UNIVERSITY OF GLASGOW
MATERIA MEDICA

DEPARTMENTAL LIBRARY

30114005780963

Glasgow
University Library

RB 1925

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:

ACCOMPANIED WITH A

CIRCUMSTANTIAL DETAIL OF THEIR MEDICINAL EFFECTS,

AND OF THE

DISEASES IN WHICH THEY HAVE BEEN MOST SUCCESSFULLY EMPLOYED.

By WILLIAM WOODVILLE, M. D.

FELLOW OF THE LINNEAN SOCIETY,

OF THE ROYAL COLLEGE OF PHYSICIANS, LONDON,

AND

PHYSICIAN TO THE SMALL-POX AND INOCULATION HOSPITALS.

IN THREE VOLUMES.

VOL. III.

———— *abrotonum ægro* ————
Non audet, nisi didicit, dare. ———— Hor. Epist.

L O N D O N :

Printed and Sold for the AUTHOR by JAMES PHILLIPS, George Yard, Lombard Street.

M. DCC. XCIII.

Digitized by the Internet Archive
in 2016

https://archive.org/details/b24919755_0003

T O T H E
P R E S I D E N T

A N D

F E L L O W S

O F T H E

ROYAL COLLEGE OF PHYSICIANS,

E D I N B U R G H :

THIS THIRD VOLUME OF MEDICAL BOTANY,

IS, WITH GREAT RESPECT,

INSCRIBED

BY T H E

A U T H O R.

The following ARRANGEMENT is extracted from the MATERIA
MEDICA, published by Dr. CULLEN.

MATERIÆ MEDICÆ TABULA GENERALIS.

*In qua Medicamenta ad Capita quædam secundum indicationes morborum curatorias quibus
respondent, referuntur.*

MATERIA MEDICA constat ex

- { NUTRIMENTIS quæ sunt,
 - Cibi*, Sect. I.
 - Potus*, S. II.
 - et quæ cum his assumuntur *Condimenta*, S. III.
- { MEDICAMENTIS quæ agunt in
 - Solida.
 - { Simplicia.
 - Astringentia*, Cap. I.
 - Tonica*, C. II.
 - Emollientia*, C. III.
 - Erodentia*, C. IV.
 - { Viva.
 - Stimulantia*, C. V.
 - Sedantia*.
 - Narcotica*, C. VI.
 - Refrigerantia*, C. VII.
 - Antispasmodica*, C. VIII.
 - Fluida.
 - { Immutantia.
 - { Fluiditatem.
 - Attenuantia*, C. IX.
 - Inspissantia*, C. X.
 - { Misturam.
 - Acrimoniam corrigentia*.
 - In genere
 - Demulcentia*, C. XI.
 - In specie
 - Antacida*, C. XII.
 - Antalkalina*, C. XIII.
 - Antiseptica*, C. XIV.
 - { Evacuantia.
 - Errhina*, C. XV.
 - Sialogoga*, C. XVI.
 - Expectorantia*, C. XVII.
 - Emetica*, C. XVIII.
 - Cathartica*, C. XIX.
 - Diuretica*, C. XX.
 - Diaphoretica*, C. XXI.
 - Menagoga*, C. XXII.

CATALOGUE of the VEGETABLE MATERIA MEDICA,

According to the preceding TABLE.

I. NUTRIMENTA.

A. FRUCTUS.

a. *Acido-dulces recentes.*

Prunum
 Aurantium
 Limonium
 Rubus idæus
 Ribes rubrum
 ——— nigrum
 Morum
 Uvæ vitis

b. *Acido-dulces siccatae.*

Uvæ passæ majores
 ——— minores
 Caricæ

B. HERBÆ OLERACEÆ.

Nasturtium aquaticum
 Taraxacum
 Petroselinum
 Cinaræ

C. RADICES.

Daucus
 Allium
 Satyrion

D. SEMINA *Nuces.*

Amygdalæ
 ——— dulces
 ——— amaræ
 Juglans
 Olivæ

II. MEDICAMENTA.

I. ADSTRINGENTIA.

Rosa rubra
 Pentaphyllum
 Tormentilla
 Rubia
 Acetosa
 Hydrolapathum
 Bistorta
 Filix
 Trichomanes
 Granatum
 Quercus
 Gallæ
 Lignum campechense
 Cydonia
 Morum
 Pruna sylvest.
 Acacia
 Catechu
 Sanguis draconis
 Adstringentia varia
 Anchusa
 Balustina
 Hypericum
 Millefolium
 Plantago
 Convallaria
 Uva urfi

II. TONICA.

Gentiana
 Centaureum minus
 Quassia
 Simaroubra

Trifolium palustre
 Fumaria
 Chamæmelum
 Tanacetum
 Absynthium
 Abrotanum
 Absynthium maritimum
 Scordium
 Serpentaria virginiana
 Arnica
 Cortex peruvianus

III. EMOLLIENTIA.

a. *Columniferae.*

Althæa
 Malva

b. *Farinosa.*

Cydonium semina
 Fœnum græcum
 Linum

Emollientia varia.

Parietaria
 Verbascum
 Lilium album

IV. ERODANTIA SIVE
CORROSIVA.

V. STIMULANTIA.

A. *Verticillatae.*

Lavendula
 Melissa
 Majorana

Origanum
Marum
Rosmarinus
Hyssopus
Hedera terrestris
Mentha
Mentha piperitis
Pulegium
Thymus
Serpillum
Salvia

B. Umbellatæ.

Anethum
Angelica
Anisum
Caruon
Coriandrum
Cuminum
Fœniculum
Pimpinella

C. Siliquosæ.

Cochlearia
Nasturtium aquat.
Raphanus rusticanus
Sinapi

D. Alliaceæ.

Allium

E. Coniferæ.

Abies
Pinus
Juniperus

F. Balsamica.

Terebinthina veneta
———— communis
Balsamum canadense
———— copaiva
———— toluatanum
———— gileadense

G. Resinosa.

Guaiacum
Ladanum

Styrax calamita
Benzœe

H. Aromatica.

Cinnamomum
Nux Moschata
Macis
Caryophyllus arom.
Pimento
Canella alba
Cascarilla
Piper nigrum
—— longum
—— indicum
Zingiber
Cardamomum minus
Zedoaria
Serpentaria virginiana
Ginseng
Calamus aromaticus

I. Acria.

Arum
Pyrethrum
Staphisagria

SEDANTIA.

VI. NARCOTICA.

a Rhœades.

Papaver album
———— erraticum

b. Umbellatæ.

Cicuta
Cicuta aquatica

c. Solonaceæ.

Belladonna
Hyosciamus
Nicotiana
Solanum
Stramonium

d. Variæ.

Laurus
Camphora
Crocus
Vinum

VII. REFRIGERANTIA.

Plantarum Fructus
Herbæ et Radices acidi

VIII. ANTISPASMODICA.

Herbæ fœtida.

Artemisia
Atriplex fœtida
Cuminum
Pulegium
Ruta
Sabina

Gummi fœtida.

Afafœtida
Galbanum
Opoponax

Valeriana sylvestris

IX. DILUENTIA.

X. ATTENUANTIA.

Alkalina
Saccharum
Glycyrrhiza
Fructus siccata

XI. INSPISSANTIA.

Acida
Demulcentia farinosa
et mucilaginosæ.

XII. DEMULCENTIA.

Mucilaginosæ
Gummi arabicum
———— tragacantha
Farinosa
Oleosa blanda

XIII. ANTACIDA.

XIV. ANTALKALINA.

XV. ANTISEPTICA.

Plantarum partes acidæ
Olera acescentia

Saccharum
 Plantæ siliquosæ
 ——— alliaceæ
 Astringentia
 Amara
 Aromatica
 Olea essentialia
 Camphora
 Gummi-resinæ
 Crocus
 Contrayerva
 Valeriana sylv.
 Opium
 Papaver album
 Vinum

XVI. ERRHINA.

Afarum
 Helleborus albus
 Iris palustris
 Pyrethrum

XVII. STALOGOGA.

Angelica
 Caryophylli arom.
 Imperatoria
 Nicotiana
 Piper
 Pyrethrum

XVIII. EXPECTORANTIA.

Hedera terrestris
 Marrubium
 Pulegium
 Enula campana
 Iris florentina
 Nicotiana
 Scilla
 Tussilago
 Benzöe
 Styrax
 Balsamum canad.
 ——— toltanum

XIX. EMETICA.

Afarum

Ipecacuanha
 Nicotiana
 Scilla
 Sinapi
 Raphanus ruft.
 Amara

XX. CATHARTICA.

1 *Mitiora*
Ascensientia
 Fructus acido-dulces
 Cassia fistularis
 Tamarindus

Dulcia.

Saccharum
 Manna
 Radices dulces
 Olera blanda

Rosa damascena
 Viola
 Polypodium
 Olea blanda
 Sinapi
 Amara
 Balsamica

2 *Acriora*
 Rhabarbarum
 Seneka
 Genista
 Sambucus
 Ricinus
 Senna
 Helleborus niger
 Jalapium
 Scammonium
 Spina cervina
 Nicotiana
 Helleborus albus
 Colocynthis
 Elaterium

XXI. DIURETICA.

Petrofelinum
 Daucus

Fœniculum
 Pimpinella
 Eryngium
 Rubia tinctorum

Varia.

Bardana
 Dulcamara
 Arum
 Asarum
 Digitalis
 Enula camp.
 Genista
 Nicotiana
 Ruta
 Sabina
 Seneka
 Scilla
 Amara
 Balsamica
 Siliquosæ
 Alliaceæ

XXII. DAPHORETICA.

Crocus
 Dulcamara
 Opium
 Camphora
 Contrayerva
 Serpentaria
 Salvia
 Scordium
 Guaiacum
 Saffrafras
 Seneka
 Acida vegetab.
 Olea essentialia
 Vinum
 Diluentia

XXIII. MENAGOGA.

Aloe
 Gummi foetida
 Plantæ foetidæ
 Crocus

[This Arrangement, though evidently defective, yet considering the authority on which it stands, we have thought proper to publish it without any material alteration.]

OLEA EUROPÆA.

EUROPEAN OLIVE.

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

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

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

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

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

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

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

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

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

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

THIS tree usually rises about twenty feet in height, and sends off numerous long branches, covered with bark of a greyish colour: the leaves are firm, narrow, lance-shaped, entire, on the upper side of a bright green, on the under whitish, and stand in pairs upon short footstalks: the flowers are small, white, numerous, and proceed in clusters near the footstalks of the leaves: the calyx is tubular, and divided at the brim into four small erect deciduous segments: the corolla is a funnel-shaped petal, consisting of a short tube, about the length of the calyx, and divided at the border into four semiovate segments: the filaments are two, tapering, opposite, and crowned with erect antheræ: the germen is round, and supports a simple short style, furnished with a stigma, which is cleft in two, and each divi-

sion notched at the apex: the fruit is of the drupous kind, of an oblong or oval shape, containing a nut of the same form. It is a native of the south of Europe, and flowers from June till August.

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

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

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

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

^b This variety affords the best oil.

The principal consumption of Olives is in the preparation of the common sallad oil, or *oleum olivarum* of the pharmacopœias, which is obtained by grinding and pressing them when thoroughly ripe: the finer and purer oil issues first by gentle pressure, and inferior sorts on heating the residuum, and pressing it more strongly. The best Olive oil is of a bright pale amber colour, bland to the taste, and without any smell: it becomes rancid by age, and the sooner, if kept in a warm situation: by cold, at the 38 degree of Fahr. therm. it congeals, and does not become rancid if kept in a degree of cold equal to the freezing point of water.^c All the mild expressed oils of vegetables are nearly of the same nature; a preference however, in the opinion of Dr. Cullen, should be given to the most fluid, and hence the oil of olives, and that of almonds, are most commonly directed for internal use. Oil, in some shape, forms a considerable part of our food, both animal and vegetable, and affords much nourishment: with some, however, oily substances do not unite with the contents of the stomach, and are frequently brought up by eructation; this happens more especially to those whose stomachs abound with acid to an uncommon degree.^d Oil considered as a medicine is supposed to correct acrimony, and to lubricate and relax the fibres; and therefore has been recommended internally to obviate the effects of various stimuli, which produce irritation, and consequent inflammation; on this ground it has generally been prescribed in coughs, catarrhal affections, and erosions. This oil has likewise been successfully used in worm cases, and in nephritic pains, spasms, colics, constipations of the bowels, &c. Externally it has been found an useful application to bites and stings of various poisonous animals,^e

^c *Muschenbroeck, Phil. Nat. tom. ii. p. 616.* ^d *Cullen, M. M. vol. i. p. 302.*

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

burns,

burns, tumours, and other affections, both by itself or as mixed in liniments or poultices. Oil rubbed over the body has been found by many of great service in dropsies, particularly in ascites, in which three instances of its success are related in the Philosophical Transactions by Dr. Oliver.^f Boenniken^{*} has mentioned the successful use of oil in rabies canina; and a farther account of its efficacy in that disease was lately read before the Medical Society of London: but though Boenniken attributes the cure of his patient to the oil, yet we find other means were employed, and the bitten part was scarified and blistered. Respecting the trial of this remedy here in hydrophobia, we can only observe, that it has been since used in a similar case without success, therefore at best little confidence is to be placed on a solitary instance. In regard to the general effects of oil, taken internally, we may remark, that though its effects as a medicine extend over the primæ viæ, yet it may be very rationally doubted if it produces any medicinal effect after passing into the sanguiferous system.

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

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

^{*} *Fränk. Samml. T. B.* 590. sqq.

COPAIFERA OFFICINALIS. BALSAM of COPAIVA TREE.

Balsamum Copaiva. *Pharm. Lond.* Balsamum Copai bæ. *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.

Eff. Gen. Ch. Cal. 0. *Petala* 4. *Legum.* ovatum. *Scm.* 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 turpentine. It was formerly thought to be an efficacious remedy in various disorders, as pulmonary consumptions, coughs, scorbutic diseases, dropries, dysenteries, nephritic complaints, internal ulcers, fluor albus, gleet, &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

* "We sometimes find in shops, under the name of Copaiba, a thick, whitish, almost opaque 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. einiger 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 *Indianam literatam. p. 624.*

with

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 gleet and fluor albus.

If this medicine can be advantageously administered in pulmonary affections, it must be in the absence of fever, and where the excretion from the lungs is unattended with inflammatory congestion. 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.

• 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.

RUBUS IDÆUS.

RASPBERRY BUSH.

SYNONYMA. Rubus idæus. *Pharm. Lond.* Rubus idæus spinosus fructu rubro. *J. Baub. Hist.* vol. ii. p. 59. *Raii Hist.* p. 1640. *Synop.* p. 467. Rubus caule spinoso, subrecto, foliis quinais 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.

Sp. Cb. 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 panicles, 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, 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. *Cynofbatus.* *Pharm. Lond.* *Rosa sylvestris vulgaris*, flore odorato incarnato. *Baub. Pin. p.* 483. *Rosa sylvestris inodorata*, feu 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.* *Hudf. 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.

Eff. 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 leaflets, 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 bractæ 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, 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 dropfies, calculous complaints, dysenteries, hæmorrhages, &c. See Herman, *Diff. de Rosâ*. §. 11.

A moss-like prickly excrescence, called *Bedeguar*, *Rose sponge*, and by the French *Galle cheveluë*, 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, *Cynobatologia*, p. 136. *sqq.*

ROSA CENTIFOLIA.

ROSA CENTIFOLIA. HUNDRED-LEAVED ROSE.

SYNONYMA. *Rosa damascena.* *Pharm. Lond.* *Rosa pallida.* *Pharm. Edinb.* *Rosa multiplex media.* *Baub. Pin. p. 482.* *Rosa Hollandica* five *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.

Eff. 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 leaflet, is oval, or rather egg-shaped, broad, serrated, pointed, veined, hairy, and closely attached to the
common

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 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

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

^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. *I. c.* From the experiments of Priestley and Ingenhoufz this effect seems owing to the mephitic air, which these and most other odoriferous flowers exhale. See Exper. on Vegetables by Dr. Ingenhoufz.

experiments

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 pungency, and has been highly recommended for its cordial and analeptic qualities.^c These flowers also contain a bitterish substance, 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.

† *Lewis, M. M. p. 541.*

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 60℔ 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℔ of fresh roses; and thence are to be drawn from 15 to 20℔ 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.

• *F. Hoffman, Obs. phys. chem. p. 21.*

• *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. Baub. 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.*

Eff. 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 hispidulo-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 crimson 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

sion 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, and a syrup. These preparations, especially the first and second, have been highly esteemed in phthical 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 hæmoptysis, 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.

^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.

^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.

PARIETARIA OFFICINALIS.

PARIETARIA OFFICINALIS.

WALL PELLITORY.

SYNONYMA. *Parietaria.* *Pharm. Lond. & Edinb. Gerard. Emac. p. 331. Raii Hist. p. 206. Synop. p. 158. Parietaria officinarum & Dioscoridis. Baub. Pin. p. 121. Parietaria vulgaris. Park. Theat. p. 436. Parietaria foliis elliptico-lanceolatis hirsutis. Hal. Stirp. Helv. n. 1612. Parietaria officinalis. Hudf. Ang. p. 442. Lightf. Scot. p. 634. Withering Bot. Arr. p. 1141. Curt. Flor. Lond. Flor. Dan. 521.*

Class Polygamia. *Ord.* Monoecia. *Lin. Gen. Plant.* 1152.

Eff. Gen. Ch. *HERM.* *Cal.* 4-fidus. *Cor.* o. *Stamina* 4. *Styl.* 1
Sem. 1. superum, elongatum.

FEM. *Cal.* 4-fidus. *Cor.* o. *Stam.* o. *Stylus* 1.
Sem. 1. superum, elongatum.

Sp. Ch. *P. fol. lanceolato-ovatis pedunculis dichotomis calycibus diphyllis.*

THE root is perennial, reddish, fibrous, creeping: the stem is erect, rough, viscous, reddish, and furnished with long spreading branches: the leaves are elliptical, pointed, veined, somewhat hairy, and placed on short footstalks: the flowers are small, of a greenish colour, tinged with red, placed at the axæ of the leaves in sessile-branched verticillate clusters, and are both hermaphrodite and female; two of the former and one of the latter are placed within the same involucre, which is permanent, and divided into seven irregular oval pointed leaflets, beset with glandular hairs: the calyx of the hermaphrodite flower separates into four flat blunt segments, about half the size of the involucre, and supplies the place of a corolla: the filaments are four, transversely wrinkled, and manifest an elastic power: the antheræ are double, and according to Mr. Lightfoot, have
a great

a great degree of sensibility :† the germen is egg-shaped, and supports a reddish style, terminated with a brush-like stigma : the calyx becomes the seed vessel, and contains an egg-shaped seed. The female flower stands between the other two, from which it differs in not being furnished with stamina.

It is reckoned amongst the most common of British plants, growing on old walls, and flowering from May till September.

This plant promises little from its sensible qualities : it has no smell, and its taste is simply herbaceous. Formerly it was accounted emollient, and was one of the five herbs of this denomination ; but as *Parietaria* has no mucilaginous quality, this effect ought to be ascribed to the warm water, for which the plant served merely the purpose of a vehicle. Its character, as a diuretic, is better known. Matthioli tells us, that its expressed juice, sweetened with sugar, had a very powerful effect in this way :^a and Barbeirac^b informs us, that a decoction of this plant, and *uva ursi*, was found of great use in clearing the urinary passages of viscid mucus, and fabulous concretions : these testimonies however will have little weight with the medical practitioner, and it is now very seldom used, though sanctioned with a place in the *Materia Medica* of both the *Pharmacopœias*.

^a *Matt. in Diosc. p. 782.*

^b *Medic. constit. 1751. p. 163.*

† “ For if irritated with a point of a pin, they fly from the calyx with elastic force, and explode their powder.” See, *l. c.*

The leaves, strewed in granaries, are said to destroy the corn weevil. *Light.*

Dr. Withering has been informed that this plant contains a considerable quantity of nitre, and that in making an extract from it, the mass has taken fire. *Bot. Arr. p. 1142.*

This quality of *parietaria* is also noticed by Mr. Lightfoot. *L. c.*

SALSOLA KALI.

PRICKLY SALT-WORT.

SYNONYMA. Kali spinosum cochleatum. *Bauh. Pin.* p. 289. Tragus five Tragum Matthioli. *Park. Theat.* p. 1034. *Gerard Emac.* p. 1117. *Raii Hist.* p. 212. *Synop.* p. 159. *Moris Hist.* 5. f. 33. f. 11. Salsola Kali. *Huds. Aug.* p. 93. *Lightf. Scot.* p. 151. *Withering Bot. Arrang.* p. 257. *Flor. Dan.* p. 818.

Barilla, Natron, *Pharm. Lond.* Sal alkalinus fixus fossilis, *Pharm. Ed.* vulgo fal fodæ ex herba kali usta.

Class Pentandria. *Ord.* Digynia. *Lin. Gen. Plant.* 311.

Eff. Gen. Ch. *Cal.* 5-phyllus. *Cor.* o. *Caps.* 1-sperma. *Sem.* cochleatum.

Sp. Ch. S. herbacea decumbens, foliis subulatis spinosis scabris, calycibus marginatis axillaribus.

THE root is annual: the stem is angular, branched, smooth, decumbent, and rises about a foot in height: the leaves are long, narrow, awl-shaped, prickly, stand in ternaries upon the branches, and like the stem are frequently of a reddish hue: the flowers are sessile, axillary, whitish, yellowish, or of a rose colour: the calyx is membranous, and consists of five obtuse indented segments, each of which is furnished with a small tooth-like process at its base: it has no corolla, unless the calyx be considered as such: the five filaments are short, slender, inserted into the divisions of the calyx, and crowned with simple antheræ: the germen is globular, and supports two styles with recurved stigmata: the capsule is oval, one-celled, involved in the calyx, and contains a large spiral seed formed like a snail-shell. It is a native of Britain, and common on the sea shore, flowering in July and August.

The annexed figure of the Kali is taken from a specimen which grew last year in the Royal Garden at Kew, and therefore has more luxuriance and beauty than it ever assumes in its wild state, where its
humble

humble appearance might justify the epithet Seaweed, so contemptuously spoken of by the Latin Poet, “projecta vilior alga.” Not only this, but various other plants, on being burned, are found to afford the fossil alkali, and some in a greater proportion than the Kali,^a consequently have an equal if not a superior claim to a place in this work.

These are *SALSOLA SATIVA*, *Lin.* *Salsola Soda*, *Loffing*.^b *Kali hispanicum supinum annuum Sedi foliis brevibus*, s. *Kali d’Alicante*, *Jussieu*.^c It grows abundantly on that part of the Spanish coast which is washed by the Mediterranean Sea. This species is deservedly first enumerated by Professor Murray, as it supplies all the best Soda consumed in Europe, which by us is called Spanish or Alicant Soda, and by the Spanish merchants *Barrilla de Alicante*.

SALSOLA SODA, *Lin.* *Kali majus, cochleato femine*. *Baub. Pin. Le Salicor, Marcorelle*.^d *Jacquin Hort. Vind. tab. 68.* This species, which grows on the French Mediterranean coast, is much used in Languedoc for the preparation of this salt, which is usually exported to Sicily and Italy.

SALSOLA TRAGUS, *Lin.* affords an ordinary kind of Soda, with which the French frequently mix that made in Languedoc: this adulteration is also practised by the Sicilians, who distinguish the plant by the term *selvaggia*.^e

SALICORNIA HERBACEA, *Lin. Flor. Dan. tab. 303.* *Conf. Baster, Opusc. subsec. tom 2. p. 107.* *Pallas, Reise durch Russ. Reich. tom. i. p. 479.* Is common in salt marshes, and on the sea shore, all over Europe. Linnæus prefers the Soda obtained from this plant to that of all the others;^f but though the quantity of fossil alkali which it yields is very considerable, as a great portion of it is united with muriatic acid, it is mixed with much common salt.

SALICORNIA ARABICA, *Lin.* *MESEMBRYANTHEMUM NODIFLORUM*, *Lin.* *PLANTAGO SQUARROSA*, *Lin.* All these, according to Alpinus, afford this alkali. It has also been procured from

^a Why the name Kali is adopted in the London Pharmacopœia for the fixed vegetable alkali, we are unable to devise.

^b *Spanfska Resa*, p. 132. ^c *Mem. de l’Acad. de Sc. de Paris*, 1717. p. 73. *sqq. tab. 2.*

^d *Mem. pres. à l’Acad. Sc. tom. 5. p. 531.*

^e *Gronov. Fl. orient. Rauwolfii*, p. 29. ^f *Nostratibus nulla aptior in hunc usum planta, quam dicta*, *Mat. Med. p. 36.*

several of the Fuci, especially *F. vesiculosus*, and distinguished here by the name Kelp.† Various other marine plants might also be noticed as yielding Barilla or Soda by combustion;‡ but the principal are confined to the genus *Salsola* and that of *Salicornia*. The *Salsola Kali*, on the authority of Rauwolf, is the species from which the salt is usually obtained in eastern countries.§

It is to be regretted, that the different kinds of Soda which are brought to European markets, have not been sufficiently analysed to enable us to ascertain with tolerable certainty the respective value of each; and indeed while the practice of adulterating this salt continues, any attempts of this kind are likely to prove fruitless: the best information on this subject is to be had from Jussieu,^h Marcorelle,ⁱ Cadet,^k Borlase,^l and Sestini.^m In those places where the preparation of Soda forms a considerable branch of commerce, as on the coast of the Mediterranean, seeds of the *Salsola* are regularly sown in a proper situation near the sea,ⁿ which usually shoot above ground in the course of a fortnight. About the time the seeds become ripe, the plants are pulled up by the roots, and exposed in a suitable place to dry, where their seeds are collected: this being done, the plants are tied up in bundles, and burned in an oven constructed for the purpose, where the ashes are then while hot continually stirred with long poles. The saline matter, on becoming cold, forms a hard solid mass, which is afterwards broken in pieces of a convenient size for exportation.

According to chemical analysis Soda generally contains a portion of vegetable alkali and neutral salts, as common salt, and sometimes vitriolated tartar, or Glauber salt, likewise liver of sulphur, and not

† The preparation of this is fully described by Borlase. See *Observations on the State of the Islands of Scilly*, p. 118.

‡ To these we may add *Batis maritima*, (Vide *Jacquin Hist. Stirp. Amer.* p. 127.) which on the coast of Carthage is found to have a very salt taste, where it is prepared into soda, which is used for the purpose of making glass. The Carthaginians call this plant *barilla*.

^s *Alp. Pl. Ægypt.* ^h *L. c.* ⁱ *L. c.* ^k Vide, *Mem. de l'Acad. &c.* 1767. p. 487. ^l *L. c.* ^m *Lettere della Sicilia*, tom. 3. p. 58. 76.

ⁿ According to the experiments of Du Hamel, the further from the sea the seeds are sown, the less fossil alkali, and the more vegetable alkali the plants contain. Vide *Med. de l'Acad.* 1767. p. 233.

unfrequently some portion of iron is contained in the mass; it is therefore to be considered as more or less a compound, and its goodness is to be estimated accordingly. The Spanish Soda, of the best sort, is in dark coloured masses, of a bluish tinge, very ponderous, sonorous, dry to the touch, and externally abounding with small cavities, without any offensive smell, and very salt to the taste; if long exposed to the air, it undergoes a degree of spontaneous calcination. The best French Soda is also dry, sonorous, brittle, and of a deep blue colour, approaching to black. The Soda, which is mixed with small stones, which gives out a fetid smell on solution, and is white, soft, and deliquescent, is of the worst kind.*

The method of purifying this salt is directed in the London Pharm. under the article of *Natron præparatum*, and in the Edinburgh Pharm. under that of *Sal alkalinus fixus fossilis purificatus*: the pure crystals, thus formed of Alicant barilla, are colourless, transparent, lamellated, of a rhomboidal figure, and one hundred parts are found to contain twenty of alkali, sixteen of aerial acid, and sixty-four of water;† but upon keeping the crystals for a length of time, if the air be not excluded, the water evaporates, and they assume the form of a white powder. According to Imlin,‡ one ounce of water, at the temperature 62 of Fahr. dissolves five drams and fifteen grains of the crystals.‡ The same author also found that this salt preserved flesh from putridity longer than common salt, though not so long as the vegetable alkali. Natron has been thought useful in scrophulous disorders, but it is seldom given in its simple state.

In combination with vitriolic acid this alkali forms Glauber salt, or *Natron vitriolatum*; with nitrous acid, cubic nitre; with marine acid, common salt; with the sedative salt of Homberg, borax; with cream of tartar, Rochelle salt, or *sel saignette*.

To enter fully on the peculiar properties, or chemical qualities, of this alkali, would lead us too far, and is properly the province of chemistry. It is in common use in the manufacture of glass and soap,

* For this, and almost the whole on this subject, we are obliged to the late Professor Murray. See his *App. Med. vol. 4.*

• *Bergman in Scheffers.*

‡ *Diff. de Soda. §. 2.*

† Kirwan says, 2, 5 times its weight of water at this temperature are required. *Min. p. 176.*

and as the latter is an article of the *Materia Medica*, we shall proceed to consider its medicinal effects.

All the soaps, of which there are several kinds, are composed of expressed vegetable oils, or animal fats, united with alkaline lixivium.^a The *Sapo ex oleo olivæ et natro confectus* of the London Pharm. or the *Sapo albus hispanus* of the Edinb. Pharm. (white Spanish soap) being made of the finer kinds of olive oil, is the best, and therefore preferred for internal use.

Soap was imperfectly known to the ancients. It is mentioned by Pliny as made of fat and ashes, and as an invention of the Gauls.^b Aretæus, and others, inform us, that the Greeks obtained their knowledge of its medical use from the Romans. Its virtues, according to Bergius, are detergent, resolvent, and aperient, and its use recommended in jaundice, gout, calculous complaints, and in obstructions of the viscera. The efficacy of soap, in the first of these diseases, was experienced by Sylvius,^c and since recommended very generally by various authors who have written on this complaint; and it has also been thought of use in supplying the place of bile in the *primæ viæ*.^d The utility of this medicine, in icterical cases, was inferred chiefly from its supposed power of dissolving biliary concretions, but this medicine has lost much of its reputation in jaundice, since it is now known that gall stones have been found in many, after death, who had been daily taking soap for several months and even years.^e Of its good effects in urinary calculous affections, we have the testimonies of several, especially when dissolved in lime water, by which its efficacy is considerably increased; for it thus becomes a powerful solvent of mucus, which an ingenious modern author supposes to be the chief agent in the formation of calculi: it is however only in the incipient state of the disease that these remedies promise effectual benefit; though they generally abate the more violent symptoms where they cannot remove the cause. With Boerhaave, soap was a general medicine: for as he attributed most complaints to viscosity of the fluids, he, and most of the Boerhaavian school, prescribed it in conjunction with different

^a The acid soap of Cornette. *Mém. de la Soc. de Med. de Paris*, t. 3. p. 189. is so little known as scarcely to be considered an exception.

^b *Lib.* 28. c. 12. ^c *Oper. Med. lib.* 1. cap. 46. ^d Heberden, *Med. Transf.* vol. 2. p. 166. ^e Dr. Heberden, *l. c.* *Phil. Transf.* vol. 47. p. 472. *Whytt's Works*, p. 433. 599. Bergius, *Vet. Acad. Handl.* 1777. p. 309.

resinous and other substances, in gout, rheumatism, and various visceral complaints. Soap is also externally employed as a resolvent, and gives name to several officinal preparations.

CAPSICUM ANNUUM. ANNUAL CAPSICUM, Or,
GUINEA PEPPER.

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

* Capsicum filiquis longis propendentibus. *Tourn. Inst. 152.*

LONG-PODDED CAPSICUM.

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

CHERRY CAPSICUM.

γ Capsicum caule herbaceo, fructu ovato. *Mill. Dict.*

OLIVE CAPSICUM. Aiton. Hort. Kew. vol. i. p. 253.

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

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

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

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

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

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

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

^a *Lewis, M. M. p. 508.*

^b *Vide Browne's Jamaica, p. 176.*

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

so common in hot climates. As an aromatic of the most acrid and stimulant kind it certainly may be found efficacious in some paralytic and gouty cases, or to promote excitement, where the bodily organs are languid and torpid.

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

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

^d *Duncan's Ed. Dispens. p. 257.*

^e He prescribes them as follows :

R. sem. pip ind gr vi. bacc. lauri scrup. ii. f. pulvis, dividedus in tres partes æquales; quarum prima portio sumenda incipiente primo rigore; secunda postridie eadem hora; tertia vero tertio die. *M. M. p. 144.*

CHENOPODIUM VULVARIA. STINKING GOOSE-FOOT,
Or, ORACHE.

SYNONYMA. *Atriplex foetida.* *Pharm. Edinb. Baub. Pin. p.*
119. *Atriplex olida.* *Gerard Emac. p. 327. Raii Hist. p. 198.*
Blitum foetidum Vulvaria dictum. Raii Synop. p. 156. Atriplex
olida five sylvestris foetida. Park. Theat. p. 749. Chenopodium
caule diffuso, foliis obtuse lanceolatis. Hal. Stirp. Helv. n. 1577.
Chenopodium olidum. Curt. Flor. Lond. Chenopodium Vulvaria.
Hudsf. Ang. p. 107. Lightf. Scot. p. 149. Withering. Bot. Arr.
p. 255.

Class Pentandria. Ord. Digynia. Lin. Gen. Plant. 309.

Eff. Gen. Ch. Cal. 5-phyllus, 5-gonus. Cor. o. Sem. 1, lenticulare,
superum.

Sp. Ch. C. foliis integerrimis rhomboideo-ovatis, floribus conglo-
meratis axillaribus.

THE root is annual: the stems are procumbent, channelled, branched, and grow from six to twelve inches in length: the leaves are numerous, entire, of an irregular rhomboidal form, or often egg shaped, veined, of a mealy appearance, and stand alternately upon short footstalks: the flowers are very small, of a light green colour, and placed in clusters at the axæ of the leaves: the calyx consists of one pentagonal leaf, cut into five pointed concave divisions: there is no corolla: the five filaments are small, tapering, about the length of the segments of the calyx, and furnished with double round antheræ: the germen is orbicular, and supports two styles, terminated with obtuse stigmata: the seed is lenticular, and is inclosed by the calyx,
which

which supplies the place of a capsule. It is usually found about old walls and rubbish, flowering in August.

This plant, in its recent state, has a nauseous taste, and a strong offensive smell, resembling that of putrid salt fish, and remaining long on the hands after touching the herb.* “ It gives a strong impregnation to water both by infusion and distillation: the smell is extracted likewise by rectified spirit, and by this menstruum in some degree covered.” This plant has been expunged from the *Materia Medica* of the London Pharmacopœia, but it is still retained in that of Edinburgh. Its virtues are ascribed to its remarkable fœtor, from which it is inferred by Dr. Cullen to be a powerful antispasmodic, and especially recommended in hysterical affections.

Dr. Cullen says, “ it has been frequently employed in this country “ with advantage; not however so frequently as might be expected, “ as it is a plant, in its fresh state, not always ready at hand, and in “ its dry state it loses all its sensible qualities. It can only be employed “ therefore in its recent state, and the most convenient formula is that “ of a conserve; and as it is not always easy to reconcile our patients “ to it even in that state, it is not employed so often as I could wish.” *Mat. Med. vol. ii. p. 365.*

* *Odoris virosi intolerabilis, ut qui vel tactu levi manus ita inficit, ut longo tempore vix possit elui. Raii Hist. p. 198.*

URTICA DIOICA.

COMMON NETTLE.

SYNONYMA. *Urtica.* *Pharm. Lond. & Edinb.* *Urtica urens maxima.* *Baub. Pin. p. 232.* *Urtica urens.* *Gerard. Emac. p. 706.* *Urtica major vulgaris & media sylvestris.* *Park. Theat. p. 440.* *Urtica racemifera major perennis.* *Raii Synop. p. 139. Hist. p. 160.* *Urtica stirpibus sexu distinctis, foliis ferratis ovato-lanceolatis productis.* *Hal. Stirp. Helv. n. 1614.* *Urtica dioica.* *Huds. Ang. p. 417.* *Lightf. Scot. p. 578.* *Withering Bot. Arr. p. 1071.* *Con. Flor. Dan. p. 746.* *Curt. Flor. Lond.*

Class Monoecia. *Ord.* Tetrandria. *Lin. Gen. Plant.* 1054.

Eff. Gen. Ch. *Masc.* *Cal.* 4-phyllus. *Cor.* o. *Nectarium* centrale, cyathiforme.

FEM. *Cal.* 2-valvis. *Cor.* o. *Sem.* unicum, nitidum.

Sp. Ch. *U.* foliis oppositis cordatis, racemis geminis.

THE root is perennial, creeping, yellowish, furrowed, tough, and supplied with joints, from which proceed many fibres: it sends up several stalks, which are erect, very little branched, obtusely quadrangular, furrowed, purplish, beset with rigid hairs, and usually rise from two to four feet in height: the leaves are heart-shaped, pointed, widely ferrated, wrinkled, veined, covered with sharp stinging hairs, and stand oppositely upon slender footstalks: at the base of the leaf-stalks there are four stipulæ, which are narrow, spreading, and on the under side channelled: the flowers are dioicous, or male and female on different plants, growing in branched pendulous hairy racemi, or clusters of four together: the calyx of the male flower is cut into four small egg-shaped obtuse segments: there is no corolla: the nectarium is turbinate, almost transparent, blunt, perforated at the top, and placed in the centre of the flower: the fila-

ments

ments are four, tapering, of the length of the calyx, and furnished with two-celled antheræ: the calyx of the female flower is composed of two valves, which are egg-shaped, concave, erect, and permanent: there is no corolla: the germen is oval, without a style, but supplied with a woolly stigma: the seed is single, compressed, blunt, shining. It is very common about old walls, sides of roads, and ditch banks, flowering in July.

The *Urtica* ^a is well known; and though generally despised as a noxious weed, has been long used not only for medical but for culinary and oeconomic purposes.^b As a styptic it was formerly much used; and we are told of various hæmorrhagic affections in which it was successfully employed. It is also said to manifest a diuretic character, and to be useful in calculous complaints, scurvy, gout, jaundice, &c. But these accounts have little credit, and the nettle is now considered as a simple oleraceous plant, and when young is found to be a good substitute for greens, or other pot-herbs.

The sharp hairs ^c upon the fresh leaves of nettles readily enter the skin, and thereby produce considerable irritation and inflammation, and therefore have been employed in the way of a rubifacient, a practice which is termed urtication, and found of advantage in re-

^a “*Urtica*, ab urendo dicta, quod prurimum & pustulas igni similes excitet.” *Bauh. Pin.*

^b “The young shoots, in the spring, are boiled and eaten by the common people instead of cabbage-greens. *Lightf. l. c.* The stalks may be dressed like flax or hemp for making ropes, nets, cloth, paper, &c. a practice not uncommon in some parts of Russia and Siberia. Vide Falk, *Beiträge zur topogr. Kenntniss des Russ. Reichs*, vol. 2. p. 254. *Vet. Acad. Handl.* 1747. p. 59. *Petersb. Journ.* 1778. p. 370. and others. The Nettle is said to be poisonous to frogs; for if the plant be thrown into a vessel where these animals are confined, they soon begin to swell, and in a few days perish. Vide *Hagström Svar om Biskötjel*, p. 150.

^c The stings are very curious microscopic objects: they consist of an exceedingly fine pointed tapering hollow substance, with a perforation at the point, and a bag at the base. When the sting is pressed upon, it readily punctures the skin, and the same pressure forces up from the bag an acrimonious fluid, which instantly enters into the wound, and excites a burning inflammation. See Hooke, *Discoveries by the microscope*, p. 22. tab. 12. Guettard, *Mem. de L'Acad. de Sc. de Paris*, 1751. p. 350.

storing excitement in paralytic limbs,^d or in other cases of torpor or lethargy.^e

^d *Celsus ed. Kraus. p. 179.* ^e *Scopoli Fl. Carn. ed. 1. p. 428.* *Aretæus curat. acut. lib. i. cap. 2. ed. Boerb. p. 80.* *H. Piso in Spicileg. curat. p. 6. 9.* *Languentis veneris incitamentum recentis Urticæ olim fuere, quorū respicit Petronius, (Satiricon ed. De Salas. p. 84)* (alii que) *Vid. Murray App. Med. vol. 4. p. 592.*

MELISSA OFFICINALIS. COMMON BALM.

SYNONYMA. *Melissa. Pharm. Lond. & Edinb. Gerard. Emac. p. 689. Raii Hist. p. 570. Melissa hortensis. Baub. Pin. p. 229. Tourn. Inst. 193. Melissa vulgaris. Park. Theat. p. 40. Melissa vulgaris odore Citri. J. Baub. Hist. iii. p. 232. Melissa petiolis unifloris, folio brevioribus, foliis cordatis ferratis. Hal. Stirp. Helv. n. 242.*

6 *Melissa romana, floribus verticillatis sessilibus, foliis hirsutis.*

ROMAN BALM.

Mill. Dict.

Class Didynamia. Ord. Gymnospermia. Lin. Gen. Plant. 728.

Eff. Gen. Ch. Cal. aridus, supra planiusculus: lab. superiore subfastigiato. Corollæ lab. super. subfornicatum, 2-fidum; lab. inf. lobo medio cordato.

Sp. Ch. M. racemis axillaribus verticillatis: pedicellis simplicibus.

THE root is perennial, fibrous: the stems are erect, quadrangular, smooth, branched towards the bottom, and usually rise two or three feet in height: the leaves are heart or egg-shaped, spreading, rough, ribbed, veined, deeply ferrated, of a bright green colour, and placed in pairs upon footstalks, which of the lower leaves are very long: the flowers are white or yellowish, placed in whorls or clusters at the
alæ

alæ of the leaves, and appear in June and July: the bractæ are oblong, notched, hairy, and placed at the peduncles: the calyx consists of one tubular pentangular leaf, divided at the brim into two lips, of these the upper is larger, and divided at the extremity into three segments; the under is shorter at the margin, and cut into two teeth: the corolla is monopetalous, bilabiated, tubular: the upper lip is the shorter, with a notch at the apex; the lower is cleft into three parts, of which the middlemost is the largest: the filaments are four, two long and two short, and furnished with oblong antheræ: the germen divides into four parts, from the centre of which issues a long slender style, crowned with a cleft stigma: the seeds are four, egg-shaped, and lodged at the bottom of the calyx.

Schultz, who has professedly written on this plant,* was unable to say by what name it was known to the ancients. The *Μελισσοφυλλον* seu *Μελιττανιν*, of Dioscorides, which has been by some supposed to be our Melissa, is by Nicander referred to the Marrubium.||

The Balm is a native of the southern parts of Europe, especially in mountainous situations, but it is very common in our gardens, and was cultivated in that of Gerard previous to the year 1596. The herb, in its recent state, has a weak roughish aromatic taste, and a pleasant smell, somewhat of the lemon kind, and hence this species has been named *Melissa odore citri*.

“ On distilling the fresh herb with water, it impregnates the first runnings pretty strongly with its grateful flavour: when large quantities are subjected to the operation at once, there separates and rises to the surface of the aqueous fluid a small portion of essential oil, in colour yellowish, and of a very fragrant smell.”^a

Balm was formerly esteemed of great use in all complaints thought to proceed from a disordered state of the nervous system: thus it was very generally recommended in melancholic and hypochondriacal affections, and in the opinion of Paracelsus, the *primum ens Melissæ* promised a complete renovation of man: even Hoffman and Boerhaave, who were probably biased by the Arabian physicians, deemed

* J. Hen. Schultz, *De Melissa*, anno 1739.

|| *Theriac. v.* 554. 555.

^a *Lewis, M. M. p.* 417.

it an efficacious remedy.^b Simon Paulli^c and others speak of its effects as an emmenagogue; but neither this, nor indeed any other medicinal power, is now attributed to Balm. Prepared as tea, however, it makes a grateful diluent drink in fevers, and in this way it is commonly used either by itself or acidulated with the juice of lemons.

The essential oil, which Hoffman supposes to be a powerful corroborant of the nervous system, probably possesses no qualities peculiarly different from many other aromatics and cordials.

^b *Quad. bot.* p. 436.

^c Fr. Hoffman, *Diff. de remed. domest.* §. 20. Boerh. *Chem. T. ii.* p. 67.

ANEMONE PRATENSIS.

MEADOW ANEMONE;
Or, PASQUE FLOWER.

SYNONYMA. Pulsatilla nigricans. *Pharm. Edinb.* Pulsatilla flore minore nigricante. *Baub. Pin.* p. 177. Pulsatilla flore minore. *Gerard. Emac.* p. 386. 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.

Eff. 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 lacinated involucre, and rises about six or eight inches

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 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 Stœrck, 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

^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.

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 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 Guldbrand,^e Hotz,^f Mohrenheim:^g several others however bear testimony of its inefficacy in these diseases, as Schmücker,^h Bergius,ⁱ Richter,^k who increased the dose of this vegetable even beyond that directed by Stoeck. 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

^d *Lib. de Pulsatilla nigric.*

^e Tode and Nielsen *Diff. de præstantiss. ratione illustrandi Mat. Med.* p. 11.

^f Jo. Iac. Zimmermann. *Diff. obs. circa Mercur. Ext. Cicut. et Pulsatill.* §. 14.
 Argent. 1779.

^g *Chirurg. Beob. T. I. & II.*

^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.*

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.

RHODODENDRON CHRYSAN-
ANTHUM.

YELLOW FLOWERED
RHODODENDRON.

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

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

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

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

THIS beautiful shrub sends off spreading branches, which are covered with brown bark, and rise about a foot in height: the leaves are oblong, obtuse, thick, veined, reflexed at the margin, on the upper side of a deep green, beneath ferruginous, or glaucous, and surrounding the branches upon strong footstalks, which arise from between the imbricated stipular squamæ: the flowers are large, yellow, and terminate the branches upon long peduncles, forming umbels: the calyx is persistent, divided into five teeth: the corolla is monopetalous, wheel-shaped, inclining, irregularly divided at the limb into five roundish spreading segments: the ten filaments are slender, spreading, nearly of the length of the corolla, and furnished with oval antheræ: the germen is pentagonal, indented, and supports a style, which is longer than the filaments, and terminated by an obtuse stigma: the capsule is egg-shaped, somewhat angular, and divided into five cells, which contain numerous small seeds.

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

This plant, not being found in Murray's App. Medicaminum, was by mistake omitted in our arrangement of the plants according to their natural orders, where it ought to stand in that of *Bicornes*, Order xvii.

This plant, and its medicinal effects, were first described in the year 1747, by Gmelin and Steller,^a who mention it as frequently and successfully used in Siberia and other northern situations of which it is a native, for the cure of rheumatism, and other painful affections of the joints. Little attention however was paid to this remedy till the year 1779, when it was strongly recommended by Koelpin as an efficacious medicine not only in rheumatism, and gout but even in venereal cases;^b and it is now very generally employed in chronic

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

^b *Praktische Bemerkungen über den Gebrauch der Sibirischen Schneerose in Gichtkrankheiten von D. A. B. Koepin. Berlin u. Stettin. 1779.*

rheumatisms in various parts of Europe.^e The leaves, which are the part directed for medicinal use, have a bitterish subastringent taste, and, as well as the bark and young branches, manifest a degree of acrimony. Taken in large doses they prove a narcotic poison, producing those symptoms which we have described as occasioned by many of the order Solanaceæ.^d

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

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

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

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

^e *Clin. Exper.* p. 140.

^f See *Duncan's Edinb. Dispens.* p. 264.

COCHLEARIA ARMORACIA.

HORSE-RADISH.

SYNONYMA. *Raphanus rusticanus.* *Pharm. Lond. & Edinb. Baub. 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 incis. Hal. Stirp. Helv. n. 504. Cochlearia Armoracia. Hudf. Ang. p. 284. Withering Bot. Arr. p. 681. Relban Flor. Cant. p. 249.*

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

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

Sp. Ch. *C. foliis radicalibus lanceolatis crenatis; caulinis incis.*

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

about rubbish and the sides of ditches ; but it is commonly cultivated in gardens, and flowers in May.

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 by 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 rubefacient
 “ that may be employed with advantage in palsy and rheumatism ;
 “ and if its application be long continued it produces 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

^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 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.*

“ therefore

“ therefore is properly employed as a condiment with our animal
 “ food. If it be infused in water, and 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. Bergius^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 inflaming.
 “ The matter of Horse-radish, like the same matter of the other
 “ filiquose 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

^c See *Berg. Mat. Med.* p. 559. where he adds, “ Agit secure, ventriculū 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.

COMMON BLACK MUSTARD.

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

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

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

Sp. Ch. S. filiquis 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 dropical complaints.^b It belongs to the same natural order as the last mentioned plant, to which it is nearly allied in its medicinal character, and, like all the other *Siliquosæ*, has been recommended as an antiscorbutic;^c though we are told by Haller, that the use of Mustard disposes the humours

^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 putredinem, 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.

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 acedent 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.

^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 homines 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, “ *Senen optimum Sinapis, solum contritum affuso acerrimo aceto effervesce memini,*” *Chem. vol. ii. p. 142.* as it has since been denied by the most respectable authorities.

PISTACIA LENTISCUS.

MASTICH TREE.

Ex qua fluit *MASTICHE*, *Pharm. Lond. & Edinb.*

SYNONYMA. Lentiscus vulgaris. *Baub. Pin. p. 399. Tournf. Inst. p. 580. Lentiscus. Clus. Hist. i. p. 14. Dod. Pempt. p. 871. Du Hamel Arbres. t. i. tab. 136. Conf. Tournef. Voyage du Levant. p. 144.*

♂ *Pistacia maffiliensis*, foliis abrupte pinnatis: foliolis lineari-lanceolatis. *Mill. Dict.*

NARROW-LEAVED MASTICH-TREE.

Aiton. Hort. Kew.

Class Dioecia. *Ord.* Pentandria. *Lin. Gen. Plant. 1108.*

Eff. Gen. Cb. *MASC.* Amenti. *Cal.* 5-fidus. *Cor.* 0.

FEM. distincta. *Cal.* 3-fidus. *Cor.* 0. *Styli* 2. *Drupa* monosperma.

Sp. Cb. *P.* foliis abrupte pinnatis: foliolis lanceolatis.

THIS tree, which seldom exceeds a foot in diameter, rises ten or twelve feet in height; it is covered with a smooth brown bark, and towards the top sends off numerous branches: the leaves are regularly pinnated, and consist of several pairs of narrow ovate opposite pinnae, closely attached to the common footstalk, which is winged or supplied with a narrow foliaceous expansion: the male flowers are placed in an amentum or open catkin: the calyx (proper) is divided into five minute ovate segments: the filaments are five, sometimes four, very short: the antheræ are large, brown, erect, and of a quadrangular form: the female flowers, like those of the male, have no corolla, and are placed upon the common peduncle in alternate order: the calyx consists of three small squamous segments: the germen is egg-shaped, larger

larger than the calyx, and supports two or three styles, terminated by reflexed clubbed stigmata: the fruit is of the drupous kind, containing an egg-shaped smooth nut. The flowers appear in May, and the fruit ripens in August.

This tree, which is a native of the South of Europe and the Levant, appears by Evelyn's *Kalendarium Hortense* to have been cultivated in Britain in 1664;^a but in this country it is of slow vegetation, and seldom healthy enough to give us a competent idea of the plant in its natural situation, so that we have been enabled to publish a more correct figure of the *Lentiscus*, from a dried specimen of it in the Linnean Herbarium, than could have been done from the living plant as found in any of the gardens in the vicinity of London.^b

In the island of Chio, the officinal Mastich is obtained most abundantly, and, according to Tournefort,^c by making transverse incisions in the bark of the tree; from whence the Mastich exudes in drops, which are suffered to run down to the ground, when, after sufficient time is allowed for their concretion, they are collected for use. The time chosen for making these incisions is the first of August, when the weather is very dry; on the following day the Mastich begins to appear in drops, which continue to exude till the latter end of September.^d

Mastich is a resinous substance, brought to us in small yellowish transparent brittle grains or tears: "it has a light agreeable smell, especially when rubbed or heated: on being chewed, it first crumbles, soon after sticks together, and becomes soft and white, like wax, without impressing any considerable taste. It totally dissolves, except the earthly impurities, which are commonly in no great quantity, in rectified spirit of wine, and then discovers a degree of warmth and

^a See *Aiton's Hort. Kew.*

^b The only tree of this species which we have observed to flower in England, is a male plant in the Apothecaries garden at Chelsea, where many rare and valuable plants have been long successfully cultivated.

^c *Voyage du Levant. t. i. p. 44.* See also Du Hamel, *l. c.* De la Motraye, *Voyage &c. t. i. p. 190.* Thevenot's *Levant*, p. 180. Hasselquist *Resa. p. 532.*

^d Vers la fin de Septembre les mêmes incisions fournissent encore du mastic, mais en moindre quantité. *Tourn. l. c.*

bitterness, and a stronger smell than that of the resin in substance. Boiled in water, it impregnates the liquor with its smell, but gives out little or nothing of its substance; distilled with water, it yields a small proportion of a limpid essential oil, in smell very fragrant, and in taste moderately pungent. Rectified spirit brings over also in distillation, the more volatile odorous matter of the Mastich.”^e

It is a common practice with the Turkish women to chew this resin, especially in the morning, not only to render their breath more agreeable, but to whiten the teeth, and strengthen the gums;^f they also mix it with their fragrant waters, and burn it with other odoriferous substances in the way of fumigation.

As a medicine, Mastich is considered to be a mild corroborant and astringent; and as possessing a balsamic power, it has been recommended in hæmoptysis, proceeding from ulceration, fluor albus, debility of the stomach, and in diarrhœas and internal ulcers.^g Chewing this drug has likewise been said to have been of use in pains of the teeth and gums, and in some catarrhal complaints; it is now however seldom used either externally or internally.

The *LENTISCI lignum*, or wood of this tree, is received into the Materia Medica of some of the foreign Pharmacopœias, and is highly extolled in dyspeptic, gouty, hæmorrhagic, and dysenteric affections.^h

^e *Lewis, M. M. p. 413.*

^f *Lib. cit.*

^g Degner (*de dysenteria. p. 201.*) gave it successfully in these complaints, in doses of ten grains to a scruple, both in substance and in the way of emulsion.

^h See *Ephem. Nat. Cur. Dec. 3. A. 9. 10. Obs. 135.* where it is dignified with the title of vegetable aurum potabile.

PISTACIA TEREBINTHUS.

PISTACIA TEREBINTHUS.

CHIAN or CYPRUS
TURPENTINE TREE.

Ex qua fluit Terebinthina chia, *Pharm. Lond.*

SYNONYMA. Terebinthus vulgaris. *Baub. Pin. p. 400.*
Tournef. Inst. p. 579. Terebinthus. *Clus. Hist. p. 15.* *Dod.*
Pempt. p. 871. *Gerard. Emac. p. 1433.* *Raii Hist. p. 1577.*
 Terebinthus angustiore folio vulgarior. *Park. Theat. p. 1526.*
Ic. Du Hamel Arbres. t. 2. tab. 87.

Class Dioecia. *Ord.* Pentandria. *Lin. Gen. Plant. 1108.*

Eff. Gen. Ch. MASC. Amenti. *Cal.* 5-fidus. *Cor.* 0.

FEM. Distincta. *Cal.* 3-fidus. *Cor.* 0. *Styli* 2.
Drupa monosperma.

sp. Ch. P. foliis impari-pinnatis: foliolis ovato-lanceolatis.

THIS is a much larger tree than the preceding species: it sends off many long spreading branches,* and is covered with smooth bark: the leaves are pinnated, consisting of ovate lance-shaped, veined, entire, opposite pinnæ, with an odd one at the end: the flowers are male and female on different trees, and in their essential parts correspond with the description given of those of the P. Lentiscus. It is a native of Barbary and the South of Europe, and has been cultivated

* Le Brun tells us that it was "le Terebinthe qui se courba pour donner plus d'ombre à la S. Vierge, lors qu'allant de Bethleem à Jerusalem pour porter son Fils au Temple, elle se voulut reposer sous cet arbre." See *Voyage au Levant. p. 284.*

in Britain more than sixty years.* It is more hardy than the *P. Lentiscus*, and if planted against a wall, it bears our winters very well.

Cyprus, or Chian Turpentine, which this tree furnishes, is procured by wounding the bark of the trunk of the tree, in several places, in the month of July, leaving a space of about three inches between each wound; from these the Turpentine issues, and is received upon stones, which are placed at the bottom of the tree for this purpose, and upon which it becomes so much condensed by the coldness of the night, as to admit of being scraped off with a knife in the morning, which is always to be done before the sun rises: after this, in order to free it of all extraneous admixture, it is again liquified by the sun's heat, and passed through a strainer, when it is fit for use.^a The quantity of this Turpentine produced from each tree, is very inconsiderable, in so much that it has been observed that four large trees, sixty years old, whose trunks measured five feet in circumference, only yielded two pounds nine ounces and six drams; but in the eastern parts of the islands, the names of which this Turpentine bears, the trees afford somewhat more, though still so little as to render it very costly, and on this account it is commonly adulterated, especially with other Turpentine. The best Chio Turpentine is generally about the consistence of thick honey, very tenaceous, clear, and almost transparent, of a white colour, inclining to yellow, and a fragrant smell, moderately warm to the taste, but free from acrimony and bitterness. The medicinal and other qualities of the Turpentine will be considered together under the species of *Pinus*. See Index.

* See a Catalogue of Trees, Shrubs, &c. which are propagated for sale in the gardens near London, published in 1730, p. 78. *Terebinthus i.* *Aiton's Hort. Kew.*

^a See Du Hamel, *l. c.* p. 308. and Tournefort, *Voyage du Levant. t. i. p. 145.*

DELPHINIUM STAPHISAGRIA.

PALMATED LARKSPUR,
Or, STAVESACRE.

SYNONYMA. Staphisagria. *Pharm. Lond. & Edinb. Baub. Pin. p. 324. Dod. Pempt. p. 366. Gerard. Emac. p. 495. Raii Hist. p. 705. Park. Theat. p. 222. J. Baub. 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.

Eff. 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 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,

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

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-aches, 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 sometime 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 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 name Louse-wort.

^b In 1596. Vide *Aiton's Hort. Kew.*

^c *Σταφίς ὄγγια* 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.*

^f *Diff. de Venen. p. 20.*

LAURUS CAMPHORA.

CAMPHOR-TREE.

Arbor ex qua obtinetur CAMPHORA, *Pharm. Lond. & Edinb.*

SYNONYMA. Camphora officinarum. *Baub. Pin. p. 500.*
Park. Theat. p. 1575. Laurus camphorifera Japon. vulgo Kus
noki. *Kämpfer Amæn. exot. p. 770.* Arbor camphorifera Japo-
nica. *Breyn. exot. plant. cent. p. 11. Prod. p. 7. et icon. rarior.*
p. 16. Raii Hist. p. 1679. Arbor camphorifera Japonica, foliis
laurinis, fructu parvo globofo, calyce brevissimo. *Commel. Hort.*
Amstel. tom. i. p. 189. tab. 95. Conf. *Thumb. Fl. Japon. p. 178.*
Trew. in Nov. act. nat. cur. tom. ii. App. p. 358. & Burm. Fl. Ind.
p. 92. & Flor. Cap. Prodr. p. 12.

Class Enneandria. *Ord.* Monogynia. *Lin. Gen. Plant. 503.*

Eff. Gen. Ch. Cor. calycina, 6-partita. Nectarium glandulis 3, bifetis,
germen cingentibus. Filamenta interiora glandulifera.
Drupa 1-sperma.

Sp. Ch. L. foliis triplinerviis lanceolato-ovatis.

THIS tree grows to a considerable height, dividing into many
branches, covered with smooth greenish bark: the leaves are ovate,
lance-shaped, entire, smooth, nerved, on the upper side of a pale
yellowish green colour, on the under glaucous, and stand upon long
footstalks: the flowers are small, white, standing upon short pedicles,
terminating the common peduncles, which are long, naked, erect,
and proceed from the axæ of the leaves: there is no calyx: the
corolla is composed of six small ovate concave unequal petals: the
nectarium

nectarium consists of three tubercles, terminating in bristly points, surrounding the germen: the filaments are nine, shorter than the corolla, and furnished with round antheræ: the inner filaments are supplied at the base with two round glands: the germen is roundish: the style is simple, about the length of the filaments, and terminated by an obtuse stigma: the fruit resembles that of the Cinnamon.— (See Plate 27.)

This tree is a native of Japan, growing abundantly in the woods of the western part of the island. It was first cultivated in Britain by Miller,^a and by being easily propagated it is now a common greenhouse plant in this country, where, though it often seems sufficiently luxuriant and healthy, it very rarely produces flowers: so that for the annexed figure we are obliged to Dr. Smith who supplied us with a specimen from his Herbarium.

Although this is the tree from which Camphor is chiefly obtained, and from which all Europe is supplied with this drug,^b many other vegetables however are well known to afford a similar substance; of these, that most worthy of notice is a large tree, indigenous to the islands of Borneo and Sumatra, which, though a different genus, somewhat resembles that of the *Laurus*,^c and is very fully described by Houttuyn;^d also by Grimm,^e Miller,^f Marsden,^g and others; by whom we are told it grows sometimes to the height of 100 feet, exceeds fifteen in circumference, and yields the Camphor in a native concrete state, in both these islands; but that of the former is accounted the best, and obtained more abundantly than in Sumatra.

^a *Aiton. Hort. Kew.*

^b *Murray, App. Med. vol. iv. p. 446.*

^c We have seen the fruit of this tree, (in the possession of Dr. Smith) which has not the least affinity to that of any of the genus *Laurus*.

^d See *Verhandelingen door de Maatschappij d. Wetensch. te Harlem, vol. xxi. p. 266. sqq. tab. 8.* He calls it, *Laurus foliis ovalibus acuminatis lineatis, floribus magnis tulipaceis*.

^e *Arbor Camphoræ. Eph. nat. cur. Dec. 2. An. 1. p. 371. fig. 33.*

^f See an account of Sumatra by Charles Miller in *Phil. Transf. vol. 68. p. 169.*

^g *Hist. of Sumatra. p. 121.*

The Camphor is found to lodge every where in the interstices of the fibres of the wood, also in the pith, but most abundantly in the crevices and knots of this tree; which, in order to obtain the drug, must be cut down, its bark taken off, and the wood split. The larger pieces which in the Malay language are called *Copalla* (head), are first picked out from the upper part of the tree; afterwards the smaller, named *Poeruet* (belly), and lastly that which adheres to the wood, and is procured by rasping, denominated *Caki*, or feet.

This native Camphor, when freed from woody fibres, is consumed in the East, and sold, even to the Japanese, at a very high price: it does not suffer so much loss or change, on exposure to the open air, as that imported from Japan, and appears in every respect to be a much purer and more valuable medicine.^h From this tree likewise exudes an oily or rather resinous fluid, named oil of Camphor;ⁱ which is of great estimation for its external use in relieving pains, and resolving inflammatory tumours.

Of the other vegetables which yield Camphor, we have already noticed the *Laurus Cinnamon*, to which might be added several others which contain some proportion of this substance.^k

The Camphor brought to Europe is to be considered as the essential oil of the tree here represented, obtained at Japan by a kind of distillation, or sublimation, and for this purpose the root is said by Ten Rhyne^l to be the only part employed; but according to Cleyer^m the Camphor is procured not only from the root, but also from the young branches; and by Kämpfer and Thunberg both the root and wood are mentioned as affording this valuable medicine.ⁿ

Abbé Grofier, and the author of *Flora Cochinchinensis*,* inform us, that this tree, which is called *Tchang*, grows in China to an immense size; and the former states the process for obtaining the

^h V. Rademacher in *Verband. van het Batavisch Genootschap. d. Wetens. vol. 2. p. 127.* ⁱ See authors cited above, and Ten Rhyne *Litt. ad Jac. Breynium in Prodr. p. 13.*

^k Of these we might cite many of the *Verticillatæ*, as sage, rosemary, lavender, hyssop, pepper-mint, and many others: *Chenopodium ambrosioides*, *Achillea Millifolium* & *Ageratum*, *Unxia camphorata*; and more particularly *Schoenanthus perficus*, (Kämpf. *Amœn. ex. p. 773*) *Radix Zedoariæ*, (Grimm in *Eph. n. c. Dec. 2. an. 3. p. 409.*) *Thyme* (*Phil. Transf. vol. 33. p. 321.*) *Radix Enulæ* (Malouin *Chémie med. tom. 1. p. 321.* *Anemone pratensis*. Also *Rad. asari*, *fem. fœniculi*, *cubebæ*, &c.

^l l. c. ^m *Eph. N. C. Dec. 2. a. 10. p. 79.* ⁿ Kämpf. l. c. p. 772. Thunb. *Flor. Japon. p. 72.*

* He says, "Habitat frequens, & inculta, non minus in China, quam in Japonia." *v. l. p. 250.*

Camphor by the Chinese to be as follows: " They take some branches, fresh from the *Tchang*, chop them very small, and lay them to steep in spring water for three days and three nights. After they have been soaked in this manner, they are put into a kettle, where they are boiled for a certain time, during which they keep continually stirring them with a stick made of willow. When they perceive that the sap of these small chips adheres sufficiently to the stick in the form of a white frost, they strain the whole, taking care to throw away the dregs and refuse. This juice is afterwards poured gently into a new earthen basin, well varnished, in which it is suffered to remain one night. Next morning it is found coagulated, and formed into a solid mass. To purify this first preparation, they procure some earth from an old earthen wall, which, when pounded and reduced to a very fine powder, they put into the bottom of a basin made of red copper; over this layer of earth they spread a layer of Camphor, and continue thus until they have laid four strata. The last, which is of very fine earth, they cover up with the leaves of pennyroyal; and over the whole they place another basin, joining it closely to the former by means of a kind of red earth, that cements their brims together. The basin thus prepared is put over a fire, which must be managed so as to keep up an equal heat: experience teaches them to observe the proper degree. But above all, they must be very attentive lest the plaster of fat earth, which keeps the basins together, should crack or fall off; otherwise the spirituous parts would evaporate and ruin the whole process. When the basins have been exposed to the necessary heat, they are taken off and left to cool; after which they are separated, and the sublimated Camphor is found adhering to the cover. If this operation is repeated two or three times, the Camphor is found purer and in larger pieces. Whenever it is necessary to use any quantity of this substance, it is put between two earthen vessels, the edges of which are surrounded with several bands of wet paper. These vessels are kept for about an hour over an equal and moderate fire, and when they are cool the Camphor is found in its utmost perfection, and ready for use." °

The crude Camphor, exported from Japan, appears in small greyish pieces, and is intermixed with various extraneous matters: in

° See General Description of China, translated from the French, vol. i. p. 451.

this state it is received by the Dutch, and purified by a second sublimation; after which it is formed into loaves, the state in which it is brought to us. The peculiar method used by the Dutch in this process has long been kept a secret; but others have succeeded in refining this drug, and the manner of performing it is now detailed and found to answer the purpose very well.^p

Pure Camphor is white, pellucid, somewhat unctuous to the touch; of a bitterish aromatic acrid taste, yet accompanied with a sense of coolness; of a smell fragrant, and approaching to that of rosemary, but much stronger. It is totally volatile and inflammable; soluble in vinous spirits, oils, and the mineral acids; not in water, fixed or volatile alkaline liquors, nor in the acids of the vegetable kingdom.^q

Camphor does not seem to have been known to the Greeks; but by the Arabians it was called *Casur*, or *Canfur*, and was supposed to possess a refrigerant power.^r To most small insects, and even to frogs and birds, the effluvia of Camphor prove very destructive, as appears from the experiments of Menghini and Carminati.^s Taken inwardly by birds or quadrupeds, as rabbits, cats, dogs, sheep, &c. to the quantity of a dram, it has been found universally to produce deleterious effects; and in large doses it has occasioned symptoms equally dangerous on man, instances of which are related by Griffin, Alexander, Whytt, Collin, Hoffman, Callisen, Cullen, and others. Whether Camphor ought to be considered as a califacient and stimulant, or as a refrigerant and sedative, we are surprised should of late have become a subject of controversy; the experiments of Alexander, who found that his pulse was lessened ten vibrations in a minute,^t sufficiently establish its sedative character; and though some instances might

^p The following method is directed in the *Pharm. Succica*. p. 52.

Rec. Camphoræ crudæ libras duas,
Calcis ustæ pulveratæ unciam unam.

Simul trita immittantur cucurbitæ vitreæ latæ et depressæ, atque arenæ calore sensim aucto liquetur Camphora. Remissio postea calore sublimetur massa pellucida, a scortis, con fracto vitro, separanda.

^q Duncan's Edinburgh New Dispensatory.

^r See Avicenna ed. Alpigi et Rinii. p. 563. Also Serapion.

^s Mengh. *Comment. Bonon. tom. 3. p. 314. sq.* Carm. *de animal. ex mephitis intes-*
tinu. p. 186. ^t Carm. & Mengh. *l. c.* ^u *Experimental Essays*, p. 227.

show a contrary effect, they are such as occasionally occur^{*} from the use of medicines universally admitted to be the most powerful of this class, and are to be explained as a secondary effect upon the principle of a reaction in the system; and our own experience, as well as that of several others noticed below, who have given it successfully in inflammatory complaints, leads us to conclude with Dr. Cullen, that inflammation is never the direct operation of this substance.

Respecting the use of this important medicine, in different diseases, we shall follow Dr. Cullen, whose words we shall transcribe, adding, however, proper notes and references, conformably to the plan hitherto pursued in this work.

“ It has been much employed in fevers of all kinds, particularly
 “ in nervous fevers attended with delirium and much watchfulness;
 “ and in such I have frequently employed it with advantage. Some
 “ time ago, I have often seen it employed by my fellow-practitioners
 “ in such cases: and that the good effects of it did not always appear,
 “ I imputed it to its being used only in small quantities. Since we
 “ came into the free use of wine and opium, Camphire has been little
 “ employed in the practice of this country. The use of it, however,
 “ has been very fully established by some of the most eminent physicians
 “ on the continent: among these I reckon the late learned and
 “ experienced Werlhoff,^y who often employed it in many inflammatory
 “ diseases with great benefit, and plainly gives us his opinion in
 “ favour of its refrigerant power.

“ The use of this medicine has been especially remarkable in putrid
 “ fevers,^z of which indeed we have not many instances in this country:
 “ but from the very remarkable antiseptic powers which it
 “ discovers in experiments out of the body,^a it is very probable that
 “ when

^{*} Quarin says, “ Vidi enim in multis, quibus camphora majori dosi exhibita fuit, pulsum celerrimum, faciem ruberrimam, oculos torvos inflammatos, convulsiones et phrenitidem lethalem secutam fuisse.” *Method. med. febr.* p. 57.

^y *Comm. Norimberg.* 1734. & 1735. We may also notice Huxham and Hoffman, l. inf. c. ^a Pringle, l. c. app. p. 12.

^z Pringle, *Dis. of the Army*, p. 310. 316. Reverius, *Obs. et hist. Cent. i.* Obs. 24. & 29. Cent. 2. Obs. 18. 62. 64. Hoffman, *Dis. de usu interno Camphoræ* 1714. p. 20. Huxam, *Oper. T. 2.* p. 116. Ludwig, *Advers. Med. Pract. vol. 1.* P. i. p. 62. Collin, *Obs. circa morb. P. iii.* p. 148. sqq. Even in the Plague, see Tissot, *Epist. ad Hall.* p. 237. Mindereus,

“ when thrown into the body in large quantities, so that at least its
 “ more subtile parts may be diffused over the whole system, it may
 “ be expected to produce considerable antiseptic effects. Its power
 “ in resisting and curing gangrene in the experiments of Collin,^b are
 “ very remarkable ; but whether that power be owing to its antiseptic
 “ virtue alone, or to its operation at the same time on the nervous
 “ system, I would not rashly determine.

“ Both from its use in low, or what are called malignant fevers,
 “ and from its antiseptic powers, it is highly probable that it has been
 “ of great service in the confluent small-pox.^c It is also likely that
 “ it may be of service in favouring the eruption of exanthemata, and
 “ of bringing them back to the skin, when from any cause they had
 “ suddenly receded, though I have no particular experience of this.

“ These are the cases of acute diseases in which Camphire has
 “ been useful ; and its use in many chronic cases is equally well
 “ authenticated. Whenever diseases depend upon a mobility of the
 “ nervous power, and an irregularity of its motions, it may be
 “ expected that such a powerful sedative should be of service. Ac-
 “ cordingly, many practitioners have reported its virtues in hysteric
 “ and hypochondriac cases ; and I myself have had frequent expe-
 “ rience of it.

“ In spasmodic and convulsive affections it has also been of service ;^d
 “ and even in epilepsy it has been useful. I have not indeed known
 “ an epilepsy entirely cured by Camphire alone ; but I have had

Mindererus, *Lib. de peste. cap.* 15. Jo. Crato, *Epist. Med. a Schulzio edit.* p. 103.
 Hartman in *Pract. chymiatr.* 364. Schreiber, *Observ. et cogitata de pestilentia.* p. 58.
sqq. and others. ^b *L. c. P.* 3. p. 145. See also Pouteau *Mélanges de Chirurgie.* p. 187.

^c Haller, *Opusc. path.* p. 145. Tissot, *Epist. Med. Pract.* p. 237. C. L. Hoffmanns
Nachricht von c. gut. Heilart d. Kinderblattern. 1764. in *Vogel Lib. vol.* 5. p. 340.
 Collin, *l. c. P.* 3. cas. 22. 23. 24. In the Small-pox Hospital Camphor is in general
 use, and our own experience warrants us in saying, that in the early stages of this dis-
 ease, and after proper evacuations have been effected, it seldom fails, in doses of a
 scruple, to relieve the pains of the head and loins, and to procure rest. But we have
 no reason to think with Rosenstein and Boernaave, that the activity of the variolous
 miasmata is to be subdued by this medicine.

^d Hoffinan, *l. c.* p. 22. Home, *Clinical Exp.* p. 193. Locher, *Obs. Pract.* p. 42.
 Millar, on *Asthma*, &c. p. 104. Collin, *l. c. cas.* 8. and others.

“ several instances of a paroxysm which was expected in the course
 “ of a night, prevented by a dose of Camphire exhibited at bed-time;
 “ and even this when the Camphire was given alone: but it has been
 “ especially useful when given with a dose of cuprum ammoniacum,
 “ of white vitriol, or of the flowers of zinc.

“ Since the report of Dr. Kinnier, in the Philosophical Transactions,
 “ vol. XXXV. Camphire has been often employed in cases of mania;
 “ and I have given above an account of a trial which I had made
 “ of it. In that case, however, it was not successful; nor in several
 “ other trials has it been more so with me, or other practitioners in
 “ this country.

“ We have had here lately, in a patient under the care of Mr. Lata,
 “ surgeon, a notable example of the use of Camphire in a maniacal
 “ case, which I think it proper to take notice of here.”

“ This shows clearly enough the power of Camphire in mania;
 “ and I have only to add, that though in several other instances it
 “ has not made a cure, it has not in any instance of a moderate
 “ dose, that is, not exceeding half a dram, occasioned any disorder
 “ in the system; and in several cases it has induced sleep, and ren-
 “ dered the mind for some time more quiet.

“ I observe that De Berger has been more successful; and perhaps
 “ the reason of our failure has been our not attending to his admo-
 “ nition. In his letter to Werlhoff on the subject of Camphire, he
 “ has the following passage: *Multoties hoc remedio in mea praxi utor,*
 “ *præcipue in inflammationibus internis, magno cum successu, et demiror*
 “ *tam multos medicos ab usu ejus interno abhorrere. Non diu est, quod*
 “ *præmissis præmittendis maniacum eo sanitati penitus restitui. In eo*
 “ *vero momentum præcipuum situm est, ut sufficiente dosi et diu satis*
 “ *exhibeatur.*

“ This is particularly confirmed by a case given by Joerdens in
 “ the *Commercium Norimbergense*. In several other writers there are
 “ accounts of maniacal and melancholic cases cured by the use of
 “ Camphire; but many of the practitioners who report such cures
 “ acknowledge, that in many cases it had disappointed their expect-

* In the case here alluded to, the dose of Camphor was gradually increased to above
 sixty grains three times a day, by which a cure was effected.

“ tations.

tations.* Whether these failures have been owing to the not employing at the same time nitre, vinegar, and some other remedies which are supposed to contribute much to the virtues of Camphire, we would not determine; but we are clear that mania is a disease of considerable diversity with respect to its causes, and that there are certain cases of it only to which Camphire is properly adapted. In cases of an organic affection of the brain, it is hardly to be supposed that Camphire or any other remedy can be of use.†

I have mentioned above, that several practitioners have employed Camphire in the most acute inflammatory diseases; and therefore we are not surprised to find that it has been given also internally in cases of acute rheumatism; and it is said to have been with advantage.‡ We have no experience of it, because we have found another method of cure generally successful; but I take this occasion to mention its external use, as often of great service in removing the rheumatic pains of the joints or muscles. This we have often experienced, and have no doubt of Camphire having a peculiar power in taking off the inflammatory state in cases both of rheumatism and gout. In the case of rheumatism it is a matter of common experience: in the case of gout it is more rare; but I have had the following particular example of it. A gentleman had brought from the East Indies an oil of Camphire, a native substance, which seemed, by its smell and taste, to be no other than Camphire in that form, and which I perceive to be mentioned by naturalists as a native substance, produced by several trees in the East Indies. This the person possessed of recommended to all his acquaintances as an infallible remedy for gout and rheumatism; and a gentleman who had often laboured under the gout, and then felt the pains of

* Dr. Ferriar, who gave Camphor in eight maniacal cases, declares it to be "totally useless in these disorders:" in one of these cases two drams of Camphor, a scruple of musk, and eight grains of opium, were given daily, "without producing sleep, or the smallest impression upon the disease." *Med. Hist. & Reflections*, p. 174.

† We may here remark, that nymphomania, and other local affections producing effects of a similar kind, frequently superinduce a general state of mania, in which Camphor has been found more especially useful.

‡ See Rosenst. *Apot.* p. 7. Collin, l. c. aliique. For its good effects in fevers of the inflammatory kind, we have the testimony of Werlhof, De Berger, Albrecht, Wolf, Joerdens, all to be found in the *Commer. Norimb.*

" it

“ it unusually severe, was persuaded to apply it. He had then the
 “ gout exceedingly painful in the ball of the great toe and instep of
 “ one foot. On this part he rubbed a quantity of the oil of Camphire;
 “ and in about half an hour or a little more he was entirely freed
 “ from the pain he had before. In less, however, than an hour
 “ after, he had a pain and inflammation come upon the same part of
 “ the other foot. As the pain here became pretty severe, he again
 “ employed the oil of Camphire, and with the same effect of soon
 “ relieving the pain very entirely. The consequence of this was
 “ also the same; for in less than an hour the pain and inflammation
 “ returned to the foot that had been first affected: and here again
 “ our patient, obstinate in persisting in the trial of his remedy, again
 “ applied the oil, and he had the same success as before in relieving
 “ the part affected, and with the same effect also of occasioning a
 “ translocation. But here the translocation being made to the knee, the
 “ patient abstained from any farther application of the oil, and suf-
 “ fered the pain of the knee to remain for a day or two, and till it went
 “ off by some swelling and desquamation in the usual manner.

“ This history shows sufficiently the power of Camphire in relieving
 “ the inflammatory spasm and pain of the part chiefly affected; but
 “ at the same time that it has no effect on the diathesis of the system,
 “ and that, when that subsists, as Camphire is ready to occasion a
 “ translocation, it will always be employed in gouty cases with great
 “ danger. In cases of acute rheumatism, we have had occasion to
 “ remark, that a strong solution of Camphire in oil would relieve the
 “ pain of the joint for the time chiefly affected; but it was very often
 “ with the translocation of it to another joint soon after: and we have
 “ therefore long ago ceased from employing such an application in
 “ all cases when an acute rheumatism was very general and strong
 “ in the system.

“ It may be supposed that it is analogous to this power of Cam-
 “ phire in taking off an inflammatory state, that this medicine has
 “ been often found so useful in relieving toothach; and I have no
 “ doubt that Camphire operates by the power mentioned in relieving
 “ toothach, but it is also by exciting a copious flow of saliva and
 “ mucus from the internal surface of the mouth, that water somewhat
 “ impregnated

“ impregnated with Camphire, employed to wash the mouth, has
 “ been frequently of service in relieving the disease.

“ However it may be with respect to tooth-ach, we have no doubt
 “ that the antiphlogistic nature of Camphire may be of use in curing
 “ ophthalmia: and this gives a good ground for the many attempts
 “ that have been made to introduce Camphire into the medicines in-
 “ tended to be employed externally in the cure of ophthalmia.

“ We have now mentioned many of the virtues of Camphire as
 “ employed by itself, and must now mention some instances of its
 “ peculiar utility when combined with other medicines.

“ When combined with drastic purgatives, it is said to moderate
 “ their acrimony, and thereby their violent operation. We have not
 “ indeed perceived this, and perhaps never tried it in a proper
 “ manner; but in the mean time, the respectable authority of Mr.
 “ Lasonne,^g the father, satisfies me that it is well founded.

“ Another opinion that has been very general is, that Camphire
 “ has the power of correcting the acrimony of cantharides. In
 “ opposition to this, we would not quote the facts given by Dr.
 “ Heberden of two several instances in which Camphire seemed to
 “ occasion strangury;* for I must conclude these facts to have been
 “ very accidental occurrences, as I have employed Camphire fifty
 “ times, even in large doses, without my ever observing its having
 “ any effect upon the urinary passages. Mr. Lasonne, the father, has
 “ observed, as I have done frequently, that Camphire, though given
 “ very largely, never discovers its smell in the urine, whilst it fre-
 “ quently does it in the perspiration and sweat.

“ It was formerly a frequent practice in this country to anoint a
 “ blistering plaster that was to be applied to the back, or other part,
 “ with camphorated oil, and this with a view of preventing stran-
 “ gury from the cantharides. The practice however has been long
 “ ago laid aside, because it was perceived that, in most persons, if the
 “ plaster was allowed to continue applied for above twelve hours, and
 “ while at the same time it was omitted to give the patient a large
 “ quantity of drink, a strangury would come on notwithstanding.

^g Lasonne sen. in *Hist. de la Société. Roy. de Medecine de Paris*, vol. 5. p. 265.

* *Med. Transf.* vol. i. p. 471.

“ the unction of camphorated oil, and even the exhibition of a
 “ quantity of Camphire internally. The practitioners of this country
 “ have lost their faith in the power of Camphire in correcting the
 “ acrimony of cantharides; and for preventing the strangury that
 “ might otherwise arise, they trust entirely to a large exhibition of
 “ Arabic emulsion, and to the plaster’s not being allowed to lie on
 “ too long.

“ Another virtue ascribed to Camphire in combination, is its
 “ moderating the action of mercury; and if the saline preparations
 “ of mercury are triturated with a portion of Camphire, this abstracts
 “ a part of the acid that had been united with the mercury, and
 “ therefore renders the preparation more mild than before, and at
 “ the same time does not deprive entirely the preparation of much
 “ of its deobstruent virtue. This we have had experience of in that
 “ very acrid preparation of mercury the turbeth mineral, and also in
 “ the mercurius dulcis or calomel, which, by being triturated with
 “ Camphire, become less purgative, and less ready to excite saliva-
 “ tion. How far this mitigation of the preparations of mercury
 “ leaves them equally powerful as before in the cure of syphilis, I
 “ cannot certainly determine; but am of opinion that it does not,
 “ if they be employed in the same quantities as they would have
 “ been before.

“ This mitigation of the saline preparations of mercury, by a
 “ combination with Camphire, will be readily admitted; but many
 “ practitioners go farther, and alledge that mercury, in every con-
 “ dition, united with Camphire, becomes a more mild substance, less
 “ irritating to the system, while it is equally powerful in curing the
 “ diseases to which it is otherwise adapted.* I must admit the expe-
 “ rience of the practitioners of France in this matter, but those of
 “ this country know nothing of it; and I can assert, that in many
 “ trials, a quantity of Camphire added to our common mercurial
 “ ointment neither prevented the unction, in the usual quantity,
 “ from exciting salivation, nor rendered the symptoms of it more
 “ mild than usual.

* Raulin, *Observ. de Medecine.* p. 266.

Despatureaux in *Hall. Diff. Pract.* vol. i. p. 531.

“ A peculiar

“ A peculiar combination of Camphire said to have considerable
 “ effects, is that with opium. The employment of opium is in
 “ many persons attended with some inconvenience and disorder, as
 “ I have observed above; and every practitioner knows it to be
 “ alledged by some respectable persons, that Camphire joined with it
 “ prevents these disorders. It may be so, but I have not found it
 “ in my experiments. I have found large doses of Camphire dispose
 “ to sleep, but commonly with that same confusion of head and
 “ turbulent dreams which sometimes arise from the use of opium;
 “ and I have not found that a small quantity of Camphire has any
 “ effects in increasing the power of opium, or of rendering the
 “ operation of it different from what it would have been if employed
 “ alone. But against the respectable authorities of Lafonne and
 “ Halle,^h I must suspect that my experiments have not been made
 “ properly or often enough.

“ There is still another instance of the improvement of a medicine
 “ by a combination with Camphire. Mr. Lafonne assures us, that
 “ Camphire, joined with the Peruvian bark, gives it more energy and
 “ force, whether it be to be employed for the purpose of curing
 “ fever or gangrene; and I believe this to be well founded.

“ After thus treating of the virtues of Camphire, we must speak
 “ of its dose and exhibition. It will appear clearly from what is
 “ said above, that it may be given in doses of very different quan-
 “ tities; and it appears to me from many trials, that doses of a few
 “ grains, repeated only after long intervals, have hardly any effect at
 “ all, and that, to obtain sensible effects from it, it must either be
 “ given in large doses, not under that of twenty grains, or, if given
 “ in smaller doses, these must be repeated frequently after short in-
 “ tervals. The latter practice is preferred by some eminent practi-
 “ tioners. To what length in either way we may proceed, I have
 “ not experience enough to determine with any precision. From the
 “ effects of two scruples given in one dose in the case narrated above,
 “ and in another quoted from Dr. Hoffman, it would appear that
 “ such doses are violent and dangerous; but from some other expe-

^h Hallé, *Mem. de la Société de Med. tom. cit. p. 73.*

“ riments, it appears that larger doses have been sometimes given
 “ with impunity: and when it is given in divided doses, it appears
 “ from Collin’s experiments, that it may be given to the quantity
 “ of a dram, or two drams in the course of a day; and in one of
 “ his experiments it was given to the quantity of half an ounce:
 “ and the same will appear from the history which I have given
 “ above. It is probable that from large doses only, considerable
 “ effects are to be expected; and as, from many experiments, it
 “ appears that the effects of Camphire are not very durable in the
 “ body, it will be obvious that the repeated and long continued use
 “ of it may be necessary to the cure of several diseases.

“ With respect to the exhibition of this medicine, it is, in the first
 “ place, necessary that it should be always very minutely divided,
 “ as we know it is not readily dissolved in the stomach;’ and
 “ while it remains there, it will float on the surface of the other
 “ contents, and in that way be applied to the upper orifice of the
 “ stomach, and give occasion to some pain there. It ought therefore
 “ to be minutely divided before it be given; and this may be done
 “ by rubbing it first in a mortar with any dry powder, such as nitre
 “ or hard sugar: but to make certain of a minute division, it is
 “ proper at the same time to add a few drops of rectified spirit of
 “ wine, or of other such spirituous menstruum as the spiritus vitrioli
 “ dulcis, or liquor anodynus mineralis of Hoffman.

“ It may also be divided by rubbing it with the mucilage of gum
 “ arabic; but this will also be more perfectly executed if the Cam-
 “ phire is previously dissolved by a little spirit of wine or expressed
 “ oil. By its being diffused in the mucilage of gum arabic, it may
 “ be again diffused in any watery fluid for more convenient exhibi-
 “ tion; but it is to be observed, that Camphire diffused in a watery
 “ fluid is ready to exhale from it, or arise to its surface, and to
 “ render the exhibition more disagreeable. When, therefore, any
 “ large quantity of water in which Camphire is diffused is to be
 “ prepared at once, it is proper to employ some means for entangling
 “ the Camphire. Sugar alone does not seem to be sufficient for the

¹ If this be not attended to, it constantly occasions heat and uneasiness at the stomach.
 See Fothergill, *Med. Observ. &c.* vol. i. p. 432.

“ purpose ; and it is more effectually done by triturating the Camphire with mucilage alone, or with a portion of sweet almonds, and diffusing it again by means of mucilage into an emulsion.

“ It has been thought that the virtues may be increased by exhibiting along with it a portion of nitre ; but in many trials I have not been sensible of the benefit derived from the nitre, which, in any quantity that can be conveniently employed, has little effect on the system. It is with more probability alledged, that vinegar exhibited with Camphire is of service. Vinegar certainly gives the best means of correcting the taste of Camphire, and seems even to render it less disagreeable to the stomach ; and we may allow that both by its refrigerant and antiseptic powers, it may contribute somewhat to the virtues of the Camphire.” *

* *M. M. vol. ii. p. 309.*

GENTIANA LUTEA.

YELLOW GENTIAN.

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

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

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

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

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

This plant is a native of the Alps, and according to the Hortus Kewensis was first cultivated in Britain in the time of Gerard. But the Gentian with which our shops are supplied, is imported from the mountainous parts of Switzerland, Germany, &c. ||

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

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

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

^a *Lewis, M. M. p. 320.*

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

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

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

As a simple bitter the Gentian is rendered more grateful to the stomach by the addition of an aromatic, and for this purpose orange peel is commonly employed. The officinal preparations of this root are, the infusum gentianæ compositum, & tinctura gentianæ composita, ph. L. and the infusum amarum, vinum amarum, tinctura amara, five elixir stomachicum,* ph. E. and by both pharmacopœias the extract is directed.

^b *M. M. p. v. ii. p. 72.*

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

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

CHIRONIA CENTAURIUM.

CENTAURY.

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

Class Pentandria.

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

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

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

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

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

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

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

* Lewis, *M. M.*

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

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

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

^c See Pringle, *Dis. of the Army, App. p. 66.*

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

TRIGONELLA FÆNUM GRÆCUM.

FENUGREEK.

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

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

Eff. Gen. Cb. Vexillum et Alæ subæquales, patentés, forma corollæ 3-petalæ.

No. 32.

5 T

Sp. Cb.

Sp. Cb. 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 axæ 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 Montpellier, and to have been first cultivated in Britain by Gerard.* In dry seasons it matures 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 spirit they give out the whole of their distinguishing smell and taste, and afterwards to water a strong flavourless mucilage.”^b

* *Hort. Kew.*

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

^b Lewis, *M. M.* p. 304.

These

These seeds are never given internally, their principal use being in cataplasms and fomentations, for softening, maturing, 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.

ANETHUM GRAVEOLENS. COMMON DILL.

SYNONYMA. Anethum. *Pharm. Lond. & Edinb. Gerard. Emac. p. 1033. Raii Hist. p. 415.* Anethum hortense five vulgare. *Park. Theat. p. 886.* Anethum hortense. *Bauh. Pin. p. 147.*

Class Pentandria. *Ord.* Digynia. *Lin. Gen. Plant. 364.*

Eff. Gen. Ch. *Fructus* subovatus, compressus, striatus. *Petala* involuta, integra.

Sp. Ch. A. fructibus compressis.

THE root is annual or biennial, long, tapering, whitish, sending off strong fibres, and striking deeply in the ground: several stems usually proceed from the same root, and are erect, smooth, channelled jointed, branched, covered with a glaucous exudation, and rise about two feet in height: the leaves stand upon sheathy footstalks, placed at the joints of the stalk, and are alternate, smooth, doubly pinnated; pinnæ linear, pointed: the flowers are produced in terminal umbels, which are large, flat, and like the partial umbels, composed of several radii: it has no involucre: the corolla consists of five petals, which are yellow, egg-shaped, obtuse, concave, and have their points turned inwards: the five filaments are yellow, longer than the corolla, and furnished with roundish antheræ: the germen is placed below the insertion of the petals, and is covered by the nectarium: the two styles are very short, and terminated by obtuse stigmata: the seeds are two, oval,

oval, flat, striated, and surrounded with a membranous margin. The flowers appear in June and July.

This plant, which is a native of Spain and Portugal, appears by the *Hortus Kewensis*, to have been first cultivated in Britain by Mr. Gerard in 1597.^a The seeds of Dill are directed for use by the London and Edinburgh Pharmacopœias; they have a moderately warm pungent taste, and an aromatic smell, but like that of the plant, not of the most agreeable kind.^b “Water extracts very little of their virtues either by infusion or digestion for many hours. In boiling, their whole flavour exhales along with the watery vapour, and may be collected by distillation. Along with the water arises a considerable portion of pungent essential oil, smelling strongly of the Dill. These seeds impart their flavour to rectified spirit by digestion, but not by distillation, the active part of the seeds remaining in the extract.”^c

The seeds and the plant itself were formerly much used in medicine, and from the time of Dioscorides have been esteemed for their carminative and hypnotic powers, and therefore have been recommended in flatulent colics, and certain dyspeptic symptoms proceeding from a laxity of the stomach.^d They are also said to be more effectual than the other seeds of this class in promoting the secretion of milk.^e At this time however the seeds of Dill are seldom employed, though a simple distilled water prepared from them is directed both by the London and Edinburgh Pharmacopœias.

^a *Hort. Kew.*

^b Virgil does not seem to have been of this opinion :
Narcissum & florem jungit bene olentis anethi.

ECL. 2. v. 45.

^c Lewis, *M. M.* p. 58.

^d Forestus speaks highly of their use in allaying vomiting and hiccup. *Oper. Lib.* 6. *Obs.* 29. & *Lib.* 18. *Obs.* 12.

^e Murray, *App. Med. vol.* i. p. 289.

ANETHUM FENICULUM.

ANETHUM FŒNICULUM. COMMON FENNEL.

SYNONYMA. *Fœniculum dulce.* *Pharm. Lond. & Edinb.* et *Fœniculum vulgare.* *Pharm. Edinb.* *Fœniculum dulce, et Fœniculum vulgare germanicum.* *Baub. Pin. p. 147.* *Fœniculum vulgare.* *Gerard. Emac. p. 1032.* *Park. Theat. p. 884.* *Raii Hist. p. 457.* *Synop. p. 217.* *Haller Hist. Stirp. Helv. n. 760.* *A. Fœniculum.* *Hudson, Fl. Ang. p. 126.* *Relban. Fl. Cantab. 123.* *Witbering Bot. Arr. p. 311. ic. Mill. Illust.*

Class Pentandria. *Ord.* Digynia. *Lin. Gen. Plant. 364.*

Eff. Gen. Ch. *Fructus* subovatus, compressus, striatus. *Petala* involuta, integra.

Sp. Ch. A. fructibus ovatis.

THE root is perennial, white, tapering, and fibrous; three or four stems usually rise from the same root, and are erect, round, striated, of a glaucous tinge, jointed, branched, and three or four feet in height: the leaves stand alternately at the joints of the stem upon long striated sheaths, and are bipinnated, divided into long linear pointed pinnae, of a deep green colour: the flowers are produced in terminal umbels, which resemble those of Dill: there are no involucre: the corolla consists of five petals, which are yellow, ovate, emarginated, and have their points turned inwards: the five filaments are yellow, spreading, shorter than the petals, and supplied with double antheræ: the germen is smooth, cylindrical, truncated, striated, and covered with the nectarium, which is a large roundish fleshy yellow substance, divided into two parts, from each of which rises a short thick style, terminated by a blunt stigma: the seeds are two, oval, and deeply furrowed. The flowers appear in June.

The seeds of *Fœniculum dulce* are admitted of the *Materia Medica* in both Pharmacopœias, and the root of *Fœniculum vulgare* alib in that of the Edinburgh College;* but both these plants being considered as varieties of the *Anethum Fœniculum*, they are comprised in the figure here prefixed.

Fennel is found to grow wild in many parts of England, affecting dry chalky soils; but that which is cultivated in our gardens is more fragrant, of a sweeter flavour, and, excepting the seeds, which are brought from the south of Europe,^a commonly used both for medicinal and culinary purposes.

The seeds have an aromatic smell, and a warm sweetish taste.—“Water extracts the virtue of these seeds very imperfectly by infusion, but carries it off totally in evaporation: after repeated infusion, they retain part of their aromatic warmth, and the liquors are much less agreeable than the seeds in substance; after boiling for some time, the seeds prove entirely insipid, and the decoction, inspissated to the consistence of an extract, is very nearly so. By distillation they impregnate water with their flavour: a gallon receives a strong impregnation from a pound of the seeds. A large portion of essential oil separates in the distillation;—in smell resembling the fennel, in taste mild and sweetish like the oil of aniseeds, and like it also congealing, by a slight cold, into a white butyraceous mass. These seeds contain likewise a considerable quantity of a gross oil of the expressed kind, which, when freed from the essential oil, discovers no particular smell or taste. This oil is extracted, along with the aromatic matter of the fennel, by digestion in rectified spirit, but separates and rises to the surface upon inspissating the filtered tincture. The spirit, gently distilled off, has very little of the flavour of the seeds; the oily matter retains a part both of their taste and smell; but much the greatest part remains concentrated in the extract.”^b

* “By *Fœniculum dulce*, (Dr. Cullen says) we mean seeds imported from a southern climate; we allow however the roots to be taken, as they most conveniently may, from the plants growing in our gardens.” *M. M. vol. ii. p. 158.*

^a “*Fœniculum dulce* copiosissime colitur in Italia & Sicilia, quarum regionum clima plus illi conciliat dulcitatē, quam in Gallia attingere potest, quare etiam planta junior, cum radice & herba, frequenter ibi estur cruda cum sale & pane.” *Bergius, M. M. p. 228.* See Labat, *Voyage en Espagne & en Italie. t. 5. p. 170.*

^b Lewis, *M. M. p. 303.*

The *Fœniculum* of the Latins is supposed to be the *Μαγνηρον* of the Greeks, by whom it was highly esteemed for promoting the secretion of milk,^c an opinion which the experience of some modern authors has tended to confirm.^d The seeds are also supposed to be stomachic and carminative, but these, and indeed all the other effects ascribed to Fennel, as depending upon their stimulant and aromatic qualities, must be less considerable than those of dill, anise, and caraway, though termed one of the four greater hot seeds.

The root, which Alston says may be called *alimentum medicamentosum*, was by Boerhaave thought to possess all the virtue of Ginseng, and which ranks as one of the five aperient roots, is now wholly disregarded. To the taste it is sweet, with very little aromatic warmth, and said to be pectoral and diuretic.

By the London Pharmacopœia a simple distilled water is directed to be prepared from the seeds of Fennel, which also enter some other officinal compositions.

^c Hippoc. *De Morb. Mul. Lib. 1. Sect. 5. p. 608. Fœs.* Dioscorid. *M. M. Lib. 3. c. 81. p. 205. Sarac.*

^d Bergius, *Nov. Act. Ups. vol. i. p. 104.* ^e *Lect. on the M. M. vol. i. p. 385.*

DAUCUS CAROTA. WILD CARROT, or BIRD'S NEST.

SYNONYMA. *Daucus sylvestris. Pharm. Lond. & Edinb.* *Pastinaca sylvestris tenuifolia Dioscoridis, vel Daucus officinarum. Baub. Pin. p. 151. Daucus vulgaris. Raii Synop. p. 218. Pastinaca sylvestris tenuifolia. Gerard Emac. p. 1028. Park. Theat. p. 901. Raii Hist. p. 465. Daucus involucris, cavis communibus pinnatis, peculiaribus lineari lanceolatis. Hall. Stirp. Helv. n. 746. Daucus Carota. Hudsf. Aug. p. 114. Lightf. Scot. p. 156. Withering Bot. Arr. p. 274. Relban. Cantab. p. 112. Ic. Flor. Dan. p. 723.*

^a *Pastinaca*

α *Pastinaca tenuifolia sativa radice lutea.*

C. Bauh.

YELLOW GARDEN CARROT.

β *Pastinaca tenuifolia sativa radice atrorubente.*

C. Bauh.

RED GARDEN CARROT.

Aiton. Hort. Kew.

Class Pentandria. *Ord.* Digynia. *Lin. Gen. Plant.* 333.

Eff. Gen. Ch. *Cor.* fubradiatæ, omnes hermaphroditæ.

Fructus pilis hispidus.

Sp. Ch. *D.* feminibus hispidis, petiolis subtus nervosis.

THE root is biennial, large, spindle-shaped, fleshy, and yellowish: the stalk is round, erect, branched, furrowed, hairy, and rises about two feet in height: the leaves are large, and at the root many times pinnated; those on the stalk are gradually smaller towards the top, and cut into irregular pinnulæ, which on the upper side are of a deep green colour: the leaves are all somewhat hairy, and stand upon footstalks, which are nerved on the under side: the umbels are composed of several radii, and form a flat surface at the top while in flower, but when the seeds ripen, become concave, and drawn together: the partial umbels are similar to those of the general: the general involucre consists of several leaves, which are cut into long narrow segments: the partial involucre is more simple, consisting of strap-shaped leaflets: the corolla is composed of five petals, of which the outermost is the largest; they are all white, heart-shaped, and bent inwards: the five filaments are capillary, and furnished with simple antheræ: the germen is small, and supports two reflexed styles, terminated by blunt stigmata: the seeds are two, egg-shaped, convex, rough on one side, covered with strong hairs, and flat on the other. It grows wild in meadows and pastures, and flowers from June till August.

This plant, in its cultivated state, is the well known garden Carrot, the roots of which are commonly served up at our tables. They appear by experiments to contain a large proportion of saccharine matter,* and consequently afford much nourishment: however they

* V. Marcegr. *Mem. de l'Acad. des Sc. de Berlin.* 1747. p. 89. See also *Hann. Magaz.* 1773. n. 75.

are found to be very difficult of digestion in the stomach, for if eaten raw, or imperfectly boiled, they usually pass through the body without suffering any material change.^a It is on this account, probably, that raw carrots have been given to children as a vermifuge. The expressed juice, or a decoction of these roots, has been recommended in calculous complaints, and as a gargle for infants in apthous affections, or excoriations of the mouth;^b and a poultice of scraped carrot has been found an useful application to phagendenic ulcers, and to cancerous and putrid sores.^c

The seeds of wild Carrot, which obtain a place in the *Materia Medica*, have a light aromatic smell, and a warm acrid taste. "Water, digested on the seeds, becomes impregnated with their smell, but takes up very little of their taste: in distillation or evaporation, it elevates the whole of their smell and aromatic warmth: on distilling large quantities, a small portion of yellowish essential oil is obtained, of a moderately pungent taste, and smelling strongly of the daucus. Rectified spirit takes up the whole of their virtue by digestion, and elevates little in distillation: the remaining extract smells weakly, and tastes strongly of the seeds."^d These seeds possess, though not in a very considerable degree, the aromatic qualities common to those of most of the umbelliferous plants, and hence have long been deemed carminative and emmenagogue; but they are chiefly esteemed for their diuretic powers, and for their utility in calculous and nephritic complaints,^e in which an infusion of three spoonfuls of the seeds in a pint of boiling water has been recommended; or the seeds may be fermented in malt liquor, which receives from them an agreeable flavour, resembling that of lemon peel.^f

^a "On which account I have employed them as a means of ascertaining the time which food takes to pass through the tract of the alimentary canal." *Withering, l. c.*

^b V. Rosenstein and Bosch.

^c This use of the Carrot poultice was first discovered by Sulzer, (see *Journal de Medicine*, t. 24. p. 68.) since which its good effects are related by Gibson (in *Med. Obs. & Inquir.* vol. 4.) and others who have very generally found it to mitigate the pain and abate the stench of foul cancerous ulcers.

^d *Lewis, M. M. p. 271.*

^e In opposition to this opinion, Dr. Cullen says, "We have seen the semen dauci sylvestris employed in calculous cases in considerable quantities, and for a length of time, but never found its diuretic power anywise remarkable." *M. M. vol. ii. p. 552.*

^f *Lewis, l. c.*

CASSIA SENNA.

SENNA, Or, EGYPTIAN CASSIA.

SYNONYMA. Senna. *Pharm. Lond. & Edinb.* Senna Alexandrina, five foliis acutis. *Baub. 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, five foliis obtusis. *Baub. l. c.* *Park. Theat. p.* 225.

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

Eff. 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 pinnae, of a yellowish green colour: the flowers are yellow, and produced successively in long axillary spikes: the calyx consists of five leaflets, 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.

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

been distinguished by the name of Alexandrian Senna, or Sena. Monf. 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.^e

Senna appears to have been cultivated in England in the time of Parkinson^f (1640); and Miller tells us, that by keeping these 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 subacid bitterish nauseous taste: they give out their virtue both to watery and spirituous menstua,

^a Savary, *Diët. 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 Canum 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.*

^g See *Diët.*

communicating to water and proof spirit a brownish colour, more or less deep according to the proportions; to rectified spirit a fine green.^b

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 a dose than the simple infusions of it."^k The same author has remarked, "that 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."^l 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 cardamons 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.

^b Lewis, *M. M.*

ⁱ Folliculo quam foliis est efficacior, præsertim si 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.*

^l *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.

CASSIA FISTULA.

PURGING CASSIA.

SYNONYMA. Cassia fistularis. *Pharm. Lond. & Edinb.* Cassia Fistula Alexandrina. *Baub. Pin. p. 403. Raii Hist. p. 1746.* Commel. Hort. Amstel. t. i. 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. Cochín.*

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

Eff. 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 corolla 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 promote 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

^a Hort. Kew.

^b Vide Hasselquist and Alpinus.

^c See *Pulparum extractio*. ^d Lewis, M. M. p. 207. ^e *Siliquam Ægyptiacam* Theophrasti (1 hist. 18.) nonnulli censent. *Panax*. p. 403.

^f Therefore to be considered the Eiarxamber of Serapion, and the Chairlander of Avicenna, from whom Actuarius seems to have his *Κασσα μελαινα*.

therefore

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 apothecaries to know that the pulp of prunes might be employed in the place of the more expensive and precarious Cassia."²

By the use of Cassia, it has been remarked, that the urine becomes of a green or blackish colour;³ but Bergius relates, that a young man took an ounce three successive mornings without producing the least change in the colour of his urine.¹

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

² *M. M.* vol. ii. p. 506.

³ By Sennertus, Lösecke, Boerhaave, Lewis, &c.

¹ *M. M.* p. 341. Gmelin also denies this effect of Cassia. *Diff. de Rhab.* p. 30.

ORIGANUM VULGARE.

WILD MARJORAM.

SYNONYMA. Origanum. *Pharm. Lond.* Origanum sylvestre. *Baub. Pin.* p. 223. Origanum anglicum. *Gerard Emac.* p. 666. Origanum vulgare spontaneum. *J. Baub. Hist.* iii. p. 236. *Raii Hist.* p. 539. *Synop.* p. 236. Origanum foliis ovatis, umbellis coloratis, flaminibus exsertis. *Hall. Hist. Stirp. Helv. n.* 233. Origanum vulgare. *Huds. Flor. Ang.* p. 262. *ed. 2d.* *Lightf. Flor. Scot.* p. 317. *Withering Bot. Arr.* p. 621. *Curtis Flor. Lond.* 338.

Class Didynamia. *Ord.* Gymnospermia. *Lin. Gen. Plant.* 726.

Eff. Gen. Ch. *Strobilus* tetragonus, spicatus, calyces colligens.

Sp. Ch. O. spicis subrotundis paniculatis conglomeratis, bracteis calyce longioribus ovatis.

THE

THE root is perennial, creeping, and beset with numerous slender fibres: the stem is erect, square, purplish, downy, producing opposite branches, and rises about a foot and a half in height: the leaves stand upon footstalks in pairs at the joints; and are ovate, pointed, somewhat indented at the edges, above smooth, beneath downy, and of a deep yellowish green colour: the flowers are numerous, terminal, of a pale purplish colour, and stand in panicles or clusters: the bractæ, or floral leaves, are ovalish, sessile, and of a brownish red colour: the calyx is tubular, and divided at the brim into five segments, which are fringed at the edges: the corolla consists of a funnel-shaped tube, longer than the calyx, divided at the limb into two lips, of which the upper is erect, bifid, obtuse; the lower trifid, blunt, and spreading: the filaments are four, two long and two short, of a purple colour, and furnished with double antheræ: the germen is divided into four parts, from the centre of which rises a filiform style, crowned with a stigma, which is bifid, and reflexed: the seeds are four, egg-shaped, and lodged in the bottom of the calyx.

This plant grows wild in many parts of Britain, especially on dry chalky hills,^a or gravelly soils, and produces its flowers in July and August. It has an agreeable aromatic smell, approaching to that of marjoram, and a pungent taste, much resembling thyme, to which it is likewise thought to be more nearly allied in its medicinal qualities than to any of the other verticillatæ, and therefore deemed to be emmenagogue, tonic, stomachic, &c. These effects, however, can only be ascribed to the aromatic and stimulant powers which all the herbs of this natural order seem to possess in common. Distilled with water it yields a moderate quantity of very acrid penetrating essential oil, which has been much used for easing the pain of carious teeth, by dropping it on cotton, and inserting it in the cavity of the aching tooth. The dried leaves used instead of tea, are said to be exceedingly grateful. They are also employed in medicated baths and fomentations.

^a Hence the derivation *Origanum*, ὀρεγανός montis gaudium, quod locis montanis delectetur. Vide *Bod. in Theoph.* p. 562.

The country people use the tops of the plant to dye purple. *Withering*, l. c.

ORIGANUM MAJORANA.

ORIGANUM MAJORANA. SWEET MARJORAM.

SYNONYMA. Majorana. *Pharm. Lond. & Edinb.* Majorana vulgaris. *Baub. Pin. p. 224.* *Raii Hist. p. 538.* Majorana vulgaris æstiva. *Park. Theat. p. 11.* Majorana major. *Gerard Emac. p. 664.*

Class Didynamia. *Ord.* Gymnospermia. *Lin. Gen. Plant. 726.*

Eff. Gen. Ch. *Strobilus* tetragonus, spicatus, calyces colligens.

Sp. Ch. O. foliis ovatis obtusis, spicis subrotundis compactis pubescentibus.

THE root is perennial, brown, and furnished with many long tough fibres: the stalks are numerous, woody, branched, square, and rise a foot and an half in height: the leaves are egg-shaped, obtuse, downy, entire, of a pale green colour, and stand in pairs upon foot-stalks: the flowers are small, white, and appear successively between the bracteal leaves, which are numerous, and form round compact terminal spikes: the calyx is tubular, and divided at the brim into five pointed segments: the corolla consists of a funnel-shaped tube, divided at the limb into two lips, of which the uppermost is erect and roundish; the undermost is cut into three pointed segments: the other parts of fructification resemble those of *O. vulgare*. The flowers appear in August.*

This plant is thought to be the *Σαμψύρον* or *Amaracus* of the ancients:† it has been long cultivated in our gardens, and in frequent use for culinary purposes; but the place of which it is a native has not yet been made known.

The leaves and tops of Marjoram have a pleasant smell, and a moderately warm aromatic bitterish taste. They yield their virtues

* The *Amaracus* is noticed both by Virgil and Catullus:—

— ubi mollis amaracus illum
Floribus et dulci aspirans complectitur umbrâ. *ÆN. lib. i. v. 698.*

Cinge tempora floribus
Suave olentis amaraci.

Julia et Manlii Epithal.
both

both to aqueous and spirituous liquors by infusion, and to water in distillation, affording also a considerable quantity of essential oil, amounting, according to Beaumé, to fifteen ounces from one hundred and fifty pounds of the recent plant. This oil, on being long kept, assumes a solid form.

The medicinal qualities of this plant agree with those of its congener, Wild Marjoram; but being much more fragrant it is deemed to be more cephalic, and better adapted to those complaints known by the name of nervous; and may be therefore employed with the same intentions as lavender. It is directed in the composition of the pulvis sternutatorius by both Pharmacopœias, with a view to the agreeable odour which it diffuses to the asarabacca rather than to its errhine power, which is very inconsiderable.

In its recent state, we are told, that it has been successfully applied to scirrhus tumours of the breasts.^b

^b Cohausen in *Comm. Nor. a.* 1742. p. 151.

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. Baub. Pin. p. 403. Balam Pulli. Hort. Malab. tom. i. p. 39. tab. 23. Tamarindus indica. Jacquin, Pl. Americ. p. 10. tab. 10. ed. 2. piët. p. 11. t. 13. Conf. Sloane's Jamaica, vol. ii. p. 45. Browne's Jamaica, p. 125. Hughes's Barbadoes. p. 189. Long's Jamaica, vol. iii. p. 729. Swartz. Obs. Botan. p. 25. Cáy Me. Flor. Coch. p. 403.*

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

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

THIS

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, alternate, consisting of several pairs (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 *Systema Vegetabilium*; and is consequently thus classed by us in the systematic arrangement prefixed to the first volume of this work. Since that time however, we have had an opportunity of examining the recent

^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.

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 seen 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 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

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

† He says, A Classe Triandria ad Monadelphiam transuli hoc genus non solum propria observatione fretus, sed etiam ab ipso Linnæo monitus filamenta habere infernè con-nata. *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 *Diæ.*

small

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."* 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.† 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 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 electuarius e cassia, and el. e senna, or lenitive electuary.

* *L. c.*

† *Cullen, M. M. vol. ii. p. 507.*

"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 concentered 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 crystalizing 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.*

GLYCYRRHIZA GLABRA. COMMON LIQUORICE.

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

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

Eff. Gen. Ch. *Cal.* 2-labiatus : $\frac{1}{2}$. *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 pinnae, with an odd one at the end : the leaflets 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 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.* The chief places

* Vide *Tourn. Herb. part. 2. fol. 12.* published in 1502.

at which it has long been propagated for sale, are Pontefract in Yorkshire, Worktop 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 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

^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 *αδύσιν*, and the root directed to be chewed in dropries and other disorders where great thirst prevailed.. Vide *Theoph. L. 9. cap. 13.* Also noticed by *Pliny, Lib. 22. c. 9.*

^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.*

ALLIUM SATIVUM.

COMMON CULTIVATED
GARLICK.

SYNONYMA. Allium. *Pharm. Lond. & Edinb. Gerard Emac. p. 177. Park. Theat. p. 513. Raii Hist. p. 1125. Allium sativum. Baub. Pin. p. 73. J. Baub. Hist. ii. p. 554. Allium flaminibus alterne trifidis, foliis gramineis, capite bulbifero, radicibus in unum bulbum congruentibus. Hall. Opusc. p. 331. Σγογοδον Græc.*

Class Hexandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 409.

Eff. Gen. Ch. *Cor.* 6-partita, patens. *Spatha* multiflora. *Umbella* congesta. *Caps.* supera.

Sp. Ch. A. caule planifolio bulbifero, bulbo composito, flaminibus tricuspidatis.

THE root is perennial, composed of several bulbs, enveloped in a common membrane, and from its base sends off many long white fibres: the stem is simple, and rises about a foot and a half in height: the leaves at the root are numerous, on the stem few; they are all long, flat, grass-like: the flowers of all the plants of this species which we have seen, arise between the small bulbs or rocamboles, which terminate the stem in a cluster: each flower is very small, whitish, and commonly abortive: the calyx is a spatha common to all the florets and bulbs; it is withered, and of a roundish shape: the corolla consists of six oblong petals: the filaments are six, tapering, alternately trifid, shorter than the corolla, and furnished with oblong erect antheræ: the germen is placed above the insertion of the corolla, short, angular, and supports a simple style, terminated by an acute stigma: the capsule is short, broad, trilobed, three-celled, three-valved, and contains roundish seeds. It flowers in July.

This species of Garlick, according to Linnæus, grows spontaneously in Sicily;^a but as it is much used both for culinary and medicinal

^a Vide *Spec. Plant.*

purposes, it has been long very generally cultivated in gardens: it shews the same propensity to forming bulbs instead of flowers as the *A. Scorodoprasum* or Rocambole Garlick, which it also resembles in other respects.

Every part of the plant, but more especially the root, has a pungent acrimonious taste, and a peculiarly offensive strong smell. This odour is extremely penetrating and diffusive, for on the root being taken into the stomach, the alliaceous scent impregnates the whole system, and is discoverable in the various excretions.^b This volatile matter is, in part at least, an essential oil, which may be obtained in distillation in the ordinary manner, and like the oils of many of the filiquose plants, sinks in water. Applied to the skin, Garlick produces inflammation, and frequently vesicates the part. "On drying, this root loses almost nine parts in fifteen, without suffering any considerable loss of its taste or smell; hence six grains dried are supposed to be equivalent to fifteen grains of the fresh root."^c

Garlick is generically allied to the onion, from which it seems only to differ in being more powerful in its effects, and in its active matter, being in a more fixed state; by stimulating the stomach they both favour digestion, and as the stimulus is readily diffused over the system, they may therefore be considered as useful condiments with the food of phlegmatic people, or those whose circulation is languid, and secretions interrupted; but with those subject to inflammatory complaints, or where great irritability prevails, these roots, in their acrid state, may prove very hurtful.

The medicinal uses of Garlick are various: it has been long in estimation as an expectorant in pituitous asthmas, and other pulmonary affections, unattended with inflammation.^d Its utility as a diuretic in dropsies, is also attested by unquestionable authorities;^e

^b As in the urine, perspiration, milk; and according to Bennet, the discharge of ulcers becomes imbued with this odour very soon after the Garlick has been taken into the stomach. Vide *Tabidorum theat. exerc.* 29. p. 81. On being applied to the feet, the alliaceous taste has been produced in the mouth. Vide *Hall. opusc. bot.* p. 332.

^c *Lewis, M. M.* p. 33.

^d Dioscorides mentions its use in inveterate coughs. *M. M. l. 2. c.* 182. Celsus employed it mixed with honey in these complaints. *Lib. 4. c. 4. p.* 199. *ed. Kraus.* Vide *Mead. Monit. et præc.* p. 56. Rosenstein *Huf-och Rese-apot.* p. 71. & 87. He recommends the Garlick to be boiled in milk, a pint of which is to be taken night and morning. ^e See the cases related by Forestus, (*Obs. lib. 9. obs.* 27). Bartholinus, (*Hist. Anat. Cent. 2. hist.* 74. Sydenham, (*Oper.* p. 500).

and its febrifuge power has not only been experienced in preventing the paroxysms of intermittents,^f but even in subduing the plague.^g

Another virtue ascribed to Garlick is that of an anthelmintic:^h it has likewise been found of great advantage in scorbutic cases,ⁱ and in calculous disorders, acting in these not only as a diuretic, but in several instances manifesting a lithontriptic power.^k That the juice of alliaceous plants in general has considerable effects upon human calculi, is to be inferred by the experiments of Lobb;^l and we are abundantly warranted in asserting, that by a decoction of the beards of leeks, taken liberally, and its use persevered in for a length of time, has been found remarkably successful in calculous and gravelly complaints.^m

The penetrating and diffusive acrimony of Garlick renders its external application useful in many disorders, as a rubefacient, and more especially as applied to the soles of the feet, to cause a revulsion from the head or breast; as was successfully practised and recommended by Sydenham.ⁿ Garlick has also been variously employed externally to tumors and cutaneous diseases; and in certain cases of deafness a clove or small bulb of this root, wrapt in gauze or muslin, and in-

^f Vide Celsus *l. c. p.* 142. *De Hæn Rat. Med. P. ii. p.* 57. *sq.* Rosenstein *Barns sjukd p.* 317. Bergius. Vide *M.M. p.* 255. where he says, "In febribus quoque autumnalibus repullulantibus præclara identidem præstat. Vidi plures eodem curatos, etiam quos quartana vexaverat. Incipiendum a bulbulo unico mane & vesperi, sed quotidie unus bulbulus superaddendus, usquedum 4. vel 5. bulbulos sumserit æger qualibet vice. Si febris tunc evanuit, diminuenda erit dosis, & sufficit postea sumere unicuique, vel etiam binos bulbulos, mane & vesperi, per plures septimanas."

^g For this purpose it is to be given in such a way as to excite a copious diaphoresis. See the authors cited by Zorn. *Botan. Med. p.* 40. Chenot (*De peste. p.* 108. *sq.* and others.

^h By Hoffman, Rosenstein, Taube, and others.

ⁱ See Lauremberg *App. plant. l. i. p.* 22. Lind on scurvy, *p.* 182. 188. 224.

^k Vide Hoyer *Ephem. nat. cur. Cent. i p.* 126. Goetz *Æt. nat. cur. vol. 2. p.* 434. Möhring *Commerc. Nor. 1735. 220.*

^l De Dissol. calc. cap. 10.

^m A boy, six or seven years old, had for a considerable time suffered by a calculus in the urinary bladder, which had been discovered on sounding; he had recourse to this decoction, which very soon relieved the pain; after which his urine became extremely turbid, and constantly deposited a copious clay-like sediment for several weeks, when it resumed its natural appearance, and the boy has ever since been free from complaint. Another case similar to this has also been reported to us, of the truth of which we have not a doubt.

ⁿ Especially in the confluent small-pox, about the eighth day. *Epist. de variolis conf.*

roduced

roduced into the meatus auditorius, has been found an efficacious remedy.³

Garlick may be administered in different forms; swallowing the clove entire, after being dipped in oil, is recommended as the most effectual, or where this cannot be done, by cutting it into pieces without bruising it, may be found to answer equally well, producing thereby no uneasiness in the fauces. On being beaten up, and formed into pills, the active parts of this medicine soon evaporate: this we notice on the authority of Dr. Cullen, who thinks that Lewis has fallen into a gross error, in supposing dried Garlic more active than fresh.

The syrup and oxymel of Garlick, which formerly had a place in the British Pharmacopœias, are now expunged.

Bergius for this purpose recommends the juice of Garlick dropped on cotton. *l. c.*

MENTHA PIPERITA.

PEPPER-MINT.

SYNONYMA. *Mentha piperitis.* *Pharm. Lond. & Edinb.*
Mentha spicis brevioribus & habitioribus, foliis menthæ fuscæ, sapore fervido piperis. *Raii Synop. p. 234. Hist. v. iii. p. 284.* *Mentha piperita.* *Hudson Flor. Ang. p. 251. Withering Bot. Arrang. p. 599. Relban Flor. Cantab. p. 223. Icon. V. Knigge Diss. de mentha piperitide.*

Class Didynamia. *Ord.* Gymnospermia. *Lin. Gen. Plant. 713.*

Eff. Gen. Ch. *Corolla* subæqualis, 4-fida, lacinia latiore emarginata.
Stamina erecta, distantia.

Sp. Ch. *M. flor. capitatis, fol. ovatis petiolatis, staminibus corolla brevioribus.*

THE root is perennial, creeping, and furnished with many small fibres: the stems are erect, square, jointed, striated, somewhat branched towards the top, and rise about two feet in height: the leaves are egg-shaped, serrated, pointed, nerved, of a dark green colour, and stand in pairs upon footstalks: the flowers are small, purple, and produced

duced in terminal spikes, separated into clusters: the calyx is tubular, permanent, reddish, striated, hairy, and divided at the brim into five small pointed segments: the corolla is tubular, divided at the limb into four segments, of which the uppermost is the broadest, and notched at the apex: the filaments are two long and two short, tapering, and furnished with roundish antheræ: the germen is divided into four parts, supporting a slender erect style, which is longer than the corolla, and terminated by a cloven expanding stigma: the seeds are four, small, and lodged in the calyx. It is a native of England, affecting watery situations and banks of rivers, and flowers in August.

The spontaneous growth of this plant is said to be peculiar to Britain; but as it is generally preferred to the other species of Mint, its cultivation has long been extended over Europe, and that employed here is commonly raised in gardens. This species has a more penetrating smell than any of the other mints, and a much stronger and warmer taste, pungent and glowing like pepper, sinking as it were into the tongue, and followed by a sensation of coldness.

“ By maceration, or infusion, it readily and strongly impregnates both water and spirit with its virtue.—In distillation with water it yields a considerable quantity of essential oil of a pale greenish yellow colour, growing darker coloured by age, very light, subtile, possessing in a high degree the specific smell and penetrating pungency of pepper-mint.*——Rectified spirit, drawn off with a gentle heat from the tincture made in that menstruum, brings over little of the virtue of the herb, nearly all its pungency and warmth remaining concentrated in the extract.”^a——

Its stomachic, antispasmodic, and carminative qualities renders it useful in flatulent colics, hysterical affections, retchings, and other dyspeptic symptoms, acting as a cordial, and often producing immediate relief. Its officinal preparations are an essential oil, a simple water, and a spirit.

* Dr. Cullen observes, that “ rectification is particularly necessary and proper for this essential oil. What has been called essence of pepper-mint, seems to me to be no other than the rectified oil dissolved in spirit of wine.” Vide *M. M.* vol. ii. p. 150.

^a *Lewis, M. M.* p. 422.

We have already noticed that this plant yields camphor. See *Gaub. Advers.* p. 99. sqq.

SYNONYMA. *Mentha fativa.* *Pharm. Lond. & Edinb.* *Mentha angustifolia spicata.* *Baub. Pin. p. 227.* *Raii Hist. p. 532.* *Mentha angustifolia spicata, glabra, folio rugosiore, odore graviore.* *Raii Synop. p. 233.* *Mentha romana.* *Gerard. Emac. p. 680.* *Mentha romana angustifolia, five Cardiaca.* *Park. Theat. p. 31.* *Mentha foliis elliptico-lanceolatis, spicis cylindricis glaberrimis.* *Hall. Stirp. Helv. n. 229.* *Mentha spicata.* *Hudson. Flor. Ang. p. 221.* *Mentha viridis.* *Withering. Bot. Arrang. p. 597.*

Class. Didynamia. *Ord.* Gymnospermia. *Lin. Gen. Plant. 713.*

Eff. Gen. Ch. *Cor. subæqualis, 4-fida: lacinia latiore emarginata. Stamina erecta distantia.*

Sp. Ch. *M. spicis oblongis, foliis lanceolatis nudis serratis sessilibus, staminibus corolla longioribus.*

THE root is perennial, creeping, and beset with numerous small fibres: the stems are square, hollow, erect, branched, and rise above two feet in height: the leaves are large, elliptical, serrated, pointed, of a bright green colour, and placed in pairs close to the stem, or upon very short footstalks: the flowers are small, purplish, and produced in terminal spikes: the filaments are longer than the corolla. In other respects the different parts of the flower correspond with the description given of the pepper-mint. It flowers in August.

This plant grows wild in many parts of England, and was found on the banks of the Thames by Mr. Hudson*; but it is more rarely met with in this state than the preceding species. It is not so warm to the taste as pepper-mint, but has a more agreeable flavour, and is therefore preferred for culinary uses, and more generally cultivated in our gardens. Many virtues are ascribed to mint by the ancients,

* See *Withering*, l. c.

but to what species the ἡδυόσμος & Μινθὴ of the Greeks^a is to be referred, must ever remain uncertain: even at this time the different species of this extensive family are not satisfactorily ascertained; but, in a medical sense, this is of little importance, as the virtues of all reside in the aromatic flavour, which is common to the whole genus.

“ On drying, the leaves lose about three-fourths of their weight without suffering much loss of their smell or taste; nor is the smell soon dissipated by moderate warmth, or impaired on keeping. Cold water, by maceration for six or eight hours on the dry herb, and warm water in a shorter time, become richly impregnated with its flavour.—By distillation, a pound and a half of the dry leaves communicate a strong impregnation to a gallon of water: the distilled water proves rather more elegant if drawn from the fresh plant in the proportion of ten pints from three pounds. Along with the aqueous fluid an essential oil distils, of a pale yellowish colour, changing to a red, in quantity near one ounce from ten pounds of the fresh herb in flower, smelling and tasting strongly of the mint, but somewhat less agreeable than the herb itself. Dry mint, digested in rectified spirit, either in the cold or with a gentle warmth, gives out readily its peculiar taste and smell, without imparting the grosser and more ungrateful matter, though the digestion be long continued. The tincture appears by day-light of a fine dark green, by candle-light of a dark red colour: * a tincture extracted from the remaining mint by fresh spirit, appears in both lights green: the colour of both tinctures changes in keeping to a brown. On gentle distillation, with proof spirit, the spirituous portion which rises at first, discovers little flavour of the mint; but as soon as the watery part begins to distil, the virtues of the mint come over plentifully with it. Hence the spiritus

^a Mint has not escaped the notice of the Latin poets:

— — — — — An tibi quondam

Fœmineos artus in olentes vertere menthas

Persephone, licuit?

— — — — — OVID. MET. L. x. v. 728.

By Martial it is called “*rustatrix Mentha*.” *Epigr. L. 10. 48.*

* Dr. Withering says, “ the fact is, that a small quantity of this tincture is green either by day-light or by candle-light, but a large quantity of it seems impervious to common day-light: however, when held between the eye and a candle, or between the eye and the sun, it appears red; so that if put into a flat bottle it appears green, but when viewed edgewise, red. *L. c.*”

menthæ

menthæ fativæ. P. L. which is prepared by drawing off a gallon of proof spirit from a pound and a half of the dried plant, proves strongly impregnated with the mint.”^b

To Spear-mint are to be ascribed the same medicinal qualities which we have noticed of Pepper-mint^{*}; but the different preparations of the former, though more pleasant, are perhaps less efficacious. “It contains much essential oil, but of an odour somewhat less agreeable than that of lavender or marjoram. It is therefore less employed as a cephalic; but it acts very powerfully on the parts to which it is immediately applied, and therefore considerably on the stomach, invigorating all its functions. It acts especially as an antispasmodic, and therefore relieves pains and cholic depending upon spasm. It will also stop vomiting, depending upon such a cause; but there are many cases of vomiting in which it is of no service: and in these cases, anywise depending upon inflammatory irritation in the stomach itself, or in other parts of the body, it aggravates the disease, and increases the vomiting. Practitioners have thought, and I think justly, that the infusion of mint in warm water, agrees better with the stomach than the distilled water, which is often somewhat empyreumatic.”^c

Lewis observes,^d “that it is said by some to prevent the coagulation of milk; and hence it has been recommended to be used along with milk diets, and even in cataplasms and fomentations for resolving coagulated milk in the breasts: upon experiment, the curd of milk, digested in a strong infusion of mint, could not be perceived to be any otherwise affected than by common water; but milk, in which mint leaves were set to macerate, did not coagulate near so soon as an equal quantity of the same milk kept by itself.”^e

The officinal preparations of Spear-mint are an essential oil, a conserve, a simple water, and a spirit.

^{*} In proof of the emmenagogue power of mint, Linnæus informs us, that a woman, by the frequent use of it, became subject to menorrhagia. Vide *Diff. de Menthæ usu*, p. 9.

^b Lewis, *M. M.* p. 419.

^c Cullen, *M. M.* vol. ii. p. 149.

^d L. c.

^e We are told, that “when cows have eaten the *mentha arvensis*, as they will do largely at the end of summer, when the pastures are bare, and hunger distresses them, their milk can hardly be made to yield cheese; a circumstance which sometimes puzzles the dairy-maids.” *With. l. c.*

MENTHA

MENTHA PULEGIUM. PENNYROYAL MINT.

SYNONYMA. Pulegium. *Pharm. Lond. & Edinb. Raii Hist.* p. 533. *Synop.* p. 235. Pulegium latifolium. *Baub. Pin.* p. 222. Pulegium regium. *Gerard Emac.* p. 671. Pulegium vulgare. *Park. Theat.* p. 29. Mentha caule prostrato, foliis subrotundis obiter dentatis, staminibus exsertis. *Hall. Stirp. Helv. n.* 221. Mentha Pulegium. *Hudson. Flor. Ang.* p. 254. *Withering. Bot. Arr.* p. 602. *Lightfoot. Flor. Scot.* p. 306. *Relban. Flor. Cantab.* p. 224.

Class Didynamia. *Ord.* Gymnospermia. *Lin. Gen. Plant.* 713.

Eff. Gen. Cb. *Cor.* subæqualis, 4-fida: lacinia latiore emarginata. *Stamina* erecta distantia.

Sp. Cb. *M.* floribus verticillatis, foliis ovatis obtusis subcrenatis, caulibus subteretibus repentibus.

THE root is perennial, creeping, fibrous: the stems are slender, procumbent, obtusely quadrangular, branched, and about a foot in length: the leaves are ovate, obtuse, somewhat indented, smooth, of a bright green colour, and stand upon short footstalks at the joints of the stem: the flowers are small, of a pale purple colour, and surround the stem at the joints in whorls: the calyx is tubular, striated, ventricose, and divided into five bearded segments; of these the two uppermost are the largest; the undermost one the least. The other parts of inflorescence agree with the preceding species of *Mentha* already described. It flowers in August and September.

Pennyroyal, like the other mints, is a native of Britain, affecting heaths and moist situations; but that used for medicinal purposes is commonly the produce of cultivation. It has a warm pungent flavour, somewhat similar to mint, but more acrid, and less agreeable both in
finell

smell and taste. Its "active principle is an essential oil, of a more volatile nature than that of mint, coming over hastily with water at the beginning of the distillation, and rising also in great part with highly-rectified spirit; in taste very pungent, and of a strong smell; when newly drawn, of a yellowish colour, with a cast of green; by age turning brownish."^a

The Pulegium certainly possesses the general properties of the other mints: it is supposed, however, to be of less efficacy as a stomachic, but more useful as a carminative, and emmenagogue, and is more commonly employed in hysterical affections. We are told by Boyle,^b and others, that it has been successfully used in the whooping-cough; but the chief purpose to which it has long been administered is promoting the uterine evacuation. With this intention, Haller recommends an infusion of the herb with steel, in white wine, which he never knew to fail of success.^c However, in the opinion of Dr. Cullen, mint is in every respect a more effectual remedy than Pennyroyal; and "nothing but the neglect of all attempts to establish principles could have made physicians think of this as a peculiar medicine different from the other species:"^d and conformably to this remark, it may be observed, that this plant is less frequently used now than formerly.

Its official preparations are a simple water, a spirit, and an essential oil.

^a *Lewis, M. M. p. 524.*

^b See his Works, Vol. iv. p. 475. Sauvages *Nosol. T. 2. P. 2. p. 157.* ^c *He says, —quod me nunquam fefelleret. Vide, l. c.*

^d *Mat. Med. vol. ii. p. 150.*

DOLICHOS PRURIENS. COWHAGE DOLICHOS.

SYNONYMA. Dolichos. *Pharm. Edinb.* Phaseolus Zurratensis filiqua hirsuta, Couhage dicta. *Raii Hist. p.* 887. Phaseolus americanus, foliis molli lanugine obsitis, filiquis pungentibus, femine fusco punctato. *Pluk. Phyt. p.* 214. *f.* 1. Phaseolus utriusque Indiæ, lobis villosis pungentibus minor. *Sloane Jam. vol. i. p.* 37. Phaseolus virgatus hirsutus pruriginæus. *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. Cochîn. 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.

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

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, Cowhage, 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*.

Though 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

^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*.

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 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 empirical 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

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

“ 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. 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

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

^d See Vol. ii.

^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.*

ACORUS CALAMUS. SWEET FLAG, Or ACORUS.

SYNONYMA. Calamus aromaticus. *Pharm. Lond. & Edinb.*
 Acorus verus, five Calamus aromaticus officinarum. *Baub. Pin.*
p. 34. Park. Theat. p. 140. Raii Hist. p. 1313. Synop. p. 437.
 Acorus verus, officinis falsò Calamus. *Gerard Emac. p. 62. Acorus.*
Hall. Stirp. Helv. n. 1307. Acorus Calamus. Hudson Flor. Ang.
p. 147. Withering. Bot. Arr. p. 357. Relban. Flor. Cant. p. 140.
 Thach xuog bô. *Flor. Cochîn. p. 208.*

Class Hexandria. Ord. Monogynia. Lin. Gen. Plant 434.

Eff. Gen. Ch. Spadix cylindricus, tectus flosculis. Cor: 6-petalæ,
nudæ. Stylus nullus. Caps. 3-locularis.

Sp. Ch. A. scapi mucrone longissimo foliaceo. Hort. Kew.

THE root is perennial, horizontal, crooked, pointed, fibrous, somewhat compressed, about an inch thick, externally yellowish, with a greenish tinge, rugose, internally whitish, and of a spongy texture: the leaves are long, sword-shaped, sheathing one another, and commonly undulated on one side: the flowers are small, numerous, and produced on a spadix or conical spike at the edge of the leaf: there is no calyx: the corolla is composed of six petals, which are small, membranous, concave, and appear truncated: the six filaments are thick, somewhat longer than the petals, and furnished with double antheræ: the germen is gibbous, oblong, without a style, and terminated by a pointed stigma: the capsule is oblong, triangular, and divided into three cells, containing numerous oval seeds.

According to Linnæus, this is the only true aromatic plant indigenous to northern climates. It is common in many parts of England, and usually grows in stagnant waters, and the sides of rivers, producing its flowers in May and June.

The roots of *Calamus aromaticus* have been long medicinally employed,^a and were formerly imported here from Asia and the Levant;

^a The virtues of *Calamus aromaticus* are noticed both by the Greeks and Arabians. See *Dios. L. 1. c. 2. Alpin. p. 141.*

but those of English growth are now very generally substituted, and found to be little or nothing inferior to the exotic sort, which is merely a variety of the same species.^b

The root, in its dried state, has a moderately strong aromatic smell, and a warm pungent bitterish taste. Water is found to extract the bitter matter of the root most completely, and rectified spirit that of the aromatic. It imparts its virtues to water in distillation along with a small quantity of essential oil, amounting only to two ounces from fifty pounds of the root, according to Hoffman; but Neuman and Cartheuser obtained the oil in a much larger proportion.

The root of Calamus, though not heating like the spices, manifests to the taste considerable pungency, and a moderate share of bitterness, and has therefore been deemed useful as a warm stomachic, and was formerly much used here in combination with the more simple bitters, which, by this addition, were rendered more grateful and carminative. It has been recommended in vertigo, proceeding from a vitiated stomach,^c and in intermittent fevers, which we are told were cured by this root, after the bark had failed.^d We are also informed of its efficacy in scorbutic and hæmorrhagic complaints;^e but to this, little credit will be given, and much less to the supposed alexipharmic power of Calamus, though it is an ingredient in the theriaca and mithridate of dignified memory, and still is much used in eastern countries as a preservative against contagion.

^b Vide *Lin. Sp. Pl.* p. 462.

^c *De Mayerne. Prax. Med.* p. 59.

^d *Act. Societ. Med. Havn. vol. 9.* p. 206.

^e See *Murray. App. Med. v. 5.* p. 42.

CALAMUS ROTANG.

ROTANG CANE.

Sanguis draconis, *Pharm. Lond. & Edinb.* e fructibus hujus arboris maxime defumitur.

SYNONYMA. *Palmijuncus Draco. Rumph. Herb. Amb. tom. 5. p. 114. tab. 58. f. 1. Dsierenang. Kämpfer. Amœn. Exot. p. 552.*

Class Hexandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 436.

Eff. Gen. Ch. *Cal.* 6-phyllus. *Cor.* o. *Bacca* exarida, 1-sperma, retrorsum imbricata.

THIS tree may be considered as a scandent kind of palm: the lower part of the stem, to the extent of two or three fathoms, is strong, erect, hollow, jointed, and beset with numerous spines; afterwards it takes a horizontal direction, and overruns the neighbouring trees to the distance of fifty or even one hundred feet: the leaves are several feet long, and composed of numerous pinnæ, which are nearly a foot long, narrow, sword-shaped, and at the edges serrated with spinous teeth: the flowers are produced in spikes, which separate into long spreading branches: the calyx is divided into six persistent leaflets, three exterior and three interior; the former are very short and pointed, the latter are oblong, concave, rigid, and unite closely, so as commonly to conceal the inner parts of the flower: it has no corolla: the filaments are six, capillary, and furnished with round antheræ: the germen is roundish, placed above the insertion of the calyx, and the style is trifid, filiform, twisted in a spiral manner, and terminated by simple stigmata: the fruit is somewhat larger than that of a filbert, membranous, round, one-celled, covered with regular inverted obtuse scales, and contains a red resinous pulp, which soon becomes dry: the seed is round and fleshy. It is a native of the East Indies, where it commonly grows in woods near rivers, and has long supplied Europe with walking-canes, which have usually been imported by the Dutch.

According

According to Linnæus there are several varieties of the *Calamus Rotang*, which he has founded upon the different figures of this tree given by Rumphius; but whether these are varieties only, or distinct species, it is not for us to determine. The specimens of the *Calamus* in the herbariums of Sir Joseph Banks and Dr. Smith, differ considerably in their foliage; so that different species of this obscure genus will probably in future be systematically defined; our business however has only been to select for delineation that which accorded best with the descriptions of it given by Rumphius and Kämpfer, conformably to the synonyms to which we have referred.

Several trees are known to abound with a red resinous juice, which is obtained by wounding the bark, and called dragon's blood, as the *Pterocarpus Draco* or *Pterocarpus officinalis* of Jacquin, the *Dracaena Draco*, the *Dalbergia monetaria*, and the *Pterocarpus fontolinus*.— Besides these, many of the Indian red woods, while growing, pour forth through the fissures of the bark a blood-coloured juice, forming a resinous concretion, to which the name dragon's blood has been affixed.* This drug however is chiefly obtained from the fruit of the *Calamus Rotang*, and is procured at the Molucca Islands, Java, and other parts of the East Indies, according to Kämpfer, by exposing this fruit to the steam of boiling water, which softens the external shell, and forces out the resinous fluid, which is then inclosed in certain leaves, of the reed kind, and hung in the air to dry. Another way of obtaining the *Sanguis Draconis* is by simply boiling the fruit in water, inspissating the strained decoction, and drying it in the same manner as the former. In Palimbania the external surface of the ripe fruit is often observed covered with the resin, which is rubbed off by shaking the fruit together in a bag; when this is done, the drug is melted by the sun's heat, and formed into globules, which are folded in leaves: this is deemed the purest kind of dragon's blood; and that which is next in goodness is procured by taking the fruit, which is found to

* As some of the Crotons, (vide *Linn. Supp.* p. 319) and other trees noticed by Cranz, *de duabus draconis arboribus.* ad, p. 13: An exudation similar to the *sanguis draconis* produced from a tree at Botany Bay, was discovered by Sir Joseph Banks and Dr. Solander. Vide *Hawkesworth's Collection of Voyages*, vol. 3: p. 498: & 505. But the substance now known at New South Wales by the name of red gum, is perfectly soluble in water; the yellow gum of this place is however in its chemical and medicinal qualities not very different from *sanguis draconis*, and has been successfully employed as an astringent by Dr. Blane. See *Phillip's Voyage to New South Wales.* p. 59.

be still distended with resin, out of the bag, and, after bruising it, exposing it to the sun, or boiling it gently in water; the drug then appears floating upon the surface, and is skimmed off and shaped into small cakes. The inferior sort of dragon's blood is that which rises from the crude fruit after being long boiled, and is usually formed into very large cakes, or masses, in which the membranous parts of the fruit, and other impurities, are intermixed. It is also brought to us adulterated, or artificially composed, in various ways. Both the small globules, and the large masses, which we have noticed, are imported here, and found to vary widely in goodness and purity. The best kind of this gummy resinous substance breaks smooth, is of a dark red colour, and when powdered changes to crimson; it readily melts, and catches flame. It is not acted upon by watery liquors, but it totally dissolves in pure spirit, and soluble likewise in expressed oils. It has no smell, but to the taste discovers some degree of warmth and pungency.

The Cinnabris and Sanguis Draconis appear to have signified the same thing with the Ancient Greeks,* who were well acquainted with the astringent power of this medicine; and in this character it has since been much employed in hæmorrhages and alvine fluxes. At present however it is rarely used internally, being superseded by more certain and effectual remedies of this numerous class; and it enters no officinal composition but that of emplastrum thuris of the London Pharmacopœia.

* Κινναβας, αιμα δρακοντος.

CUCUMIS COLOCYNTHIS. BITTER CUCUMBER,
Or, COLOQUINTIDA.

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

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

Ess. Gen. Ch.

Eff. Gen. Ch. MASC. Cal. 5-dentatus. Cor. 5-partita. Filamenta 3.
FEM. Cal. 5-dentatus. Cor. 5-partita. Pist. 3-fidum.
Pomi semina arguta.

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

THE root is annual, white, divided into long branches, which strike deeply into the ground: the stems trail, like those of the garden cucumber, a considerable length, and are beset with rough hairs: the leaves are of a triangular shape, obtuse, variously sinuated, hairy, on the upper surface of a fine green, beneath rough, and whitish: the flowers are yellow, solitary, and appear at the axillæ of the leaves: the calyx of the male flowers is bell-shaped, and divided at the brim into five tapering segments: the corolla is monopetalous, bell-shaped, and divided at the limb into five pointed segments: the filaments are three, two of which are bifid at the apex; they are all very short, and inserted into the calyx: the antheræ are linear, long, erect, and adhere together on the outer side: the calyx and corolla of the female flower are similar to those of the male: the three filaments are without antheræ: the germen is large: the style cylindrical, very short, furnished with three stigmata, which are thick, gibbous, bifid, and bent outwardly: the fruit is a round apple, of the size of an orange, divided into three cells, abounding with a pulpy matter, separated everywhere by cellular membrane, and including many ovate compressed seeds. The flowers appear from May till August.

Colocynth is imported for use to this part of Europe from Turkey, but it is yet unknown here of what place this plant is a native. It seems to have been cultivated in Britain in the time of Turner, and the figure we have given was drawn from a specimen of the plant produced by sowing the seed in a hot bed. Though the plants thus raised put forth flowers readily, they are very rarely known to bear fruit. The spongy membranous medullary part of the fruit is directed for medicinal use: this, "which to the taste is nauseous, acrid, and intensely bitter, on being boiled in water, renders a large quantity of the liquor ropy and slimy: even a tincture of it made in proof spirit is so glutinous as not to pass through a filter, and not easily
 through

through a common strainer. The watery decoctions inspissated, yield a large proportion, half of the weight of the colocynth, or more, of a mucilaginous extract; which purges strongly, but with much less irritation, and greater safety, than the colocynth itself, and appears to be the best preparation obtainable from this drastic drug."^a

This very powerful and irritating cathartic is the *Κολοκυνθίς* of the Ancient Greeks, and the Alhandal of the Arabians. It was frequently employed by both in different diseases, though not without an apprehension of danger, from the violence of its effects, of which various instances are related.^b In doses of ten or twelve grains this substance purges with great vehemence, frequently producing violent gripes, bloody discharges, and even disordering the whole system. Many attempts therefore have been made to correct its virulence, by the addition of acids, astringents, and the like; but these seem to answer no other purpose than what might be equally effected by a reduction of the dose. "The best method of abating its virulence, without diminishing its purgative virtue, seems to be by triturating it with gummy farinaceous substances, or the oily seeds, which, without making any alteration in the colocynth itself, prevents its resinous particles from cohering, and sticking upon the membranes of the intestines, so as to irritate, inflame, or corrode them."^c

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

^a *Lewis, M. M. p. 246.*

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

^c *Edinburgh New Dispens. by Dr. Duncan. p. 175.*

^d As worms, lues venerea, cephalalgia, mania, dropsy, Gonorrhœa, epilepsy, asthma, &c.

CROCUS SATIVUS.

SAFFRON CROCUS.

SYNONYMA. Crocus. *Pharm. Lond.* Gerard. *Emac.* p. 151. *Raii Hist.* p. 1176. *Synop.* p. 374. Crocus verus fativus autumnalis. *Park. Parad.* p. 167. Crocus fativus. *Baub. Pin.* p. 65. *Hudson. Flor. Ang.* p. 13. *Withering. Bot. Arr.* p. 37. *Relhan. Flor. Cant.* p. 15. *Miller's Figures*, t. 111. Conf. *Douglas. Phil. Transf.* vol. 32. p. 441. *Du Hamel, and Fougereux De Bon-daroy. Mem. de L'Acad. des Scien. de Paris*, 1728. p. 100. and p. 92. f. 1. 2.

Class. Triandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 55.

Eff. Gen. Ch. Cor. 6-partita, æqualis. *Stigmata* convoluta.

Sp. Ch. C. spathe univalvi radicali, corollæ tubo longissimo.

α C. autumnalis, foliis angustioribus margine revolutis. *Miller. Illuf.*

β C. vernalis, foliis latioribus margine patulo. *Jacquin. Aust.* v. 5.
Curt. Mag. 45.

THE root is bulbous, perennial: the flower appears after the leaves, rising very little above the ground upon a slender succulent tube: the leaves rise higher than the flower, are linear, simple, radical, of a rich green colour, with a white line running in the centre, and all at the base inclosed along with the tube of the flower in a membranous sheath: the flower is large, of a bluish purple, or lilac colour: the corolla consists of six petals, which are nearly elliptical, equal, and turned inwards at the edges: the filaments are three, short, tapering, and support long erect yellow antheræ: the germen is roundish, from which issues a slender style, terminated by three long convoluted stigmata, of a deep yellow colour: the capsule is roundish, three-lobed, three-celled, three-valved, and contains several round seeds. It flowers in September and October.

It is now indubitably ascertained that this plant is a native of England, though unknown to Ray, Miller, and several other subsequent botanists. It has been long cultivated for use in this and in many other countries; but English Saffron is generally preferred here to that which is imported from abroad, and may be distinguished by its parts being larger and broader. All the different plants of this genus are by Linnæus considered only as varieties of the *C. sativus*. Jacquin,^a however, makes a distinct species of the spring *Crocus*: in this he has been followed by Curtis, who has published a figure of the plant in his botanical magazine: and Miller, who describes four species of this family, thinks all of them “ must be allowed to be specifically different, since they do not vary to each other.”^b

The stigmata of the *Crocus* here figured, which constitute the officinal Saffron, are easily to be distinguished from those of the other varieties, and in the neighbourhood of Saffron-Walden, and in some parts of Cambridgeshire, where the plant is chiefly cultivated, are prepared for use in the following manner. In autumn, when the flowers appear, they are gathered every morning, and are spread upon a table; the stigmata along with a portion of the style, are then picked from the other part of the flowers, which are thrown away as useless. The stigmata being thus collected in sufficient quantity are then dried, which is effected by means of portable kilns, of a peculiar construction, over which a hair cloth is stretched; and upon this are placed a few sheets of white paper, on which the stigmata are strewed, about two or three inches thick, and then covered with several sheets of paper, over which is laid a coarse blanket, five or six times folded, or a canvas bag filled with straw; and when the fire has heated the kiln, a board, on which a weight is put, is placed upon the blanket in order to press the Saffron into a cake. For the first hour a pretty strong fire is employed; the Saffron is then found to be formed into a cake, which, after being turned, is subjected for another hour to the same degree of heat: it is then turned a second time, and a more gentle heat is applied for about twenty-four hours, or till the cake becomes dry, during which time it is turned every half hour.^c

^a Vide *l. c.* ^b See *Dict.* ^c For a full account of the cultivation and management of Saffron, see *Douglas* in *Phil. Transf.* vol. 35. p. 566. And *Miller's Dict.*

Saffron, thus prepared, has a powerful penetrating diffusive smell, and a warm pungent bitterish taste. "It gives out the whole of its virtues and colour to rectified spirit, proof spirit, wine, vinegar, and water: about three parts in four of the Saffron are taken up by each of these menstrua; and the matter which remains undissolved is inodorous, insipid, and of a pale clay colour."^d The acetous, and even vinous tinctures of Saffron, on long keeping, lose a little of their colour and strength, but those made with rectified spirit remain in perfection for years.^e "In distillation it impregnates water strongly with its flavour: if the quantity of Saffron is large, a small portion of a fragrant and very pungent essential oil may be collected, amounting, as is said by Vogel, to about a dram and a half from sixteen ounces. Rectified spirit elevates also a considerable share of its flavour, but leaves much the greater part concentrated in the extract."^f

Saffron is evidently the *Κρόκος* of the Greeks, *Crocus* of the Latins, and *Zaffaran*, or *Zahafaran*, of the Arabians. It was held in much estimation by the Hebrews, who called it *Carcom*, and was greatly celebrated in ancient times both by physicians and poets. As a medicine, Saffron was considered to be very powerful. Schroder asserts, that if taken to the quantity of two or three drams, it proves fatal; and by several authors we are informed, that in large doses it produced cephalalgia, intoxication, and mania.^h We are also assured, that it penetrates every part of the body, tinging the solids and excretions with a yellow colour;ⁱ and that even the odour or effluvia of this drug, have been known to produce deleterious effects.^k It appears, however, from the experiments of Dr. Alexander,^l that Saffron possesses but very little active power, and may be taken in considerable quantity, without producing any remarkable effect: and it was lately given in the Edinburgh Infirmary, by Dr. Henry Cullen, even to the extent of half an ounce a-day, in several hysterical cases, without any sensible effect whatever.*

^d Lewis, *M. M.* p. 258.

^e *Ibid.*

^f *Ibid.*

^h See especially Zacut. *Lust.* apud Fricc. *de venen.* p. 394.

ⁱ Hertodt, *Crocologia.* p. 279.

^k Borellus. *Hist. et Obs. cent.* 4. *Obs.* 35. p. 303. Tralles, *de Opio. sect.* I. p. 114. Zacut. *Lust.* l. c.

^l *Experimental Essays*, p. 88.

* See Duncan's *Edinburgh New Dispensatory*, p. 178.

Writers on the *Materia Medica* have very generally considered Saffron as a most exhilarating cordial; and for this purpose Boerhaave preferred the extract, inspissated only to the consistence of oil: but the observations of modern physicians do not furnish us with one instance in which this drug had any remarkable effect in raising the spirits; on the contrary Bergius informs us, that a lady always experienced great despondency by taking this medicine. It has been supposed of considerable efficacy as an emmenagogue; Riverius mentions a singular case of its powerful action in this way.^m Dr. Cullen also informs us, that he has found it to succeed in this character in one or two instances; but that in many others, though repeatedly employed in large doses, no good effect was produced.ⁿ Another quality for which Saffron has been esteemed, is that of an antiseptic; yet though, (according to the experiments of Sir John Pringle,^o) it manifested the power of retarding the putrefactive process of animal matter, we have no proof of its efficacy in this way on the living body, infected by a putrid disease. Saffron has also been employed as a diaphoretic, and for the purpose of throwing out variolous pustles, and other exanthemata; but this practice seems to have originated from a mistaken notion of the action of Saffron, as well as from a fallacious pathology, which is now utterly exploded. In short, though the sensible qualities of this medicine are pretty considerable, it appears to us to possess no other power than simply that of an aromatic: and Dr. Cullen declares, that he “has not been more puzzled upon any occasion, than in ascertaining the medicinal qualities of this substance;”^p so that the words of a very classical writer may still be applied to it, though with a contrary view: “Nec poteris croci dotes numerare, nec usus.”

At present very little confidence is placed in this medicine, though it enters several officinal compositions. The Edinburgh College directs a *tinctura croci*, but that of London only retains a syrup of this drug.

^m *Opera ed. Horst.* p. 136. ⁿ *Cullen, M. M. vol. ii.* p. 313.

^o *Diseases of the Army, App.* p. 20.

^p *L. c.*

COLCHICUM AUTUMNALE.

COMMON MEADOW
SAFFRON.

SYNONYMA. Colchicum. *Pharm. Lond. & Edinb.* Colchicum commune. *Baub. Pin. p. 67. Raii Hist. p. 1170. Synop. p. 373.* Colchicum purpureum & Anglicum album. *Gerard Emac. p. 157. Park. Parad. p. 153.* Colchicum Flore folium longe præcedente, petalis ovatis. *Hall. Stirp. Helv. n. 1255.* C. autumnale. *Hudson. Fl. Ang. p. 136. Ed. 1762. Light. Fl. Scot. p. 192. Withering. Bot. Arr. p. 379. Stoerck Lib. de Colch. autumn.*

Class Hexandria. *Ord.* Trigynia. *Lin. Gen. Plant.* 457.

Eff. Gen. Ch. Cor. 6-partita: tubo radicato. *Capsulæ* connexæ inflatæ.

Sp. Ch. C. foliis planis lanceolatis erectis.

α Flore simplici. β Flore pleno.

THE root is perennial, consisting of a solid double succulent bulb, covered with a brown membranous coat: the flower is large, of a purplish colour, and rises immediately from the root upon a long naked tube,^a like that of the Saffron: the leaves appear in the spring, and are numerous, radical, spear-shaped, one or two much narrower than the others: there is no calyx: the corolla is monopetalous, and divided into six lance-shaped large erect segments, of a pale purple colour: the filaments are six, tapering, white, much shorter than the corolla, and furnished with erect pointed yellow antheræ: the germen is lodged at the root, from which issue three slender styles, reflexed at the top, and terminated by simple pointed stigmata: the capsule is three-lobed, divided into three cells, containing numerous small globular seeds, which do not ripen till the succeeding spring, when the capsule rises above the ground upon a strong peduncle. It is a native of England, affecting meadow grounds of a rich soil,^b and flowers in September.

^a Hence it has been called *naked lady*. ^b It is not so rare a plant as the Saffron.

The recent root of this plant has been received into the *Materia Medica* of both Pharmacopœias, on the recommendation of Baron Stœrck, who first thought of converting this acrid poison to the purposes of medicine.^c Respecting its effects and sensible qualities, authors have given very different reports. Haller informs us, that he found this root perfectly void of taste and acrimony.^d Krapf likewise says, that he ate the whole bulbs without feeling any inconvenience, except that of an ungrateful bitterish taste;^e and Kratochvill gave this root with impunity to several in doses of two, three, and even four drams;^f while Stœrck tells us, that by gently rubbing the root against the tip of his tongue, it rendered the part rigid, and almost void of sensation, for several hours.^g Ehrmann,^h Marges,ⁱ Murray,^k and several other writers, also bear testimony to the great acrimony of *Colchicum*; so that we can only reconcile these contradictory accounts by supposing these roots to vary much according to their age, the soil in which they grow, and probably still more according to the season of the year in which they are dug up. Baron Stœrck asserts, that on cutting the fresh root into slices, the acrid particles emitted from it irritated the nostrils, fauces, and breast; and that the ends of the fingers with which it had been held, became for a time benumbed;^l that even a single grain in a crumb of bread, taken internally, produced a burning heat and pain in the stomach and bowels, urgent strangury, tenesmus, colic pains, cephalalgia, hiccup, &c.^m From this relation, it will not appear surprising that we find several instances recorded in which the *Colchicum* proved a fatal poison both to manⁿ and brute animals.^o

^c The external use of this root, and the wearing it inclosed in a bag, suspended about the neck, which was formerly practised for the purpose of preventing and curing pestilential fevers, will hardly be thought an exception to this assertion. ^d *L. c. n.* 1256.

^e *Cont. Experim. in Stœrck. p. 233.* ^f *Vide Kratochvill de Colch. p. 35.* ^g *Lib. de Colch. p. 8. 9.* ^h *Diff. de Colch. Basil. 1772. §. 5.* ⁱ *Vide Journal de Med. tom. 23. p. 32. sq.* ^k *App. Med. vol. 5. p. 196.* ^l *L. c. p. 25.* ^m *L. c. p. 11.*

ⁿ Two boys, after eating this plant, which they found growing in a meadow, died in great agony. *J. Agricola Ammonius, Medic. herbar. lib. 1. p. 90.* See also *Ludovici Opera, p. 63.* Violent symptoms have been produced by taking three of the flowers. *Garidel, Plantes d'Aix. p. 123.* The seeds likewise have been known to produce similar effects. *Bresl. Samml. 1723. p. 679.* ^o Deer and oxen have fallen a sacrifice to this poison; and according to Stœrck two drams of the root killed a dog in thirteen hours, and upon opening its abdomen, the stomach and bowels were found to be greatly inflamed, or in a gangrenous state. *L. c. p. 17.*

From

From various observations on the effects of *Colchicum* made by Baron Stoerck, and especially upon the infusion of three grains of the fresh root in four ounces of wine, he remarked that its diuretic power was very considerable, and therefore concluded that if its deleterious acrimony were destroyed, it might prove in this character an efficacious medicine; accordingly he digested an ounce of the recent root sliced in a pound of vinegar for forty-eight hours with a gentle heat; the vinegar being then strained, it proved acrid to the taste, constricted and irritated the fauces, and excited a slight cough; to obviate which, he mixed the vinegar with twice its weight of honey, and gently boiled it down to the consistence of honey, forming an oxymel sufficiently grateful, and which, taken in doses of a dram, promoted a copious discharge of urine, without producing any inconvenience from its acrimony, though it moderately stimulated the fauces, and absterged the mucus. Thus, like the squill, it was found both expectorant and diuretic; and the successful use of this medicine in various hydropic disorders in the hospital at Vienna, equalled the Baron's utmost expectations. He recommends, at first, a dram of the oxymel to be given twice a day in any suitable vehicle, and gradually to increase the dose to an ounce or more in a day. Many other practitioners, who employed the oxymel colchici in these complaints, also experienced its good effects, especially in Germany^p and France,^q where it continues to be a favourite medicine: in England, however, the *Colchicum* has been less successful, and is very generally thought a less efficacious diuretic than the squill, which excels it still more as an expectorant. The London College, conformably to the practice of Stoerck, directs an oxymel colchici, and that of Edinburgh a syrup; the latter however differs from the former only in using sugar instead of honey.

^p As Zach, Krapf, Plenck, Collin, Ehrmann, and others.

^q We may here mention Marges, Planchon, Du Monceau, &c. &c.

^r Vide *Med. Obs. & Inq.* vol. 3. præf. See also *Mouro's Essay on Dropsy*, p. 108.

RUMEX HYDROLAPATHUM.

WATER DOCK.

SYNONYMA. Hydrolapathum. *Pharm. Edinb.* Lapathum aquaticum, folio cubitali. *Baub. Pin.* p. 116. Hydrolapathum magnum. *Gerard Emac.* p. 389. Hydrolapathum majus. *Park. Theat.* p. 1225. *Raii Hist.* p. 171. *Synop.* p. 140. §. 1. Lapathum foliis longè lanceolatis, paniculis densissimis. *Hall. Stirp. Helv. n.* 1588. R. Hydrolapathum. *Hudson. Flor. Ang.* p. 154. *Withering. Bot. Arr.* p. 374. *Relban. Flor. Cant.* p. 149.

Class Hexandria. *Ord.* Trigynia. *Lin. Gen. Plant.* 451.

Eff. Gen. Ch. Cal. 3-phyllus. *Petala* 3, conniventia. *Semen* unicum triquetrum.

Sp. Ch. R. floribus hermaphroditis: valvulis integris graniferis, foliis lanceolatis acutis. *Hudson, l. c.*

THE root is perennial, large, thick, externally black, internally whitish: the stem is erect, channelled, branched, green, and rises about five feet in height: the upper leaves are long, narrow, and on the flower-spikes linear and pointed; those at the bottom of the stem are near a foot and a half in length, of a narrow ovate form, somewhat indented at the edges, and stand upon long strong channelled footstalks: the flowers are numerous, and hang in whorled spikes upon slender peduncles: the calyx is divided into three narrow pointed permanent segments: the corolla consists of three petals, which are ovate, narrow, pointed: the stamina are six, short, slender, and furnished with erect double antheræ: the germen is turban-shaped, triangular, and supports three reflexed styles, terminated by rough glandular stigmata: the capsule is formed of the three petals, which by approaching each other assume a triangular form, and in this state

are called *valves*; these are very large, ovate, pointed, slightly notched towards the base, and furnished with an oblong grain, extending down the middle of each valve: the seed is solitary, ovate, triangular. It is a native of England, growing in ditches, pools, and rivers, and flowers in July and August.

The Hydrolapathum of the Edinburgh Pharmacopœia is referred to the *R. aquaticus* of Linnæus, which is supposed to be a different species from the Hydrolapathum of Mr. Hudson,^a though the same synonyms are ascribed to both. The plant here represented, which was found in the river Rodon, near Woodford Bridge, by having toothed valves, does not agree with the specific characters given by either of these authors; but it seems to correspond exactly with the description of it subjoined by Dr. Withering.^b

The root, which is the part of this plant directed for medicinal use, has a strong austere taste, and readily strikes a black colour to a solution of ferrum vitriolatum, and yields its active matter both to water and to rectified spirit.

Many of the Lapatha^c were formerly officinal herbs, of which the Water Dock has been esteemed to be the most efficacious, and by the Edinburgh College is still retained in the *Materia Medica*: the leaves, which manifest considerable acidity, are said to possess a laxative quality, and have therefore been used to obviate costiveness: the roots are strongly astringent, and have been much employed both externally and internally for the cure of scurvy;^d especially when the gums are spongy, and frequent hæmorrhages supervene. It is also recommended in various other cutaneous discharges, and in visceral obstructions: and in order to give the Hydrolapathum additional importance, Muntingius has taken great pains to prove that it is the *Herba Britannica*

^a *L. c.*

^b *L. c.*

^c From λαπαζω, evacuo λαπτω, idem. Alston.

———— Si dura morabitur alvus,
Mitulus & viles pellent obstacula conchæ
Et Lapathi brevis herba.

HORAT. SAT. 4. lib. 2. v. 27.

^d Linnæus speaks highly of its use. Vide *Amœn. vol. 4. p. 38. Flor. Suec. p. 118.* And in *Lind's Treatise on the Scurvy, p. 264.*

of the ancients;° but many physicians still think this root does not peculiarly differ from other astringents, and are sceptical enough to place no faith in the great virtues ascribed to it by Muntingius and Sir John Hill.

° *Diff. Hist. Med. de vera herba Britannica.* See *Diosc. l. 4. c. 2.* *Plin. lib. 25.*
 ° 3.
 The powdered root is said by Murray to be an excellent dentrifice. *App. Med. vol. 3. p. 344.*

PIMPINELLA SAXIFRAGA.

SMALL BURNET-SAXIFRAGE.

SYNONYMA. *Pimpinella. Pharm. Edinb. Pimpinella saxifraga minor. Baub. Pin. p. 160. Pimpinella seu saxifraga minor. Gerard. Emac. p. 1044. Saxifraga hircina minor. Park. Theat. p. 947. Raii Hist. p. 445. Synop. p. 213. Tragofelinum foliis pinnatis, pinnis ovatis. Hall. Stirp. Helv. n. 786. P. Saxifraga. Hudson. Flor. Ang. p. 127. Lightfoot. Flor. Scot. p. 169. Withering. Bot. Arr. p. 313. Relban. Flor. Cant. p. 124. Ic. Flor. Dan. 395. Flor. Dan. 669.*

Class Pentandria. *Ord.* Digynia. *Lin. Gen. Plant.* 366.

Eff. Gen. Ch. *Fructus* ovato-oblongus. *Petala* inflexa. *Stigmata* subglobosa.

Sp. Ch. *P. foliis pinnatis: foliolis radicalibus subrotundis; summis linearibus.*

THE root is perennial, spindle-shaped, whitish: the stem is erect, round, scored, downy, jointed, towards the top a little branched, and rises above a foot in height: the leaves are variously shaped, pinnated, alternate; on the upper part of the stem they divide into simple linear

linear lacinia; toward the bottom the pinnæ are broader, and at the root roundish, and deeply indented at the edges: the flowers are white, and stand in umbels, which are terminal, flat, consisting of twelve radii or more, both in the general and partial umbels: there is no involucre: the proper corolla consists of five petals, which are ovate, and bent inwards at their extremities: the filaments are white, tapering, spreading, and furnished with roundish antheræ: the germen is egg-shaped, striated, and upon it is placed a white fleshy double nectarium: the two styles are short, white, and furnished with simple stigmata: the seeds are naked, furrowed, egg-shaped. It is a native of this country, and grows in dry meadows and pastures: the flowers appear in August and September.

Several species of *Pimpinella* were formerly officinally used, of which the *P. magna*, and the species represented in the annexed plate, were the principal; in their medicinal qualities however these are found to have no remarkable difference.* The roots, which obtain a place in the *Materia Medica* of the *Edinburgh Pharmacopœia*, have an unpleasant smell, and a hot pungent bitterish taste:† on drying, or on being long kept, their pungency is considerably diminished. Their virtue is extracted partially by water, and completely by rectified spirit. When large quantities of the root are distilled with water, a small portion of essential oil, extremely acrid and fiery, may be obtained.‡

Bergius states the virtues of this root to be resolvent, diaphoretic, stomachic, and diuretic.^b It is recommended by several writers^c as a stomachic, and in all cases where pituitous humours are thought to prevail, as asthmas, dropsies, catarrhal coughs, hoarsenesses, and what has been called angina serosa; and by Hoffmann^d it is said to be an excellent emmenagogue. In the way of gargle it has been employed for dissolving viscid mucous, and to stimulate the tongue, when that organ becomes paralytic.

* *Murray, App. Med. vol. i. p. 295.*

† Hence chewing it is recommended to relieve the tooth-ach.

‡ *Lewis, Mat. Med. p. 502.*

^b *M. M. p. 230.*

^c Especially German Physicians.

^d *Med. off. p. 533.*

Pimpinella formerly entered the officinal pulvis ari, and like the arum it appears to be an acrid stimulant; but how far this quality renders it fit for the cure of the above-mentioned disorders, we leave to the consideration of others. It may be given in doses of a scruple in substance, and in infusion to two drams.

PIMPINELLA ANISUM.

ANISE.

SYNONYMA. Anisum. *Pharm. Lond. & Edinb. Gerard. Emac. p. 1035. Park. Theat. p. 911. Raii Hist. p. 450. Anisum herbariis. Baub. Pin. p. 159. Anisum vulgare. Clus. Hist. ii. p. 202. Anisum vulgatus minus annuum. Hist. Ox. iii. p. 297.*

Class Pentandria. *Ord.* Digynia. *Lin. Gen. Plant.* 366.

Eff. Gen. Ch. *Fruetus* ovato-oblongus. *Petala* inflexa. *Stigmata* subglobosa.

Sp. Ch. P. foliis radicalibus trifidis incisfis.

THE root is annual, tapering: the stem is upright, branched, striated, jointed, smooth, and rises about a foot in height: the leaves on the upper part of the stem are divided into narrow pinnated segments, but at the bottom they are roundish, separated in three or five indented lobes, and stand upon scored sheath-like footstalks: the flowers are small, white, and placed in umbels, which are terminal, flat, consisting of several general and partial radii, without involucre: the parts of inflorescence resemble those of the *P. Saxifraga*; therefore need not be repeated here. It is a native of Egypt, and flowers in July.

The Anise was cultivated here in the time of Turner, (1551) but our summers are seldom warm enough to bring the plant to perfection. The seeds, according to Miller, are annually imported here from Malta and Spain, where the Anise is chiefly cultivated. Savary also informs
us,

us, that " the Maltese and Alicant Anise is most esteemed, though not so green as the French ;" and the Spanish Aniseeds are easily distinguished from those of France and Germany, by being much smaller.

Aniseeds have an aromatic smell, and a pleasant warm taste, accompanied with a considerable degree of sweetness. " They totally give out their virtue to rectified spirit.—The spirit, distilled off from the filtered tincture, has a light taste of the seeds, but leaves far the greatest part of their virtue behind in the extract.—Infused in water, they impart a little of their smell, but scarcely any taste : in distillation they give out the whole of their flavour."—" Along with the water arises an essential oil, to the quantity of an ounce or more from three pounds."

" This oil, in colour yellowish, congeals, even when the air is not sensibly cold, into a butyraceous white concrete. Its smell, which exactly resembles that of the Aniseeds, is extremely durable and diffusive ; its taste is milder and less pungent than that of almost any other distilled vegetable oils."

" These seeds yield an oil likewise upon expression, of a greenish colour, in taste grateful, and strongly impregnated with the flavour of the seeds : sixteen ounces, lightly moistened by exposure to the steam of boiling water, are said to afford one ounce. This oil is composed of a gross insipid, inodorous one, of the same nature with the common expressed oils ; and a part of the essential oil of the seed, on which the flavour depends."*

The seeds of Anise, which are ranked among the four greater hot seeds, have been long medicinally employed by physicians as an aromatic and carminative, in preference to those of most of the other umbelliferous plants ; they have also been esteemed useful in pulmonary complaints, and to possess, like those of fennel, a power of promoting the secretion of milk. Their chief use however is in flatulencies, and in the gripes, to which children are more especially liable ; and they are usefully combined with such purgatives as are apt to produce these effects. Weakness of the stomach, diarrhoeas, and loss of tone in the primæ viæ, are likewise complaints in which Aniseeds

* *Lewis, M. M. p. 62.*

are supposed to be peculiarly useful; and hence by V. Helmont they were called *Solamen intestinorum*.

The essential oil,* which is the only officinal preparation of Aniseeds now directed by the Pharmacopœias, is usually grateful to the stomach, and may be taken in the dose of twenty drops. In diseases of the breast, the oil is preferred, but in flatulencies and colics the seeds in substance are said to be more effectual.^c

* It is asserted, that this oil proves a poison to pigeons, *Oleum Anisi præsentaneum est venenum columbis, si paucæ guttulæ ipsarum rostro instillantur & capiti infricentur, ut observavit RUD. A. VOGEL.* (Hist. Mat. Med. 161) & confirmavit P. (Stralsund. Mag. p. i. p. 56.) Vide *Bergius, M. M. p. 232.*

^c *Lewis. l. c.*

CORIANDRUM SATIVUM. COMMON CORIANDER.

SYNONYMA. *Coriandrum. Pharm. Lond. & Edinb. J. Bauh. vol. iii. p. 89. Gerard. Emac. p. 1012. Raii Hist. p. 470. Synop. p. 221. Hall. Stirp. Helv. n. 764. Coriandrum majus. Bauh. Pin. p. 158. Coriandrum vulgare. Park. Theat. p. 918. C. sativum. Hudson. Flor. Ang. p. 123. Withering. Bot. Arr. p. 302. Sowerby's English Botany, p. 67. Κοριανδρον vel Κοριαννον Dioscorid. Κοριαννον. Theophr.*

Class Pentandria. *Ord.* Digynia. *Lin. Gen. Plant.* 356.

Eff. Gen. Ch. *Cor.* radiata: *Petala* inflexo-emarginata. *Involucr. universale* 1-phyllum: *Partialia* dimidiata. *Fructus* sphaericus.

Sp. Ch. *C.* Fructibus globosis.

THE root is annual: the stalk is erect, branched, round, smooth, of a glaucous tinge, and rises about two feet in height: the leaves are variously pinnated; those of the upper part of the stalk are divided into narrow linear alternate pointed segments; those at the bottom are cut into irregular serrated lobes, resembling the leaves of com-
mon

mon parsley : the flowers are white, or reddish, and placed in terminal umbels, appearing in June : the partial umbels are composed of more radii than the general, and each is furnished with an involucre of three narrow leaves ; but the general involucre is commonly wanting, or composed of a simple leaflet : the general corolla is irregular in its shape, and unequal : the petals are five, oblong, bent inwards, and at the circumference the outermost are the largest : the filaments are five, slender, and furnished with roundish yellow antheræ : the germen is globular, placed below the insertion of the corolla, and supports two short styles, bent in opposite directions, and terminated by simple stigmata : the fruit is globular, and divisible into two hemispherical concave seeds.

This plant is a native of the South of Europe, where in some places it is said to grow in such abundance, as frequently to choke the growth of wheat and other grain.^a From being cultivated here as a medicinal plant, it has for some time become naturalized to this country,^b where it is usually found in corn fields, the sides of roads, and about dunghills.

Every part of the plant, when fresh, has a very offensive odour,* but upon being dried the seeds have a tolerably grateful smell, and their taste is moderately warm, and slightly pungent. “ They give out their virtue totally to rectified spirit, but only partially to water. In distillation with water, they yield a small quantity of a yellowish essential oil, which smells strongly and pretty agreeably of the Coriander.”^c

Dioscorides^d asserts, that these seeds, when taken in a considerable quantity, produce deleterious effects ; and in some parts of Spain and Egypt, where the fresh herb is eaten as a cordial, instances of fatuity, lethargy, &c. are observed to occur very frequently ;^e but these quali-

^a See Murray, *App. Med. vol. i. p. 278.* ^b See *English Botany*, p. 67.

* “ Coriander was probably so called from *xogis* cimex, because the green herb, seed and all, stinks intolerably of bugs.” Alton. *Lect. on the M. M. vol. ii. p. 349.*

^c Lewis, *M. M. p. 253.*

^d “ Si largius sumptum fuerit semen, mentem, non sine periculo, e sua sede & statu demovet.” And again, “ Coriandrum propter odorem latere non potest : epotum vocis raucitatem facit, atque insaniam, qualis ex vinolentia proficiscitur, ita ut qui sumpserit varia dictu pudenda blatterant : toto vero corpore coriandri odor se prodit.” *L. 3. c. 71.*

^e Vide *C. Hoffmann. Med. Off. p. 241.*

ties seem to have been unjustly ascribed to the Coriander; and Dr. Withering informs us, that he has “known six drams of the seeds taken at once without any remarkable effect.”^f

These seeds, like those last mentioned, and indeed those of most of the umbelliferous plants, possess a stomachic and carminative power. They are directed in the infusum amarum, the infusum fennæ tartarifatum, and some other compositions of the Pharmacopœias; and according to Dr. Cullen, the principal use of these seeds is, “that, infused along with fenna, they more powerfully correct the odour and taste of this than any other aromatic that I have employed; and are, I believe, equally powerful in obviating the griping that fenna is very ready to produce.”^g

^f *Withering*, l. c.

^g *Mat. Med.* vol. ii. p. 158.

SIUM NODIFLORUM.

CREEPING WATER PARSNIP.

SYNONYMA. *Sium.* *Pharm. Lond.* *Sium aquaticum procumbens*, ad alas floridum. *Moris. Hist.* iii. p. 283. f. 9. t. 5. f. 3. *Petiv. t.* 26. f. 3. *Sium umbellatum repens.* *Gerard. Emac.* p. 256. *Raii Synop.* p. 211. *Hist.* 444. *Sium foliis radicalibus ovatis, pinnatis, dentatis; caulinis appendiculatis; umbellis alaribus.* *Hall. Stirp. Helv. n.* 778. *S. nodiflorum.* *Hudson. Flor. Ang.* p. 119. *Withering. Bot. Arr.* p. 292. *Lightfoot. Flor. Scot.* p. 161. *Relhan, Flor. Cantab.* p. 116.

Class Pentandria. **Ord.** Digynia. *Lin. Gen. Plant.* 348.

Ess. Gen. Ch. *Fructus* subovatus, striatus. *Involucrum* polyphyllum, *Petala* cordata.

Sp. Ch. *S. foliis pinnatis, umbellis axillaribus sessilibus.*

THE root is perennial, long, creeping, and hung with numerous fibres: the stem is jointed, thick, succulent, scored, procumbent, branched, and seldom reaches a foot in length: the leaves are pinnated, consisting of three or four pairs of pinnæ, terminated by an odd one; the pinnæ or segments are ovate, pointed, serrated, sessile: the flowers are small, and stand in axillary umbels, which are composed of from six to nine general radii, and about an equal number of partial radii: there is no general involucre, but the partial one consists of five, six, or seven ovate pointed leaflets: the corolla is composed of five petals, which are entire, ovalish, white, largest at the circumference, and bent inwards at their apices: the five filaments are slender, spreading, rather longer than the corolla, and furnished with roundish antheræ: the germen is small, placed beneath the corolla, and supports two slender reflexed styles, terminated by blunt stigmata: the fruit is egg-shaped, small, scored, divisible into two seeds, which are flat on one side, on the other convex and scored. It is common in rivers and ditches, and flowers in July and August.

This plant is not admitted into the *Materia Medica* of any of the *Pharmacopœias* which we have seen, except that of the London College, where it has lately been received in the character of an antiscorbutic, or rather as a corrector of acrid humours, especially when manifested by cutaneous eruptions and tumours in the lymphatic system, for which we have the testimony of Beirie^b and Ray.^c But the best proofs of its efficacy are the following given by Dr. Withering: “ A young lady, six years old, was cured of an obstinate cutaneous disease, by taking three large spoonfuls of the juice twice a day: and I have repeatedly given to adults three or four ounces every morning, in similar complaints, with the greatest advantage. It is not nauseous, and children take it readily if mixed with milk. In the dose I have given it, it neither affects the head, the stomach, nor the bowels.”^a

^a See *l. c.*

^b *Diæt. de la Mat. Med.*

^c *Synop. p. 213.*

CITRUS AURANTIUM.

ORANGE-TREE.

SYNONYMA. Aurantium * hispalense. *Pharm. Lond. & Edinb.*
 Malus Arantia major. *Baub. 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.*

Malus Arantia major. *Baub. l. c.* SEVILLE ORANGE-TREE.
 Malus Arantia, cortice dulci eduli. *Baub. l. c.* CHINA ORANGE-TREE.

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

Eff. 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.

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

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

^a *Hort. Kew. vol. iii. p. 101.*

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 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

^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 fossil acids, or possibly by the dissipation of some volatile parts, perhaps a portion of ærial 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.

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 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

^d L. c. ^e Cullen. *M. M.* vol. ii. p. 87. ^f L. c. ^g See *Edinburgh New Dispensatory* by Dr. Duncan. p. 139.

^h As Dubeus. *Medecin des pauvres.* p. 285. sqq. Both he and Nigrifolius 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.

remedy in menorrhagia, and in immoderate uterine evacuations; and for its good effects in these complaints, we have not only the assertions of foreign physicians, but also those of Doctors Whyttⁱ 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 fragrancancy; like the petals they are also beset with 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. Westerhoeff, who seems to have first made publick 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 curassavensis*, or Carasso 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.

ⁱ See his *Works*, p. 662. ^k *De prax. reg.* p. 20. ^l *Edinb. New Disp.* p. 139. Also called *oleum distillatum florum naphæ*. ^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. §99.

^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. *Baub. Pin. p. 435.* Gerard. *Emac. p. 1462.* Malum citreum vulgare. *Ferrar. Hesp. p. 56. t. 69.* Malus citria five medica. *Raii Hist. p. 1654. Park. Theat. p. 1506.* Le Citronier. *Regnault. Botanique.* Μηλες λεμονη *Theophrast. & Dioscor. β* Malus Limonia acida. *Baub. Pin. p. 436.* Lime-Tree.

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

Eff. Gen. Ch. Cal. 5-fidus. Petala 5, oblonga. Antherae 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 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.

^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 occupavit. *Baub. Pin. p. 435.*

^b See *Hist. Nat. l. 12. c. 3.*

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. 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 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

^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.

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, 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.

^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.

PAPAYER SOMNIFERUM.

WHITE POPPY.

OPIUM Pharmacopœiarum plantæ capsularum succus densatus.

SYNONYMA. Papaver album. *Pharm. Lond. & Edinb.* Papaver hortense femine albo, & β Papaver hortense nigro femine. *Baub. Pin. p. 170. Raii Hist. p. 853. Synop. p. 308.* Papaver sativum album. *Gerard. Emac. p. 369.* Papaver simplex album sativum. *Park. Theat. p. 366.* Papaver. *Hall. Stirp. Helv. n. 1065.* P. somniferum. *Hudson. Flor. Ang. p. 231. Withering. Bot. Arr. p. 552. Relban. Flor. Cant. p. 204. Mixar. Græcis.*

Class Polyandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 648.

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

Sp. Ch. P. calycibus capsulisque glabris, foliis amplexicaulibus incis.

THE root is annual, tapering, and branched: the stalk is round, smooth, erect, often branched, of a glaucous green colour, and rises two or three feet in height: the leaves are alternate, large, ovate, lobed, smooth, deeply cut into various segments, and closely embrace the stalk: the flowers are very large, terminal, and usually white or purplish: the calyx consists of two leaves, which are ovate, smooth, concave, bifid, and fall off on the opening of the flower: the corolla consists of four petals, which are large, roundish, entire, undulated: the filaments are numerous, slender, much shorter than the corolla, and furnished with oblong erect compressed antheræ: the germen is large, globular, and upon it is placed the stigma, which is large, flat, radiated, and forms a kind of crown: the capsule is one-celled, smooth, divided half way into many cells, which open by several apertures beneath the crown, and contain very numerous small white seeds. It is a native of England, usually growing in neglected gardens, or uncultivated rich grounds, and flowers in July and August.

This species is said to have been named White Poppy from the whiteness of its seeds; a variety of it however is well known to

produce black seeds: the double-flowered white poppy is also another variety; but for medicinal purposes any of these may be employed indiscriminately, as we are not able to discover the least difference in their sensible qualities or effects.

The seeds, according to some authors, possess a narcotic power;^a but there is no foundation for this opinion: they consist of a simple farinaceous matter, united with a bland oil, and in many countries are eaten as food. As a medicine, they have been usually given in the form of emulsion, in catarrhs, stranguaries, &c.

The heads or capsules of the Poppy, which are directed for use in the Pharmacopœias, like the stalks and leaves, have an unpleasant smell, somewhat like that of opium, and an acrid bitterish taste. Both the smell and taste reside in a milky juice, which more especially abounds in the cortical part of the capsules, and in its concrete state constitutes the officinal opium. These capsules are powerfully narcotic, or anodyne; boiled in water, they impart to the menstruum their narcotic juice, together with the other juices which they have in common with vegetable matters in general. The liquor, strongly pressed out, suffered to settle, clarified with whites of eggs, and evaporated to a due consistence, yields an extract which is about one-fifth or one-sixth of the weight of the heads. This possesses the virtues of opium, but requires to be given in double its dose to answer the same intention, which it is said to perform without occasioning a nausea and giddiness, the usual effects of opium. This extract was first recommended by Mr. Arnot;^b and a similar one is now received in the Edinburgh Pharmacopœia. It is found very convenient to prepare the syrup from this extract, by dissolving one dram in two pounds and a half of simple syrup. The syrupus papaveris albi, as directed by both Colleges, is a useful anodyne, and often succeeds in procuring sleep, where opium fails; it is more especially adapted to children. White Poppy heads are also used externally in fomentations, either alone, or more frequently added to the decoctum pro fomento.

Opium, as we have already observed, is obtained from the heads or capsules of this species of Poppy, and is imported into Europe from Persia, Arabia, and other warm regions of Asia. The manner

^a Hermann, *Cynosur. Mat. Med.* p. 436. Junker, *Consp. Ther. Gen.* p. 279.

^b *Medical Essays & Obs. by a Society at Edinb.* vol. 5. p. 108.

in which it is collected has been described long ago by Kæmpfer and others; but the most circumstantial detail of the culture of the Poppy, and the method of procuring the opium from it, is that given by Mr. Kerr, as practised in the Province of Bahar: he says, “ The field “ being well prepared by the plough and harrow, and reduced to an “ exact level superficies, it is then divided into quadrangular areas of “ seven feet long, and five feet in breadth, leaving two feet of inter- “ val, which is raised five or six inches, and excavated into an aque- “ duct for conveying water to every area, for which purpose they “ have a well in every cultivated field. The seeds are sown in “ October or November. The plants are allowed to grow six or “ eight inches distant from each other, and are plentifully supplied “ with water. When the young plants are six or eight inches high, “ they are watered more sparingly. But the cultivator strews all over “ the areas a nutrient compost of ashes, human excrements, cow “ dung, and a large portion of nitrous earth, scraped from the high- “ ways and old mud walls. When the plants are nigh flowering, “ they are watered profusely to increase the juice.

“ When the capsules are half grown, no more water is given, and “ they begin to collect the opium.

“ At sun-set they make two longitudinal double incisions || upon “ each half-ripe capsule, passing from below upwards, and taking “ care not to penetrate the internal cavity of the capsule. The “ incisions are repeated every evening until each capsule has received “ six or eight wounds; they are then allowed to ripen their seeds. “ The ripe capsules afford little or no juice. If the wound was “ made in the heat of the day, a cicatrix would be too soon formed. “ The night-dews by their moisture favour the exsillation of the “ juice.

“ Early in the morning, old women, boys, and girls, collect the “ juice by scraping it off the wounds with a small iron scoop, and “ deposit the whole in an earthen pot, where it is worked by the “ hand in the open sunshine, until it becomes of a considerable “ spissitude. It is then formed into cakes of a globular shape, and “ about four pounds in weight, and laid into little earthen basins to

|| Kaempfer says, that in Persia, a five-pointed knife is used for making the incisions.
Amæn. Exot. Obs. 15.

“ be

“ be further exsiccated. These cakes are covered over with the
 “ Poppy or tobacco leaves, and dried until they are fit for sale.
 “ Opium is frequently adulterated with cow-dung, the extract of
 “ the Poppy plant procured by boiling, and various other substances,
 “ which they keep in secrecy.” — “ Opium is here a considerable
 “ branch of commerce. There are about 600,000 pounds of it
 “ annually exported from the Ganges.”^c

It appears to us highly probable, that the White Poppy might be cultivated for the purpose of obtaining opium to great advantage in Britain. Alston says, “ the milky juice, drawn by incision from Poppy-heads, and thickened either in the sun or shade, even in this country, has all the characters of good opium; its colour, consistence, taste, smell, faculties, phenomena, are all the same; only, if carefully collected, it is more pure and more free of feculencies.”^d

Similar remarks have also been made by others, to which we may add those of our own; for during the last summer, we at different times made incisions in the green capsules of the White Poppy, from which we collected the juice, which soon acquired a due consistence, and was found, both by its sensible qualities and effects, to be very pure opium.

Opium, called also Opium Thebaicum, from being anciently prepared chiefly at Thebes, has been a celebrated medicine from the remotest times. It differs from the Meconium, which by the ancients was made of the expressed juice or decoction of the Poppies.^e

Opium is imported into Europe in flat cakes, covered with leaves to prevent their sticking together: it has a reddish brown colour, and a strong peculiar smell: its taste, at first, is nauseous and bitter, but soon becomes acrid, and produces a slight warmth in the mouth: a watery tincture of it forms an ink, with a chalybeate solution. According to the experiments of Alston, it appears to consist of about five parts in twelve of gummy matter, four of resinous matter, and three of earthy, or other indissoluble impurities.^f

The use of this celebrated medicine, though not known to Hippocrates, can be clearly traced back to Diagoras, who was nearly his cotemporary, and its importance has ever since been gradually advanced

^c See *Medical Observations and Inquiries*, vol. 5. p. 317.

^d *Medical Essays & Obs.* vol. 5. p. 116.

Hence the ancients justly deemed the “Meconium multum opio ignavius.”

^f Vide *h. c.*

by succeeding physicians of different nations. Its extensive practical utility however has not been long well understood; and in this country perhaps may be dated from the time of Sydenham. Opium is the chief narcotic now employed; it acts directly upon the nervous power, diminishing the sensibility, irritability, and mobility of the system; and, according to a late ingenious author, in a certain manner suspending the motion of the nervous fluid, to and from the brain, and thereby inducing sleep, one of its principal effects.^g From this sedative power of opium, by which it allays pain, inordinate action, and restlessness, it naturally follows, that it may be employed with advantage in a great variety of diseases. Indeed, there is scarcely any disorder in which, under some circumstances, its use is not found proper; and though in many cases it fails of producing sleep, yet if taken in a full dose, it occasions a pleasant tranquillity of mind, and a drowsiness, which approaches to sleep, and which always refreshes the patient. Besides the sedative power of opium, it is known to act more or less as a stimulant, exciting the motion of the blood; but this increased action has been ingeniously, and, as we think, rationally ascribed to that general law of the animal œconomy, by which any noxious influence is resisted by a consequent re-action of the system. By a certain conjoined effort of this sedative and stimulant effect, opium has been thought to produce intoxication, a quality for which it is much used in eastern countries.

We shall now proceed to consider the use of opium in particular diseases, beginning with fevers.

In most continued fevers of this climate, though originating from contagion, or certain corruptions of human effluvia, &c. there is, at the beginning, more or less of inflammatory diathesis, and while this continues, opium would generally aggravate the symptoms, and prove dangerous. Its use is likewise forbidden in the more advanced stage of this fever, whenever topical inflammation of the brain is ascertained, which sometimes exists and produces delirium, though other symptoms of the nervous and putrid kind prevail. But when irritation upon the brain is not of the inflammatory kind, and debility has made much progress, or where delirium is accompanied with spasmodic affections, opium is a sovereign remedy, and may be employed

^g See Cullen's *Mat. Med.* C. sedantia. See also what is said of opium.

in large doses every eight hours, unless a remission of the symptoms and sleep take place.^h

In intermittent fevers, opium, in combination with other medicines, was much used by the ancients; but since the introduction of the Peruvian bark, opium is seldom trusted to for the cure of these disorders. This medicine however has been strongly recommended as an effectual means of stopping the recurrence of the febrile paroxysms; and has been given before the fit, in the cold stage, in the hot stage, and during the interval, with the best effects;ⁱ producing immediate relief, and in a short time curing the patient, without leaving those abdominal obstructions which have been ascribed to the bark. But in these fevers perhaps the best practice is to unite opium with the bark, which enables the stomach to bear the latter in larger doses, and adds considerably to its efficacy.^k

In inflammatory diseases the use of opium has been much condemned; and Young has established a general rule, “that opium is improper in all those diseases in which bleeding is necessary:”^l this however has been much disputed;^m and there are certainly numerous exceptions to it, which we shall now recite in the words of Dr. Cullen. “Such are those cases in which the inflammatory state arises from irritation in a particular part, producing spasm, and supervening inflammation. Thus in cases of jaundice, I have found a biliary stone, in passing the biliary ducts, give such an irritation as to produce a considerable inflammatory state in the system; and though I have found it necessary, for moderating this, to employ blood-letting, yet, as I considered the passage of the stone to be chiefly interrupted by a spasmodic constriction of the ducts, I have employed opium for taking off this with great advantage. Similar

^h Vide Cullen *l. c.*

ⁱ Berryat, who is a strenuous advocate for the use of opium in intermittents, recommends it to be given along with an infusion of centaury an hour before the accession of the paroxysm. See *Memoires présentés à L'Acad. Royal des Scien.* 1755. T. 2. p. 254.

Lind prefers giving it half an hour after the commencement of the hot fit. Vide *Diff. in hot climates*, p. 316. See also Murray's *Med. Pract. Bib.* vol. p. 321. On this subject see Brandreth, *Diff. inaug. de febr. interm.* Ed. 1770. Stoerck, *Ann. Med.* 1. p. 77. Tralles, *De Opio Sect.* 2. p. 70. And others.

^k Cullen *l. c.*

^l *Treatise on Opium, sect.* 39.

^m See Remmet *Diff. inaug. de opii usu in morb. inflam.* Ed. 1774. Triller, *Diff. de suspecta opii ope in pluritudine*, p. 4. Also Tralles *l. c.* De Haen *Rat. Med. P. i. p. 24. &c.*

“circumstances

“ circumstances have frequently occurred in the case of urinary calculi passing the ureters, in which I have found it necessary to employ opium and blood-letting at the same time.

“ In like manner as opium is useful in moderating excretions, so when the irritation occasions an increase of these excretions, which is attended with affections which irritate the whole system, opium becomes especially useful. Hence it becomes so generally useful in catarrhal affections, and the cough attending them; and probably it is this analogy that has brought the use of opium to be frequently employed in pneumonic inflammations. It is possible that there may be cases of such inflammations wherein the opium may be more useful in taking off the cough, than hurtful by aggravating the inflammatory state of the system: but I have hardly met with such cases; and even in the recent state of catarrhs from cold, I have found the early use of opium hurtful: and in cases of pneumonic inflammation, I have always found it to be very much so, if exhibited before the violence of the disease had been moderated by repeated blood-letting. When that indeed has been done, I have found the opium very useful in quieting the cough, and I have hardly ever found it hurtful by stopping the expectoration. It may suspend this for some hours; but if the glands of the bronchia have been duly relaxed by bleeding and blistering, the expectoration after the use of opiates always returns with more advantage than before. The mucus which had issued before had been poured out from the follicles in an acrid state; but, by being made to stagnate, it becomes milder, and is discharged in what the ancients called a concocted state, with more relief to the lungs.”^a

When opium is so managed as to procure sweat, it will tend to remove an inflammatory state of the system, and may prove generally useful; a notable instance of this we observe in the cure of acute rheumatism by means of Dover's powder.

In the small-pox opium, since the time of Sydenham, has been very generally and successfully prescribed, especially after the fifth day of the disease; but during the first stage of the eruptive fever, we are told that it always does harm; an opinion which our experience at the Small-pox Hospital warrants us to contradict: for even at that

^a Cullen *l. c.*

period of the disorder we often find the pulse languid, and the countenance pale, though pains in the loins and head are at the same time very severe; these symptoms, with restlessness, and other signs of irritability, which appear for some days after the attack of the disease, are considerably relieved by opium; to which however we usually add camphor and vinum antimonii tartarificati, taking care always to keep the body sufficiently open by the frequent use of a proper cathartic.

In hæmorrhagic disorders the use of opium is inferred from its known effects in restraining all the excretions, except that of sweat; but unless the hæmorrhages be of the passive kind, or excited by irritation, unattended with inflammation, opium may produce considerable mischief, and therefore its use in these complaints requires great circumspection.

In dysentery opium, though not to be considered as a remedy, may however be occasionally employed to moderate the violence of the symptoms.

In diarrhœa, especially when the acrimony has been carried off by a continuance of the disease, opium is a certain and efficacious remedy.

In cholera and pyrosis, opium is the remedy chiefly trusted to.

In cholic it is employed with laxatives; and no doubt often prevents ileus and inflammation, by relieving the spasm.* Even in ileus and in incarcerated hernia, it is often found to allay the vomiting, the spasms, the pain, and sometimes to diminish the inflammation, and prevent the gangrene of the strangulated gut.

Opium has been lately recommended for the cure of the venereal disease; and instances are adduced in which this medicine succeeded, where mercury had failed; yet few practitioners, we apprehend, will trust to opium alone in these complaints: it is generally allowed, however, to be an useful auxiliary, and to greatly assist the action of mercury. Its use in preventing and stopping the progress of gangrene is well established.

Opium is successfully used in different species of tetanus, and affords relief to various spasmodic and convulsive symptoms occurring in several diseases, which it would exceed our limits to describe particularly; of these we may mention asthma, epilepsy, dyspepsia, hypochondriasis, rabies canina, chorea sancti viti, mania, &c. &c.

* See Mead, *Mon. et præcepta medica*, p. 64. Pringle, *Dis. of the Army*. p. 152. Haen *Rat. Med.* P. 3. p. 94. P. 9. p. 137.

Respecting the external application of opium authors seem not sufficiently agreed. Some alledge that when applied to the skin it allays pain and spasm, procures sleep, and produces all the salutary or dangerous effects which result from its internal use; while others assert that, thus applied, it has little or no effect whatever. But there is no doubt that, when mixed with caustic, it diminishes the pain, which would otherwise ensue, probably by decreasing the sensibility of the part. Injected up the rectum, it has all the effect of opium taken into the stomach, but to answer this purpose double the quantity is to be employed. Applied to the naked nerves of animals, it produces immediate torpor, and loss of power in all the muscles with which the nerves communicate. Opium taken into the stomach, in an immoderate dose, proves a narcotic poison, producing vertigo, tremors, convulsions, delirium, stupor, stertor, and finally fatal apoplexy.

The officinal preparations of this drug are opium purificatum, pilulæ ex opio, pulvis opiatus, tinctura opii, and tinctura opii camphorata; it also enters the pulvis sudorificus, balsamum anodynum, electuarium japonicum, pulvis e creta composita, &c.

The requisite dose of opium varies in different persons, and in different states of the same person. A quarter of a grain will in one adult produce effects which ten times the quantity will not do in another; and a dose that might prove fatal in cholera or cholic, would not be perceptible in many cases of tetanus or mania. The lowest fatal dose, to those unaccustomed * to take it, seems to be about four grains; but a dangerous dose is so apt to produce vomiting, that it has seldom time to occasion death. When given in too small a dose, it often produces disturbed sleep, and other disagreeable consequences; and in some cases it seems impossible to be made to agree in any dose or form. Often, on the other hand, from a small dose, sound sleep and alleviation of pain will be produced, while a larger one occasions vertigo and delirium. Some prefer the repetition of small doses; others the giving a full dose at once: its operation is supposed to last about eight hours.

* It is well known, that by the continued use of opium the dose requires to be increased to produce the effect desired; and we are told of one instance in which it was increased to ten drams a day. See *Garcias Ab Horto Arom. vers. Clus.*

PAPAYER RHŒAS. RED or CORN POPPY.

SYNONYMA. *Papaver erraticum. Pharm. Lond.* *Papaver erraticum majus. Baub. Pin. p. 171.* *Papaver erraticum Rhœas, five sylvestre. Park. Theat. p. 367.* *Papaver laciniato folio, capitulo brevior glabro, annuum, Rhœas dictum. Raii. Synop. p. 308.* *Poires Theoph. Diosc. Papaver foliis femipinnatis hispidis fructu ovato glabro. Hall. Hist. Stirp. Helv. n. 1064.* *P. Rhœas. Gerard. Emac. p. 371.* *Hudson. Flor. Ang. p. 230.* *Withering. Bot. Arr. p. 551.* *Relban. Flor. Cantab. p. 203.* *Curtis, Flor. Lond. iii. n. 36.*

Class Polyandria. *Ord.* Monogynia. *Lin. Gen. Plant. 648.*

Eff. Gen. Ch. *Cor.* 4-petala. *Cal.* 2-phyllus. *Caps.* 1-locularis, sub stigmate persistente poris dehiscens.

Sp. Ch. *P. caps. glabris globosis, caule piloso multifloro, fol. pinnatifidis incisis.*

THE root is annual, simple, fibrous: the stalk is upright, branched, having hairs standing at right angles with the stem, which rises from one to two feet in height: the leaves are pinnated, toothed, hairy on both sides, at the base sheath-like: the peduncles are slender, furnished with hairs like the stem, and each supports a single flower: the calyx consists of two leaves, which are ovate, rough, concave, and deciduous: the corolla is composed of four petals, which are large, spreading, roundish, unequal, of a bright scarlet colour, and marked at the base with a shining black spot: the filaments are numerous, slender, purplish, and furnished with roundish compressed antheræ: the germen is eggshaped, truncated at the top: there is no style: the stigma is convex, radiated: the radii of a purple colour, and permanent: the capsule answers the description given of the germen; it is smooth, marked with several longitudinal projecting lines, which are in number equal to the radii of the stigma; at the top it is scolloped: the radii are numerous, minute, and of a purple colour.

This

This plant is common in corn fields, and flowers in June and July. It may be distinguished from *P. dubium*, to which it bears a general resemblance, by its urn-shaped capsules, and by the hairs upon the peduncles standing in a horizontal direction.

The capsules of this species, like those of *somniferum*, contain a milky juice, of a narcotic quality, but the quantity is very inconsiderable, and has not been applied to any medical purpose; but an extract prepared from them has been successfully employed as a sedative.^a

The flowers have somewhat of the smell of opium, and a mucilaginous taste, accompanied with a slight degree of bitterness. A syrup of these flowers is directed in the London Pharmacopœia, which has been thought useful as an anodyne and pectoral, and is therefore prescribed in coughs and catarrhal affections; but it seems valued rather for the beauty of its colour, than for its virtues as a medicine.

^a *Boulduc Hist. de L'Acad. Royal des Scien. de Paris*, 1712. p. 52. *Chomel. Pl. usuell. T. i. p. 125.* Fouquet of Montpellier prefers this extract to opium. See *Murray, App. Med. vol. ii. p. 213.*

PIPER NIGRUM.

BLACK PEPPER.

SYNONYMA. *Piper nigrum. Pharm. Lond. & Edinb. Gerard Emac. p. 1538. Park. Theat. p. 1603. Piper rotundum nigrum. Baub. Pin. p. 411. Raii Hist. p. 1341. Plukenet. Almag. p. 297. t. 437. fig. 1. Piper nigrum. Camell. Phil. Transf. vol. 24. p. 1773. Molago codi. Hort. Malab. vol. 7. p. 23. tab. 12. Pepper Plant. Marsden's History of Sumatra, p. 105. Ic. Miller's Illustr.*

Class Diandria. *Ord.* Trigynia. *Lin. Gen. Plant.* 43.

Eff. Gen. Ch. Cal. o. Cor. o. *Bacca monosperma.*

Sp. Ch. P. foliis ovatis septemnerviis glabris, petiolis simplicissimis.

THE root is perennial: the stems are round, smooth, jointed, swelling towards each joint, woody, slender, branched, scandent, or trailing, and from eight to twelve feet in length: the leaves are ovate, entire,

entire, smooth, seven-nerved, of a dark green colour, and stand at the joints of the branches upon strong sheath-like footstalks: the flowers are small, white, and produced in terminal spikes: there is no regular calyx nor corolla: the filaments also are wanting: the two antheræ are roundish, and placed oppositely at the base of the germen: the germen is ovate, upon which stand three rough stigmata: there is no style: the fruit is a single-valved berry, containing one round seed.

This species of Pepper grows spontaneously in the East Indies, but does not arrive at perfection without the aid of culture. It is cultivated with such success in Malacca, Java, and especially at Sumatra, that from these islands Pepper is exported to every part of the world, where a regular commerce has been established.

According to Mr. Marfden,^a the ground chosen by the Sumatrans for a Pepper garden, is marked out into regular squares of six feet, the intended distance of the plants, of which there are usually a thousand in each garden. The next business is to plant the chinkareens, which serve as props to the Pepper vines, and are cuttings of a tree of that name, which is of quick growth. When the chinkareen has been some months planted, the most promising perpendicular shoot is reserved for growth, and the others lopped off; this shoot, after it has acquired two fathoms in height, is deemed sufficiently high, and its top is cut off. Two Pepper vines are usually planted to one chinkareen, round which the vines twist for support; and after being suffered to grow three years (by which time they acquire eight or twelve feet in height) they are cut off about three feet from the ground, and being loosened from the prop are bent into the earth in such a manner that the upper end is returned to the root. This operation gives fresh vigour to the plants, and they bear fruit plentifully the ensuing season. The fruit, which is produced in long spikes, is four or five months in coming to maturity: the berries are at first green, turn to a bright red when ripe and in perfection, and soon fall off if not gathered in proper time. As the whole cluster does not ripen at the same time, part of the berries would be lost in waiting for the latter ones; the Sumatrans therefore pluck the bunches as soon as any of the berries ripen, and spread them to dry upon mats, or upon the ground. By drying they become black, and more

^a See *l. c.* p. 107.

or less shrivelled, according to their degree of maturity. These are imported here under the name of *black pepper*.

White pepper^b is the ripe and perfect berries stripped of their outer coats: for this purpose the berries are steeped for about a fortnight in water, till by swelling their outer coverings burst; after which they are easily separated, and the pepper is carefully dried by exposure to the sun. Pepper which has fallen to the ground over-ripe loses its outer coat, and is sold as an inferior kind of white pepper.

Of these pungent hot spices the black sort is the hottest and strongest, and most commonly made use of for medicinal as well as culinary purposes. They differ from most of the other spices in this, that their pungency resides not in the volatile parts, or essential oil, but in a substance of a more fixed kind, which does not rise in the heat of boiling water.^c This fixed substance is probably the resinous part: the aromatic odorous matter seems to depend upon the essential oil. The distilled oil smells strongly of the pepper, but has very little acrimony; the remaining decoction, inspissated, yields an extract of considerable pungency. A tincture made in rectified spirit is extremely hot and fiery; a few drops of it set the mouth as it were in a flame.

Some have supposed Pepper to be less heating to the system than other aromatics; and the learned Gaubius asserts, that on taking it in large quantities he never found it to warm his stomach, nor to increase the frequency of his pulse.^d But Dr. Cullen affirms, that when he took this spice, even in a small quantity, it always felt warm on his stomach, and heated his whole body; and he thinks it was owing to the frequent use of Pepper that Gaubius did not experience the same effects.^e

Black Pepper is generally used as an aromatic and stimulant. It has been successfully employed in some cases of vertigo,^f and in paralytic and arthritic disorders.^g Given in large doses it has been found a remedy for intermittents; but its use in these has, in some instances, produced fatal consequences.^h

^b White Pepper was formerly thought to be a different species from the black, and was sold at the sales of the East India Company (who have the monopoly of the Sumatran pepper trade) for treble the price of the black. *Marsden, l. c.*

^c Gaubius found that the Pepper required to be boiled forty-three times in fresh quantities of water before its whole pungency was extracted. *Adversar. p. 52.*

^d *L. c. p. 73.* ^e *Mat. Med. vol. 2. p. 208.* ^f *Hoffmann. Rem. domest. §. 26. and others.* ^g *Obs. phys. & lit. vol. 3. p. 449.* ^h See *Act. Soc. Med. Hav. vol. i. p. 386.*

PIPER LONGUM.

LONG PEPPER.

SYNONYMA. *Piper longum.* *Pharm. Lond. & Edinb. Gerard. Emac. p. 1539. Park. Theat. p. 1604. Raii. Hist. p. 1343. Rumph. Amb. vol. 5. p. 333. t. 116. f. 2. Tif. Mant. Aromat. p. 182. Clus. Exot. p. 20. 183. Piper longum orientale. * Baub. Pin. p. 412. Piper longum pistolochiæ foliis absque pediculis, maderaspatanum. Pluk. Alm. p. 297. t. 104. f. 4. Cattutripali. Rheed. Hort. Mal. V. 7. p. 27. t. 14.*

Class Diandria. *Ord.* Trigynia. *Lin. Gen. Plant.* 43.

Eff. Gen. Ch. *Cal.* 0. *Cor.* 0. *Bacca* monosperma.

Sp. Ch. *P.* foliis cordatis petiolatis sessilibusque.

THE root is perennial: the stems are shrubby, round, smooth, branched, slender, and climbing; but do not rise to any considerable height: the leaves differ much in size and form; they are commonly heart-shaped, pointed, entire, smooth, nerved, of a deep green colour, and stand alternately upon footstalks: the flowers are small, and produced in short dense terminal spikes, which are nearly cylindrical: the parts of inflorescence, though less distinct, correspond with the description given of the former species. It is a native of the East Indies, especially Java, Malabar, and Bengal.

The berries, or grains, are very small, and lodged in a pulpy matter; like those of the black pepper they are first green, and become red when ripe. This fruit is hottest to the taste in its immature state, and is therefore gathered while green, and dried by the heat of the sun, when it changes to a blackish or dark grey colour.*

It is observed by Dr. Cullen, that Long pepper has precisely the same qualities with those of black, only in a weaker degree.* Bergius also judges black pepper to be hotter than this species; an opinion which appears to us unfounded, and the contrary is asserted by Lewis and Murray: the latter says, “Ad meum aliorumque quorundam sensum, in lingua acrius et calidius adhuc est *Piper longum* reliquis dictis speciebus.”^b

* *Rumph. l. c.* * *Mat. Med. vol. ii. p. 209.* ^b *App. Med. vol. 5. p. 36.*

BRYONIA ALBA.

WHITE BRYONY.

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

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

Eff. Gen. Ch. *MASC. Cal.* 5-dentatus. *Cor.* 5-partita. *Filamenta* 3.
FEM. Cal. 5-dentatus. *Cor.* 5-partita. *Stylus* 3-fidus.
Bacca subglobosa, polysperma.

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

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

Linnaeus.

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

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

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

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

^a Lewis, *M. M.* p. 165.

^b *Mat. Med.* p. 786.

^c See Buregraf, *Lexicon Med.* p. 1710. where he gives a particular account of a successful method of employing this root. ^d Sydenham, *Process. integr. in op.* p. 626.

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

LIGUSTICUM LEVISTICUM. COMMON LOVAGE.

SYNONYMA. Levisticum. *Pbarm. Edinb.* Ligusticum vulgare. *Baub. Pin. p.* 157. Ligusticum vulgare, foliis apii. *J. Baub. iii. p.* 122. Levisticum vulgare. *Gerard. Emac. p.* 1008. *Park. Theat. p.* 936. *Raii Hist. p.* 437. Angelica montana perennis, Paludapii folio. *Tourn. Inst. p.* 313.

Class Pentandria. *Ord.* Digynia. *Lin. Gen. Plant.* 346.

Eff. Gen. Ch. *Fructus* oblongus, 5-fulcatus utrinque. *Corollæ* æquales. *Petalis* involutis, integris.

Sp. Ch. L. foliis multiplicibus: foliolis superne incisfis.

THE root is perennial, long, tapering, branched, externally brown, internally whitish: the stalk is erect, branched, smooth, striated, and rises five or six feet in height: the upper leaves are small, and irregularly cut into narrow elliptical segments; the lower leaves are large, doubly pinnated; pinnæ indented, pointed, often lobed, and placed in pairs with an odd one at the top: the flowers are small, of a whitish yellow colour, and produced in umbels: the general and partial umbels are composed of nearly an equal number of radii, and each furnished with involucra, consisting of about seven simple ovate segments: all the flowers are fertile: the corolla consists of five petals, which are egg-shaped, and turned inwards: the five filaments are capillary, shorter than the corolla, and furnished with simple antheræ: the germen is truncated at the top, upon which are placed two nectarious corpuscles, supporting two short styles, crowned with simple stigmata: the fruit is oblong, angular, furrowed, divisible into two seeds, which are oblong, on one side striated and convex, on the other flat and smooth: the flowers appear in June and July. It is a native of the Alps, and according to Mr. Aiton was first cultivated in England by Mr. Gerard.

The odour of this plant is very strong, and peculiarly ungrateful; its taste is warm and aromatic. It abounds with a yellowish gummy resinous juice, very much resembling opoponax. Its virtues are supposed to be similar to those of angelica and masterwort in expelling flatulencies, exciting sweat, and opening obstructions; therefore chiefly used in hysterical disorders, and in uterine obstructions. A teacupful of the juice with rhenish wine, or a decoction of the seeds with wine or mugwort water, was, by Forestus,^a said to be a secret remedy of extraordinary efficacy in slow or laborious parturition. The leaves, eaten as sallad, are accounted emmenagogue.^b The root, which is less ungrateful than the leaves, is said to possess similar virtues, and may be employed in powder.

^a See Forest. lib. 28. obs. 32. in schol. ^b Chomel. Usuelles, t. 2. p. 216.

CUMINUM CYMINUM.

CUMMIN.

SYNONYMA. Cuminum. *Pharm. Lond. & Edinb.* Cuminum femine longiore. *Baub. Pin. p.* 146. Cuminum fativum Dioscoridis. *Gerard. Emac. p.* 1066. Cyminum, sive Cuminum fativum. *J. Baub. iii. p.* 22. *Raii Hist. p.* 433. Cuminum vulgare. *Park. Theat. p.* 887. Cuminum. *Mor. Umb. 4. Hist. Oxon. iii. p.* 271. Foeniculum orientale, Cuminum dictum. *Tourn. Inst. 312. Icon. Rivin. Pentap. t.* 40.

Class Pentandria. *Ord.* Digynia. *Lin. Gen. Plant.* 351.

Eff. Gen. Ch. *Fructus* ovatus, striatus. *Umbellulæ* 4. *Involucra* 4-fida.

THE root is annual, simple, fibrous: the stalk is round, slender, often procumbent, branched, and rises about six or eight inches in height: the leaves are numerous, narrow, linear, pointed, grass-like: the flowers are purple, and produced in numerous small umbels, which are usually composed of four radii, each supporting a partial umbel of a like number: the general and partial involucra consist of four narrow pointed segments: all the florets are fertile: the corolla

is composed of five petals, which are unequal, bent inwards, and notched at the apex: the filaments are five, and furnished with simple antheræ: the germen is large, ovate, and placed below the corolla: the two styles are minute, and terminated by simple stigmata: the fruit is egg-shaped, or oblong, striated: the seeds are two, oblong, flat on one side, convex and striated on the other.

This plant, which is the only species of *Cuminum* yet discovered, is a native of Egypt and Ethiopia, and is cultivated in the islands of Sicily and Malta, from whence we are supplied with the seeds.^a

“Cumin seeds have a bitterish warm taste, accompanied with an aromatic flavour, but not agreeable. They give out great part of their smell by infusion in water, but very little of their taste: in distillation with water, a pungent oil arises, of a strong ungrateful flavour like that of the seeds: the decoction, inspissated, leaves a weakly roughish bitterish extract. Rectified spirit takes up the whole virtues of the cummin by infusion, and leaves them nearly uninjured in evaporation.”^b

Cummin has been thought to be the *Κυμινον* of Dioscorides. The seeds, which rank as one of the four greater hot seeds, contain a large proportion of essential oil, and are therefore supposed to possess a carminative and stomachic power, equal, if not superior to most of those of the umbelliferous class.^c They are generally preferred to the other seeds for external use in discussing indolent tumours, and give name both to a plaster and cataplasm in the Pharmacopœias.

^a It was cultivated in England in 1594 by Sir Hugh Plat. See *Plat's Garden of Eden*. part. ii. p. 134. *Hort. Kew*.

^b *Lewis. Mat. Med.* p. 268.

^c *Cullen. M. M.* vol. ii. p. 159.

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 plusieurs singularitez 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.* *Baub. Pin. p. 400.* *Gerard. Emac. p. 1528.* *Park. Theat. p. 1528.*

Class Octandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 473.

Eff. 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 Baleffan 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,

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. Gileadenfis*, 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 leaflets varies much, being five, seven, and sometimes three; and in that published by Mr. Bruce, the larger leaves consist of five leaflets, 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.

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 Carpopalsamum 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

^a See *Schrift. d. Berlin. Gesellschaft Naturforsch. Freunde. vol. 3. p. 103.*

^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.

“ circulation in July, August, and the beginning of September. It
 “ is then received into a small earthen bottle, and every day’s pro-
 “ duce 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

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

^c L. c.

^d Lady Mary Wortley Montague says, that even at Constantinople it was not without difficulty procured. See *Letters*, vol. ii. p. 116.

* 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.

Balsam

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 turpentine, especially as 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

^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 phenomena.

^f Balm and Myrrh were carried by the Ishmaelites to Egypt. See *Gen. c. xxxvii. v. 25.*

^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.
Baub. Pin. p. 401. Balsamum de Tolu. *Monard. Clus. Exot.*
p. 304. *Park. Theat. p. 1570.* *J. Baub. Hist. vol. i. p. 296.*
Raii. Hist. p. 1758.

Class Decandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 524.

Eff. 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 Cartha-

^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.

gena, 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. 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 feminal weaknesses. It is directed by the Pharmacopœias in the *sympus tolutanus*, *tinctura tolutana*, & *sympus balsamicus*.

* *Monard. l. c.*

^b See Murray, *App. Med. vol. vi. p. 118.*

SMILAX SARSAPARILLA. SARSAPARILLA SMILAX.

SYNONYMA. Sarfaparilla. *Pharm. Lond. & Edinb.* Smilax aspera peruviana five Sarfaparilla. *Baub. Pin. p.* 296. *Park. Theat. p.* 173. *Raii Hist. p.* 656. *Gerard. Emac. p.* 856. Smilax caule angulato aculeato, foliis ovatis acutis inermibus. *Roy. Lugdb. p.* 228. Smilax viticulis asperis virginiana, folio hederaceo leni Zarga nobilissima. *Pluck. Phytogr. tab.* 111. *f.* 2.

Class Dioecia. *Ord.* Hexandria. *Lin. Gen. Plant.* 1120.

Eff. Gen. Ch. *MASC.* Cal. 6-phyllus. Cor. 0.

FEM. Cal. 6-phyllus. Cor. 0. *Styli* 3. *Bacca* 3-locularis. *Sem.* 2.

Sp. Ch. S. caule aculeato angulato, foliis inermibus ovatis retusomucronatis trinerviis.

THE root is perennial, divided into several branches, which are somewhat thicker than a goose quill, straight, externally brown, internally white, and three or four feet in length: the stalks are shrubby, long, slender, scandent, or trailing, angular, and beset with spines: the leaves are ovate, without spines, pointed, three nerved, and stand alternately upon footstalks, at the base of which proceed long tendrils: the flowers are male and female on different plants, lateral, and usually stand three or four together upon a common peduncle: the calyx of the male flower is bell-shaped, divided into six segments, which are oblong, spreading, and reflexed at their points: the filaments are six, simple, and furnished with oblong antheræ: the calyx of the female flower is similar to that of the male: there is no corolla, unless the calyx be considered as such: the germen is ovate, and supports three minute styles, furnished with oblong reflexed hairy stigmata: the fruit is a round three-celled berry, containing two globular seeds.

This

This plant is a native of America, and flowers in July and August. According to Mr. Aiton it was first cultivated in this country by Mr. Forster in 1691.^a

Though this is the plant which is considered by Linnæus as furnishing the officinal Sarsaparilla, yet there are other writers who contend that this medicine is the root of the *Smilax aspera* L. which is said to correspond with the Sarsaparilla in every respect.^b Sir Wm. Fordyce, who has investigated the subject, says, “ Prosper Alpinus has put it beyond all doubt, by the appearance of the *smilax aspera*, which he found in soft grounds in the island of Zant, (*Zacynthus*) that Europe, and the Grecian islands in particular, furnish the true Sarsaparilla, or *Smilax aspera peruviana dicta* of C. Bauhine.”^c But this synonym is referred to the *Smilax Sarsaparilla* by Linnæus, whose authority we have followed, along with Murray and Bergius, in preference to that of Alpinus. Besides it may be remarked, that in Spain, Italy, and other parts of Europe, where the *Smilax aspera* grows in abundance, the American Sarsaparilla is still employed, and imported at a great expence. It is probable however that these two species of the same genus, and of the same subdivision of *caule aculeato, angulato*, may have roots of similar appearance and properties: we have already noticed that not only different species, but even different genera in some instances, produce the same drug.

“ This root has a farinaceous somewhat bitterish taste, and no smell. To water it communicates a reddish brown, to rectified spirit a yellowish red tincture, but gives no considerable taste to either menstruum. An extract, obtained by inspissating the spirituous tincture, has a weak somewhat nauseous balsamic bitterness, which is followed by a slight but durable pungency. The watery extract is much weaker, and in larger quantity.”^d

Sarsaparilla was more than two centuries ago introduced into Spain^e

^a Vide *Hort. Kew.*

^b See *P. Alpinus Plant. Ægypt.* p. 136. Also Fallopius, Amatus Lusitanus, Guilandinus, Tobias Aldinus, Monardes, &c. who all either think it the same, or of equal efficacy.

^c See *Med. Obs. & Inq. vol. i. p. 173.* ^d *Lewis M. M. p. 586.*

^e C. Bauhine states its first introduction into Spain to be about the year 1573. But Monardes informs us, that it was brought from New Spain to Madrid twenty or thirty years before this time. The word Sarsaparilla is of Spanish origin. “ *Zarsa siquidem Hispanis rubrum; parra autem vitem, & parilla viticulam significat.*” *C. Bauh. l. c.*

as an undoubted specific in syphilitic disorders, and was also celebrated as a medicine in some other diseases of the chronic kind. But whether it was owing to a difference of climate, or other causes, European practitioners soon found that it by no means answered the character which it had acquired in the Spanish West Indies, and therefore it became very much neglected. Many physicians however still consider the Sarsaparilla to be a medicine of much efficacy; and though they admit that by the use of this root alone we are not to expect a cure of the lues venerea, yet they assert that when it is given along with mercury, the disease is much sooner subdued; and that ulcers, nodes, and other symptoms of this disorder, which resisted the effects of repeated salivations, have afterwards disappeared by the continued use of Sarsaparilla. In proof of this, we find several cases related by the late Sir William Fordyce:* but it may be remarked, that ulcers, and other complaints, which continue after a properly conducted course of mercury, are often rather to be considered as the vestiges of the lues than the actual disease, and consequently any other medicine possessing no antivenereal power, but improving the general habit of body, might be employed with equal success. Admitting this, however, is not denying the utility of Sarsaparilla, which has been decidedly done by a late ingenious professor.† It is in frequent use at most of the London hospitals, and we have known patients, after the use of mercury, much sooner restored to health by this root than in our opinion could have been accomplished by any other medicine with which we are acquainted, especially when employed in powder.

This root is also recommended in rheumatic affections, scrophula, and cutaneous complaints, or where an acrimony of the fluids prevail. It may be given in decoction or powder, and should be continued in large doses for a considerable time.

* *L. c.*

† *Dr. Cullen.*

VITIS VINIFERA.

COMMON VINE.

SYNONYMA. Vitis. *Pharm. Lond.* Vitis vinifera. *Baub.*
Pin. p. 299. *J. Baub. Hist. iii. p.* 67. *Gerard. Emac. p.* 875.
Park. Theat. p. 1555. *Raii Hist.* 1613. *Kniph. Bot. orig. cent.* 6.
Dubamel. Arb. ii. p. 360. *t.* 106. *Schmidel. Ic. plant. t.* vii.
 E. Vitis corinthiaca s. apyrena. *Baub. Hist. ii. p.* 72.

Class Pentandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 284.

Eff. Gen. Ch. Petala apice cohærentia, emarcida. Bacca 5-sperma,
 supera.

Sp. Ch. V. foliis lobatis sinuatis nudis.

THE Vine sends off numerous long slender climbing branches, and is covered with rough dark brown bark: the leaves are roundish, deeply ferrated, commonly divided into three lobes, and stand alternately upon long footstalks: the flowers are small, and produced in spikes: the calyx is divided into five small narrow segments: the petals are five, small, oblong, whitish, withered, adherent at their apices, and soon fall off: the five filaments are tapering, and furnished with simple antheræ: the germen is egg-shaped, without any style, but supplied with a cylindrical stigma: the fruit is a large round berry, of one cell, and contains five hard seeds, of an irregular form. The flowers appear in June and July.

The Vine is a native of most of the temperate parts of the four quarters of the world, and is successfully cultivated in our hemisphere between the thirtieth and fifty-first degree of latitude. Through the effects of culture, and a difference of soil and climate, numerous varieties of grapes are produced, differing widely in shape, colour, and taste, and affording wines, which are known to be extremely various. Vine leaves, called *pampini*, and the tendrils or *caprcoli*, have an astringent taste, and were formerly used in diarrhœas, hemorrhages, and other disorders, requiring refrigerant and styptic medicines. The juice, or sap, of the Vine, named *lachryma*, has

been recommended in calculous disorders, and is said to be an excellent application to weak eyes, and specks of the cornea. The unripe fruit has a harsh rough sour taste: its expressed juice, called verjuice, was much esteemed by the ancients, but is now superseded by the juice of lemons; for external use however, particularly in bruises and sprains, verjuice is still employed, and considered to be a very useful application.

The dried fruit constitutes an article of the *Materia Medica*, under the name of *uva passa*, of which two kinds were formerly mentioned in our *Pharmacopœias*, viz. *Uvæ passæ majores & minores*, or raisins and currents; the latter is a variety of the former, or the fruit of the *Vitis corinthiaca* seu *apyrena*, of C. B. The manner of preparing them is by immersing them in a solution of alkaline salt, and soap lye made boiling hot, to which is added some olive oil and a small quantity of common salt, and afterwards drying them in the shade.* These fruits are used as agreeable lubricating acescent sweets, in peccatorial decoctions, and for obtunding the acrimony of other medicines, and rendering them grateful to the palate and stomach. They are directed in the *Decoctum hordei compositum*, *Tinctura fennæ*, and *Tinctura cardamomi composita*.

Wine, or the fermented juice of the grape, of which there is a great variety; has by medical writers been principally confined to four sorts, as sufficient for officinal use. These are the *vinum album hispanicum*, mountain; *vinum canarium*, canary or sack; *vinum rhenanum*, rhenish; and *vinum rubrum*, red port.

On a chemical investigation, all wines consist chiefly of water alcohol, a peculiar acid, the ærial acid, tartar, and an astringent gummy resinous matter, in which the colour of red wines resides, and which is expressed from the husks of the grapes. They differ from each other in the proportion of these ingredients, and particularly in that of the alcohol, which they contain.

The qualities of wines depend not only upon the difference of the grapes, as containing more or less saccharine juice, and of the acid matter which accompanies it, but also upon circumstances attending the process of the fermentation. Thus, if the fermentation be incomplete, the wine may contain a portion of *must*, or unassimilated

* See Antill in *American Philosophical Transact.* vol. i. p. 194.

juice; or if it be too active, or too long protracted, it may be converted into vinegar.^b

New wines are liable to a strong degree of acescency when taken into the stomach, and thereby occasion much flatulency, and eructations of acid matter; heart-burn, and violent pains of the stomach from spasms are also often produced; and the acid matter, by passing into the intestines, and mixing with the bile, is apt to occasion colics, or excite diarrhœas. Sweet wines are likewise more disposed to become acescent in the stomach than others; but as the quantity of alcohol which they contain is more considerable than appears sensibly to the taste, their acescency is thereby in a great measure counteracted. Red port, and most of the red wines, have an astringent quality, by which they strengthen the stomach, and prove useful in restraining immoderate evacuations; on the contrary, those which are of an acid nature, as rhenish, pass freely by the kidneys, and gently loosen the belly. But this, and perhaps all the thin or weak wines, though of an agreeable flavour, yet, as containing little alcohol, are readily disposed to become acetous in the stomach, and thereby to aggravate all arthritic and calculous complaints, as well as to produce the effects of new wine.

The general effects of wine are, to stimulate the stomach, exhilarate the spirits, warm the habit, quicken the circulation, promote perspiration, and in large quantities to prove intoxicating, and powerfully sedative.

In many disorders wine is universally admitted to be of important service, and especially in fevers of the typhous kind, or of a putrid tendency; in which it is found to raise the pulse, support the strength, promote a diaphoresis, and to resist putrefaction; and in many cases it proves of more immediate advantage than the Peruvian bark. Delirium, which is the consequence of excessive irritability, and a defective state of nervous energy, is often entirely removed by the free use of wine. It is also a well-founded observation, that those who indulge in the use of wine, are less subject to fevers, both of the malignant and intermittent kind. In the putrid sore throat, in the small-pox, when attended with great debility and symptoms of putrescency, in gan-

^b See *Cullen M. M. vol. i. p. 413.*

grenes, and in the plague, wine is to be considered a principal remedy. And in almost all cases of languors, and of great prostration of strength, wine is experienced to be a more grateful and efficacious cordial than can be furnished from the whole class of aromatics.

The Tartar, which is thrown off from wines to the sides and bottom of the cask, is also an officinal article, and consists of the vegetable alkali supersaturated with acid. When taken from the cask, it is found mixed with an earthy, oily, and colouring matter: that obtained from red wine is of deep brown colour, and commonly called red, and when it is of a paler colour, white tartar. It is purified by dissolving it in boiling water, and separating the earthy part by filtering the boiling solution. On cooling the solution, it deposits irregular crystals, containing the colouring matter, which is separated by boiling the mass with white clay. The tartar, thus purified, is called cream of tartar. If this be exposed to a red heat, its acid flies off, and what remains is the vegetable alkali, or salt of tartar.

Crystals of tartar are in common use as a laxative and mild cathartic; they are also esteemed for their cooling and diuretic qualities, and therefore have been much employed in dropsies, and other cases requiring an antiphlogistic treatment. Dr. Cullen says, "that in large doses they act like a purgative in exciting the action of the absorbents in every part of the system, and that more powerfully than happens from the operation of any entirely neutral salt;" and hence is founded their utility in the cure of dropsy. It must be remarked, however, that they do not readily pass off by the kidneys, unless taken with a large quantity of water; and therefore when intended as a diuretic they ought to be given in a liquid form, as Dr. Home has directed. The dose is to be regulated according to the circumstances, from a dram to two ounces. These salts enter several officinal compositions.

Another article to be noticed here is Vinegar, which has been esteemed of great use in almost all inflammatory and putrid disorders, whether internal or external. Bergius says, it is refrigerans, resolvens, antiputridenosa, alexiteria, antiphlogistica, digestiva, antiscorbutica, diaphoretica. It is very efficacious in counteracting the effects of vegetable poisons, especially those of the narcotic kind. Inhaled in the form of a vapour, it is found useful in the putrid sore throat; and

and it has been given successfully in mania, and in rabies canina. Distilled and neutralized with volatile alkali, it forms the aqua ammoniæ acetatæ, or spiritus Mindereri, a medicine of common use in fevers. By distillation, however, the vinegar generally contracts an empyreumatic taste, and is seldom found in a rightly concentrated state; when required to be of great strength, it may be rendered so by freezing it, after the manner we have directed for concentrating the juice of lemons.

Vinegar is also much employed as a menstruum, or for extracting the virtues of other medicines.

SACCHARUM OFFICINARUM. COMMON SUGAR CANE.

Saccharum non purificatum, & purificatum. *Pharm. Lond.*

SYNONYMA. Arundo saccharifera. *Baub. Pin. p. 18. Park. Theat. p. 1210.* Arundo saccharina. *Gerard. Emac. p. 38. Raii Hist. p. 1278. Conf. Sloane's Jamaica, tom. i. p. 108. t. 66. Rumph. Herb. Amb. tom. 5. p. 186. t. 74. f. 1. Hughes's Barbadoes, p. 244. t. 23. f. 1. Browne's Jamaica, p. 129. Cazaud in Phil. Transf. vol. 69. P. 1. t. 3.*

Class Triandria. *Ord.* Digynia. *Lin. Gen. Plant. 73.*

Eff. Gen. Ch. Cal. 2-valvis, lanugine involucratus. *Cor.* 2-valvis. *Hort. Kew.*

Sp. Ch. S. floribus paniculatis, foliis planis.

THE root is perennial, knotted, and fibrous: the stem is simple, or undivided, jointed, smooth, about two inches in diameter, and rises from eight to eighteen feet in height: the leaves are long, simple, sword-shaped, and embrace the stem: the flowers are small, and produced in a terminal loose panicle: the calyx is a gluma of two valves, which are oblong, or lance-shaped, pointed, erect, concave, equal, and the base

surrounded with long woolly hairs: the corolla is composed of two valves, shorter than those of the calyx, and of a fine delicate texture: the nectarium is divided into two leaflets: the filaments are three, capillary, of the length of the corolla, and furnished with oblong antheræ: the germen is oblong, and supports two feathered styles, terminated by a plumose stigma: the seed is oblong, and is invested by the corolla.

The Sugar Cane is a native of Africa, and Lower Asia, as the East Indies and Arabia felix; it is also said to grow spontaneously in America; but others assert that it was unknown in these regions till Europeans possessed it. For a considerable time however it has been industriously cultivated in the American Islands situated within the tropics, and was two centuries ago introduced into the garden of that assiduous-botanist Mr. Gerard.

We have before remarked on the subject of manna, that several vegetables secrete a sweet or saccharine juice, easily converted into sugar. The *Arundo Bambo* L. distils from its joints a fluid, which, by the heat of the sun, concretes into sugar, and is collected for use.^a A considerable quantity of Sugar is annually obtained in America from the *Acer saccharina*, a species of Maple. The inhabitants of New Spain procure Sugar from the *Agave americana*: it is likewise obtained from the *Asclepias syriaca*, and *Zea Mays*. Nor are the inhabitants of the northern regions wholly destitute of vegetables which furnish this useful article; for at Kamtschatka it is produced from the *Heracleum Syphondylium* and *fucus saccharinus*.^b

The plant here figured affords the Sugar in common use, which is prepared from its expressed juice, boiled with the addition of quick lime, or the common vegetable alkali.^c The boiling is repeated in smaller and smaller vessels, during which it is often necessary to scum the impurities, and employ additional alkali; when the juice acquires a due consistence, it is suffered to cool in a proper vessel, and the saccharine matter concretes into a crystalized mass. This, after being separated from the melasses, is sold under the name of brown

^a See *Pison. Mant. Aromat.* p. 186. It is also procured from the *Borassus flabelliformis* & *Cocos nucifera*.

^b Several roots and fruits likewise afford Sugar. ^c The use of this is to imbibe the superfluous acid.

or moist Sugar; the *saccharum non purificatum*, of the London Pharmacopœia.

This Sugar may be purified in conical moulds, by spreading on the upper broad surface some moist clay, which gradually transfuses its watery moisture through the mass of Sugar, and carries with it a considerable part of the remains of the treacly matter; it is then called clayed Sugar. The *saccharum purificatum*, or loaf Sugar, is prepared in this country from the other Sugar boiled in water, to which is added lime water, also bullocks blood, or eggs, or commonly both; these are found to clarify the Sugar, by incorporating with its oily and mucilaginous parts, and forming a scum, which is carefully taken off. After sufficient clarification it is strained through a woollen cloth, and boiled again until it becomes of a proper consistence; it is then poured into a refrigeratory, and when duly cooled, into conical moulds made of clay, and perforated at the apex, which is placed downwards: at first the aperture at the apex of the mould is stopped up, but as the Sugar concretes it is opened, in order that the syrup or melasses may drain off. By this draining of the fluid part, the cone of Sugar shrinks at the base below the edges of the mould, which, to render the loaf still whiter, is filled up with moist clay closely applied to the base of the Sugar cone: lastly, the cone is placed upon its base, taken out of the mould, wrapped in paper, and dried or baked in a close oven.

Solutions of brown or white Sugars, boiled down until they begin to grow thick, and then removed into a very hot room, shoot upon sticks placed across the vessels for that purpose into brown or white crystals of candy, (*saccharum crystallinum*).

Sugar, as an article of diet, is so well known as not to require any description of it here: it is manifestly a neutral saline substance, the acid of which Bergman first taught us to separate by means of the nitrous acid:^d and it since appears that several other substances, both vegetable and animal, contain an acid similar to that of Sugar.^e The other constituent parts of Sugar seem to be an oily and mucilaginous matter; and though it is not yet satisfactorily explained how a combination of these substances should produce on the organs of taste a

^d See his *Diff. de acido sacchari*, published in 1776. ^e See Berthollet in *Mem. de l'Acad. Sc.* 1780. p. 120. Also Scheele in *Vet. Acad. Handl.* 1785. p. 23. sq.

sensation of sweetness, yet as it is known that the strong vitriolic acid becomes sweet by uniting it to spirit of wine, we may easily conceive that the sweetness of Sugar may be effected in a somewhat similar way.

From the known properties of Sugar, it has been supposed to unite the unctuous part of the food with the animal juices, and hence it has been thought to increase corpulence or fatness; others however have thought that a contrary effect would be produced by this quality of sugar, viz. by preventing the separation of the oily matter from the blood, which forms fat. Professor Murray, who has treated this subject very elaborately,^f thinks that by the fermentation which Sugar undergoes in the stomach, and by its relaxing resolvent saponaceous qualities, as well as by the acid which it contains, it rather tends to emaciate than to fatten the body; and in this opinion he observes that he has the authority of Boerhaave, who says if this sweet be taken in large quantities it produces emaciation by dissolving too much of the animal oil. He is therefore much surpris'd, that Mr. John Hunter should lately recommend Sugar and honey as the best restoratives to those suffering from great debility by a long course of mercury.^g What may be the effects of Sugar in this respect in its refined state may be difficult to determine; but in its crude state there can be no doubt of its affording a considerable share of nourishment, both as combined in various vegetable matters, and as separated by art. Those animals, which wholly feed upon it in the Sugar islands, become remarkably corpulent; and the negro children, whose diet happens sometimes for a season to be confined to melasses, are easily distinguished from others by their superior bulk;* they are however more disposed to suffer by worms, and are likewise less active and healthy.

Sugar however appears by the experiments of several writers to prove deleterious to various kinds of worms, either by immersing

^f See *App. Med.* vol. 5.

^g He says, "Miror ideo, quod adhuc nuper Cl. J. Hunter (Treatise on the Venereal disease, p. 354. sq.) saccharum tanquam optimum restaurans in hominibus diuturno jejunio debilitatis vel mercurii usu emaciatissimis proposuerit, &c." *L. c.* p. 410.

* In Asia, Elephants and other animals are fed upon Sugar. See *Abridgment of Evidence on Slave Trade.*

them in a solution of Sugar, or sprinkling it upon their bodies;^a and twenty grains of lump Sugar forced into the stomach of a frog, produced immediate torpor and death, which followed in the course of an hour:ⁱ it also proved fatal to pigeons, and to the gallinæ kind, but not to sparrows; and with sheep and dogs it had no other effect than that of a cathartic.^k

Sugar may certainly be taken into the stomach in pretty large quantities without producing any bad consequences, though proofs are not wanting of its mischievous effects, in which, by its attenuating and dissolving the fluids, and relaxing the solids, debility and disease are said to have been produced. Stark^l for many days took from four ounces of Sugar to eight, ten, sixteen, and even twenty, with bread and water, by which nausea, flatulency, ulceration in the mouth, with redness and tumefaction of the gums, oppression, purging, pain, and redness of the right nostril, bleeding at the nose, and livid streaks over the right scapula, were produced. We are also told that a boy who was much affected by acidity of the stomach, in a short time greedily ate a large quantity of lump Sugar; soon afterwards he was taken ill, and the next morning found dead in his bed. Upon examining his body, red spots, and other marks of a dissolved state of the blood were discovered.^m What degree of credit ought to be given to these and other cases of the like kind, we leave to the judgment of our readers: but that the liberal use of Sugar to many stomachs has greatly impaired the digestive powers, and laid a foundation for various complaints, is highly probable. At the same time we must admit, that several indulge largely in this article, if not with advantage, at least with impunity.

As a medicine, Sugar cannot be considered to possess much power. Dr. Cullen classes it with the attenuantia; and Bergius states it to be saponacea, edulcorans, relaxans, pectoralis, vulneraria, antiseptica, nutriens. In catarrhal affections both sugar and honey are frequently employed: it has also been advantageously used in calculous complaints; and from its known power in preserving animal and vege-

^a See *Redi obs. de animalcul. vivis in corp. viv. p. 166. sq.*

ⁱ *Carminati Opusc. Therap. vol. i. p. 113.*

^k *Carm. l. c.*

^l Vide *Clinical & anatomical observations with experiments dietetical & flatical.*

^m *Rezia in Carminati, l. c. p. 129.*

table substances from putrefaction, it has been given with a view to its antiseptic effects. The candy, by dissolving slowly in the mouth, is well suited to relieve tickling coughs and hoarseness. The use of Sugar in various medicinal compositions is too obvious to require being particularly pointed out.

ULMUS CAMPESTRIS.

COMMON ELM.

SYNONYMA. Ulmus. *Pharm. Lond. & Edinb.* Ulmus campestris et Theophrasti. *Baub. Pin. p. 426.* Ulmus vulgaris. *Park. Theat. p. 1404.* Ulmus vulgaritissima folio lato, scabro. *Gerard. Emac. p. 1480.* *Raii Hist. p. 1425.* *Synop. p. 468.* *Hall. Stirp. Helv. n. 1586.* U. campestris. *Hudson Flor. Ang. p. 109.* *Withering Bot. Arr. p. 258.* *Relban Flor. Cant. p. 106.* *Ic. Flor. Dan. 632.* *Evelyn's Sylva by Hunter. p. 118.*

Class Pentandria. *Ord.* Digynia. *Lin. Gen. Plant. 316.*

Eff. Gen. Ch. *Cal.* 5-fidus. *Cor.* nulla. *Bacca* exsucca, compresso-membranacea.

Sp. Ch. U. foliis duplicato-ferratis; basi inæqualibus.

THIS is very common in the neighbourhood of London, where it grows to a considerable height, sends off strong branches, and is covered with rough cracked brown bark: the leaves are ovate, rough, doubly ferrated, and stand alternately upon strong footstalks: the flowers appear before the leaves, on short spikes at the bottom of the leaf-buds: the calyx is turban-shaped, wrinkled, permanent, and divided at the border into five segments: there is no corolla: the five filaments are tapering, twice as long as the calyx, and furnished with short upright antheræ, marked with four furrows: the germen is round, compressed, upright, and supports two styles, which bend outwards, and are terminated by downy stigmata: the fruit is an oval large

large berry, which is without juice, and of a membranous texture: the seed is round, but somewhat compressed.

This tree, of which there is one variety with smaller leaves, and another with smooth leaves, grows plentifully in Worcestershire and Middlesex, but is said not to be found to the north of Stamford.

The inner tough bark, which is directed for use by the Pharmacopœias, has no remarkable smell, but has a bitterish taste, and abounds with a slimy juice, which has been recommended in nephritic cases, and externally as a useful application to burns. The external bark is brittle, contains but little mucilage, and is wholly destitute of both smell and taste. The internal bark of the branches is more bitter than that of the trunk, and therefore probably more efficacious.

The complaints for which it is chiefly recommended, are those of the cutaneous kind allied to herpes and lepra. Dr. Lysons^a mentions five cases of inveterate eruptions, both dry and humid, or those forming incrustations, which were successfully treated by a decoction of this bark, prepared from four ounces of it taken fresh, and boiled in two quarts of water to one; of this the patients were usually directed to drink half a pint twice a day. But as he added nitre to the decoction, and also frequently had recourse to purgatives, it may be doubted if these cures ought to be wholly ascribed to the Elm bark.

Dr. Lettsom^b found this bark most effectual in what he supposes to be the lepra ichthyosis of Sauvages, in which it succeeded after all the medicines usually employed in such cases had failed. A remarkable instance of its efficacy also in lepra vulgaris, affecting the whole body, is related by Banau;^c who proposes the use of Elm bark in various other diseases, as fluor albus, rheumatism, old ulcers, cancerous and scrophulous affections, tinea capitis, scurvy, &c. In very obstinate cases it is necessary to persevere in the use of the decoction for some months.

^a See *Med. Transactions*, vol. ii. p. 203.

^b See *Medical Memoirs*, p. 152.

^c See *Journ. de Paris*, 1783. n. 255.

SALIX FRAGILIS.

CRACK WILLOW.

SYNONYMA. *Salix. Pharm. Edinb.* *Salix folio longo latoque splendente, fragilis. Raii Synop. p. 448. Salix fragilis. Baub. Pin. p. 474. Hall. Stirp. Helv. n. 1638. Hudson. Flor. Ang. p. 426. Withering. Bot. Arr. p. 1102. Relban. Flor. Cant. p. 365. Flor. Lap. t. 8. f. 6. Hunter's Evelyn's Sylva, p. 245.*

Class Dioecia. *Ord.* Diandria. *Lin. Gen. Plant.* 1098.

Eff. Gen. Ch. *MASC. Amenti* iquamæ. *Cor.* o. *Glandula* bafeos neëtarifera.

FEM. Amenti iquamæ. *Cor.* o. *Stylus* 2-fidus.
Caps. 1-locularis, 2-valvis. *Sem.* pappofa.

Sp. Ch. *S. foliis* ferratis glabris ovato-lanceolatis, petiolis dentato-glandulofis.

THIS species grows to a confiderable height, fending off large branches, and is covered with wrinkled bark of a grey colour: the leaves are long, narrow, ovate, or lance-shaped, ferrated, and placed upon footstalks, which are furnished with glandular teeth: the flowers are male and female upon different trees, and produced in catkins: the calyx, or common catkin of the male flower, is oblong, imbricated; inclofed by an involucrum formed of a bud, and confifting of fcales, which are oblong, flat, expanding, and unifloral: there is no corolla: the neëtarium is a fmall cylindrical truncated gland, containing honey, and placed in the centre of the flower: the filaments are two, ftraight, filiform, longer than the calyx, and furnished with double antheræ of four cells: in the female flower the fcaly catkin refembles that of the male: the germen is egg-shaped, tapering, fo as to leave no diftinct fyle, and is longer than the fcales: the ftigmata are two, bifid and erect: the capfule is ovate, one-celled, and furnished

nished with two valves which roll back: the seeds are numerous, egg-shaped, very small, and crowned with a simple hairy pappus. The flowers appear in April and May.

This tree, which grows in hedges and about the banks of rivers in several parts of England, is easily to be distinguished from the other species of willow, by the readiness with which it breaks at the year's shoot last made upon being slightly struck with the finger; and hence the name *fragilis*.

The bark of the branches of this tree manifests a considerable degree of bitterness to the taste, and is also astringent; hence it has been thought a good substitute for the Peruvian bark, and upon trial was found to stop the paroxysms of intermittents:^a it is likewise recommended in other cases requiring tonic or astringent remedies. Not only the bark of this species of *Salix*, but that of several others, possess similar qualities, particularly of the *Salix alba* & *S. pentandria*, both of which are recommended in the foreign pharmacopœias. But in our opinion the bark of the *S. triandria* is more effectual than that of any other of this genus; at least its sensible qualities give it a decided preference.

^a See Gerhard. *Mat. Med.* p. 301. *Phil. Transact.* vol. 53. p. 195. And *Medical Comment.* vol. 5. p. 298. Instances of the efficacy of Willow bark are also related by Clossius (*nov. variol. Med. Meth.* p. 128.) And Gunz, *Diff. binæ de cortice salicis.* Lips. 1772.

With Bergius however this bark did not succeed. He says, *Ego hunc corticem in febris intermittentibus iterum iterumque exhibui, sed irritò conatus*

CYNARA SCOLYMUS.

COMMON ARTICHOKE.

SYNONYMA. *Cinara.* *Pharm. Lond. & Edinb.* *Cinara hortensis foliis non aculeatis.* *Baub. Pin. p. 383.* *Cinara maxima alba.* *Gerard. Emac. p. 1153.* *Cinara fativa alba.* *Park. Parad. p. 519.* *Carduus five Scolymus fativus non spinosus.* *J. Baub. Hist. vol. iii. p. 48.* *Raii Hist. p. 299.*

α Cinara hortensis aculeata. C. B. French Artichoke.

β C. hortensis foliis non aculeatis. C. B. Globe Artichoke.

Class Syngenesia. Ord. Polygamia Æqualis. Lin. Gen. Plant. 928.

Eff. Gen. Ch. Cal. dilatatus, imbricatus squamis carnosis, emarginatis cum acumine.

Sp. Ch. C. foliis subspinosis pinnatis indivisisque, calycinis squamis ovatis.

THE root is perennial, large, and fibrous: the stem is thick, strong, branched, striated, and rises about three feet in height: the leaves are large, of an irregular shape, pinnatifid, obtuse, bent downwards, and stand upon strong scored footstalks; on the upper side they are smooth and veined, and on the under reticulated, hoary, and downy: the flowers terminate the stem and branches upon thick fleshy peduncles: the common calyx is globular, three or four inches in diameter, and composed of numerous ovate scales, which at the base are thick and fleshy, at the apex tough, membranous, shining, notched, but with a spinous point in the centre: the florets of the corolla are numerous, blue, and equal in size, each consisting of one leaf, which is funnel-shaped, and at the base forms a slender tube; at the limb it is erect, and divided into five segments; five filaments, which

which are capillary, very short, and furnished with antheræ, which form a cylindrical tube of the length of the corolla, and five toothed: a germen of an ovate form, which supports a slender style, longer than the stamina, and terminated by a simple, oblong, notched stigma: the seeds are oblong, obscurely quadrangular, and furnished with a long sessile feathery pappus: the receptacle is bristly. It flowers in August and September.

The Artichoke is a native of the southern parts of Europe. It was cultivated here by Turner;^a and as a culinary article it is common in most kitchen gardens.

The receptacles, or bottoms of the heads, and the fleshy part of the scales are usually eaten, and though thought by Galen to generate bile and melancholy, are wholesome and nutritious. The Arabians noticed their diuretic qualities, and therefore deemed them useful to carry off morbid matter by the kidneys.^b

The leaves are bitter, and afford by expression a considerable quantity of juice, which when strained and mixed with an equal part of white wine, has been given successfully in dropsies;^c for this purpose two or three spoonfuls of the mixture are to be taken night and morning. An infusion of the leaves are likewise diuretic, and may be employed with the same intention.

^a Antecedent to the year 1551.

^b See *Sebizius de Aliment. facult. p. 346.*

^c Vide *Journal étranger*, and Aaskow in *Act. Soc. Med. Havniens. vol. i. p. 201.*

CINCHONA OFFICINALIS. OFFICINAL CINCHONA;
Or PERUVIAN BARK TREE.

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

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

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

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

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

THIS tree is very lofty, sending off large branches, covered with rough brown bark: the leaves vary from an ovate to an elliptical shape, the larger approaching more to the former, and the smaller to the latter figure; they are all entire, nerved, smooth on the upper side, on the under tomentose, and stand in pairs upon footstalks: the flowers are produced in panicles, and stand upon slender pedicles: the calyx is small, bell-shaped, and cut at the margin into five minute segments: the corolla is funnel-shaped, consisting of a long cylindrical tube, divided at the limb into five segments, which are ovate, or oblong, spreading, on the upper side red, on the under woolly, and fringed at the edges: the five filaments are bristly, placed in the middle of the tube, and furnished with oblong antheræ, twisted in a spiral manner: the germen is ovate: the style is filiform, somewhat longer than the stamina, and furnished with a round stigma: the capsule divides into two parts, the cells of which are separated by a parallel partition: the seeds are small and numerous.

This

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

It is a native of Peru, growing most abundantly on a long chain of mountains extending to the north and south of Loxa, where its trunk frequently exceeds in bulk the body of a man. According to Mr. Arrot, the soil in which these trees thrive best, is generally a red clayey or rocky ground, and especially on the banks of small rivers descending from the high mountains.^b This author also informs us, that the properest season for cutting off the bark is from September to November, and the manner of conducting this we have related in Mr. Arrot's own words.* On the trees being entirely stripped of their bark they soon perish; and as the number of these trees to which access could be had, was said to be not very considerable, it has been supposed that a sufficient quantity of bark

^a *L. c.* ^b *Phil. Transf. vol. 40, p. 83.*

* " The properest season for cutting the bark is from September to November, the only time in the whole year of some intermission from the rain in the mountains. Having discovered a spot where the trees most abound, they first build huts for the workmen, and then a large hut wherein to put the bark in order to preserve it from the wet; but they let it lie there as short a time as possible, having beforehand cut a road from the place where the trees grow, through the woods, sometimes three or four leagues, to the nearest plantation or farm-house in the low country, whither, if the rain permits them, they carry the bark forthwith to dry. These preparations being made, they provide each Indian (they being the cutters) with a large knife, and a bag that will hold about fifty pounds of green bark: every two Indians take one tree, whence they cut or slice down the bark, as far as they can reach from the ground; they then take sticks about half a yard long each, which they tie to the tree with tough withs at proper distances, like the steps of a ladder, always slicing off the bark as far as they can reach before they fix a new step, and thus mount to the top, the Indian below gathering what the other cuts: this they do by turns, and go from tree to tree until the bag is full, which, when they have plenty of trees, is generally a day's work for one Indian. As much care as possible must be taken that the bark is not cut wet; should it so happen, it is to be carried directly down to the low country to dry; for otherwise it loses its colour, turns black, and rots; and if it lie any time in the hut without being spread, it runs the same risk: so that while the Indians are cutting, the mules if the weather permits ought to be carrying it down to the place appointed for drying it, which is done by spreading it in the open air, and frequently turning it." *l. c.*

to supply the demand, could not long be procured. Condamine, however, asserts that the young trees do not die by losing their bark, but send out fresh shoots from the base, and as those which are suffered to become old have time to disseminate and propagate, we trust the fear of exhausting this valuable medicine is wholly groundless.

We seem to have no satisfactory account at what time, or by what means, the medicinal efficacy of the Peruvian Bark which is now so well established, was first discovered. Some contend that its use in intermittent fevers was known to the Americans long before the Spaniards possessed Peru, but that they concealed this knowledge from the Europeans; and, on the contrary, it is asserted by others, that the Peruvians never supposed it to be fit for any medicinal use, but thought that the large quantities exported thence was for the purpose of dyeing, and they actually made some trials of its effects in this way.^a Condamine says, that according to an ancient tradition, the Americans owe the discovery of this remedy to the lions, which some naturalists pretend are subject to a kind of intermittent fever, of which they were observed to be cured by instinctively eating the bark of the Cinchona. But Geoffroy states, that the use of the bark was first learned from the following circumstance:—Some cinchona trees being thrown by the winds into a pool of water, lay there till the water became so bitter that every body refused to drink it. However, one of the neighbouring inhabitants being seized with a violent paroxysm of fever, and finding no other water to quench his thirst, was forced to drink of this, by which he was perfectly cured. He afterwards related the circumstance to others, and prevailed upon some of his friends who were ill of fevers to make use of the same remedy, with whom it proved equally successful.^b The use of this excellent medicine, however, was very little known till about the year 1638, when a signal cure having been performed by it on the Spanish viceroy's lady, the Countess del Cinchon, at Lima, it came into general use, and hence was distinguished by the appellation *pulvis comitissæ*, or the Countess's powder; also called, *cortex china china*, or *chinchina*; *kinà kina*, or

^a Ulloa, *Voyage de l'Amerique meridionale*. T. i. p. 271.
^b *Mat. Med. Traité*, p. 78.

kinkina; and quina quina, or quinquina. On the recovery of the Countess she distributed a large quantity of the bark to the Jesuits, in whose hands it acquired still greater reputation, and by them it was first introduced into Europe,* and thence called cortex, or pulvis jesuiticus, pulvis patrum; and also Cardinal de Lugo's powder, because that charitable prelate bought a large quantity of it at a great expence for the use of the religious poor of Rome.

“ This bark is brought to us in pieces of different sizes, some rolled up into short thick quills, and others flat: the outside is brownish, and generally covered in part with a whitish moss: the inside is of a yellowish reddish or rusty iron colour. The best sort breaks close and smooth, and proves friable betwixt the teeth: the inferior kinds appear when broken of a woody texture, and in chewing separate into fibres. The former pulverizes more easily than the latter, and looks, when powdered, of a light brownish colour, resembling that of cinnamon, or somewhat paler. It has a slight smell, approaching as it were to muskiness, yet so much of the aromatic kind as not to be disagreeable. Its taste is considerably bitter, astringent, very durable in the mouth, and accompanied with some degree of aromatic warmth, but not sufficient to prevent its being ungrateful.” †

Besides this bark, that of several other species of *Cinchona* have been recommended for medical use by different authors, especially the cortex peruvianus ruber, or red bark; also that of the *cinchona caribæa*, or the Jamaica bark; that of *cinchona floribunda* produced at St. Lucie; and that of two or three other species discovered at Santa Fé. The first of these “ is in much larger and thicker pieces than the common, most of the pieces are concave, though not rolled together like the quilled bark. They break short, like the best common bark, and appear evidently composed of three layers. The outer is thin, rugged, frequently covered with a mossy substance, and of a reddish brown colour. The middle is thicker, more compact, and of a darker colour: it is very brittle and resinous. The innermost layer is more woody and fibrous, and of a brighter red. In pow-

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

† *Lewis, M. M. p. 485.*

dering this bark, the middle layer which seems to contain the greatest proportion of resinous matter, does not break so readily as the rest; a circumstance to be attended to, lest the most active part should be left out of the fine powder. This red bark to the taste discovers all the peculiar flavour of the Peruvian Bark, but much stronger than the common officinal sort. An infusion in cold water is intensely bitter, more so than the strongest decoction of common bark. Its astringency is in an equal degree greater than that of the infusion of common bark, as is shewn by the addition of martial vitriol. The spirituous tincture of the red bark is also proportionally stronger than that of the pale. The quantity of matter extracted by rectified spirit from the powder of the former, was to that from the latter as 3 to 2 in one experiment, and as 229 to 130 in another; and yet on infusing the two residuums of the first experiment in boiling water, that of the red bark gave a liquor considerably bitter, and which struck a black with martial vitriol; while that yielded by the other, was nearly tasteless and void of astringency.”*

Respecting the medicinal properties we have several respectable authorities, shewing, that as the red bark possesses the same virtues with the common, in a much higher degree,† so it has been found of more efficacy in the cure of intermittents: and hence it is thought to be that which, according to Arrot, the Spaniards called *Cascarilla colorada*, and was probably the kind originally brought to Europe, and which proved so successful in the hands of Sydenham, Morton, and Lister; for it appears from the testimony of the oldest practitioners, that the bark first employed here was of a much deeper colour than the common bark.^a The red bark was first imagined by Dr. Saunders^b to be that of the trunk of full grown trees, the branches or young trees of which yield the pale or common bark; but this opinion the Doctor seems afterwards to have abandoned, for in the third edition of his pamphlet on this subject he says, “ that he has lately seen some exceedingly good red bark imported by a Spanish merchant, a considerable part of which was as small as

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

^a Baker. *Med. Transf. Vol. iii. p. 161.* ^b *Observations on the superior efficacy of the red Peruvian Bark in the cure of fevers.*

the quilled bark in common use, &c. It was extremely resinous, and gave evident proofs of its being the quill of the larger red bark which was in the same chest." If the pale and red bark were really the produce of the same species of *Cinchona*, the latter differing from the former only by acquiring greater maturity, we should find the deepness of the colour of the pale bark to correspond proportionably with its thickness or the size of the quill, which is certainly not the case. The *Cinchona Caribæa* is described and figured by Jacquin^a and Dr. Wright;^b it grows in Jamaica, where it is called the Sea Side Beech. According to Dr. Wright, the bark of this tree is not less efficacious than that of the *Cinchona* of Peru, for which it will prove an useful substitute; but by the experiments of Dr. Skeete it appears to have less astringent power.^c The *Cinchona floribunda*, or bark tree of St. Lucie, a figure of which we find in *Phil. Transf.* also in Rozier's *Observations sur la Physique*, affords a bark which is likewise said to have been used with advantage; but notwithstanding all that has been written to establish its medicinal character,^d it seems to us greatly inferior to that of the other species of this genus. In its recent state it is considerably emetic and cathartic; properties, which in some degree it retains on being dried; so that the stomach does not bear this bark in large doses, and in small ones its effects are not such as to give it any peculiar recommendation. Several species of *Cinchona* have lately been discovered at Santa Fé, yielding barks both of the pale and red kind; and which, from their sensible qualities, are likely upon trial to become equally useful with those produced in the kingdom of Peru.^e

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

"The Peruvian Bark yields its virtues both to cold and boiling water; but the decoction is thicker, gives out its taste more readily,

^a *Amer. piët. tab. 23.* ^b *Phil. Transf. Vol. 67.* ^c *Exper. p. 339.*

^d See *Kentish. Exp. and Observ. on the Peruvian Bark.* Davidfon in *Phil. Transf. Vol. 74.* and *Transf. of the American Phil. Soc. Vol. 2.* Mallet in *Mem. sur le Quinquina de la Martinique, &c.*

^e See *Memoria o Dissertazione sopra la nuova China del regno de St. Fé, &c.*

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

From many ingenious experiments made on the Peruvian Bark by Dr. Irving, published in a Dissertation which gained the prize-medal given by the Harveian Society of Edinburgh in 1783, the power of different menstrua upon Peruvian Bark, is ascertained with greater accuracy than had before been done: and it appears, that with respect to comparative power, the following fluids act in the

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

order in which they are placed: Dulcified spirit of vitriol: Caustic lye: French brandy: Rhenish wine: Soft water: Vinegar and water: Dulcified spirit of nitre: Mild volatile alkali: Rectified spirit of wine: Mild vegetable alkali: Lime-water. The antiseptic powers of vinegar and bark united are double their sum taken separately. The astringent power of the bark is increased by acid of vitriol; the bitter taste is destroyed by it.

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

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

^a *Mat. Med. Vol. p. 97.* ^b See *New Edinburgh Dispensatory.*

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

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

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

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

disease as especially consisting in a phlogistic diathesis, I hold the bark to be absolutely improper, and have found it manifestly hurtful, especially in its beginning, and in its truly inflammatory state."

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

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

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

Cortex Peruvianus ruber officinarum.

THOUGH the specific character of this species has not yet been botanically determined, yet upon the testimony of Combe and Grofchke^a a drawing of it was sent to Linnæus from Peru, which was found in the Linnean Herbarium purchased by Dr. Smith, to whom we are obliged for the annexed figure. In the original drawing two specimens of the branches are given, one in its floral and the other in its capsular state; to which is also added, a sketch of

^a See *Blumenbach Med. Biblioth. V. 2. p. 486.*

the bark. On these authorities, and on that of Murray, who, in his sixth vol. of the *App. Medicam.*^d refers to this figure, we consider ourselves sufficiently warranted to present it to the publick, not doubting of its being peculiarly acceptable to our medical readers.

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

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

^d See p. 45.

ALOE PERFOLIATA SOCOTORINA. SOCOTORINE ALOE.

SYNONYMA. Aloë socotorina. *Pharm. Lond. & Edinb.* Aloe Americana ananæ floribusque suave rubentibus. *Pluk. Almag. t. 240. f. 4.* Aloe (vera) foliis longissimis et angustissimis, marginibus spinosis, floribus spicatis. *Mill. Dict.*

Class Hexandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 430.

Eff. Gen. Ch. Cor. erecta, ore patulo, fundo nectarifero. *Filam.* receptaculo inserta.

Sp. Ch. A. foliis caulinis dentatis amplexicaulibus vaginantibus, floribus corymbosis cernuis pedunculatis subcylindricis.

♂ *A. S.* foliis longissimis et angustissimis, marginibus spinosis, floribus spicatis.

THE root is perennial, strong, fibrous: the flower-stems rise three or four feet in height, and are smooth, erect, of a glaucous green colour, and towards the top beset with ovate bracteal scales: the leaves are numerous, and proceed from the upper part of the root: they are narrow, tapering, thick, or fleshy, succulent, smooth, glaucous, and beset at the edges with spiny teeth: the flowers are produced

duced in terminal spikes, and of a purple or reddish colour: there is no calyx: the corolla is monopetalous, tubular, nectariferous, cut into six narrow leaves which separate at the mouth: the filaments are six, tapering, yellowish, inserted into the receptacle, and furnished with oblong orange-coloured antheræ: the germen is oblong, supporting a simple slender style, of the length of the filaments, and terminated by an obtuse stigma: the capsule is oblong and divided into three cells, with as many valves, and contains many angular seeds.

It is a native of Africa, and flowers most part of the year.

Not only the socotorine aloes, which is the inspissated juice of the plant here represented, but also the hepatic or Barbadoes aloes is directed for officinal use in our pharmacopœias. This however being obtained from another variety of the same species, viz. the aloe (*π vera*) foliis spinosis confertis dentatis vaginantibus planis maculatis L. it has not been thought necessary to give a separate figure of it here. Besides, it appears probable from the observations of Professor Murray, that different species as well as varieties of aloe would furnish the various kinds of this drug, and that Linnæus by referring these sorts to those plants, the recent juice of which seemed to respectively correspond the nearest to them in taste, might easily be misled; for Murray upon tasting the fresh juice of many different species of aloe, sometimes found it bitter, and at other times totally devoid of bitterness.*

A tract of mountains about fifty miles from the Cape of Good Hope is wholly covered with the aloes plants, which renders the

* See *Commentatio de succi aloës amari initiis* in *Murr. Opusc. tom. 2. p. 488*. This author found the bitterest species to be the following: 1. Aloe elongata, floribus spicatis tubuloso-triquetris subringentibus oblique dependentibus, foliis aggregatis dentato-spinosis. It seems to be the variety *π* of the spec. plant. and is probably the aloe mentioned by Hughes and Browne. A figure of it is given in the Gottingen Transl. for the year 1788.

2. Aloe spicata *Thunb.* (see *supp. plant.*) this is said to afford the best hepatic aloes.
3. Aloe linguæformis (see *syft. veg. ed. 14.*) This plant in the interior parts of the Cape, is selected by some as producing the best and purest aloes. *Thunb. de Med. African. p. 7*. But the greatest quantity of aloes exported from the Cape of Good Hope, is prepared from another species, not defined by Thunberg, though not uncommon in our botanic gardens V. *Physiogr. Sälsk. Handl. P. 1. p. 112.* and Sparrman *Resa til Goda Hopps-udden. p. 742*, it is probably the *A. spicata* of *Thunb.*

planting

planting of them there unnecessary; but in Jamaica and Barbadoes they are now carefully cultivated; to the former of these Islands, they were first brought from Bermuda, and gradually propagated themselves. They require two or three years standing before they yield their juice in perfection; to procure which, according to Dr. Browne, "The labourers go into the field with tubs and knives, and cut off the largest and most succulent leaves close to the stalk; these are immediately put into the tubs, and disposed one by the side of another in an upright position, that all the loose liquor may dribble out at the wound. When this is thought to be almost wholly discharged, the leaves are taken out one by one, passed through the hand to clear off any part of the juice that may yet adhere, or stick in the less open veins; and the liquor put in shallow flat-bottomed vessels, and dried gradually in the sun, until it acquires a proper consistence. What is obtained in this manner is generally called *Jocotorine aloes*, and is the clearest and most transparent, as well as the highest in esteem and value." ^b The method of procuring the common aloes he states to be nearly the same with that mentioned by Mr. Hughes,^c and lately by Mr. Millington:^d after a sufficient quantity of juice is drained from the leaves, to make it an object for the boiling house, the last-mentioned gentleman informs us, "three boilers, either of iron or copper, are placed to one fire, though some have but two, and the small planters only one. The boilers are filled with juice, and as it ripens or becomes more inspissated, by a constant but regular fire, it is ladled forward from boiler to boiler, and fresh juice is added to that farthest from the fire, till the juice in that nearest to the fire (by much the smallest of the three, and commonly called by the name of tatch, as in the manufactory of sugar) becomes of a proper consistency to be skipped or ladled out into gourds, or other small vessels, used for its final reception. The proper time to skip or ladle it out of the tatch, is when it is arrived at what is termed a resin height, or when it cuts freely, or in thin flakes from the edges of a small wooden slice, that is dipped from time to time into the tatch for that purpose. A little

^b See Browne's *Jamaica*, p. 198.

^c See his *History of Barbadoes*, p. 159.

^d See *London Med. Journal*, V. 8. p. 422.

lime-water is used by some aloe boilers during the process, when the ebullition is too great." He adds, "as to the sun-dried aloes which is most approved for medicinal purposes, very little is made in Barbadoes. The process is however very simple, though extremely tedious. The raw juice is either put into bladders, left quite open at top, and suspended in the sun, or in broad shallow trays of wood, pewter, or tin, exposed also to the sun every dry day, until all the fluid parts are exhaled, and a perfect resin formed, which is then packed up for use, or for exportation"*.
 *.

These accounts of procuring the aloes differ considerably from that given by Dr. Wright, who says "Hepatic aloes is obtained in the following manner. The plant is pulled up by the roots and carefully cleansed from earth or other impurities. It is then sliced and cut in pieces into small hand-baskets or nets. These nets or baskets are put into large iron boilers with water, and boiled for ten minutes, when they are taken out, and fresh parcels supplied till the liquor is strong and black. At this period the liquor is thrown through a strainer into a deep vat, narrow at bottom, to cool, and to deposit its fæculent parts. Next day the clear liquor is drawn off by a cock, and again committed to the large iron vessel. At first it is boiled briskly, but towards the end the evaporation is slow, and requires constantly stirring to prevent burning. When it becomes of the consistence of honey, it is poured into gourds or calabashes for sale. The socotorine aloes may be prepared as above."†

The aloe socotorina or socotorine aloes is so named, from being formerly‡ brought from the Island Socotria or Zocotria at the mouth of the Red sea: it comes wrapt in skins and is of a bright surface, and in some degree pellucid; in the lump of a yellowish red colour with a purplish cast; when reduced into powder of a golden colour. It is hard and friable in the winter, somewhat pliable in the summer, and softens between the fingers. Its bitter taste is accompanied with an aromatic flavour, but not sufficient to prevent its being disagreeable:.

* Millington, l. c.

† V. Dr. Wright's *account of the Medicinal plants growing in Jamaica*, in *Lond. Med. Jour.* Vol. 8. p. 219.

‡ It is now said to be imported from the Cape by the Dutch East India Company.

the smell is not very unpleasant, and somewhat resembles that of myrrh. The aloe hepatica E. P. and barbadensis L. P. the Hepatic, Barbadoes, or common aloes, is chiefly brought from Barbadoes; the best sort in large gourd shells, an inferior kind in pots, and a still worse in casks; is darker coloured than the foregoing, and not so clear or bright. It is generally drier and more compact, though sometimes, especially the cask sort, quite soft and clammy. Its smell is much stronger and more disagreeable: the taste intensely bitter and nauseous, with little or nothing of the aromatic flavour of the socotorine.

Another kind of aloes obtained from the aloë guineensis caballina vulgari similis sed tota maculata*, is also kept in the shops, and called aloe caballina, or horse aloes. This is easily distinguished from both the foregoing, by its strong rank smell: in other respects it agrees pretty much with the hepatic, and is now not unfrequently sold in its place. Sometimes it is prepared so pure and bright as scarcely to be distinguishable by the eye, even from the socotorine, but its offensive smell readily betrays it; and if this also should be dissipated by art, its wanting the aromatic flavour of the finer aloes will be a sufficient criterion. This aloe is not admitted into the *Materia Medica*, and is employed chiefly by farriers.

All the kinds of aloes consist of a resin united to a gummy matter, and dissolve in pure spirit, proof spirit, and proof spirit diluted with half its weight of water; the impurities only being left. They dissolve also by the assistance of heat in water alone; but as the liquor grows cold, the resinous parts subside.

The hepatic aloes is found to contain more resin and less gum than the socotorine, and this than the caballine. The resins of all the sorts, purified by spirit of wine, have little smell: that obtained from the socotorine has scarce any perceptible taste; that of the hepatic, a slight bitterish relish; and the resin of the caballine, a little more of the aloetic flavour. The gummy extracts of all the sorts are less disagreeable than the crude aloes: the extract of socotorine aloes has very little smell, and is in taste not unpleasant: that of the hepatic has a somewhat stronger smell, but is rather more agreeable in taste than the extract of the socotorine: the gum of the caballine retains a considerable share of the peculiar rank smell of

* *Commel. Prael. bot. p. 4.*

this sort of aloes, but its taste is not much more unpleasant than that of the extracts made from the two other sorts.^b

Aloes is neither noticed by Hippocrates nor Theophrastus, but Dioscorides mentions two kinds; and Avicenna tells us, that of the different kinds the focotorine is the best. Celsus, however, who frequently employed aloes, does not mention any peculiar sort.

Aloes is a well known purgative; a property which it possesses not only when taken internally, but also by external application.ⁱ This cathartic quality of aloes does not, like most of the others of this class, reside in the resinous part of the drug but in the gum, for the pure resin has little or no purgative power. Boerhaave declares aloes to be an effectual and safe cathartic, but though we may have little to fear from its hypercathartic effects, yet in large doses it often produces much heat and irritation, particularly about the rectum, from which it sometimes occasions a bloody discharge: therefore, to those who are subject to piles, or of an hemorrhagic diathesis, or even in a state of pregnancy, its exhibition has been productive of considerable mischief: but on the contrary, by those of a phlegmatic constitution or suffering by uterine obstructions, and in some cases of dyspepsy, palsy, gout, and worms, aloes may be employed as a laxative with peculiar advantage. Its purgative effects are not always in proportion to the quantity taken, and as its principal use is rather to obviate costiveness than to operate strongly, this ought to be no objection to its use. Respecting the choice of the different kinds of aloes, it may be observed that the focotorine, as already mentioned, contains more gummy matter than the hepatic, and hence is found to purge with more certainty and greater irritation; therefore is most proper where a stimulus is required, or for promoting the uterine discharge: while the hepatic is better calculated for the purpose of a common purgative; and also by containing more resin answers better for external application considered as a vulnerary.

The dose of aloes is from half a scruple to half a dram, but it is seldom given alone. Several preparations of it are directed in the

^b See *Edinburgh new Dispensatory*.

ⁱ *Y. Monro's Works*, p. 306. and *Mem. de la Soc. R. de Medec. à Paris*, Vol. 2. p. 162.

pharmacopœias, as, pilulæ ex aloe, pilulæ ex aloe cum myrrha, extractum colocynthidum compositum. *Pharm. Lond.* pilulæ aloeticæ, pilulæ communes, v. Rufi, pilulæ ex colocynthide cum aloe, pilulæ stomachicæ, *Pharm. Ed.* tinctura aloes, tinctura aloes composita, vinum aloes *P.L.* elixir aloes v. proprietatis, elixir aloes five proprietatis vitriolicum, vinum aloeticum. *P.E.* the pulvis aloeticus or hiera picra, and other powders.

IPECACUANHA.

IPECACUAN.

Ipecacuanha. *Pharm. Lond. & Edinb.*

AFTER the great diligence of naturalists in exploring every quarter of the world, to extend the science of botany, it seems surprising that the plant Ipecacuanha, the roots of which have been in common use more than a century, should not have yet been botanically ascertained. It has been referred to several different genera, as that of paris, euphorbia, lonicera, viola, psychotria, &c.; and though this last has lately been thought to be the genus to which it belongs, and consequently named *P. emetica* by the younger Linnæus; yet the authority on which Mutis received the information, we cannot implicitly follow; and the figure before us, though evidently the true Ipecacuanha plant, not being advanced to a state of inflorescence, leaves this matter still undetermined. For the plant here represented, we are obliged to Sir Joseph Banks; to whom it was sent (preserved in spirits) from Brazil by Governor Phillips; and though it is not in a state of perfection, we trust it will, as a curiosity, be thought a valuable addition to our plates.

Piso divides this root into two sorts, the white and the brown, or according to Geoffroy, the Peruvian and Brazilian Ipecacuanha^a; but three sorts are evidently distinguishable in our shops, viz. ash-

^a *Pison. Ind. res. Med. et Nat. p. 231.*

coloured or grey, brown, and white. The ash-coloured is brought from Peru, and “ is a small wrinkled root, bent and contorted into a great variety of figures, brought over in short pieces full of wrinkles and deep circular fissures, down to a small white woody fibre that runs in the middle of each piece: the cortical part is compact, brittle, looks smooth and resinous upon breaking: it has very little smell; the taste is bitterish and subacid, covering the tongue as it were with a kind of mucilage. The brown is small, somewhat more wrinkled than the foregoing; of a brown or blackish colour without, and white within; this is brought from Brazil (and corresponds with our specimen). The white sort is woody, has no wrinkles, and no perceptible bitterness in taste. The first, the ash-coloured or grey Ipecacuan, is that usually preferred for medicinal use. The brown has been sometimes observed, even in a small dose, to produce violent effects. The white, though taken in a large one, has scarce any effect at all.”^b Dr. Irving has ascertained by experiments,^c that this root contains a gummy and resinous matter, and that the gum is in much greater proportion, and is more powerfully emetic than the resin: that the cortical part is more active than the ligneous, and that the whole root manifests an antiseptic and astringent power. He also found its emetic quality to be most effectually counteracted by means of the acetous acid, inasmuch that thirty grains of the powder taken in two ounces of vinegar, produced only some loose stools.

The first account we have of Ipecacuan is that published by Piso, in 1649; but it did not come into general use till thirty years afterwards, when Helvetius,^d under the patronage of Louis XIV. employed it at the Hotel de Dieu, and introduced this root into common practice; and experience has proved it to be the mildest and safest emetic with which we are acquainted, having this peculiar advantage, that if it does not operate by vomit, it readily passes off by the other emunctories.

^b *Edin. New Dispens.* p. 211.

^c See the Dissertation which obtained the prize medal of the Harveian Society of Edinburgh, for 1784.

^d See *Recueil des Methodes*, p. 280.

It was first introduced to us with the character of an almost infallible remedy, in dysenteries and other inveterate fluxes, as diarrhœa, menorrhagia, and leucorrhœa, and also in disorders proceeding from obstructions of long standing: nor has it lost much of its reputation by time. The use of Ipecacuan in these fluxes, is thought to depend upon its restoring perspiration; for in these cases, especially in dysentery and diarrhœa, the skin is dry and tense; and while the common diaphoretics usually pass off by stool, small doses of this root have been administered with the best effects, proving both laxative and diaphoretic.* In the spasmodic asthma, Dr. Akenfide† remarks, that where nothing contraindicates repeated vomiting, he knows no medicine so effectual as Ipecacuan. In violent paroxysms a scruple procures immediate relief. Where the complaint is habitual, from three to five grains every morning, or from five to ten every other morning, may be given for a month or six weeks.

This medicine has also been successfully used in hemorrhages.‡ Several cases of menorrhagia are mentioned by Dahlberg,^b in which one-third or half a grain was given every four hours till it effected a cure. These small doses are likewise found of great use in catarrhal and even consumptive cases, as well as in various states of fever. Dr. Cullen informs us,ⁱ that he knew a practitioner who cured intermittents by giving five grains of Ipecacuanha, or enough to excite nausea, an hour before the accession of the fit was expected; and that “Dr. Thompson, formerly of Montrose, proposed to cure agues by the employment of emetics given at the time of accession, or at the end of the cold stage: and this practice has also been successful, and may indeed be executed by tartar emetic; but in trying such practices, I have found the Ipecacuanha more manageable than the other, and generally to be more easy to the patient.”

Ipecacuan, particularly in the state of powder, is now advantageously employed in almost every disease in which vomiting is

* Dr. Cullen attributes its good effects entirely to its purgative quality, *M. M.* Vol. 2. p. 477.

† *Med. Transf.* vol. 1. p. 96.

‡ See Gianella de admirabili Ipec. virtute in curandis febribus. Patav. 1754. Also Bergius (*M. M.* p. 103.) and others.

^b *Vet. Acad. Handl.* vol. 31. p. 316. a 1770.

ⁱ l. c.

indicated ;

indicated; and when combined with opium, under the form of pulvis fudorificus, it furnishes us with the most useful and active sweating medicine which we possess. It is also given with advantage in very small doses even when it produces no sensible operation. The full dose of Ipecacuan in substance is a scruple, though less doses will frequently produce an equal effect. The officinal preparation is vinum ipecacuanhæ.

ASPLENIUM TRICHOMANES. COMMON MAIDENHAIR,
Or SPLEEN-WORT.

SYNONYMA. Trichomanes. *Pharm. Edinb. Park. Theat.* p. 1051. *Raii Hist.* p. 140. *Synop.* p. 119. *Hall. Hist. Stirp. Helv.* p. 1693. Trichomanes Mas. *Ger. Emac.* p. 1146. Trichomanes five Polytrichum officinarum, *Baub. Pin.* p. 356. Aspl. Trichomanes. *Hudson. Flor. Ang.* p. 452. *Withering. Botan. Arr.* Vol. 3. p. 52. *Relban. Flor. Cant.* p. 388. *Ik. Flor. Dan.* p. 119. *Bolton. Fil. Brit.* p. 22. t. 13.

Class Cryptogamia. *Ord.* Filices. *Lin. Gen. Plant.* 1178.

Eff. Gen. Ch. *Fructificationes* in lineolis disci frondis sparsis.

Sp. Ch. A. frondibus pinnatis: pinnis subrotundis crenatis.

THE root is perennial, consisting of numerous slender fibres, of a dark brown colour: the general leaves are numerous, pinnated, six or eight inches in length; the ribs of which are smooth, and of a shining blackish colour; the pinnæ are sessile, somewhat roundish, indented at the edges, placed oppositely, and consisting of about twenty pairs, of which the largest stands in the middle of the leaf; the others gradually decrease towards each extremity, especially the upper:

upper: the fructifications, or seed vessels, are placed on the back of the pinnæ or lobes of the leaf, and form a row of three or four on each side of the midrib: at first they are yellowish, and are covered with a thin membrane, which when at maturity bursts, and discharges the contents over the other leaves.

It is common in this country, and is usually found on old walls and rocks in moist and shaded situations.

This plant we figure on the authority of the Edinburgh Pharmacopœia.

The leaves have a mucilaginous sweetish subastringent taste, without any particular flavour; they are esteemed useful in disorders of the breast, proceeding from a thickness and acrimony of the juices; and are likewise supposed to promote the expectoration of tough phlegm, and to open obstructions of the viscera. They are usually directed in effusion or decoction, with the addition of a little liquorice. A syrup prepared from them, though it has now no place in our pharmacopœias, is frequently to be met with in our shops, both as prepared at home and imported from abroad. A little of these syrups mixed with water makes a very pleasant draught. The syrup brought from abroad has an admixture of orange flower-water. ^a

^c *Ed. N. Dispens. p. 209.*

LICHEN ISLANDICUS.

ERYNGO-LEAVED LICHEN.

SYNONYMA. Lichen islandicus. *Pharm. Edinb.* Lichen foliis oblongis laciniatis: marginibus conniventibus ciliatis. *Flor. Lapp. p. 445. Roy. Lugdb. p. 508. Hall. Stirp. Helv. 75.* Lichen terrestris, foliis eryngii. *Buxb. cent. 2. p. 11. t. 6. f. 1. 2.* Lichenoides rigidum, eryngii folia referens. *Dill. Hist. Musc. p. 209. t. 28. f. 111.* Lichenoides islandicum. *Hoffm. Pl. Lichenos. vol. 1. fasc. 2. tab. 9. f. 1. p. 41. Flor. Dan. 155. Giske 50. Mich. t. 44. f. 4. Conf. Withering. Bot. Arr. p. 196.*
Class

Class Cryptogamia. *Ord.* Algæ. *Lin. Gen. Plant.* 1202.

Eff. Gen. Ch. *MASC.* *Receptaculum* subrotundum, planiusculum, nitidum.

FEM. Farina foliis adspersa.

D. Foliacei.

Sp. Ch. *L. foliaceus* adscendens laciniatus: marginibus elevatis ciliatis.

THIS Lichen is foliaceous, erect, large: the leaves are crowded, connected together, tough, membranous, two or three inches long, variously sinuated, or divided into irregular blunt lobes, turned in at the edges, and fringed with short strong bristles: the surface is smooth, shining, channelled, and of a pale green or brown colour: the fructifications or scutella are large, of a reddish brown colour, and placed on the lobes of the leaves. It is a native of Britain, particularly on the mountains of Wales and Scotland.

The medicinal qualities of the Lichen Islandicus have lately been so well established at Vienna, that this plant is now admitted into the *Materia Medica* of the *Edinburgh Pharmacopœia*. It is extremely mucilaginous, and to the taste is bitter and somewhat astringent: its bitterness, as well as the purgative quality which it manifests in its recent state, are in a great measure dissipated on drying, or may be extracted by a slight infusion in water, so that the inhabitants of Iceland convert it into a tolerably grateful and nutritive food. An ounce of this Lichen, boiled a quarter of an hour in a pint of water, yielded seven ounces of a mucilage as thick as that procured by the solution of one part of gum arabic in three of water.

The medical virtues of this Lichen were probably first learned from the Icelanders, who employ it in its fresh state as a laxative,^a but when deprived of this quality, and properly prepared, we are told that it is an efficacious remedy in consumptions, coughs, dysenteries, and diarrhæas. Scopoli seems to have been the first who of late years

^a See Borrichius in Bartholini, *Act. Med. Hafn.* 1671. p. 126. Olafsen *Reise igien-nem Island.* tom. i. p. 159.

called the attention of physicians to this remedy in consumptive disorders;^b and further instances of its success are related by Herz,^c Cramer,^d Tromsdorff,^e Ebeling,^f Paulizky,^g Stoll,^h and others, who bear testimony of its efficacy in most of the other complaints above mentioned. Dr. Herz says, that since he first used the Lichen in dysentery, he found it so successful that he never had occasion to employ any other remedy; it must be observed, however, that cathartics and emetics were always repeatedly administered before he had recourse to the Lichen, to which he also occasionally added opium.

Dr. Crichton informs us,ⁱ that during seven months residence at Vienna he had frequent opportunities of seeing the Lichen Islandicus tried in phthisis pulmonalis at the General Hospital, and confesses, “that it by no means answered the expectation he had formed of it.” He adds, however, “From what I have seen, I am fully convinced in my own mind, that there are only two species of this disease where this sort of Lichen promises a cure. The two species I hint at, are the *phthisis hæmoptoica*, and the *phthisis pituitosa*, or *mucosa*. In several cases of these I have seen the patients so far get the better of their complaints as to be dismissed the hospital cured; but whether they remained long so or not I cannot take upon me to say.” That this Lichen strengthens the digestive powers, and proves extremely nutritious, there can be no doubt; but the great medicinal efficacy attributed to it at Vienna will not readily be credited at London. It is commonly given in the form of a decoction; an ounce and a half of the Lichen being boiled in a quart of milk. Of this a tea-cupful is directed to be drank frequently in the course of the day. If milk disagree with the stomach, a simple decoction of the Lichen in water is to be used. Care ought to be taken that it be boiled over a slow fire, and not longer than a quarter of an hour.

^b *Ann. hist. nat. i.* 1769. p. 112. & *Ann. ii.* p. 141.

^c *Briefe an Aerzte*, vol. 2.

^d *Diff. de Lichene Islandico*.

^e *Diff. de Lichene Islandico*.

^f *Diff. de Quassia et Lichene Islandico*.

^g *Med. Pract. Beob.* 2. Samml. 104.

^h *Rat. Med. P.* 2.

ⁱ See *Medical Journal*, vol. 10. p. 233.

JUNIPERUS LYCIA. LYCIAN JUNIPER, or CEDAR.
 Olibanum. *Pharm. Lond. & Edinb.*

SYNONYMA. Cedrus folio cupressi major, fructu flavescente.
Baub. Pin. p. 487. Cedrus phœnicia altera Plinii & Theophrasti.
Lob. Icon. 221. Du Hamel, Arbres, T. 1. p. 140.

Class Dioecia. *Ord.* Monadelphia. *Lin. Gen. Plant.* 1134.

Eff. Gen. Ch. *MASC.* Amenti Calyx squamæ. Cor. 0. Stam. 3.
FEM. Cal. 3-partitus. Petala 3. Styli 3. Bacca
 3-sperma, tribus tuberculis calycis inæqualis.

Sp. Ch. J. foliis ternis undique imbricatis ovatis obtusis.

THIS species rises but to an inconsiderable height, sending off erect branches, covered with brown bark: the leaves are small, round, blunt, variously divided, and every where remarkably imbricated with small close scales: the flowers are male and female on different plants, and accord with the description which we have already given of the Juniperus Sabina: the berries are large, and when ripe of a dark brown colour.

It is a native of the South of Europe, and very scarce in this country; for that species called Lycia by the gardeners here, has not the scaly appearance represented in the plate before us, which was drawn from a specimen in the Herbarium of Sir Joseph Banks.

The officinal gummy resinous substance, known by the name of Olibanum, is said to ouze spontaneously from the bark of this tree, appearing in drops or tears, of a pale yellowish, and sometimes of a reddish colour.* “ Olibanum has a moderately strong and not very

* This drug has received different appellations, according to its different appearances: the single tears are called simply *olibanum*, or *thus*: when two are joined together, *thus masculinum*; and when two are very large, *thus femininum*: if several adhere to the bark *thus corticosum*: the fine powder, which rubs off from the tears, *mica thuris*; and the coarser *manna thuris*.

agreeable smell, and a bitterish somewhat pungent taste: in chewing it sticks to the teeth, becomes white, and renders the saliva milky. Laid on a red-hot iron, it readily catches flame, and burns with a strong diffusive and not unpleasant smell. On trituration with water, the greatest part of it dissolves into a milky liquor, which on standing deposits a portion of resinous matter." ^a The gummy and resinous parts are nearly in equal proportions; and though rectified spirit dissolves less of the Olibanum than water, it extracts nearly all its active matter. It is brought from Turkey, and from the East Indies; but that which comes from India is less esteemed.

In ancient times Olibanum seems to have been in great repute,^b and was chiefly used in affections of the head and breast, coughs, hæmoptysis, and in various fluxes both uterine and intestinal: it was also much employed externally. Riverius found it of great efficacy in pleurisies, which were said to be epidemic; and Geoffroy^c likewise experienced its success in these diseases, especially after venesection; at present, however, recourse is seldom had to this medicine, which is now superseded by myrrh, and other articles of the resinous kind.

^a Lewis, *M. M.* p. 460.

^b It is the *λίβανος* of Theophrastus & Dioscorides, *λίβανωτον* of Hippocrates.

^c *Mat. Med. Traité. T. 4. p. 71.*

PINUS SYLVESTRIS.

SCOTCH FIR.

Pix liquida. Pharm. Lond. & Edinb.

SYNONYMA. *Pinus sylvestris. Baub. Pin. p. 491. Gerard. Emac. p. 1356. Raii Hist. p. 1399. Pinus rubra foliis geminis brevioribus glaucis, conis parvis mucronatis. Mill. Diet. Pinus sylvestris foliis brevibus glaucis, conis parvis albicantibus. Du Hamel. Arb. 2. p. 125. t. 30. Raii Synop. p. 442. Hudson. Flor. Ang. ed. 1. 361. Lightfoot, Flor. Scot. p. 587. Withering. Bot. Arr. p. 1092. Ic. Miller Illust. The Scotch Fir Tree. Hunter's Evel.*

Class

Class Monoecia. *Ord.* Monadelphia. *Lin. Gen. Plant.* 1077.

Eff. Gen. Ch. *MASC.* *Cal.* 4-phyllus. *Cor.* o. *Stam.* plurima.
Anthæræ nudæ.

FEM. *Cal.* strobili: squama 2-flora. *Cor.* o. *Pist.* 1.
Nux ala membranacea excepta.

Sp. Ch. *P.* foliis geminis rigidis, conis ovato-conicis longitudine foliorum subgeminis basi rotundatis. *Hort. Kew.*

THIS tree grows usually straight, tapering, and to a great height, so as to be made into good masts for ships: the branches are numerous, divaricating, and like the stem covered with rough bark of a reddish brown colour: the leaves stand in pairs, and are united at the base with the sheath; they are two or three inches long, convex on one side, concave on the other, very narrow, linear, striated, somewhat pointed, of a deep green glaucous colour, and surround the ends of the smaller branches: the flowers are male and female upon the same tree; the former stand in bunches without any calyx, unless the loose scales be considered as such: there is no corolla: the filaments are numerous, united at the bottom, forming an upright pillar, and furnished with erect antheræ: the latter consists of a calyx, or common cone, which is small, composed of scales, with two flowers in each; the cones are oblong, imbricated, permanent, inflexible: there is no corolla: the germen is very small, producing a tapering style, terminated by a simple stigma: there is no capsule, but the scales of the cone, which before stood open close upon the seed or nut, which is supplied with a membranaceous wing.

It is a native of Scotland, especially among the highland mountains, and hence named Scotch Fir. It flourishes best in a poor sandy soil. In black, boggy or chalky ground, or near stagnant waters, it does not thrive. The wood is used for various purposes, and the inner bark is, by the inhabitants of the north of Europe, made into a kind of bread.

Though most species of Fir possess in common the same medicinal properties, and all agree in affording the different products of the

turpentine kind, yet as it has been found that some species produce these different articles of the *Materia Medica* in greater purity, or in more abundance than others: we have accordingly assigned to each, the respective article which it best supplies. This tree not only furnishes most abundantly the *Pix liquida*, or Tar, but also from it may be obtained the common turpentine, and the white and yellow resins.

The manner in which the Tar is procured is by cutting the tree into pieces, which are inclosed in a large oven constructed for the purpose, with a channel at the bottom. A sufficient degree of heat is then applied, by which the tar is forced out of the wood, and runs off by the opening at the bottom: a process termed *distillatio per descensum*.

Tar, which is well known from its oeconomic uses, is properly an empyreumatic oil of turpentine, and has been much used as a medicine both internally and externally. Tar water,* or water impregnated with the more soluble parts of tar, was sometime ago a very popular remedy in various obstinate disorders, both acute and chronic; especially in small-pox, scurvy, ulcers, fistulas, rheumatism, asthma, coughs, cutaneous complaints, &c. and though its medicinal efficacy was greatly exaggerated by the publications of Bishop Berkeley, Prior, and others, yet Dr. Cullen acknowledges that he experienced this preparation in several cases to be a valuable medicine, and that it “appeared to strengthen the tone of the stomach, to excite appetite, promote digestion, and to cure all symptoms of dyspepsia. At the same time it manifestly promotes the excretions, particularly that of urine; and the same may be presumed to happen in that of others. From all these operations it will be obvious, that in many disorders of the system this medicine may be highly useful.”^a

* The proportions that have been commonly employed, are two pounds of tar to a gallon of water; which are to be well stirred together, then suffered to settle for two days, and the clear liquor poured off for use. From a pint to a quart, according to circumstances, may be taken in the course of twenty-four hours. Dr. Cullen thinks with Mr. Reid, that the acid principle gives the virtue to tar water; and hence the Bishop of Cloyne properly preferred the Norway tar to that of New England, as the former contains more acid than the latter.

An ointment of tar is directed in both Pharmacopœias, which has been chiefly employed in cutaneous disorders. Dr. Cullen says, “ I have met with an empirical practice with respect to tar of a singular kind: A leg of mutton is laid to roast; and whilst it continues roasting, it is basted with tar instead of butter. Whilst the roasting goes on, a sharp skewer is frequently thrust into the substance of the mutton, to give occasion to the running out of the gravy; and with the mixture of the tar and gravy to be found in the dripping-pan, the body is to be anointed all over for three or four nights successively; whilst for the same time the same body-linen is to be worn. This is alleged to be a remedy in several cases of lepra; and I have had one instance of its being employed in a lepra ichthyosis with great success: but for reasons readily to be apprehended, I have not had opportunities of repeating the practice.”^b

^b L. c.

PINUS ABIES.

NORWAY SPRUCE FIR TREE.

Pix burgundica. *Pharm. Lond. & Edinb.*

SYNONYMA. Picea major prima, five Abies rubra. *Baub. Pin.* 493. Picea major. *Ger. Emac. p.* 1354. *Park. Theat. p.* 1538. Abies mas Theophrasti. *Raii Hist. p.* 1396. *Synop. p.* 441. P. Abies. *Hudson. Flor. Ang. ed. 1. p.* 361. Abies tenuiore folio, fructu deorsum inflexo. *Du Hamel Arb. 1. p. 3. t. 2.* The Spruce Fir Tree. *Hunter's Evelyn. 178.*

Class Monoecia. *Ord.* Monadelphia. *Lin. Gen. Plant.* 1077.

Eff. Gen. Ch. *MASC.* Cal. 4-phyllus. *Cor.* 0. *Stam.* plurima. *Anthææ* nudæ.

FEM. Cal. strobili: squama 2-flora. *Cor.* 0. *Pist.* 1. *Nux* ala membranacea excepta.

Sp. Ch.

Sp. Ch. *P. foliis folitariis subtetragonis acutiusculis distichis, ramis infra nudis, conis cylindraceis.* *Hort. Kew.*

THIS tree somewhat resembles the former in its general appearance: the leaves are short, solitary, pointed, somewhat quadrangular, and upon the older branches incline in opposite directions: the cones are almost cylindrical, bent downwards, larger, and of a darker colour than the preceding species.

Ray and Hudson mention this tree as a native of Scotland; but we are told in the *Flora Scotica* that the *P. sylvestris* is the only species of pine that grows wild in that country.

Upon an incision being made into the bark of this tree, a clear tenacious fluid issues, which concretes into a resinous substance, known by the name of *resina abietis*. This, after being boiled in water, and strained through a linen cloth, is called in the Pharmacopœias *Pix burgundica*, or Burgundy pitch. But if the boiling of the native resin is continued till the water is wholly evaporated, and wine vinegar is at this time added, a substance named *Colophonium* is formed.

Burgundy pitch, which is chiefly imported from Saxony, is of a solid consistence, yet somewhat soft, of a reddish brown colour, and not disagreeable in smell. It is entirely confined to external use, and was formerly an ingredient in several ointments and plasters. In inveterate coughs, affections of the lungs, and other internal complaints, plasters of this resin, by acting as a topical stimulus, are frequently found of considerable service.

PINUS PICEA.

SILVER FIR TREE.

Terebinthina communis. *Pharm. Lond. & Edinb.*

SYNONYMA. Abies conis fursum spectantibus, seu mas. *Baub. Pin. p. 505.* Abies. *Ger. Emac. p. 1363.* *Park. Theat. p. 1539.* Abies Taxi foliis. *Raii Hist. p. 1394.* *Synop. p. 441.* Abies foliis folitariis emarginatis, conis oblongis erectis, squamis subrotundis planis basi acuminatis. *Du Roy. Baumz. T. 2. p. 95.* *Hall. n. 1657.* Pinus Picea. *Hudson. Flor. Ang. p. 361.* Abies taxi folio, fructu fursum spectante. *Du Hamel. Arb. 1. p. 3. t. 1.* The Silver Fir Tree. *Hunter's Evelyn. Sylva. 178.*

Class Monoecia. *Ord.* Monadelphia. *Lin. Gen. Plant. 1077.*

Eff. Gen. Cb. *Masc. Cal.* 4-phyllus. *Cor.* o. *Stam.* plurima. *Antheræ* nudæ.

FEM. Cal. Strobili: squama 2-flora. *Cor.* o. *Pist.* 1. *Nux* ala membranacea excepta.

Sp. Cb. P. foliis folitariis planis emarginatis pectinatis, squamis coni obtusissimis adpressis. *Hort. Kew.*

THIS tree seldom grows to the height of the former species: its bark is closer, and that of the branches is of shining silvery hue: the leaves are solitary, short, rigid, and on the under side marked with two longitudinal whitish lines; on the upper branches they are obtusely pointed, and grow so close as almost to conceal the bark; on the lower branches they are emarginated, and stand in a pectinated manner: the cones are upright, large, and furnished with scales, which, when young, have a membranous appendage, rising from the upper margin, but when fully formed, the scales are very obtuse, and closely embrace each other. It is a native of Switzerland and Germany; and according to the Hortus Kewensis was first cultivated

in the Chelsea Garden, in 1739; but as thirty-six fine trees of this species are mentioned by Plot and Ray as growing near Newport, in Shropshire, it must have been cultivated in this country at a much earlier period.

Though Linnæus, and several other writers on the *Materia Medica*, refer the common turpentine to the *pinus sylvestris*, and the *terebinthina argentoratensis*, or Strasburg turpentine, to the Silver Fir Tree; yet, upon the authority of Murray, who follows Du Hamel and Haller, we have ascribed the *terebinthina vulgaris* to the pine here figured, which pours out the turpentine so freely, that it is seldom necessary to make incisions through the bark for the purpose.

The medicinal uses of the different turpentines will be considered under the *Pinus Larix*.

PINUS LARIX. COMMON WHITE LARCH TREE.

Terebinthina veneta. Pharm. Lond. & Edinb.

SYNONYMA. *Larix. Baub. Pin. p. 493. Ger. Emac. p. 1385. Park. Theat. p. 1533. Pinus foliis fasciculatis deciduis, conis ovato-oblongis, squamis ovatis subscabris margine laceris. Du Roy Baumz. T. 2. p. 61. Larix folio deciduo conifera. Du Hamel. Arb. 1. p. 332. t. 131. Baub. Hist. 1. p. 265. Hall. Hist. n. 1658. The Larch Tree. Hunter's Evel. 179.*

Class Monoecia. Ord. Monadelphia. Lin. Gen. Plant. 1077.

Eff. Gen. Ch. Masc. Cal. 4-phyllus. Cor. o. Stam. plurima. Anthera nudæ.

FEM. Cal. strobili: squama 2-flora. Cor. o. Pist. 1. Nux ala membranacea excepta.

Sp. Ch. P. foliis fasciculatis mollibus obtusiusculis, bracteis extra squamas strobilorum exstantibus. Hort. Kew.

THE

THE long slender pendent branches and whitish bark readily distinguish the Larch from the preceding species of pine: the leaves are deciduous, slender, soft, of a bright green colour, and placed in bundles: the cones are small, egg-shaped, covered with obtuse scales, from beneath which, the bracteal leaves appear.

It is a native of Switzerland and Germany, flowering in March and April, and cultivated in England since the year 1629.

The terebinthina *veneta*, or more properly called *larigna* (as we are not wholly supplied with this article by the Venetians) issues spontaneously through the bark of this tree, but is more commonly obtained by wounding the bark at the distance of about two feet from the ground, and inserting in the wound a small canula, through which the turpentine flows into proper vessels, which are placed for its reception.

This turpentine is usually thinner than any of the other sorts, of a clear whitish or pale yellowish colour, a hot pungent bitterish disagreeable taste, and a strong smell, without any thing of the aromatic flavour of the Chian kind.—The different turpentines reserved for consideration here, are the Chian or Cyprus turpentine, obtained from *Pistacia Terbinthus*, (see page 415.) 2. the Common, from the *Pinus Picea*: to this tree is also referred the *Terebinthina argenteratenfis*, or Straßburgh turpentine: 3. the Venice turpentine: and here we may include the *balsamum canadense*, or Canada balsam, which may be considered as one of the purest of the turpentines, and is procured from the *Pinus Balsamea*, or Balm of Gilead Fir.

All these turpentines dissolve totally in rectified spirit, but give out little to watery menstrua: they become miscible with water, into a milky liquor, by the mediation of the yolk or white of an egg, and more elegantly by mucilages. Distilled with water, they yield a notable quantity of a subtile penetrating essential oil, vulgarly called spirit; a yellow or blackish resin remaining in the still, which is the common rosin of the shops. The essential oil, on being distilled in a retort, becomes more subtile, and in this state is called ethereal oil of turpentine.

All the turpentines have been considered as hot stimulating corroborants and detergents, qualities which they possess in common.*

* Venice turpentine is thought to be the most powerfully diuretic and detergent: the Cyprus and Straßburgh kinds the most corroborant.

They

They stimulate the first passages, and prove laxative; and we are told by Dr. Cullen, that half an ounce or an ounce of Venice turpentine, triturated with the yolk of an egg, and diffused in water, may be employed in the form of an injection, as the most certain laxative in colics, and other cases of obstinate costiveness. When turpentine is carried into the blood-vessels, it stimulates the whole system; hence its use in chronic rheumatism and paralysis. Turpentine readily passes off by urine, which it imbues with a peculiar odour; also by perspiration, and probably by exhalation from the lungs: and to these respective effects are to be ascribed the virtues it may possess in gravelly complaints, scurvy, and pulmonic disorders. In all these diseases, however, and especially the last, this medicine, as well as some of the gums and balsams of the terebinthinate kind, by acting as stimulants, are often productive of mischief, as was first observed by Boerhaave, and since by Fothergill.

Turpentine has been much used in gleet and fluor albus; its efficacy in the former of these disorders Dr. Cullen ascribes to its inducing some degree of inflammation of the urethra; in proof of which he says, " I have had some instances, both of turpentine and balsam of copaiva, producing a manifest inflammation in the urethra, to the degree of occasioning a suppression of urine; but when these effects went off, the gleet, which had subsisted for some time before, was entirely cured."

The essential oil, in which the virtues of turpentine reside, is not only preferred for external use, as a rubifacient, &c. but also internally as a diuretic; and by Pitcairn and Cheyne as a remedy for the sciatica; but few stomachs are able to bear it in the doses they direct.

Turpentine, so much used formerly as a digestive application, is in modern surgery almost wholly exploded.