

THE
AMERICAN FLORA,

OR

HISTORY OF PLANTS AND WILD FLOWERS:

CONTAINING

THEIR SCIENTIFIC AND GENERAL DESCRIPTION,

NATURAL HISTORY,

CHEMICAL AND MEDICAL PROPERTIES, MODE OF CULTURE, PROPAGATION, &c.

DESIGNED

AS A BOOK OF REFERENCE FOR BOTANISTS, PHYSICIANS, FLORISTS, GARDENERS,
STUDENTS, ETC.

BY A. B. STRONG, M. D.

VOL. I.

IS ILLUSTRATED WITH

SIXTY-SIX BEAUTIFUL COLORED ENGRAVINGS,

TAKEN FROM NATURE.

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P R E F A C E.

IN the whole catalogue of the *Materia Medica*, the productions of the animal and mineral kingdom bear a small proportion to those of the vegetable. Though it must be acknowledged that, for some time past, the medicinal uses of vegetable simples have been less regarded by physicians than they were formerly, which probably may be ascribed to the successive discoveries and improvements in chemistry; it would, however, be difficult to show that this preference is supported by any conclusive reasoning, drawn from a comparative superiority of chemicals over galenicals, or that the more general use of the former has actually led to a more successful practice.

The various American works on Botany have given but very limited portions of the vegetable kingdom; yet limited as they are, few medical practitioners have a distinct botanical knowledge of the individual plants of which they are composed, though generally well acquainted with their effects and medical uses. But the practitioner who is unable to distinguish those plants which he prescribes, is not only subjected to the impositions of the ignorant and fraudulent, but must feel a dissatisfaction which the inquisitive and philosophic mind will be anxious to remove, and to such, it is presumed, the American Flora will be found an acceptable and useful work; the

professed design of which is not only to enable the reader to distinguish with precision all those plants which are directed for medical use, and to furnish him at the same time with a circumstantial detail of their respective virtues, and of the diseases in which they have been most successfully employed by different authors.

A child may walk into the field, and amuse himself with the groups of flowers which there present themselves to his notice. He may be able to distinguish between the *Tulip* and the *Snowdrop*, the *Rose* and the *Lily*, and be delighted with their external beauties and rich varieties; but it is the *Botanist* alone, who by an accurate knowledge of the various parts of the plant, can expatiate on its wonderful formation.

If, then, a knowledge of Botany is so necessary to men of science and general literature, it must be obvious that those plants in the vegetable kingdom which possess medicinal properties, ought certainly to attract the attention of medical men.

The Author has the satisfaction of introducing many rare and valuable plants, which have never been completely portrayed in any preceding work whatever, embracing all the *Wild Flowers* of America, all beautifully colored, and their drawings taken from nature; and by subjoining a botanical description, natural and medical history of each species, curiosity is more fully gratified, and a double interest is excited in the mind of the student.

INDEX.

LATIN NAMES.	COMMON NAMES.	PAGE.
<i>Aletris farinosa</i> - - -	Star Grass - - -	51
<i>Aloe perfoliata</i> - - -	Common Aloe - - -	83
<i>Aloe socotorina</i> - - -	Socotorine Aloe - - -	74
<i>Aloe vulgaris</i> - - -	African Aloe - - -	72
<i>Amygdalus communis</i> - - -	Common Almond Tree - - -	173
<i>Anacardium occidentale</i> - - -	Cashew Nut - - -	25
<i>Anemone pratensis</i> - - -	Pasque Flower - - -	36
<i>Anthemis nobilis</i> - - -	Common Chamomile - - -	167
<i>Anthemis pyrethrum</i> - - -	Spanish Chamomile - - -	111
<i>Aquilegia canadensis</i> - - -	Columbine - - -	29
<i>Arctium loppa</i> - - -	Burdock - - -	96
<i>Atropa belladonna</i> - - -	Deadly Nightshade - - -	100
<i>Borago officinalis</i> - - -	Common Borage - - -	85
<i>Camelia japonica</i> - - -	Japan Rose Tree - - -	61
<i>Capsicum annum</i> - - -	Guinea Pepper - - -	115
<i>Cassia fistula</i> - - -	Purging Cassia - - -	88
<i>Celastrus scandens</i> - - -	Bitter Sweet - - -	140
<i>Chelone glabra</i> - - -	Balmony - - -	146
<i>Cichorium intybus</i> - - -	Wild or Blue Succory - - -	142
<i>Cistus creticus</i> - - -	Cretan Cistus - - -	136
<i>Citrus aurantium</i> - - -	Orange Tree - - -	53
<i>Colchicum autumnale</i> - - -	Meadow Saffron - - -	134
<i>Convolvulus jalapa</i> - - -	Jalap Bind-Weed - - -	44
<i>Croton tiglium</i> - - -	Purging Croton - - -	123
<i>Dianthus caryophyllus</i> - - -	Clove or Carnation Pink - - -	132
<i>Digitalis purpurea</i> - - -	Purple Foxglove - - -	66
<i>Gentiana purpurea</i> - - -	Purple Gentian - - -	119
<i>Gladiolus alatus</i> - - -	Sword-Lily - - -	48
<i>Habranthus roseus</i> - - -	Rosy Habranthus - - -	127
<i>Helleborus niger</i> - - -	Black Hellebore - - -	58
<i>Hyacinthus orientalis</i> - - -	Common Hyacinth - - -	187
<i>Hypericum perforatum</i> - - -	St. John's-Wort - - -	98
<i>Inula helenium</i> - - -	Elecampane - - -	38

LATIN NAMES.	COMMON NAMES.	PAGE.
<i>Iris florentina</i> - -	Florentine Orris - -	165
<i>Ixia Crateroides</i> - -	Cup-Shaped Ixia - -	157
<i>Ixia tricolor</i> - -	Three-Colored Ixia - -	156
<i>Juniperus sabina</i> - -	Common Savine - -	129
<i>Leontodon taraxacum</i> - -	Dandelion - -	138
<i>Linum usitatissimum</i> - -	Common Flax - -	113
<i>Lobelia syphilitica</i> - -	Blue Lobelia - -	148
<i>Malva sylvestris</i> - -	Common Mallow - -	93
<i>Martynia probocidea</i> - -	Horny Martynia - -	27
<i>Mentha viridis</i> - -	Spearmint - -	171
<i>Morus nigra</i> - -	Common Mulberry Tree - -	178
<i>Myristica Moschata</i> - -	Nutmeg Tree - -	121
<i>Narcissus triandrus</i> - -	Three-Anthered Rush Daffodil - -	184
<i>Oxalis acetosella</i> - -	Wood-Sorrel - -	176
<i>Pæonia officinalis</i> - -	Common Peony - -	33
<i>Papaver rhæas</i> - -	Red or Corn Poppy - -	81
<i>Passiflora cærulea</i> - -	Passion Flower - -	169
<i>Pulmonaria officinalis</i> - -	Common Lungwort - -	90
<i>Pyrolla umbellata</i> - -	Pipsissewa - -	150
<i>Pyrus spectabilis</i> - -	Chinese Pear - -	10
<i>Quassia amara</i> - -	Bitter Quassia - -	182
<i>Quercus robur</i> - -	Common Oak - -	163
<i>Rhododendrum chrysanthum</i> - -	Yellow-flowered Rhododendrum - -	161
<i>Rhus glabrum</i> - -	Upland Sumach - -	12
<i>Ribes rubrum</i> - -	Red Currant - -	154
<i>Ribes sanguineum</i> - -	High Blackberry - -	78
<i>Rosa canina</i> - -	Dog Rose or Hep Tree - -	109
<i>Rosa centifolia</i> - -	Hundred-Leaved Rose - -	7
<i>Rubus idæus</i> - -	Common Raspberry Bush - -	70
<i>Rubus strigosus</i> - -	Red Raspberry - -	18
<i>Scutellaria lateriflora</i> - -	Blue Skull Cap - -	180
<i>Spigelia marilandica</i> - -	Carolina Pink - -	159
<i>Stalagmitis cambogioides</i> - -	Gamboge Tree - -	144
<i>Tropæolum majus</i> - -	Indian Cress - -	104
<i>Tulippa oculis solis</i> - -	Scarlet Tulip - -	107
<i>Veronica beccabunga</i> - -	Brooklime - -	125
<i>Wachendorfia paniculata</i> - -	Panicled Wachendorfia - -	158

INDEX.

COMMON NAMES.	LATIN NAMES.	PAGE.
<i>Almond Tree</i> - - -	<i>Amygdalus communis</i> - - -	173
<i>Aloe, African</i> - - -	<i>Aloe vulgaris</i> - - -	72
<i>Aloe, Common</i> - - -	<i>Aloe perfoliata</i> - - -	83
<i>Aloe, Socotorine</i> - - -	<i>Aloe socotorina</i> - - -	74
<i>Balmoney</i> - - -	<i>Chelone glabra</i> - - -	146
<i>Bitter Sweet</i> - - -	<i>Celastrus scandens</i> - - -	140
<i>Blackberry, High</i> - - -	<i>Ribes sanguineum</i> - - -	78
<i>Borage, Common</i> - - -	<i>Borago officinalis</i> - - -	85
<i>Brooklime</i> - - -	<i>Veronica beccabunga</i> - - -	125
<i>Burdock</i> - - -	<i>Arctium lappa</i> - - -	96
<i>Cashew Nut</i> - - -	<i>Anacardium occidentale</i> - - -	25
<i>Cassia, Purging</i> - - -	<i>Cassia fistula</i> - - -	83
<i>Chamomile, Common</i> - - -	<i>Anthemis nobilis</i> - - -	167
<i>Chamomile, Spanish</i> - - -	<i>Anthemis pyrethrum</i> - - -	111
<i>Columbine</i> - - -	<i>Aquilegia canadensis</i> - - -	29
<i>Cretan Cistus</i> - - -	<i>Cistus creticus</i> - - -	136
<i>Croton, Purging</i> - - -	<i>Croton tiglium</i> - - -	123
<i>Currant, Red</i> - - -	<i>Ribes rubrum</i> - - -	154
<i>Dandelion</i> - - -	<i>Leontodon taraxacum</i> - - -	138
<i>Elecampane</i> - - -	<i>Inula helenium</i> - - -	38
<i>Flax, Common</i> - - -	<i>Linum usitatissimum</i> - - -	113
<i>Foxglove, Purple</i> - - -	<i>Digitalis purpurea</i> - - -	66
<i>Gamboge Tree</i> - - -	<i>Stalagmits cambogioides</i> - - -	144
<i>Gentian, Purple</i> - - -	<i>Gentiana purpurea</i> - - -	119
<i>Habranthus, Rosy</i> - - -	<i>Habranthus roseus</i> - - -	127
<i>Hellebore, Black</i> - - -	<i>Helleborus niger</i> - - -	53
<i>Hyacinth, Common</i> - - -	<i>Hyacinthus orientalis</i> - - -	187
<i>Indian Cress</i> - - -	<i>Tropæolum majus</i> - - -	104
<i>Ixia, Cup-shaped</i> - - -	<i>Ixia crateroides</i> - - -	157
<i>Ixia, Three-colored</i> - - -	<i>Ixia tricolor</i> - - -	156
<i>Julap Bind-weed</i> - - -	<i>Convolvulus jalapa</i> - - -	44
<i>Lily, Sword</i> - - -	<i>Gladiolus alatus</i> - - -	48
<i>Lobelia, Blue</i> - - -	<i>Lobelia syphilitica</i> - - -	148

COMMON NAMES.	LATIN NAMES.	PAGE.
<i>Lungwort, Common</i> - -	<i>Pulmonaria officinalis</i> - -	90
<i>Mallow, Common</i> - -	<i>Malva sylvestris</i> - -	93
<i>Martynia, Horny</i> - -	<i>Martynia probocidea</i> - -	27
<i>Mulberry Tree, Common</i> -	<i>Morus nigra</i> - -	178
<i>Night-shade, Deadly</i> - -	<i>Atropa belladonna</i> - -	100
<i>Nutmeg Tree</i> - -	<i>Myristica moschata</i> - -	121
<i>Oak, Common</i> - -	<i>Quercus robur</i> - -	163
<i>Orange Tree</i> - -	<i>Citrus aurantium</i> - -	53
<i>Orris, Florentine</i> - -	<i>Iris florentina</i> - -	165
<i>Pasque flower</i> - -	<i>Anemone pratensis</i> - -	36
<i>Passion flower</i> - -	<i>Passiflora cœrulea</i> - -	169
<i>Pear, Chinese</i> - -	<i>Pyrus spectabilis</i> - -	10
<i>Peony, Common</i> - -	<i>Pæonia officinalis</i> - -	33
<i>Pepper, Guinea</i> - -	<i>Capsicum annum</i> - -	115
<i>Pink, Carolina</i> - -	<i>Spigelia marilandica</i> - -	159
<i>Pink, Clove or Carnation</i> -	<i>Dianthus caryophyllus</i> - -	132
<i>Pipsissewa</i> - -	<i>Pyrolla umbellata</i> - -	150
<i>Poppy, Red or Corn</i> - -	<i>Papaver rhæas</i> - -	81
<i>Quassia, Bitter</i> - -	<i>Quassia amara</i> - -	182
<i>Raspberry Bush, Common</i> -	<i>Rubus idæus</i> - -	70
<i>Raspberry, Red</i> - -	<i>Rubus strigosus</i> - -	18
<i>Rhododendrum, Yellow-flowered</i>	<i>Rhododendrum chrysanthum</i>	161
<i>Rose, Dog or Hep Tree</i> - -	<i>Rosa canina</i> - -	109
<i>Rose, Hundred-leaved</i> - -	<i>Rosa centifolia</i> - -	7
<i>Rose, Japan</i> - -	<i>Camelia japonica</i> - -	61
<i>Rush Daffodil, Three-anthered</i>	<i>Narcissus triandrus</i> - -	184
<i>Saffron, Meadow</i> - -	<i>Colchicum autumnale</i> - -	134
<i>Savine, Common</i> - -	<i>Juniperus sabina</i> - -	129
<i>Scullcap, Blue</i> - -	<i>Scutellaria lateriflora</i> - -	180
<i>Sorrel, Wood</i> - -	<i>Oxalis acetosella</i> - }	176
<i>Spear-mint</i> - -	<i>Mentha viridis</i> - -	171
<i>Star Grass</i> - -	<i>Aletris farinosa</i> - -	51
<i>St. John's- Wort</i> - -	<i>Hypericum perforatum</i> - -	98
<i>Succory, Wild or Blue</i> - -	<i>Cichorium intybus</i> - -	142
<i>Sumach, Upland</i> - -	<i>Rhus glabrum</i> - -	12
<i>Tulip, Scarlet</i> - -	<i>Tulippa oculis solis</i> - -	107
<i>Wachendorfia, Panicked</i> -	<i>Wachendorfia paniculata</i> - -	158



Hundred-leaved Rose.

NAT. ORDER.

Lenticosæ.

ROSA CENTIFOLIA.

HUNDRED-LEAVED ROSE.

Class XII. ICOSANDRIA. *Order V.* POLYGNIA.

Gen. Char. *Petals* five. *Calyx* pitcher-shaped, five-cleft, fleshy, and contracted at the neck. *Seeds* numerous, hispid, and affixed to the under side of the calyx.

Spe. Char. *Germen* ovate. *Peduncles* hispid. *Stem* hispid and prickly. *Petioles* unarmed.

Various opinions are entertained with respect to the native place of this species of rose, and it is a point which still remains undetermined. It is cultivated in gardens very extensively, as an ornamental flower, and grows luxuriantly in most parts of the United States, and throughout the continent of Europe, flowering in June.

The *Rosa Centifolia* has prickly stalks, which are from three to six feet in height. The *leaves* are pinnated, consisting of two or three pairs of leaflets, with an odd one; the *leaflets* are oval, broad, serrated, veined, hairy, and attached by very short petioles to a rough common footstalk; the *flowers* are large, varying in color, generally of a pale red, and supported on peduncles which are beset with bristly hairs; the *leaves* of the calyx are semi-pinnate; the *petals* are large and numerous; the parts of *fructification* are by cultivation converted into petals.

• There are many varieties comprehended under this species of rose, which are indiscriminately gathered for medicinal purposes, and are found by chemical analysis not to differ essentially from each

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other. It was formerly regarded as the *Damask Rose*, until by close investigation it was found to be a perfectly distinct species.

This division comprises the portion which has most particularly interested the lovers of flowers. It is probable that the earliest of which there are any records as being cultivated, belonged to some portion of it; but to which particular species those of Cyrene or Mount Pangæus are to be referred, is now too late to enquire. The ottar of roses, which is an important article in commerce, is either obtained from them indiscriminately, as in the manufactory at Florence, conducted by a convent of friars, or from some particular kind, as in India. It appears, from specimens brought from Chizapore, by Colonel Hardwicke, that *Rosa Damascena* is there exclusively used for obtaining the essential oil. The Persians also make use of a sort which Kæmpfer calls *Rosa Shirazensis*, from its growing about Schiraz, in preference to others; this may be *Rosa Damascena*, or *Rosa centifolia*. It is, however, well known that ottar of roses from different countries, is of various degrees of goodness; that from Turkey being usually the best. It is therefore probable that *Rosa moschata* may be sometimes used either alone or mixed with other kinds, especially at Mogodor, where considerable quantities are procured, but of inferior quality. To three or four species herein enumerated, nearly all the fine double roses of the gardens are referable.

Rosa Damascena. This is a shrubby looking plant, rising from two to three feet in height; prickles unequal, larger ones falcate; sepals, reflexed; fruit elongated; flowers large and white, or red, single or double. The present species may be distinguished from the *Rosa centifolia*, in the greater size of the prickles, green bark, elongated fruit, and long reflexed sepals. The petals of this species, and all the varieties of *Rosa centifolia*, as well as all those of other species, are employed indiscriminately for the purpose of making rose-water. Native of Syria, and flowers in June and July.

Propagation and Culture. The rose may be increased by seed for

new varieties, and chiefly by layers for continuing approved sorts. They are also increased by budding, cuttings and suckers. Extracting the stamens from one flower, and dusting the stigmas with the pollen of another kind, will sometimes answer a most admirable purpose. The tips generally ripen in October or November, and the seed does not vegetate till the second year after sowing.

Medical Properties and Uses. The petals of this rose possess a very highly fragrant odor, which is not entirely dissipated by keeping, but some of the flavor is lost unless used fresh; the rose-water is distilled from petals recently gathered; their taste is sweetish and slightly bitter. Water extracts the odor of the petals both by infusion and distillation; and when large quantities of them are employed in the distillation, a very small portion of yellow, fragrant, butyraceous essential oil is sometimes procured, which is of a very mild nature, possessing no pungency. They also give out a bitter principle to water, but alcohol is their best menstruum. They are chiefly used as a perfume. The otto of roses, which is procured from this species, has a most powerful and fragrant odor, and is exceedingly diffusible. They are slightly laxative, but are rarely administered medicinally, except occasionally to children; the chief use to which the petals are applied in this country, is for the distillation of rose-water, which possesses no medicinal virtues, and is only used on account of its agreeable odor

Aqua Rosæ. Rose-water. U. S. Dispensatory. Take of fresh hundred-leaved roses, or petals, eight pounds, water two gallons; mix them and distil one gallon. The Dublin College orders a gallon of the water to be distilled from eight pounds of the petals. The London College takes ten pounds of roses, seven fluid ounces of proof spirit, and two gallons of water, and distills one gallon. The Edinburgh College proceeds the same as the London, substituting three fluid ounces of rectified spirit for seven of proof spirit, and adds the following notice: "The petals should be preferred when fresh, but it also answers well to use those which have been preserved by beating them with twice their weight of muriate of soda."

NAT. ORDER.

Pomaceæ.

PYRUS SPECTABILIS.

A CHINESE PEAR.

Class XII. ICOSANDRIA. *Order IV.* PENTAGYNIA.

Gen. Char. *Calyx*, five-cleft. *Petals*, five. *Pome*, inferior, five-celled, many seeded

Spe. Char. *Leaves*, ovate, oblong, acuminate, serrate, smooth. *Umbells*, simple, sessile. *Claws* of the corolla shorter than the calyx. *Styles*, smooth.

This species of *pear* is a native of China, where it attains the height of fifteen to twenty-five feet; the *leaves* are ovate, oblong, pointed, crenate, and stand in pairs; the *flowers* which appear so numerous, grow in clusters—they are large, aggregated, and at first of a blood red color, afterwards more pale, and at last, before the petals fall, they become almost entirely white; the *petals* are numerous, but do not exclude the existence of stamens, and pistils; *pistils* five; *stamens* more than twenty, all attached to the calyx—the number of the stamens is not always the same in all the flowers.

The pear tree which is so universally spread over both continents, has now become naturalized to many parts of the United States, where, with proper cultivation and a rich soil, it ripens its fruit and flourishes equally well, if not better, than in its native country, China. From history, we learn that it was introduced into England immediately after the first settlement of that country, from which time it has been constantly cultivated, and various improvements made by grafting and inoculation. The natural order pomaceæ, contain, according to the best authorities, nine hundred and



Chinese Pear.

eighty varieties, of which the pear alone constitutes more than one-third. In China, Hindostan, and the southern parts of Germany, the pear is extensively cultivated as a prominent article of food.

The pear is decidedly one of the most useful fruits in cultivation; its characteristics, of hardness of the tree, beauty of its flowers, and wholesomeness of its fruit, whether prepared in preserves, taken immediately from the garden, or the fruit room, certainly must be considered as one of the choicest gifts of nature. In many parts of the Eastern continent, where this fruit is so extensively cultivated, it forms one of the principal articles of diet, not only for man, but for keeping and fattening of cattle.

Medical Properties and Uses. The seeds of the pear are very much esteemed in some parts of Europe and China, in the treatment of fevers; they are considered cooling, and are found to possess considerable astringent, and tonic properties. Culpeper speaks very highly of the leaves of this tree—to be used fresh, after being bruised, as an excellent remedy for wounds, bruises, swellings, stoppage of blood, and reducing inflammation. The fruit, as an article of food, and the flowers for beauty, are the chief peculiarities of this tree, the wood being almost as hard as that of box, for which it is even substituted by wood engravers.

NAT. ORDER.

Dumosæ.

RHUS GLABRUM.

UPLAND SUMACH.

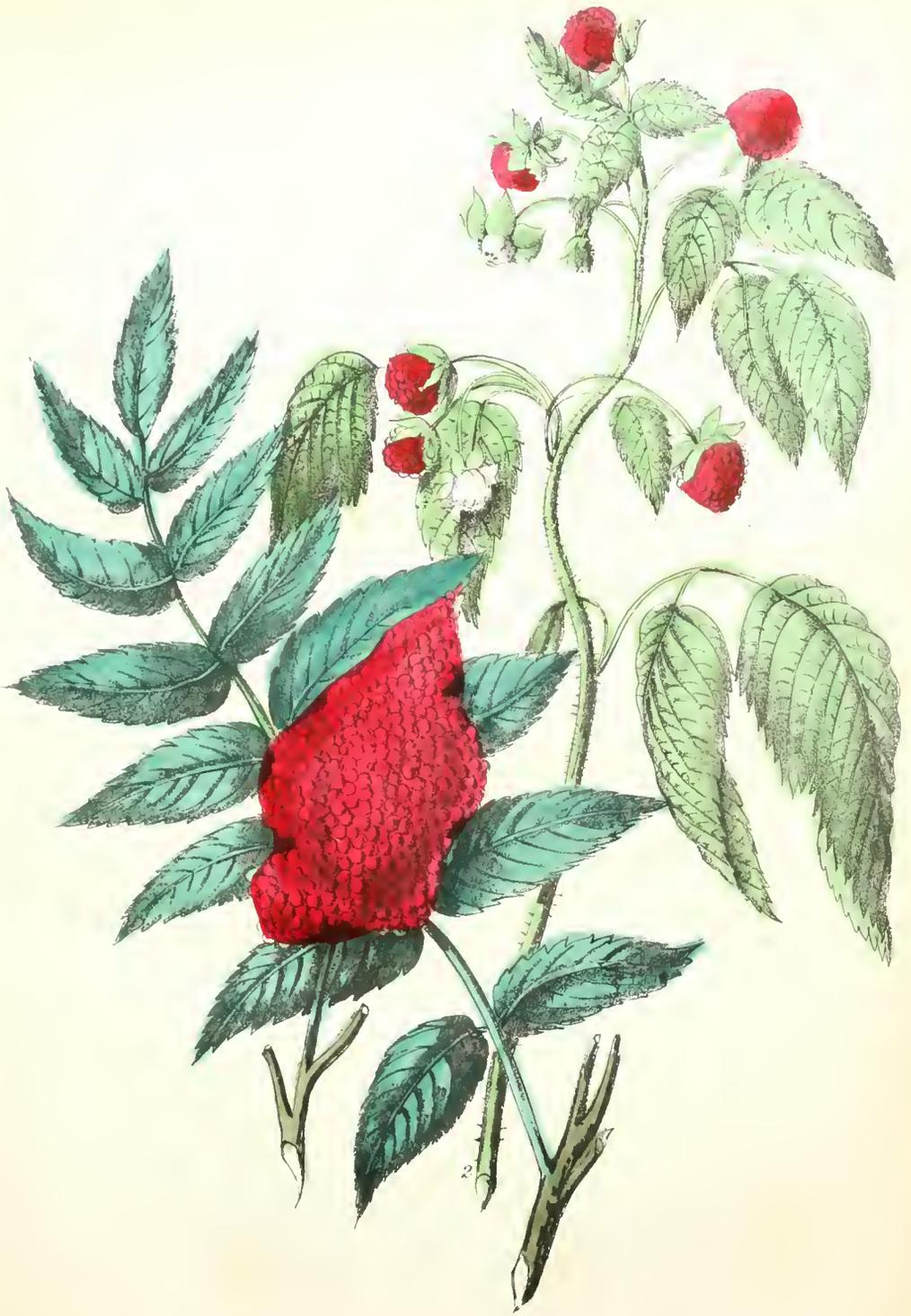
Class V. PENTANDRIA. *Order III.* TRIGYNIA.

Gen. Char. *Calyx*, five-parted. *Corolla-petals*, five. *Berry*, one seeded.

Spe. Char. *Leaves*, pinnate, quite entire. *Petioles*, membranaceous, jointed.

This specimen of *Sumach* is a small tree usually rising from six to twelve feet in height; the *stem* is divided into many straggling branches, which are bent and covered with a smooth light grey, or somewhat reddish bark; the *leaves* are pinnated, alternate, and consist of several pair of pinnæ, which are ovate-lance-shaped, obtusely serrated, smooth above, hairy beneath, and stand upon short footstalks; the *flowers* are numerous, small, white, and placed in large branched spikes; the *calyx* is five-toothed, erect, persistent, and placed below the germen; the *corolla* consists of five petals, which are ovate, white, and mostly erect; the *filaments* are five, and very short; the *anthers* are small; the *germen* is roundish, and about the length of the corolla; the *style* is scarcely visible; the *stigmas* are three, and somewhat cordate; the *fruit* is a roundish one-celled red berry, and contains one solitary round hard seed. It produces its flowers in June and July.

This species of Sumach is found in almost all parts of the United States, growing in old neglected fields, along fences, and on the borders of woods. It is described by various authors as being a native of the South of Europe, where it was considerably culti-



1. Upland Sumach, 2. Red Raspberry.

vated in their extensive gardens previous to the year 1648, but is still a scarce plant in that country.

The genus to which this species belongs, comprehends several species which are known to be extremely poisonous, especially the *Toxicodendron*, *Radicans*, and *Vernix*; but the *Glabrum* is perfectly innocent, and its berries are in most countries used for culinary purposes.

Its medicinal qualities are chiefly to be ascribed to its stypticity or astringency; a property which it possesses in a sufficient degree to render it useful in dyeing, and also in tanning of leather, for which it was used in the time of Dioscorides.

The berries, which are red and of a round compressed figure, contain a pulpy matter, in which is lodged a brown hard oval seed, manifesting a considerable degree of astringency. The pulp, even when dry, is gratefully acid, and has been discovered to contain an essential salt, similar to that of wood-sorrel, or perhaps more nearly allied to chrystals of tartar.

Rhus vernicifera. Varnish-bearing Sumach, or Japan Varnish-tree. This is a tree rising from twenty to forty feet in height; leaves with five or six pairs of leaflets, long, resembling those of the walnut; petioles naked, and are as well as the branchlets, clothed with down; leaflets elliptic, acute, quite entire, smoothish above, but velvety beneath from pubescence. Thunberg affirms that the very best varnish is prepared from this tree, which grows in great abundance in many parts of that country; and is likewise cultivated in many places on account of the great advantage derived from it. The varnish which oozes out of the tree on being wounded, is procured from stems that are three years old, and is received in some proper vessel. At first it is of a lightish color and of the consistence of cream; but grows thicker and black on being exposed to the air. It is so transparent when laid pure and unmixed upon the boxes or furniture, that every vein of the wood may be clearly seen. For the most part a dark ground

is spread underneath it, which causes it to reflect like a mirror, and for this purpose recourse is frequently had to the fine sludge, which is got in the trough under the grindstone, or to ground charcoal; occasionally a red substance is mixed with the varnish, and sometimes leaf-gold ground very fine. This varnish hardens very much, but will not endure any blows, cracking and flying almost like glass, though it can stand boiling water without any damage. With this the Japanese varnish over the posts of their doors, and most articles of household furniture, which are made of wood. It far exceeds the Chinese and Siamese varnish, and the best is collected about the town of Jassino. It is cleared from impurities by wringing it through very fine paper; then about a hundredth part of an oil called *toi*, which is expressed from the fruit of *Bignonia tomentosa* is added to it, and being put into wooden vessels, either alone or mixed with native cinnabar, or some black substance, it is sold all over Japan. The expressed oil of the seeds serves for candles. The tree is said to be equally poisonous with the *Rhus venenata*, or American poison-tree, in some parts called Swamp Sumach. It is a native of Japan.

Rhus venenata. Poison Sumach, Poison-wood, Swamp Sumach Dog-wood, &c. This tree rises from fifteen to twenty-five feet in height; leaves with six or seven pairs of smoothish deciduous leaflets; petioles naked; leaflets ovate-lanceolate, acuminate, quite entire, netted with veins beneath; flowers diœcious, green; fruit white, smooth, containing a furrowed nut. The milky juice of this tree stains linen a dark-brown. The whole shrub is in a high degree poisonous, and the poison is communicated by touching or smelling any part of it. In forty-eight hours, inflammation appears on the skin in large blotches, principally on the extremities, and on the glandulous parts of the body; soon after small pustules rise in the inflamed parts, and fill with watery matter, attended with burning and itching. In two or three days the eruptions suppurate, after which the inflammation

subsides, and the ulcers heal in a short time. It operates, however, somewhat differently on different constitutions, and some are incapable of being poisoned with it at all, while others will receive its infection several rods distant from the tree, only looking at it. Persons of an irritable habit are most liable to receive it. All writers agree in the poisonous nature of this tree. An incision being made, a whitish-yellow juice, which has a nauseous smell, comes out between the bark and the wood. The natives of this country stain their cloth black with the juice of this tree, which is retained after a great number of washings in lye; the instant the cloth is exposed to the sun, after being washed in this juice, it turns a beautiful jet-black, of a shining nature. This is a native of North America, from Canada to South Carolina, in hedges, ditches, waste places, and particularly in moist swamps in woods. It flowers in July.

Rhus radicans. Rooting poison-oak, or Sumach. This is a climbing plant. Leaflets large, entire or rarely toothed, ovate; flowers diœcious, greenish; berries white. This plant having in common with the ivy the quality of not rising without the support of a wall, tree, or hedge; it is called in some parts of America creeping ivy. It will climb to the top of tall trees in woods, the branches every where throwing out fibres, which penetrate the trunk of the tree on which it grows. When the stem is cut it emits a pale-brown sap, of a disagreeable scent, and is so sharp that letters or marks made upon linen cannot be got out again, but grows blacker the more it is washed. Like *Rhus venenata* it is poisonous to many persons, but in rather a less degree, and some are not affected with it in the least. It is a remarkable fact that members of the same family are not affected by this plant; one will handle and use it without any trouble, while a brother or sister will receive its venom as soon as they come within several feet of it, or even at a greater distance at the windward of it. The writer has experimented some with the

juice of this plant, trying it upon himself, even rubbing it in the eyes, without producing any bad effect, but on another person's hand, which he had covered very thick with it, the skin a few hours afterwards become as hard as tanned leather, and peeled off afterwards in scales. There are three other varieties, differing but very little in general appearance, and equally poisonous. This is a native of North America, from Canada to Georgia, common in all woods, fields, and along fences. It flowers in July.

Rush toxicodendron. Common Poison-tree, or Poison Oak. This is a shrub creeping upon walls; leaflets deeply angled or sinuated, pubescent; flowers greenish. According to Nuttall, this is a truly distinct species from the preceding. The juice of this plant is milky when it first exudes, but becomes jet-black by exposure to the air. It is poisonous to the touch. It was first tried as a medicine by Dr. Alderson, of Hull, in imitation of experiments of M. Fresnoi, with the *Rhus radicans*. He gave it in four cases of paralysis, in doses of half a grain or a grain three times a day, and all his patients recovered to a certain degree the use of their limbs. The first symptoms of amendment was always an unpleasant feeling of prickling, itching or twitching in the paralytic limbs. Dr. Duncan has given it in larger doses, without experiencing the same success; it was not, however, inactive. In one case the patient discontinued its use on account of the disagreeable prickling it occasioned, and in general it operated as a gentle laxative, notwithstanding the torpid state of the bowels of such patients. It is a native of North America, along with the *Rhus radicans*. It flowers in June and July.

Propagation and Culture. The hardy species of this genus are very proper for shubberies; some of them are propagated freely from cuttings of the roots, and others from cuttings and layers. The greenhouse and stove species will grow in any kind of soil, and ripened

cuttings of them root freely under a hand glass in sand; those of the stove species require heat.

Medical Properties and Uses. The *berries* of the *Sumach* are astringent and refrigerant: a tincture or an infusion from them is highly useful in febrile complaints, and forms a pleasant gargle for inflammation and ulceration of the throat. It is also recommended as a specific for the sore mouth attending inordinate mercurial salivation.

Both the leaves and berries are diuretic, but the latter is the most efficient. They may be used in connection with other medicines, for all the purposes of an astringent." The bark of the root, says Dr. Smith, is considered a valuable antiseptic: in the form of a poultice for old ulcers, it is scarcely equalled by any other remedy. Taken internally, it operates like a purgative. The excrescences which form upon the leaves of this shrub, are nearly equal in astringency to galls; and, if finely powdered, and made into ointment with fresh lard, afford a soothing application for piles.

NAT. ORDER.

Senticosæ.

RUBUS STRIGOSUS.

RED RASPBERRY,

Class XII. ICOSANDRIA. *Order V.* POLYGNIA.

Gen. Char. *Calyx*, five-cleft, inferior. *Petals*, five. *Fruit*, composed of many one-seeded juicy acines, on a dry receptacle.

Spe. Char. *Leaves*, unarmed, rigidly hisped. *Leaflets*, three or pinnate-quinque, oval, at the base obtuse, acuminate, marked with lines, and white downy beneath. *Peduncles* and *Calyx*, hisped.

The *stem* of this species of raspberry, is upright, branching, of a pale red color, thickly covered with stiff bristles, and rises from three to five feet in height; the *leaves* stand in one or two pairs, supported on long slender hairy footstalks, with an odd one at the end: they are wrinkled edged with acute teeth, marked with parallel lines on the upper surface, of a silvery whiteness beneath, and terminated by long slender points; the *flowers* are white and disposed in little nodding clusters, succeeded by a profusion of deep scarlet red berries. It flowers in June and sometimes again in September, producing a second crop of fruit, when the season permits.

The *raspberry* is found throughout nearly all the northern and southern States, growing in dry waste lands, and on stoney hills. It is very abundant in the New England States, growing on the mountain sides and among the rocks.

Rubus arcticus. Dwarf crimson Bramble. This is rather a creeping plant, never rising more than eight or ten inches high; stems herbaceous, smooth, unarmed; leaves trifoliate, almost glabrous; leaflets

obovate, obtuse, crenately serrated; stipulas ovate, very blunt; flowers solitary, terminal, deep rose-colored; calycine segments, lanceolate-linear, downy, shorter than the corolla; petals emarginate; fruit large, purple, or red, sweet scented. Linnaeus has accurately figured this species of *Bramble* in his *Fl. Lapponica*, out of gratitude, as he expresses himself, from the benefit he reaped from it in his Lapland journey; it having so frequently recruited his spirits when almost sinking with fatigue and hunger, by the vinous nectar of its berries. He informs us that the principal people in Norland, make a syrup, a jelly, and a wine from these berries, which they partly consume themselves, and partly send to their friends; this wine is of the most delicious kind. This is a native of Canada, of Siberia, and the northern part of England. Flowers in June and July.

Rubus chamaemorus. Mountain Bramble. This is a creeping plant, only rising from six to eight inches in height; stem simple, one-flowered, puberulous, unarmed; leaves somewhat uniform, wrinkled, plicate, roundly lobed, and toothed; stipulas oval, obtuse; flowers dioecious; calycine segments, ovate, longer than the corolla; petals elliptical, rather incumbent; carpels nearly globose, large, flowers white; fruit large, of a dull orange-color, acid mucilaginous, and pleasant to the taste. From their exalted situation, they are sometimes called *cloud berries*, also *knot berries*, *knout berries*, or *roe berries*. The plant flowers in June, soon after the snow is dissolved, and the berries are scarcely well ripened in August, before the plant is again overwhelmed with its winter covering. The snow preserves the fruit, and is used by the Laplanders to keep it through the winter; for they, as well as the Scotch highlanders, esteem it as one of their most grateful and useful fruits, especially on account of its long duration. Its taste is moderately acid and mucilaginous, with something of the flavor of tamerinds. They are held to be an excellent anti-scorbutic. The Norwegians pack them upon wooden vessels,

and send them to Stockholm, where they are served up in deserts or made into tarts. The Laplanders bruise and eat them with the milk of the reindeer. Neill observes, that they are the most graceful kind of fruit gathered by the Scotch Highlanders. On the sides and near the bases of the mountains, it may be collected for several months in succession. It is not cultivated without difficulty, and it seldom yields fruit in a garden. By crossing the flowers with those of the common bramble or raspberry, and raising from the seeds so impregnated, in all probability this plant might become a valuable accession to the kitchen garden. It is a native of Europe, Siberia, and North America. Flowers in June.

The fruit of the Raspberry is grateful to most palates as nature presents it, but sugar improves the flavor; accordingly it is much esteemed when made into sweetmeats, and for jams, tarts, and sauces. It is fragrant, sub-acid, and cooling, allays heat and thirst. It is much used in distilling, to make the cordial spirituous liquor, from which it has its name. Raspberry syrup is next to the strawberry in dissolving the tartar of the teeth, as like that fruit it does not undergo the acetous fermentation in the stomach; it is recommended to gouty and rheumatic persons. There is already known one hundred and forty-seven species of this delicious plant, besides an innumerable number of their varieties.

Propagation and Culture. The varieties can be perpetuated by the young suckers, which spring from the roots in spring and summer; when these have completed one year's growth, they are proper to detach with roots for planting, either in the autumn or the next spring in February or March, but never later than the middle of April. These new plants will bear some fruit the same year, and furnish a succession of strong bottom shoots for full bearing the second year. New varieties are easily raised from seed, and they will come into bearing the second season.

Soil and Situation. All the varieties will succeed in any common mould, trenched about two feet deep, and sufficiently manured; but the soil in which the *raspberry* bush prospers most and bears the finest fruit, is in a light rich loam. Allot the main crop a free exposure to the sun, that the berries may ripen in perfection. Be careful to favor the double bearers, with a dry soil, and a sheltered sunny situation, to give the second crop every aid in coming to maturity. When *raspberries* are cultivated on a large scale, it is best to keep them in plantations by themselves. Set them in rows from four to six feet asunder, as the bushes are of the smaller or smallest kinds, and by three or four feet in the row. Scattered bushes may either occupy a small row lengthwise along the back part of the border, or stand in detached stools, at ten or fifteen feet distant from each other. Select sorts are frequently trained against walls, stakes, or espaliers, from the most sunny to the most shady aspect, for early and late fruit of improved growth and flavor. Neill says the *raspberry* bush grows freely in any good garden soil; but is the better for being slightly moist. Although the place be inclosed by trees, and even slightly shaded, the plant succeeds well. In an inclosed and well sheltered quarter, with rather a damp soil, containing a proportion of peat moss, we have seen very great crops of large and well flavored berries produced.

New Plantations. Raspberry bushes are in their prime about the third and fourth year, and, if well managed, continue in perfection five or six years; after which they are apt to decline in growth, and the fruit to become small, so that a successive plantation should be improved in time. Select new plants from vigorous shoots, in full perfection as to bearing.

Summer Culture. Keep them free from weeds during the summer by hoeing between the rows, at the same time loosen the earth about the plants; under this management the plants, if tolerably

strong, will both yield a moderate crop the first season, and supply young stems for bearing in greater plenty and perfection the following season, and so from year to year the summer culture should be repeated. As the plants get established, let all straggling suckers between the rows, or from the extreme roots of single shoots, be cleared out by hoeing, or twisted off, to admit the air and sun freely to the fruit. The fruit of the *raspberry* may be obtained of a very large size, other circumstances being favorable, by destroying all the suckers; but in this way, the plant being destroyed, a double plantation is wanted, one to grow only suckers, and the other fruit.

Pruning and Winter Dressing. It is requisite every winter or spring to cut out the dead stems, and to thin and regulate the successional young shoots. This annual pruning may be performed any time during open weather, from November till the beginning of April. When kitchen garden crops are cultivated between the rows, it is most convenient to do this as soon as the old bearers begin to decay. As to pruning indiscriminately in the open weather in winter, it sometimes happens that severe frosts immediately follow, and partially kill the plants; therefore it is safer to shorten the tender young shoots early in the spring, but let it not be deferred till the buds are making new shoots, as that would weaken the roots. Cut out all the old dead stems close to the bottom, and having selected from the strongest young shoots on each main stool, four or five to be preserved for a succession of bearers, cut away the superabundant shoots close to the ground. Let each of the shoots retained be pruned at the top below the weak bending part, cutting them in smaller plants to about three or four feet in length, and in the large sorts to the length of five or six feet. If any of the stems diverge irregularly, or straggle much asunder, they may be tied together at the top, and thus the strong ones will support the weaker, or the taller varieties may have the support of stakes. Prune plants against a wall or trellis, in the

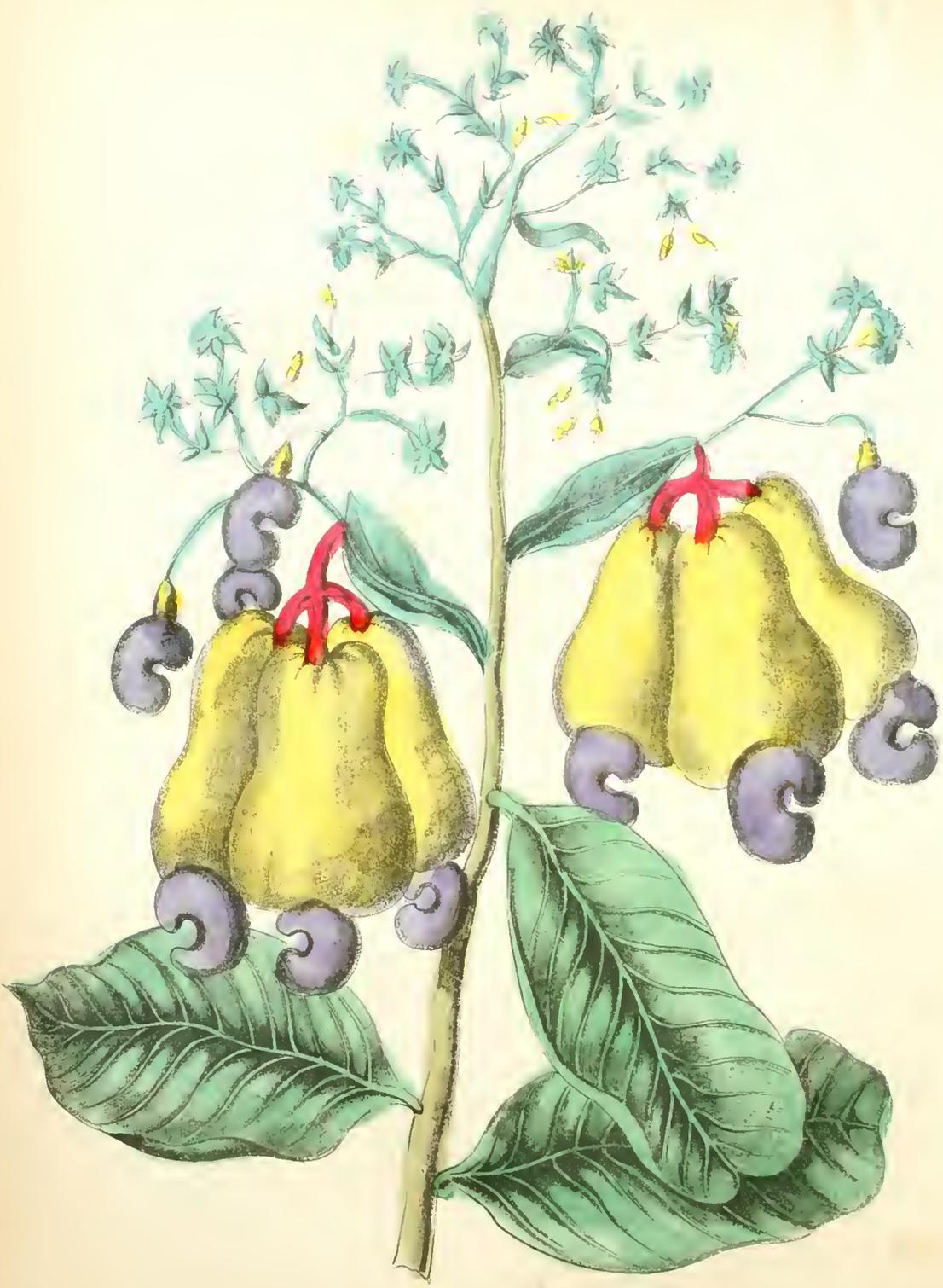
same manner as directed above, and train the shoots to rise a little diagonally. After pruning, having cleared away the cuttings, dig the ground between and about the plants. To turn in a little rich compost, will conduce much to their growth; lay it at the extremities of the roots, and deeper as the plantation gets older. Eradicate all straggling suckers.

Taking the Crop. The fruit of the different varieties comes in from the end of June or July till October, or later. As it ripens it should be timely gathered for immediate use, because when fully ripe it will not keep above two or three days before it decays and becomes unfit for use.

Medical Properties and Uses. The leaves of this plant have of late become quite fashionable as a substitute for black tea; many villages in some sections of the Northern States use, and prefer the raspberry leaves to the best of black tea, which is not easily distinguished apart. The raspberry is certainly the most wholesome, and with the addition of a little sugar and milk, forms a very pleasant beverage. The fruit is considered cooling, gently laxative, and antiseptic, and can be used with great advantage to correct any putrid tendency in the stomach or bowels, especially during the hot weather. Dr. Mattson, author of the "American Vegetable Practice," appears to have made himself more fully acquainted with this species of raspberry than most botanists; he describes the leaves as being "moderately astringent, with a slightly bitter, and very agreeable aromatic taste." A decoction made from the leaves and small branches he highly recommends as an "excellent remedy in the bowel complaints of children; and if used in season, will arrest the disease and effect a cure. It should be given in small draughts, and administered also by way of injection. The addition of a little *ulmus fulva* will render it still more efficacious." The tea is very valuable as a soothing and cleansing wash for ulcers,

scalds, burns, and all excoriated surfaces, which are very sore or irritable.

From my own experience in the use of the raspberry for several years past, I must acknowledge that I have found it one of the most valuable medicines in use. I have administered it in hundreds of cases, and never found any deleterious or bad effects from it, taken in any quantity or in any stage of disease. A strong and pleasant tea made from the leaves and given to children afflicted with diarrhœa (or summer complaint so called), I have found it to give more speedy and permanent relief than any other article with which I am acquainted. The addition of a little bark of the *myrica cerifera* will render it still more effectual. A syrup is prepared from the berries, called the syrup of raspberries. Also a cordial which is a most delicious drink. Various other preparations are prepared from the fruit, which renders it not only useful as a medicine; but extremely delicious when made into preserves.



Washew-nut.

NAT. ORDER.

Solonaceæ.

ANACARDIUM OCCIDENTALE.

CASHEW-NUT.

Class X. DECANDRIA. *Order I.* MONOGYNIA.

Gen. Char. *Calyx*, five leaved. *Petals*, five, reflex. *Anthers*, ten, one only fertile.

Spec. Char. *Nut*, kidney-shaped, on the top of a fleshy receptacle.

This beautiful small *tree* rises from twelve to twenty feet in height; the *fruit* is about twice as large as a large sized orange; the *calyx* is divided into five parts, the divisions ovate and deciduous; the *corolla* consists of five reflected petals, which are about twice the length of the calyx; the *stamens* consist of ten capillary *filaments*, which are shorter than the calyx; the *anthers* are small and roundish; the *pistil* has a roundish *germen*; the *style* is subulate, reflexed, and about the length of the corolla; the *stigma* is oblique; *pericarp* none; the *receptacle* is large and fleshy; the *seed* is a large kidney-shaped nut, placed above the receptacle.

Of this only one species is as yet known to botanists. It is a native of the West Indies, and cannot be cultivated either here or in Europe without great care and difficulty. A gum exudes spontaneously from the bark of this tree, which bears some resemblance to gum Arabic. The fruit of this tree is full of an acrid juice, and in appearance and taste resembles that of the common lemon; to the apex of this fruit grows a kidney-shaped nut, much larger at the end which is next the fruit, than at the other, consisting of two shells, with a black juice between them, and a sweet oily kernel within the inner shell. This plant is easily raised from the fresh nut

they should be planted each in a separate pot filled with a light sandy soil, and placed in a hot bed of tanners bark; they should be kept dryish until the plant comes up, otherwise the seed is apt to rot.

Medical Properties and Uses. In describing the medical properties of this rare plant we shall take the authority of both modern and ancient writers. Wood and Bache says, "the receptacle is a redish yellow, and of an agreeable sub-acid flavor with some astringency. It is edible, and affords a juice which has been recommended as a remedy in dropsy. This juice is converted by fermentation into a vinous liquor, from which a spirit is obtained by distillation, much used in making punch, and is said to be powerfully diuretic. The nuts are well known under the name of *cashew-nuts*. The black juice contained between the inner and outer shell, is extremely acrid and corrosive, producing when applied to the skin, severe inflammation, followed by blisters or desquamation of the cuticle. It is used in the West Indies for the cure of corns, warts, ringworms, and obstinate ulcers, and is said to be sometimes applied to the face by females in order to remove the cuticle, and produce a fresher and more youthful aspect. The worst case of external poisoning which has ever come under our notice, was produced in a lady who was exposed to the fumes of the nut while roasting. The face was so much swollen that for some time not a feature was discernible. The kernel when fresh has a sweet, agreeable taste, and is eaten like chesnuts, either raw or roasted. It is also used as an ingredient in puddings, &c., and forms an excellent chocolate when ground with cocoa. By age it becomes rancid and loses its agreeable flavor." The natives of the Island make use of the juice in obstinate cases of diarrhœa, and diabetes. The oil is used by painters to give their colors a lasting black, and to preserve wood from putrefaction.



1 Horny Martynia. 2 Columbine

N A T. O R D E R.

Pedalinæ.

MARTYNYIA PROBOCIDEA.

HORNY MARTYNYIA.

Class XIV. DIDYNAMIA. *Order II.* ANGIOSPERMA.

Gen. Char. *Calyx*, five parted. *Corolla*, ringent. *Capsule*, woody, dry, with a hooked beak, containing a four celled-nut.

Spe. Char. *Stem*, branched. *Leaves*, alternate, lobed cordate at the base. *Stamens*, four, all fertile.

This plant rises from one to three feet in height; *stem* branched, annual, villous, and viscid; the *leaves* are placed alternately upon the stem and branches, they are lobed and cordate at the base; the *stamens* are four, all fertile; *corollas* with a yellowish white tube, variegated with green, yellow, and violet spots and lines; *limb* wide, pale violet, marked with saffron-colored and violet dots and lines; the *lobes* of stigma close when touched, according to best authority. This plant is a native of Louisiana, found growing on the banks of the Mississippi; also some parts of Mexico.

Martynia longiflora. Long-flowered Martynia. This species rises about two feet in height; the stem is erect, scabrous, simple; leaves three-nerved, opposite, roundish, repand; flowers axillary, solitary, and hang on short pedicels; tube of corolla, very long, gibbously flattened at the base; stamens four, all fertile; corolla purplish; in place of bracteas at the base of the peduncles, there is a pedicellate gland. Native of the Cape of Good Hope. Flowers in July and August.

Martynia diandria. Diandrous Martynia. This species rises from two to three feet in height; the stem is reddish and considera-

bly branched; leaves villous, viscid, opposite lobed, and cordate at the base; stamens four, two of them sterile; flowers thyrsoid, in the forks of the stem, drooping; corolla with a white tube, tinged with purple, and spotted with red and yellow; limb pale-red, with a shining purple spot at each segment; upper lip reflexed. Native of Mexico, at Vera Cruz, and near Campeche.

Martynia Zanquebarica. Zanzibar Martynia. The stem of this plant rises from one to two feet in height; leaves pinnatifid, pilose; flowers axillary, solitary, and of a pale purple color; beaks of capsules secund; calyx pilose, with lanceolate, nearly equal, deciduous, expanded segments; corolla ringent, with a large, roundish, gibbous tube, and a short limb; upper lip trifid, obtuse, the middle segment emarginate; the lower lip ovate, longer, entire; fruit bisulcate on both sides, four-beaked, four-celled, one-seeded, and two-valved. Native of Zanzibar. Flowers in July and August.

Martynia lutea. Yellow-flowered Martynia. This plant rises only from one to two feet high; the stem is branched and clothed with glandular down; the leaves stand opposite upon the stamened branches, cordate-orbicular, toothed, and clothed with glandular down; beaks much longer than the pericarp; calyx involucred by two bractees; corolla large, funnel-shaped, orange yellow, clothed with blood-color inside. Native of Brazil. Flowers in August.

This genus was named, according to Houston, in honor of John Martyn, professor of Botany at Cambridge: author of *Historia Plantarum Variarum*, and several other works: editor of Virgil's *Georgics* and *Eclones*. Born Sept. 1699, died 1768.

Propagation and Culture. The seeds of the species should be reared on a hot-bed, as other tender annuals; and when transplanted into other parts, they should be kept in the hot-house or green-house, until the seed is ripened. A light rich soil suits them best.

NAT. ORDER.

Ranunculaceæ.

AQUILEGIA CANADENSIS.

COLUMBINE.

Class XIII. POLYANDRIA. *Order V.* PENTAGYNIA.

Gen. Char. *Calyx* five-leaved, petaloid, deciduous. *Petals* five, terminating below in a spurred nectary. *Capsule* five, erect, acuminate with the styles, many-seeded.

Spe. Char. *Spurs* straight. *Styles* and *stamens* exserted. *Calyx* rather acute, longer than the petals. *Leaves* three-parted, rather obtuse, incisely toothed.

The *Columbine* is a native of America, growing in abundance in rocky places, from Canada to Louisiana, and is also found in most parts of Europe, where it is cultivated in gardens as an ornamental flower. It is a perennial, herbaceous plant, all parts of it having been extensively medicinally employed. The *roots*, *leaves*, and *flowers* have a disagreeable odor, and a bitter, acrid taste; the *seeds* are small, black, shining, inodorous, and of an oleaginous sweetish taste, followed by a sense of acrimony; it starts up early in the spring, and rises from two to four feet in height, and continues to flower from May to July. There are seven different kinds of *Columbine*, which we shall hereafter notice: among them are the *Aquilegia Vulgaris*, or common single *Columbine*; *Aquilegia vulgaris flore pleno*, common double *Columbine*; *Aquilegia inversis corniculis*, double inverted *Columbine*; *Aquilegia rosea*, the rose *Columbine*; *Aquilegia degener*, the degenerate *Columbine*, and the *Aquilegia Virginiana*, the early red *Columbine* of Virginia.

Aquilegia vulgaris. Common Columbine. This species rises from one to two feet high; the spurs are a little incurved; capsules villous; stem leafy, many-flowered, and is, as well as the leaves, smoothish; styles not exceeding the stamens in length; flowers either single or double, blue, white, rose-colored, purple or variegated, or spotted with the same colors. The whole plant has been recommended to be used medicinally, but it belongs to a suspicious natural order, and Linnæus affirms that children have lost their lives by an over-dose of it. The virtues ascribed to a tincture of the flowers as an anti-phlogistic, and for strengthening the gums and deterring scorbutic ulcers in the mouth, appear to be better founded; the tincture being made with an addition of the vitriolic acid, and differing but little from our officinal tincture of roses. It is a native all over the United States, in waste places, pastures, on the side of hills and mountains, among rocks. It flowers in July and August.

Aquilegia cærulea. Blue Columbine. This species rises about one foot high; spurs straight, almost twice the length of the limb of the petals; styles and stamens shorter than the corolla; stipulas acute; segments of the leaves deeply lobed; flowers blue. Native of North America, on the Rocky Mountains.

Aquilegia brevistyla. Short-styled Columbine. This species rises about two feet high; the whole plant is rather pubescent; spurs incurved, shorter than the limb; styles short, inclosed; stamens rather shorter than the corolla; stem and leaves as in *Aquilegia vulgaris*, but the flowers are only about one-half the size, color, blue. Native of North America, in the western part of Canada, and as far north as Bear Lake.

Aquilegia viscosa. Clammy Columbine. This species rises from eighteen inches to two feet in height; spurs incurved; capsules villous; stem bearing one, or three flowers, almost naked, and is as well as the leaves clothed with clammy pubescence; style not ex-

ceeding the stamens in length. This very much resembles the *Aquilegia vulgaris*, and is only selected from it by its being clothed with a clammy pubescence, and the flowers being much larger, and of a purple color. It is a native of Spain, Portugal, south of France, Piedmont, Naples, &c., in rugged mountainous places, exposed to the sun. Flowers in May and June.

Aquilegia alpina. Alpine Columbine. This species rises from twelve to eighteen inches high; spurs straight but somewhat incurved at the apex, and one-half shorter than the petals; stem leafy, two or three-flowered; segments of leaves deeply divided into linear lobes; flowers large and blue. This is the most showy of all the species. It is a native of the Alps, Switzerland, &c., in shady humid places. Flowers from May till July.

Aquilegia hybrida. Hybrid Columbine. This species rises from one to two feet high; spurs straight, hardly incurved at the apex, longer than the petals, which are very blunt; styles hardly exceeding the length of the stamens and petals; sepals acute, about the length of the petals; stem and leaves clothed with very delicate pubescence, many-flowered; flowers twice as large as those of *Aquilegia canadensis*, with dark purple sepals, yellowish petals and purple spurs, which are green at the tips. Native of Siberia. Flowers in May and June.

Aquilegia parviflora. Small-flowered Columbine. This species rises about one foot high; spurs straight, short, almost equal in length with the blunt petals; stamens recurved, length of the acute sepals; stem two or three-flowered, and is as well as the leaves smooth, and almost naked; flowers blue, smaller than those of the *Aquilegia canadensis*; ovaries pubescent. Native of Siberia, in woods, at the river Lena. It flowers from May till July.

Aquilegia anemonoides. Anemone-like Columbine. This species rises only from three to six inches in height; spurs straight, very

short, equal in length with the petals; petals thrice as long as the calyx; peduncle radical, one-flowered, and almost naked; flowers purple. This is thought, according to Fisher, to be a variety of *Aquilegia glandulosa*. Native of Siberia, on the Ataian mountains. Flowers in May and June.

Propagation and Culture. All the species of Columbine are very ornamental, and deserves to be cultivated in every garden. They will thrive in any common garden soil, and are easily increased by dividing the plant at the root or by seeds, which generally ripen in abundance.

Medical Properties and Uses. As a remedial agent, the Columbine possesses very little, if any, efficacy, although it was formerly celebrated as a specific in scrofula and some other disorders; but experience has proved it to be one of those remedies which have at different times risen into notice and employment, by empirics, but has now so far fallen into disrepute as to have been discarded from general practice, and no longer holds a place in the officinal catalogues, and is even suspected to possess dangerous properties, like most other plants of this order. It has been considered as a diuretic, diaphoretic, and anti-scorbutic, and was formerly in high repute and extensively used in the cure of jaundice, and was said to have been beneficially employed in small-pox to promote the eruption; it was also used in measles and scurvy, and externally as a vulnerary. Culpepper, in the year 1610, speaks very highly of the Columbine, and mentions several cases where he has applied it with success, prepared as a lotion, in cynanche tonsillaris, and cynanche trachealis; one drachm of the seed, taken in wine, has been found good in hepatitis, icterus, and various chronic bilious affections. In Spain this plant was highly esteemed, and for many years was considered as the great panacea for the ills which flesh is heir to.



Common Peony

NAT. ORDER.

Multisiliquæ.

PÆONIA OFFICINALIS

COMMON PEONY.

Class XIII. POLYANDRIA. *Order II.* DIGYNIA.

Gen. Char. *Calyx* five-leaved. *Pctals* five. *Styles* none. *Capsules* many-seeded.

Sp. Char. *Leaves* double pinnate, sub-lobed. *Lcaflcts* oblong, veined underneath.

The *root* is perennial, large, knobby, externally brown, internally white, and compact; the *stalks* rise from two to three feet in height, which are thick, smooth, succulent and branched; the *leaves* are pinnated, or cut into lobes, which are oblong and few, terminated by an odd one; the *flowers* terminal, solitary and red; the *calyx* is composed of five unequal, ovate, concave leaves; the *corolla* generally consists of five large petals, which are roundish and concave; the *filaments* are about thirty, which are short, slender, and supporting oblong quadrangular anthers; *germens* two, ovate, hairy, and erect; *styles* none; *stigmas* hooked; *capsules* two, which are hairy, oblong, inclining outwardly, single-celled, single-valved, and containing numerous small seeds.

The Peony is a native of Switzerland, where it was esteemed very highly on account of its supposed medical virtues, and for which purpose it was extensively cultivated in various parts of that country; from Switzerland it was introduced into Europe as an ornament to the flower garden, and from Europe into the United States, where it has now become naturalized, and is found growing wild in all its beauty

in deserted fields and waste lands, producing its flowers in May and June.

Pæon, an ancient celebrated Physician, was the first to use this in medicine. The Greek legend adds, that he used it to cure Pluto of a wound inflicted by Hercules.

Pæonia corallina. Coralline or Male-Pæony. This species rises from one to two feet high; carpels tomentose; segments of the leaves ovate, entire, glabrous; the leaves are very broad and of a dark shining green color; flowers crimson. Native of many parts of Europe, France, Greece, Siberia, and some parts of the United States; generally to be found on the rocky clefts of steep mountains. It flowers in May and June.

Pæonia festiva. Common or Handsome Pæony. This species rises about two feet high; carpels tomentose, erect; segments of the leaves unequally jagged, smooth, with the divisions crowded, oblong-lanceolate. Native of many parts of Europe, in mountains, woods; in France, Switzerland, Greece, Crete, etc. It flowers in May and June.

Pæonia paradoxa. Paradoxical Pæony. This species rises from one to two feet in height; the carpels downy and straight; segments of the leaves many-parted, blunt and somewhat waved, glaucous and hairy underneath; flowers of a violent crimson color, with obovate, jagged petals, which are often bifid. Native of Spain and the south of France, on mountains. Flowers in June.

Pæonia pubens. Downy Pæonia. This species rises from two to three feet high; the leaves biternate; leaflets lanceolate, acuminate, densely clothed with soft pubescence beneath; ovaries clothed with whitish tomentum, each crowned by a somewhat orbicular stigma; stem, petioles, and peduncles somewhat hairy; flowers large, dark-purple, anthers yellow. Native of Siberia. It flowers in May and June.

Paeonia villosa. Villous Paeonia. This species varies considerable in its height, rising from two to six feet, according to the climate and the richness of the soil; the carpels are densely tomentose, erect, but somewhat incurved at the apex; leaves villous, pubescent and whitish-glaucous beneath—lower ones somewhat triternate—upper ones ternate; leaflets pinnatifid; segments oblong-lanceolate, elongated, incurved at the apex. Native of France.

Medical Properties and Uses. This plant has long been considered as a powerful medicine, and until the late revision of the Pharmacopœia by the London College, it had a place in the catalogue of the Materia Medica, in which the two common varieties of this plant are indiscriminately directed for use, and improperly distinguished into male and female Peony. The roots, flowers, and seeds, have been esteemed in the character of an anodyne and corroborant, especially the roots, which have been extensively used in the treatment of epilepsy; for this purpose the ancients' method was to cut the roots into thin slices, which were attached to a string and suspended about the neck as an amulet; if this failed of success the patient was to have recourse to the internal use of the root, which was given in the form of powder, and in the quantity of a drachm two or three times a day, by which we are informed both infants and adults were cured of this disease. By some it is recommended that the expressed juice should be given in wine, and sweetened with sugar, as the most effectual way of administering this plant. The seeds have been considered by some authors to possess emetic and purgative properties, and by others antispasmodic. They may be given in the same dose as the dried root, but are very little used in modern practice. The roots and seeds of Peony have, when fresh, a faint, unpleasant smell, somewhat of the narcotic kind, and a mucilaginous sub-acrid taste, with a slight degree of bitterness and astringency. In drying they lose their smell, and part of their taste. Extracts made from them by water are almost insipid as well as inodorous, but extracts made by rectified spirit are bitter and considerably astringent.

N A T . O R D E R .

Ranunculaceæ.

ANEMONE PRATENSIS.

PASQUE FLOWER.

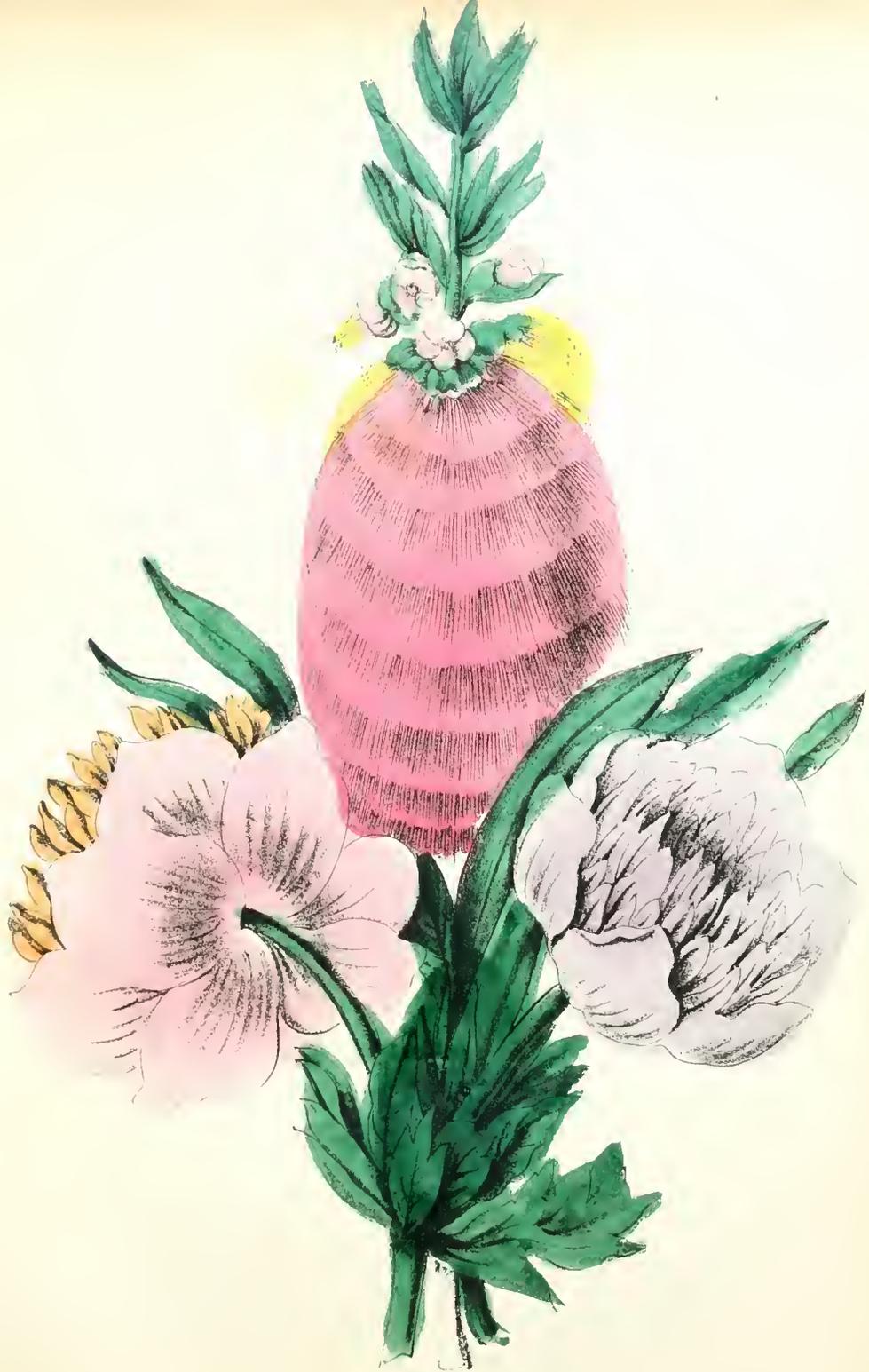
Class XII. POLYANDRIA. *Order VI.* POLYGNIA.

Gen. Char. *Calyx* none. *Petals* six or nine. *Seeds* many.

Spe. Char. *Peduncles* involucred. *Petals* straight. *Leaves* bipinnate.

The *root* of Anemone is perennial, short, and sends off several strong fibres; the *flower-stem* is smooth, covered with soft hairs, near the top furnished with a lacinated involucre, and rises from six to eight inches in height; the *leaves* are radicle and bipinnate; the *segments* are narrow, short, linear, and of a glaucous green color; it has no *calyx*; the *petals* are six, oblong, hairy, of a dark purple color, and their apices turned backwards; the *filaments* are numerous, slender, about half the length of the petals, and furnished with yellow anthers; the *germens* are numerous, collected into a bundle, and supplied with long styles, terminated by tapering blunt stigmas; the *seeds* are placed on the common receptacle, and retain their styles, which, when the seed goes off, resemble long downy tails.

This species of the Anemone is a native of Germany, where it grows wild in open fields, producing its flowers in May and June. Woodville informs us that "it was first cultivated in England by Mr. Miller, in 1731, both as an ornament and for medicinal purposes. It very much resembles the Anemone Pulsatilla, which grows wild in this country, and would doubtless prove a good substitute so far as regards its medical qualities. This plant, in its recent state, has but very little



Flaque Flower.

if any smell, but its taste is extremely acrid, and when chewed corrodes the tongue and fauces; the dried plant likewise still retains a considerable share of acrimony. It has also been found upon chemical experiments to contain a camphoraceous matter, which was obtained in the form of crystals, of an unctuous taste, and highly inflammable.

Medical Properties and Uses. This species of the Anemone, like several others of great activity, has been received into the *Materia Medica* of the Edinburgh Pharmacopœia, upon the authority of Baron Stoerck, who recommends it as an effectual remedy for most of the chronic diseases affecting the eye, particularly amaurosis, cataract, and opacity of the cornea, proceeding from various causes; it was also found highly useful in the treatment of nocturnal pains, ulcers, caries, indurated glands, suppressed menses, serpiginous eruptions, melancholy, and palsy. The baron himself, who had for two years suffered very much from a violent contusion of his eye, took this remedy, which he soon found occasioned acute lancinating pain in the part affected; this he considered as a favorable omen of the specific action of the plant, an opinion which was afterward confirmed in the treatment of a great number of patients. Six cases of amaurosis, three of cataract, and seven of affections of the cornea, we are assured from high authority, were either entirely cured, or greatly benefited, by the exhibition of this medicine. Several cases pronouncing its success in other disorders, which were under my own immediate care, have fully convinced me of its superior efficacy in cases of syphilis, scrofula, dropsies, diabetes, and all eruptive complaints. Every part of the plant, except the root, is ordered for medicinal use, and is prepared for this purpose into an extract, distilled water, syrup, or an infusion; given in large doses it frequently excites nausea and vomiting, and sometimes griping pains in the bowels. It is proved to be emetic, cathartic, and 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.

NAT. ORDER.

Compositæ.

INULA HELENIUM.

ELECAMPANE.

Class XIX. SYNGENESIA. *Order II.* POLYGAMIA SUPERFLUA.

Gen. Char. *Receptacle* naked. *Down* simple. *Anthers* ending in two bristles at the base.

Spe. Char. *Leaves* stem-clasping, ovate, wrinkled, tomentose underneath. *Scales* of the *calyx* ovate.

The *root* is perennial, large, thick, branched, externally brown or grey, internally whitish; the *stalk* is upright, strong, round, striated, branched, covered with soft hairs, and rises from three to four feet in height; the *leaves* are large, ovate, serrated, crowded with reticular veins, and supplied with a strong fleshy midrib; the *pagina* superior smooth, the inferior downy; the *leaves* placed upon the upper part of the stem are sessile, and surround the branches, those near the bottom stand upon footstalks; the *flowers* are large, yellow, and terminate the stem and branches; the *calyx* is composed of several rows of strong imbricated ovate segments; the *corolla* consists of numerous florets, which are of two kinds; those occupying the centre are of regular tubular form, divided at the brim into five small segments, and are *hermaphrodite*, each containing five short filaments, which have their anthers so united as to form a hollow cylinder, and a long germen, which supports a slender style, about the length of the tube, and furnished with a bifid stigma; the *florets* at the circumference are female, at the lower part tubular, but at the upper ligulated or strap-shaped, and cut at the extremity into three narrow pointed teeth; the



Elecc. m. phane.

female part is similar to that in the hermaphrodite florets, the *seeds* are solitary, striated, quadrangular, and furnished with a simple feather or papus; the *receptacle* is naked and flat.

This valuable plant, bearing a large and beautiful flower, is a native of Europe, where it is cultivated not only as an ornament for the garden, but more extensively for medical uses. It was introduced into the United States by our first settlers, and has now become naturalized in many parts of the country, growing spontaneously in the meadows and by the road-sides in New England and Pennsylvania. July and August are the months in which it flowers. The root is the officinal part directed for use, which should be taken from the ground in the autumn of the second year of its growth, as after that time it will generally become stringy and woody; when fresh it is thick and branched, having cylindrical ramifications which are furnished with thread-like fibres, and the transverse sections present radiating lines. The dried root which is found in the shops is an article of considerable traffic with some of our country people, who dig it at the proper season, cut it into longitudinal or transverse slices, and prepare it for the practitioner or purchaser, by drying it in the shade; the internal color of the root when it has been subjected to the above process, is of a greyish cast; the smell is slightly camphorous and it has an agreeable aromatic taste, which is at first glutinous and rancid, but upon chewing becomes warm, aromatic, and bitter. Its medical properties may be extracted by either alcohol or water, but the former will become more strongly impregnated with them, and its bitterness and puugency more plainly developed. Mr. Rose, a chemist of Berlin, discovered in Elecampane a peculiar principle resembling starch, which he named *alant-in*; but Dr. Thompson proposed the title of *inulin*, as being more appropriate, and it has been generally adopted. Independent of this principle, however, Elecampane contains, according to some writers, a white concrete substance, called *hebenin*, intermediate in its properties between the essential oils and camphor, and separable by distillation with water; a bitter extractive, soluble in water and spirit; together

with a soft, acrid, bitter resin, which develops a very agreeable aromatic odor when heated; also a gum, albumen, lignin, traces of volatile oil, wax, and various other saline substances.

Inula Britannica. Creeping-rooted Elecampane. This species has a perennial root; the stem rises from two to three feet high, dividing in the upper part into two or three upright branches, or peduncles each sustaining one very elegant large flower, of a deep yellow color. These blossom in the greatest perfection in July, but seldom ripen seeds in this climate, as it is a native of Germany.

Inula salicina. Willow-leaved Elecampane. The stem of this species rises from one to three feet in height; the root is perennial, aromatic, subastringent, smelling much like cinnamon; the stem is also upright, smooth, hard, firm, tinged with red, grooved or angular toward the top, where it is usually branched; the leaves alternate, sessile, or half embracing, stiff, smooth, of a dark, shining green, very slightly cut, and somewhat rugged about the edge; the flowers terminating on alternate, one-flowered, grooved, reddish peduncles, forming altogether a corymb; the calycine scales in two rows, smooth, brown, lanceolate, and curved back a little at the end; the flower is about an inch in diameter. It is a native of Germany.

Inula saturioides. Savory-leaved Elecampane. This species rises with a shrubby stalk about two feet high, dividing into many slender branches, which are hairy; the leaves narrow, stiff, sessile, —from the edge of these protrude long hairs, which are stiff, and come out by pairs; at the end of the branches are placed the naked peduncles, four or five inches long, sustaining one small, yellow flower, somewhat radiated. It is a native of Vera Cruz.

Inula fruticosa. Shrubby Elecampane. This species has a stem ten or twelve feet high, divided into several woody branches; the leaves are about five inches long, and one inch and a half broad in the middle, smooth on the upper side, but on the under having

three longitudinal veins; the flowers are produced at the ends of the branches, having very long, large, scaly calyxes; they are as large as a small sun-flower, of a pale yellow color. It is a native of Carthage, in New Spain.

Propagation and Culture. The first sort may be propagated by seed sown in autumn soon after they are ripe, on a warm, loomy soil, forming a border. Then they should be transplanted to the places where they are to grow in the following autumn. But the common practice is to increase it by off-sets, which, when taken from the old roots carefully, with a bud or eye to each, take root easily. The best season is the autumn, as soon as the leaves begin to decay; planting them in rows a foot asunder, and nine or ten inches distant in the rows. The following spring the ground should be kept clean from weeds, and be slightly dug over in the autumn following. The roots will be fit for use after two years growth, but will survive many years if permitted to stand.

The two following sorts may be increased by parting the roots, and planting them in the autumn, in the borders or other places where they are to remain. They should not be removed oftener than every three years.

The fourth and fifth sorts may be raised by planting cuttings of the branches in the summer season, in pots of light earth, in shady borders. They must be removed into shelter in autumn, but should have as much free air as possible at all times when the weather is mild. The last sort is propagated by seeds procured from where it grows naturally. These must be sown in pots, or upon a hot-bed, and when the plants are fit to remove, be each put into a small pot, filled with light earth, and plunged into a fresh hot-bed; treating them in the same manner as other similar tender plants. It requires to be kept constantly in the stove.

The first sort may be cultivated for the medicinal use of the roots, or for ornament, in large borders. The two following sorts

may have places in the same way. The fourth and fifth kinds afford variety among other potted and green-house plants, and the last among stove-plants.

Medical Properties and Uses. Elecampane is a tonic, gently stimulant, aromatic, and possesses more or less diaphoretic, diuretic, expectorant, and emmenagogue properties. The high opinion entertained by the ancients of the virtues of this plant, would fill volumes in support of its efficacy in the cure of diseases so peculiar to females; indeed such was their estimation of the medicinal qualifications of Elecampane, that at one time it was considered almost an universal remedy for not only such cases in which it has proved itself so highly useful, but was also prescribed in connection with other medicines for nearly all the diseases prevalent to their country, and is still occasionally resorted to by our more modern practitioners, in cases of retained or suppressed menstruation. In this country it is chiefly used in chronic diseases of the lungs and liver, and is sometimes highly beneficial when the affection of the chest is attended with weakness of the digestive organs, or with general debility. From its peculiar diuretic properties it is considered useful in chronic engorgements of the abdominal viscera, and the dropsy, to which they so often give rise. It has also been highly recommended both as an internal and external remedy in tetter, psora, and other diseases of the skin. The usual modes of administration are in powder and decoction. The dose of the former is from a scruple to a drachm. The decoction may be prepared by boiling one ounce of the root in a pint of water, and given at a dose from one to two fluid ounces.

The following is a translation from a very extensive botanical work, published in London in the year 1610, which will give the reader some idea of the extent, the various preparations, and the diseases in which Elecampane was employed:

The *liquid juice* is procured from the stalk and leaves, while green, which are expressed, after which one ounce of alcohol is added to five ounces of the juice, to prepare it for keeping. It is used to

expel wind from the stomach and bowels, also for coughs, colds, consumption, shortness of breath, and obstructions of the lungs. Dose, from one to two tea-spoonsful twice a day.

The *syrup of Elecampane* is made from the dried root. Take of the root eight ounces, water one gallon; boil it down to three quarts, strain it off, and add when cold two pounds honey, one pint French brandy, half an ounce essence of wintergreen. Dose, half a wine-glassful two or three times a day. Used in dropsy, consumption, colds, coughs, bronchitis, catarrhs, obstructions, and most diseases where a diuretic is required.

The *decoction or infusion in wine* is made by taking two ounces of the dried root, cut in small slices, and added to one quart of good wine, which should stand a few days before using; a little loaf sugar may be added to prepare it for the palate. This preparation has been extensively used in France and England as a remedy for worms of all kinds, expelling them from the stomach and bowels. Dose, half a wine-glassful at a time.

The *salts of Elecampane* is procured from the whole plant, burnt to ashes while green. Taken internally it operates powerfully as a diuretic and as a purifier of the blood. A small quantity of the salts mixed with the juice of lemons, will usually check vomiting in most obstinate cases. Dose, from one scruple to half a drachm.

The *root* made into a powder, which is taken in doses of about one tea-spoonful at a time, is said to be good for wind, diarrhœa, weakness, &c.

Various other preparations are prepared from Elecampane, most of which have been considered highly useful for such diseases in which it has been so profusely administered. Indeed, such was the reputation of the virtues of this plant in former times, that it would be almost impossible to enumerate the different preparations prepared from the root and other parts of the plant, which were so peculiarly arranged as to be adapted to the cure of all the principal diseases which flesh is heir to.

NAT. ORDER.

Convolvulaceæ.

CONVOLVULUS JALAPA.

JALAP BIND-WEED.

Class V. PENTANDRIA. *Order I.* MONOGYNIA.

Gen. Char. *Sepals* five. *Corolla* campanulate. *Stamens* included. *Capsules* two-celled. *Style* one. *Stigma* two-lobed; the lobes capitate. *Ovary* two-celled; cells two-seeded.

Spe. Char. *Stem* twining. *Leaves* ovate, somewhat heart-shaped, downy on the under side. *Peduncles* supporting one flower.

The *root* is perennial, large, ponderous, abounding with a milky juice, of an irregular, oval form and blackish color; the *stalks* are numerous, shrubby, slender, twisted, striated, rising from ten to twelve feet in height, and twining for support round the neighboring plants; the *leaves* are various, generally more or less heart-shaped, but often angular, or oblong and pointed, smooth, of a bright green color, and stand alternately upon long footstalks; the *flowers* stand upon two short branches, sending off two peduncles, each of which supports a single flower, which is large, bell-shaped, entire, plicated, externally of a reddish color, but of a dark purple within; the *calyx* consists of five oval leaves; these are concave, somewhat indented at their points, and of a pale green color; the *filaments* are five, slender, short, and the anthers large and yellow; the *style* is shorter than the stamen; the *stigma* is round, and the *germen* oval.

This species of jalap is a native of South America, and flowers in August and September. It derived its name from the city of Xalapa, in the state of Vera Cruz, in the neighborhood of which it grows in



Tulip Bind-weed.

great abundance, at a height of more than six thousand feet above the ocean. It without doubt could be successfully cultivated, and be made a source of profit in the southern sections of the United States, were it fostered in those warm climates so congenial to the soil. It acquires great vigor and luxuriance, extending its stalks from fifteen to eighteen feet in length; the roots, also, both in appearance and medicinal powers, essentially differ from those cultivated in colder climes.

Houston and Miller seem to be the only authors who knew the plant which produces the true Jalap of the shops; as the plant generally described, cultivated, and known as such, is a very distinct species, and appears to be only a purple flowered variety. The true plant is found principally in the neighborhood of Jalapa; it abounds also, on the eastern slope of the Cordillera of Anahuac; in the same latitude is produced the *Vanilla* and *Sarsaparilla*. From 200,000 to 300,000 pounds are annually exported from Vera Cruz. Although the root forms a well known and valuable cathartic, which is, perhaps, more generally employed than any other vegetable origin, it was not until lately that the genus to which it belongs was accurately ascertained. In its wild state, the plant delights in a dry, sandy soil. The dry root of Jalap is imported in thin, transverse slices, and in round masses. It is solid, hard, and heavy, of a dark grey color. It has a sickly smell, and a sweetish, subacid, nauseous taste. Powdered, it is of a pale yellow-brown color. Jalap when dear, is often adulterated with scammony, gamboge, briony root, etc. Jalap is an active purgative, which can always be relied upon, and would be administered much more often, were it not for the disagreeable effects produced by it, as nausea and griping. It is, notwithstanding, a very safe medicine.

Ipomœa Turpethum. Turpethum Ipomœa. The stem of this species is a little angular, glabrous, downy, upright; leaves cordate-

ovate, acuminate, sometimes entire, sometimes angularly sinuated, or crenated; peduncles thick, one to four-flowered; bracteate at the apex; outer sepals the largest, ovate-roundish; root thick and purgative; corolla campanulate, twice as large as the calyx, white; capsule showy, size of a nut. The bark of the roots is employed by the natives of the East Indies as a purgative, which they use fresh, rubbed up fresh. About six inches of the root in length they reckon a dose. Cattle do not eat the plant. The root being free from nauseous taste and smell, gives it a decided superiority over Jalap, for which it might be substituted. It is a native of the East Indies, on the banks of the Hoogly and Ganges. It flowers from March till June.

Ipomœa Bogotensis. Bogota Ipomœa. This is a twining shrub, with a branched, angular stem, clothed with canescent villi and retrograde hairs; leaves ovate, deeply cordate, acuminate, beset with silky strigæ above, and hoary tomentum beneath, about two inches long, and the hinder lobes approximate; peduncles many flowered, shorter than the leaves; sepals silky hispid, oblong-lanceolate, subately acuminate, and nearly equal; corolla purple, downy outside towards the apex, twice as long as the calyx; capsule glabrous. It is a native of New Granada, on high planes.

Ipomœa fastigiata. Fastigiata Ipomœa. This is a twining, glabrous plant; leaves cordate acuminate and mucronulate, entire, sinuated, fiddle-shaped, or three lobed, and like the young branches, often tinged with purple, particularly the margins, veins and nerves; peduncles exceeding the petioles, from three to twelve flowered, cymose; sepals lanceolate, mucronately awned; outer ones shortest; stolons long, creeping along the earth; corolla showy, purple, glabrous; capsule smooth; seeds glabrous. Native of the West India Islands, Guiana, and Bengal. It flowers in June, July and August.

Propagation and Culture. All the species of *Ipomœa* are very

showy when in blossom, and much admired. The shrubby and perennial herbaceous kinds require a light, rich soil, or a mixture of loam and peat, or decayed leaves and loam suits them best. They are well adapted for training up trellis-work, or pillars in stoves. Young cuttings strike root readily under a hand-glass, in heat. The annual species should be reared in a hot-bed, and when of sufficient size, should be placed in pots of a suitable size. A light, rich soil, or a mixture of loam and decayed leaves suits them best.

Medical Properties and Uses. Jalap was first introduced into medical practice in Europe in the latter part of the sixteenth century, and from there into the United States, where it now ranks among the purgative medicines most extensively employed. The United States Dispensatory highly recommends it as being applicable in most cases where an active cathartic is required, and from its hydragogue powers is especially adapted to the treatment of dropsy. It is generally given with other medicines, which assist or qualify its operation. In dropsical complaints it is used in connection with the bitartrate of potassa; also in the treatment of the hip disease and other serofulous affections of the joints. With calomel it forms a cathartic compound, which has long been very popular with some physicians in the treatment of bilious fever, and other complaints attended with congestion of the liver or portal circle. In over doses it sometimes produces dangerous symptoms, hypercatharsis, and will often purge when applied to a wound.

The dose of Jalap in powder is from fifteen to thirty grains; of the resin or alcoholic extract, which is chiefly used in Europe, and is now directed by the Edinburgh College, from four to eight grains; the latter is usually given rubbed up with sugar, or in emulsion, by which its tendency to irritate painfully the mucous membrane of the bowels is thought to be in some measure obviated. Various species of the Jalap have at different periods been introduced into medical practice, all possessing more or less cathartic qualities.

NAT. ORDER.

Irideæ.

GLADIOLUS ALATUS.

SWORD-LILY.

Class III. TRIANDRIA. *Order I.* MONOGYNIA.

Gen. Char. *Spatha*, two-valved, grassy. *Corolla*, six-parted and gaping. *Stamens*, three, rising upward. *Stigma*, trifold, recurved, *Capsule*, oblong, three-sided. *Seeds*, winged.

Spe. Char. *Filaments*, distinct. *Anthers*, bursting. *Capsule*, three-celled, three-valved.

The *root* is tuberous, hard, internally white, externally brown, and sends off innumerable quantities of small thread-like fibres: the *stalks* rise from the root, and is surrounded at its base with three or five, long, pointed, narrow, sword-like leaves; the *leaves* are equitant, or alternately embrace each other, so as to enclose their edges; the *calyx* and *corolla* are superior, confounded, their divisions either partially cohering, or entirely separate, sometimes irregular, the three petals being very short; the *stamens* are three, and rise from the base of the sepals; the *filaments* are distinct or connate, the *anthers* bursting externally, lengthwise, fixed by their base, two-celled; *ovarium*, three-celled; *cells* many-seeded; *style*, one; *stigma*, five, often petaloid, sometimes two-lipped; the *capsule* is three-celled, and three-valved, with a loculicidal dehiscence; the *seeds* are attached to the inner angle of the cell, and sometimes to a central column, which afterwards becomes loose.

According to Miller the above is divided into three species, as the common sort described above, with the flowers disposed on one side of the stalk, varying with white and flesh-colored flowers, called



1. Star Grass.
2. Sword Lily.



Italian Corn-flag; the Italian, with flowers on each side the stalk, of which there is a variety with white flowers, named *French Corn-flag*; and the Great Corn-flag of Byzantium, which has larger roots, but of the same form; the leaves are much broader and larger, with deeper channels; the flower-stalks rise to a greater height, the flowers much larger, of a deeper red-color, and the sheaths longer. This is the sort mostly cultivated, making a very gay appearance when in full blossom, and the roots do not increase so much as to be inconvenient. Besides these, according to more modern authors, there are three other varieties; the Blush, the White, and the Small Purple.

Gladiolus imbricatus. Imbricated-flowered Gladiole. In this species the leaves are sword-shaped, and the flowers are small, being all directed one way, and imbricate. It is a native of Russia.

Gladiolus angustus. Narrow-leaved Gladiole. In this species there rises but a simple scape, or but little branched, sheathed, round, striated, smooth, flexuose-erect, and about a foot high; the leaves are from long sheaths, ensiform, marked with white elevated streaks, entire, smooth, and shorter than the scape; the upper ones gradually smaller; the flowers all on the same side, ascending, on one or two spikes, about six inches in length; the rachis is angular, flexuose, twisted, and smooth; the spathes the length of the tube of the corolla, shorter than the branches, green; the segments of the border of the corolla usually waved.

Gladiolus cardinalis. Superb Scarlet Gladiole. In this species the flowers are of a fine scarlet, with large, white, somewhat rhomboidal spots on several of the lowermost divisions of the corolla. Strong plants will throw up a stem three or four feet high, dividing at the top into several branches. It flowers in July and August, and is a native of the Cape of Good Hope.

The *Sword-Lily*, (by some called the *Corn-flag*;) belongs to a genus of tuberous plants, and is one of the finest ornaments of the flower garden. The Asiatic and European species, have long been

cultivated in many parts of England, formerly for medicinal purposes, but more lately as an ornament. A vast accession of species have, at different times, been received from the Cape of Good Hope, and many of which are most beautiful and pleasing to the eye. The European species thrive and do very well in hedges and borders; but the Cape species require careful nursing, and to be treated like other bulbous roots from the same country, that is, potted in sandy leaf-mould, kept dry when dormant, fresh potted in October, and afterwards placed in a frame and regularly watered after they begin to grow. They continue in blossom from May till the middle of July.*

Medical Properties and Uses. This species of gladiolus, was extensively used in the time of Galen, and was then considered extremely useful in the treatment of many chronic diseases, but of late has fell into disuse, and like many other very valuable medicinal plants, is not recognized as being officinal, either by the Edinburgh, London, or United States Pharmacopæ's on which account it is, at the present time, but little known; although forgotten or neglected, its medical properties are valuable, and needs only to be tested to give it a place in our modern *Materia Medica*. It is both tonic and astringent, and can be safely employed both as an internal and external remedy.

The roots beaten up and mixed with a little meal, honey and lard, in the form of a poultice, is said to be a certain remedy for scrofulous swellings in the throat, tumors etc. The powder made from the leaves or seeds, taken freely, is highly recommended in cases of billious cholic, giving immediate relief. The fresh leaves bruised and applied to old sores and wounds, have proved very serviceable in cleansing them from putrid or foul matter, having a tendency to draw splinters, thorns and peices of broken bones out of the flesh. It is also found useful, applied externally, in reducing tumors, local swellings, inflammation, etc., in which cases the leaves or roots are powdered, made into a poultice, and applied.

NAT. ORDER.

Liliaceæ.

ALETRIS FARINOSA.

STAR GRASS.

Class VI. HEXANDRIA. *Order I.* MONOGYNIA.

Gen. Char. *Corolla* tubulous-ovate, six-cleft at the summit, rugose, persistent. *Stamens* inserted into the base of the segments. *Style* triangular, separable into three. *Capsule* opening at the top, three-celled, many-seeded.

Spe. Char. *Flowers* pedicellate, oblong-tubular. *Corolla* when decaying, nearly smooth. *Leaves* broad lanceolate.

The *root* is perennial, small, crooked, branched, externally blackish and internally brown; the *leaves* are sessile, lanceolate, entire, pointed, very smooth, longitudinally veined, and of unequal size, the largest being about six inches in length; from the middle of the leaves a flower-stem rises to the height of one or two feet, nearly naked, with remote scales, which sometimes become leaves. It terminates in a slender scattered spike; the *flowers* stand on very short pedicels, and have minute bractes at the base; the *calyx* is wanting; the *corolla* is tubular, oblong, divided at the summit into six spreading segments, of a whitish color, and presenting, when old, a mealy or rugose appearance on the outside.

The *Aletris Farinosa* is a native of this country, and is found growing in almost all parts of the United States, in fields and on the borders of woods, flowering in June and July. The likeness here presented was taken by the author while residing in the middle part of the state of Massachusetts, some five years since, where he found

growing in considerable quantities not only this, but many other very rare and valuable medicinal plants, all of which would well repay the labour of gathering and preparing for market.

Medical Properties and Uses. The root, which is the officinal portion, possesses tonic, expectorant, sudorific, narcotic, and purgative properties, which renders its use in most cases objectionable, and sometimes hazardous. From experience I have found this to be a powerful and dangerous substance, drastic even in small doses, and in larger ones it causes vertigo and bloody stools. Notwithstanding the dangerous properties of this plant, it has been introduced into medical practice as a substitute for the *helonias dioicia*, (Unicorn,) and extensively used throughout the United States. The root, which is intensely bitter when tinctured in alcohol, becomes turbid upon the addition of water. The decoction is moderately bitter, but much less so than the tincture, and affords no precipitate with the salts of iron. In small doses it appears to be simply tonic, and may at times be advantageously employed for similar purposes with other bitters of the same class. When given in large doses it produces nausea and vertigo. The powder is frequently administered as a tonic in the dose of eight or ten grains. It also enters into the various preparations prepared by some physicians in the treatment of prolapsus, general weakness, and obstructions.



Orange Tree.

NAT. ORDER.

Pomaceæ.

CITRUS AURANTIUM.

ORANGE TREE.

Class XVIII. POLYADELPHIA. *Order II.* POLYANDRIA.

Gen. Char. *Calyx*, five cleft. *Petals*, five, oblong. *Anthers*, twenty, the filaments united into several parcels. *Berry*, nine-celled.

Spe. Char. *Petioles*, winged. *Leaves*, acuminate.

This handsome *evergreen* rises from six to twelve 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 color, and stand upon strong winged footstalks; the *flowers* appear during the whole summer, they are large, white, and rise 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 anthers, placed vertically; the *germen* is roundish, supporting a cylindrical style, terminated by a globular stigma; the *fruit* is so well known that it needs no description.

It is scarcely necessary to observe, that the various species of this genus are among the most beautiful, most fragrant, and most useful of fruit trees. The warmer parts of the temperate zone appear to be the favorite of the orange; but even between the tropics, they come to great perfection, provided the situation is high enough above the sea. Whether the wild lime in the jungles of

India be the original stock from which all the numerous varieties of the orange have been, in the course of time, derived, is a question admitting of no certain answer. The limes in India, and other places, are exactly alike, and bear the same relation to the orange that the crabs in our native wilds bear to the apple.

This *fruit tree* differs from all others, in bearing two crops of fruit at the same time in different stages of their growth toward perfection; that is, the young fruit in the spring does not ripen until late in the autumn of the next year, and it frequently happens that flowers appear before the ripe fruit is gathered. As all the best varieties of the *citrus* tribe are truly artificial or accidental creations, they cannot be reproduced from their seed. In this respect they are like our garden and orchard fruits; and, therefore must be perpetuated by grafting or budding. The Chinese, who may be called a nation of gardeners, possess many varieties of the citrus, and especially some excellent oranges. Their mandarin variety is a very superior fruit, and has the singular property of discharging the rind from the pulp when fully ripe. This kind of orange grows in great abundance, and is purchased at a very low price in the streets of Canton, provided the seller be allowed to strip the fruit and retain the rinds, of which they make some specific use.

The specific name is derived from *aurus*, gold, color of the fruit. As a desert fruit the *orange* is well known. The varieties most esteemed are the China, Portugal, and Maltese. The fruit is also used in confectionary, both ripe and when green, and not larger than a pea; it forms various liquors and conserves, either alone or with sugars, wines, or with spirits. In cooking it is used to perfume a number of dishes. It is used to form various perfumes and pomades, and the flowers distilled produce orange water, used in cooking, medicine, and as a perfume, but the chief use of the sweet orange, is for the desert. There are nineteen varieties of the orange enumerated by Risso.

Magorca orange. Fruit globose, shining, with a thick rind and sweet pulp; the branches are furnished with spines at their base;

the leaves are less than in the spreading species, thicker, and more shining—the peduncles are very long, from three to six-flowered, and have a pleasant sweet smell; the fruit is globose, smooth, deeply colored, and arrives very soon at maturity. It will keep a longer time than any of the other varieties; the pulp is very sweet, and usually without seeds. This tree is not much cultivated, on account of its not being very productive.

China orange. This is a very majestic tree; the leaves are oval-oblong, sometimes roundish, a little waved at the margins, of a pale green color, upon long petioles; the flowers are usually disposed in corymbs: these are situated upon the top of the branches; the fruit is round, depressed, firm, weighty, of considerable diameter; the rind is very thin, adhering closely to the pulp, which is very sweet; the seeds are oblong, with a curved point. This tree is much cultivated at Nice. The fruit is not so sensible to cold as the other varieties.

Nice orange. This orange, from the abundance of its fruit, forms a very lucrative business for the inhabitants of Nice. The leaves are oval-oblong, tapering gradually to a point, of a beautiful shining green, bearing on its axils a great quantity of bunches of sweet scented flowers, toward the months of March and April; the fruit is round, usually depressed at both extremities, firm, of a beautiful yellow color, with a thin rind; the pulp is divided into ten or twelve cells, full of sweet and pleasant juice, and oblong seeds. This elegant tree is in general cultivation.

Genoa orange. This tree is very large. The leaves are small, oval-oblong, pointed, and of a fine dark green; the flowers are disposed in bunches, and are composed sometimes of only three petals; the fruit is round, but sometimes oblong, commonly marked with a little ridge, which extends even to the middle of the rind, which is rather thick, and of a beautiful yellow color; the pulp is divided into ten cells, full of sweet juice; the seeds are yellowish. This is also extensively cultivated.

Thick-rind orange. The fruit of this tree is round, large, with a thick rind, and sweetish pulp; the leaves are always of a beautiful green, usually collected in tufts at the tops of the branches; the flowers are very large; the fruit is also a deep yellow color, with a very thick granulated spongy rind, adhering closely to the pulp, which is divided into ten cells, some of these contain a few small seeds; the juice is sweet and more watery than in the preceding varieties, which is the cause of the fruit not being easily preserved any length of time. This tree bears fruit well in an espalier, but is very little cultivated, as other varieties are more profitable.

Teat-fruited orange. This tree is large and very branchy; fruit round, with a sweetish insipid pulp; the leaves are usually curled; the fruit is also of a reddish-yellow color, covered with large protuberances, and its juice is never so sweet as the other varieties.

Small-fruited orange. Many gardeners are of opinion that this variety was the first that was introduced to the south of Europe, and in many parts of Spain. It differs from all the other varieties in the leaves being smaller, situated upon petioles, which are a little winged at the base; the flowers are collected into bundles at the tips of the branches, each containing about twenty-six stamens; the fruit is always very small, and of a pale-yellow color, full of sweetish juice.

Double-flowered orange. Fruit somewhat globose, usually fetiferous, with a sweet pulp, and very different from any other variety, as the pulp is formed of a double, unequal range of cells, which are full of sweet juice; the leaves are large; the flowers are composed of from six to ten petals; the pistil is usually divided into two parts at the top, each bearing a yellow stigma. This tree is very little cultivated, as the fruit is not so valuable as some others.

There are many other varieties of the *orange* cultivated, and equally worthy of notice, but space will not allow of their description.

Propagation and Culture. All the species of *Citrus* may be propagated by seeds, cuttings, layers, by grafting or budding. The object of raising plants from seed, is stock for grafting or budding, or for new varieties. To attempt raising new varieties from seed, in this country, would be too tedious, as the plants raised from seed in Italy do not produce fruit under seven or eight years. *Citrons* or *Seville Oranges*, Miller considers the best to raise for stocks, as they are of more robust and quicker growth. In Italy the plants are budded at from two to five feet high on the stem, according to the intention of the trees; a bud is commonly inserted on each side of the stock. Grafting is occasionally resorted to in Italy, and is most generally adopted in the nurseries in this country. The stocks, when of two years growth, and not much thicker than a scion, are cut off and grafted in the whip manner. Most of the gardeners consider cuttings as the quickest mode of getting plants. Cuttings with wood of two years old, will strike as freely as young wood. They may be put in at any time of the year, except when the plants are making young shoots. They generally strike in about six weeks with a hand-glass over them, in a gentle heat. The *Citron* strikes easiest, and makes much better stocks for grafting than any other kind.

Medical Properties and Uses. The juice of the *orange* 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. The outer yellow rind of the fruit is a grateful aromatic bitter, and is considerably employed by some physicians as a stomachic, a character in which it is deservedly much esteemed. It is however used in connection with other medicines, in preparing the various kinds of stomach bitters.

NAT. ORDER.

Ranunculaceæ.

HELLEBORUS NIGER.

BLACK HELLEBORE.

Class XIII. POLYANDRIA. *Order VI.* POLYGYNIA.

Gen. Char. *Calyx*, wanting. *Petals*, five, or more. *Nectaries*, bilabiate, tubular. *Capsules*, many-seeded, nearly erect.

Spe. Char. *Scape*, one or two-flowered, nearly naked. *Leaves*, pedate.

The *root* is perennial, transverse, rough, knotted, externally black, internally whitish, and sends off many strong, round, long, depending fibres; the *flower stalks* are erect, round, tapering, and towards the bottom of a redish color; the *leaves* are of a deep green color, compound, and of a peculiar shape, generally divided into five leaflets, and spring directly from the root by long footstalks; the *leaflets* are elliptical, smooth, coriaceous, and the upper half serrated; the *floral leaves*, which are oval and concave, supply the place of the calyx; the *petals* are five, large, round, concave, and spreading, at first of a redish tint, but by age they turn green; the *nectaries* are about eight in number, tubulated, somewhat compressed, bilabiated, and of a greenish yellow color; the *filaments* are numerous, and white; the *anthers* are yellow: the *germens* vary in number, usually from four to eight: the *capsules* or *Pods*. contain many oval, shining, blackish, seeds.

This *plant* is a native of Austria and Italy, but is found growing wild in Germany and many parts of Switzerland. It was unknown to the gardners in England, until cultivated by Mr. John Gerard in 1596, where, if the weather be sufficiently mild, it flowers in



Black Hellebore.

January, from which circumstance it is sometimes called, Christmas Flower. If any arguments were required to evince the necessity of botanical accuracy in discriminating medical plants, the *Helleborus Niger* would furnish us with many facts, from which such arguments might be deduced. Many instances are recorded of the fatal effects of this plant, by which it since appears, that other plants were mistaken for it, and actually employed; of these we can enumerate the *Helleborus viridis*, *Adonis vernalis*, *Trollius europæus*, *Acæa spicata*, *Astrantia major*, and *Aconitum napellus*; and as the roots of these plants possess altogether different powers, we cannot be surprised that the medical history of this root is not only confused and contradictory, but calculated to produce very mischievous and even fatal consequences. Mellampus is said to have observed its purging quality in the goats which feed on it, and introduced it into the Materia Medica, from whence it was styled *Malampodium*.

Helleborus odoratus. Sweet-scented Hellebore. This species rises about one foot high; the leaves are radical, palmate, and pubescent on their under surface; segments oblong, undivided, quite entire at the base, but serrated at the apex; stem bifid; sepals ovate-oblong, acutish, green. It is very much like the *Helleborus purpurascens*, and *Helleborus viridis*: differing from the first, in the flowers being green, not purplish. Native of Hungary. Flowers in March.

Helleborus viridis. Green Hellebore. This plant rises about a foot and a half in height; the leaves are radical, very smooth, cauline ones almost sessile, and palmate; peduncles generally bifid; sepals roundish, ovate, green; flowers green. Haller reckons up all the reputed virtue of *Hellebore* under this species; which indeed seems to be what German practitioners have substituted for the true plant of the ancients, *Helleborus orientalis*.

We learn from the *Flora Londinensis*, that the roots of this plant are used in London for the true Black Hellebore; and probably their

qualities are the same, for this species is even more nearly allied to the ancient Greek plant, *Helleborus orientalis*, than the *Hellebore niger*.

Helleborus fatidus. Fæted Hellebore. This species rises from two to three feet in height; the stem is many-flowered, and leafy; leaves pedate, very smooth; segments oblong-linear. This is an evergreen plant with green flowers, which are tinged on their edges with purple. The whole herb is fæted, acrid, and violently cathartic, with a nauseous taste, especially when fresh. The leaves when dried, are sometimes given as a domestic medicine to destroy worms, but they must be used sparingly, being so violent in their operation, that many of their fatal effects are recorded. A dose of about fifteen grains of the powder of the dried leaves is given to children, which proves gently emetic and purgative. The decoction of about a drachm of fresh leaves being considered equal to fifteen grains of the dried ones; it is usually repeated on two, and sometimes three successive days, and seldom fails to bring away worms, if there be any in the intestinal canal. Native of Portugal, Spain, Italy, &c., in waste places.

Medical Properties and Uses. *Black Hellebore* when taken into the stomach, or applied externally to wounds, its effects are very sudden and violent: although many writers consider this root to be perfectly innocent and safe; yet we find many proofs of its poisonous effects; the symptoms of which are most distressing. It occasions violent vomiting and purging, attended with griping and cold sweat, great derangement of the nervous system, and if it continue long in the alimentary canal, it becomes inflamed, which symptoms may, in a measure, be prevented at the commencement by giving active emetics and laxatives. It often proves a very powerful emmenagogue in plethoric habits, where steel is ineffectual or improper. It is very drastic in its operations, therefore while we have in our possession remedies of equal efficacy, and harmless, and such as can be depended on, we would recommend its use only in extreme cases. A single leaf powdered is said to be three doses for a child.



Japan Rose.

NAT. ORDER.

Columniferae.

CAMELIA JAPONICA.

JAPAN ROSE TREE.

Class XIII. POLYANDRIA. *Order I.* MONOGYNIA.

Gen. Char. *Corolla*, six or nine petalled. *Calyx*, five or six leaved. *Capsule*, tricocous.

Spe. Char. *Leaves*, elliptical-oblong, rugosus.

The *Camelia Japonica* is an evergreen tree, rising in favorable situations, from twenty to forty feet in height, much branched, and covered with a rough, dark, redish bark: the *leaves* are elliptical, or lanceolate, entire, alternate, obtusely serrated, veined, and placed on short foot-stalks; the *calyx* is small, smooth, persistent, and divided into five obtuse segments; the *flowers* are of a scarlet red, often two or three together, and placed on separate peduncles; the *corolla* varies in the size and number of its petals, but are usually six, and of an irregular roundish form; the *filaments* are short, very numerous, and inserted at the base of the corolla; the *anthers* are large and yellow; the *germen* is roundish or triangular; the *style* is trifid, spreading at the top, and furnished with simple stigmas; the *capsule* is three celled, opening, and contains three oblong brown seeds.

This beautiful *tree* is a native of Japan, in which country alone it is found to flourish, and grows wild by the side of fences and in neglected fields. It was formerly cultivated for culinary purposes, but more recently as a prominent and very useful article in the manufacturing of tea, and for which purpose it is very extensively employed. All the various kinds of tea imported into this

country, are more or less flavored with the leaves of this plant, which renders it much more agreeable to the taste.

The varieties at present cultivated in Europe and in this country, are as follows :—

Camelia alba-plena. Double white Camelia. The flowers are pure white, from three to four inches in diameter, the petals being disposed in circles from the circumference to the centre, and lying particularly flat, and even one above another.

Camelia variegata. Double striped Camelia. The flowers of a fine dark rose of red-color, irregularly blotched with white, whilst those which appear in the spring, are generally plain red. They are three or four inches in expansion. The outer petals are about one and a half inches in diameter, roundish, cordate, thick and fleshy at the base, and sometimes divided at the apex. When the flowers are fully expanded, they become recurved. The centre petals are often small, narrow, and upright, confusedly arranged, many of them being disposed in tufts, with small parcels of stamina intermixed. Some flowers are particularly handsome, and as double as a rose.

Camelia anemoneflora. Anemone-flowered Camelia. The flowers are remarkable showy, and resemble a double anemone. They are about three or four inches in diameter, and of a deep red color; the outer petals expand quite flat, roundish-cordate, surrounding a great number of smaller ones, regularly disposed and rising upright in the centre; each of them are roundish-cordate, and slightly marked with veins of a deeper color. Those in the centre of the flower are of a peculiar form, being small and fleshy at the base, and broad and thin towards the point, with a very minute tip, which is white; they are compactly arranged in rows, from the circumference to the centre, which is considerably elevated about the outer petals, and each incurved towards the styles, with their edges turned outwards.

Camelia Pomponia. The Kew-Blush Camelia. The flowers of this variety are very delicate, and measure, when fully expanded, four inches in diameter. They consist of ten or twelve roundish-cordate outer petals, arranged in two rows round a great number of smaller ones that rise in the centre, in an erect, irregular mass, the outer petals spread open and become almost flat, they are sometimes entire, but usually indented and undulated. Their color is pure white, excepting about one-third of their length, nearest the base, which is deeply tinged with red, as well as a small stripe up the centre.

Camelia semiduplex. Semi-double Red Camelia. This plant is not easily distinguished from Middlemist's Red Camelia, unless when in flower. The flowers consist of from six to twelve petals, which are large, roundish, and in a single or semi-double series, round the column of stamens, and expanding to two and a half inches in diameter; they are generally concave, and all marked with veins that are darker than the uniform rich rose-color of the flowers; the stamens rise erect, they are transformed into roundish, ligulated petals, slightly divided at the apex, and striped with white in the same manner as Middlemist's Red, but not so large, nor are the petals so numerous. It has been impregnated with the pollen of the single white, and some excellent varieties have been raised from the seed, by Mr. Press, a celebrated gardener.

There are numerous other names for varieties known by gardeners, but they appear to be all synonymous with those described above, unless they are seedling varieties.

Propagation and Culture. All the species of *Camelia* are universally admired by every collector of plants, on account of their beautiful rose-like flowers, and elegant, dark-green, shining, laurel-like leaves. They are very hardy, green-house plants, and are easy of culture, requiring only to be sheltered from severe frosts. The best soil for them is an equal quantity of good sandy loam and peat.

The pots should be well drained with pieces of potslerd, that they may not get soddened with too much wet, as nothing injures them more than over watering, particularly when they are not in a growing state. When growing freely, they can scarcely have too much, and they should be watered all over the leaves with a fine rose-pot. They are readily increased by cuttings or inarching on the commoner kinds. The cuttings should be taken off at a joint, as soon as they are ripened, and planted in sand under a hand-glass, where they will soon strike root; when this is the case, they should be planted singly into small pots, and set in a close frame, and they must afterwards be hardened to the air by degrees.

Camelias have the best effect, and are grown to most advantage, in a house entirely devoted to them. Such a house should be rather high than otherwise, as the plants never look so well as when six or eight feet high, trained in a conic form, and clothed with branches from the root upwards. The plants should be raised near to the glass by means of a stage; which should be so contrived that as they advance in height it may be lowered in proportion; only the very best crown glass should be used, because it is found that the least inequality of surface or thickness of material, so operates on the sun's rays as to concentrate them, and burn or produce blotches on the leaves. When the plants are in a growing state they require to be liberally watered, and to have a greater degree of heat than that which is usually given to green-house plants. If this heat and watering is not given in November and December, the plants will not expand their blossoms freely, neither will vigorous shoots be supplied after the blossoming is over. The plants produce better flowers from November to April than in the summer months, although they are sometimes to be had all the year round. They delight to be kept damp all the summer months, and a little shaded from the strong sun. Give them plenty of water all the time they are making their young shoots. They may also get a gentle sprinkling over the leaves

once every week during the summer months, except when they are in flower.

Medical Properties and Uses. With respect to the qualities of this plant as a medicine, we extract from Dr. Cullen, whose opinion in this place cannot fail to be well received. "An infusion of its leaves like that of the green Tea, has the effect of destroying the sensibility of the nerves, and the irritability of the muscles; and the recent plant contains an odorous narcotic power, which we might presume from the necessity which the Chinese find of drying it with considerable heat before they will allow it to be brought into market, and even after such preparation they abstain from its use, for a year or more, until its volatile parts are still further dissipated; also it is said that unless they use this precaution, the Tea in its more recent state manifestly shows strong narcotic powers. Even in this country the more odorous Teas often show their sedative powers in weakening the nerves of the stomach, and indeed the whole system."

From these considerations we must conclude, that Tea possesses both narcotic and sedative properties, especially so, in its most odorous state. Its effects however appear different in different persons, and hence the various and contradictory accounts, that are reported from its use. But if we consider the difference of constitution, which occasions some difference of the operation of the same medicine in different persons, and of which we have a remarkable proof in the operation of opium, we shall not be surprised at the different operations of Tea.

If to this we add the fallacy arising from the condition of the Tea employed, which is often so inert as to have no effect at all: and still add to this the power of habit, which can destroy the powers of the most powerful substances, we shall not allow the various and contradictory reports of its effects to alter our judgment with respect to its ordinary and more general qualities in affecting the human body.

NAT. ORDER.

Luridæ.

DIGITALIS PURPUREA.

PURPLE FOXGLOVE

Class XIV. DIDYNAMIA. *Order II.* ANGIOSPERMIA.

Gen. Char. *Calyx* five-parted. *Corolla* bell-shaped, five-cleft, ventricose. *Capsule* ovate, two-celled.

Spe. Char. *Segments* of the *calyx* ovate, acute. *Corolla* obtuse, upper lip undivided. *Leaves* downy.

The *root* is biennial, and fibrous; the *stalk* is erect, simple, tapering, covered with fine hairs or down, and grows to the height of four or five feet; the *leaves* are large, oval, narrowed towards their points, obtusely serrated, veined, downy, and stand upon short-winged foot-stalks; the *floral leaves* or bracteæ, are spear-shaped, sessile, and purplish towards the point; the *calyx* consists of five segments, which are elliptical, pointed, nerved, or ribbed, and the uppermost segment is narrower than the others; the *flowers* grow in a long terminal spike, chiefly on one side; they are large, monopetalous, pendulous, bell-shaped, purple, and marked on the inside with little eyes, or dark coloured dots, placed in whitish rings; the tubular part appears inflated, and almost cylindrical, but swelling towards the base, and opening at the limb into four irregular, short, obtuse segments; of these the uppermost is the shortest, appearing truncated or cut off transversely; the *peduncles* are round, short, villous, and bend downwards by the weight of the flowers; the *filaments* are two long and two short, white, crooked, inserted in the bottom of the tube, and crowned with large oval yellow anthers; the *style* is simple, and thickening to-



1, Fox-glove, 2, Common Raspberry.

wards the stigma, which is bifid; the *germ* is oval, and surrounded at the bottom by a small nectarious gland; the *capsule* is bilocular, and contains many blackish seeds. It grows usually by the roadsides and ditches and hedges, especially in dry gravelly soils, and flowers in June and July.

The leaves of the Foxglove have a bitter, nauseous taste; it grows wild in most of the temperate countries of Europe, and in the United States, and is often cultivated in gardens for ornament and medicinal purposes. The leaves are the part usually employed, although the seeds are recognized as being officinal. Much care is requisite in selecting, preparing, and preserving Foxglove, in order to insure its activity.

Digitalis parviflora. Small-flowered Foxglove. This species rises from two to three feet high; leaves oblong-lanceolate, undulated, deflexed, ciliated with wool, entire, margined, radical ones obovate; racemes dense, cylindrical; segments of corolla, as well as those of the calyx, roundish; corollas small, brownish-purple, pilose. The native country of this plant is unknown, but grows sparingly in many places throughout the United States, and some parts of Europe. It flowers in June, July, and August.

Digitalis fulva. Tawny-flowered Foxglove. This species rises from two to three feet high; leaves lanceolate, ciliated; bracteas all not half so long as the corolla; corolla downy, reticulated, fulvous, with a rusty color; segments ovate, acute; lip bearded; stamens about equal in length to the tube, and glabrous; calyx downy. By some this is thought to be a hybrid between some other species. The native country of this is also unknown. I have found it growing by the side of small streams, on Great Hills, in Leverett, Mass. It was in flower, in its wild state, in July and August.

Propagation and Culture. Most of the species of Foxglove are showy, and well fitted for decorating flower borders. They all grow freely in common garden earth, and are readily increased

by seed. Some of the more tender species require protection in winter.

Medical Properties and Uses. *Digitalis* is narcotic, sedative, and diuretic—a violent poison, but yet a valuable medicine—and when administered in quantities is apt to produce a sense of tightness, or weight, with dull pain in the head, vertigo, dimness, or other disorder of the vision, and of the mental operations; externally it has been used in sores and scrofulous tumours, with considerable advantage. Respecting the internal use of this plant, we are told of its good effects in epilepsy, scrofula, and phthisis, but the incautious manner in which it has been employed, renders it a very dangerous remedy; yet while *Digitalis* was generally known to possess such medicinal activity, its diuretic effects, for which it is now deservedly received in the *Materia Medica*, were wholly overlooked. To this discovery, Dr. Withering has an undoubted claim; and the numerous cases of dropsy related by him, and other practitioners of established reputation, afford incontestible evidence of its diuretic powers, and of its practical importance in those diseases.

Foxglove has been analyzed by Destouches. Four ounces of the dried leaves yielded successively, nine drachms of watery and seventy-eight grains of alcoholic extract. The first was brown, smooth, and of a consistence fit for making pills. The second had a very deep green color, a virose and disagreeable smell, the consistence of tallow, but more tenacious: did not furnish ammonia by distillation, and was not acted upon by acids. The ashes contained salts of lime and potass. The effects of *foxglove*, when taken into the stomach, are to diminish the frequency of the pulse, and the irritability of the system; and to increase the action of the absorbents, and the discharge by urine. In excessive doses it produces vomiting, dimness of sight, vertigo, delirium, hiccough, convulsions, collaps, and death. For these symptoms, the best remedies are emetics of *Lobelia inflata*, cordials, and stimulants. Internally *Digitalis* has been recommend-

ed. First, in inflammatory diseases, from its very remarkable power of diminishing the velocity of the circulation. Second, in active hemorrhages, and phthisis. Third, in some spasmodic affections, as in spasmodic asthma, palpitation, &c. Fourth, in mania, from effusion on the brain. Fifth, in anasarous and dropsical effusions. Sixth, in serofulous tumors. Seventh, in aneurism of the aorta, and hypertrophy of the heart. Externally it has been applied to serofulous tumors. It may be exhibited—first, in substance, either by itself, or conjoined with some aromatic, or made into pills, with soap or gum ammoniac. Withering directs the leaves to be gathered before the plant comes into flower; he rejects the petioles and mid-rib, and dries the remaining part either in the sunshine or before the fire. In this state they are easily reduced to fine green powder, which is given in doses of one grain twice a day, and the dose is gradually increased until it acts upon the kidneys, stomach, pulse, or bowels, when its use must be laid aside, or suspended. Second, in infusion; the same author directs a drachm of dried leaves to be infused for four hours in eight ounces of boiling water, and an ounce of any kind of spirit for its preservation. Half an ounce, or an ounce, of this infusion may be given twice a day. Third, in decoction, Darwin directs that four ounces of the fresh leaves be boiled in two pounds of water, until they are reduced to one, and that half an ounce of the strained decoction be taken every two hours, for four or more doses. Fourth, in tincture, put one ounce of the dried leaves, coarsely powdered, into four ounces of diluted alcohol; let the mixture stand by the fire-side twenty-four hours, frequently shaking the bottle, and the saturated tincture, as Darwin calls it, must then be separated from the residuum by standing, or decantation. Twenty drops of the tincture were directed to be taken twice or thrice a day, but the dose is dangerous. The Edinburgh College, and the United States formulas, recommend eight ounces of diluted alcohol to one of the powder, but let it digest seven days.

NAT. ORDER.

Senticosæ.

RUBUS IDÆUS.

RASPBERRY BUSH.

Class XII. ICOSANDRIA. *Order V.* POLYGNIA.

Gen. Char. *Calyx* five-cleft. *Berry* composed of one-seeded oeni.

Spe. Char. *Leaves* quinate, pinnate, and ternate, tomentose underneath. *Petioles* channelled. *Stem* prickly.

The *stems* of the Raspberry are biennial, upright, branching, three or four feet high, of a reddish color, and thickly covered with very stiff bristles; the *leaves* are rough, veined, serrated, downy on the under side, and composed of five or three pairs of oval pinnae, 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, somewhat shorter than the petals, fixed to the calyx, and terminated with roundish compressed anthers; 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.

The Raspberry is a native of Europe, but has now become naturalised to this country, growing spontaneously in the different states, from Maine to Georgia, seeking moist situations, woods, hedges, rocky mountains, and the most inaccessible waste places, flowering in May

and June, and producing innumerable quantities of its fruit in July and August. It is also extensively cultivated in our gardens, not only as an ornament, but more particularly on account of its delicious fruit. The figure which accompanies this description was taken from a garden specimen, and consequently appears more luxuriant than when the Raspberry is found in its natural or uncultivated state. For cultivation they require a shelter afforded by a hedge or fence, in order to protect them from the too powerful rays of the sun. The soil should be of a light, sandy loam, perfectly friable and well manured. They should be planted in double rows, twelve inches apart, and running east and west, that each row will serve in a measure to shelter the next one from the sun. The double rows should not be more than three feet apart, and the plants when first set out eighteen inches from each other, after which they may be allowed to run together; they will be found most productive, and the fruit larger, when they are thus allowed to partially shade each other. The rows should be supported by a slight railing at each side, or by a cord attached to stakes or poles at suitable distances.

Nearly all the varieties of the Raspberry are cultivated from suckers, by planting them in the ground, and again by loping down the ends of their summer shoots to the earth, which take root and form new plants.

Medical Properties and Uses. The virtues of the Raspberry consist in allaying heat and thirst, and in promoting the natural excretions. Dr. Matson, in his practice, found it to possess cooling, gently laxative, and antiseptic properties. The leaves are moderately astringent, with a slightly bitter, and very agreeable aromatic taste; made into a tea it has proved to be one of the most valuable remedies in our country, for dysentery and all bowel complaints in children, and if taken in season will usually effect a cure; the tea is also soothing, and a cleansing wash for ulcers, scalds, burns, and all excoriated surfaces which are very sore or irritable.

NAT. ORDER.

Liliacæ.

ALOE VULGARIS.

THE AFRICAN ALOE.

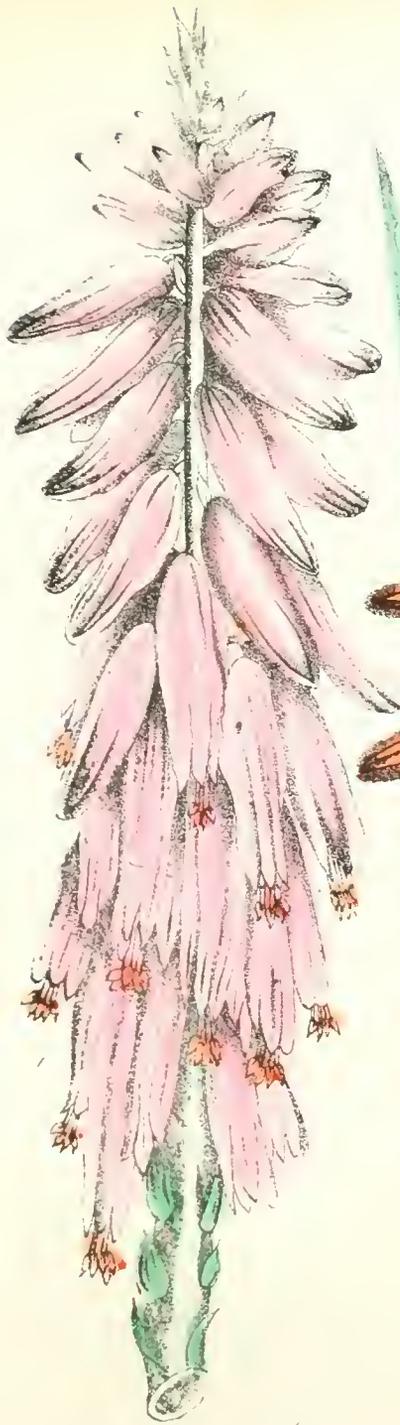
Class VII. HEXANDRIA. *Order I.* MONOGYNIA.

Gen. Char. *Corolla* erect, with a spreading, smooth, and nectariferous bottom. *Filaments* inserted into the receptacle.

Spe. Char. *Flowers* spiked, in corymbs, drooping, peduncled, sub-cylindrical. *Stem-leaves* toothed, embracing, sheathing.

The *root* is perennial, strong and fibrous; the *flower-stems* rise from two to six feet in height, varying according to the richness of the soil: they are smooth, erect, of a silvery green color, and toward the top beset with bracteal scales; the *leaves* are first spreading, then ascending, of a glaucous green color, somewhat mottled with darker spots, flat on the upper surface, convex beneath, and armed with hard reddish spines, distant from each other, numerous perpendicular to the margin, narrow, tapering, thick or fleshy, succulent, beset at edges with spring teeth; the *flowers* are produced in terminal spikes, and of a purple or reddish color; *calyx* none; the *corolla* is monopetalous, tubular, nectariferous, cut into six narrow leaves, separating at the mouth; the *filaments* are six, which are tapering, yellowish, inserted into the receptacle, and furnished with oblong orange-colored anthers; the *germen* is oblong, supporting a simple slender style, about the length of the filaments, and terminated by an obtuse stigma; the *capsule* is oblong, and divided into three cells, three valves, and contains many angular seeds.

The Aloe Vulgaris is a native of south-eastern Europe and the



1. African Aloe.



2. Socotrin Aloe.



north of Africa. It is cultivated in Italy, Sicily, Malta, and especially in the West Indies, where it contributes largely to furnish the Barbadoes Aloes. The U. S. Dispensatory, in its description of this species of Aloe, probably gives as good, if not a better, than any of the others. It remarks that "the proper aloetic juice exists in longitudinal vessels beneath the epidermis of the leaves, and readily flows out when these are cut transversely. The liquid obtained by expression from the parenchyma is mucilaginous, and possessed of little medicinal virtue. The quality of the drug depends much upon the mode of preparing it. The finest kind is that obtained by exudation and subsequent inspissation in the sun. Most of the better sorts, however, are prepared by artificially heating the juice which has spontaneously exuded from the cut leaves. The chief disadvantage of this process, is the conversion of a portion of the soluble active principle into an insoluble and comparatively inert substance, through the influence of an elevated temperature. The plan of bruising and expressing the leaves, and boiling down the resulting liquor, yields a much inferior product, as a large portion of it must be derived from the mucilaginous juice of the parenchyma. The worst plan of all is to boil the leaves themselves in water, and to evaporate the decoction. The quality of the drug is also affected by the careless or fraudulent mixture of foreign matters with the juice, and the unskilful management of the inspissation."

Medical Properties and Uses. The different varieties of this plant are all similar in their mode of action. They are all cathartic, operating very slowly but certainly, having a peculiar affinity for the large intestines. Their action appears to be directed rather to the muscular coat than to the exhalent vessels, and the discharges which they produce are therefore seldom very thin or watery. In full doses they quicken the circulation and produce general warmth.

NAT. ORDER.

Liliaceæ.

ALOE SOCOTORINA.

SOCOTORINE ALOE.

Class VI. HEXANDRIA. *Order I.* MONOGYNIA.

Gen. Char. *Corolla* erect, mouth spreading, bottom nectariferous.
Filaments inserted into the receptacle.

Spe. Char. *Flowers* in corymbs, sub-cylindrical, peduncled, drooping.

The *stem*, like all of the Aloe tribe, is erect, from one to two feet in height, woody, leafless, and the lower part very rough, from the remains of decayed leaves. "At top it is embraced by green, sword-shaped, ascending leaves, somewhat concave on their upper surface, convex beneath, curved inward at the point, with numerous small white serratures at their edges; the *flowers*, which are cylindrical, simple raceme, are scarlet near the base, pale in the centre, and greenish at the summit, and have unequal stamens, of which three are longer than the corolla."

The plant received its name from the island of Socotra, of which it is a native, and where the genuine Socotorine Aloes is produced. This island lies in the straits of Babelmandel, about forty leagues to the east of cape Guardafui; but we are informed that a large portion of what is sold under that name, is prepared in the kingdom of Melinda, upon the eastern coast of Africa, and some in the neighboring parts of Arabia. It is said that the commerce in this variety of Aloes is carried on chiefly by the maritime Arabs, who convey it either to India, or up the Red Sea, by the same channel through which it

reached Europe before the discovery of the southern passage into the Indian Ocean. History informs us that this species of Aloes grows on the sides and summits of mountains, from five hundred to three thousand feet above the level of the plains. It is found in all parts of the island, but most abundantly on the western portion, where the surface is thickly covered with it for miles, and it appears to thrive best in parched and barren places. Much less of the drug is collected than formerly, as the whole produce seems to be monopolized by the Arabian Sultan of Risseen, who still claims sovereignty over the island. The leaves are plucked at any period of the year, and are placed in skins into which the juice is allowed to exude; it is exported in skins, and the qualities differ much according to the care taken in its preparation. Much of the Aloes sold as the Socotorine has never seen the island of Socotra, or even the Indian seas. It has been customary to affix this title as a mark of superior value to those portions of the drug, from whatever source they may have been derived, which have been prepared with unusual care, and are supposed to be of the best quality. Thus both in Spain and the West Indies the juice which is obtained without expression, and inspissated in the sun without artificial heat, has been called Socotorine Aloes, and is probably little if at all inferior to the genuine drug.

Aloe saponaria. Great Soap Aloe. This seldom rises much above two feet in height; the leaves are very broad at their base, where they closely embrace the stalk, and gradually decrease to a point; the edges are set with sharp spines, and the under leaves spread open horizontally in every direction; these are of a dark-green color, spotted with white, somewhat resembling the color of soft soap, whence its name; the flowers grow in umbels, on the tops of the stalks, and are of a beautiful red color, appearing in August and September.

Aloe humilis. Dwarf Hedgehog Aloe. This is a very low plant, never rising into stem; the leaves are broad at their base, but taper to a point, where they are triangular; they are beset on their edges and both surfaces with soft spines very closely, from whence this

plant has its name. The flowers grow in a loose head on the top of the stalk, which is very thick, but seldom a foot high; they are of a fine red color below, but of a pale green above. The flower would indicate that it belonged to the preceding species, though it may appear different by its habits.

Aloe margaritifera. Pearl Aloe. This species is of humble growth; the leaves come out on every side, without order, near the ground; they are thick triangular at their ends, and closely studded with white protuberances; whence its name. There is also a variety of this, still smaller, which has been long preserved in gardens in this country. The plant flowers in several seasons of the year.

Propagation and Culture. The propagation of these plants is effected in different methods, according to their nature. As many of the roots afford plentiful supplies of suckers, or offsets from their roots, they may be easily raised in that way. And in those which do not possess this property, it may be often accomplished by taking off some of the under leaves. Where ripe seeds can be procured, they may also be raised in that method.

But in order to the successful cultivation of the Aloe in this climate, it is necessary that it has a proper soil prepared for it. This should be constituted of about one-half of fresh, good, light mould, which has a considerable proportion of decayed vegetable matter in it, and one-fourth part of sea-sand, or the scraping of roads after they are become dry and of a sandy nature, with an equal quantity of effete lime: such as the siftings of lime rubbish. These substances should be intimately incorporated together, by frequent turning over with the spade; and to render them perfectly mellow, and suitable for the purpose, they should be suffered to remain in this state of mixture for eight or twelve months before they are made use of.

With this earthy compost some very small pots are to be filled in a close manner. The suckers, offsets, or root-leaves, are then to be planted out separately in these pots of earth, which should be slight-

ly pressed round them. The most proper season for performing the work is about the middle of July, when old plants are shifted. After being planted out in the pots, they should be slightly watered, and then set in some shady situation for about a fortnight; after which the more tender sorts may be removed into a very moderate hot-bed. By this means they strike root more readily. But here it will be necessary to shade the plant in the heat of the day, and to let them have as much air as possible.

Where leaf-sets are made use of, they should be planted in June, setting the part that was separated from the old plant an inch or an inch and a half into the earth. About the middle of August it will be necessary to begin to harden these plants. This is to be performed by removing the glasses occasionally when the weather is fine, and in other circumstances raising them by props in such a manner as to admit the air freely, and thereby promote their vigor and growth. In this way they will become fit to be removed into the house, which must be performed about the latter end of September. After this the plants are to be treated in the same manner as old plants.

The Aloe plants, from their great differences in their height, modes of growth, and the shapes of their leaves, as well as the beauty of their flowers, are well adapted for the purpose of affording variety, and producing a singularity of effect in the green-house, or in courts, or in other places about the house, during the summer season.

Medical Properties and Uses. The varieties are all similar in their mode of action, and are purging, expelling, stomatic, anthelmintic, and act on the lower intestines. Their taste is nauseous and bitter, and they are highly useful in obstructions, hypochondriasis, jaundice, worms, and ulcers. Dose in the form of pills, from two to five grains of the extract.

NAT. ORDER.

Senticosæ.

RIBES SANGUINEUM.

HIGH BLACKBERRY.

Class XII. ICOSANDRIA. *Order V.* POLYGYNIA.

Gen. Char. *Calyx*, superior, campanulate, five-cleft. *Petiole* and *Stamen* inserted upon the calyx. *Style* two-cleft. *Berry* many-seeded.

Spe. Char. *Leaves* acutely lobed, dentate, reticulate-rugose. *Racems*, rather loose, many-flavored, stiffly erect. *Berries* hispid.

The *root* of this elegant and fruitful bramble is long, slender, woody, branched, internally of a white or yellowish appearance, externally of a dark brown, and sends forth numerous small succulent fibres; the *stem* is erect, strong, ribbed, armed, much branched near the tops, of a greyish-red color, and rises from three to five feet in height; the *leaves* are inversely ovate, blunt, entire, dentate, serrated, veined, and stand four or five together upon simple footstalks; the *flowers* are first of a deep red, but afterwards fade into a light pink color, and appear on the stalk in slender pendulous racems; the *calyx* is composed of six leaflets, which are ovate, concave, colored, deciduous, alternately larger and smaller; the *corolla* consists of six *petals*, which are roundish, concave, and at the base furnished with two small oblong orange colored nectaries; the *filaments* are six, erect, compressed, tapering, shorter than the petals, and terminated by double anthers, which adhere to their sides; the *germen* is cylindrical, and about the length of the filaments; *style* none; *stigma* circular, flat, and surrounded by a sharp border; the



High Blackberry.

fruit is a red berry composed of several roundish granulations, collected into a knob, and placed upon a conical receptacle; each granulation has one cell which contains a small kidney-shaped seed.

It has been said that this species of *blackberry* is a native of Europe, but from what authority, or source of accurate knowledge of its origin, that it could have been so considered, we are unable to account, for certainly it is, that when this country was first discovered by the Europeans, which was long before the introduction of any foreign plant, the high, or bush blackberry, (so called from its shrub-like and robust appearance,) was found in all parts of the New England States, growing in open woods, on the south side of mountains, and in rocky and waste places. From this we are led to believe that this species of blackberry is a native of this country, and especially when we take into consideration the innumerable quantities produced, and the vast extent of territory in which it is found growing in a wild state. We do not remember of seeing, nor can we learn from its history, that it has ever been cultivated in this country; although it produces large quantities of fruit, of a rich and highly palatable flavor, and can be multiplied to any extent, which would in our opinion richly repay the labor, and prove a source of profit, not only for medicinal purposes, but a grateful and wholesome addition to the luxuries of our markets.

Medical Properties and Uses. The *roots* of this plant have long been considered as one of the most valuable astringent and tonic medicines in the *Materia Medica*. From the earliest period of history they have been a favorite domestic remedy in bowel affections; and from popular favor have passed into regular practice. Given in the form of decoction, they prove acceptable to the stomach, and not offensive to the taste, and can be employed with great advantage in cases of diarrhœa from relaxation of the bowels, either in adults or children. We would also add our own testimony to that of others who have spoken favorably of their use in this complaint; and many other cases where astringents are found servicable.

Blackberry Sirup. The following is a valuable receipt for a sirup, which may be made from the roots of the blackberry, in combination with a few other articles; and if properly prepared, proves one of the most valuable remedies that can be found in the vegetable catalogue; from several years experience, and a practical knowledge of its effects upon many cases of diarrhœa, the author can bear testimony, as its superior powers to most of the medicines, usually prescribed for those complaints, and on this account has deemed it incumbent on himself, to make known to others the articles employed, that they may have an opportunity, (should it be required,) of administering this remedy. Take of *Ribes sanguineum*, Blackberry, (by some called High Briar root,) eight ounces; *Myrica cerifera*, Bayberry bark, four ounces; *Geranium maculatum*, Cranesbill, two ounces; *Balsamodendron myrrha*, Gum myrrh, one ounce; *Cinnamomum aromaticum*, common Cinnamon, one ounce; *Fœniculum vulgare*, Fennel-seed, half an ounce; *Carum carui*, Caraway, the seed, half an ounce; *Capsicum baccatum*, Bird pepper, half an ounce. The whole should be put into four quarts of water, and steeped six or eight hours, then to be strained and reduced to two quarts; then add, while hot, two and a half pounds loaf sugar; let it stand until cold and add, *Tinctura opii*, which is made from the *Papaver somniferum*, Laudanum two fluid ounces; Essence of Cinnamon one fluid ounce; and one and a half pints of best French Brandy.

A table-spoonfull is a suitable dose for an adult, repeated according to circumstances, or as the urgency of the case may require. Many physicians whose practical observation and experience, certainly entitles their opinions to respect, have recommended this compound in the treatment of cholera, and speak of it as being unrivalled in the treatment of this complaint also.



Red or Corn Poppy.

NAT. ORDER.

Rhædes.

PAPAVER RHÆAS.

RED OR CORN POPPY.

Class XIII. POLYANDRIA. *Order I.* MONOGYNIA.

Gen. Char. *Corolla* four-petalled. *Calyx* two-leaved. *Capsule* one-celled, opening by pores under the persistent stigma.

Spe. Char. *Capsule* glabrous, globose. *Stem* hairy, and many-flowered. *Leaves* pinnatifid, incised.

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, and 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 color, and marked at the base with a shining black spot; the *filaments* are numerous, slender, purplish, and furnished with roundish, compressed antheræ; the *germen* is egg-shaped, and truncated at the top; there is no *style*; the *stigma* is convex and radiated—the radii of a purple color, 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, and at the top it is scolloped; the *radii* are numerous, minute, and of a purple color.

This plant is quite common in cornfields, and flowers in June and July. It is a native of Europe, but has been introduced and culti-

vated in this country. It may be distinguished from the *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.

Propagation and Culture. All the species of this plant are quite showy, and have flowers, varying greatly in size and of various hues. The perennial species may be increased by dividing the plants at the roots, but the common and best way is by seeds. The annual kinds may be sown in the open border, about the middle or end of March, where they are intended to remain, as they do not bear transplanting. They all thrive best in a light rich soil. The *Papaver nudicaule* and varieties, *microcarpum*, *rubro-aurantiacum*, *pyrenaicum* and varieties, and *Papaver alpinum*, are beautiful little plants, and should be kept as alpine, in pots; or otherwise are very apt to damp off in the winter, especially in most parts of England, and in this country, where their culture has been attempted.

Medical Properties and Uses. The capsules of this species, like those of the *Somniferum*, contain a milky juice of a narcotic quality, and an extract has been prepared from them having the properties of opium; but the quantity is too small to repay the trouble of its preparation. The petals are the officinal portion; they have a narcotic smell, and a mucilaginous, slightly bitter taste. By drying they lose their odor, and assume a violet-red color. The flowers have a smell similar to that of opium. A sirup made of them has been recommended as being useful as an anodyne and pectoral, and is therefore prescribed in coughs and catarrhal affections; but from all that we can gather, from an extensive catalogue of botanical works, and our own limited experience, as regards the medicinal properties of this plant, it seems that it is more highly valued for the beauty of its colors than for its virtues as a medicine.



1. Common Borage. 2. Common Aloe.

NAT. ORDER.

Coronariæ.

ALOE PERFOLIATA.

COMMON ALOE.

Class VI. HEXANDRIA. *Order I.* MONOGYNIA.

Gen. Char. *Corolla* erect, with an expanded mouth, and a nectarious base. *Filaments* inserted into the receptacle.

Spe. Char. *Flowers* spiked, horizontal, bell-shaped. *Stem-leaves* toothed, embracing, sheathing.

This beautiful and valuable plant is a native of Africa, where it grows in great abundance, and flowers most part of the year. Several varieties of the Aloe, are described by Linnæus as belonging to the *Aloe Perfoliata*, of which the Spiked Aloe is the best.

The *stem* is round, smooth, about four inches in diameter, and rises from three to four feet in height, and is of a glossy green color, the top beset with ovate bracteal scales; the *leaves* are numerous, spreading, thick, fleshy, succulent, and beset with acute teeth; the *flowers* spread horizontally, in close spikes; the *calyx* is wanting; under each flower is an ovate, broad, acute bracte, shorter than the corolla, which is six-petalled, and contains a small portion of honey-juce; the *filaments* are tapering, yellow, inserted into the receptacle, and terminate in oblong anthers; the *germen* is oblong, supporting a slender style, upon which is an obtuse stigma; the capsule is three-celled, and contains numerous seeds.

From good authority we are informed, that about fifty miles from the Cape of Good Hope the Aloe grows in great abundance, large tracts of land being almost entirely covered with it, which renders the

planting of them unnecessary, and on account of its dense thickness is said to prove a very strong defence against the invasion of foreign powers. It is cultivated also in the island of Barbadoes and Jamaica, from whence we are mostly supplied, although it frequently happens that the American Aloe is substituted for it, which is but little if any inferior.

The United States Dispensatory gives four varieties of aloes as the principal kinds known in commerce, viz., that of the Cape of Good Hope, the Socotrine, the Hepatic, and the Barbadoes; the two first being by far the most abundant, are mostly used in this country, and from their extraordinary cheapness and excellent qualities, bid fair to supersede the other varieties which have been imported principally from Great Britain.

The juice of this plant does not arrive at perfection until the plant is two or three years old, at which time the most succulent leaves are cut off near the root, and placed perpendicularly by the side of each other in tubs, to afford an opportunity for the juice to exude, which is afterwards collected into a large shallow vessel, and exposed to the rays of the sun, till it becomes of a proper consistence. Sometimes the leaves are cut in small pieces, and then set aside for the juice to exude; by either of these modes the best kind of Aloes is procured an inferior sort is obtained by boiling the sliced leaves in water for a short time, then removing them and adding more, and continuing to repeat this until the liquor becomes of a dark color, when it is evaporated by the rays of the sun to a proper consistence.

Medical Properties and Uses. Aloes is a stimulating cathartic, acting chiefly upon the lower part of the large intestines; it does not much increase the secretion from the bowels, but promotes their peristaltic action, and by that means causes the expulsion of any accumulation in them, from its operation being almost exclusively confined to the lower portion of the intestinal canal; it is said to possess considerable emmenagogue properties, which are generally attributed to sympathetic extension of irritation through the rectum.

NAT. ORDER.

Asperifoliae.

BORAGO OFFICINALIS.

COMMON BORAGE.

Class V. PENTANDRIA. *Order I.* MONOGYNIA.

Gen. Char. *Corolla* wheel-shaped, flat, tube short. *Calyx* five-cleft, ovate, rough.

Spe. Char. *Leaves* ovate, alternate, undulated, hairy. *Flowers* large, blue.

The *Borago Officinalis*, although commonly found growing about rubbish and in waste grounds, is not, however, originally a native of this country, but has now been long enough naturalized here to be considered as an American plant. Its *flowers*, which appear from June till September, are of a beautiful blue color; hence this plant in many gardens is cultivated for ornament as well as for its popular use, as an ingredient in that grateful summer beverage known by the name of "cool tankard."

This plant appears to have been very much used by the ancients, and its reputed medicinal character seems also to correspond most exactly with that of the common bugloss; the flowers of both have been termed cordial, from which they have been very highly recommended in melancholia, and other affections of the nervous system. As these flowers possess neither warmth, pungency, nor fragrance, their cordial efficacy has been ascribed to a saline quality, which, by abating inordinate heat, is found to be peculiarly grateful and refreshing. But though the herbaceous substance of Borage has been discovered to contain a saline matter, there is no evidence of its existence in the

flowers; so that the advantages supposed to be derived by a vinous infusion of these, like those of bugloss, can only be imputed to the menstruum. The *leaves* of Borage manifest nothing remarkable either to the smell or the taste; but they abound with a juice, which in its expressed state is said to be saltish, and which, on being boiled a sufficient time, forms crystals of nitre; similar crystals have also been obtained from a decoction of the leaves; and hence it may be inferred that this plant has a peculiar claim to the possession of refrigerating and aperient virtues.

Borago orientalis. Oriental Perennial Borage. This species is an annual plant, with thick fleshy roots, spreading under the surface; the root-leaves are numerous, oblong, and heart-shaped, on long hairy foot-stalks; the flower-stem rises more than two feet in height, having at the joints a single, small, sessile leaf; the upper part branches out into several small foot-stalks, which are terminated by loose panicles of flowers, of a pale-blue color; the petals is turned back, so that the connected anthers and styles are left naked. The seeds are smaller than of the common borage. When the flower-stalks first appear, the flowers seem collected into a close spike, some of which spread open before the stalk is six inches high; but, as the stalks advance, they divide into many loose spikes. It is a native of Constantinople, and flowers in March.

Propagation and Culture. These plants are easily propagated, either by the seed or dividing the roots, according to the kinds. The first sort, and varieties, will succeed in almost any soil or situation, being perfectly hardy; but the latter species, as the flower stems are put forth very early in the spring, requires a dry soil, and warm aspect, to guard against the effects of frost. Such effects are much obviated by having their roots planted in dry lime or other rubbish, as well as their over luxuriant growth prevented, and the danger of frosts consequently greatly lessened. When these plants have been once planted, they continue for many years with little trouble and are not liable to be injured by the vicissitudes of heat and cold.

The best mode, however, is by sowing the seed annually in the autumn or spring months, in the places where the plants are to stand, or by letting plants shed their seed, keeping them from standing too closely together. When they are intended for the produce of their tender young leaves, they may be sown broadcast in small beds at different times, from the spring till autumn, in the garden, covering the seed by the rake; afterwards, when of proper growth, keeping the plants thinned out to a good distance, as six or eight inches or more. In this way supplies of green leaves and flowers are provided in succession, for summer, autumn, and the following early spring.

The second species is increased with much facility by parting the roots, and planting them out where they are to remain, in the autumn. It may also be raised by sowing the seeds at the same season, where they are to remain, keeping the plants while young perfectly free from weeds. This latter sort is wholly employed as a flowering ornamental plant.

Medical Properties and Uses. It has been considered *diaphoretic, tonic, alterative, and refrigerant*. This plant is very much used in France. A sirup made of the leaves and flowers is employed as a demulcent, refrigerant, and gentle diaphoretic in catarrhal affections, rheumatism, and disease of the skin; it purifies and cleanses the blood from all humors, is very much used in all malignant, putrid, or spotted fevers, and is said to be a sure remedy for poison, obstructions, yellow jaundice and melancholy; it has also been found useful as a gargle for ulcers and cancer of the mouth, and to allay inflammation of the tonsils in the throat.

Sirup. Take one pound of the leaves and blows; steep in four quarts of water down to three quarts; strain off and add one quart of good molasses and two quarts of Holland gin, when it is ready for use. Dose,—A wine-glassful two or three times a day, before eating, and more should the urgency of the case require it.

NAT. ORDER.

Lomentaceæ

CASSIA FISTULA.

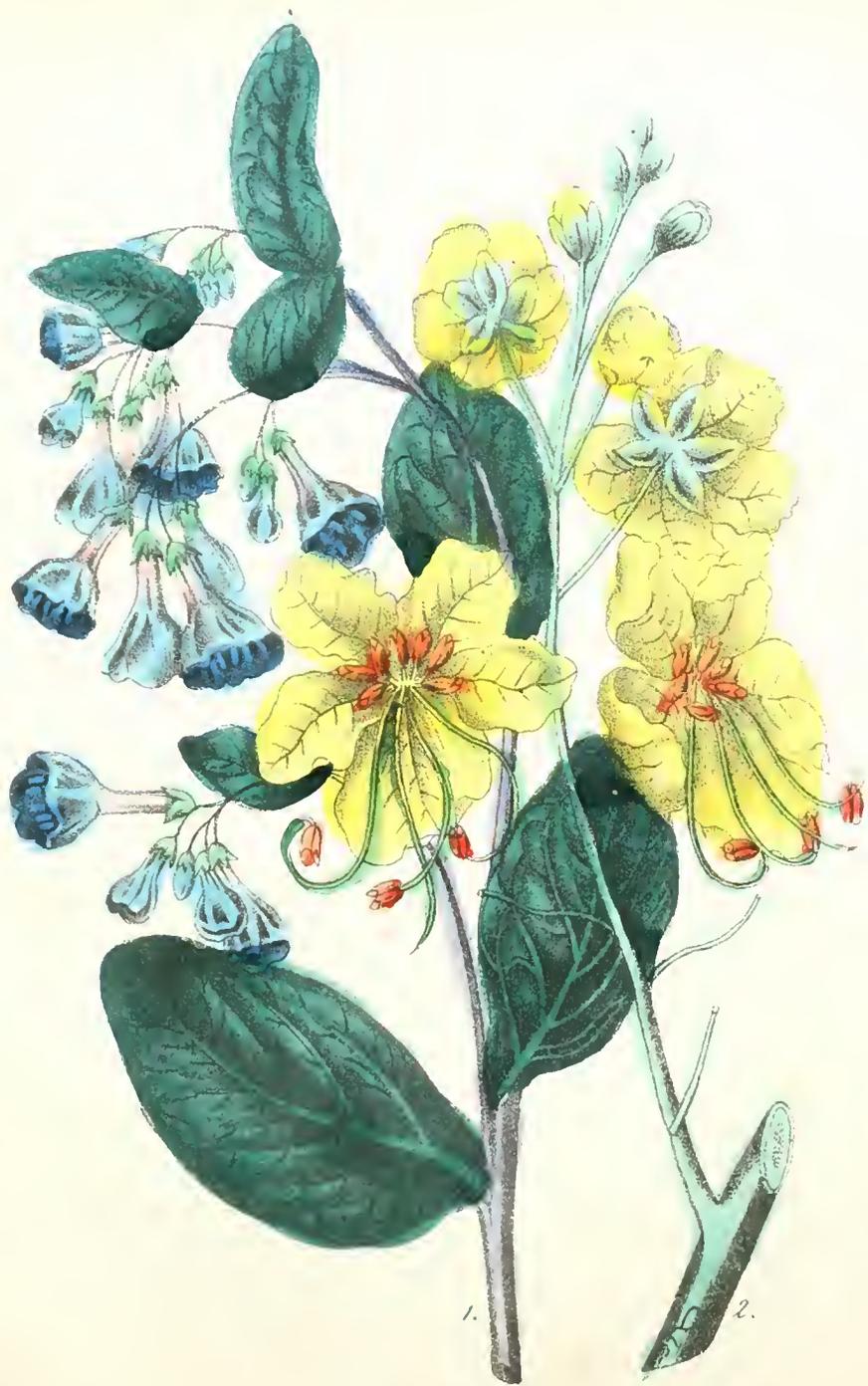
PURGING CASSIA

Class X. DECANDRIA. *Order I.* MONOGYNIA.

Gen. Char. *Calyx*, five-leaved. *Petals*, five. *Anthers*, three, superior, barren, the three lower ones beaked. *Lomentum*.

Spe. Char. *Leaves*, with five pair of leaflets, ovate, sharp-pointed, petioles without glands.

This *tree* rises from forty to fifty feet in height, producing many spreading branches towards the top, and covered with a 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 color, and stand upon short foot-stalks; 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, the three under ones are very long and curled inwards,—the remaining seven exhibit only the large anthers, 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 single 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.



Common Lungwort. 2, Purging Cassia.

This tree, which is a native of both the Indies, and of Egypt, was first cultivated in England by Mr. Philip Miller, in 1731. 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 a 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.

Medical Properties and Uses. The pulp of Cassia has long been 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 nervous and delicate females. Adults, however, find this of little effect, unless taken in very large doses, as an ounce or more; and therefore, to them, this pulp is rarely given alone, but usually in combination with some more active purgative. It has been observed by some, that its purgative quality is remarkably promoted by manna; but this effect was never discovered by Dr. Cullen, in his trials—testing its medicinal virtues. The U. S. Dispensatory recommend it given in small doses, in “cases of habitual costiveness.” In quantities sufficient to purge, it occasions nausea, flatulence, and griping. In this country, it is very rarely prescribed, except as an ingredient in the confection of senna, which is a highly pleasant and useful laxative preparation. The dose of the pulp as a laxative, is one or two drachms,—as a purge, one or two ounces.

NAT. ORDER.

Asperifolia.

PULMONARIA OFFICINALIS. COMMON LUNGWORT

Class V. PENTANDRIA. *Order I.* MONOGYNIA.

Gen. Char. *Calyx*, prismatic, five-cornered. *Corolla*, funnel-formed, with an open throat.

Spec. Char. *Leaves*, hirsute. *Stem-leaves*, ovate, oblong. *Root-leaves*, subcordate.

The *root* is perennial; the *stem* is simple, erect, angular, rough, and rises about a foot in height; the *stem-leaves* are somewhat ovate, or rather lanceolate, broad, pointed, hairy, alternate, and on the upper side speckled with small whitish spots; the radical *leaves* are broader and more elongated towards the base; the *flowers* are terminal, fasciculate, and of a reddish purple color; the *calyx* is prismatic, rough, and divided at the mouth into five short, pointed, segments; the *corolla* is funnel-shaped, consisting of a cylindrical tube, open at the mouth, and a spreading limb, cut at the margin into five obtuse segments; the *filaments* are five, very short, placed at the mouth of the tube, and furnished with simple yellow anthers; the *germen* is quadrifid, supporting a tapering style of the length of the calyx, and crowned with a blunt notched stigma; the *seeds* are four in number, which are lodged at the base of the calyx.

This *plant*, although a native of the eastern part of Europe, is found growing wild in many parts of the United States; but not in sufficient quantities to supply the shops. In England, and to some extent in this country, it is cultivated in gardens for medicinal purposes; in which case the leaves become broader, and approach more

to a cordate shape, as may be seen by the detached leaves represented in the plate. The figure itself, however, represents a specimen of the spontaneous growth of this country. The leaves which are the part directed for use, are inodorous, but in their recent state manifest a slightly astringent and mucilaginous taste; hence it seems not wholly without foundation, that they have been supposed to be demulcent and pectoral. The name, *Pulmonaria*, seems to have originated rather from the speckled appearance of the leaves, (they resembling that of the lungs,) than from any intrinsic quality which experience has discovered to be useful in pulmonary complaints.

Pulmonaria angustifolia. Narrow-leaved Lungwort. In this species the leaves are much narrower than those of the first sort, and covered with soft hairs, not spotted; the stalks rise about a foot in height, and have narrow leaves, nearly the same shape of those of the following species, but a little smaller and almost embracing. The flowers are produced in bunches on the top of the stalks, of a beautiful blue color. Native of Sweden.

Pulmonary Virginiaica. Virginian Lungwort. This species has a perennial, thick, fleshy root, sending out many small fibres; the stalks a foot and a half high, dividing at the top into several short branches; the leaves near the root are four or five inches long, and from two to three inches broad, smooth, of a light green, and on short footstalks; those upon the stem diminish in their size upwards; they are of the same shape and sessile. Every small branch at the top of the stalk is terminated by a cluster of flowers, each standing upon a separate short peduncle. The most common color of these flowers is blue; but there are some purple, others red, and some white. They appear in April, and if they have a shady situation, continue in beauty the most part of May. It grows upon mountains in almost every part of North America.

Pulmonaria mollis. Soft Lungwort. This species rises not more than a foot in height; calyxes rather longer than the tube of

the corolla; leaves ovate-oblong, half stem-clasping, and clothed with downy tomentum; radical ones oblong-lanceolate; peduncles shorter than the floral leaves. The recesses between the lobes of the corolla are wider than in *Pulmonaria officinalis*. Color of the flower, the same as in the two preceding. This is an intermediate plant between *Pulmonaria officinalis* and *Pulmonaria angustifolia*, covered all over with soft hairs.

Propagation and Culture. All the species of *Pulmonaria* are very pretty plants when in blossom; and being early flowers, they are rather desirable for borders. They are of the most easy culture, and will grow in any common garden soil, and are readily increased by division. Most of the species grow well under the drip of trees, and all do best in a shady situation. The seeds should be sown in the spring, in a bed or border, raking them in. They soon come up and should be transplanted late in summer.

Medical Properties and Uses. The leaves of this plant have been highly esteemed by some, as a pectoral and demulcent, and have been employed in catarrh, hæmoptysis, consumption, and other affections of the chest; but at present is seldom administered unless in connexion with other remedies. A sirup has been prepared of the following articles, which has proved highly serviceable in the treatment of pulmonary affections, and coughs of long standing. Take of *Aralia nudicaulis*, Spikenard root, *Marrubium vulgare*, Horehound, *Inula helenium*, Elecampane, *Symphytum officinale*, Comfroy, *Pulmonaria officinalis*, Lungwort, each one pound, add a suitable quantity of water; boil, and pour off the infusion repeatedly, until the strength is all extracted; then strain and reduce the whole of the liquid down to about six quarts, after this add white sugar six pounds, and good honey three pounds; clarify it with the whites of eggs. Let it stand for twenty-four hours, that it may settle; add one quart good French brandy, and bottle it for use. Dose,—half a wine-glassfull, three or four times a day





Common Mallow.

NAT. ORDER.

Malvaceæ.

MALVA SYLVESTRIS.

COMMON MALLOW.

Class XVI. MONADELPHIA. *Order VII.* POLYANDRIA.

Gen. Char. *Calyx* double; outer three-leaved. *Capsules* many, united in a depressed whorl, one-celled, one-seeded.

Spe. Char. *Stem* prostrate. *Leaves* cordate, orbiculate, five-lobed. *Peduncle* declining.

“The *root* of the *Malva Sylvestris* is perennial, thick, long, whitish, and furnished with many strong fibres; the *stem* is erect, round, strong, hairy, branched, and rises from one to three feet in height; the *leaves* are numerous, roundish, and divided into five or seven lobes, unequally serrated or notched at the edges, and stand upon long, round, hairy footstalks; the two *stipules* are placed at the base of each footstalk; the *flowers* are large, consisting of five petals, which are inversely heart-shaped, sinuated at the apex, and of a purple color, painted with veins of a deeper hue, and stand upon slender peduncles, which proceed from the bottom of the leaf-stalk; the *calyx* is double, the outer being composed of three, and the inner of five oval, pointed, hairy segments; the *stamens* are numerous, united at the base in a cylindrical form, above separate, bending downwards, and furnished with kidney-shaped anthers; the *germen* is roundish; the *style* is cylindrical, short, and furnished with many filiform stigmas; the *seeds* are numerous, of a kidney shape, and covered with a coat or arillus, which opens inwardly.”—*Woodv. Med. Bot.*,

This species of Mallow is a native of England, where it grows in

abundance on waste lands and by the side of roads, flowering from May till August. It is sometimes cultivated in our gardens for medicinal purposes.

Malva rotundiflora. Round-leaved Mallow. The stems of this plant is prostrate; leaves cordate, orbicular, very bluntly five to seven lobed; fructiferous pedicels bent downwards, and are pubescent as well as foot-stalks; corolla twice the size of the calyx; flowers pale-lilic color, but the kind, said to be a native in cultivated grounds, from Pennsylvania to Carolina, has white flowers. This plant is a native of most parts of Europe, in waste grounds, and by way sides in towns or villages. It is also quite common in some parts of Massachusetts, and Vermont. It flowers in this country from June till September.

Malva circinata. Circinate-leaved Mallow. This species rises about one foot in height; stem erect, with a few scattered hairs; leaves cordate, crenulated, lower ones kidney-shaped, upper ones circinate, six-lobed; petioles hispid above; peduncles solitary, one-flowered, not half so long as the petioles; outer leaflets of the calyx oblong, inner ones ovate, acute, four times shorter than the corolla. Native of Corsica.

Malva Americana. American Mallow. This plant rises from one foot to eighteen inches in height; leaves ovate, acute, crenately serrated, rather pilose; flowers axillary, generally solitary, or in terminal capitate spikes; carpels awnless. It is a native of St. Domingo. Flowers in July.

Malva scabra. Scabrous Mallow. This species is a shrub, rising about four feet in height; leaves ovate-lanceolate, coarsely toothed, obsoletely three-lobed, under surface as well as branches scabrous with stillate hairs; peduncles axillary, generally two-flowered.—There is a variety with sessile flowers. Native of Peru, in arid places. Flowers in June and July.

Propagation and Culture. The stove species of *Mallow* will

succeed in any kind of rich soil with a hand-glass placed over them, and cuttings of them will strike root freely if planted in rich soil. The green-house species will grow in the same kind of soil as the stove species, and are propagated in the same manner; most of them are worth cultivating for ornament, but particularly those belonging to the section *Capenses*. The hardy perennial species should be planted in the open border, and they may either be increased by dividing the plants at the root, or by seed. The annual species only require to be sown in the open ground, but none of them are worth cultivating, unless in general collections, except a few of the most showy kinds.

Medical Properties and Uses. Mallow is emollient and demulcent. The infusion and decoction are sometimes employed in catarrhal, dysenteric, and the nephritic complaints; and applicable to all other cases which call for the use of mucilaginous liquids. Several varieties are introduced into medical practice, all possessing nearly the same properties—*Malva Rotundifolia*, Dwarf Mallow, *Malva Sylvestris*, Common Mallow, *Althæa Officinalis*, Marsh Mallow. The last of these abounds with a mucilaginous matter, without smell or taste; the root contains the greatest proportion of this mucilage, from which alone it is extracted for medicinal purposes. By boiling the sliced roots in water the whole of the mucilaginous parts may be extracted; this is the chief preparation derived from the root. The herb and flowers, which are the parts directed for use, have a weak, herbaceous, slimy taste, without odor. They abound in mucilage, which they readily impart to water, and the solution is precipitated by acetate of lead. The infusion and tincture of the flowers are blue, and serve as a test of acids and alkalies, being reddened by the former, and rendered green by the latter. The roots and seeds are also mucilaginous.

NAT. ORDER.

Compositæ.

ARCTIUM LAPPA.

BURDOCK.

Class XIX. SYNGENESIA. *Order I.* POLYGAMIA ÆQUALIS.

Gen. Char. *Receptacle* chaffy. *Calyx* globular; the scales at the apex with inverted hooks. *Seed-down* bristly, chaffy.

Spe. Char. *Leaves* cordate, costate, coriaceous.

The *Burdock* is a biennial plant, with a long tapering root, from twelve to eighteen inches in length, dark brown externally, but white and spongy within, having withered scales near the top; the *stem* is branching, pubescent, succulent, and two or three feet in height, having very large leaves, which are dark green upon their upper surface, and stand on long footstalks; the *flowers* are globose, purple, and arranged in panicles; the imbricated *calyx* consists of scales with extremities that are hooked, by which they attach themselves to cloth and the coats of animals; the *down* of the seed is prickly and rough; the *bur* is many-seeded, and the seeds are quadrangular.

This plant is a native of the United States, growing in many places in great abundance, in pastures, fields, along the road-side, and in cultivated grounds; it flowers in July and August; the root should be dug in the spring, before the leaves start, or in the fall after the top is dead, as then it possesses the full strength of the entire plant; the odor of the root is weak and unpleasant; the taste is mucilaginous and sweetish bitter, with a slight degree of astringency; the seeds contain essential oil, and are aromatic, bitterish, and somewhat acrid.

Medical Properties and Uses. The root, which is principally



1, Burdock. 2, St. Johns Wort.

used, possesses *diaphoretic*, *diuretic*, *sudorific*, and *tonic* properties. It has been successfully used in a great variety of chronic diseases, such as rheumatism, scurvy, gout, lues venerea, and nephritic affections. A sirup made of the roots has been successfully employed in dropsical cases where other powerful medicines had been ineffectually used; and as it neither excites nausea, nor increases irritation, it may occasionally deserve a trial where more active remedies are improper. It is also used as a diuretic, and is said powerfully to promote perspiration. The leaves applied to the feet as drafts, are highly useful in many complaints, especially fevers; they may also be taken green, rolled, and saturated with vinegar, and applied as warm as can be borne on any part of the body suffering with pain. The leaves may be dried and kept for use without losing any of their medicinal properties. The root is generally used in decoction, which may be made by boiling two ounces of the fresh root in three pints of water to two, which, when intended as a diuretic, should be taken in the course of two days, or if possible in twenty-four hours. The following sirup, made of the root, I have found highly beneficial in the cure of scrofulous and other hereditary diseases:

Take of the dried root eight ounces, boil in three quarts of water down to two; strain off, and add while warm, one pound of loaf sugar and one pint of good gin. Dose—from one table-spoonful to a wine-glassful several times a day.

The root is in considerable demand, and is sold in quantities at the drug stores in the city. The best way of curing, is by slicing across the root from one fourth to half an inch thick, and then drying it.

NAT. ORDER.

Rotacæ.

HYPERICUM PERFORATUM.

ST. JOHN'S WORT.

Class XVIII. POLYADELPHIA. *Order V.* POLYANDRIA.

Gen. Char. *Calyx* five-parted. *Petals* five. *Filaments* many, connected at the base, in five bundles.

Sp. Char. *Stem* ancipital. *Leaves* blunt, with pellucid dots.

This species of the Hypericum is found growing abundantly both in Europe and in this country, often covering whole fields, and proving extremely troublesome to farmers. It usually grows in uncultivated fields, from one to two feet in height, producing its flowers in July and August. The *root* is perennial, ligneous, divided and subdivided into numerous small branches, and covered with a straw-colored bark; the *stalks* are round, smooth, of a light color, and towards the top send off many opposite floriferous branches; the *leaves* are without foot-stalks, and placed in pairs; they are entire, oval, and beset with a great number of minute, transparent vesicles, which have the appearance of small perforations through the disk, and hence the specific name *Perforatum*; the *flowers* are numerous, pentapetalous, terminal, of a deep yellow color, and grow in a corymbus, or in clusters, upon short peduncles; each *petal* is of an irregular oval shape, and on the under side near the apex is marked with many blackish dots; the *calyx* consists of five persistent acute leaves; the *stamens* are numerous, and generally unite at their base into three portions or bundles; the *anthers* are yellow, and marked with a small black gland, by which this species of the Hypericum is at once distinguished; the *styles* are

three, and the *capsule* has three cells, which contain many small, oblong, brownish seeds.

Medical Properties and Uses. The U. S. Dispensatory describes St. John's Wort as having a peculiar balsamic odor, which is rendered more sensible by rubbing or bruising the plant. Its taste is bitter, resinous, and somewhat astringent. It imparts a yellow color to cold water, and reddens alcohol and the fixed oils. Its chief constituents are volatile oil, a resinous substance, tannin, and coloring matter. As a medicine it was in high repute among the ancients, and was much employed by the earlier modern physicians. Among the complaints for which it was used, were hysteria, mania, intermittent fever, dysentery, gravel, hemorrhages, pectoral complaints, worms and jaundice; but it was most highly esteemed as a remedy in wounds and bruises, for which it was employed both internally and externally. It is difficult to ascertain its exact value as a remedy; but from its sensible properties, and from the character of the complaints in which it has been thought useful, it may be considered independently of its astringency, as somewhat analogous in medical power to the turpentine. It formerly enjoyed great reputation for the cure of demoniacs, and the superstition still lingers among the vulgar in some countries. At present this plant is but very little used, except by the botanic physicians, or as a domestic remedy, and its name is omitted in the *Materia Medica* of the last edition of the *Edinburgh Pharmacopœia*, and in the *London Pharmacopœia* the flowers only are directed to be used, as containing the greatest proportion of the resinous oily matter in which the medical efficacy of the plant is supposed to reside. The dark puncta of the petals and the capsules, afford this essential oil, which is contained in minute vesicles or glands.

N A T. O R D E R.

Luridæ.

ATROPA BELLADONNA.

DEADLY NIGHT-SHADE.

Class V. PENTANDRIA. *Order I.* MONOGYNIA.

Gen. Char. *Corolla*, bell-shaped. *Stamina*, distant. *Berry*, globular, two-celled.

Spe. Char. *Stalk*, herbaceous. *Leaves*, oval and entire.

The *Atropa Belladonna* is a native of Europe, where it grows in shady places, along the walls and amid rubbish; it flowers in June and July, and ripens its fruit in September; it is frequently cultivated in our gardens, and rises from three to five feet in height. The *fruit* is a roundish berry, contained within the calyx, of a blackish color and pulpy, having several kidney-shaped seeds; *root* thick, branching; *stem* tinged with purple; the *branches* dichotomous; *leaves* rather large, soft to the touch, and a little hairy on both surfaces; *corolla* large, lurid, dusky-purple within, and streaked with a yellow variegated base, but greenish-red or dusky brown outside.

Atropa viridiflora. Green-flowered Deadly Night-Shade. This is a twining shrub, rising from ten to twenty feet in height, where it can find support; stem suffruticose; leaves twin, elliptic-ovate, sub-acuminated, quite entire, hairy; peduncles two-flowered; flowers, drooping; limb of the corolla ten-cleft; corolla tubularly funnel-shaped, green, three or four times longer than the calyx, hairy, and furnished with five tubercles on the outside at the base; filaments glabrous, dilated at the base. It is a native of New Granada, between the town of Pasto and Chilanquer, on the high lands.

Atropa aspera. Rough Deadly Night-Shade. This species rises



Deadly - Nightshade.



about two feet in height ; stem herbaceous, angular, pilose, branched, dichotomous ; leaves twin, unequal, oval-oblong and lanceolate, quite entire or subsinuated, hairy ; peduncles one-flowered, drooping, extra-axillary, or in the forks of the stem ; limb of the corolla ten-cleft ; corolla yellowish blue, violaceous in the centre, with five of the segments acute, and the alternating five emarginate ; filaments hairy, violaceous ; berry white, and about the size of a pea ; seeds red. Native of Peru, and many other parts of South America, on high hills.

When this plant was found to differ from the genus *Solanum*, it assumed the Italian name of *Belladonna*, which was given to it, according to some, because it was used as a wash among the ladies, to take off pimples from the skin ; or, according to others, from its quality of representing phantasms or beautiful women to the disturbed imagination. The qualities of the plant are malignant, and it is extremely poisonous in all its parts. Buchanan relates the destruction of the army of Sweno, the Dane, when he invaded Scotland, by the berries of this plant, which were mixed with the drink which the Scots, according to truce, were to supply the Danes. The Danes became so inebriated that the Scottish army fell on them in their sleep, and slew such numbers, that there was scarcely men enough left to carry off the king. The case related by Ray is remarkable, that is, the dilatation of the pupil of the eye caused by a part of the leaf applied outwardly, and which took place successively on the repetition of the experiment. When the berries or any other part of the plant have incautiously been eaten, the general sensibility of the system is said to be weakened to a great degree, so that the stomach will bear a far larger dose of emetic medicines than it would otherwise have done. Vinegar liberally drunk has been found efficacious in obviating the effects of the poison. A remarkable instance of the malignant powers of the young shoots, occurred in the presence of Professor Martyn, in the botanic garden at Cam-

bridge, which fully proved that they are not less deleterious than the berries.

Belladonna has been best analyzed by Mr. Brandes, an apothecary at Salz Uffeltn, who has discovered a new alkaloid upon which its narcotic virtues depend, which he calls atropia. He urges the necessity of caution in the examination of atropia and its salts. Even the vapor of their solutions causes dilatations and paralyzes of the pupil; and during the whole time of the experiments, Mr. Brandes experienced violent headache, vertigo, pain of back, and nausea, so that he could scarcely continue them. On tasting a small quantity of sulphate of atropia, which was rather salt than bitter, he had extreme confusion of the head, trembling in all his limbs, pulse weak, and at last retching. But the most severe of these symptoms abated in half an hour.

Propagation and Culture. The species of *atropa* are of an easy culture and propagation. They will grow in common earth. The shrubby kinds are increased by cuttings or seeds, and the herbaceous perennial kinds by seeds, or by dividing at the roots.

Medical Properties and Uses. The whole of this plant possesses poisonous qualities. The berries have a sweetish taste, rather sickly, leaving a sense of acrimony on the tongue; the berries, though less powerful, are a narcotic poison, and furnish us with many instances of their fatal effects, particularly upon children, who are tempted to eat this fruit by its alluring appearance and sweet taste. After they have been swallowed a short time the child is seized with symptoms of intoxication, delirium, excessive thirst, nausea, retchings, grinding of the teeth, and convulsions; the pupil becomes dilated and immoveable, and an almost insensibility of the eye to external objects; the face becomes red and swelled, with spasmodic contractions of the jaw; to these symptoms succeed subsultus tendinum paleness of the face, coldness of the extremities, with a small, quick pulse, and the

child will sometimes fall a victim. The symptoms are less urgent when taken in small quantities, and sometimes the only one present is temporary intoxication.

In cases of this kind the first object is to excite vomiting, and as the stomach is very torpid it requires powerful emetics; free use of the *lobelia inflata* most usually gives relief; when the stomach is cleared, give saline purgatives, and after this, vegetable acids. Where death has been produced by these berries, the stomach, intestines and liver have been found inflamed; and although this plant is so pernicious to man, it is eaten with impunity by some other animals. The sensible effects produced by the leaves of this plant taken in medicinal doses, are usually by the skin, the urinary passages, and sometimes by stool; in larger doses troublesome dryness of the mouth and throat, giddiness, and dimness of sight are experienced. That the advantages derived from the internal use of Belladonna are only in proportion to the evacuations effected by it, is a conclusion we cannot admit as sufficiently warranted by the facts adduced upon this point.

As this plant is very uncertain in its operation, the proper dose is with difficulty ascertained. The most prudent manner of administering it is by beginning with one grain or less, which may be gradually increased according to its effects. Although a powerful narcotic, it likewise possesses some diaphoretic and diuretic properties. Cullen speaks of its being very useful in cancer, and even asserts that this destructive disease has been cured by it; subsequent trials of it, however, have not been attended with equal success, and we therefore think that no reliance can be placed on it as a remedy, capable of producing a radical cure. Applied to the eyelids in the form of extract, it produces great dilatation of the pupil, and on this account it has been used to render the operation for cataract less difficult.

NAT. ORDER.

Trihilatæ.

TROPÆOLUM MAJUS.

INDIAN CRESS.

Class VIII. OCTANDRIA. *Order I.* MONOGYNIA.

Gen. Char. *Calyx* one-leaved, with a spur. *Petals* four, unequal.
Nuts three, coriaceous.

Spe. Char. *Leaves* peltate, repend. *Petals* obtuse.

The *root* of the Indian Cress is annual; the *stalk* is trailing, climbing, round, branched, smooth, succulent, and grows to several feet in length; the *leaves* are roundish, marked by several radiated ribs, entire obscurely five-lobed, and stand single upon long bending foot-stalks, which are attached to the centre of each leaf; the *flowers* are large, solitary, of a tawny yellow, and stand upon long peduncles; the *calyx* is yellowish, large, forming a horn-like nectarium behind, and divided at the mouth into five irregular segments, which are acute, erect, and striated; the *corolla* consists of five petals, which are roundish, and the two uppermost bent backwards, marked with black lines at the base, and inserted into the segments of the calyx; the three undermost have long claws or ungues, and are bearded at the base; *filaments* eight, which are yellow, tapering, and spreading; the *anthers* are yellow, ovate, and four-celled; the *germen* is triangular; *style* simple, erect, and yellow; *stigma* bifid; *fruit* three, adhering, berries, compact, externally striated, containing three irregular shaped seeds. Its flowers appear from June till October.

This plant is a native of Peru, growing wild in the low lands and on the borders of small streams. It was first introduced into France



Indian Cress.

in the year 1681, and there called Le Grand Capucine; two years afterwards it was introduced into Europe by Dr. Lumley Lloyd, and since that time has been constantly cultivated in the English gardens, both as an ornament and a luxury for the table.

In its recent state this plant, and more especially its flowers, have a smell and taste resembling those of water-cress, and the leaves on being bruised, emit a pungent odor, similar to that of horse-radish. By distillation with water they impregnate the fluid to a considerable extent with the smell and flavor of the plant. The flowers are very much used in salads, and the capsules are by many highly esteemed as a pickle. Elizabeth Christina, daughter of the celebrated Linnaeus, we are informed by her father, observed the flowers of the great Indian-cress to emit spontaneously, at certain intervals, sparks like electric ones, visible only in the evening. If this be the case in this plant, it is probable the whole possess the property more or less.

Tropæolum tricolorum. Three-colored Indian-Cress. This is a climbing plant; the roots tuberous, and very much depressed; stem slender, climbing, branched; leaves peltately divided; segments from six to seven, ovate entire, cuspidate; petioles eirrhose; petals yellow, unguiculate, a little longer than the rather closed permanent calyx, obtuse, and quite entire; calyx permanent, of an orange-scarlet color, tipped with black, with a long straight spur. This is the most showy of all the species. Native of Chili. Flowers from June till October.

Tropæolum aduncum. Hooked-spurred or Fringed-flowered Indian-Cress. This is a climbing species; leaves peltate-nerved, somewhat kidney-shaped, with from five to seven lobes, which are mucronate; petals yellow, but a little longer than the calyx; upper petals lobed, mucronate, three lower ones smaller, and somewhat fringed; the spur is hooked, and about the length of the upper petals. Native of Peru and Mexico. This species is cultivated at Gibraltar, in the open air, where it is called canary-bird flower.

Propagation and Culture. All the species of Indian-Cress are very showy, therefore they are desirable plants in every collection. The green-house and frame species will thrive in any light rich soil, and cuttings will root freely if planted in the same kind of soil, under a hand-glass. The annual kinds should be sown in the open ground in April. In fact, all the species may be either increased by seeds or cuttings, whether said to be annual or perennial, because those species said to be annual are permanent when protected from the frosts in winter. The species are all climbing when supported, but if not, they are prostrate. All the tuberous-rooted kinds will grow well in a light soil in the open air, in a sheltered situation, all the summer, and in winter the roots may be taken up and kept in dry sand, until the spring, when they may again be planted out into the open ground.

Medical Properties and Uses. The root, stalk, and leaves, have been considered to possess diaphoretic, diuretic, expectorant, and emenagogue properties, and have on that account been prescribed in the treatment of dropsies, nephritis, enteritis, cystitis, scrofula, and various eruptions of the skin. Hence the anti-scorbutic character of the nasturium seems to be well founded, at least so far as we are able to judge from its sensible qualities; therefore in all these cases where the warm anti-scorbutive vegetables are recommended, this plant may be occasionally adopted as a pleasant, safe, and effectual variety. Patients to whom the taste of water-cress or scurvy-grass is nauseous or offensive, may find a grateful substitute in the nasturium. The expressed juice may be taken in a dose of half an ounce, or prepared in an extract and taken in the form of pills, two or three a day.



Scarlet Tulip.

NAT. ORDER.

Liliaceæ.

TULIPPA OCULIS SOLIS.

SCARLET TULIP

Class VI. HEXANDRIA. *Order I.* MONOGYNIA.

Gen. Char. *Corolla*, six-petalled, campanulated, with a longitudinal nectarious line. *Capsule*, the valves connected by cancellated hair.

Spe. Char. *Leaves*, from three to five, fleshy, smooth and pointed.

The *root* is a large bulb, from which proceed several succulent fibres; the *stem* is firm, round, upright, simple, and rises from three to four feet in height; the *leaves* are long, narrow, pointed, fleshy, smooth, without footstalks, and placed at the base of the stem; the *flower* is large, of a deep red, and terminates the stem; it has no *calyx*; the *corolla* is bell shaped, consisting of six *petals*, which are of a beautiful, shining, scarlet red color, but without, ridged, and of a less luminous appearance; the *filaments* are six, tapering, much shorter than the corolla, upon which are placed large orange-colored *anthers*; the *style* is longer than the filaments, and furnished with a fleshy triangular stigma; the *germen* becomes an oblong capsule, marked with six furrows, and divided into three cells, which contain numerous flatish, semicircular-form seeds, It flowers in June and July.

This species of tulip is a native of Persia, and was once considered the dearest and most beautiful flower on which the sun ever shone. From Persia it was introduced into Holland, about the middle of the seventeenth century, and such was the mania for particular sorts in that country, that a single bulb was sold for

twenty thousand dollars. By this floral gambling it is said that the city of Harlem derived more than ten million pounds sterling, in less than three years. The flowers were variegated by placing the bulbs in a peculiar soil, although it is probable that this art was confined to a few. It is now cultivated in France and some parts of England; but it is not known in this country. The flowers have a very sweet, pleasant, odor, and were formerly used for medicinal purposes; a watery distillation of them was employed as a cosmetic, and the oil was supposed to possess anodyne and nervine powers; but the odorous matter of the flowers is of a very volatile kind, being totally dissipated by drying, and entirely carried off in evaporation by rectified spirit as well as water; and though both menstrua become impregnated with their agreeable odor by infusion or distillation, yet no essential oil could be obtained from several pounds of the flowers. It is therefore the roots only which are now directed for use by the Edinburgh college: they are extremely mucilaginous, and are chiefly used, boiled in milk or water, in emollient and suppurating cataplasms. Dr. Alston thinks that the roots are of the nature, and possess nearly the properties of squills. Godorus, serjeant-surgeon to Queen Elizabeth, it is said, cured large numbers of dropsical people, by giving them bread in which the tulip roots were baked. I have myself administered the tulip root in many cases of chronic inflammation of the bowels, and found it highly serviceable; also in inflammation of the kidneys and bladder, and many other diseases, where a diuretic was required, I have found it equally valuable. It possesses astringent, diuretic, and diaphoretic properties. It was employed at one time, in Holland, to a great extent as a remedy for dysentery and long standing weaknesses of the bowels, but at the present time is but little known in practice, as many articles much easier obtained will answer the same purpose.



1 Dog Rose
2 Spanish Chamomile

NAT. ORDER.

Senticosæ

ROSA CANINA.

DOG ROSE, OR HEP TREE.

Class XII. ICOSANDRIA. *Order V.* POLYGYNIA.

Gen. Char. *Calyx*, pitcher-shaped, five-cleft, fleshy, contracted at the neck. *Petals*, five. *Seeds*, numerous, hispid, affixed to the inner side of the calyx.

Spe. Char. *Fruit*, ovate. *Peduncles*, glabrous. *Stalk and Petioles*, prickly.

This small *tree* usually rises from ten to twelve feet in height, dividing toward the top into many spreading branches, covered with a smooth bark, and beset with alternate hooked prickles; the *leaves* are pinnated, consisting of two or three pair of pinnae, 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 foot-stalk, which is prickly, and at its base furnished with a sheathy expansion, fringed at the edges; the *bractea* are oval shape, 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 fleshy color; 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 anthers; 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 stigmas; the

fruit is a fleshy, smooth, oval berry, flesh-colored, formed of the tubular part of the calyx, and contains many long round seeds. It is a native of England, and is usually found growing in woods and hedges, flowering in June and the early part of July.

The flowers of this shrub make a very conspicuous and beautiful appearance, when they are cultivated either as an ornament in the garden, or in the hedge, where they are so extensively grown. The fruit, called heps or hips, has a sourish taste, and in some parts of England is very much used in preparing 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 fruit, the conserve is liable to produce great irritation on the *primæ viæ*.

Medical Properties and Uses. The officinal preparation of the fruit of this tree, is considered by modern practitioners to possess but little, if any, medicinal virtue, although it is extensively used in some parts of Europe, and highly esteemed as useful in many disorders, as dropsies, calculous complaints, dysenteries, hæmorrhages, etc., but at the present time it is not considered of sufficient importance, to place much reliance on its powers. It is agreeable to the taste, and well suited to give form to the more active articles of the **Materia Medica**.

NAT. ORDER.

Compositæ.

ANTHEMIS PYRETHRUM. SPANISH CHAMOMILE.

Class XIX. SYNGENESIA. *Order II.* POLYGAMIA SUPERFLUA.

Gen. Char. *Receptacle*, chaffy. *Seed-down*, none, or a membranous margin. *Calyx*, hemispherical, nearly equal. *Florets*, of the ray more than five

Spe. Char. *Stems*, simple, one-flowered, decumbent. *Leaves*, many times pinnated.

The *root* is perennial, tapering, long, externally brown, and sends off several small, whitish, fibres; the *stems* are simple, round, trailing, bearing but one flower, and rise about a foot in height; the *leaves* are double, pinnate, with narrow, nearly linear segments, of a pale green color; the *flowers* are large, at the disc, of a yellow color, at the radius, white on the upper side, on the under side, of a purple color—the different florets answer to the description given of the *Anthemis nobilis*. It flowers in June and July.

This plant is a native of the Levant, and the southern parts of Europe; it was first cultivated in England by Lobel, in the year 1570, since which time it has been introduced into France, and some parts of the United States; but does not ripen its seeds here, unless the season proves very long and dry. The root is the part considered as officinal, and used under the name of *Pellitory of Spain*; it has a very hot pungent taste, without any sensible smell; its pungency resides in a resinous matter, of the more fixed kind, being extracted completely by rectified spirit, and only in small part by water, and not being carried off, in evaporation or distillation by either menstrum.

We are told that the ancient Romans employed this root as a pickle; and indeed it seems much less acrid than many other substances now employed for this purpose. The ancient Egyptians held this plant in such high repute, that they dedicated it to the curing of agues; their experience and success, in the administration of this medicine, gained for it a reputation that placed it very high in their estimation; they employed it with great success in the treatment of disease of the *Pleura*.

Medical Properties and Uses. Spanish camomile, or Pellitory, is a powerful irritant, almost exclusively used as a sialagogue in certain forms of rheumatism, neuralgic affections of the face, headache, toothache, etc., or as a local stimulant in palsy of the tongue or throat. In its recent state, this root is not so pungent as when dried, yet, if applied to the skin, it is found to act similar to the bark of mezcreon, and in four days produces inflammation of the part.

From the aromatic and stimulating qualities of Pyrethrum, there can be no doubt but that it may be found an efficacious remedy, and equally fitted for an internal medicine, as many others of this class now so extensively prescribed. Its use, however, has long been confined to that of a masticatory, for, on being chewed, or long detained in the mouth, it excites a glowing heat, stimulates the excretories of saliva, and thereby produces a free discharge. It is also a valuable external application for sprains, bruises, swellings, rheumatism, contracted muscles, tumors, etc., and for this purpose it is generally employed in the form of a *nerve ointment*. For many purposes it may be chewed, or employed as a gargle in decoction or vinous tincture. The dose, as a masticatory, is from 30 grains to a drachm.

In a very ancient but valuable medical work, published in London in the year 1610, by William Salmond, M. D., we find several pages of this extensive English Herbal devoted exclusively to the medicinal virtues of this plant.



1 *Guinea Pepper*
2 *Common Flax*

NAT. ORDER.

Linaceæ.

LINUM USITATISSIMUM.

COMMON FLAX.

Class V. PENTANDRIA. *Order V.* PENTAGYNIA.

Gen. Char. *Calyx* five-leaved. *Petals* five. *Capsules* five-valved, ten-celled. *Seeds* solitary.

Sp. Char. *Calyx* and *capsules* mucronate. *Petals* crenate. *Leaves* lanceolate, alternate. *Stem* generally solitary.

The *root* is annual, simple and fibrous; the *stalk* is erect, round, smooth, branched towards the top, and rises from one to two feet in height; the *branches* are simple, alternate, and terminated by the flowers, which are solitary, and of a sky-blue color; the *leaves* are lance-shaped, acute, sessile, smooth, glaucous, vertical, and alternately scattered over the stalk and branches; the *calyx* is divided into five segments, which are semi-lance-shaped, pointed, and slightly fringed with small hairs; the *corolla* is funnel-shaped, consisting of five petals, which are large, obovate, striated, and minutely scolloped at their extremities; the *filaments* are five, tapering, upright, about the length of the calyx, united at the base, and crowned with simple anthers; the *germen* is oval; the five *styles* are filiform, erect, and furnished with reflected stigmas; the *capsule* is globular, divided into five valves and ten cells; the *seeds* are solitary, glossy, and of a flat, oval shape. It is supposed to be a native of Egypt, and by some was thought to be obtained from the great plains of central Asia. It flowers in June and July, and ripens its fruit in August. Both the seeds and oil expressed from them are officinal.

Flax is an article of such extensive utility for various economical purposes, that the plant which furnishes it has obtained the trivial name of *usitatissimum*; and when it is considered that its seeds afford an oil equally useful in arts and in medicine, it may well be deemed an object of national importance. Sensible of this, the society for the encouragement of arts, manufactures and commerce, in England, has laudably endeavored to promote and extend its cultivation throughout the different parts of Europe, and not without success, as it is now extensively cultivated there as well as in most parts of the United States. The seed, which is directed for medical use, especially the interior part or nucleus, is very rich in a peculiar oil, which is separated by expression, and very extensively used in the various arts. The ground seed can be found in the different shops, under the name of *flax-seed meal*. This is of a dark grey color, highly oleaginous, and when mixed with warm water forms a very soft, pliable, adhesive mass, which is much employed by practical chemists for luting. The cake which remains after the expression of the oil, usually called *oil-cake*, still retains the mucilaginous matter of the envelope, and affords a highly nutritious food for cattle. This is the *Lini Farina* of the Edinburgh Pharmacopœia.

Medical Properties and Uses. "Flax-seed is demulcent and emollient. The mucilage obtained by infusing the entire seed in boiling water, in the proportion of half an ounce to the pint, is much and very advantageously employed in catarrh, dysentery, nephritic and calculous complaints, strangury, and other inflammatory affections of the mucous membranes of the lungs, intestines, and urinary organs. By decoction water extracts also a portion of the oleaginous matter, which renders the mucilage less fit for administration by the mouth, but superior as a laxative enema."

NAT. ORDER.

Luridæ.

CAPSICUM ANNUM.

GUINEA PEPPER.

Class V. PENTANDRIA. *Order I.* MONOGYNIA.

Gen. Char. *Corolla*, wheel-shaped. *Berry*, without juice.

Spe. Char. *Stem*, herbaceous. *Peduncles*, solitary.

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, 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 plated; the five *filaments* are short, tapering, and furnished with oblong anthers; 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 redish color, separated into two cells, which contain several flat kidney-shaped seeds. It is a native of both the Indies, and flowers in June and July.

This species of *Capsicum*, and nearly all its varieties, are now cultivated in various parts of Europe. Some varieties have been introduced into the United States, where it thrives equally well, but does not ripen its fruit unless in the southern parts; the fruit varies both in shape and color, that which is of a conical form, and of a redish or orange color is preferred. Its taste is extremely pungent and acrimonious, setting the mouth as it were on fire, which

sensation lasts for a considerable time. It gives out its pungency to rectified spirit, together with a pale yellowish red tincture; the spirit, gently distilled off, has but little impregnation from the *Capsicum*, and leaves an oily extract which is insupportably fiery.

Capsicum is called *Pinent* in French, *Spanischer Pfeffer*, in German, *Peberone* in Italian, *Chilli* in Mexico, and *Tschili* in Hindostan. There are three species in general cultivation. *Capsicum annuum*, the Guinea pepper, though a native of India, endures our climate in summer. The *Capsicum cerasiforme*, the cherry-pepper, is also an annual, standing our climate in summer; and is known by its small cherry-shaped fruit, which is sometimes heart-shaped or angular; in color red or yellow. *Capsicum grossum*, the bell-pepper, a biennial, and in common cultivation throughout this country; the berries of this kind are large, red or yellow.

Capsicum frutescens. Chilli Pepper. This is a shrub, rising from two to three feet in height; berry conically attenuated, incurved, long, pointed, red or copper-colored, or redish-yellow; leaves oval acuminate at both ends; petioles and branches which are downy, angular; corolla white. This species also furnishes the cayenne-pepper of the shops; and is much used in many parts of Europe. The ripe pods are dried in the sun, and then in an oven after bread is baked, in an earthen or stone pot, with flower between the strata of pods. When quite dry they are cleaned from the flower, and beaten or ground to fine powder. To every ounce of this, a pound of wheat flower is added, and it is made into small cakes with leaven; these are baked again, that they may be as dry and as hard as a biscuit, and then are beaten into powder and sifted. It is then fit for use as a pepper, or for being packed in a compressed state, and so as to exclude air for exportation. Native of India. Flowers from June till September.

Capsicum globiferum. Globe Chili Pepper. This species rises about two feet high; branches glabrous, terete, tubular; leaves rather scabrous on both surfaces, downy while young, twin or solitary,

ovate, acuminate at both ends, subciliated; flowers minute, drooping; berry about the size of a small cherry, of a pale yellow color. This is supposed by some to be the true *bacatum*. Native in plantations about the Essequibo. Flowers in June and July.

Propagation and Culture. All the species, with their varieties, are raised from seed; a small parcel, or the produces of two pods, will be a sufficient quantity of each or of any one variety for ordinary supply. Sow all the annual sorts at the end of March, or the beginning or middle of April, in a moderate hot-bed under a frame. Cover the seed a quarter of an inch deep. When the plants are two or three inches in growth, prick some into a new, moderate hot-bed, to forward them for final transplanting; or in default of this, prick them into a bed of natural earth, at the beginning of May, if fine, settled, warm weather; defend them with a frame or awning of mats at night, or in cold weather. Give water lightly at planting, and occasionally afterwards in moderate supplies, to assist their fresh rooting and subsequent growth. At the beginning of June, when the weather is settled warm, transplant them into the open garden, in beds of light, rich earth, from twelve to eighteen inches apart, giving water. They will thus advance freely. Flowers in July or August and produces plenty of pods from August till the end of September. Under the deficiency of a hot-bed or stove, or for succession, annual capsicums may be raised in a bed of light, rich earth under a hand-glass; but the sowing must be deferred till fine, warm weather in May. Give the plants air in the day, but cover them close at night till danger from frost is over. At the close of June transplant as above. The perennial and shrubby species may be wintered in the stove. To save seed, leave one or two of the largest and handsomest shaped pods to ripen in autumn; after gathering them the best way is to hang them up in a dry place, and not take out the seeds till wanted for sowing in Spring.

The green pods, or inflated berries of all the species, and their varieties, which are very numerous, are used medicinally for pick-

ling. They are sometimes used in their ripe state, when they form a spice of hottest quality, known by the name of Cayenne Pepper, and in this form it enters various compounds in medicine. The fruit of *Capsicum grossum* are deemed better for pickling than the others, the skin being thick, pulpy and tender.

Medical Properties and Uses. 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 so extensively at our tables, is the fruit of *Capsicum baccatum* (Bird pepper) and differs not materially in its effects from that of the species here given, for which it is often substituted. In hot climates, particularly in the West Indies 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 sauses, that to a person unaccustomed to eat them, their taste is intolerably hot. But in the climates of which the *Capsicum* is a native, we are told that the free use of it is a salutary practice, it being found to strengthen the stomach and assist digestion. As an aromatic of the most acrid and stimulant kind, it certainly is highly valuable, and can be employed to great advantage in the treatment of rheumatic and gouty cases, or to promote excitement, where the bodily organs are languid and torpid. Matson says, *Capsicum* "is the best and most efficient stimulant known, and though freely employed, does not occasion any of the evil consequences which flow from the use of acrid, narcotic, or poisonous stimulants. Taken into the stomach, it produces a pleasant sensation of warmth in that organ, which soon diffuses itself throughout the whole system." It has the effect to equalize the circulation, and hence its value in fever, inflammation, and all those diseases which depend upon a morbid increase of blood in any particular part of the body. By its equalizing influence, it reduces a full and bounding pulse, or gives it force and vigor where it is threat-like and feeble.



1 Purple Gentian
2 Nutmeg Tree

NAT. ORDER.

Gentianaceæ.

GENTIANA PURPUREA.

PURPLE GENTIAN.

Class V. PENTANDRIA. *Order II.* DIGYNIA.

Gen. Char. *Corolla*, monopetalous. *Capsules*, superior, two-valved, one-celled, with two longitudinal receptacles.

Spe. Char. *Corolla*, five-cleft, rotate, verticillate. *Calyx*, spathaceous.

The *root* is perennial, cylindrical, slender, branched, externally brown, or dark, and internally of a pale yellowish color; the *stem* is erect, simple, smooth, strong, succulent, and rises from twelve to eighteen inches in height; the lower *leaves* are nearly elliptical, ribbed, and entire; the upper *leaves* stand in pairs, sheath-like, they are concave, pointed, ribbed, and embrace the stem, enclosing the flowers; the *flowers* are large, purple, and stand in whorls, upon short peduncles,; the *calyx* opens lengthwise, and falls off late in the autumn; the *corolla* is bell-shaped, purplish, plicated, and divided at the limb into five ovate dotted segments; the *filaments* are most usually five, about the length of the germen, and furnished with long, erect, tapering anthers; the *germen* is oblong; the *style* is cleft with reflexed points, and furnished with a blunt stigma; the *capsule* is ovate, two-celled, and contains numerous small seeds.

This species of *gentian* is a native of the Alps, and was first introduced into England for cultivation by Professor de Saussure in the year 1768, since which time it has found its way into France, Spain, and some parts of the United States, Rafensque says it is

found growing wild in great abundance from Carolina to Alabama, and West Kentucky, in glades and open plains, it is also cultivated in hot houses and gardens, but chiefly as an ornament.

The *root* alone is the part medicinally employed, and so exactly resembles that of the yellow or common officinal Gentian, that it is almost impossible to distinguish them apart; and in some countries where the latter is scarce, the former is employed in its stead.

Medical Properties and Uses. The medical character of this plant is to be regarded precisely the same as that of the *gentiana lutea*, which is now so universally used as a bitter. This root ranks high as a tonic, and also possesses sudorific, anticeptic, corroborant, and cathartic properties. It appears to have been in constant use from the earliest times; but its virtues (as is frequently the case with other remedies) were held in too high estimation by the ancients. As a tonic it may be administered with the best effects in dyspepsia, particularly where there is weakness of the stomach: also in debilitated states of the constitution, brought on from various causes, or in diseases which exhaust the power of the system, as diarrhœa, dropsy, fevers, hysteria, scrofula, worms, &c. Many dyspeptic complaints, though arising from debility of the stomach, are more effectually relieved by bitters than by peruvian bark: and hence may be infered their superior tonic powers on the organs of digestion.

Gentian Bitters. Take of *Gentiana purpurea*, Purple Gentian one ounce; *Panax quinquefolium*, Ginseng two ounces; *Chelone glabra*, Balmony quarter of an ounce; *Aurantii cortex*, Orange peel one and a half ounces; put this into one gallon pure wine, let it stand for two or three days, when it is ready for use. Dose, half a wine glass full, taken usually before eating. This I have found to be one of the most valuable bitters in use, as a strengthening tonic, nothing can claim its superior. Those who are reduced from general debility, or other causes, would do well to try this remedy. The dose of the powder of the root is from five to ten grains,

NAT. ORDER.

Myristicaceæ.

MYRISTICA MOSCHATA.

NUTMEG TREE.

Class XXII. DICECIA. Order XIII. MONADELPHIA.

Gen. Char. Male—*Calyx*, bell-shaped, trifid. *Corolla*, none. *Filament*, columnar. *Anthers*, six or ten, united. Female—*Calyx*, trifid, bell-shaped, deciduous. *Corolla*, none. *Style*, none. *Stigma*, two. *Drupe*, a nut involved in an arillus. *Mace*, with one seed.

Spe. Char. *Leaves*, oblong, pointed. *Fruit*, smooth.

This *tree* rises about thirty feet in height, and produces numerous branches; the *trunk* is covered with a dark brown bark, but that on the branches has a more greenish appearance; the *leaves* are elliptical, pointed, indulated, entire, obliquely nerved, and placed alternately on short footstalks, the color of which is a bright green on the upper surface, and grayish beneath, having an aromatic taste; the *flowers* are small and placed on axillary peduncles; the male and female are on separate trees; in the *male* flowers, the *filaments* are short, joined into one bundle, supporting long linear anthers, and inserted into the receptacle; in the *female* the *germen* is superior, oval, covered with a style, which is terminated by two stigmas; the *calyx* of the male and female is bell-shaped, and divided at the brim into three small teeth; the *fruit* is an oval berry, with a fleshy tough covering, which opens and displays the mace, closely investing the shell of the nutmeg.

The *Myristica moschata* is a native of the Molucus and its neighboring Islands, but is extensively cultivated in Sumatra, Java,

Penang, and many other parts of the East Indies; it has also been introduced into the Isle of France and Bourbon, the French colony of Cayenne, and some of the West India Islands. It commences to flower about the eighth or ninth year, after which it continues in blossom, and bears fruit of all ages at the same time, which is said to continue without intermission for seventy or eighty years, and the leaves fall in so small a proportion that their loss is almost insensible.

By distillation with water nutmegs yield nearly one third of their weight of a limped essential oil, which is very fragrant, and of a pale straw color, possessing all the properties of the nutmeg; a fatty substance floats on the surface of the water, which has scarcely any taste or smell. Alcohol by infusion extracts all its active properties.

Medical Properties and Uses. Nutmeg is an aromatic, to most persons of a grateful odor and taste. By its volatile parts it is a medicine of considerable power, possessing all the virtues of the other aromatics, both with respect to the alimentary canal, and to the whole system. Given in large doses it proves a powerful narcotic, from two to three drachms of the powdered nutmeg has in many instances been known to produce stupor, delirium, and dangerous if not fatal consequences would follow its free use. Dr. Cullen mentions a case where he was an eye witness, of a person who by mistake took two drachms of the powdered nutmeg; "he felt it warm in his stomach without any uneasiness, but in about an hour after, he was seized with a drowsiness, which gradually increased to a complete stupor and insensibility; he soon fell from his chair on the floor; being laid in bed he fell asleep, but on waking was quite delirious, and thus continued alternately sleeping and delirious, for several hours together, after which he recovered." It is employed to cover the taste, or correct the operation of other medicines, but more frequently as an agreeable addition to farinaceous articles of diet, and to various kinds of drink.



Purging Croton

NAT. ORDER.

Tricocæ.

CROTON TIGLIUM.

PURGING CROTON.

Class XXI. MONOECIA. *Order VIII.* MONADELPHIA.

Gen. Char. Male; *Calyx*, cylindric, five-toothed. *Corolla*, five-petalled. *Stamens*, ten to fifteen. Female; *Calyx*, many-leaved. *Corolla*, none. *Styles*, three, bifid. *Capsule*, triocular. *Seed*, one.

Spe. Char. *Leaves*, ovate-acuminate, serrated, glabrous, with two glands at the base. *Petioles*, shorter than the leaves. *Racemes*, terminal. *Stem*, arboreous.

This species of *Croton* is a native of Asia; growing in many parts of India, China, the islands of Ceylon, Java, etc. It is a tree that seldom exceeds the height of fifteen or twenty feet; the trunk and larger branches are covered with a soft bark, of a blackish color—the younger ones are green, with a reddish tinge; the leaves, are alternate, ovate-acuminate, serrated, smooth, and of a bright green color when old—downy, with stellated hairs, while young—standing upon petioles about one fourth of their length, with two glands seated at their base; the flowers are in erect, simple terminal racemes, with downy pedicels; the calyx in the the male-flower, is cylindrical and five-toothed; the corolla is composed of five straw-colored petals, which are very hairy; the stamens are from ten to fifteen; in the female flower the calyx is divided into many obtuse segments, which are reflected under the downy germen; there is no corolla; the styles are three and bifid; the capsule is about the size of a hazel-nut, trylocular, smooth, and containing three seeds.

The genus *croton* contains upwards of one hundred and fifty species, of which the *Tiglium* is the only one possessing purgative qualities. In Europe, the seeds have been long known under the names of *Grana Molucca* and *Grana Tiglii*; the former of which names, was derived from the Molucca Islands, whence the seeds were formerly exported into Europe. It appears that the natives of the Eastern nations have for centuries past been well acquainted with the purgative effect of the seeds; and in Europe they were formerly prescribed as a drastic purge, but fell into disuse on account of the very violent and alarming symptoms which so often occurred by their use. Both in this country and Europe, the fixed oil expressed from the seed, has been brought into general use, through the exertions of Drs. Conwell, Nimmo, Frost, and others.

Oil of Croton is of a deep orange color, with a peculiar odor, *sui generis*, and an extremely acrid and pungent taste. Dr. Nimmo, of Glasgow, found 100 parts of this oil to consist of 15 per cent. of an active purgative principle, soluble in volatile and fixed oils, alcohol, and sulphuric ether; and 55 per cent. of a bland oil, resembling oil of olives, insoluble in alcohol. It appears that the *croton oil* which is imported into this country, is usually very much adulterated, either with the oil of olives or castor, and differing in strength ten-fold: the consequences of prescribing a medicine of such unequal powers must be obvious.

Medical Properties and Uses. Every part of the *Croton Tiglium* tree possesses medical properties. Among the Eastern nations it is most highly valued for its purgative, diaphoretic, and diuretic properties: the roots, as well as the seeds, are powerfully cathartic, and very much used in some parts of Europe as a specific for dropsy; the wood of the trunk and branches, in small doses, acts upon the skin and kidneys; and the leaves, in powder, are used by the Japanese, as a topical remedy for the bites of serpents. In this country, the expressed oil is the only part medicinally employed, and when genuine, one drop proves a powerful cathartic.





1. Brooklime.
2. Rosy Flabranthus.

N A T . O R D E R .

Personatae.

VERONICA BECCABUNGA.

BROOKLIME.

Class II. DIANDRIA. *Order I.* MONOGYNIA.

Gen. Char. *Corolla*, four-parted, laciniate.

Spe. Char. *Capsule*, biocular. *Leaves*, ovate, plain. *Stalk*, upright.

Brooklime is a native of the United States, although found in some parts of Europe. It grows by the side of brooks, and in moist lands, and sometimes in the water. This plant, although very common in America, has, I think, never been accurately described by any American botanist whatever; yet some of the works speak of it, but not as being officinal.

The *root* is perennial, creeping, jointed, and sends forth from each joint numerous long slender fibres; the *leaves* are thick, oval, smooth, obtusely serrated, of a pale green color, and stand upon the stem in pairs, either sessile, or upon very short footstalks; the *stem* is round, jointed, creeping, smooth, succulent, and usually of a reddish brown color, rising from one to two feet in height; the *raceme* or *flower-spikes* are lateral, opposite, bracteated, and terminated by the flowers, which are of a faint blue color, and divided into four small roundish leaves; the *calyx* is quadrifid.

Propagation and Culture. The hardy, herbaceous, perennial species of *Veronica* are generally grown in flower borders, for which they are well fitted, on account of their beauty; they are of the most easy culture, and are readily increased by division at the roots. The

annual kinds, having rather a weed-like appearance, are only grown in botanical gardens; the seeds of them only require to be sown in the open ground. There are some species which are natives of New Holland, Van Diemen's Land, and New Zealand, which being rather tender, require to be treated as green-house plants; the shrubby kinds of these are propagated by cuttings; the others by divisions.

Medical Properties and Uses. The leaves and stem of Brooklime have a bitter, warm, and somewhat astringent taste; it has been considered *diaphoretic, diuretic, expectorant, and tonic*, and is said to have been employed with considerable success in pectoral and nephritic complaints, hæmorrhages, and diseases of the skin; it has been employed in the fresh state in purifying the blood, and as a remedy in scurvy.

Woodville, in describing this plant, says,—“that by a chemical analysis they appear to be subacid, and possess some degree of astringency, but that these qualities are common to almost all fresh vegetables, and afford no proof of their medical powers.”

This plant was formerly considered useful in several diseases, and was applied externally to wounds and ulcers; but if it possesses any peculiar efficacy, it is to be derived from its anti-scorbutic virtue. The juice is used as a mild refrigerant where an acrimonious state of the fluids prevail, indicated by prurient eruptions upon the skin, or scurvy; it is ordered in the London Pharmacopœia as an ingredient in the success of cochliariæ compositus, probably with a view to correct the pungency of the cress. We must, however, acknowledge, that we should expect equal benefit from the same quantity of any other bland fresh vegetable matter taken into the system. To derive any advantage from it, the juice ought to be used in large quantities, or the fresh plant eaten as food.

N A T. O R D E R.

Liliacæ.

HABRANTHUS ROSEUS.

ROSY HABRANTHUS.

Class VI. HEXANDRIA. Order I. MONOGYNIA.

Gen. Char. Flowers, declined. *Anthers*, adhering in the middle. *Style*, declined, recurved. *Leaves*, linear, ovate. *Stigma*, three-lobed.

Spe. Char. Leaves, glaucous. *Flowers*, two, rose-colored, green at the base, expanding wide. *Filaments*, conspicuously, of four lengths. Faucial membrane not recorded.

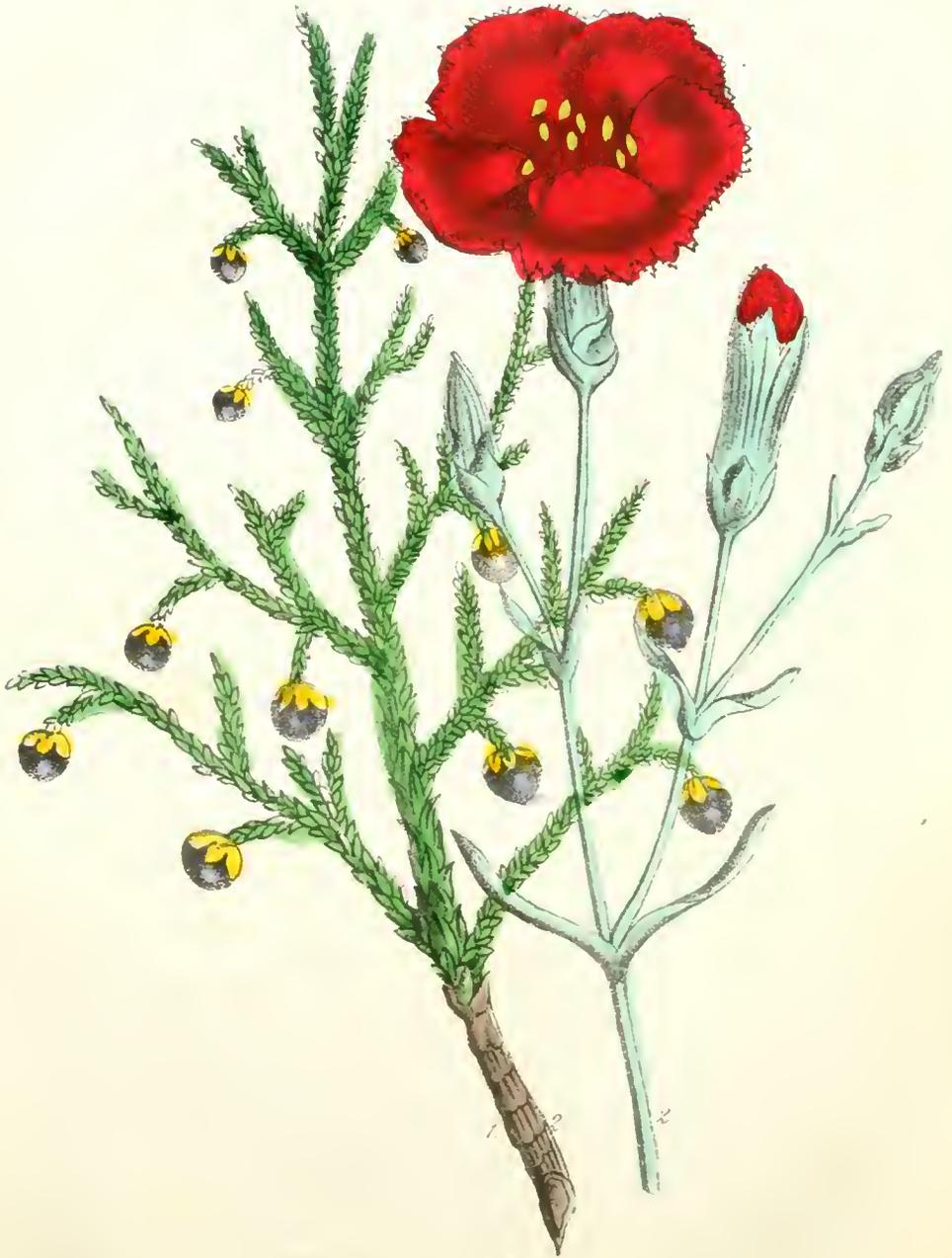
This is a very highly ornamental plant, with beautiful rich dark rose-colored *flowers*; the *leaves* are long and glaucous, linear-lorate, umbel precocious, unequally pedunculated; *stigma*, three-lobed; *capsule*, tubinate; faucial membrane (as far as is known) never wanting; *flower*, declined; *perianth*, short-tubed, subcampanulate, not convolute, more or less patent; alternate *segments* nearly equal; *filaments*, properly of four lengths, inserted alike at the mouth of the tube, declined, recurved, semi-fasciculate; faucial membrane (when manifested) annular; *anthers* affixed at the middle, incumbent, versatile; *style*, declined. It is a native of Chiloe, whence it was introduced in 1818. It flowers in June and July.

Habranthus gracilifolius. Slender-leaved Habranthus. The bulb of this plant is oblong and blackish; and there are four or five very long slender leaves, which are almost cylindrical, with a channelled line on the inner side. The species is a native of South America, near Maldonado, whence it was introduced in 1823. The flowers are without scent, and two or more are produced from each scape;

they are pink, and close at night, expanding partially in the sun, but never opening fully; the tube is very short and green on the outside. It flowers in September and October; and as the leaves only appear in November, and continue all the winter, it is generally kept in a green-house, though the plants appear hardy. The leaves decay about May or June. There is a variety figured and described by European botanists, which blossoms earlier, and has rather darker and more open flowers. It was named in honor of Mr. Booth, who discovered the plant, and states that he is inclined to consider it as half-hardy, only requiring protection from frost. The soil round the bulbs when found, was of a very sandy nature. Mr. Booth adds, that the plant seeks a mixture of loam, peat, and sand; that it flowers in October, and that the flowers remain in perfection eight or ten days.

The name of *Habranthus*, which is derived from two Greek words, "signifying delicate flowers," is applied to a genus of bulbous plants, very nearly allied to *Zephyranthes* in appearance, but differing so much botanically, that Mr. Herbert found it impossible to raise any hybrid between the two genera. He observes that the flower of the *Habranthus* rises after the dry season of rest, and is followed by the leaves, which remain on the plant through the winter, while the leaves of the *Zephyranthes* appear with the flowers, and fade in the winter. Thus though all the different kinds of *Habranthus* are quite hardy, yet as their leaves are in perfection during winter, they must be liable to injury, unless they are protected in some manner.

Propagation and Culture. These plants require, in order to prepare their blossoms, a hot period of rest, which would be often wanting to them if exposed to our climate. When cultivated in a border, they should be covered with a glass frame, to keep them hot and dry, in May, June, and July. Mr. Herbert adds, that any covering of mats or straw that will prevent injury from severe frost, will be sufficient to protect them in winter; or they may be taken up when the leaves decay, without breaking the fibres, kept in sand and re-set three months afterwards.



1 Common Lavender
2, Clove - Carnation Pink

NAT. ORDER.

Coniferae.

JUNIPERUS SABINA.

COMMON SAVINE

Class XXII. DILÆCIA. *Order XIII.* MONADELPHIA.

Gen. Char. MALE: *Ament* ovate. *Calyx* a scale. *Corolla* wanting. *Stamens* three. FEMALE: *Calyx* three-parted. *Petals* three. *Styles* three. *Berry* three-sided, irregular, with the tubercles of the calyx.

Spe. Char. *Leaves* opposite, erect, decurrent; the oppositions closed.

This shrub is found growing in some parts of the United States, but is a native of the southern parts of Europe and the Levant. It occupies high situations, and is cultivated for medicinal purposes. It rises three or four feet high, and is covered with a reddish-brown bark; it sends off many branches, which are numerously divided. The *leaves* are small, numerous, opposite, erect, pointed, firm, and of a bright green color, terminating the younger branches in sharp points. The *male* and *female* flowers are on different plants; the male catkin consists of three opposite flowers, placed in a triple row, with a tenth flower at the end; at the base of each flower is a broad scale. The *filaments* are only in the terminal flower; they are tapering, united at the base, and furnished with simple anthers, which are sessile in the lateral flowers. In the female, (which our plate represents,) the *calyx* is composed of three permanent scales; the *petals* are stiff, sharp, and permanent; the *germen* supports three with simple stigmas; the *fruit*, when ripe, is a round fleshy berry, of a purple color, tuberculated, and containing three small irregular shaped seeds; it flowers in May and

June. The *leaves* have a heavy, resinous, strong, unpleasant odor, and a hot, bitter taste. They afford by distillation with water a considerable proportion of colorless essential oil, possessing the smell and taste of Savine. Water extracts the activity from the leaves, but alcohol is considered much the best; both water and spirituous extracts possess considerable pungency and warmth, but they retain scarcely any of the odor of the plant.

Juniperus communis. Common Juniper. This is a low shrub, seldom rising more than three feet high, sending out many spreading tough branches, which incline on every side, covered with a smooth, brown, or reddish bark, with a tinge of purple; the leaves narrow, awl-shaped, ending in acute points, placed by threes round the branches, pointing outwards, bright green on one side, and grey on the other, continuing through the year; the male-flowers are sometimes on the same plant with the females, but at a distance from them, although they are usually on distinct plants; the female-flowers are succeeded by a cluster of roundish berries, which are first green, but when ripe of a dark purple color, continuing on the bush two years. This plant is common in all the northern parts of Europe, in Canada, and all the Northern States.

Propagation and Culture. All species of *Juniperus*, except *J. Virginiana*, *Red Cedar*, may be increased either by seeds, layers, or cuttings. The latter methods are proper for the Savin kinds. The seeds or berries should be sown in beds of light earth, early in spring, in a warm sheltered situation, in the open ground, being well raked in. The beds should be kept perfectly clear from weeds, and the young plants be occasionally watered during the summer season. When the plants have had two years growth in these beds, and have attained strength, they should be removed into nursery rows at two feet apart, and a foot or eighteen inches distant in the rows. They should remain in this situation till of a proper growth to be planted out where they are to remain.

The layers of the young branches should be laid down early in

the spring season, and when well rooted, taken off, and planted in the nursery, in the same manner as the seedling plants. The cuttings should be made from the young branches, and be planted in a shady border in the latter part of August, watering them occasionally till they have stricken root; when they may be taken up with earth about their roots, and be managed in the same manner as by the other methods.

The common upright and striped Savins may likewise be increased by planting slips of the young branches; for the last sort the most variegated being made use of, in the latter part of summer, or in the autumn, in a shaded border. These plants all succeed in the open ground, and grow in any common soil and situation.

Medical Properties and Uses. Savine is a powerful stimulant, acting upon the skin, bowels, and uterus, and has long been considered the most efficacious in the *Materia Medica* for producing a determination to the uterus, and thereby proving emmenagogue; it heats and stimulates the whole system, and is said to promote the fluid secretions. The power which this plant possesses in opening uterine obstructions, is considered to be so great, that it has frequently been employed with too much success, for purposes the most infamous and unnatural. Cases of this kind are not uncommon from the deleterious effect of this plant. Dr. Cullen observes: "Savine is a very acrid and heating substance, and I have often on account of these qualities been prevented from employing it in the quantity perhaps necessary to render it emmenagogue. I must own, however, that it shows a more powerful determination to the uterine vessels than any other plant I have ever employed." "But," says he, "I have frequently been disappointed in this, and its healing qualities always require great caution." In over doses it is capable of producing dangerous gastrointestinal inflammation, and should never be given when much general or local excitement exists. It is most conveniently administered in the form of powder, of which the dose is from five to fifteen grains, repeated three or four times a day.

NAT. ORDER.

Caryophyllaceæ.

DIANTHUS CARYOPHYLLUS.

THE CLOVE,
OR CARNATION PINK.

Class X. DECANDRIA. *Order II.* DIGYNIA.

Gen. Char. *Calyx* cylindric, one-leaved, with four scales at the base.
Petals five, with claws. *Capsules* cylindric, one-celled.

Spe. Char. *Calyxine-scales* cylindric, very short. *Petals* crenate.

The *root* is perennial, firm, divided, and beset with numerous fibres; the *stems* are slender, smooth, branched, upright, jointed, of a glaucous, or sea-green color, and rise from one to two feet in height; the *leaves* upon the stem are short, linear, and placed in pairs at the joints; those of the young shoots are numerous, narrow, pointed, smooth, entire, and of the same color as the stalk; the *flowers* stand single at the extremities of the branches, and are of a deep crimson color; the *calyx* is tubular, cylindrical, divided at the mouth into five segments, and surrounded at the base with four oval pointed squami-form scales; the *corolla* consists of five petals, which at the limb are roundish, patent, scolloped, fringed, and attached to the common receptacle by long narrow claws; the *filaments* are ten, longer than the calyx, tapering, spreading towards the top, and furnished with oblong compressed anthers; the *germen* is oval; the *styles* are two, slender, longer than the filaments, and their stigma turned or curled outwards; the *capsule* is cylindrical, and contains many small roundish seeds.

This fragrant and beautiful plant is said to be a native of Italy, but is now cultivated by the florists in most parts of the civilized

world, chiefly as an ornament to the flower-garden. It has been known to grow wild in several parts of our country, on old walls and in the crevices of rocks; but the flowers which are pharmaceutically employed are usually produced in gardens, where they become extremely luxuriant, and by the various arts of culture those beautiful varieties have been produced which are so highly esteemed under the name of carnations.

Medical Properties and Uses. The flowers of the Clove Pink, which is the part directed for medical use, has an agreeable, pleasant, aromatic smell, somewhat allied to that of clove spice; their taste is slightly bitter and subastringent. It can be safely employed in the treatment of dropsies, as it possesses considerable diaphoretic and diuretic properties. Rectified spirits digested on the flowers receives a much paler tincture than watery liquors, but extracts the whole of their active properties. In the process of distillation or evaporation spirit elevates much less than water; the spirituous extract retaining a considerable portion of the fine smell of the flowers as well as their taste, and the color purplish like that of the watery extract. In former times the flowers of this plant were supposed to have considerable effect upon the nervous system, and were therefore recommended in headache, faintings, palpitations of the heart, convulsions, tremors, &c., and were employed to a considerable extent in the treatment of malignant and putrid fevers. At present, however, they are valued mostly for their sensible qualities, and the *syrupus caryophylli rubri*, which is the only officinal preparation admitted into either the London or the United States Pharmacopœia. But its fine color and pleasant flavor renders it a very useful article in the preparation of other medicines.

NAT. ORDER.

Spathaceæ.

COLCHICUM AUTUMNALE

MEADOW SAFFRON

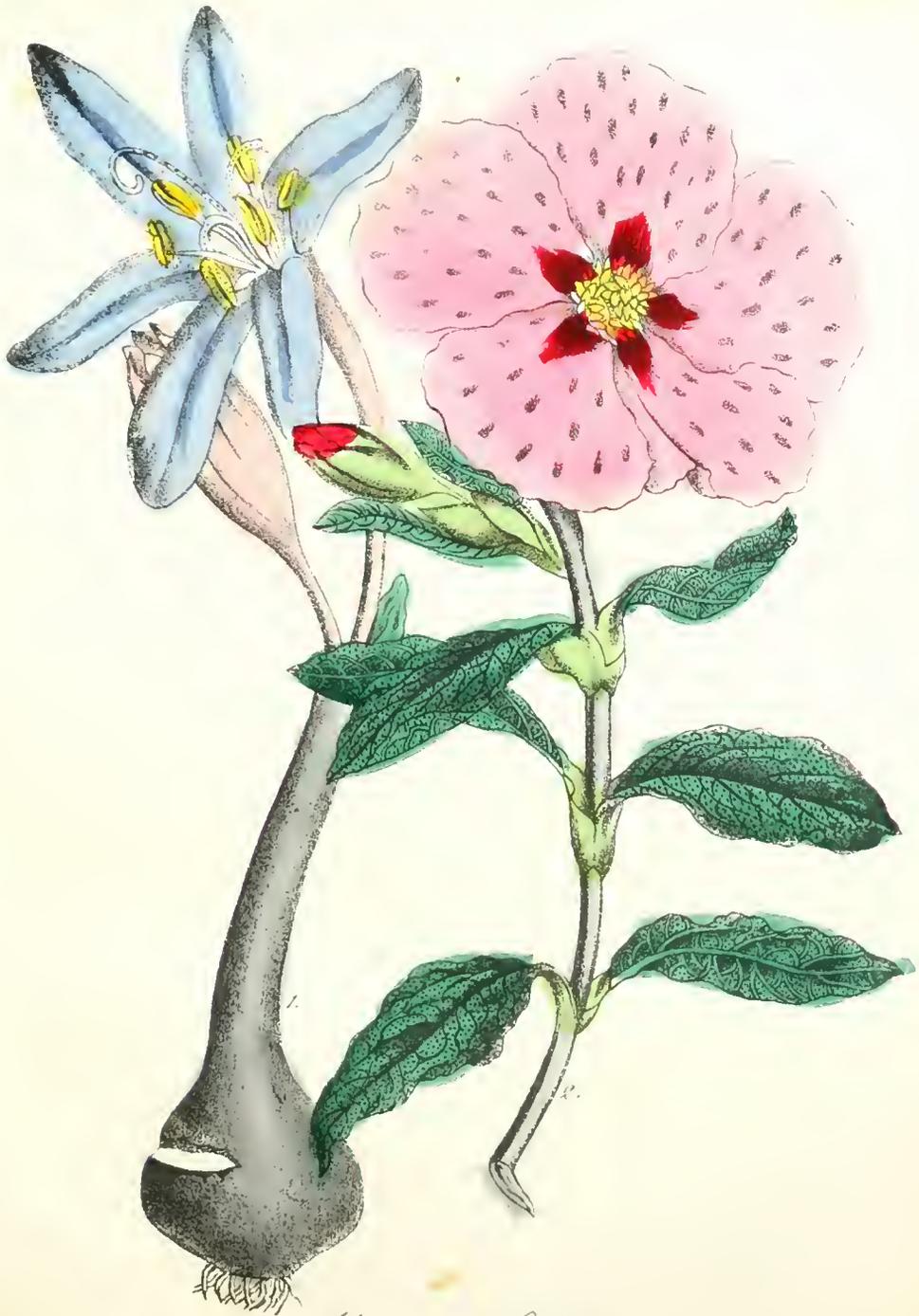
Class VI. HEXANDRIA. *Order III.* TRIGYGNIA.

Gen. Char. *Corolla* six-parted, with a rooted bulb. *Capsules* three, connected, inflated.

Spe. Char. *Leaves* flat, lanceolate, erect.

The *root* is perennial, consisting of a solid double succulent bulb, covered with a brown membranous coat; the *leaves* appear in the spring, and are numerous, radical, spear-shaped, one or two of which are much narrower than the others; the *flowers* are large, of a purplish color, and rise immediately from the root upon a long naked tube; *calyx* none; the *corolla* is monopetalous, and divided into six lance-shaped, large, erect segments, of a pale purple color; the *filaments* are six, tapering, white, much shorter than the corolla, and furnished with erect, pointed yellow anthers; the *germen* is lodged at the root, from which issue three slender styles, reflexed at the top, and terminated by simple pointed stigmas; the *capsule* is three-lobed, divided into three cells, containing numerous small globular seeds, which do not ripen until the succeeding spring, when the capsule rises above the ground upon a strong peduncle.

Colchicum Autumnale is a native of the temperate parts of Europe, where it grows wild in moist meadows. Various attempts have been made to introduce its culture into this country, but with no very encouraging success. The officinal portions are the bulb or cormus, and the seeds. The root, botanically speaking, consists of the fibres



1. Meadow Saffron.
2. Crotan Cistus.

which are attached to the base of the bulb. The flowers have been found to possess similar virtues with the bulb and seeds, but have not been adopted in the pharmacopœias.

Medical Properties and Uses. Colchicum Autumnale is one of the most active medicines ever introduced into medical practice. It possesses diaphoretic, diuretic, cathartic, and emetic properties. Baron Stoerck 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; 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. From this account we need not be surprised that we find so many melancholy instances recorded where it has proved a fatal poison both to man and brute animals; also of its effects upon children, who have accidentally partaken of the bulbs, in whom it occasioned the symptoms alone. Two boys, after eating this plant, which they found growing in a meadow, died in great agony. Violent symptoms have been produced by taking three of the flowers; the seeds also will produce the same effect. Deer, oxen, and other animals have fallen a sacrifice to this poison; and according to Stoerck two drachms 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. When applied to the skin it produces similar effects as when taken into the stomach, which must depend on its being absorbed and taken into the circulation.

NAT. ORDER.

Rotaceæ.

CISTUS CRETICUS.

CRETAN CISTUS

Class XIII. POLYANDRIA. *Order I.* MONOGYNIA.

Gen. Char. *Corolla*, five-petalled. *Calyx*, five-leaved, with two of the leaflets smaller.

Spe. Char. *Leaves*, spatulate, ovate, petioled, nerveless, rugged. *Calyx*, lanceolate.

This *plant* seldom rises to any great height—it is covered with a dark-colored bark, and sends off several simple branches; the *leaves* are oblong, pointed, waved, rough, viscous, veined, and stand in pairs upon short foot-stalks, which are broad at the base, so as to nearly surround the younger branches; the *flowers* are produced in succession at the extremities of the branches, in June and July—they are large, of a purple-red color, marked with dark spots at the base of each petal, and stand on short peduncles; the *calyx* is divided into five large oval-pointed persistent segments, of which the two outermost are smallest; the *corolla* is composed of five petals, which are large, roundish, spreading, and readily fall off on being touched; the *filaments* are numerous, very short, slender and supplied with simple anthers of an orange color; the *germen* is oval, and supports a short style, furnished with a flat circular stigma; the *capsule* is roundish, and contains many small orbicular seeds.

This shrub, which is a native of Candia and some of the Islands of the Archipelago, was first cultivated in England by Mr. P. Miller, in the year 1731, and is now extended to most of the princi-

pal gardens throughout that country, although it is not as common as many other exotic species of this genus. Not only this plant, but most of its congeners, abound with a glutinous liquor, which in summer exudes upon their leaves. It is well known that the *Cistus Creticus* is the species from which the officinal labdanum is collected. This is done by means of an instrument called *Ergastiri*, made in the form of a rake, to which several leathern thongs are affixed instead of teeth, and with which the leaves of the shrub are lightly brushed backwards and forwards, so that the fluid labdanum may adhere to the leather, from which it is afterwards scraped off with knives, and formed into regular masses for exportation.

Three kinds of labdanum have been described by authors, all possessing nearly the same properties; the *Cistus creticus*, *Cistus ladaniferus*, and the *Cistus laurifolius*, all of which are small ever green shrubs, inhabiting the Grecian Islands. The best labdanum, which is the soft kind, has an agreeable smell, and a lightly pungent bitter taste; the hard is much weaker. Rectified spirits of wine dissolves nearly the whole gum into a golden-colored liquor; on distillation with water, there comes over a fragrant essential oil.

Medical Properties and Uses. Labdanum is a stimulant expectorant, and astringent, and was formerly employed internally as a pectoral, and in catarrhal affections, dysenteries, and many other diseases; but at present it is wholly confined to external use, and as an ingredient in the stomachic plaster, although seldom used in the United States for that purpose.

NAT. ORDER.

Compositæ.

LEONTODON TARAXACUM.

DANDELION.

Class XIX. SYNGENESIA. *Order I.* POLYGAMIA ÆQUALIS.

Gen. Char. Receptacle naked. *Calyx* double. *Papus* stipitate and hairy.

Spe. Char. *Outer calyx* reflect. *Scape* one-flowered. *Leaves* runcinate, smooth, with tooth-lobes.

The *Dandelion* is a very common plant, and is to be found in most parts of the United States, growing in meadows and pastures, and flowering from April to August. The *root* is perennial and spindle-shaped, which, with the whole plant, abounds with a milky juice; the *flower-stalk* is simple, colored, shining, and unifloral; the *leaves* are all radical and cut in a peculiar way, forming a good example of what botanists call runcinata; the *seeds*, on approaching to maturity, become crowned with a fine downy feather, disposed in a spherical shape. The young leaves of this plant are very much used in the spring as a pot-herb; in some parts of Europe the roots are roasted and substituted for coffee by the poorer inhabitants, who find that an infusion prepared in this way can hardly be distinguished from that of the coffee-berry. The *root*, when dry, is very much wrinkled, shrunk, and brittle, and on being broken presents a shining resinous fracture; it has a sweetish bitter, herbaceous taste, and yields its medical properties to boiling water.

Medical Properties and Uses. *Dandelion* is generally considered by medical writers as the most active and efficacious of th



Tandelion.

lactescent plants; the expressed juice is bitter and somewhat acrid; the root, however, is still more bitter, and possesses greater medicinal power than any other part of the plant. *Taraxacum* has long been in repute as a mild detergent and aperient; it is also diuretic and tonic, and has a direct action upon the liver and kidneys, exciting them when languid, to action. It is most applicable to hepatic diseases, and derangement of the digestive organs generally. In chronic inflammations of the liver and spleen, in cases of deficient biliary secretions, and in dropsical affections of the abdominal viscera, it is capable of being very beneficial if properly applied; from experience I can speak in its favor. Howard, in his *Materia Medica*, says he has used it in pulmonary diseases and found it an invaluable remedy. He believes that if ever any one article cures a confirmed consumption, it will prove to be this. Possessed of such active and extensive medical properties, it may be so managed in its exhibition as to produce almost any effect to any extent desired on any function, tissue, or set of organs in the animal machine. Rafinesque says that the milky juice of the stem of this plant removes freckles from the skin.

It is usually given in the form of extract, decoction, or syrup. The syrup is made by boiling one pound of dried root in one gallon of water down to two quarts. Strain off, and add while warm one pound of loaf sugar, and one pint of good spirits. Dose—half a wine-glassful three times a day.

NAT. ORDER.

Calastrineæ.

CELASTRUS SCANDENS.

BITTER SWEET.

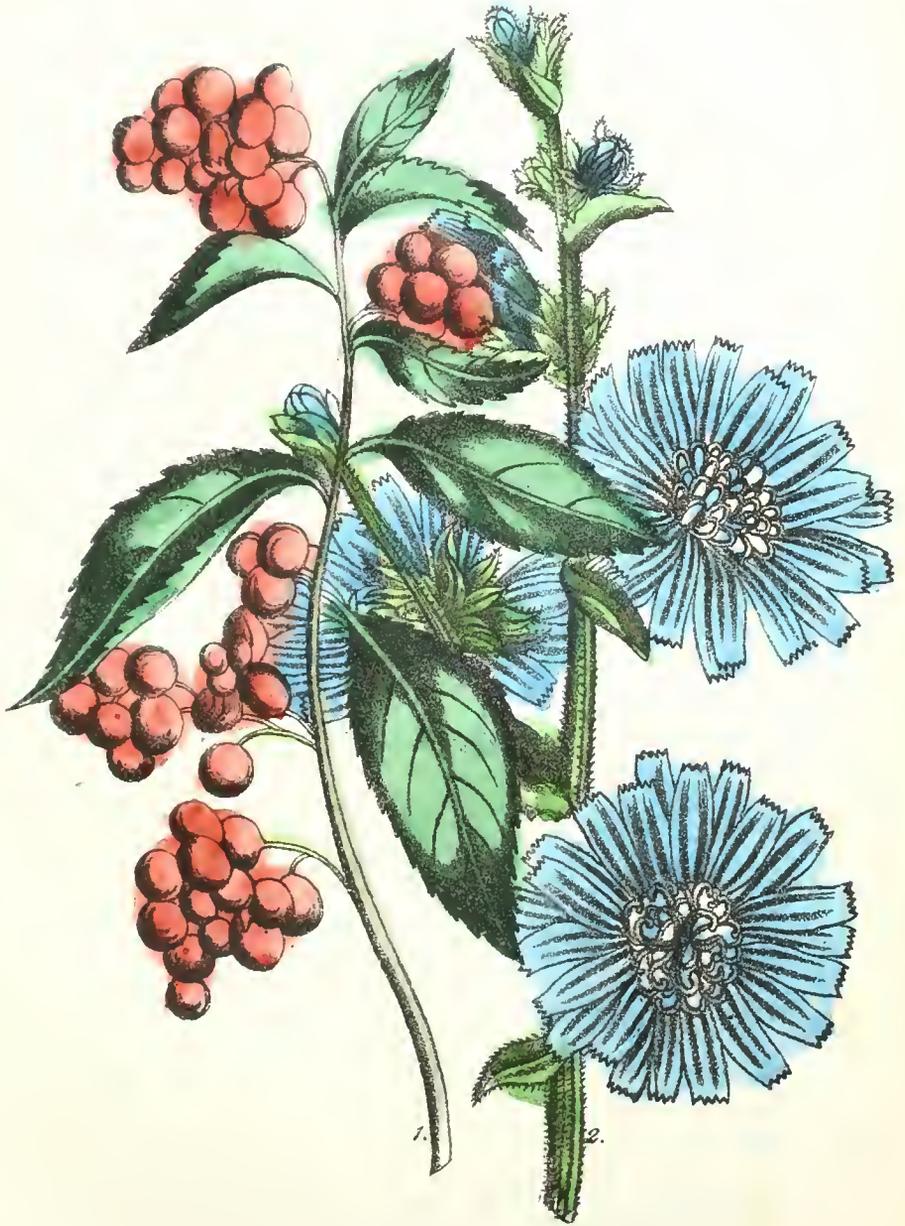
Class V. PENTANDRIA. *Order I.* MONOGYNIA.

Gen. Char. *Calyx*, five-lobed, flat. *Corolla*, five petaled. *Stamens*, seated around a five-toothed glandulous disk. *Capsule*, or *theca*, obtusely triangular, three-celled, three-valved. *Cells*, one-seeded. *Seeds*, covered with a four-cleft colored arillus.

Spe. Char. *Stem*, climbing, unarmed. *Leaves*, oblong, acuminate, serrate. *Racemes*, terminal. *Flowers*, arillus.

The *root* is creeping, of a bright orange color, from three-eighths to three-fourths of an inch in diameter, and sometimes extends several rods in length; the *stem* is covered with a reddish brown bark, and seldom exceeds an inch in diameter; the *leaves* are tapering near the base, with minute teeth along the margins, and a sharp and extended point; the *blossoms* are of a greenish yellow color, and very fragrant; the *berries* grow in clusters, and remain upon the vines during winter. Early in the autumn, they are of an orange color, but after the first or second frost, the external covering divides into three valves, which turn backward, and disclose a beautiful scarlet berry in the centre. It flowers in the first or second week in June.

A very beautiful description of this species of Bitter Sweet may be found in Matterson's Vegetable Practice, from which we copy. "The Bitter Sweet is a woody vine, attaining, in favorable situations, the height of thirty or forty feet. It twines around the branches of trees similar to the grape-vine, and creeps upon hedges,



1. Bitter Sweet.
2. Wild or Blue Succory.

fences, and rocks. It has various names—as staff tree, red root, fever twig, and wax work. It is common throughout the northern and southern States, thriving the most luxuriantly in a rich, damp soil.”

“The *solanum dulcamara*, or woody night-shade, is sometimes confounded with this plant, probably on account of the name *bitter sweet* being common to them both. The *dulcamara* possesses poisonous properties, and hence the necessity of this caution. It has a slender, vine-like stem, seldom exceeding seven or eight feet in length, with leaves of a dull green color, and clusters of elegant purple blossoms, which remain in bloom from June till August.”

Medical Properties and Uses. The Bitter Sweet, says Dr. Smith, is both a powerful and useful medicine, although like most of the invaluable medicinal plants of our country, which nature has so profusely furnished to our hands, its virtues are but little appreciated, and that but by a few. It increases all the secretions and excretions, particularly perspiration, acts gently as a diuretic, and excites the heart and arteries. It is an excellent discutient, detergent, and resolvent medicine, and may be employed both internally and externally. It is peculiarly beneficial in liver complaints, and in all cutaneous affections; also in rheumatism, scirrous swellings, ulcers, scrofula, jaundice, weakness and obstructions. The expressed juice of this plant has been applied to cancers of the breast and scrofulous tumors: the juice is rubbed on the cancer or the swelling, and the green leaves are applied over the breast. For internal use, it is recommended to boil half a pound of the bark in one gallon of water; the dose is a gill three or four times a day. It is also very highly valued in the treatment of fevers and dropsical swellings.

To make *Bitter-sweet Ointment*, put equal parts of the berries and lard in a close kettle, over a gentle fire, for several hours; strain it, and add half a pound of pulverized lobelia seed; heat the whole gently for a few hours, and strain again for use. A cure for piles.

NAT. ORDER.

Compositæ.

CICHORIUM INTYBUS. WILD, OR BLUE SUCCORY.

Class XIX. SYNGENESIA. *Order I.* POLYGAMIA ÆQUALIS.

Gen. Char. *Calyx*, calyced. *Pappus*, slightly five-toothed, obscurely hairy. *Receptacle*, somewhat chaffy.

Spe. Char. *Flowers*, twin, sessile. *Leaves*, runcinate.

The *root* is perennial, long, tapering, branched, or spindle-shaped, lactescent, externally yellowish, and internally white; the *stalk* is erect, rough, branched, angular, and rises from one and a half, to three feet in height; the *leaves* at the root are pinnatifid, or cut into irregular segments, like those of the dandelion: on the stalk they are alternate, sessile, somewhat spear-shaped, but indented and rough at the base; the *flowers* are compound, large, blue, and stand in pairs; the *calyx*, which is common to all the florets, is composed of a double set of leaves, the outer ones, which are five in number, are ovate, spreading, and fringed with glandular hairs; the inner set consists of about eight; the *corolla* is composed of hermaphrodite florets, which are regular, blue, and about twenty in number, each consisting of a short white tube, from which rises a long flat ribbed limb, divided at the extremity into five teeth; the *filaments* are white, slender, and unconnected; the *anthers* are blue, and form a hollow angular cylinder; the *germen* is conical, and crowned with short hairs; the *style* is filiform; *stigmas* are two, rolled back, and blue; the *seeds* are numerous, naked, angular, and lodged at the bottom of the calyx.

This *plant* belongs to the same family with the garden *endive*, and by some botanists has been supposed to be the same plant in its

uncultivated state; but the *endive* so much used as a sallad, is an annual, or at most a biennial plant, and its parent is now known to be the *Cichorium Endivia*. It is a native of Europe, but has been introduced, and has now become naturalized to this country, where it is found growing on the borders of cornfields, and flowers in July and August.

It appears from history that the cichorium was highly esteemed by the Romans as a sallad; and according to Pliny this name signified the wild species of the plant. The *Intybus* and *Seris* are also mentioned as its congeners, the latter implying the cultivated species.

Medical Properties and Uses. The roots and leaves of this plant have formerly been considered as useful aperients, acting mildly and without irritation, tending rather to abate than to increase heat, and may therefore be given with safety in hectic and inflammatory cases. Taken freely, they act as a gentle purgative, and when continued for some time, they have often proved salutary in obstructions of the viscera, in jaundices, hypochondriacal and other chronic disorders. The virtues of succory, like those of the dandelion, reside in its milky juice; and in most of the plants of the order *Semifloculosæ*, a juice of a similar nature is to be found; therefore what has been observed of the effects of taraxacum, will, in a great measure, apply to the cichorium, and we are warranted in saying, that the expressed juice of both these plants taken in large doses frequently repeated, has been found an efficacious remedy in phthisis pulmonalis, as well as in various other affections of a similar nature. The seeds of the cichorium, which are small, angular, and of a brown color, taken in the form of a powder, or in decoction, are considered cooling, and are very much used for that purpose.

NAT. ORDER.

Gullifera.

STALAGMITIS CAMBOGIOIDES. GAMBOGE TREE.

Class XXIII. POLYGAMIA. Order I. MONŒCIA.

Gen. Char. *Calyx*, four-leaved. *Corolla*, four-petaled. *Stamens*, thirty, inserted into a fleshy, quadrangular receptacle. *Style*, thick. *Stigma*, four-lobed. *Berry*, one-celled, crowned by the style and stigma.

Spe. Char. Male. *Calyx*, *Corolla*, and *Stamens*, hermaphrodite.

The *Stalagmitis cambogioides* is a middling sized tree; the branches are opposite and divaricated; the leaves are opposite, ovate, entire, smooth, coriaceous, rigid, and supported on short petioles; the flowers are hermaphrodite and male; the hermaphrodite flowers are in axillary or lateral whorls; the male flowers are either in distinct clusters or mixed with the hermaphrodite; the calyx in the male flowers consist of four ovate leaflets, the two exterior of which are smaller than the interior; the petals are four, spreading, coriaceous, with ciliated margins, and of a yellow color; the stamens are about thirty, and placed upon a four-square, fleshy receptacle; the anthers are club-shaped,—sometimes there are rudiments of a style, and an unequal, sterile stigma; the calyx, corolla, and stamens of the hermaphrodite flowers, resemble those of the male; the germen is globular, and supports a short style, crowned with a three or four-lobed stigma, the lobes of which are obcordate and persistent, the fruit is a smooth, globular, yellow berry, crowned by the style and lobes of the stigma, and contains several long, triangular seeds.

This tree is a native of the kingdom of Siam and Ceylon,



1. Gumbooge Tree.
2. Balmomy.

where it is known by the name of *Ghokata*; but is not the only plant which yields the gamboge, although it is probable that the greatest portion which is brought to market, is the product of this tree. The *Gambogia gutta*, *Garcinia celebica*, *Hypericum promiferum*, and many other plants, yield a yellow gum-resin, resembling in every respect the gamboge of the shops. It is obtained by wounding the bark of the tree with sharp stones, or by breaking off the leaves and young shoots, from whence the juice exudes, and is collected in cocoa-nut shells, and thence poured into the joints of the bamboo, which gives it the cylindrical form.

Sensible and Chemical Properties. *Gamboge* has no odor, and but little taste: it is of a golden yellow color, and when macerated in water, forms a fine turbid yellow solution, and about two-thirds of its substance is dissolved. Alcohol dissolves about 90 per cent.; water renders the tincture cloudy and bright yellow; but it is long before any precipitation takes place. Ether dissolves 60 per cent.; the solution is transparent, and of a deep golden color.

Medical Properties and Uses. *Gamboge* is a drastic cathartic, acting powerfully upon the alimentary canal; even when administered in small quantities, it often produces vomiting, hypercatharsis, and other unfavorable symptoms. Some writers have given it a place among the acrid poisons: they came to this conclusion from the experiments made on animals—finding that it frequently occasioned death by the powerful local action which it exerts, and by the sympathetic irritation of the nervous system. When administered with due caution, gamboge often proves a successful hydragogue in dropsy, either alone, or in combination with other cathartics. It has also been given with success for expelling tæniæ, and is probably the most active ingredient in most nostrums sold for that purpose. For destroying the tape-worm, it has been given to the extent of fifteen or twenty grains, combined with an equal quantity of vegetable alkali.

NAT. ORDER.

Schrophularia.

CHELONE GLABRA.

BALMONY.

Class XIV. DIDYNAMIA. *Order II.* ANGIOSPERMIA.

Gen. Char. *Calyx*, five-parted, with three bracts. *Corolla*, ringent, ventricose, sterile. *Filament*, shorter than the rest. *Anthers*, woolly. *Capsules*, two-celled, two-valved, *Seeds*, membranaceously margined.

Spe. Char. *Stem*, smooth. *Leaves*, opposite, lanceolate, oblong, acuminate, serrate. *Flowers*, in dense spikes.

The *root* of this plant is perennial and fibrous; the *stems* are numerous, erect, branched near the top, smooth, bluntly four cornered, and rise from three to five feet in height; the *leaves* are opposite, tapering, from five to six inches long, pointed, edged with acute teeth, of a dark green color when fresh, almost black when dry, and intensely bitter; the *flowers* are terminal, of different colors in different varieties, white, spotted, tinged in some instances with a delicate shade of red, and of a most singular shape, resembling the head of a snake with its open mouth; they are disposed in a cluster, as may be seen in the drawing. It does not bloom until late in the autumn.

This valuable plant was cultivated and extensively employed as a medicine in the sixteenth, and beginning of the seventeenth century. Salmond, in his English Herbal, published in 1710, describes this plant and several of its varieties, as possessing highly valuable medical properties; since which time it appears to have fallen into disuse, or forgotten; but has recently been revived

and now enters largely into various compounds prepared as a tonic or strengthening syrup. Matterson says the herb should be collected in clear, dry weather, and as soon as it is in bloom, as the leaves frequently become mildewed after that time. It should be dried in the sun, or in a warm chamber or loft, and carefully guarded from a moist or damp atmosphere, or it will acquire a dark and black color.

Medical Properties and Uses. Balmony possesses both tonic and laxative properties, and, without exception, is one of the best articles to promote an appetite that can be found. It can be administered by itself, or in combination with other articles. Thomson says, "the balmony is a bitter of the first order, for correcting the morbid secretions of the bile, removing the torpidity of the liver, and creating an appetite. A tea made of the leaves is well calculated to restore the digestive powers." Matterson describes this plant as having long been known in New England as a tonic and laxative. "It is employed in costiveness, dyspepsia, loss of appetite, and general languor or debility. Given to children afflicted with worms, it will generally afford relief. It is a valuable medicine in disorders of the liver; and in jaundice, it tends to remove the yellow tinge from the skin and eyes." Rafinesque says it is an active and powerful cathartic, as well as tonic; but of this I am inclined to think he may be mistaken, as I have administered it in many cases, and never found it to act as a cathartic, unless frequently taken, and in extreme large doses; in which cases it sometimes caused a gentle movement of the bowels. As a vermifuge, combined with the *Chenopodium anthelminthicum*, I think it has no superior, rarely failing to expel the worms; it should be administered in infusions, continued for a time, and followed by a suitable purge. It is said that the Indians made use of a strong decoction of the whole plant in eruptive diseases, biles, sores, scrofula, piles, &c. An even tea-spoonful of the powdered leaves is a dose, and may be given in fevers, jaundice, &c.

NAT. ORDER.

Lobeliaceæ.

LOBELIA SYPHILITICA.

BLUE LOBELIA.

Class V. PENTANDRIA. *Order I.* MONOGYNIA.

Gen. Char. *Calyx* five-cleft. *Corolla* one-petalled, irregular. *Capsules* inferior, two or three-celled.

Sp. Char. *Stem* erect, rather hairy. *Leaves* ovate, lanceolate, subserrate. *Sinuses* of the calyx reflex.

The *ro.* is perennial, and furnished with innumerable small white fibres; the *stem* is upright, strong, simple, smooth, and rises from two to three feet in height; the *leaves* growing near the top of the stem are oval and pointed, those at the bottom rather elliptical, and obtusely lance-shaped; they are both minutely serrated, veined, smooth, and without footstalks; the *flowers* are numerous, large, blue, and grow upon a long spike, on short peduncles; the *corolla* consists of a long tube, which is nearly cylindrical, and divided at the limb into five pointed oval segments, of a rich blue color; the *calyx* is composed of five halfbert-shaped leaves, fringed at the margin, and reflected at each side; the *filaments* are five, tapering, equal in length to the tube of the corolla, and closely connected at the top by the anthers; the *germen* is short and conical; the *style* is about the length of the stamens, which terminates with a blunt, hairy stigma; the *capsule* is oval, and divided into two cells, which contain many small seeds.

Lobelia, of which there are at least fifty different species, was first introduced to botanical notice by M. Lobel, physician and botanist to James I., of England, from whom the plant derived its name.



1. Blue Lobelia.
2. Pipsissewa.

There are ten of these species common to our New England States, and among them one of the most beautiful, generally known as the Cardinal Flower, *Lobelia Cardinalis*. This superb plant, according to Mr. Aiton, was first cultivated in England by the celebrated botanist, Mr. Ray, and it has now become a general and favorite ornament in the gardens of that country, where much care is bestowed upon its culture, while in its native soil it is quite common and flourishes in all its beauty on the banks of our brooks and ponds. The *Lobelia Syphilitica*, which is represented in the plate, is also one of the species that are natives of this country; and although it cannot vie with its cardinal brother in grandeur and magnificence, it far surpasses it in usefulness and beneficial properties, being one of the most valuable appendages to our botanical materia medica. Its medicinal virtues were long known and applied by the North American Indians, before the more scientific professors of our schools discovered its valuable properties, and indeed much controversy and diversity of opinion has existed among modern practitioners upon the subject. Volumes have been written in support of its efficient and beneficial qualities in its application and use, and many in endeavoring to prove the almost certain and fatal consequences of administering it under any circumstances of sickness and disease.

Medical Properties and Uses. All the various species possess more or less highly valuable medicinal properties; of the *Lobelia Syphilitica*, the root is the part most used as a medicine; it possesses emetic, cathartic, expectorant, sudorific, and diuretic properties; when given as the former it operates powerfully and speedily, producing, however, great relaxation, debility, and perspiration, and therefore should be administered with great caution and care, and only by those who are well acquainted with its medicinal effects. The *Lobelia Longiflora* is a native of some of the West India islands; when taken internally it acts as a violent cathartic. Several of the species are introduced into medical practice, some of which we shall give a more particular description of hereafter.

NAT. ORDER.

Pyrolaceæ.

PYROLLO UMBELLATA.

PIPSISSEWA.

Class X. DECANDRIA. *Order I.* MONOGYNIA.

Gen. Char. *Calyx*, in five deep segments. *Petals*, five. *Capsule*, superior, five-celled, bursting at the angles. *Anthers*, opening by two pores.

Spe. Char. *Leaves*, wedge-shaped, lanceolate, serrated. *Flowers*, somewhat umbellate. *Stamens*, smooth. *Style*, immersed.

The *root* is perennial, creeping, and long, sending up at various distances several woody, somewhat angular, erect, or slightly procumbent *stems*, which rise about a span in height; the *leaves* are produced in irregular whorls, of which there are usually two or three on each stem,—they are wedge-shaped, lanceolate, serrated, smooth, supported upon short petioles, and are of a deep shining green; the *inflorescence* consists of a small corymb, generally of five flowers, on simple, nodding pedicells; the *calyx* is inferior, and consists of five roundish, permanent segments, much shorter than the corolla; the *petals* are five, roundish, concave, spreading, of a cream color, with a tinge of crimson at the base; the *filaments* are ten, which are awl-shaped, curved, and supporting large two-celled anthers, of a purple color; each cell opening by a short, round, tubular orifice, at the summit; the *style* is cylindrical, half the length of the germen, and concealed by the stigma, which is large, peltate, covered by a viscid matter, and obscurely five-rayed; the *capsules* are orbicular, depressed, with five valves, five cells, and five partitions, from the central column; the *seeds* are very minute,

of an oval figure, each contained in a membranous tunic, elongated at both ends.

This beautiful species of *winter-green* is a native of the United States, and is also to be found in many of the northern parts of Europe and Asia. It is found growing mostly in shady woods, where it is protected from the solar rays, and nourished by a soil formed from the decomposition of leaves and other vegetable matter. In the northern parts of this country it is a very common plant, and known by the names of *ground-holly*, *winter-green*, *pipsissewa*, *princepsine*, and by the Indians, *herbe de Paigne*. In Canada, it is known by the name of *L'Herbe a Pisse*. The genus *Pyrola* comprises about fifteen species, of which eight are indigenous to North America, and five to Europe. The *Pyrola umbellata* was introduced into medical practice about fifty years ago; but it is only within the last few years that it has excited the attention of the profession as a remedial agent. The *Pyrola umbellata*, *Pyrola uniflora*, *Pyrola secunda*, *Pyrola picta*, *Pyrola asarifolia*, *Pyrola maculata*, *Pyrola elliptica*, *Pyrola dentata*, are the only varieties which have as yet been discovered in this country; although some of the English botanists have described the *Pyrola menziesii*, and the *Pyrola occidentalis*, as growing in great abundance on the north-west coast of North America.

Sensible and Chemical Properties. The whole plant has a moderately warm pungent taste, somewhat between bitter and sweet; when bruised, it exhales a strong, and rather unpleasant odor. Both water and alcohol extract its virtues, but the latter most completely. The watery infusion of the dried plant is of a brownish color; the decoction is of a deeper color, and both strike a black with the sulphate of iron. According to the experiments of Dr. Wolf, 100 parts of the herb contain about 18 of a bitter extractive principle, 2,04 of resin, 1,32 of tannin, a slight portion of gum, the rest fibrous matter and earthy salts. The resin is

adhesive, brownish, readily soluble in ether, or alkalies, burning with flame and a resinous odor, leaving a white cinder.

Medical Properties and Uses. The *Pyrola umbellata* is diuretic and tonic; externally stimulant. It has lately been introduced into practice as an efficacious diuretic in dropsy, and from the favorable testimony of physicians who rank high in the profession, we are warranted in recommending it to general practice, as a remedial agent, possessing most valuable diuretic and tonic powers; the proof of which seems to have been fully illustrated by Dr. W. Somerville, in a paper on this vegetable published in London. The facts presented by this physician afford satisfactory evidence of the powers of this medicine, to promote the urinal exertion, and to afford relief to patients afflicted with dropsy in its various forms. One of the most remarkable and distinguished cases presented by him, is that of Sir James Craig, the British Governor of Canada, who was labouring under general dropsy, which, in its progress, had assumed the forms of hydrothorax, anasarca, and ascites, and which was combined with different organic diseases, especially of the liver. After having tried with little or temporary success, almost every variety of diuretic and cathartic medicines, and submitted twice to the operation of tapping, the patient had recourse to a strong infusion of *Pyrola*, in the quantity of a pint every twenty-four hours. Although the case was altogether an unpromising one, yet the plant gave relief, not only in the first, but also in the subsequent instances of its use. It increased the urinal discharge, and, at the same time, produced an augmentation of strength, and an invigorated appetite. A great variety of cases of dropsy are detailed in Dr. Somerville's paper, in which the *Pyrola* was administered by himself and by other practitioners with decided advantage. Dr. Somerville found his patients remark that an agreeable sensation was perceived in the stomach soon after taking the *Pyrola*, and this was followed in some instances by an extraordinary increase of appetite. He considers it as having in this respect, a great advantage over other diur-

etics, none of which are agreeable to the stomach, and most of them very offensive to it. He further states that no circumstance had occurred within his own experience or information, to forbid its use in any form, or to limit the dose. Sir Walter Farquhar, states that he used the *Pyrola*, in the case of a lady laboring under ascites in which the diuretic effect of this plant were very striking. Dr. Barton, author of "The Vegetable Materia Medica of the United States," also corroborates the accounts of the diuretic effects of this vegetable, by four cases which came under his care at the Marine's Hospital, Philadelphia, in which a strong infusion was given with the most decided advantage. Dr. Bigelow says: "I have administered this plant on various occasions, and attended to its operation. In a number of dropsical cases, when first given, it made a distinct and evident impression on the disease, communicating an increased activity to the absorbents, followed by a great augmentation of the excretion from the kidneys; but," says he, "I found it better to omit the medicine for a time, and resume it afresh, than to continue until the system had become insensible to its stimulus." It has proved, in almost every case, a very acceptable medicine to the patient and is preferred both for its sensible qualities and its effects on the stomach, to other diuretics and alteratives which have been prescribed. Dr. Mitchell, an American physician, relates many cases of its extraordinary success administered in fevers. We are told that the Indians administer a strong and warm decoction of this plant in rheumatism and fever; they employ the whole plant, and take it in large quantities. Many cases which have come under my own observation, in the treatment of patients, and where I have watched its effects, have satisfied me that the *Pyrola umbellata* possesses most highly valuable medical properties, especially in the treatment of dropsies, ulcers, tumors, scroffula, etc. As an external remedy, it has been used with success in various chronic indurated swellings.

NAT. ORDER.

Pomaceæ.

RIBES RUBRUM.

RED CURRANT.

Class V. PENTANDRIA. *Order I.* MONOGYNIA.

Gen. Char. *Petals* five, inserted with the stamens into the calyx.
Style bifid. *Berry* many-seeded, inferior.

Spe. Char. *Racemes* smooth, nodding. *Leaves* obtusely five-lobed.

The *Red Currant* is a native of England, but is now cultivated in gardens throughout most parts of the United States. It grows from five to six feet in height, is divided into many branches, and covered with a dark brown bark, except the younger limbs, which are of a light green color. The *leaves* are serrated, veined, divided into five, and sometimes seven lobes, of a pale green color, and stand upon tapering footstalks, which are about the length of the leaves, and somewhat hairy near the base; the *bractæ* are small, oval, pointed, and placed at the base of the leaf stalks and peduncles; the flowers grow in lateral, pendulous, raceme, or clusters, and appear in April; the *calyx* is divided into five spreading, reflexed, pointed, oblong, concave, permanent segments, which are of a greenish yellow color; the *corolla* is composed of five small, obtuse, upright petals, of a yellow color, and inserted in the calyx; the *anthers* are compressed, gaping at the edges, and attached at their sides to the filaments; the *germen* is roundish, placed below the corolla, and supports a cloven style, with obtuse stigma; the *fruit* is a round, shining red berry, of one cell, separated into two receptacles, and containing many roundish seeds, and of a pleasant, tart taste; the *root* is woody and spreading.



Red Currant.



The Currant being so abundantly cultivated in our gardens, renders it accessible to those who may wish to be supplied with the fruit, which from its grateful acidity, becomes universally acceptable, either as nature has presented it, or variously prepared by art. From accounts given of this plant by various writers, it appears that several species have been found growing wild in Switzerland and some parts of Africa—the *Ribes Rubrum*, Red Currant, *Ribes Nigrum*, Black Currant, *Ribes Albo*, White Currant, *Ribes Floridum*, *Ribes Trifidum*, *Ribes Rigens*, *Ribes Triflorum*, all of which possess nearly the same properties. A very delicious wine is made from the expressed juice of the Red Currant, with the addition of a little sugar, which surpasses in point of flavor and quality almost all other kinds.

A very curious method has of late been discovered in the art of cultivating the Currant, which adds greatly to its appearance and beauty, and hence forms, not only one of the most useful, but one of the most pleasing and beautiful plants that have ever been introduced into our gardens. Early in spring a single stalk is cut near the ground, and the largest branches trimmed off; the tip end is then cut and placed some six inches into the ground, which takes root, and small branches appear at the top which was once the root; after it has taken sufficient root, the stalk is trimmed to where the new branches make their appearance, and the plant assumes the appearance of a small tree, the trunk entirely divested of succulent stalks, and the branches laden to their extremities with the fruit.

Medical Properties and Uses. The medicinal properties of Red Currants appear to be similar to those of the other sub-acrid fruits, which are esteemed to be moderately refrigerant, antiseptic, attenuant, and aperient. They may be used with advantage to allay thirst in most febrile complaints, to lessen an increased secretion of the bile, and to correct a putrid and scorbutic state of the fluids, especially in sanguine temperaments.

NAT. ORDER.

Ensateæ.

IXIA TRICOLOR.

THREE-COLORED IXIA

Class III. TRIANDRIA. *Order I.* MONOGYNIA.

Gen. Char. *Calyx* and *corolla* superior. *Sepals* short. *Stamens* three, arising from the base of the sepals.

Spe. Char. *Filaments* distinct. *Anthers* bursting. *Style* one. *Stigmas* five. *Capsule* three-celled. *Seeds* attached.

This rare and beautiful plant is a native of the Cape of Good Hope, where it grows spontaneously, in the plains and by the borders of woods; it is also found growing wild in some parts of Asia and Africa, and is extensively cultivated in Spain as an ornamental flower. The *root* is large and bulbous, very much resembling the crocus or meadow saffron; *calyx* and *corolla* superior, confounded, their divisions either partially cohering or entirely separate, sometimes irregular; *stamens* three, rising from the base of the sepals; *filaments* distinct or connate; *anthers* bursting externally lengthwise, fixed at their base, two-celled; the *ovarium* is three-celled, cells many-seeded; *style* one; *stigmas* five, often petaloid, and sometimes two-lipped; *capsule* three-celled and three-valved; the *seeds*, which are very small and numerous, are attached to the inner angle of the cell, and sometimes to a central column, which afterwards becomes loose.

Genus Crocus. This is an ancient name, being derived from the youth Crocus, who as the heathen poets feigned, was turned into this flower. This genus has a large number of species, growing from six inches to several feet in height, many of which rank among the most



1. Three-colored Ixia.
2. Cup-shaped Ixia.

ornamental of garden flowers, and from their beautiful appearance and variety of colors have become particular favorites, on account of their early flowering as well as their beauty. Nearly all the varieties of this class and order are propagated by their bulbous roots, and can be cultivated to almost any extent by sowing the seeds.

Another very important species of the *Ixia* Tricolor, is one so frequently spoken of by the ancients. The top spreads itself into a kind of umbel, composed of many long, narrow leaves. The lower part of the stalk is surrounded with long sword-shaped leaves. This is the plant from which the celebrated *papyrus* of the Egyptians and other ancient nations was obtained. Between the flesh and bark of the thick part of the stalk there grows a membrane, which being stripped off in the form of narrow pieces or ribbons, was united into sheets by pressure, and then dried in the sun. Many of those sheets put together made the rolls on which the ancient manuscripts were written. This plant is indigenous in the swamps of Egypt and Ethiopia, and as a matter of experiment in England has been cultivated in cisterns of water, with rich mud at the bottom.

Ixia brateriodes. Cup-shaped *Ixia*. This is a very beautiful species, from the brilliant color and large size of its flowers; they are not, however, so numerous, as most of the other species, seldom exceeding two or three in each cluster. It should be grown in pots, well drained by being a third part filled with cinders, in sand; and the pots should stand in a saucer of water. Flowers in July.

Medical Properties and Uses. The *Ixia* Tricolor, the representative of our drawing, possesses some very valuable medical properties. In France, Spain, Italy, and Germany, it has been introduced into practice, and successfully administered in obstinate cases of diarrhœa and dropsies. The root, when dried, is one of the most powerful astringents that has been introduced into the materia medica; the fresh root is a powerful cathartic, and for this purpose the juice has been employed in doses of a drachm and upwards, in dropsies; it is also used to scent hair powder, on account of its aromatic and fragrant odor.

N A T. O R D E R.

Ensata 

WACHENDORFIA PANICULATA. PANICLED WACHENDORFIA.

Class III. TRIANDRIA. *Order I.* MONOGYNIA.

Gen. Char. *Perianth*, sub-bilabiate-rotate, resupinate, with a channelled honey-bearing appendage on both sides at the base. *Stamens*, six-declinate. *Style*, elongated, oblique, partly persistent. *Capsule*, membranaceous, three-celled, three-valved, triquetrous, the angles compressed. *Cells*, one-folded.

Spe. Char. *Racemes*, corymbosely paniced. *Leaves*, deciduous, plicate.

THE *stem* of this plant rises about a foot in height; the *root* is perennial, a little creeping, and furnished with oblong cylindrical, and nearly perpendicular tubercles; the *leaves* are radical, two-ranked sessile, equitant, vertical, spreading, dilated on the inner side at the base, channelled, linear-lanceolate, pointed, entire, nerved, bright green; they die soon after the plant has done flowering, and do not appear again for some months; the *stalk* is erect, cylindrical, bearing one or two small leaves, branched and many-flowered; general *flower-stalk*, alternate, spreading, racemose, bearing from three to five flowers, cylindrical and downy; partial ones short, downy, all directed upwards, and single-flowered.

The name of Wachendorfia was given to this species by Thunberg, in honor of M. Wachendorf, a Dutch botanist, who imported it from the Cape; but though it appears to have been the first species sent to Europe, it was not introduced into England till the year 1770.



1, *Wachenborstia*.
2, *Carolina Pink*.

NAT. ORDER.

Spigeliaceae.

SPIGELIA MARILANDICA.

CAROLINA PINK

Class V. PENTANDRIA. *Order I.* MONOGYNIA.

Gen. Char. *Corolla*, funnel-shaped. *Capsules*, twin, two-celled, many seeded.

Spe. Char. *Stem*, four-sided, all the leaves opposite.

The *root* is perennial, unequal, simple, sends off many slender fibres, and grows in a horizontal direction; the *stems*, several of which rise from the same root, are simple, erect, smooth, obscurely quadrangular, of a purple color, and rise from twelve to twenty inches in height; the *leaves* are ovate, entire, sessile, somewhat undulated, of a deep green color, and stand in pairs upon the stem; the *flowers* are large, funnel-shaped, and terminate the stem in a spike; the *calyx* divides into five, long, narrow, pointed, smooth segments; the *corolla* is monopetalous, consisting of a long tube, gradually swelling towards the middle, of a bright purplish red color, and divided at the mouth into five pointed segments, which are yellow on the inside; the five *filaments* are the length of the stamens, and crowned with halberd-shaped anthers; the *germen* is small, ovate, placed above the insertion of the corolla, furnished with joints near its base, supports a round style, which is longer than the corolla, bearded towards the extremity, and supplied with an obtuse stigma; the *capsule* is double, two-celled, and contains many small angular plano-convex seeds. It is a native of South Carolina, and most of the South-western States, being seldom if ever found north of the potomac. It grows in rich soils on the borders of woods, and flowers from May till July.

Two species of this plant are now well known to botanists, the *Spigelia anthenmintica*, and the *Spigelia marilandica*; they have both been used as anthelmintics; the effects of the former have been extensively noticed by Dr. Browne in his History of Jamaica, published in the year 1751, and by several other distinguished foreign writers. But the accounts of the vermifuge virtues of *Spigelia*, given by Drs. Linning and Garden, from Charleston, South Carolina, evidently refer to the latter species, which is here described. Dr. Garden in his first letter to Dr. Hope, in 1763, says: ‘About forty years ago, the anthelmintic virtues of the root of this plant were discovered by the Indians; since which time it has been used here by physicians, practitioners, and planters; yet its true dose is not generally understood. I have given it in hundreds of cases, and have been very attentive to its effects; but never found it to be of much service, except when it proved gently purgative.’

Medical Properties and Uses. Pink-root is ranked among the most powerful anthelmintics. In small doses it produces but little, if any sensible effect on the system; more largely given, it acts as a cathartic, but very unequal and uncertain in its operation; in over doses it excites the circulation, and determines to the brain, giving rise to vertigo, dilated pupils, dimness, spasms, and sometimes general convulsions. Spasmodic movements of the facial muscles, and eyelids, are frequently observed by those who witness its narcotic action. At present this root stands at the head of the anthelmintics. It may be given to an adult in doses of one to two drachms; of the powdered root, to a child, from ten to twenty grains, to be repeated morning and evening for several days, and then followed by a brisk cathartic. The infusion is the most common form of administration. A preparation is generally kept in the shops called *worm tea*, which consists of pink-root, senna, manna, and savine, mixed in various forms to suit the views of different individuals.



Yellow Flowered Rhododendron.

NAT. ORDER.

Ericacea.

RHODODENDRUM
CHRYSANTHUM.

YELLOW FLOWERED
RHODODENDRUM.

Class X. DECANDRIA. *Order I.* MONOGYNIA.

Gen. Char. *Calyx*, five parted. *Corolla*, infundibuliform. *Stamens*, declimate. *Capsules*, loculicidel.

Spe. Char. *Leaves*, oblong. *Corolla*, rotate, irregular.

This beautiful *evergreen shrub* sends off spreading branches, which are covered with a brown bark, and rises from twelve to eighteen inches in height; the *leaves* are oblong, obtuse, thick, veined, reflexed at the margin, on the upper side of a deep green, on the under ferruginous, or glaucous, and surrounding the branches upon strong footstalks, which rise 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, irregular and divided at the limb into five round spreading segments; the *filaments* are ten, slender, spreading, nearly of the length of the corolla, and furnished with oval anthers; the *germen* is pentagonal, indented, and supports a style, which is longer than the stigma; the *capsule* is egg-shaped, somewhat angular, and divided into five cells, which contain numerous small seeds.

This *plant* is a native of Siberia, inhabiting mountainous situations, and flowers in June and July. Its medicinal effects, were first described in the year 1747, by Gmelin and Steller, 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 until the year 1779, when it was strongly recommended by Roelpin as an efficacious medicine not only in rheumatism and gout, but in all diseases that arise from impurities of the blood.

Medical Properties and Uses. This *plant* is now very generally employed, in some parts of Europe, in the cure of chronic rheumatism; but has not been introduced into medical practice in this country. I have, however, seen it administered in two cases, both of which manifested alarming symptoms, the result of which must have proved fatal, had the doses been repeated. The leaf, which is the part directed for use, has 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 powerful narcotic poison, producing those symptoms which we have described as occasioned by the *Atropa belladonna*, or Deadly Night Shade.

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 to twenty-two beats; but in cases where it was used, at Edinburgh, it was said to be productive of good effects, and accordingly was introduced into the Edinburgh Pharmacopœia. The manner of using this plant by the Siberians, was by putting two drachms of the dried leaves in an earthen pot, with about ten ounces of boiling water, keeping it near a boiling heat for a night, when it was ready for use. It is said to occasion heat, thirst, delirium, and a peculiar sensation on the part affected. Ten leaves of this plant have been given to a goat to eat, which was seized in a few minutes with stupor, trembling, and convulsions, which lasted for some hours; but appeared well on the next day.



Common Oak.

NAT. ORDER.

Amentaceæ.

QUERCUS ROBUR.

COMMON OAK.

Class XXI. MORCÆCIA. *Order VI.* POLYANDRIA.

Gen. Char. *Calyx* generally five cleft. *Corolla* none. *Stamens* five to ten.

Spe. Char. *Leaves* oblong, glabrous, sinuate. *Lobes* rounded. *Fruit* oblong.

The *Oak* is a native of North America, a very valuable *tree*, and one of the largest of the forest; it frequently attains the height of from seventy to one hundred feet; its trunk is covered with a thick *bark* of a dark brown colour. It flowers in April, and the *fruit* ripens in October. The *acorns* are round, flattened at the top, and placed in a saucer-shaped cup. It sends off numerous strong *branches*. The *leaves* are oblong, deeply sinuated, and form obtuse *lobes*; they are of a deep greenish colour. The *flowers* are small and yellow.

This extensive *genus* comprises not less than eighty *species*, of which not less than thirty or forty are found within the limits of the United States, and in many places comprise the largest portion of the timbered land, and is too well known to need further description.

Medical Properties and Uses. The *Oak bark* has long been esteemed as a powerful and useful *astringent* and *tonic*. It is highly recommended in obstinate cases of diarrhœa, and chronic forms of dysentery; also in leucorrhœa and other chronic serous discharges depending on debility and relaxation of the secreting vessels.

The *decoction* may also be employed with advantage as an in-

jection, in cases of gleet, leucorrhœa, prolapsus, &c. *Dr. Cullen* tells us that he has frequently employed the decoction with success in slight tumefactions of the mucous membrane of the fauces, and in many cases of prolapsus uvulæ; and in a number of cases this decoction, early applied, has appeared useful in preventing these disorders. It must be remarked, however, that *Dr. Cullen* almost constantly added a portion of alum to these decoctions. An extract is procured from the bark by boiling down to a proper consistency, which is put up in small earthen pots.

Galls, which are so numerous found upon the leaves of this tree, are occasioned by a small insect, with four wings, called *Cynips Quercii Folii*, which deposits an egg in the substance of the leaf, by making a small perforation through the under surface; the ball presently begins to grow, and the egg in the centre of it changes to a worm; this worm again changes to a nymph, and the nymph to the flying insect above mentioned, which by eating its passage out leaves a round hole; those *galls* which have no holes, are found to have the dead insect remaining in them.

Galls appear to be the most powerful of the vegetable astringents, striking a deep black when mixed with a solution of ferrum vitriolatum, and therefore preferred to every other substance for the purpose of making ink. As a medicine, they are to be considered as applicable to the same indications as the oak bark, and by possessing a greater degree of astringent and styptic power, seem to have an advantage over it, and to be better suited for external use. Reduced to powder, and made into an ointment, they have been found of great service in hæmorrhoidal affections; their efficacy in intermittent fevers was tried by order of the Academy of Sciences; from their report it appears that the galls succeeded in many cases, and also that they failed in many others, which were afterwards cured by Peruvian bark.



1. Florentine Iris.
2. Common Camomile.

NAT. ORDER.

Iridaceæ.

IRIS FLORENTINA.

FLORENTINE ORRIS.

Class III. TRIANDRIA. *Order I.* MONOGYNIA.

Gen. Char. *Corolla* six-petalled, unequal. *Petals* alternate, jointed and spreading. *Stigmas* petal-form, cowl'd, two-lipp'd.

Spec. Char. *Corolla* bearded. *Stem* with leaves higher than the flowers, often two-flowered. *Flowers* sessile.

The *root* is perennial, ponderous, tuberous, branched, fibrous, somewhat compressed, externally brown, and internally of a yellowish white color; the *leaves* are sword-shaped, radical, inserted into each other, pointed, shorter than the stem, and of a dull green color; the *stem* is round, smooth, jointed, and about a foot in height; the *flowers* are large, upright, of a white color, and often have a bluish tinge; the *calyx* is a spatha of two valves; the *corolla* divides into six segments or petals, of these, three stand erect, the other three, which are of an irregular oval shape, turn back, and at the base are painted with brown lines, and bearded with yellow hairs; the *filaments* are three, and crowned with long yellow anthers; the *style* is short and simple; the *stigma* separates into three expanded segments, resembling petals, which form an arch over the stamens; the *germen* is long, of an obtusely triangular shape, and placed below the corolla; the *capsule* has three cavities, which contain numerous flat brown seeds.

This plant is a native of Italy, and other parts of the south of Europe, where it is found growing wild in great abundance, flowering in June and July. It was first cultivated in England by the

celebrated Gerard in the year 1596, and is now constantly propagated by the florists through the different parts of that country. It has also been found in some sections of the United States, but not in sufficient quantities to supply the demands of the druggists. In the year 1840, while travelling in the northwestern district of New-York, I found this species of the Iris quite plenty, growing along the margin of small streams and in moist meadows, and at that time procured the drawing from the living plant, which represents the description. The root which is the officinal part, is dug up in spring and prepared for market by the removal of its cuticle and fibres. That which is produced in this country have neither the odor, nor the other qualities, of those of warmer climates, so that for medicinal use they are imported from Leghorn, in large casks.

Medical Properties and Uses. The root in its recent state, is extremely acrid, and when chewed, excites a pungent heat in the mouth, which continues several hours; on being dried, this acrimony is almost wholly dissipated, the taste slightly bitter, and the smell agreeable—approaching to that of violets. No essential oil has hitherto been obtained from this root, but spirituous tinctures of it contains more of its virtues than watery infusions. The fresh root is a powerful cathartic, and for this purpose, its juice has been employed in the dose of a drachm and upwards in dropsies. It is now chiefly used in its dried state, and ranked as a pectoral, or expectorant, and is occasionally used for chewing to conceal an offensive breath, and enters into the composition of numerous tooth powders. But, from my own limited experience, I have never found it to possess any very remarkable expectorant powers, and have therefore considered it chiefly valuable for the pleasantness of its perfume, and the flavor which it communicates. In the form of small round balls, about the size of a pea, it is much used by the French for maintaining the discharge from issues.

NAT. ORDER.

Compositæ.

ANTHEMIS NOBILIS.

COMMON CHAMOMILE.

Class XIX. SYNGENESIA. *Order II.* POLYGAMIA SUPERFLUA.

Gen. Char. *Receptacle*, chaffy. *Seed-down*, none, or a membranous margin. *Calyx*, hemispherical, nearly equal. *Florets* of the ray more than five.

Spe. Char. *Leaves*, bipinnate, linear, acute, subvillous.

The *roots* are perennial, fibrous and spreading; the *stems* are slender, round, trailing, hairy, branched, of a pale green color, and about a foot in length; the *leaves* are doubly pinnated, linear, pointed, a little hairy and divided into three terminal segments; the *flowers* are compound, radiated, white, at the centre yellow, and stand singly; the *calyx* is common to all the florets, of a hemispherical form, and composed of several small imbricated scales; the *flowers* of the *radius* are female, usually about eighteen in number, narrow, white, and terminated with three small teeth; the tubular part of the *floret* encloses the whole of the style, but does not conceal the bifid reflexed *stigma*; the *flowers* of the *disk* are numerous, hermaphrodite, tubular, and cut at the brim into five segments; the *filaments* are five, very short, and have their anthers so united as to form a hollow cylinder; the *germen* is oblong; the *style* is short, slender, and furnished with a bifid reflexed stigma; the *seeds* are small, and of an irregular shape. It flowers in July and August.

The common Camomile is a native of Europe, where it is found growing wild, in all the temperate parts of that continent. Though not a native of this country, it may be found growing wild

in some of the Northern and Middle States. It seeks dry meadows, pastures, and open fields, and is often seen growing in such quantities as to produce the appearance of a cultivated flower garden. Upon a closer examination it very much resembles the *Anthemis cotula* Mayweed, and *Matricaria chamomilla* German camomile, all of which possess nearly the same medical properties, and in appearance look somewhat alike. A double flowered variety is usually kept in the shops, but as the sapid matter chiefly resides in the disk, or tubular part of the florets, the flowers' alone are preferred, in which the matter proves most abundant. Both the flowers and leaves of this plant, have a strong though not ungrateful smell, and a very bitter nauseous taste. The flowers give out their virtue, both to water and rectified spirit.

Medical Properties and Uses. The flowers possess the tonic and stomachic qualities usually ascribed to simple bitters, having very little astringency, but a strong aromatic odor, which is of a very penetrating kind. They are said to possess carminative, emmenagogue, and in some measure antispasmodic and anodyne properties. In England they have been long and successfully employed for the cure of intermittent, and nervous fevers accompanied with visceral obstructions. That the flowers may be safely substituted for peruvian bark in the cure of intermittent fevers, appears from the experience and testimony of many respectable physicians, to which we may add that of Dr. Cullen, who says "I have employed these flowers by giving several times during the intermission, from half a drachm to a drachm of the flowers in powder, have cured many cases of intermittent fevers from their use: but have found, however, that the flowers were attended with this inconvenience, that is, given in a large quantity, they readily run off by stool, defeating thereby the purpose of preventing the return of paroxysms. I have used this in connexion with an opiate or an astringent, that the patient might receive the full benefit of them.



1. Passion Flower.
2. Spear-mint.

N A T. O R D E R.

Passifloræ.

PASSIFLORA CÆRULEA.

THE PASSION FLOWER.

Class XVI. MONADELPHIA. Order II. PENTANDRIA.

Gen. Char. Petals five. Cotyledons two. Stamens five, inserted into the calyx. Corolla with an imbricated æstivation, glandular leaves.

Spe. Char. Ovarium seated on a long stalk. Fruit surrounded by the calyx, one-celled, three-valved. Seeds attached. Flowers terminal.

This beautiful plant is the pride of South America and the West Indies, where the forests are filled with their numerous and splendid varieties, which spread themselves from tree to tree, bearing innumerable quantities of flowers of striking beauty and singularity; indeed such was the estimation in which they were held by the Spaniards, who first discovered and settled the American continent, that they attached to their history many Christian traditions, which they failed not to disseminate among the aborigines of the country. The fruit, which is most tempting in appearance, delicious and refreshing to the palate, was also made an instrument subsersive to their religious zelotry, as it was invariably spoken of as one of the especial gifts of Divine Providence bestowed upon the inhabitants of the wilderness, whereby they might enjoy continued happiness and comfort.

The drawing or the plate which represents this beautiful specimen of the floral tribe, was taken from nature by Mrs. C. Norton of this city, the correctness and accuracy of which can only be sur-

passed by nature itself. Professor Lindley, who has given a more particular description of this species of plant than any of our other botanists, describes it as having five sepals, sometimes irregular, combined in a tube of variable length, the sides and throat of which are lined by filamentous or annular processes, apparently metamorphosed petals. Five *petals*, arising from the throat to the calyx, on the outside of the filamentous processes, occasionally wanting, sometimes irregular, imbricated in aestivation; *stamens* five, monadelphous, rarely indefinite, surrounding the stalk of the ovarium; *anthers* turned outwards, linear, two-celled, bursting longitudinally; *ovarium* seated on a long stalk, superior, one-celled; *styles* three, arising from the same point, clavate; *stigmas* dilated; *fruit* surrounded by the calyx, stalked, one-celled, with three parietal polyspermous placentæ, sometimes three-valved; *seeds* attached in several rows to the placenta, with a brittle sculptured testa surrounded by a pulpy arillus; *embryo* straight, in the midst of fleshy thin albumen; *radicle* turned towards the hilum; *cotyledons* flat, leafy; herbaceous plants or shrubs, usually climbing, very seldom arborescent; *leaves* alternate, with foliaceous stipulæ, often glandular; *flowers* axillary or terminal, often with three-leaved involucre.

Notwithstanding a tropical climate appears to be the natural home of the Passion Flower, one or two of its species have attached themselves to our own country, as well as some of the southern parts of Europe; several appear to be indigenous to Africa and its neighboring islands, and a few in the East Indies, but the greater part of these belong to the genus *Modocia*, and the flowers, although they rank among the most beautiful of any country where they are found, are far inferior, both in size and brilliancy of color, to the South American plant we have been describing.

Its *medical properties and uses* are comparatively unknown, at least it has never been introduced into either American or European practice, perhaps on account of its rarity; consequently this part of its history yet remains for the discovery of science.

NAT. ORDER.

Verticillatæ.

MENTHA VIRIDIS.

SPEAR MINT.

Class XIV. DIDYNAMIA.

Order I. GYMNOSPERMIA.

Gen. Char. Corolla almost equal, four-cleft; the broader segment emarginate. *Stamina* upright, distant.

Spe. Char. Spikes cylindrical. *Leaves* oblong, acute, serrate, hairy, subsessile. *Stem* strigose. *Stamens* longer than the corolla.

The *root* is perennial, creeping, and sends forth numerous small fibres; the *stems* are square, hollow, erect, branched, and rise about two feet in height; the *leaves* are large, elliptical, serrated, pointed, of a bright green color, and placed in pairs close to the stem, or on short footstalks; the *flowers* are small, of a light purple or pink color, and produced in terminal spikes; the *filaments* are larger than the corolla. It flowers in August.

This *plant* is a native of North America, and can be found growing on the banks of rivers and small streams, in most of the Northern and Middle States. It is also found growing in many parts of Europe, and in England is cultivated for culinary uses. Many virtues were ascribed to mint by the ancients, but what species they referred to must ever remain uncertain; even at this time the different species of this numerous family are not satisfactorily ascertained; but in a medical sense, this is of little importance, as the virtues of all reside in the aromatic flavor, which is common to the whole genus.

On drying, the leaves loose about three-fourths of their weight without suffering much loss of their odor or taste. Cold or warm

water, by maceration for a short time, becomes richly impregnated with its flavor. Dry mint, digested in rectified spirit, either cold or with a gentle warmth, gives out readily its peculiar taste and smell, without imparting the grosser and more ungrateful matter. The tincture appears by day-light of a fine dark green, by candle-light of a dark red color; a tincture extracted from the remaining mint with fresh spirit, appears in both lights green; the color of both tinctures change in keeping, to a brown.

Medical Properties and Uses. To *spear-mint* we may ascribe the same medical properties which are given to peppermint; but the different preparations of the former, though more pleasant, are perhaps less efficacious. It contains considerable essential oil, but of an odor much less agreeable than that of lavender. It is therefore less employed as a cephalic, but acts very powerfully on the parts to which it is immediately applied, especially on the stomach, invigorating all its functions. It acts powerfully as an anti-spasmodic, relieving pain and choleric depending upon spasm. It is also successfully administered in many cases of severe vomiting, giving relief in a few minutes. Practitioners who have been in the habit of using mint, all agree that the infusion of its leaves in warm water, agrees better with the stomach than the distilled water. To allay nausea and relieve spasmodic pains of the stomach and bowels, or to cover the taste and qualify the nauseating or griping effects of other medicines are among the most common purposes for which it is used. The fresh herb, bruised and applied over the epigastrium often allays sick stomach, and is highly useful in the cholera of children. We are told that when cows have eaten of the mint, especially the *Mentha arvensis*, which they will do at the end of summer, when the pastures are bare and short of feed, their milk can hardly be made to yield cheese; a circumstance which sometimes puzzles the dairy-maids. The officinal preparations are an oil, a tincture, and a distilled water.



1. Common Almond Tree.
2. Wood Sorrel.

NAT. ORDER.

Pomacea.

AMYGDALUS COMMUNIS. COMMON ALMOND TREE

Class XII. ICOSANDRIA. *Order I.* MONOGYNIA.

Gen. Char. *Calyx* five-cleft, inferior. *Drupe* with a nut, perforated.

Sp. Char. The *lower serratures* of the *leaves* glandular. *Flowers* sessile, in pairs.

The *Almond Tree* is a native of Syria and Barbary; it is cultivated likewise in France, Italy, Sicily, and in England; but the warmth of this climate is not generally sufficient to bring it to perfection. It flowers in March and April, and thrives best in a light sandy soil and southern climate. The *tree* is from fifteen to twenty feet high, divided into many spreading branches, which are covered with a dark grey bark; the *fruit* is of a peach kind, the outer substance of which is hard, tough, hairy, and marked with a longitudinal furrow where it opens; under this is a thick, rough shell, which contains the kernel or almond.

This tree seems to have been known in the remotest times of antiquity, being frequently mentioned by Theophrastus and Hippocrates; it is probable, however, that this tree was not very common in Italy in the time of Cato, as he calls the fruit by the name of Greek nuts. It was cultivated in England by Lobel previous to the year 1570; and though it does not perfect its fruit in that country, yet it is there very much propagated for the beautiful appearance of its flowers, which are the more conspicuous by showing themselves early

in spring, before the leaves are expanded. The fruit or seeds of most plants produce varieties, differing more or less from the parent plant, and from each other; but in the Almond tree this difference is principally confined to the fruit, which is larger or smaller, the shell thicker or thinner, and the kernel bitter or sweet; hence the distinction of *bitter Almonds* and *sweet Almonds*.

The tree forms an important article in the general culture of many parts of France, Italy, and Spain. In a forward spring the blossoms often appear in February, but in this country frosts generally destroy them, and they bear little or no fruit, whereas when the trees do not flower till March, they seldom fail to produce fruit in abundance.

The kernel of the nut is the only part used, which is tender and of a fine flavor. The sweet Almonds and other varieties are brought to the desert in a green or imperfect ripe, and also in a ripe state. They are also much used in cookery, confectionery, perfumery and medicine. Sweet Almonds used as food, Professor Martin observes, are difficult of digestion, and afford very little nourishment, unless extremely well comminuted. The tender shelled is in the greatest esteem, and next the sweet and Jordan.

Propagation and Culture. The *Almond* is propagated like the peach, by seeds for varieties or stocks, and by budding on its own or on a plum stock for continuing varieties. Plum stocks are preferred for strong moist soils, and peach and almond stocks for dry situations. The trees are generally planted as standards in shrubberies, and these will sometimes in good seasons ripen their fruit, but when fruit is the object, they should be trained against a west or east wall, like the peach. The *Almond Tree* bears chiefly on the young wood of the previous year, like the apricot and peach, and in part upon small spurs on the two and three year old, and older branches; it is therefore pruned like these trees.

The fruit may be gathered and preserved in the following manner.—a part may be gathered when nearly ripe, daily, for some

weeks before gathering the whole crop. This operation is generally performed in September, when a part may be laid in the fruit room, and a part thoroughly dried and bedded in sand in the fruit cellar, for keeping through the winter.

Medical Properties and Uses. Sweet Almonds exercise no other influence upon the system than that of a demulcent; they are said to be useful in catarrhal affections. Bitter Almonds are more energetic although not much in use; they might be employed with advantage in cases to which the hydrocyanic acid is applicable. An emulsion made of them has been successfully used in pectoral affections attended with cough; it is said to have cured intermittents when bark had failed; it operates by diminishing the excitability of the nervous system, and moderating existing irritation. They are also highly recommended for the expulsion of the tape-worm. Bitter Almonds afford by expression an oil equally bland as that obtained from the sweet; but the residue after expression is more intensely bitter than the residue of the sweet. They also yield by distillation a very fragrant, acrid, and bitter essential oil, which is heavier than water, and proves a very active poison to animals; a few drops only is extracted from several pounds of kernels. From the prussic acid which bitter Almonds contain, they are found to destroy some animals; in the human subject, if eaten freely, they occasion nausea, vomiting, and other distressing symptoms. When administered to animals with a view to their destruction, they become absorbed and carried into the circulation, and eventually act upon the nerves as a sedative. They were used by the ancients in intermittents and for worms, but from the uncertainty of their operation, and the risk attending it, we seldom see them administered by modern practitioners. They are occasionally used to flavor wines, cordials, &c., but are chiefly valued on account of the fixed oil they contain, which is obtained indiscriminately from the two varieties.

NAT. ORDER.

Grinales.

OXALIS ACETOSELLA.

WOOD SORREL.

Class X. DECANDRIA. *Order IV.* PENTAGYNIA.

Gen. Char. *Calyx* five-parted. *Petals* five, often connected at the base. *Capsules* five-celled, five-cornered, opening at the corners. *Seeds* arrilled.

Spe. Char. *Styles* equal. *Leaflets* in threes, obcordate, hirsute. *Root* toothed.

The *Wood Sorrel* is a small perennial, herbaceous, stemless plant; the *root* is horizontal, scaly, and of a bright red color; the *leaves* grow three together, inversely heart-shaped, of a yellowish green color, frequently purple underneath, and beset with a few hairs; the *leaf stalks* are about three inches long, nearly upright, tender, proceeding from little bulbs, which form a kind of sheath; at the bottom these stalks are red and round, but towards the top grooved on one side; the *flowers* are white or flesh-colored, and elegantly streaked with red veins; the *flower-stalk* is a little longer than the leaf-stalk, and furnished near the top with two oval pointed bractæ, which partly surround it; the *calyx* is divided into five segments; these are short, permanent, bluntish, membraneous at the edges, and often spotted with purple; the *petals* are five, affixed to the receptacle by the claws, which bend a little inward just above where the claws adhere together; they are blunt, slightly crenated, and tinged at the bottom with yellow; the *stamens* are ten, upright, and white, the five exterior the shortest; the *anthers* are yellow and bilocular; the *germen*

is quadrangular and green; the *styles* are five, very slender, a little longer than the stamens, and the *stigma* is blunt; the *capsule* is ovalish, pentagonal, spotted, divided into five cavities, each containing three seeds, which are heart-shaped, longitudinally grooved, convex on both sides, of a bright reddish brown color, and enclosed within a shining, white, elastic arillus, by the bursting of which the seeds are thrown out.

This plant is found growing in various parts of Europe and Asia, but is a native of North America, where it is chiefly found in the mountainous regions of the interior part of the United States. It selects shady places, such as woods, groves, and hedges, and flowers from April till June.

Medical Properties and Uses. The *Acetosella* is totally inodorous, but has a grateful acid taste, which is more agreeable than the common Sorrel, (*Rumex Acetosus*,) and approaches nearly to that of the juice of lemons, or the acid of tartar, with which it also corresponds in a great measure in its medicinal effects, being considered refrigerant, antiscorbutic, and diuretic, and was formerly used extensively in the treatment of bilious and putrid fevers. The principal use, however, of the *Acetosella*, is to allay inordinate heat, and to quench thirst; for this purpose a pleasant whey may be formed by boiling the plant in milk, which under certain circumstances may be preferable to the conserve directed by the London College, though an extremely grateful and useful medicine. Many have employed the root of *luzula*, probably on account of its beautiful red color rather than for its superior efficacy. An essential salt is prepared from this plant, known by the name of essential salt of lemons, and used for the purpose of taking out ink spots, iron mould, and sometimes as a test for lime.

NAT. ORDER.

Scabridæ.

MORUS NIGRA.

COMMON MULBERRY TREE.

Class XXI. MONŒCIA.

Order IV. TETRANDRIA.

Gen. Char. Male, *Calyx* four-parted. *Corolla* none. Female, *Calyx* four-leaved, *Corolla* none. *Styles* two. *Calyx* becoming a berry. *Seeds* one.

Spe Char. *Leaves* cordate, rugged.

This species of *mulberry*, grows from ten to twenty feet in height but sends off several crooked branches, and is covered with rough brown bark; the *leaves* are numerous, heart-shaped, serrated, veined, rough, of a light green color, and stand upon short foot-stalks; the *flowers* are male and female upon the same tree, the *male flowers* are placed in close roundish catkins, each floret composed of a calyx, divided into four leaves, which are oval, concave, and erect; there is no *corolla*; the *filaments* are four, longer than the calyx, and furnished with simple anthers; the *calyx* of the *female flower* is divided into four obtuse persistent segments; *corolla* none; the germen is roundish, and supports two rough styles, supplied with simple stigmas; the *fruit* is a large succulent berry composed of a number of smaller berries, each containing an oval seed, and affixed to a common receptacle. It flowers in June and its fruit ripens in September.

The Mulberry tree is a native of Italy, from whence it has been introduced and cultivated in almost every part of the civilized world, not only for the grateful fruit which it affords, but in most



Common Mulberry Tree.

places for the more lucrative purpose of supplying silk-worms with its leaves upon which they feed. The *Morus rubra* a native of our country, produces a fruit quite equal to that of the imported species. The *Morus alba*, white mulberry, originally from China, and now extensively cultivated as a source of food for the silk-worm, bears a white fruit, which is sweeter and less grateful than the others. Fustic, a yellow dye, is the wood of *Morus tinctoria*, by some called the *Osage apple*; it bears a globular compound fruit about the size of an orange; but is not eatable; the wood is much esteemed by the Osage Indians for making their bows; it dyes a beautiful yellow, and much resembles the Fustic of the West Indies. The *Morus maclura*, is a native of Hindostan, the bark of which is a powerful tonic, and is administered by the Hindoos in diabetes. The *Morus tartarica* is said to be the most valuable for the culture of silk; especially in China where the best silk is made. Forster in a letter to Professor Murry, gives an account of another species of Mulberry, the *Morus papyrifera*, from which the Japanese make a very fine paper, and the inhabitants of some of the Islands of the South Sea, make a kind of cloth.

Medical Properties and Uses. The ripe fruit of this species of mulberry abounds with a deep violet-colored juice, which in its general qualities agrees with that of the other *Acido-dulces*, allaying thirst, partly by refrigerating, and partly by exciting an excretion of mucus from the mouth and fauces; a similar effect is also produced in the stomach, where, by correcting putrescency, a powerful cause of thirst is removed. This is more generally the case with all those fruits in which the acid prevails over the saccharine part, as the currant which we have already noticed, and to which the medicinal qualities of this fruit may be referred; but both of these, and most of the other summer fruits, are to be considered rather as articles of diet than of medicine. The bark of the root is highly cathartic, the dose of which is half a drachm of the powdered root.

NAT. ORDER.

Labiatae.

SCUTELLARIA LATERIFLORA. BLUE SCULLCAP.

Class XIV. DIDYNAMIA. *Order I.* GYMnosPERMIA.

Gen. Char. *Stalks*, branched, smooth. *Leaves*, on long petioles, ovate, dentate, sometimes cordate, membranaceous. *Racems*, lateral leafy.

Spe. Char. Upper lip of the *calyx* covering the fruit like an operculum.

The *roots* are perennial, fibrous and yellow; the *stem* is erect, square, and rises from one to three feet in height; the *branches* are similar to *Lobelia Inflata*, the lower branches being the longest, but none of them reaching above the top of the stem; the *leaves* are ovate, dentate, acute, subcordate upon the stem, opposite, and supported upon long petioles; the *flowers* are small, of a pale blue color, and are placed on the branches which contain several small tracts or leaves; the *calyx* has an entire margin, which, after the corolla has fallen, is closed in with a helmet-shaped lid; the tube of the *corolla* is elongated, the upper lip concave and entire, the lower three-lobed; the *seed-vessels* are of a light green color, and somewhat in the shape of a hood—they open laterally by a valve, each one containing four seeds.

Scullcap has of late become quite celebrated for the cure of hydrophobia. Rafinesque says: "This property was first discovered by Dr. Vandervere, about 1772, who used it with the utmost success, and until 1815, when he died: he is said to have prevented four hundred persons, and more than one thousand cattle, from becoming hydrophobic, after they were bitten by rabid ani-



Blue Salvia.

mals. His son is stated to have relieved or cured forty persons in three years, in the States of New-York and New-Jersey, by the use of this medicine.

Medical Properties and Uses. Scullcap is ranked by those who are best acquainted with its properties, as one of the most effectual nervines in use; it can be given to all classes, and in most any stage of disease, with safety. It is highly useful in St. Vitus' dance, convulsions, locked-jaw, tremors, ague and fever, tic-doloureux, and all nervous affections. It may be given with advantage to children, where their health is impaired from the effects of teething. Besides its other good effects, it has a tendency to keep the pores open and skin moist. The U. S. Dispensatory describes this species of Scullcap as possessing but little, if any, taste or smell, or appearance of any remarkable medical virtues. It is even destitute of the aromatic properties which are found in a large portion of the labiate plants. When taken internally, it produces no obvious effects upon the system. Notwithstanding its apparent inertness, it obtained at one period extraordinary credit throughout the Union, as a preventative of hydrophobia, and was even highly recommended for the disease itself. A strong tea made of the leaves and branches of this plant was given in the dose of a wine glass full, and repeated several times a day; this was continued for three or four months after the bite was received, while the herb itself was applied to the wound. Strong testimony has been adduced in favor of its prophylactic powers; but has shared the fate of many other specifics against hydrophobia, which have been brought into temporary popularity only to be speedily abandoned. It is now nearly discarded from medical practice, and its merits have not been much investigated since. We think this plant well worthy the attention of physicians, especially with a view to ascertain its real merits. As a nervine it ranks high, and enters into various compounds prepared by some of our modern practitioners for the treatment of nervous diseases.

NAT. ORDER.

Gruinalis.

QUASSIA AMARA.

BITTER QUASSIA.

Class X. DECANDRIA. *Order I.* MONOGYNIA.

Gen. Char. *Calyx*, five-leaved. *Petals*, five. *Nectary*, five-leaved. *Pericarp*, five, distant, each having one seed.

Spe. Char. *Flowers*, bisexual. *Leaves*, unequally pinnate. *Leaflets*, opposite, sessile. *Petiole*, jointed, winged. *Flowers*, in racemes.

The *Bitter Quassia* is a small tree or shrub, rising several feet in height, and sends off many strong branches; the *wood* is white and light; the *bark* is thin, and of a grey color; the *leaves* are placed alternately upon the branches, and consist of two pair of opposite pinnæ, with an odd one at the end; all the *leaflets* are of an elliptical shape, entire, veined, smooth, pointed, sessile, on the upper pagina, of a deep green color, on the under, paler; the common *foot-stalks* are articulated and winged, or edged on each side with a leafy membrane, which gradually expands near the base of the pinnæ; the *flowers* are all hermaphrodite, of a bright red color, and terminate the branches in long spikes; the *bractea*, or *floral*, are lance-shaped, or linear, colored, and placed alternately upon the peduncles; the *calyx* is small, persistent, and five-toothed; the *corolla* consists of five lance-shaped equal petals, at the base of which is placed the nectary, or five roundish colored scales; the *filaments* are ten, slender, somewhat longer than the corolla, and crowned with simple anthers, placed transversely; the *receptacle* is fleshy and orbicular; the *germen* is ovate, divided into five parts,



Better Quassa.

and supports a slender style, longer than the filaments, and terminated by a tapering stigma; the *capsules* are five, two-celled, and contain globular seeds. It is a native of South America, particularly of Surinam, and also of some of the West India Islands.

The botanical character of this species of *Quassia*, was known to the ancients long before that of the *Simaruba*; but its medicinal properties were never fully appreciated until the year 1756, when a negro, by the name of *Quassia* (from whom it derived its name), employed it with uncommon success, as a secret remedy in the malignant endemic fevers, which prevailed to a considerable extent at Surinam. In consequence of a valuable consideration, this secret was disclosed to Daniel Rolander, a Swede, who introduced it into general practice; and numerous testimonies of its efficacy were published by many respectable authors.

Medical Properties and Uses. Various experiments with *Quassia* have been made, with a view to ascertain its antiseptic powers, from which it appears to have considerable influence in retarding the tendency to putrefaction. It is purely tonic, invigorating the digestive organs, with little excitement of the circulation, or increase of animal heat, and possesses, in the highest degree, all the properties of the simple bitters. It is particularly adapted to dyspepsia from debility of stomach, and to that weakened state of the digestive organs which sometimes succeeds acute disease. It may also be given with advantage in the remission of certain fevers in which tonics are required.

It is most conveniently administered in decoctions, or extracts, as the difficulty of reducing the wood into a powder renders it objectionable.

NAT. ORDER.

Spathaceæ.

NARCISSUS TRIANDRUS. THREE-ANTHERED RUSH DAFFODIL.

Class VI. HEXANDRIA. *Order I.* MONOGYNIA.

Gen. Char. *Style*, straight, slender. *Filaments* adhering to the upper part of the tube. *Limb*, decidedly reflex. *Cup*, equalling or shorter than the limb. *Tube*, drooping. *Capsule*, erect. *Seed*, oblong.

Spe. Char. *Tube* and *Limb*, equal, and much longer than the cup. *Limb*, reflexed. *Spathæ*, many-flowered. *Flowers*, drooping. The three alternate *Stamens* much shorter than the others, and with the *Style* concealed by the cup.

The *flower-stalk* or *scape* in all these species has two or three flowers, and the flowers are always drooping. It may also be observed, that all the species called Jonquil, of which this once was one, are distinguished by their slender, rush-like leaves, whence indeed they take their name, as it is derived from the Latin word *Juncifolius*, literally rush-leaved. The *leaves* are somewhat channelled; the *spathe* is one-flowered; the whole *corolla* snow-white; the *petals* ovate-oblong; the *nectary* bell-shaped, shorter by half than the corolla, with the margin straight, and unequally crenulate; the *stamens* three, seldom six; the *anthers* dark yellow, shorter than the nectary. In nurseries the flowers are of a pale yellow, having two, and sometimes three flowers from a *spathe*. It is a native of Portugal.

There are perhaps few plants that vary more in the flowers than



Three-anthered rush daffodil.



this, as they are very often different on the same stalk. They always, however, agree in three of the stamens being so much shorter than the others, and are perceptible without a very close examination. The limb of the flower is always reflexed, and the cup projecting. But this is a characteristic of the genus *Ganymedes*, which is named from the cup-bearer of Jove, from its constantly projecting cup. Like all the plants in this division, this species is very delicate, and requires a warm and sheltered situation, and a light rich soil. This plant differs from many of its species, in having a twisted stem, whence Parkinson's name of the Turning Jonquil.

Narcissus pseudo-narcissus. Common Daffodil. This has a large bulbous root, from which spring out five or six flat leaves, about a foot long, and an inch broad, of a greenish color, and a little hollow in the middle like the keel of a boat; the stalk rises about eighteen inches in height, having two sharp longitudinal angles; at the top comes out the nodding flower, inclosed in a thin spathe; the corolla is of one petal, being connected at the base, but cut almost at the bottom into six spreading parts; in the middle is a bell-shaped nectary, called by gardeners the cup, which is equal in length to the petal, and stands erect; the petal is of a pale brimstone or straw color, and the nectary is of a full yellow; the seeds are roundish and black. It is a native of many parts of Europe, and flowers in March.

Narcissus poeticus. Poetic Narcissus. This species has a smaller and rounder bulb than the previous; the leaves are longer, flatter, and more narrow; the stalk or scape does not rise higher than the leaves, and which are of a greyish color; the flower is produced at the top of the stalk from the spathe, nodding on one side; the corolla is snow white, spreading open flat; the petals rounded at the points; the nectary or cup in the centre is very short, and fringed on the border with a bright purple circle; the flowers have an agreeable odor, appear in May, and seldom produce seeds. It is a native of Italy, and the South part of Germany. Flowering in April. There are

varieties with double white flowers, with purple-cupped flowers, and with yellow-cupped flowers.

Propagation and Culture. All the different species and varieties of this extensive genus may be increased with facility, by planting the off-set bulbs from the roots; and by sowing the seed in order to procure new varieties, which is chiefly practised for the fine sorts of Polyanthus Narcissus. For this purpose the seed should be carefully saved from the best and most curious plants after being perfectly ripened.

The seed should be sown after it becomes ripe, in or about the beginning of August, in shallow boxes or flat pans perforated with holes in the bottom, and filled with fresh light sandy earth, being covered about a quarter of an inch deep with fine sifted mould, and placed in such situations as are only exposed to the morning sun, till the beginning of winter, when they should be removed to have the full sun, and be sheltered from the severe weather. In the spring, when the plants appear, they should be occasionally watered in dry weather, and be screened from the mid-day heat, removing them into cooler situations as the warm season advances, keeping them free from all sorts of weeds. Towards the latter part of summer, when their stems decay, the surface mould of the boxes or pans should be stirred or wholly removed, and some fresh mould sifted over the plants, being careful not to disturb the roots, and keeping them dry in a shaded situation.

They should have the same management annually, till the period of their leaves decaying in the third summer, when the bulbs should be taken up, and the largest separated and planted out on raised beds of light fine mould, in rows six inches apart, and three or four distant in them, having the depth of two or three inches. They should afterwards be kept clean; and when they show flowers, so as to ascertain their properties, they may be removed, and managed as other bulbous roots.



Common Chrysanth.

NAT. ORDER.

Liliaceæ.

HYACINTHUS ORIENTALIS.

COMMON HYACINTH.

Class VI. HEXANDRIA. *Order I.* MONOGYNIA.

Gen. Char. *Perianth*, tubular, six-cleft. *Segments*, reflexed. *Stamens*, six, inserted in the middle of the tube. *Style*, awl-shaped. *Stigma*, obtuse. *Capsule*, ovately-trigonal, three-celled. *Seeds*, many, roundish.

Spe. Char. *Perianth*, funnel-shaped, half-cleft. *Segments*, spreading. *Tube*, ventricose at the base.

THE *root* is large, viscid, and bulbous; the *scape* or *stem* rises immediately from this bulb, bearing from six to ten *leaves*, which are broadish, keeled, pale-green at the bottom, but much darker near the ends; the *scape* is from six to ten inches in height, smooth, roundish, pale-green below, but tinged with brown towards the top; the *flowers* are placed near the top, standing one above another, on different sides, and each nodding on *pedicels*, about half an inch in length, usually of a very dark-green color, and having a pair of *bractes* at the base; the *corolla* is nearly an inch in length, almost cylindrical except at the base, where it swells; the *flowers* have a very sweetish smell, and are much valued for the variety of their colors.

The *hyacinth* is probably known to every lover of flowers; but many who are unacquainted with its history will be surprised to hear that there are only three species in the genus, and that two of these are rarely seen. The fact is, that all the almost innumerable kinds of *hyacinths* common in our gardens are varieties of one spe-

cies, *Hyacinthus orientalis*; and as these vary very much from seed, may be readily crossed with each other, no limit can be given to the number and variety of hyacinths that may be raised.

The hyacinth, in its wild state, is generally blue, but sometimes pink, and it grows in great abundance in the neighborhood of Aleppo and Bagdad. It has also been occasionally found in France and Barbary, but in both cases it was probably only a garden flower, which had sown itself accidentally. The garden hyacinth was first introduced in England before 1596, as Gerard speaks of it as a well known flower, without saying when it was introduced; and he describes several double varieties of the original flower, which he says, simply, was first brought from the East. The varieties known to Gerard were all blue, white, or pink; and only these colors were known in hyacinth till about the commencement of the present century, when a few pale yellow, or rather lemon colored, kinds were raised from seed. These have since been greatly improved by hybridizing and cultivation.

Much has been said and written on the culture of the hyacinth, but the following account of the Dutch mode of culture, (which was translated for and published in the Gardeners' Magazine,) which we have been told by florists, contains every thing that is necessary to be known on the subject.

“The hyacinth likes a very sandy soil, well-prepared, fine, without any appearance of stones or gravel, and which consequently looks exactly as if it had been passed through a fine sieve. All kinds of loam or stiff soil, which bind so closely together that, when dry, the wind cannot separate their particles as it does those of sand, must be avoided. No kind of red, blush, or blackish soil will produce perfect hyacinths; but one is considered particularly good, which is light grey, and which resembles fine, very sandy, and light garden mould. This sand, which is very light of itself, is made still lighter by the addition of the thin sand of the Dutch downs, which is of a pale yellow color, very fine, and contains neither stones nor gravel;

and as this sand constitutes the principal part of the mixture of the soil, if nature denies us a supply of it at home, we must search for it at other places, or try to prepare one like it. Various soils have been used for this purpose, but the preference is given to a pale yellow river-sand, to which is added a third of leaf-mould.

In preparing the beds, particular attention must be paid to two rules:—first, That for the space of four years previously to planting, no manure of a heating quality, must be mixed with the soil. Second, That hyacinths must not be grown in the same soil oftener than once every four years. The latter rule must be particularly attended to; because, if planted a year earlier, the decayed remains of the old bulbs would communicate the rot or other diseases to the newly-planted bulbs. In Holland, a bed is planted the first year with hyacinths, the second with tulips, the third with *Polyanthus Narcissus*; and it would be desirable if something similar were planted even the fourth year. The bed, however, is generally prepared for hyacinths the fourth season as follows:—Between December and February the ground is dug five or six feet deep; and, when too much water is apprehended, a drain is dug all round the bed, and filled with wood or stones, and then covered up. In March every square yard is enriched with four hand-barrowfuls of pure cow-manure (without straw) dug in a foot deep. During the summer, vegetables or annuals are grown on the bed, which do not exhaust the soil too much. The following autumn (therefore the fifth,) the soil is dug one and a half or two inches deep, taking care to let the manure, which was put on the ground in spring, remain a foot deep in the earth. When a proper drain is not made, a trench is used, two feet wide, and one and a half feet broad, which is left open, so that the water collected in it may be taken out.

When the above operation is performed, the bulbs must be prepared for planting in the beginning of October. This preparation consists in examining whether the bulbs are perfectly healthy; because if they are unhealthy, they not only will not flower, but will infect

those near them. It is necessary, therefore, in the first place, to be acquainted with the diseases they are liable to, which are:—*First*, the white rotz: *Second*, the black rotz: *Third*, the rot: *Fourth*, mould: *Fifth*, consumption or wasting: *Sixth*, shrinking: and *Seventh*, excess of offsets.

First. The white rotz is known by a resin which generally oozes from the upper part of the bulb, and also from the side, and which, about this time of the year, (October,) is of a hard consistency, not unlike the resin that flows from trees. The white rotz also assumes the appearance of a white slimy substance, and has a very unpleasant smell, which is particularly evident when the bulb is cut open; and bulbs in this state should be thrown away without hesitation.

Second. The black rotz is more difficult to know than the white rotz; because, as soon as the bulb is taken out of the ground and kept dry, the rotz dries up also. The stool or plate of the bulb, (that is, the point from which the roots proceed downwards,) appears as if eaten out on the side, and the scales at that part have dry black edges.

THE LANGUAGE OF FLOWERS.

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"CRIT AMOR PLANTAS."—LOVE CONSUMES THE FLOWERS.  
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- ACACIA—(Rose). *Elegance of appearance and manners.* This beautiful shrub has been compared to a fashionable lady in her ball dress.
- ALOE. *Hope in futurity.* It grows in the wilderness, and is slightly attached to the earth by thread-like roots.
- AMARANTH. *Immortality.* The name signifies "never fading," and the flower retains its form and coloring in spite of time. In many countries it is a funeral flower.
- AMARYLLIS. *Affectation, pride.* It is one of the most beautiful of flowering plants, but often refuses to open its petals.
- AMBROSIA. *Elevated Sentiments.* The name signifies the food of the gods.
- AMAITA. *Away! I shall reveal no secrets.* This is a mushroom, which being eaten, produces a sort of intoxication, during which the subject is said to reveal his own secrets, and those of his neighbors.
- ANEMONE. *I am forsaken and in despair.*
- ANDROMEDA. *A cruel fate has fixed me here.* This was named in allusion to the fate of the maiden, Andromeda, who was condemned to spend her days in the midst of a marsh which was haunted by ferocious reptiles.
- ANGELICA. *Thou inspirest me with poetic visions.* The Lapland poets are crowned with this plant, and consider themselves inspired by its fragrance.
- ASPHODEL. *My thoughts will follow you beyond the grave.* This was planted by the ancients near the tombs of their friends, because it was supposed that the shades of the dead would walk in the fields of this plant.
- ARETHUSA. *My regret shall become a fountain of tears.* The name is that of a nymph of Diana, who was transformed into a fountain.
- BALM OF GILEAD. *You have cured my pains.* It was famous in ancient times as a soothing remedy. "Is there no balm in Gilead?"
- BALSAM. *Impatience—Touch me not, if you please.* On the slightest touch the capsules fly open, and distribute their seeds.
- BERBERRY. *A sour temper is no slight evil.* The fruit is acid, and the shrub is armed with thorns.
- BAY LEAF. *I change but in dying.*
- BASIL. *I may hate you falsely.* It was formerly used as an emblem of poverty and distress, and by some esteemed in cookery.
- BOX. *I change not.* It is esteemed for its unchanging nature. It constantly retains its verdure from year to year, and changes but little in size.
- BULRUSH. *You are indiscreet.* It is an emblem of indiscretion, because it bends in any direction with the slightest touch.
- BUTTERCUP. *Deceit is often thus covered.* The flowers are of a beautiful color, and pleasing to the eye, but will blister the skin.
- BURDOCK. *Don't come near me.* The calyx is armed with hooks, which cling to every thing they touch.

- CACTUS.** *You strike me with horror.* This plant is armed with ferocious-looking spines, which are ready to shed the blood of those who touch them.
- CALLA.** *Beauty unadorned.* The spathe is gracefully curved, and without a blush of color.
- CAMULLIA.** *Your various beauties we all admire.* A species of the tea-plant, with pure white or variegated tints of its petals, which outrivals in permanent beauty all other exotic plants.
- CATCHFLY.** *I am not to be caught without my consent.* The leaves open to the sun, but close upon any insect which happens to touch them.
- CARNATION.** *There is danger of a fall.* It grows high, and requires a prop to keep it erect.
- CARDINAL-FLOWER.** *Your beauty is heightened by contrast.* A beautiful flower, growing in swamps, among rushes and brambles. When first seen it elicits emotions of surprise and pleasure.
- CHAMOMILE.** *Energy will surmount adversity.* Though every day trampled upon, it still grows, and flourishes and blossoms.
- CIRCEA.** *I shall beware of your enchantments.* Named after Circe, the enchantress, and is called *Enchanter's Nightshade*. It grows in shady places, and about the ruins of old buildings, where such characters are supposed to dwell.
- CLEMATIS—VIRGIN'S BOWER.** *Your influence favors mental accomplishments.* This vine screens the sun, and forms a refreshing place of study in the hot season.
- COLUMBINE.** *I see folly marked upon your face.* The nectaries turn over, and resemble the caps worn by those who were fools and jesters by profession in ancient times.
- COCK'S-COMB.** *Fops cannot but be fools.* The flower resembles the crown of the bird of which the name implies.
- CONVOLVULUS.** *Thou lovest darkness better than light.* Some of the species sleep, or close their petals during the day, and spread them only during the night.
- CORNUS.** *Precocity often comes to naught.* The Dogwood blossoms in the spring, before anything else; but the flowers are mere involucres, falling off, and coming to nothing.
- CROCUS.** *You are a constant enigma to all your acquaintance.* The semination of the Crocus is a wonder. The germen emerges from under ground on a white peduncle, and ripens its seeds above ground, differing from all other vegetables.
- COWSLIP.** *Thou art a gem in the midst of the desert.* Each footstalk is said to bear twelve flowers, hence, by Linneus, *Dodecatheon*, that is, twelve divinities.
- CYPRESS.** *An emblem of mourning.* This is an evergreen, which the ancients delighted to place among the tombs of their friends. Many of the chests containing Egyptian mummies are made of this wood; also the gates of Rome.
- COREOPSIS.** *Love at first sight.* A native of Mexico. The Spanish ladies adorn their heads with this flower.
- CORCHORUS.** *Thy absence is not forgotten.* The name is taken from the Greek, signifying a delicious pot herb much esteemed by that people.
- DAFFODIL.** *Uncertainty.* You are now in the morning of life, full of hope; but time will show you their uncertainty.
- DEW PLANT.** *Serenade.* May your dreams be as fine as pearly bells, rising in crystal fountains.

- DAHLIA. *Elegance and dignity.* I love thee for thy high-born grace; thy beauty is as undenied as the beauty of a star.
- DAISY. *Beauty and innocence.* I cannot look upon a star, a fleecy cloud, or any form of purity, unless I needs must dream of thee.
- DANDELION. *You force yourself where you are not wanted.* Its seeds fly through the air, and perplex the gardener, by planting themselves in his rich soils.
- DUCK MEAT. *You are too light to sink in water.* This plant grows on the surface of ponds, never touching the bottom even with its roots.
- EGLANTINE. *Poetic excellence.* The Greeks awarded this as a prize for poetic eloquence in floral games.
- ELDER. *Compassion.* Oh! let me wipe the tears from your eyes; and when sick or wounded, ease thy pains. Its properties are healing.
- EVERGREEN. *Poverty and Worth.* Though your dress be coarse and simple, you have a heart most free and kind.
- EVERLASTING. *Always remembered.* At morn, or noon, or night, of thee my mind's eye never loses sight.
- FENNEL. *Strength.* It is said that gladiators mixed it with their food to give them strength and ferocity.
- FIR. *Time.* The slow unfolding flower, or harvest ripening in autumn's sun, chides your impatient haste.
- FLAX. *Domestic industry.* In ancient times the spinning of flax was a female employment, so honorable that the daughters of princes did not disdain it.
- FLOWERING REED. *Confidence in heaven.* There's peace, strength, holy fortitude, and sweet rest, in thoughts and visions of that clime where dwell the loved and blest.
- FLOWER OF AN HOUR. *Delicate beauty.* 'Tis thus that loved ones quick decay, and lose their beauty in one short hour; not so their memory.
- FORGET-ME-NOT. *True love.* This beautiful flower is found by some secluded stream, or in the silent glen; but by the mildness of its purple hue attracts the wanderer.
- FOXGLOVE. *Your influence affects my heart.* When the leaves of this plant are taken, the pulse is reduced to a very great degree.
- FUCHSIA. *Humble love.* This plant is universally admired for its modest retiring beauty.
- GENTIAN. *Beauty and excellence.* It derives its name from Gentius, a king of Illyria, and is esteemed for its invigorating and healthful influence.
- GERANIUM. *Domestic enjoyment.* No plant thrives so well in inhabited rooms as the Geranium.
- GERANIUM (Fish). *You are disagreeable to me.* None admire the smell of fish.
- GERANIUM (Ivy-leaved). *A bridal decoration.* May you wear so honorable a badge.
- GERANIUM (Lemon). *Tranquillity of mind.*
- GERANIUM (Oak-leaved). *Names confer no qualities.* It has not the qualities of the noble oak.
- GERANIUM (Rose). *You have the preference.* Who does not enjoy the fragrance of the Rose?
- GERANIUM (Scarlet). *Thou art changed.*
- GILLY FLOWER. *Bonds of affection.* Its influence renders it peculiarly welcome to the afflicted.
- GOLDEN ROD. *Encouragement.* Fresh courage take; here is a remedy for your pains.
- GRAPE. *Mirth.* A delicious fruit, making an exhilarating beverage.
- HAREBELL. *Grief.* 'Tis sad to mark the ravage that the heart makes of itself.

- HAWTHORN.** *Hope on, hope ever.*— Like a quickset hedge, a sure defence against despair.
- HEART'S-EASE, or PANSY.** *Think on me when I'm away.* This species of violet has no fragrance, but has been an emblem of love, from its tiny size and beauty.
- HEATH.** *Esteem does not depend on Elevation.* This shrub is esteemed for its easy culture, and the profusion of flowers it puts forth in winter.
- HELLIOTROPE.** *I am devoted to one object.* It is said always to keep its disk towards the sun.
- HELLEBORE.** *Calumny.* A native of Europe and Asia; flowers greenish—a very poisonous plant.
- HIBISCUS.** *Beauty is vain.* All that's bright must fade.
- HOLLY.** *Come not near me.* The leaves of this shrub are armed with thorns.
- HOLLYHOCK.** *You are ambitious of show.* A native of Syria, and one of the most elevated and showy of all our annuals.
- HONEY FLOWER.** *My love is sweet and secret.* Indigenous to the Cape of Good Hope. Flowers yellow and pink; nectarious.
- HONEYSUCKLE.** *Fidelity.* I will be thine in weal or woe.
- HOUSTONIA.** *Unaspiring beauty lasts the longest.* A little blue flower which covers our meadows, and continues to bloom from April to November.
- HYACINTH.** *Love of play may decide your fate.* Name of a youth killed in a game of quoits by Apollo.
- HYDRANGEA.** *Superior merit when assumed is lost.* The red color of this plant is changed to blue when watered by a solution of alum.
- HYPERICUM.** *Animosity.*
- IPOMEA.** *I would attach myself to you.* The Morning-glory cannot climb without something to which it may attach itself.
- IRIS.** *I come with a pleasing message.* The flower-de-luce is a species. The fabled Iris was a messenger of the gods, who carried only good news.
- ICE PLANT.** *Your very looks are freezing.* This is a plant covered with a mucilage resembling ice.
- IVY.** *Nothing can divide our affections.* The Ivy is a vine which clings with great tenacity to whatever may be its support.
- JASMINE.** *Thy mild grace has won my heart.* The branches of this vine may be twisted into fanciful shapes, and still retain their vigor.
- JONQUIL.** *Affection returned.* It has a golden colored flower, emitting a pleasant and powerful perfume.
- JUNIPER.** *I will protect you.* The thick drooping branches of this shrub afford protection to the hare and other timorous animals when pursued.
- KING-CUP.** *I would be rich.* This is an extensive genus, numbering nearly one hundred species: the flowers are of a very glossy yellow, and very common in our fields in June.
- LABURNUM.** *Pensive beauty.* Flowers purplish or yellow, drooping in clusters.
- LADIES'-SLIPPER.** *You are too wild for a domestic companion.* It is a beautiful, prudish-looking red flower, which stands nodding in the forest, but does not thrive so well in the garden.
- LARKSPUR.** *Fickleness.* A flower very easily cultivated, and whose form and hue is often changed.
- LAUREL.** *Oh! what a goodly exterior falsehood hath!* A magnificent American shrub, with gaudy colors, but acts as a poison when taken.
- LAURUSTINUS.** *A token.* An evergreen shrub; flowers white, sometimes tinged with red.

- LEMON. *Grief*. This fruit is an emblem of grief, or mourning, and is frequently placed in the hands of the Hindoo widow, who is about to offer herself on the funeral pile of her husband.
- LILAC. *Youth*. This shrub is particularly domestic in its nature, and flowers early in the spring.
- LILLY OF THE VALLEY. *Returned happiness*. This modest little favorite sends forth its shining leaves and fragrant bells in the month of May, that happiest season of the year.
- LILLY (Water). *Eloquence*.
- LILLY (White). *Purity*. The lily is among the oldest inhabitants of the flower-garden, and its white and fragrant flowers justly entitle it to the language of purity.
- LOBELIA (Common). *You may yet learn to appreciate my goodness*. Although this plant has many enemies, yet, as its properties become more known, so is it the more highly appreciated.
- LOCUST. *Affection beyond the grave*. The locust is a beautiful tree, with white and very fragrant flowers.
- LONDON-PRIDE. *Frivolity*.
- LUPINE (White). *Slavery*. It derived its name from *lupus*, a wolf, on account of its being supposed to destroy the fertility of the soil.
- MADDER (Dyer's). *Deceit is often the means of its own detection*. When cattle break into the madder-fields and eat their leaves, they stain or color their teeth red.
- MAGNOLIA. *Thou art one of nature's nobility*. This noble genus surpasses all others, either in simplicity, magnificence, or beauty.
- MALLOW. *Mild as a moonbeam*. Named in allusion to the soft mucilaginous qualities which the plant is possessed of.
- MANDRAKE. *Emblem of a guilty conscience*. This plant seeks the shade, and is said to be noxious to the earth where it grows.
- MARYGOLD. *Iniquitude*. This gilded flower has ever been made the emblem of distress of mind.
- MEADOW SWEET. *Healing*. This plant possesses valuable properties for healing wounds and sores.
- MEZEREON (Common). *Love in a snow-wreath*. This is a highly ornamental plant, but is very acrid and poisonous.
- MIGNONETTE. *Your qualities much surpass your appearance*. This little favorite, with unpretending modesty, is frequently sought for rooms and balconies on account of its fragrance.
- MIMORA, OR SENSITIVE PLANT. *Sensitiveness*. This plant possesses small fibres, which contract under the least irritation, droop and die.
- MINT. *Virtue*. Named from *mintha*, in allusion to a nymph of that name, fabled to have been changed into mint by Proserpine in a fit of jealousy.
- MISLETOE. *Your existence is dependent upon others*. This is a parasite plant that lives, and derives its nourishment from the trunks of trees.
- MOCK-ORANGE. *Memory*. When once we inhale the penetrating odor of this flower, it dwells on the sense for a long time.
- MONK'S-HOOD. *You commit many black and horrid deeds*. Almost numberless are the accounts of the fatal effects of this poisonous plant.
- MOSS. *Maternal love*. The first species of vegetation that clothes the soil in spring, and the last that disappears when it ceases to nourish.
- MOTHERWORT. *Concealed love*.
- MULBERRY. *Wisdom*.
- MYRTLE. *Unchanging love*. Antiquity has consecrated the myrtle to Venus. Its leaves are unchangingly

- green, and from this circumstance has obtained this sentiment.
- NARCISSUS.** *Self-love.* Egotists are only agreeable to themselves.
- NASTURTIUM, OR INDIAN WATER-CRESS.** *Darkness flees at your approach.* In the darkness of mid-summer's night, it is said, that the electrical sparks may be seen emanating from the flowers of this plant.
- NASTURTIUM (Small-leaved).** *Hidden secret.* Emblematically named in allusion to the small, hardly evident petals, and from its being but imperfectly known.
- NETTLE (Stinging).** *Your poisonous fang is long remembered.* The poison of this plant, like that of the bee, is contained in the ovulum, a little sac, and which is forced out as the point enters the skin.
- NIGHT-FLOWERING CACTUS.** *Meet me by moon-light.* The flowers of this plant begin to open about eight o'clock in the evening, and at three in the morning withers, droops and dies.
- NIGHT-SHADE (Deadly).** *The emblem of death.* The generic name is after one of the Yates, whose business it was to sever the thread of life.
- OAK.** *Thou art honorable above all others.* Among the ancient Romans the civic crown formed from the leaves of this tree, was the most exalted honor the nation could confer.
- OLEANDER (Common).** *I fear for you.* There's nothing true but heaven.
- OLIVE.** *Peace be with you.* The olive tree has been celebrated since the time the Dove conveyed the branch to Noah's ark, as the bounteous gift of heaven, and as an emblem of peace and plenty.
- ORANGE FLOWERS.** *Bridal purity.* The leaves of the orange are a beautiful shining green, and the flowers, from their beauty and fragrance, have long been employed to decorate the head of the bride. Hence they have obtained the language of "Bridal Purity."
- ORCHIS.** *My power shall be felt longer than those I imitate.* This plant possesses a flower that so strongly resembles a bee as frequently to be mistaken for that insect.
- OSIER. (Common).** *Frankness.* The readiness with which the bark of this tree yields its valuable mucilaginous properties, obtained for it the language of "Frankness."
- PALM (Fan).** *Virtue.* The character of grandeur, as well as their immense value to mankind, in affording food and raiment and numerous objects of economical importance, claims for this tree its sentiment.
- PARSLEY.** *I relish your presence.* This has ever been a favorite plant for the seasoning of various dishes of luxury.
- PASQUE-FLOWER. (Garland).** *Unpretending goodness.* This flower is valued for its hardy nature, and because it will flower at almost any season of the year, by due attention.
- PASSION-FLOWER.** *Love and religious faith.* This beautiful flower is supposed to represent the Cross, the Crown of Thorns, the Scourge, and the nails used at the Crucifixion.
- PEA (Sweet).** *Remember me.* This is a graceful pretty vine, with flowers variegated with blue, lilac, rose, and white, emitting a delightful fragrance.
- PEACH BLOSSOM.** *Youthful piety.* The Peach is a well known tree. It blooms among the first of fruit-bearing trees.
- PEAR.** *Youthful loveliness.* Its flowers are nearly white and very pretty, and expanding so early in the season, renders them a very appropriate

- emblem of youthful loveliness.
- PEPPERMINT. *Warmth of feeling.* The pleasant, warm, and agreeable taste of this aromatic plant, is too well known to require description.
- PERIWINKLE. *Sweet remembrances.*
- PILLOX. *Our souls are united.*
- PINE APPLE. *Thou art perfect.* This plant affords the most delicious fruit in the world; the brilliant flowers arising amid its sword-like leaves, and the sweet-scented fragrance of its fruit, leaves nothing further to be desired.
- PINK (Red). *Woman's love.* The red pink claims a conspicuous part among the many varieties, both for the richness of its color, and its delightful fragrance.
- PINK (White). *You retain your original simplicity.* This is said to be the primitive plant, from which the numerous variegated varieties have been produced by art.
- POLYANTHUS. *Confidence.* The expectation of future happiness is the best relief of anxious thought, the guide of life, and the comfort in death.
- POPPY. *Sleep of the heart.* This plant is a powerful narcotic, from which opium is extracted.
- PRIDE OF CHINA. *Discussion.* Life is the time for action, not for fruitless speculation.
- PRIMROSE. *Early youth.* This plant is one of the first to announce the return of spring, and it being the period before the bright days of summer appear, makes it emblematical of a lovely girl just passing from childhood to youth.
- QUAMOCLIT (Crimson). *Busybody.*
- QUINCE. *Beware of temptation.* Some learned commentators have advanced the idea that it was this fruit, instead of the apple, by which sin and wo entered this world.
- RANUNCULUS. *You are radiant with charms.*
- RHODODENDRON. *Danger.* Ancient botanists have reputed this tree to possess noxious qualities, poisoning the honey made from its blossoms, when bees have had access to it.
- ROSEMARY. *Fidelity and Love.* The rosemary has long been considered an emblem of fidelity in lovers, from the supposed quality, of strengthening the memory.
- ROSE. *Thy presence is universally beloved.* From the earliest periods of history, this flower has been cultivated and esteemed in every part of the world.
- ROSE-BUD. *Love.* The rose-bud has long been considered an emblem of love.
- ROSE (Dog). *Simplicity.*
- ROSE (Hundred-leaved). *Grace.*
- ROSE (Japan). *My destiny is in your hands.*
- ROSE (Monthly). *Your charms only fade to be renewed.* This beautiful species sends forth new blossoms every month.
- ROSE (Moss). *Perfect beauty.* No class of plants yields more intrinsic delight to the amateur than the rose.
- ROSE (White). *Silence.* Byron in his poems has rendered this species sacred to the silence of the tomb.
- RUE. *An emblem of purification.*
- RUSH. *Docility.* This slender reed, deprived of support, bows gracefully to every passing breeze.
- SAFFRON (Meadow). *Excess is dangerous.* A small portion of the leaves or seeds of this plant has proved a fatal poison to man and beast.
- SAGE. *I would prolong your days.* It was believed by the ancients, that sage would restore the sick to health, and prolong the days of the infirm.
- SNAPDRAGON. *You are dazzling but dangerous.* This plant is named in

- allusion to the form of the leaves, being snout-form, hence dragon-like.
- SNOWBALL (Tree).** *If all were like you the earth would soon become a desert.* The stamens of this plant are changed into petals, therefore producing no seed.
- SNOWDROP.** *Though in chains hope has not forsaken me.* As soon as this dwarfish plant is uncovered from the snow and ice, it opens its petals and appears in the full bloom and vigor of life.
- ST. JOHN'S-WORT.** *I do not crave your protection.* In superstitious ages this plant was hung in the windows as a charm against storms, thunder, and evil spirits, and was also carried about as a charm against witchcraft.
- STOCK-JILLY-FLOWER.** *By cultivation the rustic may attain the highest distinction.* Originally this was an insignificant little straggler, but by close attention it has become one of the noblest of ornamental plants.
- STRAWBERRY TREE.** *Perscverance.*
- SUNFLOWER.** *You are valued for what you do not possess.* This stately annual is supposed to turn its disk constantly towards the sun.
- SWEET PEA.** *Departure.*
- SWEET-WILLIAM.** *Childhood.*
- TANSEY.** *I declare war against you.* This herb is extremely nauseous and bitter to the taste, and in some countries the inhabitants present its leaves to those they intend to insult.
- THISTLE.** *I am afraid of you.* This plant is thickly beset with bristles, and bids defiance to the touch.
- THORN-APPLE.** *Thy poisonous charms are only for the night.* In warm climates the flowers of this genus droop and languish during the day, but upon the approach of night unfold and display their gorgeous balls.
- TREFOIL (Clover).** *Providence.*
- TRUMPET-FLOWER (Ash-leaved).** *Separation.*
- TUBEROSE.** *Voluptuousness.*
- TULIP.** *Thou wert once the dearest flower on which the sun ever shone.* About the middle of the 17th century, such was the mania for particular sorts of this plant in Persia, that a single bulb was sold for \$20,000.
- TULIP TREE.** *Rural happiness.*
- VERVAIN.** *Now thine art is known thy spell no longer binds.* Most extraordinary magical virtues were attributed by the ancient Druids, but like othersorts of witchcraft, the spell was broken when its fallacy was known.
- VINE (Grape).** *Repentance follows thine embrace.* Anarcharsis says that the vine produces three kinds of fruit; intoxication, debauchery, and repentance, and that wisdom shuns them all.
- VIOLET.** *I must be sought for to be found.* Ever since Diana changed Io into a violet, to hide her from Apollo, the flower has been made the emblem of modesty.
- WALL-FLOWER.** *My affection is above time or misfortune.* This modest little plant blooms on the nourishment derived from the dust of ruined castles, and never fails to put forth its modest flowers, unless disturbed by the hand of man.
- WILLOW (Weeping).** *Mourning for friends deceased.* From earliest history to the present time we find the willow used to designate places sacred to the dead.
- WOOD-SORREL.** *Joy.*
- WORMWOOD.** *Emblem of anguish.* The peculiar qualities of this plant have established it as the insignia of bitter sorrow.
- YEW.** *Insensibility.* This may be considered an emblem of insensibility, war, or mourning; in the poetry of Scott, it is a symbol of war; in one of Byron's beautiful dirges, it is made an emblem of mourning.