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G A R D E N E R S D I C T I O N A R Y.

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ABELE-Tree. See POPULUS.
ABIES. Tourn. Pinus. Lin. Gen. Plant. 956. The Fir-tree.

The CHARACTERS of this genus are, *There are male and female flowers on the same tree; the male flowers have empalements of four leaves, with out petals, many stamina and naked summits. The female flowers are collected in a scaly cone, each scale covering two flowers, having neither petals or stamina, with one pointal, and are each succeeded by a winged nut. The distinguishing character of this genus, is the leaves arising singly from their base; whereas the Pines have two or more arising from the same point.*

The Fir has always been separated from the Pine-trees, by all the writers on botany before Dr. Linnæus, and were generally distinguished therefrom, by their leaves being produced singly on the branches; the leaves of the Pines being produced by pairs, threes, or fives, out of sheaths which surround their base. And as this distinction is now well known among the nursery-gardeners, so it is much better to keep them separate, than to join them with the Cedar of Libanus, and Larch-tree to the Pine, as the Doctor has done, making them of one genus, especially as the culture of them is very different. For there are few of the sorts of Pines which thrive well when they are removed large, as the earth generally falls from their roots, when taken up, whereas most of the sorts of Firs may be taken up with large balls of earth to their roots, so with proper care they may be safely removed, when they are sixteen or eighteen feet high; especially if they have been digged about, and their roots frequently cut round.

The following SPECIES are now in the English gardens,

1. ABIES (*Picea*) foliis emarginatis, subtus glaucis, strobilis erectis sessilibus. *The Silver or Yew-leaved Fir*

2. ABIES (*Alba*) foliis subulatis mucronatis utrinque dispositis, strobilis pendentibus. *The Spruce or Norway Fir, sometimes called the Pitch-tree.*

3. ABIES (*Balsamea*) foliis solitariis submarginatis, subtus linea duplici punctata. Flor. Virg. 152. *The Balm of Gilead Fir.*

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4. ABIES (*Canadensis*) foliis subulatis subtus glaucis, utrinque dispositis, strobilis uncialibus laxis. *The small-coned American Spruce Fir.*

5. ABIES (*Nova Anglia*) foliis submarginatis, subtus glaucis, utrinque dispositis, strobilis uncialibus laxis. *The white Spruce Fir of North America, called Newfoundland Spruce.*

6. ABIES (*Americana*) foliis submarginatis, bifariam dispositis, strobilis subrotundis. *The American Hemlock Fir.*

There are some other varieties of these trees, which have been raised in England from seeds which came from North America; but as they are believed to be only accidental variations, arising from the difference of soils and situations, I shall not pretend to put them down as different species, especially as several of them have not as yet produced cones in England.

The first sort grows naturally in many parts of Germany, but the finest trees of this sort are growing upon mount Olympus, from whence I have received some of the cones, which were of an extraordinary size. The Strasburgh turpentine is drawn from this tree. The wood is white and soft, and therefore not greatly esteemed. The Balm of Gilead Fir, which is the third sort, is so near resembling this, as scarcely to be distinguished from it, after it is grown to a large size. The young trees have their leaves growing on every side their branches, by which they may then be easily known; but as the trees advance, so their leaves become ranged only on two sides of the branches, and approach nearer to the Silver Fir: the short duration of this tree in almost every soil and situation in England, has inclined many persons to believe it a distinct species; but as I have observed the same trees to alter after some years growth, so I shall suspend my judgment of this matter, until I can determine with greater certainty.

The second sort grows naturally in the low lands of Sweden, Norway, and Denmark, as also in many other parts of Europe. This is sometimes titled *Abies rubra*, i. e. Red Fir, which has given occasion to some persons to believe, that the red deals are cut from this sort; but we now can have no doubt of the contrary, for they are cut

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from the Scotch Pine, the wood of the Spruce Fir being white. The young branches of this Fir are used to make Spruce beer in Germany, and from thence had the title of Spruce Fir.

The fourth sort grows naturally in many parts of North America, from whence the cones have been brought to England. The leaves of this sort are shorter than those of the Spruce Fir, but are in shape like them, their under side being of a glaucous green colour; the cones are loose, and about an inch in length.

The fifth sort is also a native of North America, where the inhabitants make three sorts of it, by the titles of Black, White, and Red Spruce. In England, these are mostly known by the title of Newfoundland Fir, because many of their cones have been brought from thence, but the trees are found growing in most parts of North America. The Black Spruce grows commonly in swamps and bogs, and rarely rises to a great height. The White Spruce is an inhabitant of the mountains and higher lands, where it grows to a large size: and in the gardens of his Grace the late Duke of Argyle at Whitton, near Hounslow, there are some noble trees of this sort, which are not more than thirty-six years growth from seeds. By the difference in the growth of this and the Black Spruce, we may readily suppose them to be different species; but upon examining the old branches with their cones, they approach so near as to give suspicion of their being only varieties. The red sort, as it is called in America, while young, had great likeness to the Black Spruce Fir of America; but as the plants advance, there is a manifest difference in their leaves, and a much greater in their cones, which are smaller than those of the other, and are almost round: how their timber differs I know not, having never seen any of its wood.

The sixth sort is also a native of the same country; and in the northern parts of America, I am informed it grows to be a very large tree; but in England the branches spread wide every way, so that there is no appearance of the trees ever arriving to any considerable height. The leaves of this tree are short, and shaped very like those of the Yew-tree; they are ranged on two sides of the branches only, so they appear flat, like those of the Silver Fir, but are of a pale green on both sides. The cones are small, loose, and roundish. What sort of wood this tree affords I cannot say, having never seen any trees of a size fit to cut down.

From most of these Firs, the inhabitants of North America collect a clear fragrant turpentine, which they use for curing green wounds; and the physicians there make great use of it internally: and it is generally supposed, that what is now sold under the title of Balm of Gilead in England, is the turpentine of the third sort.

All the sorts of Fir are propagated by seeds; the time for sowing them is about the middle of March, when the season is mild, otherwise it had better be deferred till the end of that month, or the beginning of April. The seeds which are preserved in their cones, will keep good much longer than those which are taken out; but the cones of the Silver and Balm of Gilead Firs generally fall to pieces in the autumn, soon after the seeds are ripe; so that if they are not carefully watched, and gathered at that time, the seeds will be lost. The cones of all the sorts of Fir open with more ease than those of the Pines, and require but little trouble to get out their seeds. If they are spread on a cloth before a fire for a few hours, their scales will open and emit the seeds.

The seeds may be sown in pots or boxes filled with light fresh earth, covering them over about half an inch thick with the same earth; these should be placed to an east aspect, where they may have the sun till eleven in the morning; or if the seeds are sown in a bed of earth, it should be

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shaded with mats in the middle of the day: for when they are too much exposed to the sun, the surface of the ground will dry so fast (especially in dry seasons) as to hinder the seeds from vegetating; and when the plants begin to appear, if they are not screened from the sun, many of them will be soon destroyed. The seeds must be carefully guarded against mice and birds, who are very fond of them, but particularly when the plants begin to appear; for as they thrust up the cover of the seeds on their top, so the birds in pecking off these covers, will destroy the young plants; therefore the surest method is to cover them with nets until the plants have thrown off their husks, and expanded their feed-leaves, soon after which they will be out of danger.

The plants may remain in these places where the seeds were sown till the following spring, provided they are not stunted by the stiffness of the ground, or any other cause; if so, they had better be carefully transplanted into new beds about the beginning of July; but this must be done with great care, observing to raise the plants with a trowel, so as to preserve their roots as entire as possible, and to plant them again immediately, otherwise their tender fibres will soon become dry when exposed to the air at this season, and the plants thereby destroyed. The distance for planting these young plants should be four inches row from row, and about three inches asunder in the rows: for as these beds must be arched over with hoops, that the plants may be shaded with mats in the middle of the day, so the closer they are planted, there will be less trouble and expence in their covering; and as the plants are to remain in these beds no longer than the following year, so there will be room enough for their growth during that time. These young plants must be carefully weeded, for if weeds are permitted to grow among them to any size, there will be great danger of drawing the plants out of the ground with the roots of the weeds, when pulled up. If the season proves very dry, it will be of service to the plants to sprinkle them over with water once or twice a week during the hot time of the year: but this should be done with caution, for too much wet will rot the stalks of these young plants and destroy them.

The plants are very rarely hurt by frost in winter, especially those in the full ground; but such as are in pots or tubs are in more danger, if they stand upon the surface of the ground; for the frost will penetrate through the sides of the pots or tubs, and thereby may injure their roots. Therefore these should either be sunk into the ground before winter, or some old tanners bark, straw, or mulch, laid round the pots or tubs to keep out the frost.

After the young plants have remained in the seed-bed one year, they may be transplanted into beds the April following; but as these which were not transplanted in summer from the places where they were sown, may stand two years in the beds when transplanted, so they should be allowed more room than those which were removed the preceding summer. Therefore the rows may be from five to six inches distant, and the plants in the rows four inches asunder, observing to treat them in the manner before directed. When they have grown two years in these beds, they may then be transplanted into the nursery, placing them in rows at three feet distance, and in the rows a foot asunder. The best season for removing them is in April, just before they begin to shoot; though they may, and often are transplanted in autumn with success; but the other time is preferable, especially if there happen to be rain soon after, otherwise they will require watering once a week for about a month.

The smaller these trees are planted out where they are to remain, the greater will be their progress, and they will grow to a much larger size than those that are removed at a much greater age; but there are few persons who have patience

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patience to wait their growth, therefore frequently plant them at the height of six or eight feet, at which size they will transplant better than most other evergreen trees; but those which are so tall will require support, otherwise they will be in danger of being blown down by the wind. And if trees of such sizes are to be carried to a distant place, it will be expensive; for unless they have large balls of earth to their roots, there will be great hazard of their growing; and these will require more water than young plants: so that upon the whole, planting of young trees, is much preferable and less expensive. Therefore, where there are large plantations to be made, planting the trees very young is the most eligible; for the expence of cleaning these young plantations, will not be equal to that of staking and securing tall trees: and the difference of the first price, together with the carriage of the latter, will be very considerable; beside, the former will in a few years outgrow the latter. I have myself made plantations of Firs of different ages at the same time, upon the same ground, and have always found that plants of two or three years old, have in ten or twelve years, been much the best of any in the plantations; and I dare say others, who have made the like experiment, have found the same success.

In the choice of the plants, if they are to be purchased from a nursery, they should not be taken from good land to plant in a poor soil; therefore the better way is to procure them from ground as nearly like that into which they are to be planted, as possible; or if it is worse, the plants will succeed better. Indeed, where large plantations of these trees are designed, it is much the better way to make nurseries on the same ground, where the trees should be raised from seeds; for this will be a great saving of expence, and as the distance will be small to remove them, so there will be little danger of their succeeding.

But as the wood of all the sorts of Fir yet known, is much inferior to that of the Pine, so it is not adviseable to make plantations of them for their timber, therefore they are only valuable for their beauty: so that when they are planted for ornament, they should be placed so far asunder as to admit the free air between them, otherwise the lower branches will decay, and render the trees unsightly. The great beauty of these trees are in their pyramidal form, and being furnished with lateral branches from about seven feet above the surface of the ground to the top, and these branches should be well garnished with leaves: to obtain which, the trees should not be planted nearer than eighteen or twenty feet; for when they are closer planted, the under branches soon drop their leaves and decay; and if these branches are taken off, the trees never put out new ones to supply their place. The unskilful disposition of these trees, has brought them into disrepute with many persons; whereas, if they are properly placed, they may be made very ornamental to fine seats.

In pruning off the under branches to the designed height, there must be care taken not to cut off too many branches at the same time; one tier of branches is full enough to be displaced in a year; and if every other year this is performed, it will be sufficient; and by this gradual method of pruning, the trees will not be much retarded in their growth. The best time for this operation is in the beginning of September.

The Silver Fir requires a deep strong soil, for if it is planted in a light ground it will make but little progress; and when it is planted in a shallow ground, as soon as the roots meet with obstruction the trees generally decay. The largest trees of this kind which I have seen, were growing in a deep loamy soil; these were upwards of ninety feet high, and were furnished with branches from ten feet above the ground to their tops, which being well garnished with leaves, made a fine appearance.

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The common Spruce Fir will thrive best on the same land, but this will also do well on light ground, where the other will make little progress, so is more generally planted in England: besides, it will thrive in soils and in situations where the other will scarce live; it is also of longer duration in England.

The fourth sort will succeed best on a moist soil, for in light dry ground it makes but little progress; nor does it make a good appearance where the soil is not proper for its growth.

The American Spruce Firs delight in light moist ground, where the trees grow to a large size, and make a beautiful appearance; and if they are allowed room for their lower branches to spread and extend, they will be garnished with them almost to the ground, forming themselves in a pyramidal figure.

The Hemlock Fir thrives best in a strong loamy soil; those which have been planted in light dry ground, have made but little progress, especially upward, their branches taking a lateral position: so that unless the upper shoot is trained to a stake to direct its upright growth, the leading shoot will turn on one side and become flat; but in a strong loam, I have seen some of these trees which have naturally grown upright. As there are none of these trees in England which are arrived to a size fit to cut down, so we know little of the worth of this wood.

There are some persons who are fond of propagating Fir-trees from cuttings, which, if properly planted, will take root, but the plants so raised will never arrive to near the size of those raised from seeds: they are also never inclined to an upright growth, sending out lateral branches, and becoming bushy, therefore this practice is not worthy of imitation; and unless for sake of the multiplying a curious sort, whose seeds cannot be easily procured, should never be attempted: nor should the inarching of one sort upon another be practised for the same reason; for the trees so propagated, will be of slow growth and of short duration.

ABROTANUM. See ARTEMISIA.

ABROTANUM Fœmina. See SANTOLINA.

ABSINTHIUM. See ARTEMISIA.

ABRUS. See GLYCINE.

ABUTILON. See SIDA.

ACACIA. See MIMOSA.

ACACIA, the Common American. See ROBINIA.

ACAJOU, or CAJOU. See ANACARDIUM.

ACALYPHA. Three-seeded Mercury.

There are three species of this genus of plants, which are preserved in curious botanic gardens for the sake of variety; but as they have no great beauty or of any use, so they are rarely propagated in other gardens, therefore are not inserted here, as the enumeration of such plants would swell the work beyond the bounds intended.

ACANTHUS. Tourn. Inst. Lin. Gen. Plant. 711. Bear's breech.

The CHARACTERS of this genus are,

The empalement of the flower is two-leaved and bifid; the petal has but one lip, which is turned backward, and is divided into three at the end. The capsule has two cells, each containing one seed. It is of the ringent class of flowers, whose seeds are in a capsule, and are ranged in the second division of Linnæus's fourteenth class.

The SPECIES of this genus now in the English gardens are,

1. ACANTHUS (*Mollis*) foliis sinuatis inermibus. Lin. Sp. 891. *Smooth Bear's-breech with sinuated obtuse leaves, or the common officinal Bear's-breech.*

2. ACANTHUS (*Lusitanicus*) foliis sinuatis inermibus lacidis, laciniis acutis. Jussieu. *Smooth Portugal Bear's-breech, with sinuated shining leaves having acute points.*

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3. *ACANTHUS* (*Dioscoridis*) foliis pinnatifidis spinosis. Bear's-breech with acute winged leaves, having soft prickles.

4. *ACANTHUS* (*Spinofus*) foliis pinnatifidis lucidis spinosis. Hort. Cliff. 326. Prickly Bear's-breech.

The first sort is the common *Acanthus*, whose leaves are taken for the ornaments of the Corinthian capital, and is the sort which is used in medicine. It grows naturally in Italy, Sicily, and the Levant.

The second sort grows naturally in Portugal. The leaves of this are much larger than those of the first, and are less jagged; the cuts of the leaves are more pointed, and the upper surface is lucid. This is not a variety, for the seeds constantly produce the same kind.

The third sort grows naturally in Italy; the leaves of this are cut into acute segments, and are shaped like winged leaves, each segment terminating with a short soft spine. The flower-stalks of this sort rise considerably higher than those of the former sort.

The fourth sort hath large shining winged leaves, which are armed with strong spines at the end of each segment, which renders it very troublesome to handle the leaves, and the flower-stalks of this rise as high as those of the third sort. This grows naturally in the Archipelago.

These plants have all of them thick fleshy roots, which strike deep in the ground; and those of the third and fourth sorts creep in the ground to a considerable distance, that it is difficult to keep them within proper compass. They are also less tender than the first and second sorts, so are rarely injured by the greatest cold in England; whereas the former are killed in severe winters where they are exposed in an open situation, therefore require a warm situation and a dry soil. These plants frequently perfect their seeds in England, so they may be propagated by sowing them in a bed of light earth in the spring, where the plants generally appear in about six weeks after; and if they are kept clean from weeds, it is all the care they require the first summer: but in the winter, the plants of the first and second sorts will require some protection, especially if the weather should be very sharp; therefore they should be covered with mats, pease-haulm, or some other light covering, when the frost is severe, but the covering should always be removed in mild weather.

About the beginning of March, if the season is mild, the young plants should be carefully taken up, and transplanted in the places where they are designed to remain. Those of the two first sorts should have a warm situation and a dry soil; they must also be covered in winter, if the frost is severe, for a year or two, till they have obtained strength enough to resist the cold: but the other may be planted in the open border, where, if the ground is not too wet, they will thrive and flower very well.

But as the plants which are raised from seeds seldom flower till the third year, so few people care to wait so long, therefore generally propagate them by offsets from the roots; these are produced in great plenty by the third and fourth sorts, which send them out to a considerable distance from the mother plant, so may be had in great abundance: but the first and second sorts do not increase near so fast, therefore are less common in the English gardens than the other. The offsets of all these sorts should be taken from the old plants in March, when the danger of the hard frost is over; for if very severe frost should happen soon after their removal, it will kill them, especially those of the two first sorts.

When the plants have taken good root in the places where they are designed to remain, the only culture they will require is to keep them clean from weeds; and when they shoot up their flower-stalks, to put down stakes and fasten the stalks to them, to prevent their being broke down

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by the wind, for they generally grow four or five feet high, and their flowers being large, become heavy; but when the seeds are formed, they are commonly too weighty for the stalks to support them. The two last sorts should have their offsets frequently taken off, to keep them within bounds.

ACER. The Maple-tree. In French, *Erable*.

The CHARACTERS of this genus are,

It hath hermaphrodite and male flowers on the same tree; the hermaphrodite flowers have an empalement of one leaf, cut into five parts: the corolla has five petals, they have five stamina and one pointal: the flowers are succeeded by two winged capsules joined at their base, each including a single seed. The male flowers have the same characters, but have no style, so are not fruitful.

The SPECIES are,

1. *ACER* (*Pseudo Plataneis*) foliis quinquelobis inæqualiter serratis, floribus racemosis. Lin. Sp. Pl. 1054. *The greater Maple, falsely called Sycamore.*

2. *ACER* (*Campestre*) foliis lobatis obtusis emarginatis. Lin. Sp. Pl. 1055. *The common or lesser Maple.*

3. *ACER* (*Negundo*) foliis compositis, floribus racemosis. Hort. Cliff. 144. *The Ash-leaved Maple.*

4. *ACER* (*Platanoides*) foliis quinquelobis acuminatis acute dentatis glabris floribus corymbosis. Lin. Flor. Suec. 303. *The Norway Maple.*

5. *ACER* (*Rubrum*) foliis quinquelobis sub dentatis subtus glaucis pedunculis simplicissimis aggregatis. Lin. Sp. Plant. 1055. *The Scarlet-flowering Maple.*

6. *ACER* (*Saccharatum*) foliis quinquepartito-palmatis acuminato dentatis. Lin. Sp. Pl. 1055. *The American Sugar Maple.*

7. *ACER* (*Pennsylvanicum*) foliis trilobis acuminatis serrulatis, floribus racemosis. Lin. Sp. Pl. 1055. *The American Mountain Maple.*

8. *ACER* (*Montpelulanum*) foliis trilobis integerrimis. Prod. Leyd. 459. *The Montpellier Maple.*

9. *ACER* (*Creticum*) foliis trilobis serrulatis. *The Cretan Maple.*

The first sort grows naturally in the mountains in Germany, but is now so common in Britain, as to be by some supposed to be indigenous here; for the seeds have been carried by the winds to a great distance from the trees, and the plants have risen in great plenty without care, in all places which are fenced from cattle, in the neighbourhood of the trees; so that there is generally a supply of young plants from scattered seeds without any trouble, and this may have misled many persons to believe the tree is a native of this country.

This sort grows to a tree of a large size; the wood is soft and very white, so is used by the turners, but is not esteemed very valuable for other purposes. But as this tree will thrive better than most other sorts near the sea, so it is frequently planted to screen plantations of other sorts of trees from the spray of the sea.

The second sort is very common in most parts of Europe, and is generally believed to be a native of this country. The wood is very hard, so is used for gun-stocks and several other purposes; but this sort never grows to a large size.

The third sort, which is commonly known by the title of Ash-leaved Maple, is a native of North America, but is now very common in the English gardens. It is of quick growth; the trees often make shoots of eight or ten feet long in one year, but the wood is soft, and the branches of the trees are frequently split off by strong winds in the summer, when they are clothed with leaves, if they are in an exposed situation. These trees abound with a sweet sap early in the spring, which, if collected, by tapping their stems at that season, and boiling it, a tolerable good sugar is produced in North America; but the sixth sort is that, which

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which the inhabitants of that part of the world usually tap for that purpose. From the first sort here mentioned, Dr. Lister procured some sugar after the same manner in England; and I believe if the sap of some other species were tried, there might be a coarse sort of sugar produced, as there might also by boiling the sap of the Birch-tree.

The fourth sort grows naturally in Norway, Sweden, and other northern parts of Europe; it rises to a good height, and is well furnished with branches, which are garnished with large smooth leaves of a lucid green, which are divided in shape of a hand. These have an acrid milky juice, so are rarely eaten by insects; whereas those of the first sort are frequently eaten full of holes, which render them very unfightly; for which reason, the trees have been generally neglected of late years. This fourth sort will thrive as well near the sea as the first, so is much preferable to it.

The fifth sort is a native of North America, from whence the seeds were brought to England. This is cultivated in gardens for the beauty of its red flowers, which appear early in the spring; they are formed in roundish bunches, at the bottom of the foot-stalks of the leaves. There is a variety of this, which is commonly called Sir Charles Wager's Maple, whose flowers are produced in much larger clusters than those of the common sort, and are placed closer upon the branches; so the trees make a much better appearance than the former, though I believe it to be only a variety from it. This sort never grows to a large size in England.

The sixth sort is what the inhabitants of North America generally tap for the juice, which they boil to obtain a coarse sort of sugar, so is distinguished from the other sorts by the title of Sugar Maple. The leaves of this sort have some resemblance to those of the fourth sort, but are not so lucid, and are frequently eaten by insects like those of the first sort, therefore this tree is seldom cultivated for beauty. It grows large, and the wood may be used for the same purposes as those of the other species.

The seventh sort hath some appearance of the sixth, but the leaves are more pointed.

The eighth sort is a tree of low growth, never rising to a greater height than our Lesser Maple in its native soil. The leaves are of a thick substance, divided into three entire lobes, and are of a lucid green; they continue in beauty till late in the autumn.

The ninth sort grows naturally in the islands of the Archipelago; the leaves of the young plants of this sort are oval and entire, but as they advance their leaves become in shape like those of the Ivy; they are not of so thick consistence as those of the eighth, but are of a lucid green: and in places where the trees are well sheltered from cold, the leaves continue green most part of the year, especially while the trees are young. This sort will endure the cold of our winters in the open air.

All the sorts of Maple may be propagated by cuttings, which in dry ground should be planted in the autumn; but where the land is moist and cold, the spring season is preferable: if they are cut from the trees before the buds begin to swell, and the ground is not then fit to receive them, they may be wrapped in moss, and put in a cool place, where they may be kept a month or five weeks without injury, as I have frequently experienced; so that these cuttings will bear transporting from one country to another very well. But the trees which are raised from cuttings are not so valuable as those which are propagated by seeds, because they seldom grow so large, nor so upright.

The seeds of all the sorts of Maple should be sown in the autumn, soon after they are ripe, for if they are kept dry till the spring, they often fail, or at least lie a whole year in the ground before they vegetate. Therefore if they cannot be sown in the autumn, they should be put into sand to pre-

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serve them, and the sand and seeds sown together early in the spring upon a common bed of earth. When the plants come up they must be kept clean from weeds, and in the following autumn transplanted into the nursery, where they may grow two or three years, and then may be planted where they are to remain.

ACETOSA. Sorrel. Rumex. Lin. Gen. 407.

The CHARACTERS are,

It hath male and hermaphrodite flowers on the same plant in some of the species, and in others they are on different plants; the flowers have a three-leaved empalement, and have six stamina; the hermaphrodite flowers have a three-cornered style, and these are succeeded by a three-cornered seed.

The Sorrels and Docks are by Dr. Linnæus included in the same genus, under the title of Rumex; but as the old name of Acetosa or Sorrel is better known by physicians and in the gardens, so I have continued it under the old title.

The SPECIES are,

1. ACETOSA (*Pratensis*) floribus dioicis, foliis oblongis sagittatis. *The Common Sorrel.*

2. ACETOSA (*Acetosella*) floribus dioicis, foliis lanceolato-hastatis. *Sheeps-Sorrel.*

3. ACETOSA (*Scutata*) floribus hermaphroditis, foliis cordato-hastatis. *Round-leaved Garden, or Roman Sorrel.*

4. ACETOSA (*Digyna*) floribus hermaphroditis digynis. *Westmoreland Sorrel.*

5. ACETOSA (*Vesicaria*) floribus hermaphroditis geminatis, valvularum alis maximis membranaceis reflexis, foliis indivisis. Hort. Cliff. *American Annual Sorrel.*

6. ACETOSA (*Rosea*) floribus hermaphroditis distinctis, valvularum alis maximis membranaceis, foliis erosif. *Egyptian Sorrel with Rose-coloured bladders.*

7. ACETOSA (*Clunaria*) floribus dioicis, valvulis lævibus, caule arborea, foliis subcordatis. *The Sorrel-tree.*

The first sort grows naturally in pasture lands in most parts of England, but is also cultivated in gardens for culinary uses. It is a perennial plant, so will continue many years without renewing, provided the roots are planted at a sufficient distance to allow room for digging the ground between the rows.

The second sort grows naturally upon dry banks, and on gravelly ground in most parts of England, where by its creeping roots it spreads over the land, and is often a very troublesome weed, so is rarely admitted into gardens.

The third sort is cultivated in gardens for use, and is a much better plant for the kitchen than the common Sorrel. This spreads and increases greatly by its creeping roots, so should be planted at a good distance; and in a stony soil, will do much better than in rich land.

The fourth sort grows naturally in the northern counties of England, in Wales, and Scotland; it is a low plant with creeping roots; the leaves are thick in proportion to their size, and are of a glaucous colour. It is rarely propagated in gardens.

The Annual American Sorrel is kept in some gardens for the sake of variety, but is not of any use. It grows naturally in America and Egypt.

The sixth sort grows naturally in Egypt; it is an annual plant; the bladdery covers of the seeds are of a fine Rose-colour. This is kept in gardens for variety, but is not cultivated for use.

The seventh sort grows naturally in the Canary Islands. This rises with a strong woody stalk to the height of ten or twelve feet. It is frequently kept in gardens here, but must be housed in winter, for it will not live abroad in any country where there are hard frosts in winter. This is generally propagated by cuttings, because the seeds seldom ripen well in England. If the cuttings are planted in a shady border, any time in summer, and are duly supplied with water, they

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they will soon put out roots; then they should be taken up carefully and planted in pots, for if they are permitted to remain in the border, they will soon grow so vigorous as to render their transplanting hazardous. When they are planted into pots, they should be placed in the shade until they are rooted again; then they may be removed to enjoy the open air till October, when the frosts begin to be sharp; at which time they should be carried into the green-house, and treated in the same way as Myrtles, and other hardy green-house plants.

The common Sorrel is cultivated by seeds, and sometimes by parting of the roots; but the seedling plants, if they are allowed room, will have larger and more succulent leaves than those which are propagated by slips. The plants should stand in rows about a foot asunder, to give room for digging the ground between them every spring; and if the plants are six inches distant in the rows, they may stand two or three years without removing, and only require to have the ground kept clean from weeds in summer, and slightly dug in the spring. The best time to part or transplant the roots is in autumn, which is also the best time for sowing of the seeds upon dry land.

The round-leaved or Roman Sorrel, is propagated by its creeping roots. These may be transplanted either in spring or autumn, but the latter season is the best for dry ground. It thrives best on stony land, for it grows naturally on rocks. This seldom produces good seeds, especially when it is planted in light ground. The roots of this sort should be planted two feet asunder each way.

The seeds of the annual sorts should be sown the latter end of March, on a bed of common ground, in rows at a foot and half distance; and when the plants come up, they should be thinned so as to leave them four or five inches asunder; the ground must be kept clean from weeds, which is all the culture these plants require. In July they will flower, and their seeds will ripen in autumn.

ACETOSELLA. See OXALIS.

ACHILLÆA. Yarrow, Milfoil, or Nose-bleed.

The CHARACTERS of this genus are,

The compound flowers have an oval scaly empalement, including many hermaphrodite florets in the disk, and from five to ten female half florets which compose the ray; the seeds are lodged in a chaffy bed, and have no down.

The SPECIES which are kept in the English gardens,

1. ACHILLÆA (*Santolina*) foliis setaceis dentatis, denticulis subintegrifolubulatis reflexis. Lin. Sp. Pl. *Eastern Sneezwort, with a leaf like Lavender Cotton, and a large flower.*

2. ACHILLÆA (*Tomentosa*) foliis pinnatis hirsutis, pinnis linearibus dentatis. Lin. Sp. 897. *Woolly Yarrow with yellow flowers.*

3. ACHILLÆA (*Abrotanifolia*) foliis pinnatis supra decompositis laciniis linearibus distantibus. Prod. Leyd. 175. *Tall Eastern Yarrow with leaves like Wormwood, and yellow flowers.*

4. ACHILLÆA (*Clavenna*) foliis pinnatifidis planis obtusis tomentosis. Lin. Sp. 898. *Alpine umbelliferous Wormwood with silvery woolly leaves.*

5. ACHILLÆA (*Ageratum*) foliis lanceolatis obtusis acutè serratis. Lin. Sp. 898. *Sweet Maudlin.*

6. ACHILLÆA (*Ægyptiaca*) foliis pinnatis, foliolis obtusè lanceolatis serrato dentatis. Lin. Sp. 898. *Hoary Sneezwort with crested pinnule.*

7. ACHILLÆA (*Parmica*) foliis lanceolatis acuminatis acutè serratis. Lin. Sp. 898. flore peno. *Double Parmica, or Sneezwort.*

8. ACHILLÆA (*Alpina*) foliis lanceolatis dentato-serratis, denticulatis tenuissimè serratis. Lin. Sp. 898. *Alpine white Maudlin with deep green leaves.*

The common Yarrow, and some other species of this ge-

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nus are here omitted, as they are rarely permitted to have a place in gardens. The common sort with white and purple flowers grow naturally in England, but the white is the most common, and is the sort which has been long used in medicine. It grows on the side of foot-ways almost every-where, so may be easily procured.

The first sort here mentioned, has large yellow flowers which stand upon pretty long foot-stalks singly, not in close bunches, as the common sort. It has leaves like those of Lavender Cotton, which, when rubbed, emit a strong oily odour. This flowers in June and July.

The second sort hath woolly leaves shaped like those of the common sort; the flowers are yellow, growing in clusters at the top of the stalks; which seldom rise more than a foot high.

The third sort grows to the height of two feet and a half, having large umbels of yellow flowers on the top; the leaves are somewhat like those of the common Wormwood, and are cut into long narrow segments. This flowers in June and July.

The fourth sort is a native of the Alps; it is a plant of humble growth, the stalks seldom rising higher than six or seven inches; these support umbels of white flowers like those of the common Sneezwort, which appear in April and May. The leaves are silvery, and shaped like those of Wormwood, which frequently decay in the autumn or winter.

The fifth sort was used in medicine, and was some years past much cultivated in the gardens, as it was frequently used in the kitchens: but of late years it has been almost totally neglected, so was almost lost in England a few years since; and the markets were supplied with the eighth sort, which ignorant persons substituted in its stead, though the two plants are very different in appearance, and have very different flavours, and probably different qualities.

The sixth sort grows naturally in the Archipelago, but is hardly enough to live abroad in England, provided it is planted in a dry soil and a warm situation. It is a low plant, which puts out many heads near the roots, which are fully garnished with fine cut-silvery leaves. The stalks rise from nine inches to a foot high, and are terminated by compact umbels of yellow flowers. This sort continues flowering great part of summer, so deserves a place in gardens.

The seventh sort is the common Sneezwort, of which there is a variety with double flowers that is cultivated in gardens. The common sort, which is used in medicine, grows naturally in woods, and upon commons, in most counties in England. It creeps greatly at root, so that variety with double flowers should be confined, otherwise it will spread to a great distance, and will not be handsome.

The eighth sort grows naturally on the Alps, but is now commonly cultivated by those gardeners who supply the markets with physic herbs, and is sold for Sweet Maudlin, as is before-mentioned. This plant will rise four feet high in good land; the leaves are long, narrow, and sharply sawed on their edges; they are of a dark green, and the flowers are white; the roots creep far under ground, so they should be confined.

All the sorts of Yarrow are easily propagated by seeds, which may be sown either in the spring or autumn, upon a bed of common earth; and when the plants come up and are strong enough to transplant, they should be planted into beds in the nursery, where they may remain till autumn, at which time they should be transplanted to the places where they are designed to remain: if they are planted in a stony dry soil, they will live much longer than in rich ground.

The sorts with creeping roots propagate themselves so fast, as to render it necessary to confine them, otherwise they

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they will spread wide on every side; and the stalks being separated to a distance from each other, the plants will make but an indifferent figure when the flowers are fully blown. The other sorts whose roots do not creep may be propagated by slipping off their heads, and planting them in a shady border; or if in an open bed, they must be shaded with mats in the day until they have taken root, after which they will require no farther care than to keep them clean from weeds till autumn, when they should be transplanted to the places where they are designed to remain.

ACHRAS. Mamme Sapota.

This is a large tree, which is propagated in the islands of the West-Indies, but is supposed to have been transplanted thither from some other country. The leaves are nine or ten inches long, and five broad in the middle, drawing to points at both ends; they are smooth on their upper side, but have many slight veins running from the middle rib to the sides: the fruit is large, oval and fleshy, including one long oval pointed nut, which is very smooth, having longitudinal borders on one side.

As I have not seen any of these trees in the English gardens, so I shall forbear to say any thing more of its culture, than that if the plants can be procured they must be kept in the bark-bed of the stove, and treated in the same way as other exotic plants of the same country. I have frequently received the stones of this fruit from Jamaica, but they were always rotten before they arrived, for not one of them ever sprouted; so that I believe, these seeds will not continue long found after the fruit is eaten.

ACHYRANTHES. We have no proper English name for these plants. One of the sorts has been long in the gardens, and has been known by Father Boccon's title, viz. *Amaranthus ficulus spicatus radice perenne*. This sort grows naturally in both Indies, from whence I have several times received the seeds. There are three other species, whose seeds have been brought from the Cape of Good Hope, and the plants are preserved in curious botanic gardens, but being neither useful or beautiful, are seldom kept in other gardens, therefore they are not enumerated here.

ACINOS. See THYMUS.

ACONITUM. Wolfsbane, or Monkshood.

The CHARACTERS are,

The flower has no empalement; it has five unequal petals, the upper is hooded and inverted; it has two forked nectariums, whose foot-stalks are recurved, and many small stamina which incline to the petals, with five styles terminated by reflexed stigmas. The flowers are succeeded by three or four capsules with one valve, containing many angular seeds.

The SPECIES are,

1. ACONITUM (*Lycostomum*) foliis palmatis multifidis villosis. Lin. Sp. Pl. 532. *Yellow Wolfsbane, or Monkshood with hand-shaped leaves.*
2. ACONITUM (*Altissimum*) foliis palmatis nervosis glabris. *Yellow Wolfsbane, with larger smooth-veined hand-shaped leaves.*
3. ACONITUM (*Variiegatum*) foliis multifidis, laciniis semipartitis supernè latis. Hort. Cliff. 24. *Small Blue Wolfsbane, or Monkshood with many pointed leaves.*
4. ACONITUM (*Napellus*) foliorum laciniis linearibus supernè latioribus linea exaratis. Hort. Cliff. 214. *Large Blue Wolfsbane or Monkshood, whose under leaves are cut into many narrow segments, and the upper into broader.*
5. ACONITUM (*Pyramidale*) foliis palmatis multipartitis, spicis florum longissimis. *The Common Monkshood or Blue Wolfsbane, with the longest spikes of flowers.*
6. ACONITUM (*Pyreniacum*) foliis multipartitis, laciniis linearibus incumbentibus squarrosis. Hort. Upsal. 152.

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Yellow Wolfsbane of the Pyrenees, with leaves cut into many narrow segments which are rough.

7. ACONITUM (*Anthora*) floribus pentagynis. Lin. Sp. Pl. 532. *Yellow wholesome Wolfsbane, or Monkshood.*

These sorts of Wolfsbane grow naturally upon the Alps, the mountains in Germany, Austria, and in Tartary, so require a cool shady situation, and a soil rather moist than dry; but not so wet, as to have the water standing near their roots in winter: in dry ground these plants do not thrive or flower well, especially if they are exposed much to the sun. They may be all of them propagated by sowing their seeds in autumn, upon a north border, where they are screened from the sun. The plants will come up the following spring, when they must be kept clean from weeds during the summer months, and in very dry seasons, if they are frequently refreshed with water, it will greatly promote their growth; the following autumn they should be transplanted into shady borders, in rows a foot asunder, and the plants at six inches distance in the rows. In this situation they may remain two years, by which time they will be strong enough to flower, so may be transplanted to the garden where they are designed to remain.

As these plants rarely flower in less time than three years from seeds, so they are generally propagated by parting of their roots; for when they are planted in a shady cool situation, the roots increase plentifully, especially the fifth sort; which, if not confined, will in a few years spread to a great distance. The autumn is the season for transplanting and parting of their roots, and if they are planted in a loamy soil to a north or east aspect, they will thrive greatly.

The roots of these plants are thick and fleshy, and in some sorts are as large as a man's thumb; these put out a great number of fibres every year, which spread to a considerable distance every way: therefore they should be allowed room, for if they have not two or three feet space, they will not produce strong flower-stalks, in which their beauty chiefly consists. But the fifth sort must have much more room, because it sends out offsets in great plenty to a considerable distance every way. This has been the most commonly cultivated in the English gardens of all the species, and the flowers are annually brought in great plenty in May to the markets for flower-pots to adorn rooms; but as it is of a very poisonous quality, so it should be with great caution admitted where children frequent, there having been many instances of its dangerous effects.

Most if not all the species of this genus are hurtful in a greater or less degree, therefore should not be planted in those parts of gardens where children are permitted to walk, lest by gathering of the leaves or flowers, and putting them in their mouths, or by rubbing them about their eyes, they should suffer by it. For the juice of the leaves will occasion great disorder, if only rubbed upon very tender flesh, but if taken inwardly will kill, unless there is timely relief. The farina of the flowers, if accidentally blown into the eyes, will occasion great pain and blindness for a time, by causing them to swell greatly, as I have myself experienced.

The common Monkshood flowers in May, and is succeeded by the first and second sorts. The wholesome Wolfsbane comes after these, and the other sorts flower in August and September.

ACONITUM HYEMALE, or Winter Aconite. See HELLEBORUS.

ACORUS. The Sweet Rush.

This plant grows naturally in deep standing waters, so is rarely admitted into gardens, for it will not thrive on dry land; but as the roots are used in medicine, so I would not omit the mention of it. Whoever has an inclination

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to propagate it, should procure some roots from the places where it grows naturally, and plant them in ditches, or close on the side of ponds, where they will thrive and increase greatly if they are not disturbed.

ACRIVIOLA. See TROPÆOLUM.

ACTÆA. Herb Christopher.

The CHARACTERS of the genus are,

The empalement of the flower is composed of four roundish concave leaves which fall off. The flower has four petals which drop off, and a great number of stamina; an oval germen with one stigma, which becomes a smooth oval berry including several roundish seeds.

The SPECIES are,

1. ACTÆA (*Spicata*) racemo ovato, fructibusque baccatis. Lin. Sp. 504. Common Herb Christopher.

2. ACTÆA (*Racemosa*) racemis longissimis, fructibus unicapularibus. Lin. Sp. 504. American Herb Christopher with the longest spikes of flowers, called Black Snake-root in America.

3. ACTÆA (*Cimicifuga*) racemis paniculatis, fructibus quadricapsularibus. Lin. Sp. 504. Herb Christopher with flowers disposed in panicles, and four capsules to each fruit.

The first sort grows naturally in shady woods in some of the northern counties in England, particularly near Ingleborough-hill in Yorkshire. It is by some curious persons preserved in gardens for the sake of variety, but there is little beauty in the flowers to recommend it. This must have a shady situation and a moist soil, otherwise it will not thrive. It is propagated by seeds or parting of the roots; if by seeds, they should be sown in autumn soon after they are ripe, on a shady moist border; for if the seeds are kept out of the ground till spring, they often fail, or at least lie a year before they vegetate. The time for parting and transplanting of the roots is in autumn; they require no other culture but to keep them clear from weeds. It flowers in May, and the berries ripen in September.

The second sort is a native of North America, from whence the seeds have been brought to Europe. The fruit of this plant is frequently used in America as an antidote to poison, and to cure the bite of venomous serpents. By some persons it is used as an emetic, and is sometimes called *Ipecacuana*.

The roots of this sort grow large, and multiply into several heads; and when they are planted in gardens, they should be allowed three feet every way to spread, for their leaves, which are composed of many branches, will soon cover so much room. The seeds of this plant do not ripen in England, so this is propagated by parting of the roots; the best time for transplanting and parting them is in the autumn, when the leaves begin to decay. It loves a loamy soil, not too dry. If the seeds are brought over, they should be sown as soon as they arrive, in a border of loamy earth: the seeds lie a year before they grow; the seedling plants should be transplanted in the autumn.

The stalks of this sort rise five or six feet high in moist land, and sustain very long spikes of white flowers in July and August. The plants should not be often removed, for that will prevent their flowering strong.

The third sort grows naturally in Siberia, and is at present rare in England. The leaves of this sort resemble those of the Feathered Columbine; the stalks rise little more than a foot high, supporting panicles of white flowers, which appear in May. This requires a moist loamy soil and shady situation, and may be propagated as the former.

ADANSONIA. The Sour Gourd; in French, *Pain du Singe*. Monkies Bread.

The CHARACTERS are,

The empalement of the flower is cup-shaped, and cut into five parts at the top which turn backward. The flower has five

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roundish petals, fastened to the stamina at the base. It has a great number of stamina, which are joined and form a column at their base, but spread open above, and are crowned by protrate summits. It has an oval germen, supporting a very long tubulous style which is variously intorted, crowned by several hairy stigmas spreading out in rays. The germen becomes a large oval woody capsule with many cells, filled with a mealy pulp, including a great number of kidney-shaped seeds.

We know but one SPECIES of this genus at present,

ADANSONIA (*Bahbob*.) Just. The Sour Gourd, or Monkies Bread.

This tree was first described by Prosper Alpinus, in his book of Egyptian plants; but it is now known to grow in several other countries, particularly at Senegal in Africa, where there are many trees now growing, whose stems are of much greater bulk than any other trees yet known. Mr. Adanson, who was four years in that country, to examine the natural productions of it, and is writing the natural history, measured the stems of several of these trees, which were from seventy-five to eighty feet in circumference; the greater branches of these trees, he says, are equal in size to the largest trees he had ever seen in Europe. He has not, in his account of these trees, mentioned any thing of the wood of them, or if it is used for any purposes there; but we may expect a more particular account of it, in that part of his natural history, where he is to treat of the vegetables of that country.

I have also lately received a fruit of this tree, which I was assured came from Surinam in the West-Indies, so it may probably be a native of that country. The fruit is almost as large as a man's head, the shell is woody and close, having a greenish downy coat; it is divided into ten, twelve, or fourteen cells within, which contain a good number of kidney-shaped seeds, as large as the tip of a man's little finger; these are closely surrounded with a mealy pulp of an acid taste.

The leaves of the young plants are entire, of an oblong form, about four or five inches long, and almost three broad towards the top, where they are broadest, having several veins running from the middle rib; they are of a lucid green, and stand alternately. As the plants advance in height, the leaves alter, and are divided into three parts, and afterwards into five lobes, which spread out in shape of an hand. In some of the oldest plants, I have seen leaves with seven divisions, but these are rare in the plants which are in England.

The plants rise easily from fresh seeds if they are sown in a hot-bed, and are of quick growth for two or three years, but afterwards make but little progress; the lower part of their stems then begin to swell and grow much larger than the other part, after which they do not advance much in their upright growth, but put out lateral branches, which incline to an horizontal position; the branches are covered with a light grey bark. The leaves fall off in the latter part of winter, and the young leaves do not come out till summer, so the branches are naked for near three months.

As this tree is a native of very hot countries, the plants will not thrive in the open air in England in summer, therefore they must be continually kept plunged in the bark-bed in the stove; and in warm weather the fresh air should be admitted to them every day, but in winter they must be kept warm: while the plants are in a growing state, they must be frequently refreshed with water, but when they are destitute of leaves, it must be given sparingly, for too much wet will then rot their roots. It loves a light rich loamy soil.

ADENANTHERA. Bastard Flower-sence.

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The CHARACTERS are,

The empalement of the flower has five indentures; the flower has five petals, ten erect stamina having prostrate summits, whose points have globular glands, and an oblong germen supporting one style, crowned by a single stigma; the flower is succeeded by an oblong compressed pod, inclosing four or five roundish compressed seeds.

We have but one SPECIES of this genus in England, which is,

ADENANTHERA (*Pavonia*) foliis decompositis utrinque glabris. Lin. Syst. 1020. *Adenantha* with smooth decomposed leaves.

This is a native of India, from whence the seeds have been brought to England. It grows naturally in the plains near the sea in Hiboea and Senalo, where it rises to a considerable stature; it is as large as the Tamarind-tree, spreads its branches wide on every hand, making a fine shade, so is frequently planted by the inhabitants in their gardens, and near habitations, for that purpose. The leaves of this tree are doubly winged; the flowers are small and of a yellow colour, and are disposed in a long thyre or bunch. These are succeeded by long twisted membranaceous pods, inclosing several compressed hard seeds of a fine scarlet colour, which are lodged in the pods at a distance from each other. The inhabitants perforate these seeds, and string them for the young women, who wear them about their necks.

There is another species of this tree, which is figured and described by Rumphius, in his History of the Amboyna plants, whose leaves are woolly on their under side, but this is not in our English gardens at present.

The sort here described requires the same treatment as the POINCIANA, and the tender kinds of ACACIA, to which articles the reader is desired to turn for the culture of it: as these agree in every part so well, as that whoever can manage one, need not fear the other thriving well with the same degree of heat and management, which renders it unnecessary to insert in this place, since it would swell the work too much.

ADIANTUM. Maidenhair.

This genus is placed in Linnæus's twenty-fourth class, intitled Cryptogamia, where he has ranged the Ferns, Maidenhairsts, Polypodium, &c. with the Mosses, Mushroom, and all those plants, which do not produce flowers conspicuous to the naked eye; being either concealed in their fructification, or so small as not to be perceived without the help of glasses. The first order of this class is of Ferns, &c. most of which have their flowers and seeds on the back of their leaves. There are a great number of species under this genus, which grow naturally in warm countries, but we have only two in the English gardens, viz.

1. ADIANTUM (*Capillus Veneris*) frondibus decompositis, foliis alternis, pinnis cuneiformibus lobatis pediculis. Lin. Sp. Plant. 1096. *The officinal or true Maidenhair.*

2. ADIANTUM (*Pedatum*) frondibus pedata, foliolis pinnatis, pinnis antice gibbis incisifrustrificandibus. Lin. Sp. Plant. 1095. *Canada Maidenhair.*

The first sort is the true Maidenhair, which is directed to be used in medicine; but as it does not grow naturally in England, so the Trichomanes is usually substituted for it, which is found growing wild in great plenty in several parts of England. The other is a native of the South of France, Italy, and the Levant, from whence I received the plants. It usually grows out of the joints of walls, and the fissures of rocks, so that whoever is inclinable to keep this plant in their gardens, should plant it in pots filled with gravel and lime rubbish, in which it will thrive much better than in good earth; but the pots must be sheltered under a

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frame in winter; otherwise the plants are often killed by the frost.

The second sort is often preserved in gardens for the sake of variety; this should be planted in pots, and treated in the same manner as the former; for although it will live through the winter in the open air in moderate seasons, yet in severe frost it is often destroyed. This sort grows naturally in Canada in such quantities, that the French send it from thence in package for other goods, and the apothecaries at Paris use it for the Maidenhair, in all their compositions in which that is ordered.

ADONIS, or FLOS ADONIS. Pheasant's Eye.

The CHARACTERS are,

The flower has a five-leaved empalement, and five or eight petals without any nectarium. It has many stamina and pistils, and the seeds are naked. It is ranged in the seventh division of Linnæus's thirteenth class.

The SPECIES are,

1. ADONIS (*Annua*) floribus octopetalis fructibus subcylindricis. Hort. Upsal. 156. *The common Adonis, or Flos Adonis, with small red flowers, of late called Red Morocco.*

2. ADONIS (*Æstivalis*) floribus pentapetalis fructibus ovatis. *The annual Adonis with pale yellow flowers.*

3. ADONIS (*Vernalis*) floribus polypetalis, fructibus obtusis, radice perenne. *Perennial Adonis with yellow flowers, by some titled Fennel-leaved black Hellebore.*

The two first sorts are annual, so perish when the seeds are ripe. If the seeds are sown in the autumn, soon after they are ripe, the plants will come up the following spring; but when the seeds are not sown till spring, they rarely come up the same year; so that when the seeds are permitted to fall on the ground, they generally succeed better than when sown by art. The first sort grows naturally in Kent, particularly by the sides of the river Medway, between Rochester and Maidstone, where it is found in great plenty in the fields which are sown with Wheat; but in the intermediate fields which are sown with spring corn, there is rarely a plant of it to be found, which shews the necessity of sowing the seeds in autumn; for those fields of spring corn, if suffered to remain undisturbed after the harvest, will abound with this plant the following year. For some years past great quantities of the flowers of this plant have been brought to London, and sold in the streets by the name of Red Morocco.

These plants will thrive best in a light soil, but may be sown in any situation, so that by sowing some in a warm situation, and others in the shade, they may be continued longer in flower. The seeds ought to be sown where the plants are to remain to flower, for they do not bear transplanting well, unless it is done when the plants are young, and therefore they should be sown in small patches in the borders of the flower-garden; and when the plants come up they should be thinned, leaving but few in each patch, which will make a better appearance than where they grow single.

The third sort hath a perennial root and an annual stalk. This grows naturally on the mountains of Bohemia, Prussia, and other parts of Germany, but has been long cultivated in gardens. It produces its flowers the latter end of March, or the beginning of April, according to the forwardness of the season; the stalks rise about a foot and a half high, and when the roots are large, and have stood unremoved for some years, they will put out a great number of stalks from each root; these are garnished with fine slender leaves, which are placed in clusters at intervals. At the top of each stalk is produced one large yellow flower, composed of an unequal number of petals, the center of which is occupied by a great number of germen, surrounded by many stamina; after the flowers drop, the germen

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become naked seeds, closely adhering to the foot-stalk, forming an obtuse spike.

This sort is propagated by seeds, which must be sown in the autumn soon after they are ripe, on an east border, where they may have only the sun in the forenoon: when the plants come up the following spring, they must be kept clean from weeds, and in very dry weather if they are watered, it will greatly promote their growth. The following autumn the plants should be carefully taken up, and planted in a nursery-bed at four or five inches distance, where they may remain two years to acquire strength, then may be transplanted into the pleasure-garden, where they may remain for good, because these plants do not bear transplanting well when they are old.

ADOXA. Moschatellina. Tuberous Moschatel, or Hol-low Root.

This plant grows naturally in shady woods in several parts of England, so is seldom kept in gardens; therefore all that is necessary to be inserted of its culture is, to plant it in a shady moist part of the garden, where it will thrive fast enough: this plant has been found growing wild in North America.

ÆSCHYNOMENE. The false Sensitive Plant.

The CHARACTERS are,

The flower is of the butterfly kind, having ten stamina in two bodies; the cup is divided into two lips; the pod is erect, compressed, and jointed.

The SPECIES are,

1. *ÆSCHYNOMENE (Aspera) caule scabro leguminum articulis medio scabris. Lin. Sp. Plant. 713. Bastard Sensitive Plant with a rough stalk and a jointed pod.*

2. *ÆSCHYNOMENE (Americana) caule herbaceo hispido foliolis acuminatis, leguminum articulis semicordatis. Prod. Leyd. 384. Bastard Sensitive Plant with a prickly stalk, pointed leaves, and jointed pods half rounded.*

3. *ÆSCHYNOMENE (Arborea) caule lævi arboreo leguminum articulis semicordatis glabris. Prod. Leyd. 384. Bastard Sensitive Plant with a smooth tree-like stalk, and smooth jointed pods.*

These plants are natives of warm countries; the seeds of the two first sorts I have received from Africa, and those of the third from America, and also from China, and several parts of India.

They are generally kept in botanic gardens, but are seldom preserved in any other, as there is little beauty in their flowers, and as they are plants of no use; beside, they require a good stove to preserve them in England. The first and third sorts may be preserved through the winter in a bark-bed in the stove; but as their leaves and stalks are succulent, so they should have but little water given to them in cold weather, for much wet at that season will cause them to rot. The second year the plants will flower, and sometimes will perfect their seeds in England.

The second sort will perfect its seeds the same year it is raised from seeds, and if kept under a frame, or in an airy glass-case, so is generally treated here as an annual plant, tho' it may be preserved through the winter in a stove.

These plants are propagated by seeds, which should be sown on a hot-bed early in the spring, and when the plants have strength enough to be removed, they should be put each into a separate small pot, filled with light earth, and plunged into a fresh hot-bed to bring them forward; and as they advance in their growth, they should be shifted into larger pots, but great care should be taken not to over-pot them, for if the pots are too large the plants will not thrive. They must be brought forward early in the year, otherwise the second sort will not perfect its seeds.

ÆSCULUS. Lin. Gen. 420. The Horse Chestnut.

The title which Dr. Linnaeus has applied to this genus,

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might, with greater propriety, have been given to the Chestnut, which by that author is joined to the Beech-tree, making it only a species of that genus.

The CHARACTERS are,

The empalement of the flower is slightly cut into five segments; the flower is composed of five unequal petals, folded at their border, and waved; it has seven stamina; the empalement becomes a thick, roundish, echinated capsule, opening into three cells, in one or two of which are lodged globular seeds.

We have but one SPECIES of this genus, viz.

ÆSCULUS (*Hippocastanum*) floribus heptandriis. Hort. Upsal. 92. *The Common Horse Chestnut.*

The Horse Chestnut was brought from the northern parts of Asia about the year 1550, and was sent to Vienna about the year 1588. It was called Castanea from the shape of its fruit, and the title of Equini was added to it from its being a good food for horses when ground.

This tree was in much greater esteem formerly than at present, for since it is become so very common, few persons regard it. What has occasioned its being so seldom planted, is the decay of the leaves early in summer, so that their leaves frequently begin to fall in July, and occasion a litter from that time until all the leaves are fallen; but notwithstanding this inconvenience, the tree has great merit, for it affords a noble shade in summer; and during the month of May, there is no tree has greater beauty, for the extremity of the branches are terminated by fine spikes of flowers, so that every part of the tree seems covered with them, which are finely spotted with a Rose colour, and these being intermixed with the green leaves make a noble appearance.

As this tree is quick in its growth, so in a few years it will arrive to a size large enough to afford a good shade in summer, as also to produce plenty of flowers. I have known trees which were raised from nuts, in twelve or fourteen years large enough to shade two or three chairs under the spread of their branches, and have been covered with flowers in the season, so that few trees make greater progress than these. But as their wood is of little value, so the trees should not be propagated in too great plenty: a few therefore of them placed at proper distances in parks for ornament, is as many as should be preserved, the wood not being fit even for burning, nor any other use that I know of.

These trees are propagated by sowing of the nuts, the best time for doing this is early in the spring; but the nuts should be preserved in sand during the winter, otherwise they are apt to grow mouldy and rot. They may indeed be planted in autumn, but then they will be in danger of rotting if the winter should prove very wet, or be eat by vermin.

When the nuts succeed and have a proper soil, the plants will shoot near a foot the first summer; so that where they grow pretty close together, it will be proper to transplant them the following autumn, when they ought to be planted in rows at three or four feet distance, and one foot and a half asunder in the rows: in this nursery they may remain two years, by which time they will be fit to plant where they are designed to be continued; for the younger these trees are planted out, the larger they will grow. But there are many who will object to their being planted out young in parks, because they will require a fence to secure them against the cattle; which will also be necessary, whatever size they are when planted; and if large, they must be well staked to prevent their being displaced by strong winds, which is another expence: so that when we consider how much faster a young tree will grow, than those which are removed at a greater age, there can be no excuse for planting large trees.

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