# ALIEN PLANTS.

By the Rev. W. W. Spicer, M.A., F.R.M.S.

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The catalogue accompanying this paper includes all those members of the Tasmanian Flora which come under Hewett C. Watson's designation of Aliens. This is a happily conceived title, first instituted by that veteran botanist; and it was intended by him to embrace such species as have been introduced either by accident or design, and which have maintained their ground more or less firmly in their adopted country. I also include a few plants which, in Mr. Watson's more extended vocabulary, would probably be named by him waifs, strays, and casuals; but the number of these is so small that I have thought it better to bring them all under the general designation of Aliens.

In speaking of an introduced plant as an Alien it should be borne in mind that cultivated plants are not intended, so long as they remain under cultivation; for the simple reason that they owe their continued existence (not to any struggle for life on their part, nor to any special adaptability they may possess to found a new race in a new home), but to the care of the cultivator. Consequently, they can never, so long as they are under his care, influence the character of the native flora, or interfere with the progress and distribution of indigenous species. An alien plant, pure and simple, is one which, to whatever cause it may owe its origin, has either now, or from its first introduction, ceased to depend upon man, and has set up on its own account.

As far as I have been able to ascertain, Tasmanian aliens may be reckoned at 162 distinct species, with some 13 varieties, included in 119 genera. In adopting these numbers, I have not been guided by hearsay evidence, but have seen and examined living specimens of all with the exception of 21, which have not come under my observation, but to which I have attached the initials N.V. These, however, I give on the authority of Baron von Müller, Bentham and Hooker. I hope therefore, that the list given is a tolerably correct one up to the present date, and may be of benefit at a future day, when the distinction between aliens and natives has been either lost or considerably weakened by lapse of time.

In the year 1860 Hooker published in his great work on the Flora of Tasmania, a list of plants naturalised in the Australian Colonies, chiefly, however, in the neighbourhood of Melbourne. Of these 24 only are noted either as occurring in Tasmania or as ubiquitous, that is to say, such as are likely to be found in every part of the world. 58 more of Hooker's species can now be included in a catalogue of our aliens, from which it may be inferred, that 80 species (or one half more) have made their appearance in this island, since the publication of Hooker's work. Of the 82 named by him, I have been able to confirm the presence of all but 11.

The same illustrious author observes in the course of some introductory remarks; "It would be interesting to discover the date and particulars under which these plants were introduced, and so to register their increase and migrations as to afford to succeeding observers the means of comparing their future condition

with their present. In the early times of a colony there is comparatively little difficulty in distinguishing the colonists from the native species. But as the surface of the land becomes artificially disturbed, the habits of all its plants are influenced; the endemic species are driven from their native places, and take refuge in hedgerows, ditches, and planted copses, and, from their associating with the introduced plants, are apt to be classed in the same category with them; whilst the introduced wander from the cultivated spots, and eject the native, or taking their places by them appear like them to be truly indigenous*."

Indeed already, though the colony is not yet a century old, the difficulty of discriminating between an Alien and a native is far from easy. If we find a plant persistently hanging about the precincts of the Royal Society's Garden, or, for the matter of that, any other garden, but not putting in an appearance elsewhere, we may safely conclude that it cannot claim civic rights, but is indebted for its first establishment in the colony to the fostering hand of the cultivator; though now it may have partially escaped from his grasp.

But what if we meet with some obscure British weed in a remote part of the island, where cultivation is almost unknown? In what category shall it find a place? Does it owe its origin to an accidental importation, which we cannot now trace back to its source —or were its ancestors in possession of the soil long before the white man set his foot on the island?

I am afraid that practically it is impossible to answer this question satisfactorily. We can only weigh probabilities, and balance the opinion of those who have had the best opportunities of studying the plants *in situ*.

Zoologists, and more particularly ornithologists, are wont to cut the gordian knot in a much simpler fashion. Instead of taking pains to ascertain whether a bird has a right to the title of native or not, an hour's residence in any given country suffices to confer upon it all the privileges of domicile. Hence it is, that the catalogue of British Birds is encumbered with such names as the Egyptian Vulture of North Africa (*Neophron percnopterus*), the Redwinged Starling of the United States (*Agelæus phœniceus*), and even our Spinetailed Swift (*Acanthylis caudacuta*)—animals, which have no more claim to be called British, than would the monkeys of the lately exhibited menagerie have to be called Tasmanian, had they escaped from their confinement and been shot in the bush.

I cannot but think that the method of those who study the *Flora* of a country, is to be preferred, viz.: to be very jealous of admitting doubtful species, to investigate carefully the claims of each, and to rigidly exclude all such as they are morally certain have no real connection with the region under observation. At the same time it is right, for the benefit of those who come after us, that the names of the intruders should be carefully preserved, and, if possible, the date of their introduction registered.

I may as well state that I am unable to make any practical application of this last suggestion. I have searched our Transactions and similar sources of information, but with little effect. No one seems to have taken the trouble to place on record the first appearance or

* Hooker. Fl. of Tasm., 1 p., cv.

first introduction of any of the plants now naturalised in the island.

The American Waterweed appears, from inquiries I have made, not to have been noticed before the year 1862.

The seeds of the Prairie Grass were brought here in 1865.

The Bathurst Burr was first seen in the neighbourhood of Melbourne in 1857; and in New Zealand in 1863. It must have reached Tasmania, I imagine, at a later date than that, but when, I have no means of knowing.

As may be imagined, England has supplied us with by far the larger number of our Aliens. With regard to those species which are not of British origin, I have placed the names of their proper locality against them; and on reverting to the list, it appears that out of the whole number imported into the island, no less than 138 belong to the Old Country, leaving 24 only to be looked for elsewhere. The south of Europe and the countries bordering on the Mediterranean Sea have given 16 of these to our catalogue; of the remaining eight, four have wandered here from the Cape of Good Hope, three from America, and one from the West Indies.

I do not mean to imply that these plants have travelled direct to Tasmania from the localities intimated. On the contrary, many of them have probably reached our island by short stages, taking their time on the road, and halting in favourable spots. Others again have crossed the ocean to the Continent of Australia direct, have settled there for a while, and then, in the true spirit of emigration, have sent their offspring across Bass's Straits, or have come round in ships to Hobart Town. For example, the South American *Xanthium spinosum* had obtained an evil notoriety in Australia under the name of "Bathurst burr," long before it set foot in the neighbourhood of Launceston. Some species we know, have been purposely introduced. A pretty yellow oxalis *(O. cernua)* from South Africa, the wild rocket *(Diplotaxis tenuifolia)* from England, a worthless onion *(Nothoscordum fragrans)* from South Africa, with some others, were originally brought as seeds to the garden of the Royal Society. They have, however, for some time altogether repudiated the gardener's paternal care, and seem quite capable of maintaining themselves. The oxalis and the rocket are gradually working their way to the outer world; the onion, however, seems loth to leave the snug quarters provided for it; but to make up for its stay-at-home qualities, it is spreading largely among the flower beds, and causing much trouble and annoyance.

It is scarcely necessary to say that most, if not all, of the useful grasses and clovers owe their introduction to a spirit of improvement, and not to accident.

Again, the presence of many species which have not been brought here with a useful or æsthetic object, may be accounted for with great certainty. Every bushel of corn that has been at any time imported from England was almost sure to contain the seed of the common spurrey provided it had been grown in a sandy soil. Every pet canary bird, that arrives in the island, conveys in its food-tin the germs of the pretty canary grass, which now abounds on our rubbish heaps and road sides.

The introduction of the marigold, the mint, the fennel, the water-cress, and other common favourites of the garden or the table, may

be as easily traced. Given a fine climate and a congenial soil, it is easy to predicate of any chance seed or castaway root, that it will speedily germinate and attach itself to its new home.

But it is a far more difficult task to account for the naturalization of such plants as *Lavatera hispida* or *Trifolium tomentosum*—(I am compelled to employ the Latin titles, as they have not yet become common enough to have acquired the dignity of a a local nomenclature). The former is a low shrub allied to the common mallow of England ; the latter an insignificant trefoil. That they are aliens in the true sense of the word, we have the authority of Baron von Müller, and (in the case of *Lavatera*) of Bentham also, authorities from whom it is pure heresy to differ on such a subject as the geographical distribution of plants. Both species "hail" (as Americans say) from the sunny regions of South Europe ; and where have they chosen to fix their abodes? *Lavatera* in the islands of Bass' Straits, and *Trifolium* in the neighbourhood of Circular Head, localities ill adapted (one would suppose) for the reception of two South European plants, conspicuous neither for beauty nor value, and which could scarcely therefore owe their introduction to the hand of man.

I confess I am quite unable to account for such a phenomenon ; and I will not waste time in mere conjectures.

I remember, when I was in the United States, some years ago, and was, as usual, indulging my botanical tastes, I used to hear my friends declare, that every one of their most noxious weeds came originally from Great Britain. There is no denying, that there was much truth in the remark; unquestionably a large proportion of the plants hurtful to pasture and corn-field had emigrated from the Mother Country.

Must we too, bring a like accusation against our *Alma Mater?* I am afraid we cannot avoid doing so. I believe, that if a sudden blight fell on all the alien weeds of Tasmania, and swept them away, there would be scarcely one vegetable enemy left to interfere materially with the labours of the agriculturist. In fact, I do not know of a single native species vigorous enough to occupy tracts of cultivated land year after year, or to cause serious alarm.

It would be well if we could say as much for our importations from the old country, and that we had not to lament the introduction of the Briar and the Californian Thistle—not to mention the Spear Thistle and the Milk Thistle, with its pretty marbled leaves—and a host of lesser plagues, such as the Stinging Nettle, and Sheep Sorrel, all of which had much better have remained at home.

Whether we have to thank Great Britain or, its true home, North America, for that pest of the pond and slow running stream —the American Water Weed—I know not. South Africa has sent us the Cape weed *(Cryptostemma)*, and South America the Bathurst burr.

The three last named are at present harmless enough ; but I much fear that the day will come when the colony will have bitter cause to regret their importation.

The Cape weed is not specially hurtful in itself, but as it spreads with great rapidity, it speedily occupies a large area, to the exclusion of grasses and other plants with far more valuable qualities.

Of the Bathurst burr, it is needless to say anything; its hooked capsules are the dread of the sheep farmer, wherever it flourishes on the neighbouring continent. Its progress appears to be slow in this island; but it is among us, and I fear will, some day, make its influence felt.

With regard to the other enemy, the American water weed or water thyme, I have seen the most disastrous effects produced by it in the old country. When once established, its growth is extraordinarily rapid, and it quickly fills up whatever pond or stream it favours with its presence. Every joint, however minute, takes root and forms a new plant, and, as may be easily imagined, fragments are constantly carried on the breasts, or legs of water birds from one point to another. It certainly seems slow to propagate in this country, from what cause I know not. But this is no argument, I fear, against its spread at a future date; for I have watched it in a canal in England, where for years it seemed only to exist in isolated patches, and then, for some mysterious reason, its vitality seemed to be suddenly awakened, and it almost filled the bed of the stream, so as to interfere with the flow of the water. What it can do, under favourable circumstances, I had an opportunity of witnessing lately at Brighton. A waterhole in a paddock was so completely choked up by it, that it seemed impossible to thrust another stem in between those already growing there.

On the other hand the plants, which I discovered two years ago in a quiet nook in the Jordan, appear to occupy about the same sized area; I do not think they have increased the least. I may mention, in passing, that any persons who wish to see this noxious water weed have only to step into Franklin-square, where it flourishes abundantly in the central basin.

And what have we among our aliens of an useful and ornamental nature to set against the evil done by these troublesome immigrants? First and foremost, we have a number of excellent grasses and clovers, palatable to cattle, and capable of enduring extreme drought far better than the native species. Many a roadside and spare corner is now clothed with a green verdure, which years ago was brown and useless in summer. Red and white clover, cocksfoot, fescue, meadow grass, rye grass, and some dozen other grasses, have escaped from cultivation and set up on their own account wherever they could find a suitable spot. One only of the introduced grasses brings a bad reputation with it. I allude to the Darnel (*Lolium temulentum*), which has always been looked upon as poisonous. But there is no doubt that this is a gross calumny, originating, probably, in the fact of its being apparently more liable than other grasses to the attacks of a fungus, which really is poisonous, the well-known Ergot. Darnel is, in fact, closely related to the Rye-grass, and, were it not that it is usually deficient in foliage, would be quite as valuable as a food plant.

I have found in a few places specimens of the Sainfoin (*Onobrychis sativa*), one of the most esteemed fodder plants in England. So highly is it valued that it is frequently termed the farmer's friend and the farmer's doctor; for farmers say, let their sheep be ever so sick or sorry they have only to turn them into a field of Sainfoin and they are sure to recover. Unfortunately we shall never be in a position to test its worth, because it is

purely a chalk plant; on any other but a chalky soil it inevitably sickens and dies out.

Spurrey (in botany, *Spergula arvensis*), another of our aliens, is a plant with a sort of two-fold character. In England it is despised and treated as a mere weed; whereas in most parts of Europe it is held in great favour as food for cattle. I have seen many acres devoted to its culture in France and Germany. Its value consists in its capability of growing on worthless soil. It is nowhere more at home than in a pure sand. Where grass and clover are stunted and useless, spurrey finds abundant nourishment, and clothes the ground with its branched stems and white starlike flowers. The finest specimens I have gathered came from the fields of almost pure sand, lining the shore at Kangaroo Point. The Germans distinguish two species, one of which under cultivation is said to attain a height of two or three feet, and must afford a large amount of fodder. I have never myself seen it above one foot high. But it might be worth the attention of agriculturists; as there must be many a sandy corner, especially near the coast, now quite worthless, which sown with spurrey, would afford a fair amount of sheep feed.

Among aliens of minor importance may be noted the following:—

The root of the common dandelion is wellknown in medicine under the name of taraxacum, and valued for its diuretic qualities.

In France the leaves are blanched, and form no mean addition to a salad, being crisp and slightly bitter.

The opium poppy (*Papaver somniferum*) is scarcely yet established, as I have found very few plants in a wild state. The properties of its seeds and of the juice extracted from the stem are too well-known to need description.

Another valuable member of the pharmacopeia—though at the same time an intensly poisonous one—is the henbane (*Hyoscyamus niger*). It exists sparingly in waste places, but might easily be brought under cultivation.

The fruit of the Caper Spurge is often in Europe pickled and used in lieu of the genuine caper; but belonging as it does to the family of Euphorbia, it must always be looked upon with suspicion. The plant is still a casual only in the island.

The chicory (*Cichorium intybus*) I have found but once on the bank of the railway just beyond Glenorchy. Whether it could be turned to profit here I have no means of knowing. The root, as you know, has of late years become a regular article of commerce, for the purpose of mingling with coffee.

I need scarcely say to any member present who passed his boyhood in the old country, how welcome the blackberry is to youthful palates, though I fear it will not be so welcome to the agriculturist, to whom it is better known as the bramble. It abounds on the northern coast and in the Ringarooma district; it is also spreading widely in the country about the Huon.

Even the much-abused briar has its services. Horses are very fond of its bright red fruit, of which it bears an enormous quantity; and a friend lately told me that some animals of his, which had the run of paddocks full of briars during the late long drought, retained their condition entirely through the nourishing properties of the "hips," which they will at all times greedily devour.

Another wide-spread alien is said to have valuable fattening qualities. I allude to the wire weed *(Polygonum aviculare)*. I cannot speak from my own knowledge. The plant is certainly in more than sufficient abundance for ample experiments to be made.

There are a number of other small aliens, such as chickweed, groundsel, speedwell, and gromwell, which now only cumber the ground, but which would soon be turned to account if our hedges and woodlands were filled, as they might be, with singing birds imported from home. These would gladden our hearts with their cheerful music, and help largely in keeping down noxious weeds. It would be almost worth while to introduce the goldfinch and give it its liberty here, to aid in checking the inroads of the numerous thistles. Its fondness for their seed is a well-known fact. Indeed, its scientific name of Carduelis is meant to betoken this, the Latin name of a thistle being Carduus. In England they may be seen, in open down countries, where thistles most abound, in companies of a dozen or so, climbing among the stalks, and peering into the spiny heads in search of their favourite food. The species most frequented by them perhaps is that which we misname "Californian."

The Aliens have added but little to the ornamentation of our island. The Furze *(Ulex europeus)* is handsome when in flower; and there are few weeks in the year, when it may not be seen. Hateful too as is the briar in the eyes of the cultivator, no one can deny, that its delicate pink flowers give a loveliness to our paddocks and hedge-rows which they certainly would not possess, had the detestable bush never been introduced; its very abundance adds to its value from this point of view. The leaves and young shoots too are deliciously scented, and have earned for it in England (where, by the way, it is exceedingly rare) the fitting name of sweet briar. The marigold is conspicuous in waste spots, and the purple scabious makes a show on dry banks, or in neglected places. The large blue flowers of the chicory and the periwinkle will probably some day enliven meadow or woodland, but at present they have not dared to venture far beyond the boundaries of the garden. There is one tiny plant which is always welcome to Englishmen, for none perhaps brings "home" more forcibly before him; I mean the pink-tipped daisy. This too is among our Aliens; but it appears to be slow in accommodating itself to its new surroundings, reluctant to leave cultivated ground, and only occasionally occurring in paddocks mixed with English grasses.

Strange to say, Tasmania already produces a native Daisy, differing indeed both as to genus and species from its British prototype, but so similar in outward appearance that it requires a practised eye to tell them apart. In fact, the earliest investigators of Australian botany were completely deceived, and fancied they saw in the stranger the identical plant which whitens the grass plots of old England with its familiar flowers. The stranger, however, in point of fact, belongs to a distinct genus (*Brachycome*), and is rightly named *decipiens*.

Speaking generally, our Aliens, when once they have escaped from the trammels of civilization, appear to make good use of their freedom, and may be traced over large areas of country. No doubt, like their relatives in the lands from which they have sprung, they

are restricted in their wanderings by the nature of the different soils which they encounter, and are largely influenced by climate and temperature. But the materials are not yet collected on which may be founded a history of the movements of either our Aliens or Natives.

Another cause of the rapid dispersion of certain species may be found in the fact that useful plants are introduced almost simultaneously at widely distant points. From these points their descendants radiate, as from so many centres of creation, and quickly occupy the ground.

Other species again are restricted in an unaccountable manner to single spots. Southport alone produces the commonest of all English weeds, the Buttercup (*Ranunculus hirsutus*), where it was found many years ago, but from whence, so far as I can learn, it has never yet strayed. Southport also produces a common English Grass, *Hordeum pratense*. At Circular Head, and nowhere else, are associated the British *Caucalis nodosa*, and the more tender *Trifolium tomentosum* from Southern Europe. In like manner the hardy *Chenopodium murale* and the tender *Lavatera hispida* meet together in the islands in Bass' Straits, and only in those islands; while the *Crepis virens* of Northern Europe appears to confine itself to Deloraine, from whence it was sent me by our valued friend, the Rev. J. E. Tenison-Woods, whose absence from our meetings we must all deplore.

The Order Compositæ, of which the last-named plant is a member, has furnished Tasmania with the greatest number of its aliens. It is by far the largest of all the Natural Orders, embracing not less than 10,000 species, adapted to live in every climate and on every soil. Consequently in every quarter of the globe we may expect to meet with an abundant supply of naturalised Composites. Tasmania draws from this source 32 species, or one-fifth of the whole of its alien *flora*. The family of the grasses comes next; of these we count up 29 immigrants. The leguminous, or beanlike, plants furnish us with 15 species; the *Cruciferæ*, or cabbage tribe, with 11; the *Caryophylleæ*, or pinks, the *Umbelliferæ*, or carrot tribe, with 7 each.

After these follow 26 Natural Orders of less importance, each contributing their 2, or 3, or 4 strangers, until the whole number of 162 species is made up.

It is not, of course, my intention to inflict upon you the names of our numerous aliens, of which a classified list lies on the table.

On the table also are specimens, dried and mounted, of all the species which I have been able to secure. These amount to 138 out of the 162; which I beg the Society to accept, and to place in the Museum.

## LIST OF TASMANIAN ALIENS.

**All the species named inhabit Great Britain, except where some other locality is given.**

*n.v.* Not seen by me.

* Scarcely, or not thoroughly established.)

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* Ranunculus muricatus L. (S. Europe).
,, hirsutus L. Buttercup. n.v.
* Nigella damascena L. Fennel flower (S. Europe).
* Aquilegia vulgaris L. Columbine. n.v.
* Papaver dubium L. Poppy.
* ,, somniferum L. Opium poppy.
Fumaria officinalis L. Fumitory.
,, ,, pallida.
Nasturtium officinale Br. Water cress.
Sisymbrium officinale L. Hedge mustard.
Capsella bursa pastoris Mnch. Shepherd's purse.
Lepidium campestre Br. Pepperwort.
* ,, sativum L. Landcress.
Brassica sinapistrum Boiss. Charlock.
,, napus L. Rape.
* Diplotaxis tenuifolia D.C. Rocket.
* Raphanus raphanistrum L. Radish.
Senebiera coronopus Poir. Wart cress.
,, didyma Pers.
Reseda luteola L. Dyers weed.
,, ramosissima Willd. (Medit. region.)
Sagina apetala L. Pearl wort.
Arenaria serpillifolia L. Sand wort.
Stellaria media L. Chickweed.
Cerastium glomeratum Thu. Mouse-ear chickweed.
Gypsophila tubulosa Boiss. (Medit. Region.) n.v.
Silene anglica L. Catchfly.
,, ,, quinquevuluera L. Spotted catchfly.
Githago segetum Desf. Corn cockle.
Polycarpon tetraphyllum L. Allseed.
Spergula arvensis L. Spurrey.
Malva silvestris L. Mallow.
,, rotundifolia L. ,,
Lavatera hispida Desf. n.v.
* Hibiscus vesicarius Cav. (S. Africa.)
Oxalis cernua L. (S. Africa.)
Erodium cicutarium L. Storksbill.
Ulex europeus L. Furze.
* Spartium junceum L. Spanish broom. (S. Europe.)
* Sarothamnus scoparius. Koch. broom.

Trifolium repens L. White clover.
,, ,, roseum.
,, pratense L. Red clover. n.v.
,, tomentosum L. (S. Europe.) n.v.
,, procumbens L, Hop trefoil.
,, minus L. Lesser hop trefoil.
Melilotus parviflora Lam. (Medit. region.)
Medicago sativa L. Purple medick.
,, lupulina L. Black medick.
,, denticulata Willd. Toothed medick.
,, maculata Sibth. Spotted medick.
Vicia sativa L. Vetch.
,, ,. angustifolia Roth.
* Onobrychis sativa Lam, Sainfoin.
Rosa rubiginosa L. Briar.
* Rubus fruticosus L. Bramble or blackberry.
Alchemilla arvensis L. Ladies mantle.
Poterium sanguisorba L. Salad burnet.
Fœniculum vulgare Gaertn. Fennel.
* Pastinaca sativa L. Parsnip.
Caucalis infesta Curt. n.v.
,, nodosa Scop. Hedge parsley. n.v.
Daucus carota L. Carrot.
,, ,, proliferum.
Scandix pecten veneris L. Shepherds needle.
Conium maculatum L. Hemlock.
* Hedera helix L. Ivy.
Sherardia arvensis L. Field madder. n.v.
* Centranthus ruber, D.C. Spur valerian.
Dipsacus silvestris L. Teazel.
Scabiosa atropurpurea L. Purple scabious (S. Europe).
,, ,, albiflora.
,, ,, phœnicea.
Erigeron canadensis L. n.v.
* Bellis perennis L. Daisy.
Xanthium spinosum L. Bathurst burr (S. America).
Anthemis nobilis L. Chamomile.
* Achillea millefolium L. Yarrow.
Matricaria inodora L. n.v.
Chrysanthemum leucanthemum L. Oxeye Daisy.
* Tanacetum vulgare L. Tansy.
Gnaphalium candidissimum Lam. (S. Africa.)
Senecio vulgaris, L. Groundsel.
Calendula officinalis L. Marigold (S. Europe).
,, arvensis L. Lesser marigold ( ,, ).
Cryptostemma calendulaceum Br. Cape weed (S. Africa).
Centaurea melitensis L. Star thistle (Medit. region).

Centaurea calcitrapa L. n.v.
Silybum marianum Gaertn. Milk thistle.
Onopordum acanthium L. Cotton thistle.
Carduus lanceolatus L. Scotch thistle.
,, pratensis L. Marsh thistle. n.v.
,, arvensis L. Californian thistle.
Arnoseris pusilla Gaertn. n.v.
* Cichorium intybus L. Chicory.
Hypochœris radicata L. Cat's-ear.
,, glabra L. ,,
Leontodon hirtus L. Hawkbit,
,, hispidus L. ,,
,, autumnalis L. n.v.
Tragopogon porrifolius L. Salsify.
Picris hieracioides L. Ox-tongue.
Sonchus oleraceus L. Sow thistle.
Taraxacum officinale Wigg. Dandelion.
* Crepis virens L. Hawksbeard.
Anagallis arvensis L. Pimpernel.
,, ,, cœrulea Lam. Blue pimpernel.
Vinca major L. Periwinkle.
Convolvulus arvensis L. Bindweed.
Lithospermum arvense L. Gromwell.
* Borrago officinalis L. Borage.
Echium violaceum L. (Medit. region.) n.v.
* Hyoscyamus niger L. Henbane.
* Solanum marginatum L. (Medit. region.)
Linaria cymbalaria Mill. Toadflax.
Veronica hederœfolia L. Ivy leaved speedwell.
,, agrestis L. Field speedwell.
,, peregrina L. (America.) n.v.
Verbascum thapsus L. Mullein.
Mentha viridis L. Mint.
Stachys arvensis L. Woundwort.
Marrubium vulgare L. Horehound.
* Plantago lagopus L. Hare's foot plaintain (S. Europe).
,, major L. Plantain.
,, lanceolata L. ,,
,, coronopus L. Stagshorn plantain.
Polygonum aviculare L. Wireweed or knotgrass.
,, ,, littorale Link.
,, convolvulus L. Black bindweed. n.v.
Rumex crispus L.
,, acetosella L. Sheep's Sorrel.
Chenopodium album L.
,, murale L. n.v.
,, glaucum L.

Urtica urens L. Stinging nettle.
,, dioica L. ,, ,, n.v.
Euphorbia helioscopia L. Sun spurge.
,, peplus L. Spurge.
,, lathyris L. Caper spurge.
Elodea canadensis Mich. American water weed.
Asparagus officinalis L. Asparagus.
Nothoscordum fragrans Knth. (W. Indies.)
Alopecurus pratensis L.
,, geniculatus L. n.v.
Phalaris canariensis L. Canary grass.
Holcus lanatus L. Soft grass or Yorkshire fog.
* Piptatherum thomasi Pal. (Medit. region.)
Agrostis vulgaris With. Bent grass.
Polypogon monspeliensis Desf.
* Cynodon dactylon Pers. Doub or finger grass.
Anthoxanthum odoratum L. Sweet vernal grass.
,, ,, gracile.
Aira caryophyllea L. Silver grass.
Arrhenatherum avenaceum Pal. Oat grass.
* Avena sativa L. Oats.
Poa annua L. Annual meadow grass.
Briza maxima L. (S. Europe.)
,, minor L. Quaking grass.
Dactylis glomerata L. Cocksfoot.
Festuca myurus L. Mousetail fescue.
,, ovina L. Sheep's fescue.
,, pratensis Huds. Fescue grass.
Bromus unioloides Hmbt. Prairie grass (Central America).
,, sterilis L.
,, mollis L.
,, racemosus L.
Lolium temulentum L. Darnel.
,, perenne L. Rye grass.
,, ,, aristatum.
,, ,, ramosum.
Triticum repens L. Couch grass.
Hordeum murinum L. Way bent.
,, pratense Huds. n.v.
Lepturus filiformis Trin.
,, ,, incurvatus Trin.

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SUMMARY.

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|---|---|---|---|---|---|---|
| Genera | ... | ... | ... | ... | ... | 119 |
| Species | ... | ... | ... | ... | ... | 162 |
| Varieties | ... | ... | ... | ... | ... | 13 |

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|---|---|
| British species ... ... ... ... | 138 |
| Species from other countries ... ... ... | 24 |
| ,, well established ... ... ... | 134 |
| ,, scarcely established ... ... ... | 28 |
| ,, from a solitary station ... ... ... | 8 |
| ,, not seen by me (n.v.) ... ... ... | 21 |