for other medicines.

[b] *Quad. Bot. p.* 242.

SAPONARIA OFFICINALIS. SOAPWORT.

SYNONYMA. Saponaria. *Pharm. Dale.* 230. *Rutty.* 463. *Lewis.* 584. *Edinb. New Dispens.* 277. *Murray. iii.* 505. *Bergius.* 369. *Hall. Hist. Helv. n.* 980. Saponaria major lævis. *Bauh. Pin.* 206. *Gerard. Emac.* 444. Saponaria vulgaris. *Park.* 641. *Ray. Hist.* 999. Lychnis Saponaria dicta. *Ray. Synop.* 339. S. officinalis. *Huds. Ang.* 183. *With. Bot. Arr.* 438. *Ic. Flor. Dan.* 543. *Flor. Lond.*

Decandria Digynia. *Lin. Gen. Plant.* 564.

Gen. Ch. Cal. 1-phyllus nudus. *Petala* 5, unguiculata. *Caps.* oblonga, 1-locularis.

Sp. Ch. S. calyc. cylindricis, fol. ovato-lanceolatis.

ROOT perennial, spreading, widely branched, covered with a reddish cuticle. Stalks about a foot in height, erect, firm, round, jointed, sending off opposite branches. Leaves oval, entire, pointed, connate, furnished with three ribs. Flowers numerous, terminal, of a pale flesh or white colour. Calyx cylindrical, rigid,

oblong, divided at the apex into five pointed teeth. Corolla composed of five petals, which are furnished with long angular claws: the limb is inversely heart-shaped, and at its base supplied with two nectarious teeth, placed in the centre. Filaments ten, tapering, longer than the calyx, furnished with oblong antheræ. Germen oblong, beset with transverse rugæ. Styles two, tapering, white. Stigmata simple. Capsule one-celled, containing numerous black kidney-shaped seeds.

It is a native of England, affecting moist situations, and flowering in July and August.

A double-flowered variety of this plant is not unfrequently met with in gardens.

The root has no peculiar smell; its taste is sweetish, glutinous, and somewhat bitter; on being chewed for some time, it is said to discover a degree of acrimony, which continues to affect the mouth a considerable time. According to Neuman, two ounces of the root yielded eleven drams of watery extract; but Cartheuser, from a like quantity, only obtained six drams, and twenty-four grains. This extract manifested a sweetish taste, followed by an acrid quality. The spirituous extract is less in quantity, but of a more penetrating acrid taste. Decoctions of the root, on being sufficiently agitated, produce a saponaceous froth; a similar soapy quality is observable also in the extract, and still more manifestly in the leaves, insomuch that they have been used by the mendicant monks as a substitute for soap in washing of their clothes; and Bergius, who made several experiments with the Saponaria, declares that it has all the effects of soap itself.[a]

From these peculiar qualities[b] of the Saponaria there can be little doubt of its possessing a considerable share of medical efficacy, which we could wish to find faithfully ascertained.

[a] He observes also, that the Saponaceous quality is not injured by acids, like that of the common soap.

[b] Perhaps we should except the kernels of the fruit of the Sapindus Saponaria, the root of Gypsophila Struthium, and the flowers of the Lychnis chalcedonica.

The diseases for which the Saponaria is recommended, as syphilis, gout, rheumatism, and jaundice, are not perhaps the complaints in which its use is most availing; for a fancied resemblance of the roots of Saponaria with those of sarsaparilla, seems to have led physicians to think them similar in their effects, and hence they have both been administered with the same intentions, particularly in fixed pains, and venereal affections. Bergius says, "in arthritide, cura mercuriale, &c. nullum aptiorem potum novi."

However, according to several writers, the most inveterate cases of syphilis were cured by a decoction of this plant, without the use of mercury.[c]

Haller informs us, that Boerhaave entertained an high opinion of its efficacy in jaundice, and other visceral obstructions.

[c] Vide Rudius. *De morb. occult. et venenat. L.* 5. *c.* 18. *p.* 215. Septalius, *Animadv. et caut. med. p.* 275. Zapata, *Memorab. medico-chir.* Werner. *Diss. de virtute saponar.*

ORD. XXXIV. CALYCANTHEMÆ.

ORD. XXXV. ASCYROIDEÆ.

(From ασκυρον, the name given by Pliny for *Hypericum*, or St. John's Wort.)

CISTUS CRETICUS. CRETAN CISTUS.

Planta à qua colligitur *Ladanum. Pharm. Lond.*

SYNONYMA. Cistus ladanifera cretica, flore purpureo. *Tournef. Coroll. Inst. rei herb. p.* 19. *Voyage du Levant. t. i. p.* 29. Cistus ladanifera vera. *Park. Theat, p.* 666. Cistus, Ledon Cretense. *Bauh. Pin. p.* 467. Cistus Ledon Matthioli. *Gerard. Emac. p.* 1286. Cistus *(creticus)* arborescens, foliis ovato-lanceolatis, hirsutis, marginibus undulatis, floribus terminalibus. *Miller. Dict. Jacqu. ic. collect. i. p.* 80.

Class Polyandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 673.

Ess. Gen. Ch. *Cor.* 5-petala. *Cal.* 5-phyllus: foliolis duobus minoribus. *Capsula.*

Sp. Ch. C. arborescens exstipulatus, foliis spatulato-ovatis petiolatis enerviis scabris, calycinis lanceolatis.



Cistus creticus

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THIS handsome shrub seldom rises to any considerable height; it is covered with a dark coloured bark, and sends off several simple branches: the leaves are oblong, pointed, waved, rough, viscous, veined, and stand in pairs upon short footstalks, which are broad at the base, so as nearly to surround the younger branches: the flowers are produced in succession at the extremities of the branches in June and July; they are large, of a purplish red colour, marked with dark spots at the base of each petal, and stand on short peduncles: the calyx is divided in five large oval pointed persistent segments, of which the two outermost are the smallest: the corolla is composed of five petals, which are large, roundish, spreading, and readily fall off on being touched: the filaments are numerous, very short, slender, and supplied with simple antheræ of an orange colour: the germen is oval, and supports a short style, furnished with a flat circular stigma: the capsule is roundish, and contains many small orbicular seeds.

This shrub, which is a native of Candia and some of the islands of Archipelago, was first cultivated in England by Mr. P. Miller in the year 1731,[a] and is now to be had of several of the London gardeners, though it is not so commonly met with as many other exotic species of this genus. Not only this plant, but most of its congeners, abound with a glutinous liquor, which in summer exudes upon their leaves, and seems to be of the ladanum kind; but it is well known, that the Cistus creticus is the species from which the officinal Ladanum is collected. This is done in Candia by means of an instrument called there *Ergastiri*, made in the form of a rake, to which several leathern thongs are fixed instead of teeth, and with which the leaves of the shrub are lightly brushed backwards and forwards, so that the fluid Ladanum may adhere to the leather, from which it is afterwards scraped off with knives, and formed into regular masses for exportation.[b]

[a] See Aiton's Hort. Kew.

[b] See Belon. *Observations de plusieurs singularités en Grece, Asie, &c. Lib. i. c.* 7. and Tournefort. *Voyage du Levant. t. i. p.* 29. where the Ergastiri is described and figured.

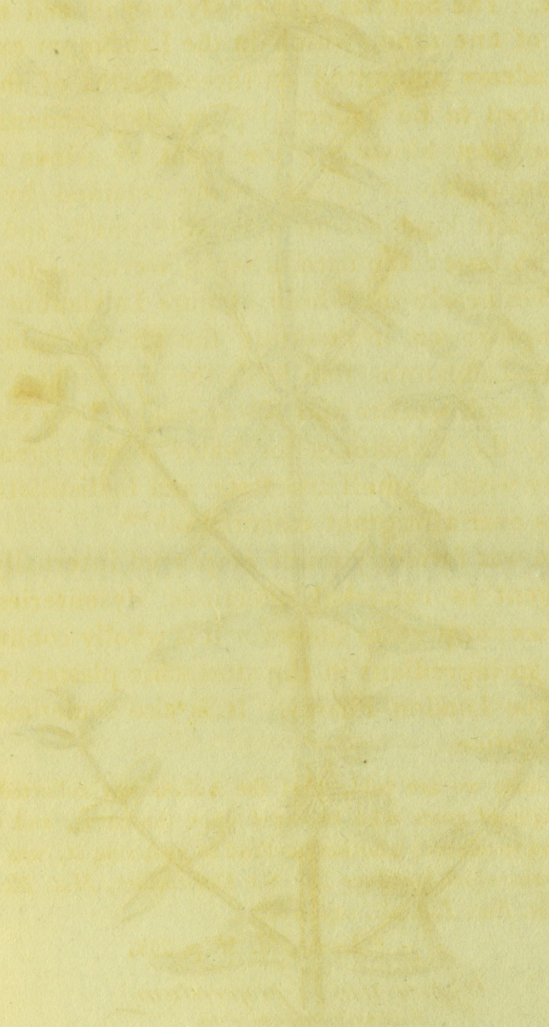
As this drug is observed to issue most copiously in the hottest weather, the method of gathering above described must be performed when the intensity of the sun's heat renders it a very laborious and troublesome employment.

Three sorts of Ladanum have been described by authors, but only two are now to be met with in the shops. "The best, which is very rare, is in dark coloured masses, of the consistence of a soft plaster, growing still softer on being handled: the other is in long rolls, coiled up, much harder than the preceding, and not so dark. The first has commonly a small and the last a large admixture of fine sand, which in the Labdanum examined by the French Academy amounted to three-fourths of the mass. It is scarcely indeed to be collected pure, independently of designed abuses; the dust blown on the plant by winds from the loose sands among which it grows, being retained by the tenacious juice. The soft kind has an agreeable smell, and a lightly pungent bitterish taste: the hard is much weaker. Rectified spirit of wine dissolves nearly the whole of pure Labdanum into a golden-coloured liquor: on inspissating the filtered solution, the finer parts of the Labdanum rise with the spirit, and the remaining resin proves both weaker and less agreeable than the juice at first. On infusing the Labdanum in water it impregnates the liquor considerably with its smell and taste, and in distillation with water, there comes over a fragrant essential oil."[d]

This resin was formerly much employed internally as a pectoral and astringent in catarrhal affections, dysenteries, and several other diseases; at present however it is wholly confined to external use, and is an ingredient in the stomachic plaster, or emplastrum landani of the London Pharm. It is also sometimes used in the way of fumigation.

By the ancients we are told, that the Λαδανον was collected by combing the beards and thighs of goats who browzed upon the cistus, and to whose hair the drug was found to adhere: another method of gathering it, was by drawing cords over those shrubs which produce it. See Dioscorides, *Mat. Med. Lib. i. p.* 128. and Pliny, *Hist. Nat. Lib. xii. cap. xvii.*

[d] Lewis, *M. M. p.* 368.





Hypericum perforatum

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PRESTON

HYPERICUM PERFORATUM. PERFORATED St. JOHN's WORT.

SYNONYMA. Hypericum, *Pharm. Lond.* Hypericum caule terete, alato, ramosissimo, foliis ovatis perforatis. *Hal. Stirp. Helv.* n. 1037. Hypericum vulgare sive perforata, caule rotundo, foliis glabris. *J. Bauhin* III. 382. Hypericum vulgare, *Bauh. Pin.* 279. *Raii Synop.* 342.

Class. Polyadelphia. *Ord.* Polyandria. L. *Gen. Plant.* 902.

Ess. Gen. Ch. Cal. 5-phyllus. *Petala* 5. *Nect.* 0. *Capsula. Aiton's Hortus Kewensis.*

Sp. Ch. H. Floribus trigynis, caule ancipiti, fol. obtusis pellucido-punctatis.

THIS species of the Hypericum generally grows to the height of a foot and a half; the root is perennial, ligneous, divided and subdivided into many small branches, and covered with a straw-coloured bark; the stalks are round, smooth, of a light colour, and towards the top send off many opposite floriferous branches; the leaves are without footstalks, and placed in pairs; they are entire, oval, and beset with a great number of minute transparent vesicles,‖ which have the appearance of small perforations through the dise, and hence the specific name, perforatum.

The flowers are numerous, pentapetalous, terminal, of a deep yellow colour, and grow in a corymbus, or in clusters, upon short peduncles; each petal is of an irregular oval shape and on the under side near the apex, is marked with many blackish dots; the calyx consists of five persistent acute leaves; the stamina are

‖ Folia enim innumeris scatent foraminibus, iisque adeo minutis, ut visum effugiant nisi ipsi folia soli objecta inspiciantur. Matthiol. in Dioscord. p. 668. And these vesicles, or glands, have been found to contain an essential oil of a terebinthinate quality. Geoffroy Mal. Med. Gadd thinks that it approaches nearer to the gum-resin. Lac. Vet. Acad. Handl. 1762. p. 119.

numerous, and commonly unite at their bases into three portions, or bundles; the antheræ are yellow, and marked with a small black gland;* the styli are three, and the capsule has three cells, which contain many small oblong brownish seeds. It grows commonly in woods and uncultivated grounds, and flowers in July.

Bergius describes the Hypericum quadrangulum instead of the perforatum, and thinks it the better officinal plant. "In pharmacopoliis nostris indiscrete colligunt Hypericum perforatum & quadrangulum; quod perinde quoque esse poterit, cum ambæ species puncta nigrecantia gerant; quadrangulum vero plurima."[a] Hypericum has a bitterish subastringent taste, and a sweetish smell. It was in great repute with the ancients, who prescribed it in hysteria, hypocondriasis and mania: they also imagined that it had the peculiar power of curing demoniacks, and thence obtained the name of *Fuga dæmonum:*[b] it was also recommended internally for wounds, bruises, ulcers, hæmoptysis, mictus cruentus, gravel, dysentery, agues, worms,[c] and outwardly as an anodyne, and as a discutient and detergent. However it is now very rarely used, and its name is omitted in the Materia Medica of the last edition of the Edindurgh Pharmacopœia. In the London Pharmacopœia the flowers only are directed to be used, as containing the greatest proportion of the resinous oily matter in which the medical efficacy of the plant is supposed to reside. The dark puncta of the petals and the capsules, afford this essential oil, which is contained in minute vesicles, or glands, and gives a red colour to rectified spirit, and to expressed oils; the latter has been long known in the shops by the name of Oleum Hyperici.[d]

* Mr. Curtis observes, that a little black gland on the antheræ, distinguishes this species at one view. Flor. Lond.

[a] Bergius Mat. Med. 641.

[b] Scripsere quidam Hypericum adeo odisse dæmones, ut ejus sussitu statim avolent. Matthiol. l. c.

[c] See Haller, l. c. Alston's Mat. Med. vol. 2. p. 150. Bergius, l. c. Murray's Apparat. vol. 3. p. 518.

[d] This colouring matter gives a good die to wool. Gadd. l. c. aliique.



Fraxinus Ornus

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PRESTON 1823

FRAXINUS ORNUS. FLOWERING ASH.

SYNONYMA. Fraxinus tenuiore & minore folio. *Bauh. Hist.* i. p. 177. Fraxinus humilior sive altera Theophrasti, minore & tenuiore folio. *Bauh. Pin. p.* 416. Fraxinus Ornus, foliolis serratis, floribus corollatis. *Lin. Sp. Plant.* Mannifera arbor. Succus condensatus est Manna. *Pharm. Lond. & Edinb.*

Class Polygamia. *Ord.* Dioecia. *Lin. Gen. Plant.* 1160.

Ess. Gen. Ch. Hermaphrod. Cal. 0, s. 4-partitus. *Cor.* 0, s. 4-petala. *Stam.* 2. *Pist.* 1. *Sem.* 1, lanceolatum.
Fem. Pist. 1, lanceolatum.

Sp. Ch. F. foliis ovato-oblongis serratis petiolatis, floribus corollatis. *Hort. Kew.*

THIS tree greatly resembles our common ash: it is lofty, much branched, and covered with a greyish bark. The young shoots produce the leaves, which are pinnated, opposite, and consist of several pair of pinnæ, or small leaves, terminated by an odd one, pointed, serrated, veined, standing upon footstalks, of an oval or oblong shape, and bright green colour. The flowers grow in close thick branched spikes, and open in May and June. In the specimen we have figured, the flowers were all hermaphrodite; the corolla divided into four narrow whitish segments, somewhat longer than the stamina; the two filaments tapering, and crowned with large furrowed erect antheræ; the germen oval, and a little compressed; the style short and cylindrical; the capsule is long, flat, membranous, and contains a single flat pointed seed.

This tree is a native of the southern parts of Europe, particularly

of Sicily and Calabria.[a] It was first introduced into England about seventy years ago, by Dr. Uvedale;[b] and at present adorns many of the gardens of this country.

The Ornus is not the only species of ash which produces Manna; the *rotundifolia* and *excelsior*, especially in Sicily, also afford this drug, though less abundantly. Many other trees and shrubs have likewise been observed, in certain seasons and situations, to emit a sweet juice, which concretes on exposure to the air, and may be considered as of the manna kind.[c] In Sicily the three species of the Fraxinus, mentioned above, are regularly cultivated for the purpose of procuring Manna, and with this view are planted on the declivity of a hill, with an eastern aspect. After ten years growth, the trees first begin to yield the Manna, but they require

[a] The Ornus is observed by Dr. Cirillo to be very common on the famous mountain Garganus, so that the words of Horace may still apply;

> ——————— aut Aquilonibus
> Querceta Gargani laborant,
> Et foliis viduantur orni. L. ii. Od. 9.

[b] Vide Hort Kew.

[c] Dr. Cullen is certainly right in supposing "Manna a part of the sugar so universally present in vegetables, and which exudes on the surface of a great number of them;" the qualities of these exudations he thinks are "very little if at all different." The principal trees known to produce these mannas in different climates and seasons, are the larch, *(vide Murray Ap. Med. i. p.* 17.*)* the fir, (Iac. V. Engestrom in *Physiogr. Sälskapets Handl. Vol. i. P.* 3. *p.* 144.*)* the orange, (De La Hire *Hist. de l'acad. d. sc. de Paris*, 1708.*)* the walnut, *(Hal. Stirp. Helv. N.* 1624.*)* the willow, (Mousset in Du Hamel. *Physique des arbres*, *P. i. p.* 152.*)* the mulberry, (Micheli in Tragioni Tozzetti *Viaggi*, *Tom.* 6. *p.* 424.) oaks, situated between Merdin and Diarbekir (Niebuhr *Beschreib V. Arab. p.* 145. Otter, *Voyage en Turquie et en Perse*, *Vol.* 2. *p.* 264.*)* also oaks in Persia near Khounsar (Otter. l. c.) the al hagi Maurorum, or the hedysarum alhagi of Linnæus; of this manna Dr. Fothergill presented a specimen to the Royal Society, which he considered as the Tereniabin of the Arabians, *(Phil. Trans. Vol.* 43. *p.* 87.*)* the cistus ladaniferus in some parts of Spain produces a manna, which, in its recent state, has no purgative quality, and is eaten by the shepherds: so that some fermentation seems necessary to give it a cathartic power, *(Vide Dillon's Travels through Spain*, *p.* 127.*)*

to be much older before they afford it in any considerable quantity. Although the Manna exudes spontaneously upon the trees, yet in order to obtain it more copiously, incisions are made through the bark, by means of a sharp crooked instrument; and the season thought to be the most favourable for instituting this process, is a little before the dog-days commence, when the weather is dry and serene. The incisions are first made in the lower part of the trunk, and repeated at the distance of an inch from the former wound, still extending the incisions upwards as far as the branches, and confining them to one side of the tree, the other side being reserved till the year following, when it undergoes the same treatment. On making these incisions, which are of a longitudinal direction, about a span in length, and nearly two inches wide, a thick whitish juice immediately begins to flow, which gradually hardens on the bark, and in the course of eight days acquires the consistence and appearance in which the Manna is imported into Britain, when it is collected in baskets, and afterwards packed in large chests.‡ Sometimes the Manna flows in such abundance from the incisions, that it runs upon the ground, by which it becomes mixed with various impurities, unless prevented, which is commonly attempted, by interposing large concave leaves, stones, chips of wood, &c. The business of collecting Manna usually terminates at the end of September, when the rainy season sets in.[d]

‡ La manne est le principal revenu de ce pays & de quelques autres qui en sont voisins. Il monte dans une bonne annee a vingt-cinq mille Louis d'or. Houel Voyage Pittoresque, tom. 1. p. 53.

[d] This account is taken from Houel *Voyage Pittoresque*, and Sestini *Lettre della Sicilia*, and related by Murray: to which we shall subjoin Dr. Cirillo's account, communicated to the Royal Society. Vide Vol. 60. p. 233.

"The manner, in which the manna is obtained from the Ornus, though very simple, has been yet very much misunderstood by all those who travelled in the kingdom of Naples; and among other things they seem to agree, that the best and purest manna is obtained from the leaves of the tree; but this, I believe, is an opinion taken from the doctrine of the ancients, and received as an incontestible observation, without consulting nature. I never saw such a kind, and all those

From this account it is evident, that Manna is the *succus proprius* of the tree; any arguments therefore brought to combat the ancient opinion of its being a *mel aërium*, or honey-dew, are wholly unnecessary: that, with which the Israelites were so peculiarly favoured, could only have been produced through miraculous means, and is consequently out of the province of the *natural* historian.—Manna is generally distinguished into different kinds, viz. the Manna in tear, the canulated and flaky Manna, and the common brown or fat Manna. All these varieties seem rather

who are employed in the gathering of the manna, know of none that comes from the leaves. The manna is generally of two kinds; not on account of the intrinsic quality of them being different, but only because they are got in a different manner. In order to have the manna, those who have the management of the woods of the Orni in the months of July and August, when the weather is very dry and warm, make an oblong incision, and take off from the bark of the tree about three inches in length, and two in breadth; they leave the wound open, and by degrees the manna runs out, and is almost suddenly thickened to its proper consistence, and is found adhering to the bark of the tree. This manna, which is collected in baskets, and goes under the name of *manna grassa*, is put in a dry place, because moist and wet places will soon dissolve it again. This first kind is often in large irregular pieces of a brownish colour, and frequently is full of dust and other impurities. But when the people want to have a very fine manna, they apply to the incision of the bark, thin straw, or small bits of shrubs, so that the manna, in coming out, runs upon those bodies, and is collected in a sort of regular tubes, which gives it the name of *manna in cannoli*, that is, manna in tubes: this second kind is more esteemed, and always preferred to the other, because it is free and clear. There is indeed a third kind of manna, which is not commonly to be met with, and which I have seen since I left Calabria: it is very white, like sugar; but as it is rather for curiosity than for use, I shall say no more of it. The two sorts of manna already mentioned undergo no kind of preparation whatsoever, before they are exported; sometimes they are finer, particularly the *manna grassa*, and sometimes very dirty and full of impurities; but the Neapolitans have no interest in adulterating the manna, because they always have a great deal more than what they generally export; and if manna is kept in the magazines, it receives often very great hurt by the Southern winds, so common in our part of the world. The changes of the weather produce a sudden alteration in the time that the manna is to be gathered; and, for this reason, when the summer is rainy, the manna is always very scarce and very bad."

to depend upon their respective purity, and the circumstances in which they are obtained from the plant, than upon any essential difference of the drug: when the juice transudes from the tree very slowly, the Manna is always more dry, transparent, and pure, and consequently of more estimation; but when it flows very copiously it concretes into a coarse brown unctuous mass; hence we have a reason, why, by applying straws and other substances to receive the flowing juice, the Manna becomes much improved: Houel, who tasted the manna when flowing from the tree, found it much bitterer than in its concrete state; this bitterness he attributes to the aqueous part, which is then very abundant, of course the manna is meliorated by all the circumstances which promote evaporation. According to Lewis, "the best Manna is in oblong pieces, or flakes, moderately dry, friable, very light, of a whitish or pale yellow colour, and in some degree transparent: the inferior kinds are moist, unctuous, and brown. Manna liquifies in moist air, dissolves readily in water, and, by the assistance of heat, in rectified spirit. On inspissating the watery solution, the Manna is recovered of a much darker colour than at first. From the saturated spirituous solution, great part of it separates as the liquor cools, concreting into a flaky mass, of a snowy whiteness, and a very grateful sweetness."

Manna is well known as a gentle purgative, so mild in its operation, that it may be given with safety to children and pregnant women; in some constitutions however it produces troublesome flatulencies, and therefore requires the addition of a suitable aromatic, especially when given to an adult, where a large dose is necessary; it is therefore usually acuated by some other cathartic of a more powerful kind. The efficacy of Manna is said, by Vallisnieri, to be much promoted by cassia fistularis, a mixture of the two purging more than both of them separately; it is therefore very properly an ingredient in the electuarium e cassia.

ORD. XXXVI. COADUNATÆ.

ORD. XXXVII. DUMOSÆ.

(From *Dumus*, a Bush.)

Bushy shrubby plants, thickly beset with irregular branches.

RHAMNUS CATHARTICUS. PURGING BUCKTHORN.

SYNONYMA. Spina cervina. *Pharm. Lond. & Edinb.* Rhamnus catharticus. *Bauh. Pin. p.* 478. *Raii Hist. p.* 1625. *Synop. p.* 466. *Hudson. Flor. Ang. p.* 98. *Withering. Bot. Arrang. p.* 239. *Flor. Dan.* 850. Rhamnus solutivus. *Gerard. Emac. p.* 1337. Rhamnus solutivus sive Spina infectoria vulgaris. *Park. Theat. p.* 243. Rhamnus foliis spinosis, ovato-lanceolatis, serratis. *Hal. Stirp. Helv. n.* 824.

Class Pentandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 265.

Ess. Gen. Ch. *Cal.* tubulosus: squamis stamina munientibus. *Cor.* nulla. *Bacca.*

Sp. Ch. R. spinis terminalibus, floribus quadrifidis dioicis, foliis ovatis, caule erecto.



Rhamnus catharticus.

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THIS shrub is covered with dark brownish bark, divided into many branches, beset with strong spines, and usually rises seven or eight feet in height: the leaves are nearly elliptical, serrated, veined, and stand on shortish footstalks: the flowers are commonly male and female upon different plants, small, greenish, and placed in clusters upon simple peduncles: the calyx supplies the place of a corolla, it is funnel-shaped, of a pale green colour, and divided at the extremity into four spreading pointed segments: the filaments are usually four, arising from the base of a small convex scale, very short, and furnished with round antheræ; the germen is round, and supports a slender style, terminated by a trifid stigma: the fruit is a round black berry, containing four seeds, which are compressed on one side, and protuberant on the other. It is a native of Britain, usually growing in woods and hedges near brooks, flowering in May and June, and ripening its seeds about the end of September.

The fruit or berries of this Shrub, which have been long received into the Materia Medica, are about the size of a small pea, and when ripe of a shining black colour: they contain a pulpy deep green juice,[a] which has a faint unpleasant smell, and a bitterish, acrid, nauseous taste: they operate briskly by stool, and hence the plant derives the trivial name *catharticus*:[b] their purgative effects are constantly accompanied with considerable thirst, and dryness of the mouth and throat, and frequently with severe griping of the bowels, especially unless some diluting liquor be plentifully drunk immediately after taking them.

" The dose is said to be about twenty of the fresh berries in substance; twice or thrice that number in decoction: a dram or a dram and a half of the dried berries; an ounce of the expressed

[a] This juice is called by the French Verd de Vessie, or Sap Green, and is used for painting or staining paper: that of the unripe berries is yellow, and when the berries are gathered late in the autumn, the juice is purple. It is also used as a dye. See *Lin. Flor. Suec. p.* 72.

[b] It is reported that the flesh of those birds which feed upon these berries is purgative. Homberg, *Mem. de l'Acad. des Sc. de Paris*, 1712. *p.* 9.

juice; or half an ounce of the rob or extract, obtained by inspissating the juice."[c] The juice made into a syrup is the officinal preparation, and in this state it has been generally preferred by physicians, who found that in doses of one ounce to two it proved a very powerful purgative, and was therefore much employed as a hydragogue.[d] Few patients however are able to bear a frequent repetition of this medicine; and even Sydenham, who was partial to the purgative treatment of hydropical diseases, found that other cathartics more effectually answered this purpose: at present it is rarely prescribed except in conjunction with other medicines of this class.

The inner bark, like that of Elder, is said to be a strong cathartic, and to excite vomiting.[e]

[c] Lewis, *M. M. p.* 612.

[d] Riverius, *Prax. lib. ii. cap.* 6. *p.* 44.—Boerhaave, *De virib. med. p.* 308.—Chomel, *Usuell. tom. i. p.* 19.—Sydenham, *Opera, p.* 488.

[e] Allioni, *Fl. Pedemont, t. ii. p.* 130.

SAMBUCUS NIGRA. COMMON BLACK ELDER.

SYNONYMA. Sambucus. *Pharm. Lond. & Edinb.* Sambucus fructu in umbella nigro. *Bauh. Pin. p.* 456. Sambucus vulgaris. *Park. Theat. p.* 407. *J. Bauh. vol. i. p.* 544. *Raii Hist. p.* 1609. *Synop. p.* 461. *Gerard. Emac. p.* 1422. *Hudson Flor. Ang. p.* 130. *Flor. Dan.* 545. *Withering. Bot. Arrang. p.* 320. *Duhamel, t.* 65. Sambucus arborea, floribus umbellatis. *Hal. Stirp. Helv. n.* 670.

Varietates sunt,

β Sambucus fructu in umbella viridi. *C. Bauh.*

γ Sambucus laciniato folio. *C. Bauh.*

Class Pentandria. *Ord.* Trigynia. *Lin. Gen. Plant.* 372.

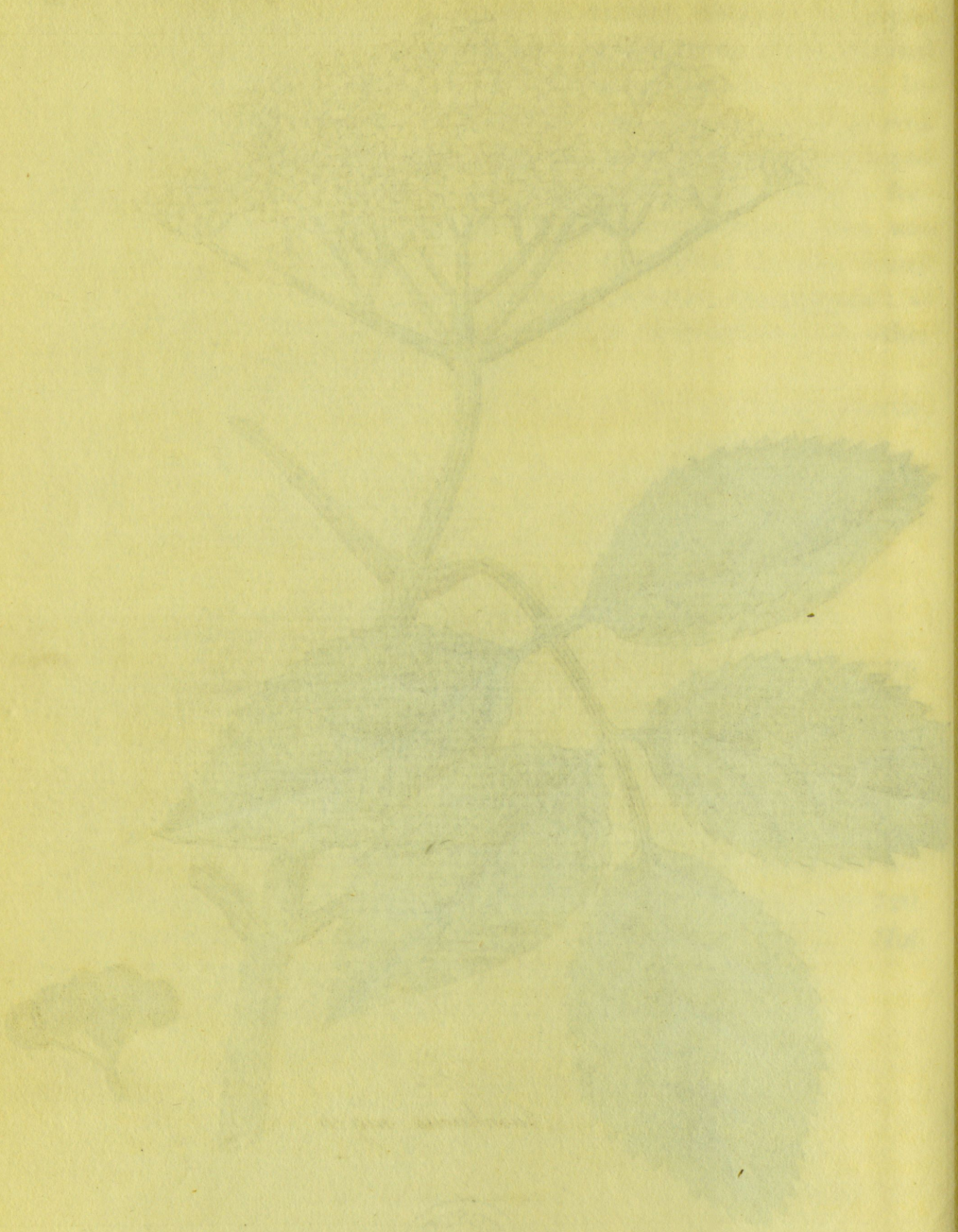
Ess. Gen. Ch. Cal. 5-partitus. *Cor.* 5-fida. *Bacca* 3-sperma.



Sambucus nigra

Published by W. Phillips, July 1st 1819.

PRESTON INSTITUTION 1828



Sp. Ch. S. cymis quinquepartitis, foliis pinnatis, caule arboreo.

THE root is woody, from which issues a shrubby stem often to the height of twelve or sixteen feet: it is much branched towards the top, and covered with a rough whitish bark: the wood is hard, tough, and contains in the centre a large proportion of medullary matter, or pith: the leaves are pinnated, consisting of two or three pair of pinnæ or leafits, with an odd one at the end; they are oval, veined, smooth, deeply serrated, and of a deep green colour: the flowers are small, white, and produced in large flat umbels or clusters: the calyx is permanent, placed above the germen, and divided into five segments: the corolla is monopetalous, wheel-shaped, somewhat convex, and divided into five obtuse segments: the filaments are tapering, spreading, equal in length to the corolla, and crowned with roundish antheræ: the germen is oval, and furnished with a prominent gland, which supplies the place of the styles, and supports three blunt stigmata: the fruit is a round succulent berry, of a blackish purple colour, and contains three seeds, which are flat on one side, and angular on the other. It is a native of Britain, in moist hedges and woods, and flowers in May and June.

This species is the Ακτη[a] of the Greek writers, and has been long very generally employed for medical purposes. The whole plant has an unpleasant narcotic smell, and some authors have reported its exhalations to be so noxious as to render it unsafe to sleep under its shade.[b] The parts of the Sambucus, which are proposed

[a] Sambucus, Ἀκτὴ Græcis, a Sambuca musico instrumento, quod alii pectida, alii magadin vocant, dicta putatur. Alii ab autore cui nomen Sambyx denominatum malunt. Nobis vox incertæ originis esse videtur. *Raii Hist. p.* 1609.

[b] The Berries are said to be poisonous to poultry. (*Barthol. Hist. anat. rarior. Cent. iv. p.* 248.) And the flowers to peacocks. *Linn. Flor. Suec. p.* 79. If turneps, cabbages, fruit-trees, or corn, (which are subject to blight from a variety of insects) are whipped with the green leaves and branches of Elder, the insects will not attack them. *Withering. l. c.* See *Phil. Trans. vol. lxii. p.* 348.

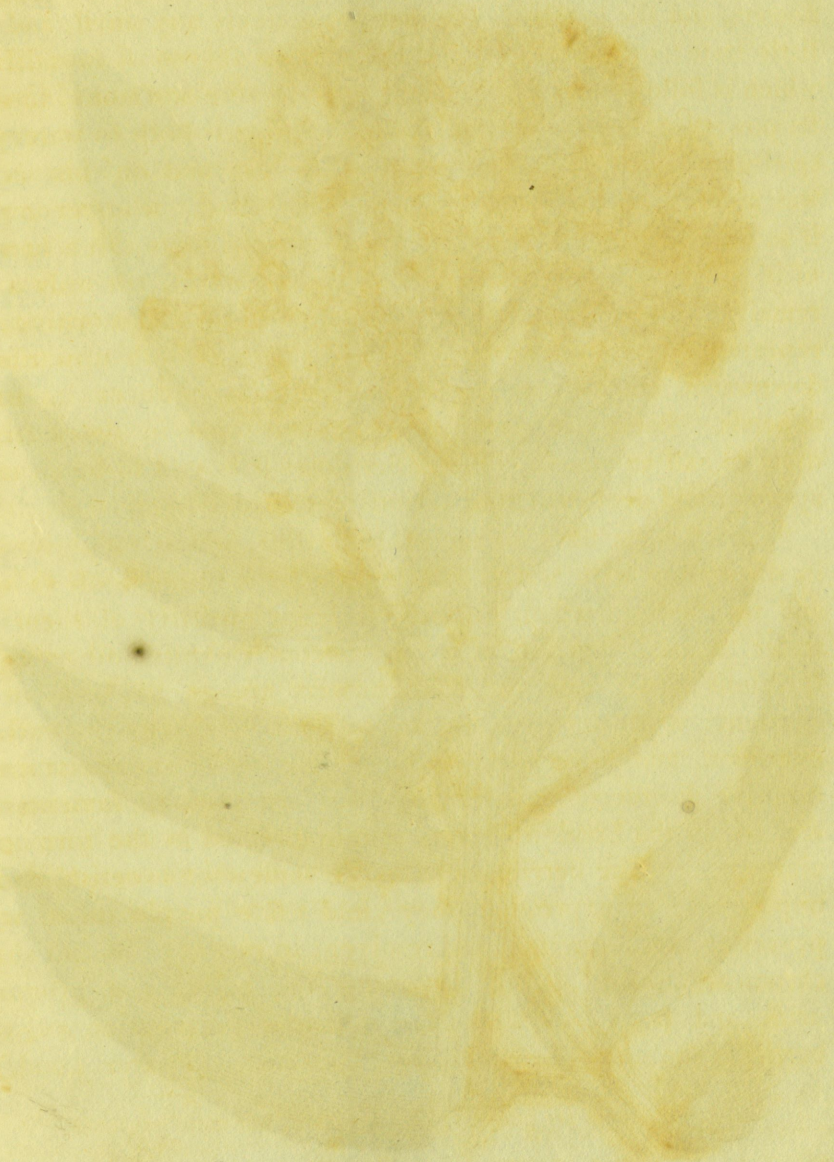
for medicinal use in the Pharmacopœias,[c] are the inner bark, the flowers, and the berries. The first has scarcely any smell, and very little taste: on first chewing, it impresses a degree of sweetishness, which is followed by a very slight, but durable acrimony, in which its powers seem to reside, and which it imparts both to watery and spirituous menstrua. It is strongly cathartic, and on this account was much used by Sydenham[d] and Boerhaave,[e] who recommend it as an effectual hydragogue; the former directs three handfuls of it to be boiled in a quart of milk and water, till only a pint remains, of which one half is to be taken night and morning, and repeated for several days: it usually operates both upwards and downwards, and upon the evacuations it produces its utility depends. Boerhaave gave its expressed juice in doses from a dram to half an ounce. In smaller doses it is said to be an useful aperient and deobstruent in various chronical disorders.

"The flowers have an agreeable flavour, which they give over in distillation with water, and impart by infusion both to water and rectified spirit: on distilling a large quantity of them with water, a small portion of a butyraceous essential oil separates. Infusions made from the fresh flowers are gently laxative and aperient: when dry they are said to promote chiefly the cuticular excretion, and to be particularly serviceable in erysipelatous and eruptive disorders." Externally they are used in fomentations, &c. and in the London Pharmacopœia directed in the form of an ointment. "The berries, in taste, are somewhat sweetish, and not unpleasant; on expression, they yield a fine purple juice, which proves an useful aperient and resolvent in recent colds and sundry chronical diseases, gently loosening the belly, and promoting urine and perspiration."[f] The officinal preparation of these berries is the succus baccæ sambuci spissatus. (Pharm. Lond.)

[c] The leaves are purgative like the bark, but more nauseous.

[d] *Oper. p.* 496. [e] *Hist. Plant. P. I. p.* 207.

[f] *Lewis M. M. p.* 576.





Sambucus Ebulus

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SAMBUCUS EBULUS. DWARF ELDER.

SYNONYMA. Ebulus. *Pharm. Geoff. iii.* 415. *Dale.* 319. *Alston. i.* 485. *Lewis.* 376. *Ed. New Dis.* 184. *Cullen. ii.* 534. *Bergius.* 240. *Murray. iv.* 22. Sambucus humilis seu Ebulus. *Bauh. Pin.* 456. Ebulus sive Sambucus humilis. *Gerard Emac.* 1426. *Park.* 209. *Ray. Syn.* 461. *Hall. Stirp. Helv. n.* 671. S. Ebulus. *Huds. Ang.* 130. *Withering. Bot. Arr.* 319. *Flor. Lond.* 213.

Pentandria Trigynia. *Lin. Gen. Plant.* 372.

Gen. Ch. *Cal.* 5-partitus. *Cor.* 5-fida. *Bacca* 3-sperma.

Sp. Ch. S. cymis tripartitis, stipulis foliaceis, caule herbaceo.

ROOT long, creeping. Stalk six feet in height, herbaceous, erect, roundish, smooth, channelled, swelled at the joints, sending off opposite branches. Leaves opposite, pinnated, composed of four or five pair, with an odd one at the extremity: pinnæ somewhat lanceolate, unequal at the base, serrated, veiny, downy underneath. Stipulæ quadruple, nearly heart-shaped. Flowers in a terminal corymbus, divided into three branches, composed of numerous cymæ. Calyx divided into five teeth, which are short, erect, pointed. Corolla monopetalous, wheel-shaped, divided into five segments, which are ovate, pointed, hollow, reflexed. Filaments five, thick, white, of the length of the corolla. Antheræ large, double, changing from a reddish to a blackish colour. Germen below the corolla, ovate, somewhat angular, smooth. Style none. Stigmata three, glutinous, reniform. Fruit a roundish black single-celled berry, containing three irregularly-shaped seeds.

It is not unfrequent in hedges, flowering in June and July, but seldom bringing its fruit to maturity.

Every part of the plant has a faint disagreeable smell, resembling that of common elder, but stronger and more ungrateful; and when taken into the stomach manifests a greater share of active power.

The *root* of the Ebulus, which is white, fleshy, and of a nauseous bitter taste, was formerly very generally employed in dropsies. A decoction of two drams of it, or a small quantity of its expressed juice, promotes both the alvine and urinary discharges; and if the decoction is prepared from the bark of the fresh root, its activity is so much increased, that it commonly proves both emetic and cathartic.

The inner bark of the stalk, when recent, is equally powerful in evacuating the primæ viæ; and its effects, as a diuretic, on the testimony of Dr. Brocklesby,[a] were found to be very considerable; but its operation is so violent and precarious, that it is now very rarely employed.

The berries, in their recent state, according to Scopoli,[b] prove a gentle cathartic, though Haller[c] says that he never experienced this effect from their use.

The seeds are said to be diuretic, and to have been given with advantage in dropsical complaints: they also afford an oil, which Haller applied with success in painful affections of the joints.

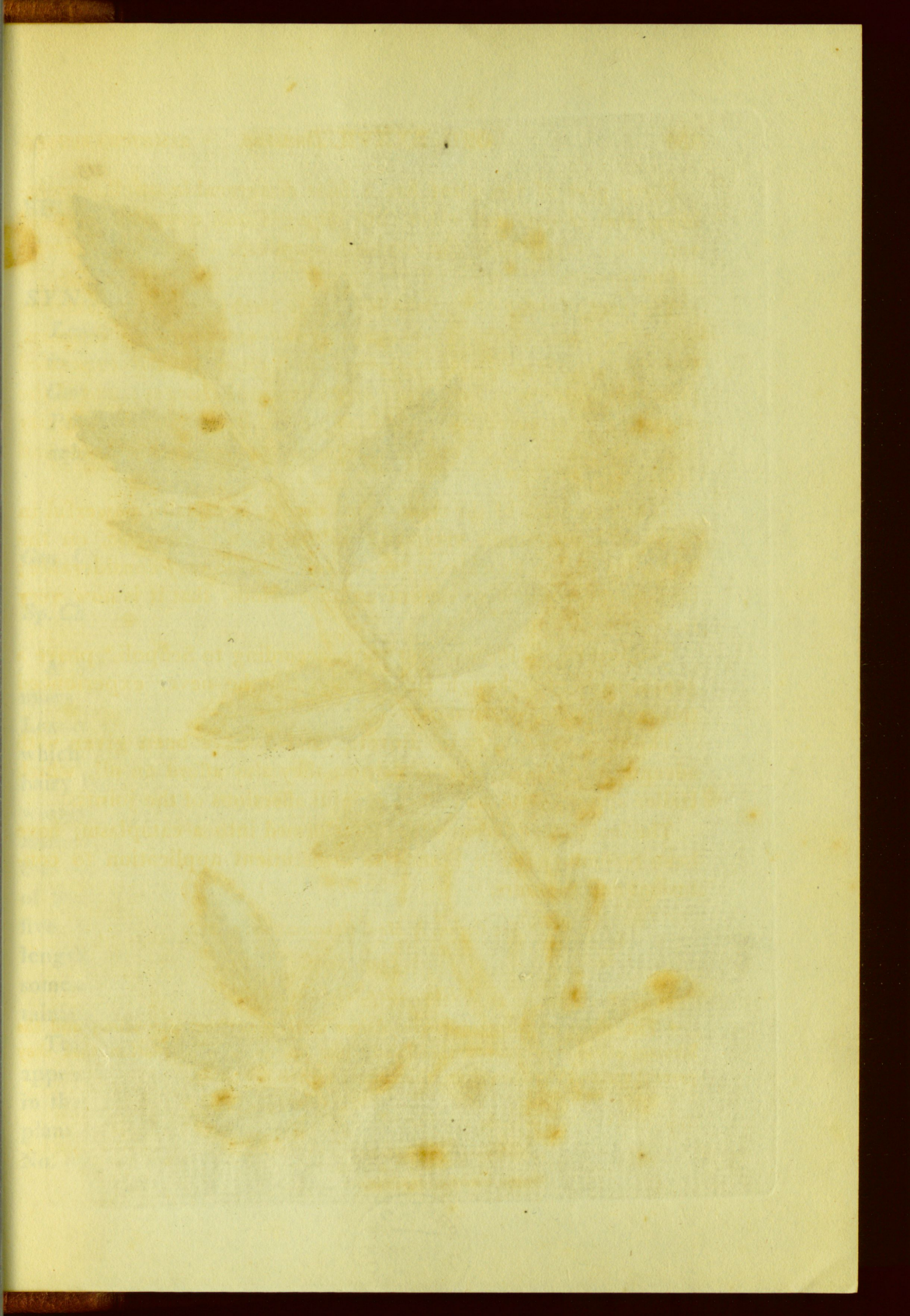
The leaves,[d] boiled in wine, and formed into a cataplasm, have been recommended in France as a discutient application to contusions and tumours.

[a] See *Oecon. & Med. Observations. p.* 277.

[b] *Flor. Carn.*

[c] *Hist. Stirp. Helv. n.* 671.

[d] The odour of the green leaves drives away mice from granaries; and the Silesians strew these leaves where their pigs lie, under a persuasion that they prevent some of the diseases to which these animals are liable.





Rhus Coriaria

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PRESTON INSTITUTION 1828

RHUS CORIARIA. ELM-LEAVED SUMACH.

SYNONYMA. Sumach. *Pharm. Dale.* 314. *Alston. ii.* 370. *Lewis.* 630. *Ed. New Dispens.* 292. *Bergius.* 237. *Murray. iv.* 25. Rhus folio ulmi. *Bauh. Pin.* 414. Rhus Coriaria. *Ger. Emac.* 1474. Sumach sive Rhus obsoniorum & coriariorum. *Park. Theat.* 1450. Pas *Græcis. Ic. Du Hamel, Traité des arbres. vol. i. p.* 218. *tab.* 52.

Pentandria Trigynia. *Lin. Gen. Plant.* 369.

Gen. Ch. Cal. 5-partitus. *Petala* 5. *Bacca* 1-sperma.

Sp. Ch. R. foliis pinnatis obtusiusculè serratis ovalibus subtus villosis.

A SMALL tree rising to the height of ten feet, sending off many divaricating branches, and covered with a brown hairy bark. Leaves pinnated, alternate, consisting of several pair of pinnæ, which are ovato-lance-shaped, obtusely serrated, smooth above, hairy beneath, on short footstalks. Common footstalk somewhat winged, and terminated by a single leafit. Flowers often dioicous, numerous, small, white, placed in large branched spikes. Calyx five toothed, erect, persistent, placed below the germen. Corolla of five petals, which are ovate, white, mostly erect. Filaments five, very short. Antheræ small. Germen roundish, about the length of the corolla. Style scarcely visible. Stigmata three, somewhat cordate. Fruit a roundish one-celled red berry, containing a solitary round hard seed.

This species of Sumach is a native of the South of Europe, and appears from the *Catalogus horti Oxoniensis* to have been cultivated in that garden previous to the year 1648, though it is still a scarce plant in this country.

The genus, to which this species belongs, comprehends several species which are known to be extremely poisonous, especially the Rhus Toxicodendron, radicans, and Vernix; but the Coriaria is perfectly innocent, and its berries are in some places used for culinary purposes.

Its medicinal qualities are wholly to be ascribed to its stypticity or astringency; a property which it possesses in a sufficient degree to render it useful in dyeing, and also in tanning of leather, for which it was used in the time of Dioscorides.

Both the leaves and berries have been employed in medicine, but the former are more astringent and tonic, and have been long in common use in various complaints indicating this class of remedies.

The berries, which are red and of a roundish compressed figure, contain a pulpy matter, in which is lodged a brown hard oval seed, manifesting a considerable degree of astringency. The pulp, even when dry, is gratefully acid, and has been discovered to contain an essential salt [a] similar to that of wood-sorrel, or perhaps more nearly allied to crystals of tartar.

An infusion of the dry fruit is not rendered black by a solution of iron; hence it appears to be destitute of astringency: but its acidity is extremely grateful, which has caused the tree to be called by the French le Vinaigrier. Therefore, like many other acid summer fruits, these berries [b] may be advantageously taken to allay febrile heat, and to correct bilious putrescency.

Lately the Rhus Toxicodendron and radicans have been recommended in paralytic affections; the latter by Mons. Fresnoi, and the former by Dr. Alderson, [c] of Hull; but the cases in which these virulent plants were employed are but few and indecisive.

[a] See Trommsdorff in *Act. Mogunt.* 1778-9. *Comment. Chem. p.* 25.

[b] In eastern countries they are commonly used as a pickle.

[c] See *an Essay on the Rhus Toxicodendron.*



Amyris gileadensis.

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PRESTON
1828

AMYRIS GILEADENSIS. BALSAM of GILEAD AMYRIS.

Balsamum Gileadense. *Pharm. Edinb.* Conf. *Bruce's Travels to discover the Source of the Nile. Appendix. p.* 16. *Belon. Observations de plusieures singularitéz trouvées en Grece-Arabie, &c. Lib.* 2. *cap.* 39. *p.* 110. *Alpinus, in Lib. de plantis Ægypti, p.* 48. *fig. p.* 60. Forskal Flor. Ægyptiaco-Arab. *p.* 79. *Bauh. Pin. p.* 400. *Gerard. Emac. p.* 1528. *Park. Theat. p.* 1528.

Class Octandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 473.

Ess. Gen. Ch. Cal. 4-dentatus. *Petala* 4. oblonga. *Stigma* tetragonum. *Bacca* drupacea.

Sp. Ch. A. foliis ternatis integerrimis, pedunculis unifloris lateralibus.

ACCORDING to Mr. Bruce the Balessan or Balm-tree grows to the height of fourteen feet: its branches are numerous, spreading, crooked: the wood is white, soft, and covered with a smooth ash-coloured bark: the leaves are small, few, commonly consisting of one pair of pinnæ, with an odd one at the top: the pinnæ are sessile, inversely ovate, entire, veined, and of a bright green colour: the flowers are scattered upon the branches, and are of a white colour: the calyx is permanent, and divided at the brim into four small pointed teeth: the petals are four, oblong, concave, patent, white: the filaments are eight, tapering, erect, and terminated by oblong antheræ: the germen is egg-shaped, and placed above the insertion of the corolla: the style is thick, of the length of the filaments, and terminated by a quadrangular stigma: the fruit is of the drupaceous kind, roundish, opening by four valves, and containing a smooth nut.

Mr. Bruce informs us, that Balm-tree is a native of Abyssinia, growing among the myrrh-trees behind Azab, all along the coast, to the Straits of Babelmandeb; and that it was early transplanted into the South of Arabia, and into Judea 1000 years before the Queen of Saba, who, according to Josephus, gave this tree, among other presents, to king Solomon.

Theophrastus, Dioscorides, Pliny, and even the Arabian physicians, supposed this Balsam to be the produce of Judea only; and hence it seems to have received the name of Balsamum Judaicum, or Balm of Gilead. Forskal, who first discovered this tree to belong to the genus Amyris, transmitted a branch of it to Linnæus, which on being broken smelled strongly of the Balsam; the leaves were all ternate, like those of the annexed figure, which corresponds exactly with the specimen in the possession of Sir Joseph Banks.

Besides this tree, which was found at Gidda, another was observed at Yemen, differing only from that found at Gidda, in having pinnated leaves. The former was first described by Linnæus in his Mantissa, under the name A. Gileadensis, the latter under that of A. Opobalsamum; the name which he has adopted in his Materia Medica.

Whether these two species, the difference of which is supposed to consist merely in the number of their foliola, are really the same or not, we cannot undertake to determine; but judging from analogy we should decide in the affirmative; for even in the figure of this tree, given by Alpinus, to which Linnæus refers the A. Opobalsamum, the number of the leafits varies much, being five, seven, and sometimes three; and in that published by Mr. Bruce, the larger leaves consist of five leafits, but the smaller only of three.

The description of the Balsam of Mecca-tree, lately given by Gleditsch, differs from that of all other writers: he removes it from the genus Amyris, as not having the characters of that family;[a] we shall therefore leave this author without making any further remark.

[a] See *Schrift. d. Berlin. Gesellschaft Naturforsch. Freunde. vol.* 3. *p.* 103.

This Balsam, which has been received in the different Pharmacopœias under the names of Balsamum de Mecca, Opobalsamum, Balsamum verum, and Balsamum Gileadense, issues spontaneously from the bark of the tree; but is more commonly obtained by incisions: the Xylobalsamum, as the name imports, is prepared from the wood, and the Carpobalsamum from the fruit. The Balsam now imported into Europe is reported to be principally collected between Mecca and Medina. The Bark, Mr. Bruce says, "is cut by an axe,[b] when the juice is in its strongest circulation "in July, August, and the beginning of September. It is then "received into a small earthen bottle, and every day's produce "gathered and poured into a larger, which is kept closely corked. "The Opobalsamum, or juice flowing from the Balsam-tree, at "first when it is received into the bottle or vase from the wound "from whence it issues, is of a light yellow colour, apparently "turbid, in which there is a whitish cast, which I apprehend are "the globules of air that pervade the whole of it in its first state "of fermentation; it then appears very light upon shaking. As "it settles and cools, it turns clear, and loses that milkiness which "it first had when flowing from the tree into the bottle. It then "has the colour of honey, and appears more fixed and heavy than "at first. After being kept for years, it grows of a much deeper "yellow, and of the colour of gold. I have some of it which "I got from the Cadi of Medina in 1768; it is now still deeper "in colour, full as much so as the yellowest honey. It is perfectly "fluid, and has lost very little either of its taste, smell, or weight. "The smell at first is violent, and strongly pungent, giving a "sensation to the brain like that of volatile salts when rashly "drawn up by an incautious person. This lasts in proportion "to its freshness, for, being neglected and the bottle uncorked, "it quickly loses this quality, as it probably will at last by age, "whatever care is taken of it."[c]

[b] Tacitus says this tree was so averse to iron, that it trembled upon a knife being laid near it: and some pretend that the incisions should be made with ivory, shells, glass, or stone.

[c] *L. c.*

The Balsam which one tree yields is very small,* and the collecting of it is tedious and troublesome: hence it is so very scarce that the genuine Balsam is rarely if ever exported in a commercial way.[d] The best Balsam, according to Alpinus, is at first turbid and white, of a very strong pungent smell, like that of turpentine, but much sweeter and more fragrant, and of a bitter, acrid, astringent taste: on being kept for some time, it becomes thin, limpid, light, of a greenish hue, and then of a gold yellow, after which it grows thick like turpentine, and loses much of its fragrance. Some compare the smell of this Balsam to that of citrons; others to that of a mixture of rosemary and sage flowers. The chief mark of its goodness is said to be founded on this, that when dropped on water it spreads itself all over the surface, forming a thin pellicle, tough enough to be taken up upon the point of a pin, and at the same time impregnating the water with its smell and flavour.[e]

It appears on scripture authority, that the great value and use of this drug remounts to very early ages,[f] as it seems coeval with the India trade for pepper. To enumerate all the virtues and medicinal uses still attributed to it by eastern nations, would be outraging the bounds of all rational credibility: but they who are desirous of this information may be gratified by consulting Alpinus. European physicians consider it to be not essentially different from other resinous fluids, or turpentines, especially as

* Three or four drops a day are said to be the usual quantity obtained from one branch; nor does the most fertile tree ever yield more than sixty in that time. See *Gerlachs Tagebuch s. Reise nach Constantinopel. p.* 227.

[d] Lady Mary Wortley Montague says, that even at Constantinople it was not without difficulty procured. See *Letters, vol. ii. p.* 116.

[e] This test of the goodness of the Balsam, which is mentioned by Alston, is not to be depended upon, as several resinous fluids, and even oil of juniper, produce the same phœnomena.

[f] Balm and Myrrh were carried by the Ishmaelites to Egypt. See *Gen. c. xxxvii. v.* 25.



Toluifera Balsamum

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we find it imported here: it is therefore generally believed, that the Canada and Copaiva balsams will answer every purpose for which it can be employed. In Turkey it is not only in high esteem as a medicine, but also as an odoriferous unguent and cosmetic: its effects with respect to its last mentioned use seem to depend merely on its stimulating the skin; for it is observed by Lady Mary Wortley Montague, that the day after she had used the Balsam, her face became red and swollen; an inconvenience which she suffered for three days.[g]

[g] See. *l. c.*

The high opinion entertained of its virtues we learn from the following verse in Jeremiah: "Is there no balm in Gilead? is there no physician there? why then is not the health of the daughter of my people recovered?" ch. viii. ver. 22.

TOLUIFERA BALSAMUM. BALSAM OF TOLU TREE.

Balsamum Tolutanum. *Pharm. Lond. & Edinb.*

SYNONYMA. Balsamum Tolutanum, foliis ceratiæ similibus. *Bauh. Pin. p.* 401. Balsamum de Tolu. *Monard. Clus. Exot. p.* 304. *Park. Theat. p.* 1570. *J. Bauh. Hist. vol. i. p.* 296. *Raii. Hist. p.* 1758.

Class Decandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 524.

Ess. Gen. Ch. Cal. 5-dentatus, campanulatus. *Petala* 5, infimo maximo, obcordato. *Stylus* nullus.

THIS tree grows to a considerable height; it sends off numerous large branches, and is covered with rough thick greyish bark: the leaves are elliptical or ovate, entire, pointed, alternate, of a light green colour, and stand upon short strong footstalks: the flowers

are numerous, and produced in lateral racemi: the calyx is bell-shaped, divided at the brim into five teeth, which are nearly equal, but one is projected to a greater distance than the others: the petals are inserted into the receptacle, and are five in number, of which four are equal, linear, and a little longer than the calyx; the fifth is much the largest, inversely heart-shaped, and its *unguis* is of the length of the calyx: the ten filaments are very short, and furnished with long antheræ: the germen is oblong: there is no style: the stigma is pointed: the fruit is a round berry.

Through the favour of Sir Joseph Banks we have been enabled to present our readers with the annexed figure of this tree, which has hitherto been little known, and but imperfectly described.[a] It grows in Spanish America, in the Province of Tolu, behind Carthagena, whence we are supplied with the Balsam, which is brought to us in little gourd-shells. This Balsam is obtained by making incisions in the bark of the tree, and is collected into spoons, which are made of black wax, from which it is poured into proper vessels.*

This Balsam is of a reddish yellow colour, transparent, in consistence thick and tenacious: by age it grows so hard and brittle, that it may be rubbed into a powder between the finger and thumb.[b] Its smell is extremely fragrant, somewhat resembling that of lemons; its taste is warm and sweetish, and on being chewed it adheres to the teeth. Thrown into the fire it immediately liquifies, takes flame, and disperses its agreeable odour. Though it does not dissolve in water, yet if boiled in it for two or three hours, in a covered vessel, the water receives its odoriferous smell: water also suffers a similar impregnation from the Balsam by distillation.

[a] We regret that the flowers were not sufficiently advanced for us to represent the interior parts of inflorescence. A piece of the bark, which tasted strongly of the Balsam, accompanies the specimen in Sir Joseph's Herbarium.

* *Monard. l. c.*

[b] See Murray, *App. Med vol. vi. p.* 118.



Copaifera officinalis

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With the assistance of mucilage it unites with water, so as to form a milky solution. It dissolves entirely in spirit of wine, and easily mixes with distilled oils, but less easily with those of the expressed kind. Distilled without addition, it produces not only an empyreumatic oil, of a pale dark colour, but sometimes a small portion of a saline matter, similar to that of the flowers of benzoine.

This Balsam possesses the same general virtues with the former, and that of Peru; it is however less heating and stimulating, and may therefore be employed with more safety. It has been chiefly used as a pectoral, and is said to be an efficacious corroborant in gleets and seminal weaknesses. It is directed by the Pharmacopœias in the syrupus tolutanus, tinctura tolutana, & syrupus balsamicus.

COPAIFERA OFFICINALIS. BALSAM of COPAIVA TREE.

Balsamum Copaiva. *Pharm. Lond.* Balsamum Copaibæ. *Pharm. Ed.*

SYNONYMA. Coapoiba. *Marcgr. bras.* 130. Copaiba. *Pis. Hist. Nat. et Med. p.* 118. Arbre de Copau. *Labat, Nouv. voyage aux Isles de L'Amerique, tom. ii. p.* 365. Le Copahu. *Barrere Hist. Nat. de la France equinoxiale. p.* 40. Arbor baccifera Brasilien. &c. *Raii Hist. p.* 1759. Copaifera officinalis. *Jacquin Select. Stirp. Americ. p.* 133. *tab.* 86. *ed. pict. p.* 67. *tab.* 128.

Class Decandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 542.

Ess. Gen. Ch. Cal. 0. *Petala* 4. *Legum.* ovatum. *Sem.* 1, arillo baccato.

THIS tree grows to a considerable height: it is covered with rough brown bark, and divides into numerous branches: the leaves are pinnated, large, consisting of four pair of pinnæ, which are alternate, except the undermost, which is nearly opposite; they are ovate, pointed, somewhat narrowed on one side, and placed upon short footstalks: the flowers are white, and produced in terminal branched spikes: there is no calyx: the petals are four, oblong, acute, concave, spreading: the filaments are ten, slender, incurved, somewhat longer than the corolla, and crowned with antheræ, which are oblong, and incumbent: the germen is roundish, compressed, and stands upon a short pedicle: the style is filiform, incurved, about the length of the filaments, and furnished with an obtuse stigma: the fruit is an oval pod, of two valves, pointed with part of the remaining style: it contains one egg-shaped seed, involved in a berried arillus.

This tall and elegant tree is a native of South America, particularly Brazil, and some of the neighbouring islands; and it is said to have been discovered growing in Terra Firma in large woods with those trees which afford several of our officinal Balsams, especially that of Tolu and Peru. The resinous juice, called Balsam of Copaiba, is obtained from this tree by making incisions near the base of its trunk, extending not only through the bark but into the substance of the wood, when the balsam immediately issues, and at the proper season flows in such abundance, that sometimes in three hours twelve pounds have been procured. The older trees afford the best balsam, and yield it two or three times in the same year. The Balsam supplied by the young and vigorous trees, which abound with the most juice, is crude and watery, and is therefore accounted less valuable. While flowing from the tree this balsam is a colourless fluid; in time however it acquires a yellowish tinge, and the consistence of oil; but though by age it has been found thick like honey, yet it never became solid like other resinous fluids.

Genuine * Balsam of Copaiba has a moderately agreeable smell, and a bitterish biting taste, of considerable duration in the mouth: it dissolves entirely in rectified spirit, especially if the menstruum be previously alkalized; when the solution has a very fragrant smell. Distilled with water it yields nearly half its weight of a limpid essential oil; and in a strong heat, without addition, a blue oil.

This, like most other balsams, is nearly allied to the turpentines. It was formerly thought to be an efficacious remedy in various disorders, as pulmonary consumptions, coughs, scorbutic diseases, dropsies, dysenteries, nephritic complaints, internal ulcers, fluor albus, gleets, &c. but though some proofs of its good effects in certain states of many of these diseases may be adduced,[a] yet as it irritates and heats the system to a considerable degree, few cases occur in which this medicine can safely be given, especially in large doses.[b] It determines powerfully to the kidneys, and impregnates the urine with its qualities, and has therefore been supposed peculiarly suited to diseases of the urinary passages, but by stimulating these organs it is apt to produce very mischievous consequences, its use is therefore now principally confined to gleets and fluor albus.

If this medicine can be advantageously administered in pulmonary affections, it must be in the absence of fever, and where the

* "We sometimes find in shops, under the name of Copaiba, a thick, whitish, almost opake Balsam, with a quantity of turbid watery liquor at the bottom. This sort, probably, is either adulterated by the mixture of other substances, or has been extracted, by boiling in water, from the bark or branches of the tree." *Lewis, M. M. p.* 132.

[a] See Fuller, *Pharm. extemp. p.* 275. F. Hoffman, *Obs. Phys. chym. p.* 24. Lentin, *Beobacht. einig. Krankh.* 1774. *p.* 58. Mutis relates, that a woman in Santa Fé, who had been many years affected with a dropsy, in forty days was cured by taking balsam of copaiba, the dose of which she increased to a spoonful night and morning. *Nouvelles de la Republique des lettres et des arts*, 1786. *n.* 33. *p.* 374.

[b] Hoppe has fully set forth its dangerous effects. See D. Fred Wilh. Hoppe, apud Valentini Indiam literatam. p. 624.

excretion from the lungs is unattended with inflammatory congestion.[c] It may be most conveniently taken in the form of an emulsion, into which it may be brought by triturating it with almonds, or rather with a thick mucilage of gum arabic, till they are well incorporated, and then gradually adding a proper quantity of water. The dose of the Balsam should rarely exceed twenty or thirty drops.

[c] Vide Simmons *On the Treatment of Consumptions, p. 36. sq.*

Dr. Cullen says, "Whether a certain effect of balsam of copaiba is to be imputed to its laxative quality, I cannot determine, but must observe, that I have learned from an empirical practitioner, that it gives relief in hæmorrhoidal affections; and I have frequently employed it with success, viz. given from twenty to thirty drops twice a day." *Mat. Med. vol. ii. p.* 190.

The medicinal plants of this order not figured in Medical Botany, are,

Systematic Names.	Officinal.	English.
Rhamnus Frangula	Frangula	Berry-bearing Alder.
Rhamnus Zizyphus	Jujuba	Shining-leav'd Rhamnus
Ilex aquifolium	Aquifolium	Common Holly.



Æsculus Hippocastanum

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PRESTON
1828

ORD. XXXVIII. TRIHILATÆ.

From *Tres*, three, and *Hilum*, an external mark or scar on each of the three seeds where they are attached to the fruit.

ÆSCULUS HIPPOCASTANUM. COMMON HORSE CHESNUT.

SYNONYMA. Hippocantanum. *Pharm. Edinb.* Castanea folio multifido. *Bauh. Pin. p.* 419. Castanea equina. *Ger. Emac. p.* 1442. *Park. Theat. p.* 1401. *Raii. Hist. p.* 1683. Hippocastanum. *Hall. Stirp. Helv. n.* 1029. Æ. Hip. *Miller Illust. Hunt. Evel. vol. i. p.* 359.

Class Heptandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 462.

Ess. Gen. Ch. Cal. 1-phyllus, 5-dentatus, ventricosus. *Cor.* 5-petala, inæqualiter colorata, calyci inserta. *Caps.* 3-locularis.

Sp. Ch. Æ. foliolis septenis.

THIS tree frequently grows to a great height,[a] and from the upper part of the trunk usually sends off numerous spreading branches, covered with rough brown bark: the leaves are digitated, composed commonly of seven large lobes, which are long, obversely oval, serrated, ribbed, of a pale green colour, and proceed from a

[a] A Horse Chesnut-tree, above 80 years old, and 50 feet high, still continued in a healthy and growing state. *Samml. d. Berner landwirthschaftl. Gesellsch. vol. ii. p.* 943.

common centre attached to a long footstalk: the flowers terminate the branches in large conical spikes, and make a beautiful appearance: the calyx is tubular, and divided at the brim into five short blunt segments: the corolla consists of five petals, which are roundish, spreading, undulated at the edges, inserted in the calyx by narrow claws, and of a fine white colour, irregularly spotted with red and yellow: the filaments are seven, tapering, about the length of the corolla, bending at the top, and supplied with pointed antheræ: the germen is round, supporting a short style, furnished with a pointed stigma: the capsule is round, tough, fleshy, beset with spines, divided into three valves, and containing two[b] roundish compressed seeds. It is a native of the northern parts of Asia, and flowers in April and May.

Though the Castanea was well known to the ancients, yet Matthiolus seems to be the first author who describes the Horse Chesnut;[c] which was brought into Europe about the middle of the sixteenth century, and was so scarce in the time of Clusius, that there was then but one tree known at Vienna; which being too young to bear fruit,[d] nuts were obtained from Constantinople in 1588; after which this tree was very generally propagated. It was cultivated in England by Mr. John Tradescant in 1633, and is now very common in this country. The wood is white, soft, soon decays, and is therefore of little value. The fruit in appearance resembles that of the Spanish Chesnut, and is eaten by sheep, goats, deer, oxen, and horses.[e] It contains much farinaceous matter,

[b] The ripe capsule seldom contains more than one, but on being examined in its embryo state, two are constantly found. *Lin. Gen. Plant.*

[c] See his *Epist. medicinal. op. omn. p.* 101. 125. Afterwards in *Comm. in Dioscorid.*

[d] *Murray, App. Med. vol. iv. p.* 63.

[e] Horses are said to eat this fruit greedily, and by it to have been cured of coughs and pulmonary disorders, and hence the name Horse Chesnut. For the purpose of fattening cattle, and particularly sheep, it has been thought necessary to macerate the nuts in caustic alkali, in order to take off the bitterness, afterwards

which by undergoing a proper process, so as to divest it of its bitterness and acrimony, probably might afford a kind of bread: starch has been made of it, and found to be very good:[f] it appears also to possess a saponaceous quality, as it is used, particularly in France and Switzerland, for the purpose of cleaning woollens, and in washing and bleaching linens.[g]

With a view to its errhine power the Edinburgh College has introduced it into the Materia Medica; as a small portion of the powder, snuffed up the nostrils, readily excites sneezing; even the infusion or decoction of this fruit produces this effect; it has therefore been recommended for the purpose of producing a discharge from the nose, which, in some complaints of the head and eyes, is found to be of considerable benefit.

On the Continent the bark of the Horse Chesnut-tree is held in great estimation as a febrifuge, and upon the credit of several respectable authors appears to be a medicine of great efficacy. Zannichelli,[h] at Venice, was the first who published its successful use in various cases of intermittents; since which its good effects have been confirmed by Leidenfrost, Peipers,[i] Junghanss,[k] Coste, and Willemet,[l] Sabarot De La Varniere,[m] Turra,[n] Buchholz,[o] and

to wash them in water, and then boil them to a paste. (See Bon *Mem. de l'Acad.* 1720. p. 460.) Lime water was also found to answer. (See *Hist. de la Société R. de Montpell. tom. ii. p.* 57.) But if the nuts are cut and mixed with oats or bran, this purpose may be effected with less trouble. *Hannov. Mag.* 1770. *p.* 226.

[f] Parmentier, *Recherches sur les vegetaux nourissans*, *p.* 176. 218.

[g] Marcandier, *Traité de Chanvre*, *Leipziger Intelligenzblatt.* 1764. *p.* 46. *De re rustica*, or the *Repository for papers in Agriculture*, *vol. ii. p.* 75. *sq. &c.*

[h] J. Jac. Zannichelli *Lettera intorno alle Facolta dell' Ippocastano*, *&c.*

[i] Leidenfrost in Peipers *Diss. de cortice Hippoc. Duisburg.* 1763.

[k] *Diss. de nucis vomicæ et corticis Hippocast. virtute med.* 1770. *p.* 25. *sq.*

[l] *Essais sur les plantes indigenes. p.* 57.

[m] *Journ. de Medec. tom.* 47. *p.* 324.

[n] *Della febbrifuga Facolta dell' Ippocastano, in Vicenza.* 1780.

[o] *Uber Antisept. Subst.* 1776.

others: from whom it appears, that this bark may be substituted for the Peruvian bark in every case in which the latter is indicated, and with equal, if not superior, advantage.

The Bark, intended for medicinal use, is to be taken from those branches, which are neither very old nor very young, and to be exhibited under similar forms and doses, as directed with respect to the cortex peruvianus. It rarely disagrees with the stomach; but its astringent effects generally require the occasional administration of a laxative.

See *Murray, l. c.*

TROPÆOLUM MAJUS. GREATER INDIAN CRESS, Or NASTURTIUM.

SYNONYMA. Nasturtium indicum. *Pharm. Dale.* 134. *Berg.* 293. *Murray. iv.* 77. *Gerard. Emac.* 252. *Park. Parad.* 280. *Ray. Hist.* 487. Nasturtium indicum majus. *Bauh. Pin.* 306. Viola indica scandens, Nasturtii sapore & odore, flore flavo. *Herm. Hort. Lugd. Bat.* 628. *Ic. Curt. Bot. Magaz.* 23.

Octandria Monogynia. *Lin. Gen. Plant.* 466.

Gen. Ch. *Cal.* 1-phyllus, calcaratus. *Petala* 5, inæqualia. *Baccæ* 3, siccæ.

Sp. Ch. T. foliis peltatis subquinquelobis, petalis obtusis.

ROOT annual. Stalk trailing, climbing, round, branched, smooth, succulent, several feet in length. Leaves roundish, marked by several radiated ribs, entire, obscurely five-lobed, standing singly upon long bending footstalks, which are attached to the centre of each leaf. Flowers large, solitary, of a tawny yellow, on long peduncles. Calyx yellowish, large, forming a horn-like nectarium



Tropaeolum majus

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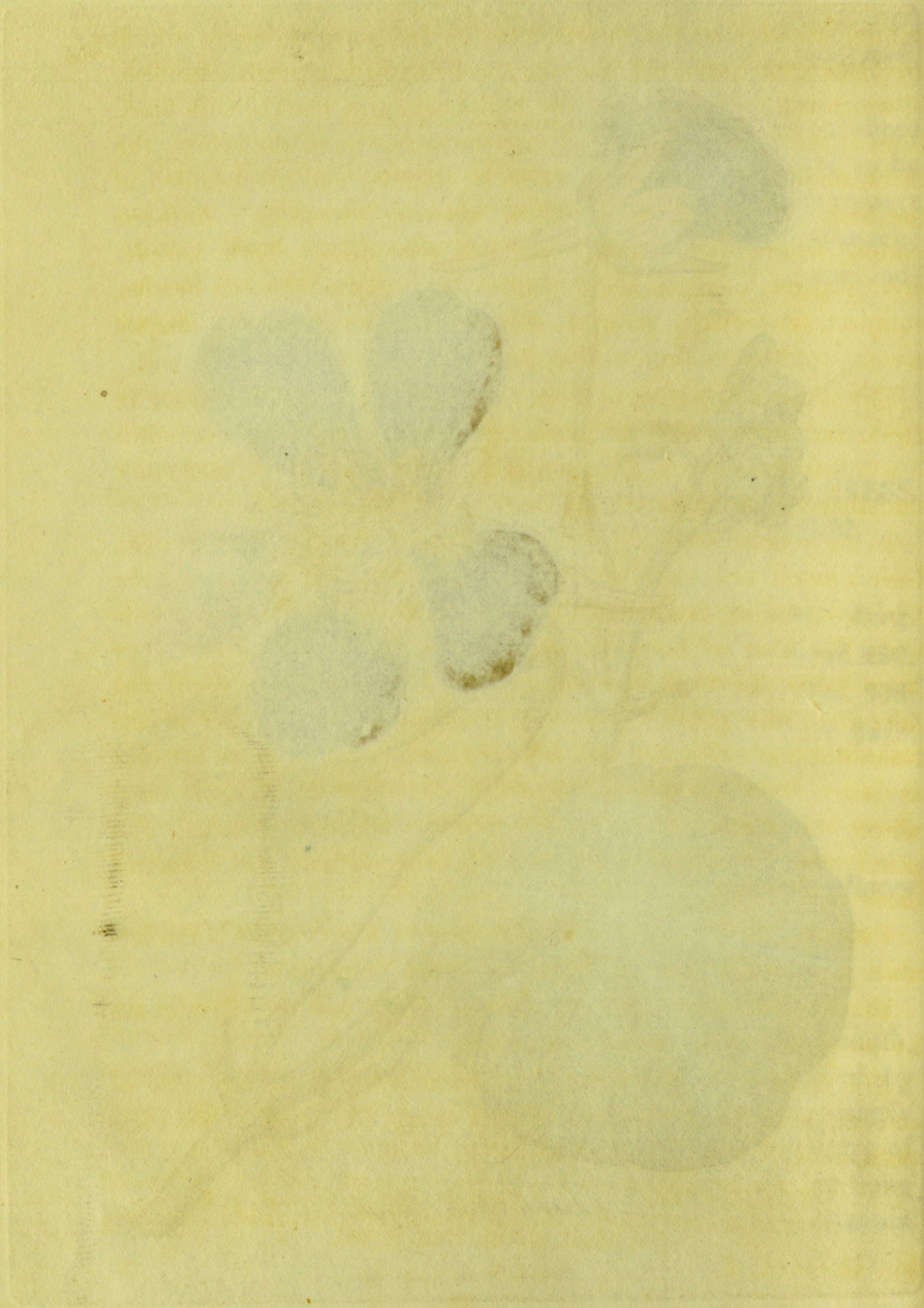
PRESTON 1828 INSTITUTION



behind, divided at the mouth into five irregular segments, which are acute, erect, striated. Corolla consisting of five petals, roundish, of which the two uppermost are bent backwards, marked with black lines at the base, and inserted into the segments of the calyx: the three undermost have long claws or ungues, and are bearded at the base. Filaments eight, yellow, tapering, spreading. Antheræ yellow, four-celled, ovate. Germen triangular. Style simple, erect, yellow. Stigma trifid, acute. Fruit three adhering berries, compact, externally striated, containing three irregular shaped seeds. Its flowers appear from June till October.

This plant is a native of Peru; it was first brought to France in 1684, and there called Le grande Capucine; two years afterwards it was introduced into this country by Dr. Lumley Lloyd,[a] and since that time has been constantly cultivated in British gardens.

In its recent state this plant, and more especially its flowers, have a smell and taste resembling those of water cress; and the leaves, on being bruised in a mortar, emit a pungent odour, somewhat like that of horse radish. By distillation with water they impregnate the fluid in a considerable degree with the smell and flavour of the plant.[b] Hence the antiscorbutic character of the Nasturtium seems to be well founded, at least as far as we are able to judge from its sensible qualities: therefore in all those cases where the warm antiscorbutic vegetables are recommended, this plant may be occasionally adopted as a pleasant and effectual variety.

Patients, to whom the nauseous taste of scurvy-grass is intolerable, may find a grateful substitute in the Nasturtium.

The flowers are frequently used in sallads, and the capsules are by many highly esteemed as a pickle.

The flowers, in the warm summer months, about the time of sun-set, have been observed to emit sparks like those of the electrical kind.[c]

[a] Vide *Hort. Kew.* [b] *Cartheus. Diss. de Cardam. p.* 9.

[c] *Vet. Acad. Handl.* 1762. *p.* 284.

BERBERIS VULGARIS. COMMON BARBERRY.

SYNONYMA. Berberis. *Pharm. Dale.* 318. *Geoff. iii.* 172. *Alston. ii.* 255. *Lewis.* 144. *Edinb. New Disp.* 146. *Bergius.* 276. *Murr. iv.* 79. *Park. Theat.* 561. Berberis dumetorum. *Bauh. Pin.* 454. *Ray. Hist.* 1605. *Synop.* 465. *Gerard. Emac.* 1325. Berberis vulgaris. *Huds. Flor. Ang.* 137. *Withering. Bot. Arr.* 366. *Ic. Eng. Bot.* 49.

Hexandria Monogynia. *Lin. Gen. Plant.* 442.

Gen. Ch. *Cal.* 6-phyllus. *Petala* 6: ad ungues glandulis 2. *Stylus.* 0. *Bacca* 2-sperma.

Sp. Ch. B. pedunculis racemosis: spinis triplicibus.

A LARGE spreading shrub, furnished with spines, covered with a light grey bark. Leaves inversely ovate, blunt, entire, smooth, minutely serrated, four or five standing together upon simple footstalks. Flowers yellow, in slender pendent racemi. Calyx composed of six leafits, which are ovate, concave, coloured, deciduous, alternately larger and smaller. Corolla consists of six petals, which are roundish, concave, and at the base each furnished with two small oblong orange-coloured corpuscles or nectaries. Filaments six, erect, compressed, tapering, shorter than the petals, and terminated by double antheræ, which adhere to their sides. Germen cylindrical, of the length of the filaments. Style none. Stigma circular, flat, encompassed by a sharp border. Fruit a cylindrical one-celled red berry, containing two oblong seeds.

It is a native of England, growing in woods and hedges, and flowering in June. In shrubberies, and in gardens where it is very generally cultivated, its flowers usually appear much sooner.



Berberis vulgaris

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PRESTON
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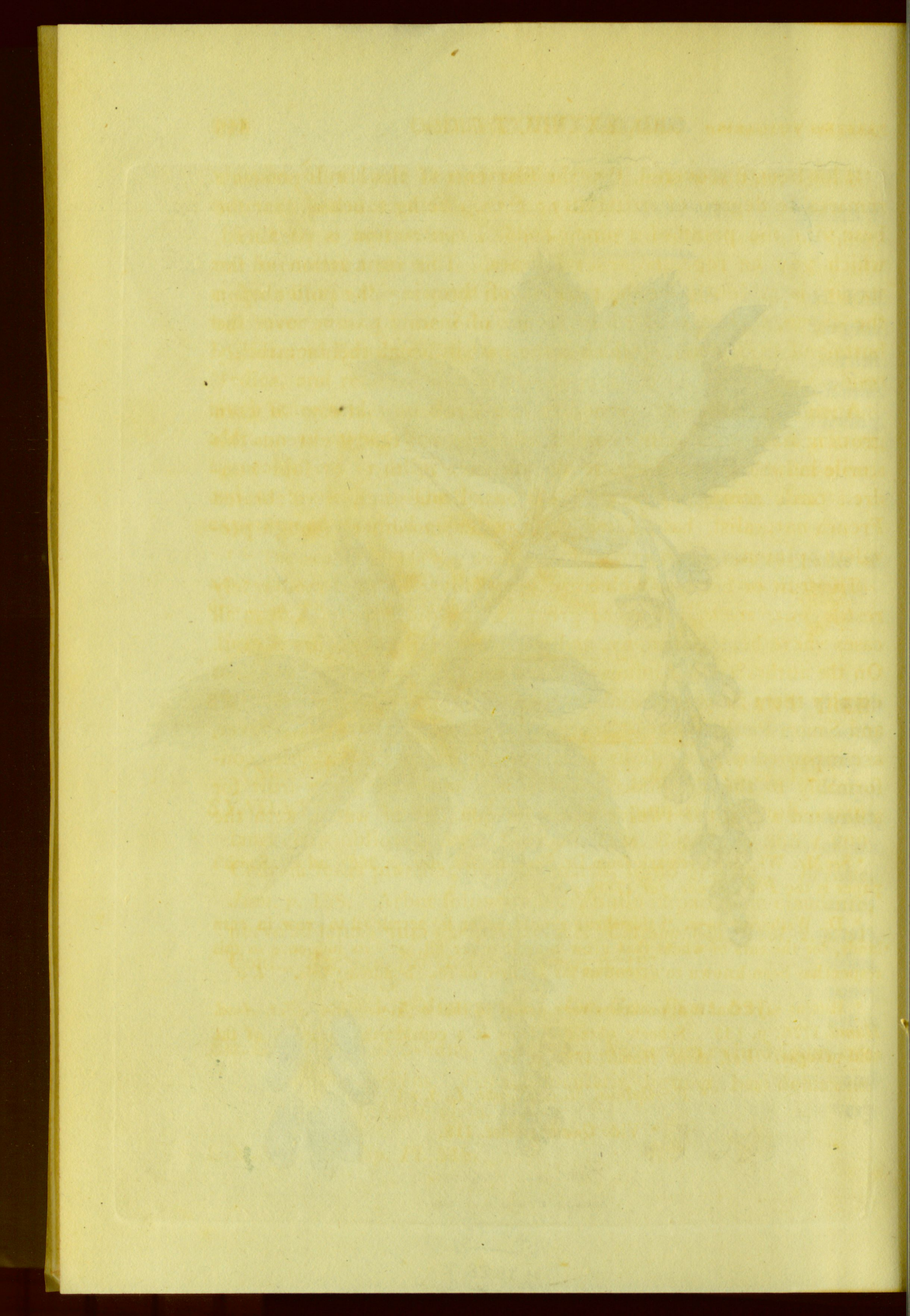

It has been discovered, that the filaments of this shrub possess a remarkable degree of irritability; for on being touched near the base with the point of a pin, a sudden contraction is produced, which may be repeated several times. This contraction of the stamina is evidently for the purpose of throwing the pollen upon the stigma, and is effected by means of insects passing over the bottom of the filaments, which is the part in which their sensibility resides.[a]

Another peculiarity ascribed to this shrub is, that ears of corn growing near it constantly prove abortive, and that it extends this sterile influence over them to the distance of three or four hundred yards across a field;[b] but Mons. Broussonet, a celebrated French naturalist, has refuted this very extraordinary though prevalent opinion.

The fruit or berries, which are gratefully acid,[c] and moderately restringent, are said to be of great use in bilious fluxes, and in all cases where heat, acrimony, and putridity of the humours prevail. On the authority of Alpinus[d] we are informed, that the Egyptians employ them in pestilential fevers and fluxes, with great success; and Simon Paulli relates,[e] that he was cured of a malignant fever, accompanied with a bilious diarrhœa, by using these berries conformably to the Egyptian practice, viz. macerating the fruit for a day and a night in twelve times its quantity of water, with the

[a] See Mr. Whatley's remark from Dr. Sims, in *Bot. Arr. p.* 366. and Dr. Smith's paper in the *Phil. Trans. for* 1788. *p.* 158.

[b] Dr. Withering says, "this shrub should never be permitted to grow in corn lands, for the ears of wheat that grow near it never fill, and its influence in this respect has been known to extend as far as three or four hundred yards." *l. c.*

[c] Retzius says that it approaches very nearly to that of Tamarinds. *Vet. Acad. Handl.* 1776. p. 135. Scheele obtained from it a considerable quantity of the acid of sugar. *Vet. Acad. Handl.* 1785. p. 17.

[d] *P. Alpinus. Med. Ægypt. L.* 4. c 1.

[e] Vide *Quadrip. Bot.* 118.

addition of a little fennel seed; the liquor was then strained, sweetened, and used as a common drink.

That these berries are well calculated to allay heat and thirst, and to correct a putrid tendency in the fluids, will be readily admitted; but in this respect they seem to possess no peculiar advantage over most of the other acid fruits: hence the Colleges of London and Edinburgh have expunged this fruit from the Materia Medica, and retained that of the currant. Barberries however are much more acid, insomuch that they cannot be eaten without the addition of sugar, but when boiled with this, they form a most agreeable rob or jelly; they are also much liked as a sweet-meat, and as a pickle. The bark is said to be purgative,[f] and Ray experienced its good effects in jaundice.

[f] "The roots, boiled in lye, dye wool yellow. In Poland they dye leather of a most beautiful yellow with the bark of the root. The inner bark of the stems dyes linen of a fine yellow with the assistance of allum." *With. l. c.*

SWIETENIA MAHAGONI. MAHOGANY TREE.

(Swieteniæ Cortex. *Pharm. Murray. App. Med. vi.* 132.)

SYNONYMA. Swietenia foliis abrupte pinnatis, pinnulis ovato-lanceolatis obliquis, &c. *Cavanill. Diss. Bot. 7. p.* 365. *t.* 209. Cedrela foliis pinnatis, floribus sparsis, ligno graviori. *Browne. Jam. p.* 158. Arbor foliis pinnatis, nullo impari alam claudente, nervo ad latus unum excurrente, &c. *Catesby. Carol. vol. 2. p.* 81. Conf. *Jacquin. Select. Stirp. Amer. p.* 127.

Decandria Monogynia. *Lin. Gen. Plant.* 521.

Ess. Gen. Ch. Cal. 5-fidus. *Petala* 5. *Nectarium* cylindricum, ore antheras gerens. *Caps.* 5-locularis, lignosa, basi dehiscens. *Sem.* imbricata, alata.

S. Mahagoni. *Sp. Pl.* 548.



Swietenia Mahagoni

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A VERY large tree, which, by sending off numerous spreading branches, makes a beautiful appearance. Wood hard, compact, of a brownish red, and from its general use well known in England. The bark is rough, scaly, and brown, but upon the young branches grey, and much smoother. Leaves pinnated, alternate, consisting of three, four, or five pairs of pinnulæ, which are entire, ovately lance-shaped, acute, oblique, reclining, on short footstalks. Flowers numerous, small, whitish, in axillary open spikes. Calyx small, bell-shaped, deciduous, cut into five segments. Petals five, inversely ovate, concave, obtuse, spreading. Nectarium monophyllous, cylindrical, erect, of the length of the corolla, divided at the brim into ten pointed teeth. Filaments ten, scarcely visible, inserted beneath the teeth of the nectarium. Antheræ oblong, erect. Germen ovate. Style tapering, erect, of the length of the nectarium. Stigma large, depressed at the top. Capsule ovate, large, obtuse, five-celled, five-valved; valves woody, thick, opening at the base. Seeds numerous, compressed, imbricated, furnished with oblong membranous wings. Receptacle of the seed large, oblong, obtuse, pentagonal.

It is a native of the West Indies, and was first cultivated in England in 1739 by Mr. P. Miller, who then considered it as a species of Cedrus; but Jacquin discovered the Mahogany to be a distinct genus, and called it Swietenia, in honour of Gerard L. B. a Swieten, whose influence with the House of Austria caused the botanic garden at Vienna to be founded.

For the botanical specimen of the tree figured in the annexed plate, we are obliged to Sir Joseph Banks.

The bark of the Swietenia has lately been found, in a considerable degree, to emulate that of the cinchona in its medicinal characters; we have therefore followed the late professor Murray in considering it as an article of the Materia Medica.

This bark, according to Dr. Wright, is "rough, scaly, and brown," as found upon the trunk of a tree, but "that on the

boughs and twigs is grey and smoother."[a] That intended for medicinal use should be the growth of the trunk, or rather of the larger branches, and is brought here in flattish or somewhat convex pieces, about a foot in length: its epidermis is rough, and immediately under it a thick spongy dark extraneous coat is observed; the inner efficient part of the bark is of a lamellated texture, tough, and of a deep reddish brown;[b] its taste is astringent and bitter, resembling the Peruvian bark, but, in the opinion of Murray, more bitter.

On the testimony of Wright, Lind, and several other respectable authorities, this bark has been found to answer the general purposes of that of the cinchona, and like it also the different species of the tree agree in affording barks possessing in common a certain share of febrifuge power, though in different degrees, and somewhat variable in their sensible qualities. Thus of the nine species of cinchona, lately described by Vahl, the febrifuge character pervades the whole, at least as far as experiments have been made:[c] and Mr. Roxburgh, botanist to the East India Company, has discovered a new species of Swietenia, or Mahogany, the bark of which promises, from his account of it, to be a more efficacious medicine than that here described. This new species of mahogany is called by Mr. Roxburgh Swietenia febrifuga;[d]

[a] See London Medical Journal, vol. 8. p. 286.

[b] This description nearly agrees with that of Murray; but I have found the bark to vary considerably in its appearance, and in its taste.

[c] *Yellow Peruvian bark*, the produce of a species of cinchona, of which we find no botanical account, has been lately brought to London. I have used it at the Small-pox Hospital with more advantage than I ever experienced from the best common bark. Its intense bitterness is the leading character in its sapidity.

[d] This and several other East India plants have been engraved at the expense of the East India Company, but have not yet been published; it differs from the common Mahogany, in having its flowers in large terminal compound spikes, and in its foliola being oblong, and very obtuse.

and from numerous experiments which he made from its bark, he draws the following conclusions:[c]

1. "The active parts of the bark of Swietenia febrifuga are much more solubile than those of Peruvian bark, particularly in watery menstruums."

2. "That it contains a much larger proportion of active (bitter and astringent) powers than Peruvian bark."

3. "The watery preparations of this bark remain good much longer than similar preparations of Peruvian bark."

4. "The spirituous and watery preparations bear being mixed in any proportion without decomposition."

5. "That this bark in powder, and its preparations, are much more antiseptic than Peruvian bark, or similar preparations of it."

He adds, "From the evident qualities of this new bark, and from the successful experience I have had of it in intermittent fevers, &c. I have every reason to imagine it will prove equal, if not superior, to the Peruvian bark for every purpose where that medicine is used.

Having before given an account of Æsculus Hippocastanum, or Horse-chesnut, the only remaining plant referred to the Materia Medica in the order Trihilatæ is the Trapa natans, called in the Pharmacopœias Tribulus aquaticus, or Nux aquatica (floating water caltrops.) Its fruit or nut is of a quadrangular form, and contains a farinaceous kernel, which was formerly in estimation for its supposed astringent qualities.

[c] See "a botanical description of a new species of Swietenia, (Mahogany) with experiments and observations on the bark thereof, addressed to the Honourable the Court of Directors of the United East India Company, by William Roxburgh."

ORD. XXXIX. TRICOCCÆ.

(From τρεις three κοκκος a grain)

Plants with a single three-cornered capsule having the cells each containing one seed.

RICINUS COMMUNIS. COMMON PALMA CHRISTI.

SYNONYMA. Ricinus. *Pharm. Lond. & Edinb. Gerard. Emac. p.* 496. Ricinus vulgaris. *Bauh. Pin.* 432. *J. Bauh. Hist. iii. p.* 642. Ricinus sive Cataputia major vulgatior. *Park. Theat. p.* 182. *Raii Hist. p.* 166. Ricinus 1. Fruticosus assurgens foliis majoribus peltato-lobatis, lobis serratis acutis. *Browne's Jam. p.* 350. Ricinus Americanus fructu racemoso hispido, &c. *Sloane's Cat.* 38. The Oil nut tree. *Long's Jam. v. iii. p.* 712. Ricinus foliis peltatis inæqualiter serratis, capsulis hispidis. *Miller, Figures of Plants, tab.* 219. In horto botanico Gottingensi tres exstant varietates: α, *glauca,* caule petiolis costisque foliorum stipulis pedunculis capsulisque *pallide rubris.* Ricinus ruber *Rumph. Herb. Amb. tom. iv. p.* 79; β, *nitens,* caule petiolis costis foliorum ceterisque partibus et summis foliis *sanguineis.* Ricinus lucidus Jacquin. *Misc. Austr. vol. ii. p.* 360. et *Icon. rarior. tab.* 27. ut puto; γ, *glauca* totaque *viridis* præter stylos rubicundos. Ricinus albus *Rumph.* l. c. *p.* 92. Avanacœ s. Citavanacu. *Hort. Malab. tom.* 2. *p.* 57. *tab.* 32. Vide *Murr. App. Med. v. iv. p.* 195.



Ricinus communis.

Published by W. Phillips, Sept.r 1st 1809.

PRESTON
1828

Class Monoecia. *Ord.* Monadelphia. *Lin. Gen. Plant.* 1085.

Ess. Gen. Ch. *Masc. Cal.* 5-partitus. *Cor.* 0. *Stam.* numerosa. *Fem. Cal.* 3-partitus. *Cor.* 0. *Styli* 3, bifidi. *Caps.* 3 locul. *Sem.* 1.

Sp. Ch. R. foliis peltatis subpalmatis serratis.

THE root is biennial, long, thick, whitish, and beset with many small fibres: the stem is round, thick, jointed, channelled, glaucous, of a purplish red colour towards the top, and rises luxuriantly six or eight feet in height:‡ the leaves are large, and deeply divided into seven lobes or pointed serrated segments, of a bluish green colour: the footstalks are long, tapering, purplish, and inserted in the disc of the leaf (peltated): the flowers are male and female on the same plant, and produced in a clustered terminal spike: the *male flowers* are without a corolla, and consist of a calyx, divided into five oval pointed purplish segments, enclosing numerous long stamina, which unite at the base: the *female flowers* occupy the upper part of the spike, and have the calyx cut into three narrow segments, of a reddish colour: the styles are three, slender, and forked at the apex: the capsule is a large three-celled nut, covered with tough spines, and contains three flattish oblong seeds, || which are forced out on the bursting of the capsule. It is a native of both the Indies, and flowers in July and August.

‡ Long says that in Jamaica it grows with surprising rapidity to the height of fifteen or sixteen feet. l. c.

|| Hujus cuilibet loculo inest nux ovata, utrinque compressa, interiori præcipue superficie, quæ et linea longitudinali distinguitur, magnitudine seminis Phaseoli minoris flore phœniceo, hilo prominente sursum notato, cui callus ante adhæserat. Cortex ex bruno luteoque variegatus, fragilis, cingit nucleum album, vestitum cuticula tenella concolore—Figuræ seminis cum insecto Ricino (Acaro Ricino L.) bobus & canibus infesto, similitudo ansam denominationis totius plantæ dedit. *Murr. Ap. Med. vol. iv. p.* 197.

This plant appears to be the Κικι, or Κροτων of Dioscorides,[a] who observes that the seeds are powerfully cathartic;† it is also mentioned by Ætius, Paulus Ægineta, and Pliny. The Ricinus was first cultivated in England in the time of Turner,[b] (1562) and is now annually reared in many gardens in the neighbourhood of London; and in that of Dr. Saunders,[c] at Highbury, the plant from which the present figure was taken, it grew to a state of great perfection. An oil extracted from the seeds[d] of this plant, and known by the name of oleum ricini, Palma Christi, or castor oil, is the drug to which the pharmacopœias refer, and which has lately come into frequent use as a quick, but gentle, purgative. The London College direct this oil to be expressed from the seeds in the same

[a] *Mat. Med. lib.* 4. *cap.* 164.

† Their violent and irritating effects in this way are noticed by almost all the Materia Medica writers, and seem to be confirmed by Thunberg, (*Diss. de Medicina Africanorum, p.* 4. and *Browne, l. c.*) This acrimony however appears from later experiments to be owing to the membranes which invest the kernel, (*vide Heyer in Crells n. chem. Entdeck. P.* 2. *p.* 47. Also *Glendenberg in ejusd. chem. Annal.* 1785. *vol. ii. p.* 34.) Bergius says, "Semen unicum Ricini vulgaris, tempore vespertino, a viro sano & vegeto masticatum & deglutitum, sapore fuit amygdalarum, sed sensationem mordentem in faucibus reliquit. Per totam noctem tranquille dormivit hic vir; sed sequente die mane expergefactus, emesi violentia correptus fuit atque per totam diem sustinuit nisus alternantes vomituritionis & purgationis alvi, tametsi parum dejiciebat. Eadem vice nobilis matrona teneræ constitutionis, semen unicum pariter comedit, sed prius testam membranamque obvelantem sedulo separavit abjecitque; & nullam noxam inde sensit." *M. M. p.* 774.

[b] *Vide Hort. Kew.*

[c] From the number of seeds which the Doctor has lately procured from different parts of the globe, and his scientific and solicitous care in their cultivation, we are induced to hope, that Medical Botany, under such auspices, will eventually receive considerable illustration.

[d] Where the oil is rejected, the seeds may be carefullly separated from their shells and the inner white membrane, and formed into an emulsion, and given as an agreeable substitute for the oil.

way as that of almonds,[e] and without the assistance of heat, by which the oil would seem to be obtained in the purest state: however, we have some reason to believe that this method is seldom practised, and that the oil usually employed here is imported from the West Indies, where it is commonly prepared in the following manner: "The seeds being freed from the husks, or pods, which are gathered upon their turning brown, and when beginning to burst open, are first bruised in a mortar, afterwards tied up in a linen bag, and then thrown into a large pot, with a sufficient quantity of water, (about eight gallons to one gallon of the seeds) and boiled till the oil is risen to the surface, when it is carefully skimmed off, strained, and kept for use. Thus prepared, the oil is entirely free from acrimony, and will stay upon the stomach when it rejects all other medicines." And Mr. Long remarks, that "the oil intended for medicinal use is more frequently cold-drawn, or extracted from the bruised seeds by means of a hand-press. But this is thought more acrimonious than what is prepared by coction."[f] Dr. Browne is also of this opinion, and prefers the oil procured by coction to that by expression; he attributes its greater mildness to the action of the fire, observing that the expressed oil, as well as the mixed juices

[e] Some objection has been made to this manner of obtaining the oil, as stated in our pharmacopœia, which we shall here mention in the words of Murray: Expressione si eliceatur oleum, quidam suadent decorticati seminis præviam conquassationem in mortario, *(Canvane Diss. on the Oleum Palmæ Christi. &c. p.* 20,) sed inde ob mucilaginis evolutionem, quæ simul contingit crassum & turbidum evadit oleum (quod bene adjecit Bonelli in *versione libri cl. Canvane. p.* 63. *Glendenberg l. c. p.* 32), nec nisi difficulter eruitur. Præstat igitur nucleos integros premere. Facilius quoque evocatur oleum ex seminibus, quæ moram aliquam traxerunt, quam ex recentibus; mucilago enim sensim siccior evadere videtur, tumque connubium suum cum oleo relaxare." *(Heyer in Crells Entd. P.* 3. *p.* 74.) *l. c.*

[f] *Long's Jamaica, p.* 713. It is well known however, that the oil obtained by boiling becomes much sooner rancid than that by expression. The best oil is limpid, and destitute of taste or smell. In the West Indies it is usually consumed in lamps, and for other domestic purposes.

of the seeds, are far more active and violent in their operations.[g] Dr. Cullen observes, that "this oil, when the stomach can be "reconciled to it, is one of the most agreeable purgatives we can "employ. It has this particular advantage, that it operates sooner "after its exhibition than any other purgative I know of, as it "commonly operates in two or three hours. It seldom gives any "griping, and its operation is generally moderate, to one, two, "or three stools only. It is particularly suited to cases of costive-"ness, and even to cases of spasmodic cholic. In the West Indies "it is found to be one of the most certain remedies in the dry "belly ach, or colica pictonum.[h] I have never found it heating "or irritating to the rectum, and therefore have found it suffi-"ciently well suited to hæmorrhoidal persons. The only incon-"venience attending the use of this medicine is, that as an oil it "is nauseous to some persons; and that, when the dose is large, "it occasions sickness at the stomach for some time after it is "taken. To obviate these inconveniences, several means have "been tried; but I shall not detail these here, as I can assert, that "the most effectual means is the addition of a little ardent spirit. "For this in the West Indies they employ rum; but that I might "not withdraw any part of the purgative, I employ the tinctura "sennæ composita. This, added in the proportion of one to "three parts of the oil, and very intimately mixed by their being "shaken together in a phial, both makes the oil less nauseous to "the taste, and makes it sit more easy on the stomach. The com-"mon dose of this oil is a table-spoonful, or half an ounce; but "many persons require a double quantity."[i]

[g] L. c. But this is better explained under note †

[h] We may add, that it has been experienced to be an useful medicine in various febrile complaints, and in bilious cholics, nephritic cases, worms, especially the tape worm.

[i] *M. M. vol.* 2. *p.* 563, Dr. Cullen remarks, "It is particularly to be observed of this medicine, that if it be frequently repeated, the dose of it may be gradually more and more diminished. And I know instances of persons who, formerly of a costive habit, at first required half an ounce or more for a dose; but after being frequently repeated, they now find that two drams are enough, at least to keep the belly regular."





Croton Cascarilla

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PRESTON INSTITUTION 1828

CROTON CASCARILLA. CASCARILLA, Or, WILLOW-LEAVED CROTON.

SYNONYMA. Cascarilla. *Pharm. Lond. & Edinb. olim* Elutheria *dicta.* Ricino affinis odorifera fruticosa major, rosmarini folio, fructu tricocco albido. *Sloane Jam. p.* 133. *tab.* 86. Croton *(Rosmarinifolium)* foliis lineari-lanceolatis, glabris, subtus argenteis, caule fruticoso, floribus spicatis terminalibus. *Mill. Dict.* Croton *lineare* foliis linearibus integerrimis obtusis subtus tomentosis, caule fruticoso. *Aiton. Hort. Kew.* vol. iii. p. 374. *Jacquin Stirp. Americ.* 256. *tab.* 162. *Am. Acad.* 5. *p.* 411.

Class Monoecia. *Ord.* Monadelphia. *L. Gen. Plant.* 1083.

Ess. Gen. Ch. *Masc.* *Cal.* cylindricus, 5-dentatus.
Cor. 5-petala. *Stam.* 10-15.
Fem. *Cal.* polyphyllus. *Cor.* 0. *Styli* 3, bifidi.
Caps. 3-locularis. *Sem.* 1.

Sp. Ch. C. fol. lanceolatis acutis integerrimis petiolatis subtus tomentosis, caule arboreo.

THIS Shrub never rises to any considerable height; it sends off several round branches, and is covered with a brown bark, the external coat of which is white and rough: the leaves are long, narrow, entire, somewhat pointed, placed on short footstalks, above of a bright green colour, beneath downy, and of a silvery whiteness; the stipulæ, or scaly leaves, are narrow and lance-shaped; the flowers are produced about July, in a long terminal spike, and are both male and female: the male flowers are placed uppermost, and are furnished with a cylindrical calyx, cut at its extremity into five segments; the petals are five, small, oval, and

of a white or yellowish colour; the stamina are numerous, commonly from ten to fifteen. The *female flowers* have no corolla; the calyx consists of five or six oval leaves; the styles are three, forked; the capsule divides into three cells, each of which contains a single seed.

Writers on the Materia Medica have differed much respecting the plant which produces the officinal cortex cascarillæ;[a] and even now this point does not appear to be sufficiently ascertained: the London College has therefore cautiously avoided making any botanical reference to the plant which affords it. Linnæus, whose authority is certainly the best, in his first edition of the Mat. Med. considered the Cascarilla as a species of the Clutia; but in the second edition it is described as a Croton, and in his *Amœnitates Academicæ* we are again presented with the Clutia *Cascarilla.*[b] What adds to this uncertainty is, that under both these genera it is referred to the same synonyma of Sloane and Browne; yet it is remarkable, that neither of these authors notices the medicinal uses of its bark,[c] although so long known as a medicine in great estimation in every part of Europe.

The plant,[d] from which the annexed figure of the Cascarilla is taken, was found to agree very accurately with the generic cha-

[a] This may be understood from the following names:

Cortex Thuris. *Dale Pharmac. p.* 346. Cortex Thuris nonnullis dictus, vel Thymiama. *Raii Hist.* 1841. Storax rubra officinarum. *Bauh. Pin.* 453. Thus Judæorum. *Park. Theat.* 1602. Schakarilla, Chakarilla. *Mout. Exot.* 8. Kina-kina Aromatica, Cascarilla, Cortex Eleterii sive Scacarilla officinarum, Cortex peruvianus griseus sive spurius. *Geoff. M. M.*

[b] Vide vol. 5. p. 411.

[c] It is mentioned only as being used in medicated baths, and for fomentations. Vide Sloane l. c. The Ricinoides Elæagni folio of Catesby, is stated by him to be a good aromatic bitter, and, on being burnt, to yield a fine perfume. Carolin. vol. 2. p. 46. Walter, in his *Flor. Carolin*, does not mention the Cascarilla, though he discovered a new species of the Croton.

[d] This specimen was procured from the garden at Sion-House, the seat of his Grace the Duke of Northumberland

racter of the Croton, as the plate itself must evince: we are therefore under no difficulty in assigning it to that genus. Whether the Cascarilla then is really a Croton or a Clutia, depends upon the fidelity and precision with which the synonyma have been respectively applied.* According to Lewis, the Cortex Cascarillæ is imported into Europe "from the Bahama islands, particularly from that which is called Elatheria, in curled pieces, or rolled up into short quills about an inch in width; covered on the outside with a rough whitish matter, and brownish on the inner side, exhibiting, when broken, a smooth close blackish brown surface. This bark, freed from the outer whitish coat, which is insipid and inodorous, has a light agreeable smell, and a moderately bitter taste, accompanied with a considerable aromatic warmth; it is very inflammable, and yields, whilst burning, a remarkably fragrant smell, somewhat resembling that of musk. Its virtues are partially extracted by water, and totally by rectified spirit. Distilled with water it yields a greenish essential oil, of a very pungent taste, and of a fragrant penetrating smell, more grateful than that of the Cascarilla itself, and obtained in the proportion of one dram from sixteen ounces of the bark."[e] The agreeable odour which this bark produces during its burning, induced many to smoke it mixed with tobacco,[f] before it became known as a medicine in Europe, which was not till towards the latter end of the last century; when it was recommended by Professor Stisser,[g] who found it to be a powerful diuretic and carminative, and who used it with success in calcalous, asthmatic, phthisical, scorbutic, and arthritic complaints. After this it was sold at Brunswick as a

* Murray, Bergius, Spielman, the Edinburgh and most of the foreign Pharm. make it a Croton.

[e] The analysis, given by Böhmer, differs from this; for which see *Diss. de cort. cascar. p.* 29.

[f] When used in a considerable quantity in this way, it is said to produce intoxication.

[g] Anno 1690. *Vide Act. laborat. chym. specim. cap.* 9.

species of the Peruvian bark, and many physicians in Germany experienced its good effects in fevers of the intermittent, remittent, and putrid kind.[h] But while the facts establishing this febrifuge power of the Cascarilla are supported by authors of great respectability,[i] they are yet so little regarded, that this medicine is now very rarely prescribed in fevers, either in this country, or on the neighbouring continent. In intermittents, however, there can be no doubt but this bark, or indeed any other medicine possessing tonic and aromatic qualities, may frequently effect a cure. The German physicians have also given much credit to the Cascarilla as an astringent, and recommended it in hæmorrhages, and various alvine fluxes, in which several instances of its utility are recorded.[k]

Dr. Cullen was in doubt whether to class this drug with the aromatics or with the tonics, but he determined upon the latter as the most proper; besides its being stomachic and corroborant, it is also reported to be diuretic: but proofs of its efficacy in particular diseases have not (as far as we know) been ascertained, nor even attempted by any adequate trials made in this country.[l] We shall not therefore follow a late ingenious author, in depreciating this medicine, from a mere speculation on its sensible qualities, but rather recommend it to the medical practitioner, as deserving a farther trial. It promises most advantage given in substance, the dose of which is from fifteen grains to a dram.

[h] Ludovicus Apinus first employed it in fevers, and experienced great success by its use in an epidemic, which raged in the neighbourhood of Nurenburg, (by Lewis erroneously called Norway) during the years 1694 and 1695. *Feb. epidem. historica relatio.*

[i] Junker, Fagon, Werlhof, Santhesson, and others.

[k] Degner de dysent. bil p. 164. Bergius Mat. Med. p. 766. Hist. de l'Acad. Royale des Sc. pour l'ann. 1719.

[l] What is said of it by Monro, (Milit. Hospit. p. 202.) and by Lind. (Diss. in hot climates) cannot be considered as exceptions.